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## DEFENSE TECHNICAL INFORMATION CENTER

8725 JOHN J. KINGMAN ROAD  
FORT BELVOIR, VIRGINIA 22060-6218

IN REPLY  
REFER TO: DTIC-R (FOIA 2016-52)

MAR 2 2016

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MAR 2 2016

correspondence from the DoD about your request will be on official letterhead. Please contact me at (703) 767-9204 if you have any questions. Thank you for your interest in obtaining information from DTIC.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Hamilton", written over a horizontal line.

Michael Hamilton  
FOIA Program Manager

3 Enclosures

Highest Classification: Unclassified

## **DTIC Bibliography**

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Influence of Group IV and V Alloying Elements on the Microstructure Engineering and Deformation Behavior in Tantalum Carbides

PDF URL: (pdf) - 3 MB -

Accession Number: ADA615466

Personal Author(s): Thompson, Gregory B

Corporate Author: ALABAMA UNIV TUSCALOOSA OFFICE OF SPONSORED PROGRAMS

Report Date: 06 Apr 2015

Abstract: ( U ) Tantalum carbides comprise a class of high and ultrahigh melting temperature materials with tremendous thermo-mechanical property potential. This program provided a fundamental series of studies to address how group IVB and VB metal carbide alloying brings about microstructural engineering with subsequent changes in thermo-mechanical behavior. The program employed a combined computational and experimental approach coupled through advanced analytical electron microscopy characterization to address this gap. Major findings include determination of an intrinsic stacking fault on the {111} planes in TaC that circumvents slip on {110}, which is the dominant slip plane in HfC; the competition of vacancy ordered and fault-forming phases with metal-enrichment in Ta-C; the formation of vacancy ordered phase domains which are hypothesized to contribute to an anomalous rise in hardness for the group VB carbides absent in group IVB carbides; and finally construction of a non-contact Lorentz force thermo-mechanically loading apparatus for testing these carbides above 3000 deg. C.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Apr 2014-31 Mar 2015

Pages:58 Page(s)

Report Number: AFRL-OSR-VA - TR-2015-0092 AFRL-OSR-VA ( *AFRLOSRVATR20150092 AFRLOSRVA* ) , XC - TR-2015-0092 AFRL-OSR-VA ( *XCTR20150092 AFRLOSRVA* )

Monitor Series: TR-2015-0092 ( *TR20150092* ) , AFRL-OSR-VA ( *AFRLOSRVA* )

Contract/Grant/Transfer Number: FA9550-12-1-0104 ( *FA95501210104* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) US Army Research Laboratory Lightweight and Specialty Metals Branch Research and Development (FY14)

PDF URL: (pdf) - 7 MB -

Accession Number: ADA615166

Personal Author(s): Tschopp, Mark A ; Maupin, Heidi E

Corporate Author: ARMY RESEARCH LAB ABERDEEN PROVING GROUND MD  
WEAPONS AND MATERIALS RESEARCH DIRECTORATE

Report Date: Apr 2015

Abstract: ( U ) The Lightweight and Specialty Metals Branch (LSMB) lies within the Materials and Manufacturing Science Division of the Weapons and Materials Research Directorate of the US Army Research Laboratory (ARL). LSMB s mission is to perform the fundamental and applied research and development in metals to create transformational metallic systems to enable battlefield overmatch; and to protect and defend our country by empowering, unburdening, and safeguarding our servicemen and women. LSMB s vision is to be the leading metals research and development facility for the US Army, which is achieved by attracting and retaining world-class researchers with exceptional credentials; building the necessary infrastructure for metals research; and integrating research with Army-relevant applications to enable game-changing, competitive capability. LSMB s strategy is to balance in-house capability, talent, resources, and infrastructure with external agencies/facilities to drive foundational materials research that meets the needs of the US Army. This report is a summary of published research within FY14 for LSMB.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Oct 2013-Sep 2014

Pages:64 Page(s)

Report Number: ARL-SR-0319 ( *ARLSR0319* ) , XA - ARL/WM ( *XAARLWM* )

Monitor Series: ARL/WM ( *ARLWM* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Analysis of the Nuclear Structure of Rhenium-186 Using Neutron-Induced Reactions

PDF URL: (pdf) - 16 MB -

Accession Number: ADA616795

Personal Author(s): Matters, David A

Corporate Author: AIR FORCE INSTITUTE OF TECHNOLOGY WRIGHT-PATTERSON  
AFB OH GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: 26 Mar 2015

Abstract: ( U ) Evaluated nuclear data for  $^{186}\text{Re}$  identify the majority of spin-parity assignments as tentative, with approximate values for the energies of several levels and transitions. In particular, the absence of known transitions that feed the  $J = 8^+$  isomer  $^{186\text{m}}\text{Re}$  motivates their discovery. This isomer, which has a half-life of 2 105 years, has a potential application in an isomer power source. Additionally, the isomer's role in certain nucleosynthesis processes is not well understood, so measured cross sections for transitions that feed the isomer would have astrophysical implications. Using the GERmanium Array for Neutron Induced Excitations (GEANIE) spectrometer at the Los Alamos Neutron Science Center (LANSCE), (n,2n) and (n,n) reactions in a 99.52% enriched  $^{187}\text{Re}$  target were used to obtain  $\gamma$ -ray spectra from  $^{186}\text{Re}$  and  $^{187}\text{Re}$ , respectively. The experimental data reveal 5 new transitions in  $^{186}\text{Re}$  and 4 new transitions in  $^{187}\text{Re}$ . Similarities between the level schemes of  $^{184}\text{Re}$  and  $^{186}\text{Re}$  suggest that one of the newly-observed transitions in  $^{186}\text{Re}$  feeds the isomer from a level at 414.9 keV. The  $\gamma$ -ray energy measured for this transition implies an isomer energy of 148.2(5) keV, which is a significant improvement over the adopted value of 149(7) keV.!

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:113 Page(s)

Report Number: AFIT-ENP-MS-15-M-098 ( *AFITENPMS15M098* ) , XJ - DHS/DNDO ( *XJDHSDNDO* )



Monitor Series: DHS/DNDO ( *DHSDNDO* )

Contract/Grant/Transfer Number: HSHQDC-14-X-00089 ( *HSHQDC14X00089* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China's Incomplete Military Transformation: Assessing the Weaknesses of the People's Liberation Army (PLA)

PDF URL: (pdf) - 1 MB -

Accession Number: ADA615374

Personal Author(s): Chase, Michael S ; Engstrom, Jeffrey ; Cheung, Tai M ; Gunness, Kristen A ; Harold, Scott W ; Pusko, Susan ; Berkowitz, Samuel K

Corporate Author: RAND NATIONAL DEFENSE RESEARCH INST SANTA MONICA CA

Report Date: Feb 2015

Abstract: ( U ) Since the mid-1990s, the People's Republic of China has invested enormous resources in developing the People's Liberation Army (PLA) into a modern force that can secure various national interests both at home and now increasingly abroad. The stunning U.S. victory in Operation Desert Storm (Iraq) in 1991; U.S. involvement in the 1995 1996 Taiwan Strait Crisis; and U.S. military intervention in Kosovo in 1999, during which the United States accidentally bombed the Chinese Embassy in Belgrade, motivated Chinese leaders to invest considerable resources in the transformation of the PLA into a more modern, professional, and operationally capable fighting force. These conflicts bluntly demonstrated to the People's Republic of China that it lacked a military that could effectively fight and win wars against modern opponents, especially adversaries who could effectively harness the information revolution and successfully conduct joint operations. Although the modernization drive is now over two decades old and has yielded impressive results, numerous weaknesses persist. This report assesses many of the weaknesses in the PLA's human capital and organizational realms, in the PLA's combat capabilities across various domains (land, sea, air, space, cyber, and

electromagnetic), and in China's defense research and industrial complex. It does so by examining how these weaknesses affect the PLA's performance of missions Beijing tasks or may task the force to carry out and by reviewing Chinese assessments of the PLA's shortcomings and their potential implications. This study should be of interest to military analysts, policymakers, lawmakers, or anyone interested in Chinese military affairs and their security implications for the United States and its allies and partners.

Abstract Classification:Unclassified

Pages:202 Page(s)

Report Number: XJ - USCC ( XJ )

Monitor Series: USCC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Casting Net Assessment: Andrew W. Marshall and the Epistemic Community of the Cold War

PDF URL: (pdf) - 779 KB -

Accession Number: ADA618922

Personal Author(s): Schutte, John M

Corporate Author: AIR UNIV MAXWELL AFB AL SCHOOL OF ADVANCED AIR AND SPACE STUDIES

Report Date: Feb 2015

Abstract: ( U ) Andrew Marshall devoted his considerable intellectual talents and the entirety of his long adult life to help protect and further America's national interests. Yet he remains an enigma to all but his closest associates. To date, no one has published a book-length biographical

account of America's longest serving defense intellectual. Unless his story is captured, Marshall is at risk of becoming the Fox Conner of his generation: a man who profoundly influenced a generation of thinkers yet is largely forgotten by history. This paper is an attempt to negate that risk by answering the central and compelling question who is Andy Marshall? Marshall's extensive professional career began at RAND in 1949, where he contributed to the creation of a community of civilian defense strategists attempting to divine changes to the very nature of warfare in the new atomic age. After a brief sojourn working for Henry Kissinger on the National Security Council in the early 1970s, he moved to the Department of Defense and has served as the sole director of the Office of Net Assessment (ONA) since October 1973. In government service, Marshall has projected and sustained influence in defense policy circles while serving eight presidents and 12 defense secretaries. By the time he entered civil service, most of Marshall's formative ideas about the practice of net assessment and his unique understanding of organizational behavior had emerged. Instinctively multidisciplinary, Marshall accrued a multitude of ostensibly different analytic lenses. These lenses, layered upon one another, provided him a kaleidoscopic view and masterful understanding of strategy. Thus, to understand Marshall's unique perspective on the process of net assessment, one is best served by studying the evolution of his thought prior to the establishment of ONA. The story of this journey, of Marshall's growth and maturation as a strategist, is the focus of this biography.

Abstract Classification:Unclassified

Descriptive Note: Drew paper no. 16

Pages:116 Page(s)

Report Number: XC - AU-SAASS ( XCAUSAASS )

Monitor Series: AU-SAASS ( AUSAASS )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Strategic Studies Quarterly. Volume 9, Number 3. Fall 2015

PDF URL: (pdf) - 5 MB -

Accession Number: ADA622963

Personal Author(s): Guillot, W M

Corporate Author: AIR UNIV MAXWELL AFB AL STRATEGIC STUDIES QUARTERLY

Report Date: Jan 2015

Descriptive Note: Journal

Pages:134 Page(s)

Report Number: XC - AU/SSQ ( *XCAUSSQ* )

Monitor Series: AU/SSQ ( *AUSSQ* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Naval War College Review. Volume 68, Number 1, Winter 2015

PDF URL: (pdf) - 8 MB -

Accession Number: ADA616006

Corporate Author: NAVAL WAR COLLEGE NEWPORT RI

Report Date: Jan 2015

Abstract: ( U ) The Naval War College Review was established in 1948 as a forum for discussion of public policy matters of interest to the maritime services. The thoughts and opinions expressed in this publication are those of the authors and are not necessarily those of the U.S. government, the U.S. Navy Department, or the Naval War College. The journal is published quarterly. Articles in this issue include: The Race to the Bottom--Submarine Proliferation and International Security, Deconstructing Nimitz s Principle of Calculated Risk--Lessons for Today,

The American Pivot and the Indian Navy--It s Hedging All the Way, China s Blue Soft Power Antipiracy, Engagement, and Image Enhancement, The Anatomy of Gulf of Guinea Piracy, Research & Debate The Key to Midway: Coral Sea and a Culture of Learning, Book Reviews, and Reflections on Reading.

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:154 Page(s)

Report Number: XB - NWC ( XB )

Monitor Series: NWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Weapons Materials Gone Missing: What Does History Teach?

PDF URL: (pdf) - 2 MB -

Accession Number: ADA613868

Personal Author(s): Sokolski, Henry D

Corporate Author: ARMY WAR COLLEGE CARLISLE BARRACKS PA STRATEGIC STUDIES INSTITUTE

Report Date: Nov 2014

Abstract: ( U ) Ever since President Barack Obama made securing nuclear weapons assets a top priority for his global arms control agenda, guarding and disposing of these holdings have become an international priority. Every 2 years, high-profile nuclear summits on how to prevent nuclear theft and sabotage have been held the first in Washington, DC; the second in Seoul,

South Korea; and the third in The Hague, the Netherlands. With each summit, more and more states have agreed to dispose of what weapons-grade nuclear fuels they have. In between these meetings, scores of studies have been commissioned and nearly as many workshops (official and unofficial) have been held. Yet, in all of this, almost no attention has been focused on what to do about the nuclear weapons-usable plutonium and highly enriched uranium that we have lost track of. This is odd.

Abstract Classification:Unclassified

Pages:206 Page(s)

Report Number: XA - AWC/SSI ( XAAWCSSI )

Monitor Series: AWC/SSI ( AWCSSI )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CTC Sentinel. Volume 7, Issue 7

PDF URL: (pdf) - 1 MB -

Accession Number: ADA608540

Personal Author(s): Marquardt, Erich

Corporate Author: MILITARY ACADEMY WEST POINT NY COMBATING TERRORISM CENTER

Report Date: Jul 2014

Abstract: ( U ) The Combating Terrorism Center is an independent educational and research institution based in the Department of Social Sciences at the United States Military Academy, West Point. The CTC Sentinel harnesses the Center s global network of scholars and

practitioners to understand and confront contemporary threats posed by terrorism and other forms of political violence.

Abstract Classification:Unclassified

Pages:25 Page(s)

Report Number: XA - MA/CTC ( *XAMACTC* )

Monitor Series: MA/CTC ( *MACTC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 53 - NATO FURNISHED

Distribution Statement:Approved for public release; distribution is unlimited. NATO.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Interactive Visualization of Network Dynamics (Visualisation interactive de la dynamique des reseaux)

PDF URL: (pdf) - 14 MB -

Accession Number: ADA612431

Corporate Author: NATO SCIENCE AND TECHNOLOGY ORGANIZATION NEUILLY-SUR-SEINE (FRANCE)

Report Date: Jun 2014

Abstract: ( U ) For decision-making in the areas of: network discovery; simulation and prediction supporting adaptive operations, political effects, public health and safety, and security issues; and uncertain environments and abstract concepts, one needs to understand how to visualise the changes taking place within a network (dynamics) and the trends within that change. Group objectives included to compare the utility of various interactive visualisation styles for providing the user knowledge of the dynamics of a network and subsequent trends and to produce a report highlighting interactive visualisation methods that facilitate and make more effective the analysis of network dynamics in applications such as netcentric warfare, counterterrorism including bioterrorism, peacekeeping, public security, and peace support

operations. Anticipated security benefits include a better understanding of how interactive visualisation should be used to discover, simulate and predict network dynamics, and how such interactive visualisation may aid military command decision-making, public health and security operations as well as intelligence network analysis tasks.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:218 Page(s)

Report Number: STO-TR-IST-085 ( *STOTRIST085* ) , AC/323(IST-085)TP/561 ( *AC323IST085TP561* ) , X5 - NATO/STO ( *X5NATOSTO* )

Monitor Series: NATO/STO ( *NATOSTO* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Designing Collaboration: How to Prepare SOF Augmentation Teams for Assignment to a U.S. Embassy Country Team

PDF URL: (pdf) - 1 MB -

Accession Number: ADA608056

Personal Author(s): Jackson, Austin M ; Pusillo, Joshua A ; Smith, Steven A

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Jun 2014

Abstract: ( U ) This project delivers an immediately implementable and replicable method for improving collaboration in this nation's most complex interagency environment, the United States embassy (USEMB). This method allows multidisciplinary teams to create a self-



organizing collaborative system in the country team to address difficult problems within the constraints of exiting manning, authorities, and appropriations. The modular and scalable methodology described in this project allows Special Operations Forces (SOF) teams working in embassies around the world to maximize their operational effectiveness by improving collaboration within the country team. The goal of this project is to move beyond policy debates regarding interagency collaboration and explain how SOF are capable of pioneering a responsive system to improve collaboration within the USEMB country team. Applying a design thinking methodology, we observed country team interactions and other interagency collaborative efforts to develop a concept for SOF augmentation teams to improve collaboration within the USEMB country team. We deliver guidelines and a methodology for SOF augmentation teams to facilitate the development of a collaborative country team capable of solving complex issues.

Abstract Classification:Unclassified

Descriptive Note: Capstone Project

Pages:145 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Dose Assessments for Fleet-Based Individuals in Operation Tomodachi,  
Revision 1

PDF URL: (pdf) - 3 MB -

Accession Number: ADA606666

Personal Author(s): Marro, Ralph ; McKenzie-Carter, Michael ; Rademacher, Steven  
; Knappmiller, Kevin ; Ranellone, Richard ; Case, David ; Dunavant, Jaosn ; Miles, Terry

Corporate Author: ARMED FORCES RADIOBIOLOGY RESEARCH INST BETHESDA MD

Report Date: Apr 2014

Abstract: ( U ) This report provides the radiation dose assessments for the Department of Defense fleet-based population of interest that was potentially exposed to radioactive fallout resulting from the Fukushima Daiichi nuclear power station units radiological releases that followed the earthquake and tsunami on March 11, 2011. The associated Department of Defense disaster relief operation to the citizens of Japan was entitled, Operation Tomodachi. Finalized radiation dose assessments for the population of interest have been loaded into an Operation Tomodachi Registry, which will support public inquiries.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:216 Page(s)

Report Number: DTRA - TR-12-041 DTRA ( *DTRATR12041* ) , XD - TR-12-041 DTRA ( *XDTR12041* )

Monitor Series: TR-12-041 ( *TR12041* ) , DTRA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Copper Doping of Zinc Oxide by Nuclear Transmutation

PDF URL: (pdf) - 985 KB -

Accession Number: ADA596866

Personal Author(s): Recker, Matthew C

Corporate Author: AIR FORCE INSTITUTE OF TECHNOLOGY WRIGHT-PATTERSON  
AFB OH SCHOOL OF ENGINEERING

Report Date: 27 Mar 2014

Abstract: ( U ) This research verifies that neutron irradiation of zinc oxide leads to Cu-doping of the material by nuclear transmutation. After irradiation, both Zn-65 and Zn-69m were detected and positively identified. Zn-65 was visible at all times while Zn-69m was visible when the samples were measured within a few Zn-69m half-lives. All decay paths of Zn-65 lead to Cu-65 and the detection of the 1115.5 keV characteristic gamma ray from this decay clearly indicated that Cu-65 was being created. Previous electron paramagnetic resonance (EPR) spectroscopic results were replicated to determine the spectrum of copper impurities in ZnO as well as the corresponding spacing between signals in the hyperfine spectrum for the two stable isotopes of copper. This spacing was found to be 1015 plus or minus 1 G for Cu-65 and 947 plus or minus 1 G for Cu-63. The separation of EPR signals in the Cu hyperfine spectrum measured after neutron irradiation of the samples was found to be 1013 plus or minus 1 G confirming the creation of only Cu-65 during irradiation, as predicted by theory.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:84 Page(s)

Report Number: AFIT-ENP-14-M-30 ( *AFITENP14M30* ) , XD - DTRA ( *XD* )

Monitor Series: DTRA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Production Potential of <sup>47</sup>Sc Using Spallation Neutron Flux at the Los Alamos Isotope Production Facility

PDF URL: (pdf) - 11 MB -

Accession Number: ADA600715

Personal Author(s): DeLorme, Kerriann A

Corporate Author: AIR FORCE INSTITUTE OF TECHNOLOGY WRIGHT-PATTERSON  
AFB OH GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: 27 Mar 2014

Abstract: ( U ) Scandium-47 ( $T_{1/2}=3.41d$ ) forms stable complexes with aminopolycarboxylic acids, useful as tumor biomarkers or antigens. Its therapeutic beta emissions at 441.1 keV and 600.5 keV are coupled with an imageable 159.4 keV gamma to permit in vivo-tracking of compound biodistribution. Currently, its wider clinical application is hindered by lack of availability, even as interest grows in radioscandium-based pharmaceuticals. We have investigated the  $Ti-47(n,np)Sc-47$ ,  $50Ti(n,3p)Sc-47$ ,  $V-nat(n,x)Sc-47$ , and  $Ti-nat(n,x)Sc-47$  reactions as potential routes to therapeutically relevant quantities of Sc-47. Targets of V-nat, Ti-nat and enriched Ti-47 (95.7% isotopic abundance) and Ti-50 (83.1%) oxide targets were exposed to the spallation neutrons resulting from the proton-irradiation of RbCl and Ga targets at the Los Alamos National Laboratory (LANL) Isotope Production Facility (IPF). Radioisotopic purities of  $^{47}Sc$  in excess of 90% are achieved by activation of Ti-47 targets with an instantaneous production rate of  $0.29 \pm 0.03$  micro-Ci/g per Ah, and small yields of Ca-47 produce Sc-47 with 100% purity from activation of Ti-50.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:213 Page(s)

Report Number: AFIT-ENP-13-M-02 ( *AFITENP13M02* ) , XC - AFIT/GSEM ( *XCAFITGSEM* )

Monitor Series: AFIT/GSEM ( *AFITGSEM* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Strategic Plan: Is There Such a Thing for the Remotely Piloted Aircraft?

PDF URL: (pdf) - 287 KB -

Accession Number: ADA606277

Personal Author(s): Rodriguez, Julio E

Corporate Author: ARMY COMMAND AND GENERAL STAFF COLLEGE FORT  
LEAVENWORTH KS SCHOOL OF ADVANCED MILITARY STUDIES

Report Date: 10 Dec 2013

Abstract: ( U ) The remotely piloted aircraft (RPA) provides combat power for the United States in today's uncertain operational environment. Dialogue on the strategic role of the RPA continues daily amongst the United States government, military, media, and academic community. This is in response to the novelty of the system and its various capabilities. This monograph examines the basic question between the various entities specifically asking how the United States can effectively plan and utilize the RPA in today's uncertain environment. A discussion of Henry Mintzberg's methodology of effective strategic planning and successfully crossing what he calls the Great Divide provides a useful point of departure for this monograph. Comparing Mintzberg's methodology to the use of the RPA through mid-2013 highlights incongruities, negating a successful bridging of the Great Divide. A historical example, the nuclear weapon, and the planning behind the Eisenhower administration of National Security Council 162/2, A Report to the National Security Council by the Executive Secretary on Basic National Security Policy, create a useful analogy of successfully crossing the Great Divide. Comparison of the development of the nuclear strategic plan with current RPA strategic planning creates a roadmap on the necessary steps of normalizing the RPA for use by the United States. A major obstacle, to date, is a readily defined strategy for the RPA. Research shows that until a specified strategy is stated, successful strategic planning for the RPA will suffer. However, research also shows that if planned appropriately, the RPA can provide a powerful instrument in combating potential enemies of the United States.

Abstract Classification:Unclassified

Descriptive Note: Rept. for Jan 2013-Dec 2013

Pages:51 Page(s)

Report Number: ATZL-SWV ( ATZLSWV ) , XA - USACGSC/SAMS ( XAUSACGSCSAMS )

Monitor Series: USACGSC/SAMS ( USACGSCSAMS )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Processing, Microstructure, and Material Property Relationships Following Friction Stir Welding of Oxide Dispersion Strengthened Steels

PDF URL: (pdf) - 17 MB -

Accession Number: ADA589767

Personal Author(s): Baker, Bradford

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Sep 2013

Abstract: ( U ) A comprehensive set of processing, microstructure, and material property relationships is presented for friction stir welded oxide dispersion strengthened MA956 steel. Eight rotational and traverse speed combinations were used to produce friction stir welds on MA956 plates using a polycrystalline cubic boron nitride tool. Weld parameters with high thermal input produced defect-free, full penetration welds. Microstructural analysis showed a significant increase in grain size, a persistent body centered cubic torsional texture in the stir zone, a sharp transition in grain size from the thermo-mechanically affected zone into the stir zone, and an asymmetric reduction in hardness across the weld, all of which were sensitive to weld parameters. Oxide particles were significantly coarsened by friction stir welding resulting in a complete loss of particle strengthening. Base metal MA956 mechanical properties were determined up to 600 C and the effect of friction stir welding on these properties was directly correlated to the evolved microstructure. Grain refinement is a dominant strengthening mechanism in the base metal and for all friction stir welding conditions, as the welding process removed essentially all dislocation and dispersion strengthening contributions. Friction stir welded MA956 retains a majority of its high temperature strength, making the alloy and joining method a suitable candidate for a structural material in advanced nuclear reactor designs.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:319 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Dose Assessments for Fleet-Based Individuals in Operation Tomodachi

PDF URL: (pdf) - 2 MB -

Accession Number: ADA591789

Personal Author(s): Marro, Ralph ; McKenzie-Carter, Michael ; Rademacher, Steven ; Knappmiller, Kevin ; Ranellone, Richard ; Case, David ; Miles, Terry

Corporate Author: ARMED FORCES RADIOBIOLOGY RESEARCH INST BETHESDA MD

Report Date: Sep 2013

Abstract: ( U ) This report provides the radiation dose assessments for the Department of Defense fleet-based population of interest that was potentially exposed to radioactive fallout resulting from the Fukushima Daiichi nuclear power station units radiological releases that followed the earthquake and tsunami on March 11, 2011. The associated Department of Defense disaster relief operation to the citizens of Japan was entitled, Operation Tomodachi. Finalized radiation dose assessments for the population of interest should be loaded into an Operation Tomodachi Registry by the end of 2013, which will support public inquiries.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:197 Page(s)

Report Number: DTRA - TR-12-041 DTRA/NT ( *DTRATR12041 DTRANT* ) , XD - TR-12-041 DTRA/NT ( *XDTR12041 DTRANT* )

Monitor Series: TR-12-041 ( *TR12041* ) , DTRA/NT ( *DTRANT* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SupportNet for Frontline Behavioral Health Providers

PDF URL: (pdf) - 4 MB -

Accession Number: ADA602122

Personal Author(s): Benight, Charles ; Anderson, Valerie ; Bock, Judith ; Cieslak, Roman ; Shoji, Kotaro ; Gibson, Frederick ; Decker, Lisa

Corporate Author: COLORADO UNIV AT COLORADO SPRINGS

Report Date: Jul 2013

Abstract: ( U ) SupportNet aims to assess the level of secondary trauma and job burnout among military behavioral health providers and to provide a pilot support system for providers working at with military trauma survivors. In the second year of the project, we completed the initial survey and data analysis of behavioral health providers and have designed the internet and in-person portions of the intervention. Secondary trauma is a serious issue and occurs when caretakers are continually exposed to extensive traumatic material on an on-going basis. Symptoms of secondary trauma are similar to Posttraumatic Stress Disorder and can influence ability to engage in the therapeutic process with clients, irritability, and emotional numbing. Secondary traumatization may also lead to severe burnout and turnover.

Abstract Classification:Unclassified



Descriptive Note: Annual rept. 15 Jun 2012-14 Jun 2014

Pages:295 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: W81XWH-11-2-0153 ( W81XWH1120153 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Enhancement of Radiation Tolerance by Interfaces in Nanostructured Metallic Materials

PDF URL: (pdf) - 10 MB -

Accession Number: ADA596809

Personal Author(s): Zhang, Xinghang

Corporate Author: TEXAS ENGINEERING EXPERIMENT STATION COLLEGE STATION

Report Date: 05 Jun 2013

Abstract: ( U ) The objective of this project is to explore fundamental mechanisms through which interfaces (nanocrystalline grain boundaries or layer interface in multilayers) attract radiation induced point defects, expedite annihilation of vacancies and interstitials, and thus restore strong capability to absorb radiation induced point defects. The ultimate goal of this project is to construct unique interfaces to significantly enhance radiation tolerance of metallic materials.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 10 May 2009-9 May 2013

Pages:122 Page(s)

Report Number: ARO - 54184-MS.19 ARO ( *ARO54184MS19* ) , XA - 54184-MS.19 ARO ( *XA54184MS19* )

Monitor Series: 54184-MS.19 ( *54184MS19* ) , ARO

Contract/Grant/Transfer Number: W911NF-09-1-0223 ( *W911NF0910223* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Reactor Physics Assessment of Thick Silicon Carbide Clad PWR Fuels

PDF URL: (pdf) - 6 MB -

Accession Number: ADA609204

Personal Author(s): Bloore, David A

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE

Report Date: Jun 2013

Abstract: ( U ) High temperature tolerance, chemical stability and low neutron affinity make silicon carbide (SiC) a potential fuel cladding material that may improve the economics and safety of light water reactors (LWRs). Thick SiC cladding (0.089 cm) is easier (and thus more economical) to manufacture than SiC of conventional Zircaloy (Zr) cladding thickness (0.057 cm). Five fuel and clad combinations are analyzed: Zr with solid UO<sub>2</sub> pellets, reduced fuel fraction thick SiC (Thick SiC) with annular UO<sub>2</sub> pellets, Thick SiC with solid UO<sub>2</sub>/BeO pellets, reduced coolant fraction annular fuel with thick SiC (Thick SiC RCF), and Thick SiC with solid PuO<sub>2</sub>/ThO<sub>2</sub> pellets. CASMO-4E and SIMULATE-3 have been utilized to model the above in a 193 assembly, 4-loop Westinghouse pressurized water reactor (PWR). A new program, CSpY,

has been written to use CASMO/SIMULATE to conduct optimization searches of burnable poison layouts and core reload patterns. All fuel/clad combinations have been modeled using 84 assembly reloads, and Thick SiC clad annular UO<sub>2</sub> has been modeled using both 84 and 64 assembly reloads. Dual Binary Swap (DBS) optimization via three Objective Functions (OFs) has been applied to each clad/fuel/reload # case to produce a single reload enrichment equilibrium core reload map. The OFs have the goals of: minimal peaking, balancing lower peaking with longer cycle length, or maximal cycle length. Results display the tradeoff between minimized peaking and maximized cycle length for each clad/fuel/reload # case. The presented Zr reference cases and Thick SiC RCF cases operate for an 18 month cycle at 3587 MWth using 4.3% and 4.8% enrichment, respectively. A 90% capacity factor was applied to all SiC cladding cases to reflect the challenge to introduction of a new fuel. The Thick SiC clad annular UO<sub>2</sub> (84 reload cores) and Thick SiC UO<sub>2</sub>/BeO exhibit similar reactor physics performance but require higher enrichments than 5%.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:102 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

Contract/Grant/Transfer Number: N00244-09-G-0014 ( N0024409G0014 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Friction Stir Welding of HT9 Ferritic-Martensitic Steel: An Assessment of Microstructure and Properties

PDF URL: (pdf) - 5 MB -

Accession Number: ADA585615

Personal Author(s): Ray, Lara L

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Jun 2013

Abstract: ( U ) This thesis explores the processing-microstructure-property relationships in friction stir welded (FSW) HT9A ferritic-martensitic steel. HT9 has previously been studied as a structural component for fusion/fission based reactors; however, the changes in material microstructure and properties after friction stir welding have not been considered. HT9A steel plate was friction stir welded with a series of increasing heat inputs. The microstructure of this welded material was characterized using optical and electron microscopy. The mechanical properties of the welded material were determined using nanoindentation and microhardness measurements. In addition, electrochemical impedance spectroscopy (EIS) in molten lithium fluoride was used to assess the high temperature corrosion resistance of the welded material in the harsh environments found in fusion reactors. The quality of the friction stir welds was excellent, and the basic ferritic-martensitic microstructure was maintained for all of the conditions used. Some reduction in hardness was observed in the welded material, particularly in the heat affected zones. The high temperature corrosion response of the welded material was comparable to, or slightly better than, the base plate material.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:115 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Crystal Growth and Characterization of THO<sub>2</sub> and U<sub>x</sub>Th<sub>1-x</sub>O<sub>2</sub>

PDF URL: (pdf) - 1 MB -

Accession Number: ADA583232

Personal Author(s): Castilow, Jacob G

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH  
GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2013

Abstract: ( U ) Hydrothermal synthesis of ThO<sub>2</sub> and U<sub>x</sub>Th<sub>1-x</sub>O<sub>2</sub>, and UO<sub>x</sub> at temperatures between 670 deg C and 700 deg C has been demonstrated. Synthesis at these temperatures is 50-80 deg C below prior crystal growths and represents a new lower bound of successful growth. Hydrothermal synthesis represents a cost effective, environmentally friendly way of growing bulk actinide materials of optical quality. These refractory oxide single crystals offer potential applications in thorium nuclear fuel technology, wide-band-gap uranium-based direct-conversion solid state neutron detectors, and understanding how actinide fuels age with time. ThO<sub>2</sub> single crystals of dimensions 6.49mm x 4.89mm x 3.89 mm and weighing 0.633g have been synthesized at growth rates near 0.125mm/wk. Single crystal U<sub>x</sub>Th<sub>1-x</sub>O<sub>2</sub> crystals with mole fractions up to x approx. equal 0.30 have also been grown. The largest alloyed crystal with mole fraction x approx. equal 0.23 has dimensions of 2.97mm x 3.23mm x 3mm and saw growth rates likely near 0.2mm/wk. Mineralizer molarity, temperature gradient, and synthesis temperature were gradually optimized to produce a faceted, cubic crystal approximately 3mm a side. X-ray diffraction of single crystal ThO<sub>2</sub> determined the unit cell to be of the calcium fluorite structure with a lattice parameter of 5.596(4) Angstrom. Lattice parameters for U<sub>x</sub>Th<sub>1-x</sub>O<sub>2</sub> varied linearly with thorium concentration suggesting homogenous uranium incorporation into the lattice.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:72 Page(s)

Report Number: AFIT-ENP-13-M-06 ( *AFITENP13M06* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutron Spectroscopy Using LiF Thin-Film Detectors

PDF URL: (pdf) - 15 MB -

Accession Number: ADA582075

Personal Author(s): Ford, Michael A

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH  
GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2013

Abstract: ( U ) A stacked array of segmented micro-structured semiconductor neutron detectors (MSNDs) has been fabricated to perform as a neutron spectrometer simultaneously capable of differentiating fast and thermal neutrons. The MSND devices consist of thin-film perforated diodes constructed from LiF powder back-filled into an etched silicon wafer. Geant4 simulations demonstrate that an eight-layer spectrometer consisting of alternating layers of MSND and hydrogenous moderator can successfully resolve neutron energies at a resolution dependent upon the number of layers and the thickness of the adjacent moderating materials. The simulated spectrometer response was compared to that obtained experimentally with mono-energetic neutrons from a D+D neutron generator. The commissioning tests of the spectrometer reveal that the energy of a mono-energetic neutron source can be identified to within + or -1 MeV. Following the commissioning tests, the spectrometer was used to characterize the poly-energetic neutron spectrum of a plutonium-beryllium neutron source.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:137 Page(s)

Report Number: AFIT-ENP-13-M-10 ( *AFITENP13M10* ) , AFOSR - 2012-059  
AFOSR/VA ( *AFOSR2012059 AFOSRVA* ) , XC - 2012-059 AFOSR/VA ( *XC2012059 AFOSRVA* )

Monitor Series: 2012-059 ( *2012059* ) , AFOSR/VA ( *AFOSRVA* )

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Modeling Radioactive Decay Chains with Branching Fraction Uncertainties

PDF URL: (pdf) - 1 MB -

Accession Number: ADA583047

Personal Author(s): Higley, Timothy M

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH  
GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2013

Abstract: ( U ) This thesis is a parameter study of the effects of branching fraction uncertainty from nuclear decay on isotope quantities at later times. Development of how to calculate and accurately draw random samples of branching fractions is done. Overall effects as well as isotope quantity uncertainty distributions are also explored. Isotope quantities are calculated using exponential moments methods with transmutation matrices. Uncertainty from both half-lives and branching fractions is carried through these calculations by Monte Carlo methods. Results of the study show that uncertainty from branching fractions dominates most isotopes present from neutron fission after approximately one month. Another result is that only 20% of isotopes present at any given time have uncertainty from both half-lives and branching fractions that are of the same order of magnitude. The final program is both flexible in the number and type of isotopes it can input and output, as well as computationally efficient.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:87 Page(s)

Report Number: AFIT-ENP-13-M-14 ( *AFITENP13M14* ) , XC - AFIT/GSEM ( *XCAFITGSEM* )

Monitor Series: AFIT/GSEM ( *AFITGSEM* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Strategic Stability: Contending Interpretations

PDF URL: (pdf) - 1 MB -

Accession Number: ADA572928

Personal Author(s): Colby, Elbridge A ; Gerson, Michael S

Corporate Author: ARMY WAR COLLEGE CARLISLE BARRACKS PA STRATEGIC STUDIES INSTITUTE

Report Date: Feb 2013

Abstract: ( U ) My first question on approaching this volume was, What is strategic stability, or What are the different meanings of strategic stability? My second was, Is strategic stability always, usually, or seldom, a good thing? My third was, When strategic stability is a good thing, how do we arrange to bring it about? Is it a weapons result, a diplomatic result, or a result of a common understanding? I was brought up on the stability of mutual deterrence, half a century ago, and it was not all that difficult to understand. The Gaither Committee of 1957 had, after 12 years of the nuclear era, finally identified that deterrence via threat of retaliation depended on the recognized ability of a retaliatory force to survive an attack intended to destroy it, and that the U.S. retaliatory force was not able to promise its own survival. The international conference on measures to safeguard against surprise attack brought five western nations to Washington in 1958, before moving to Geneva to meet the five eastern nations. It became clear that the problem of surprise attack was not merely that it was dastardly, or worse than an anticipated attack, but that it might be attractive to a nuclear enemy if the enemy thought it might catch unlaunched response forces and destroy them, especially if the nuclear enemy feared an imminent attack by those very forces. Albert Wohlstetter's not yet published paper, Delicate Balance of Terror, circulated among the Washington conferees and had an immediate impact. Later published in Foreign Affairs (January 1959), it became the decisive document contrasting delicate with stable.



The stable terminology came from an elementary physics term, in which an equilibrium could be stable or unstable. A stable equilibrium was one that, if disturbed, could recover; an unstable one, when disturbed, decomposed quickly. Balance was a synonym for equilibrium ; and delicate was a synonym for unstable. Wohlstetter s document was convincing

Abstract Classification:Unclassified

Pages:452 Page(s)

Report Number: XA - AWC/SSI ( XAAWCSSI )

Monitor Series: AWC/SSI ( AWCSSI )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Stress Corrosion Cracking of Aluminum Alloys

PDF URL: (pdf) - 1 MB -

Accession Number: ADA568598

Personal Author(s): Lee, E U ; Taylor, R ; Lei, C ; Pregger, B ; Lipnickas, E

Corporate Author: NAVAL AIR WARFARE CENTER AIRCRAFT DIV PATUXENT RIVER  
MD

Report Date: 10 Sep 2012

Abstract: ( U ) The effects of environment concentration and strain rate on the stress corrosion cracking (SCC) behavior of 5083-H131 and 7075-T6 aluminum alloys were studied, conducting electrochemical measurement and slow strain rate test. The employed environments were pH 7.3 aqueous solutions of 0 to 20% NaCl, and the applied strain rate ranged from 10<sup>-8</sup> s<sup>-1</sup> to 10<sup>-4</sup> s<sup>-1</sup>. A comparative test was also carried out in air. After the tests, the fracture surface morphology was examined by scanning electron microscopy, and the microstructure in the vicinity of the

fracture by light microscopy to clarify the SCC mode. The results indicated: 1. The SCC susceptibility is a little below 0.5% NaCl but it is raised noticeably with increasing NaCl concentration above 0.5% NaCl. 2. Compared to 7075-T6 aluminum alloy, 5083-H131 aluminum alloy has inferior mechanical property and it is highly susceptible to SCC. 3. The corrosion potential is lower and the corrosion rate is greater for higher NaCl concentration. 4. The SCC susceptibility increases with decreasing strain rate. 4. The SCC mode is crack initiation at the junctions of grain boundaries with specimen surface, and crack propagation along grain boundaries into the specimen, attributed to hydrogen embrittlement and anodic dissolution.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:36 Page(s)

Report Number: NAWCADPAX/RTR-2012/206 ( *NAWCADPAXRTR2012206* ) , XB - NAVAIR\*\*\* ( *XBNAVAIR* )

Monitor Series: NAVAIR\*\*\* ( *NAVAIR* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Air and Space Power Journal. Volume 26, Number 4, July-August 2012

PDF URL: (pdf) - 1 MB -

Accession Number: ADA565019

Personal Author(s): Weidi, Xu ; Byard, Kyle ; Ashley, Mark ; Lowther, Adam B ; Willi, Bernie ; Below, Tim D ; Conway, III, John L

Corporate Author: AIR AND SPACE POWER JOURNAL MAXWELL AFB AL

Report Date: Aug 2012

Abstract: ( U ) CONTENTS: Embracing the Moon in the Sky or Fishing the Moon in the Water?: Some Thoughts on Military Deterrence: Its Effectiveness and Limitations; Toward a Superior Promotion System; KWar: Cyber and Epistemological Warfare--Winning the Knowledge War by Rethinking Command and Control; From the Air: Rediscovering Our Raison D'etre; The Importance of Airpower in Supporting Irregular Warfare in Afghanistan; Whither the Leading Expeditionary Western Air Powers in the Twenty-First Century?; Exchanging Business Cards: The Impact of the National Defense Authorization Act of 2012 on Domestic Disaster Response; Book Reviews

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:184 Page(s)

Report Number: AFRP-10-1 ( *AFRP101* ) , XC - AU-AFRI ( *XCAUAFRI* )

Monitor Series: AU-AFRI ( *AUAFRI* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Air Officer's Education

PDF URL: (pdf) - 227 KB -

Accession Number: ADA565059

Personal Author(s): O'Brien, Robert

Corporate Author: AIR AND SPACE POWER JOURNAL MAXWELL AFB AL

Report Date: Aug 2012

Abstract: ( U ) There are three distinct elements in the education of an Air Force officer: military instruction, technical or professional training, and general education. Air warfare has come upon us so rapidly that the military instruction of Air Force officers has never been thought out and analyzed as a new military problem. The traditional army basic training has consequently served as the model for military instruction in the Air Force. Close-order drill, bivouacs, field exercises and the other common routine ground-training maneuvers are as much an introduction to military life for a young flyer as they are for a foot soldier. This approach overlooks the fact that each occupation has its own peculiar psychology, its own dialectics. \*Article reprinted from Air University Quarterly Review 1, no. 2 (Fall 1947): 9-24.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:21 Page(s)

Report Number: XC - AU-AFRI ( *XCAUAFRI* )

Monitor Series: AU-AFRI ( *AUAFRI* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Next Arms Race

PDF URL: (pdf) - 8 MB -

Accession Number: ADA565572

Personal Author(s): Sokolski, Henry D

Corporate Author: ARMY WAR COLL STRATEGIC STUDIES INST CARLISLE  
BARRACKS PA

Report Date: Jul 2012

Abstract: ( U ) The strategic military competitions of the next 2 decades will be unlike any the world has yet seen. Assuming U.S., Chinese, Russian, Israeli, Indian, French, British, and Pakistani strategic forces continue to be modernized and America and Russia continue to reduce their strategic nuclear deployments, the next arms race will be run by a much larger number of contestants with highly destructive strategic capabilities far more closely matched and capable of being quickly enlarged than in any other previous period in history. In this more volatile world, the United States will need to pay more attention to competing and negotiating with China on strategic military matters. Washington and its friends will also have to do more to stabilize relations between Pakistan, India, and China, and to firm up security alliance relations with Korea, Japan, and other key states in the Pacific. While the hope of eliminating nuclear weapons may continue, the United States and other like-minded states will need to do more to reduce the numbers and types of ground-launched nuclear-capable missiles and the production of, and access to, nuclear weapons-usable materials. Finally, far more will need to be done to restrict and condition the further spread of peaceful nuclear energy programs to new states, lest the Middle and Far East be peppered with more Irans and North Koreas. What will happen if we fail to take on these new, additional challenges? At a minimum, nuclear weapons and first-strike missiles will spread, and so increase the prospect of use. In the worst case, there will be wars that may well go nuclear. In this case, the 1930s and 1960s could end up looking quite benign.

Abstract Classification:Unclassified

Pages:531 Page(s)

Report Number: XA - AWC/SSI ( XAAWCSSI )

Monitor Series: AWC/SSI ( AWCSSI )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Anatomy of Strategy: Fighting for the Future Through Narrative, Logic and Grammar

PDF URL: (pdf) - 484 KB -

Accession Number: ADA567673

Personal Author(s): Chaffin, IV, John H

Corporate Author: ARMY COMMAND AND GENERAL STAFF COLL FORT  
LEAVENWORTH KS SCHOOL OF ADVANCED MILITARY STUDIES

Report Date: 17 May 2012

Abstract: ( U ) This monograph addresses the fact that most writing on strategy is descriptive rather than explanatory. Describing strategy in terms of categories such as grand strategy, or theater strategy, or by various analogies, does not illuminate what happens when one practices strategy. Strategy is a cognitive process rather than some tangible object that one can point at or manipulate. Accordingly, this is a theory of how strategy is formed and why it works. The process that produces strategy is based on the creation of narrative. In this sense, the theory is one of meta-cognition. If one understands how human beings approach certain aspects of reality, then one can move strategy from the realm of intangible process to observable manifestation of community effort. The theory here advanced is heavily influenced by the strategic thought of John Boyd, the idea of relative advantage developed by Everett Dolman, the cognitive research led by Daniel Kahneman, Complexity Theory and Quantum Physics, and the skepticism articulated by Nassim Nicholas Taleb. Reality is a field of circumstances; these are the fundamental building blocks of any human attempt to change or transform reality. Circumstances are like protons, neutrons and electrons within quantum theory. Strategy is the effort to incorporate purpose into the play of circumstances; strategy provides structure to circumstance. Purpose differentiates circumstances by making some relevant and others irrelevant. Theory describes the larger field of irrelevant circumstances as undifferentiated. Relevance is not absolute or fixed, and thus circumstances move from undifferentiated, to differentiated, to undifferentiated. This pulse of relevance resonates throughout this theory of strategy. In order to accommodate this play, or the shifting state of things, strategists rely on narratives. A story, as a system of cause and effect driven by purpose, offers a way to orient the environment to communal desire. Communities cannot achieve

Abstract Classification:Unclassified

Descriptive Note: Monograph Jul 2011-Apr 2012

Pages:70 Page(s)

Report Number: ATZL-SWV ( ATZLSWV ) , XA - USACGSC/SAMS ( XAUSACGSCSAMS )

Monitor Series: USACGSC/SAMS ( USACGSCSAMS )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Diffusion Couple Alloying of Refractory Metals in Austenitic and Ferritic/Martensitic Steels

PDF URL: (pdf) - 4 MB -

Accession Number: ADA560427

Personal Author(s): McGinnis, Alexander L

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Mar 2012

Abstract: ( U ) This thesis utilized the diffusion couple approach to evaluate the addition of molybdenum, niobium, tantalum, and tungsten to 316 stainless (316SS) and alloy HT9 steels. Refractory elements have been previously studied as alloying candidates to mitigate problems such as radiation-induced segregation, void swelling, and irradiation creep in reactor steels. Diffusion couples were characterized via energy dispersive x-ray spectroscopy (EDS) and nanoindentation to examine refractory element solubility, diffusivity, and the effects these elements have on hardness and elastic modulus in 316SS and alloy HT9. Molybdenum and tungsten samples showed significantly higher solubility and diffusivity than niobium and tantalum, with evidence of multiphase regions several hundred microns from the diffusion couple interface. Nanoindentation revealed evidence of hardening as a function of increasing concentration for some, but not all of the refractory elements. Diffusion of the refractory elements in alloy HT9 was significantly higher than in 316SS, which suggests that alloy HT9 retained its ferritic structure even at high temperatures, i.e., 1100 C.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:95 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Recent Advances in Transformation Optics

PDF URL: (pdf) - 1 MB -

Accession Number: ADA565705

Personal Author(s): Liu, Yongmin ; Zhang, Xiang

Corporate Author: CALIFORNIA UNIV BERKELEY NANOSCALE SCIENCE AND  
ENGINEERING CENTER

Report Date: Jan 2012

Abstract: ( U ) Within the past a few years, transformation optics has emerged as a new research area, since it provides a general methodology and design tool for manipulating electromagnetic waves in a prescribed manner. Using transformation optics, researchers have demonstrated a host of striking phenomena and devices; many of which were only thought possible in science fiction. In this paper, we review the most recent advances in transformation optics. We focus on the theory, design, fabrication and characterization of transformation devices such as the carpet cloak, Janus lens and plasmonic cloak at optical frequencies, which allow routing light at the nanoscale. We also provide an outlook of the challenges and future directions in this fascinating area of transformation optics.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:17 Page(s)

Report Number: XA - ARO ( XA )

Monitor Series: ARO



Contract/Grant/Transfer Number: W911NF-09-1-0539 ( W911NF0910539 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Santa Muerte: Threatening the U.S. Homeland

PDF URL: (pdf) - 1 MB -

Accession Number: ADA600569

Personal Author(s): Cervantes, Jr, Antonio

Corporate Author: MARINE CORPS COMMAND AND STAFF COLL QUANTICO VA

Report Date: 08 Mar 2011

Abstract: ( U ) Santa Muerte, once practiced by a small minority of Mesoamericans, has now gain significant popularity among the dispossessed and narco-cultures of Mexican heritage. This syncretic religion that may be promoting instability and empowering Mexico's narco-cultures has many fearing for their lives. Santa Muerte has demonstrated a disregard for human rights, it threatens Mexico's national security, and it recognizes no boundaries against malevolent acts of violence. Citizens throughout Mexico, the U.S., and parts of Argentina have already witnessed the carnage left behind by the criminal minded and dispossessed who praise Santa Muerte for personal gain and protection. In the U.S., the narco-threat and its religious affiliation to Santa Muerte are real and although the problem is not nearly as severe as Mexico's current state, the crime in the U.S. seems to be rising gradually. Citizens in both the U.S. and Mexico, to include the Mexican government, agree that Santa Muerte is in and of itself a religion incompatible to good order and discipline. Its ideologies and esoteric practices in its absolute essence evidently promotes a society of lawbreakers.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:46 Page(s)

Report Number: XY - USMC/CSC ( *XYUSMCCSC* )

Monitor Series: USMC/CSC ( *USMCCSC* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Limitation of Current Hardening Models in Predicting Anisotropy by Twinning in HCP Metals: Application to a Rod-Textured AM30 Magnesium Alloy

PDF URL: (pdf) - 402 KB -

Accession Number: ADA540543

Personal Author(s): Oppedal, A L ; Kadiri, H El ; Tome, C N ; Baird, J C ; Vogel, S C ; Horstemeyer, M F

Corporate Author: MISSISSIPPI STATE UNIV MISSISSIPPI STATE

Report Date: Mar 2011

Abstract: ( U ) When a strongly textured hexagonal close packed (HCP) metal is loaded under an orientation causing profuse twinning or detwinning, the stress-strain curve is sigmoidal in shape and inflects at some threshold. Authors have largely attributed the dramatic stress increase in the lower-bound vicinity of the inflection point to a combined effect of a Hall-Petch mechanism correlated to grain refinement by twinning, and twinning-induced reorientation requiring activation of hard slip modes. We experimentally and numerically demonstrate that these two mechanisms alone are unable to reproduce the stress-strain behaviors obtained under intermediate loading orientations correlated to in-between profuse twinning and nominal twinning. We argue based on adopting various mechanistic approaches in hardening model correlations from the literature. We used both a physics dislocation based model and a phenomenological Voce hardening model. The HCP material is exemplified by an extruded AM30 magnesium alloy with a 10( $\bar{1}$ )0-fiber parallel to the extrusion direction.

Abstract Classification:Unclassified

Descriptive Note: Conference paper

Pages:9 Page(s)

Report Number: XA - TARDEC ( XA )

Monitor Series: TARDEC

Contract/Grant/Transfer Number: W56HZV-04-2-0003 ( W56HZV0420003 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Femtosecond Laser Microstructuring and Chalcogen Inclusion in Silicon

PDF URL: (pdf) - 26 MB -

Accession Number: ADA544798

Personal Author(s): Mazur, Eric

Corporate Author: HARVARD UNIV CAMBRIDGE MA

Report Date: 12 Feb 2011

Abstract: ( U ) This report focuses on the research of femtosecond laser microstructuring and chalcogen inclusion in silicon. Doping silicon with sulfur, selenium and tellurium (chalcogens), is studied for its potential impact on improving silicon based infrared photodetectors, light emitting diodes and thin-film photovoltaics. Furthermore, hydrophobic surface properties of laser microstructured silicon are demonstrated.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Aug 2005-31 Jul 2008

Pages:487 Page(s)

Report Number: ARO - 48760-EL.1 ARO ( *ARO48760EL1* ) , XA - 48760-EL.1 ARO ( *XA48760EL1* )

Monitor Series: 48760-EL.1 ( *48760EL1* ) , ARO

Contract/Grant/Transfer Number: W911NF-05-1-0341 ( *W911NF0510341* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High Frontier: The Journal for Space and Cyberspace Professionals. Volume 7, Number 2

PDF URL: (pdf) - 1 MB -

Accession Number: ADA539337

Corporate Author: AIR FORCE SPACE COMMAND PETERSON AFB CO

Report Date: Feb 2011

Abstract: ( U ) In June 2010, the president released a new National Space Policy (NSP) defining the principles, goals, and guidelines aimed at advancing and preserving national space interests. The new policy acknowledges the congested, contested, and competitive nature of space as compared to the beginning of the Space Age when there were only a few nations which possessed the means to access and benefit from the space domain. Today we live in a world enabled by space capabilities providing weather, imaging, communications, warning, position, timing, and navigation information used by governments and individuals alike. At Air Force Space Command (AFSPC), we understand this well as the providers of GPS capability. GPS timing signals literally enable the interactions of the global economy, yet it was originally intended to provide accurate navigation for military systems. Indeed, much has changed since the

dawn of the Space Age, and the president's NSP acknowledges the opportunities and challenges in space.

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:82 Page(s)

Report Number: XC - AFSPC ( XC )

Monitor Series: AFSPC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Conjugated Gammadion Chiral Metamaterial with Uniaxial Optical Activity and Negative Refractive Index

PDF URL: (pdf) - 629 KB -

Accession Number: ADA566288

Personal Author(s): Zhao, R ; Zhang, L ; Zhou, J ; Koschny, Th ; Soukoulis, C M

Corporate Author: IOWA STATE UNIV AMES

Report Date: 10 Jan 2011

Abstract: ( U ) We demonstrate numerically and experimentally a conjugated gammadion chiral metamaterial that uniaxially exhibits huge optical activity and circular dichroism, and gives a negative refractive index. This chiral design provides smaller unit cell size and larger chirality compared with other published planar designs. Experiments are performed at GHz frequencies (around 6 GHz) and are in good agreement with the numerical simulations.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:5 Page(s)

Report Number: XF - DOE ( XF )

Monitor Series: DOE

Contract/Grant/Transfer Number: DE-AC02-07CH11358 ( DEAC0207CH11358 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Survey of Electronics Obsolescence and Reliability

PDF URL: (pdf) - 842 KB -

Accession Number: ADA531873

Personal Author(s): O'Dowd, R J

Corporate Author: DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION  
EDINBURGH (AUSTRALIA) AIR OPERATIONS DIV

Report Date: Jul 2010

Abstract: ( U ) The service life of military assets significantly exceeds design life of commercial electronic systems used within them. Electronic obsolescence is increasingly associated with physical characteristics that reduce component and system reliability, both in usage and storage, with few design margins outside commercial warranty periods. Software content, however, remains a dominant limiting factor for reliability of electronic systems, and emerging commercial trends compound this. Traditional approaches to manage and sustain electronic systems are therefore increasingly ineffective and costly. This report surveys the

interrelated concerns of obsolescence and reliability of electronic systems, and describes emerging responses to these concerns.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:127 Page(s)

Report Number: DSTO-TR-2437 ( *DSTOTR2437* ) , DODA - AR-014-805 DSTO/AOD ( *DODAAAR014805 DSTOAOD* ) , X5 - AR-014-805 DSTO/AOD ( *X5AR014805 DSTOAOD* )

Monitor Series: AR-014-805 ( *AR014805* ) , DSTO/AOD ( *DSTOAOD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The WSTIAC Quarterly. Volume 9, Number 3

PDF URL: (pdf) - 5 MB -

Accession Number: ADA520057

Personal Author(s): Juhasz, Albert J ; Rarick, Richard A ; O'Brien, Barry ; Kovach, Jesse

Corporate Author: WEAPONS SYSTEMS TECHNOLOGY INFORMATION ANALYSIS  
CENTER ROME NY

Report Date: 25 Jan 2010

Abstract: ( U ) This issue of the WSTIAC Quarterly features an article on 'Future Combat Systems Small Unmanned Ground Vehicles Teleoperation Experiment Results' and 'High Efficiency Nuclear Power Plants Using Liquid Fluoride Thorium Reactor Technology.' Included the WSTIAC Directors Corner, List of Training Courses sponsored by WSTIAC are also included in this issue.

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:17 Page(s)

Report Number: WSTIAC-V9-N3 ( *WSTIACV9N3* ) , XD - DTIC ( *XD* )

Monitor Series: DTIC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Energy Policy

PDF URL: (pdf) - 343 KB -

Accession Number: ADA513533

Personal Author(s): Holt, Mark

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 10 Dec 2009

Abstract: ( U ) Nuclear energy issues facing Congress include federal incentives for new commercial reactors, radioactive waste management policy, research and development priorities, power plant safety and regulation, nuclear weapons proliferation, and security against terrorist attacks. Significant incentives for new commercial reactors were included in the Energy Policy Act of 2005 (EPACT05, P.L. 109-58). These include production tax credits, loan guarantees, insurance against regulatory delays, and extension of the Price-Anderson Act nuclear liability system. Together with higher fossil fuel prices and the possibility of greenhouse gas controls, the federal incentives for nuclear power have helped spur renewed interest by utilities and other



potential reactor developers. Plans for as many as 31 reactor license applications have been announced, although it is unclear how many of those projects will move forward.

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:33 Page(s)

Report Number: CRS-RL33558 ( *CRSRL33558* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) UCLA High Speed, High Volume Laboratory Network for Infectious Diseases.  
Addendum

PDF URL: (pdf) - 8 MB -

Accession Number: ADA518266

Personal Author(s): Layne, Scott P ; Godwin, Hilary ; Miller, Jeffrey F

Corporate Author: CALIFORNIA UNIV LOS ANGELES

Report Date: Aug 2009

Abstract: ( U ) Objectives/Hypothesis: This project aims to develop a new kind of high-throughput laboratory and informatic capability. It will provide a platform (high-speed high-volume processing, accessioning, archiving, screening, genotyping, culturing, phenotyping) for data-driven science and discovery. This platform is first being developed for influenza and can be expanded to include other pathogens as well. Integrated bioinformatics will associate surveillance information from the field with laboratory data and enable data-driven science and

discovery against emerging and engineered biothreats. Specific Aims: With FY06 (Initial Year), FY07 (OY1) and FY08 (OY2) Congressional appropriations, high-throughput bioagent Automated Genotyping System has been implemented first and are currently in the process of purchasing an initial unit of the Automated Archiving System. In addition, 100% specifications for both the Automated Culturing System and Automated Screening System have been produced; RFPs have been released by UCLA Purchasing in February 2010. The Automated Screening System will be purchased with OY2 funds. With FY09 (OY3) Congressional appropriations, the Automated Culturing System will be purchased. In addition, OY3 funds will be used to complete specifications for the Automated Phenotyping System. If FY10 (OY4) Congressional appropriations are approved (or if other funds become available), these funds will be used to purchase the Automated Phenotyping System and two additional units of the Automated Archiving System. The automated systems will be housed in laboratory space at UCLA that has been upgraded to BSL3-enhanced (BSL3e) containment (to be completed in OY2) that enables the flow of numerous samples containing Highly Pathogenic Avian Influenza and other Select Agents (dual-use).

Abstract Classification:Unclassified

Descriptive Note: Final addendum rept. 16 Mar 2008-15 Jul 2009

Pages:83 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: W81XWH-07-2-0015 ( W81XWH0720015 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Budgeting for the Nation's Defense Following the End of National Conflicts

PDF URL: (pdf) - 411 KB -

Accession Number: ADA540453

Personal Author(s): Harding, Craig A

Corporate Author: AIR UNIV MAXWELL AFB AL SCHOOL OF ADVANCED AIR AND SPACE STUDIES

Report Date: Jun 2009

Abstract: ( U ) The purpose of this thesis is to examine the primary factors influencing the defense budgeting decisions of the Truman and Bush '41 Administrations. In particular, the thesis examines events following the end of the World War II and the Cold War. This examination and analysis should be of interest for the Obama Administration due to the many apparent parallels between these administrations. Like the Obama Administration, Truman and Bush faced an uncertain threat environment, economic concerns including inflation and high employment, and the challenge of navigating the nation through the end of a war. By understanding how these factors influenced each respective administration, Obama can better construct tomorrow's defense budgets. There are four primary budget models, tied closely with environmental factors, which help explain the defense budget decisions made by the previous administrations. These four models include the historical, threat, economy, and strategy-based methods. Depending on the context, each of these factors and models pull or attempt to loosen the nation's purse strings. Concerns with the economy consistently pull the purse strings close, while the nation's threat perceptions justified defense expenditures. The nation's geopolitical goals and strategies can influence defense budgets in either direction. The historical model is the most dependent on context. The nation's behavior and defense budget can gain its own momentum, thereby influencing the process. Prior to World War II, the nation's cultural norm was to maintain a small military force; therefore, the nation quickly demobilized and cut defense funding at the end of the nation's conflicts. In the aftermath of the Cold War, it appears the nation's culture norm was transformed and the nation relied on its military to create jobs and export democracy throughout the world.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:91 Page(s)

Report Number: XC - AU-SAASS ( XCAUSAASS )

Monitor Series: AU-SAASS ( AUSAASS )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Waste Disposal: Alternatives to Yucca Mountain

PDF URL: (pdf) - 284 KB -

Accession Number: ADA494307

Personal Author(s): Holt, Mark

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 06 Feb 2009

Abstract: ( U ) Congress designated Yucca Mountain, NV, as the nation's sole candidate site for a permanent high-level nuclear waste repository in 1987, following years of controversy over the site-selection process. Over the strenuous objections of the State of Nevada, the Department of Energy (DOE) submitted a license application for the proposed Yucca Mountain repository in June 2008 to the Nuclear Regulatory Commission (NRC). During the 2008 election campaign, now-President Obama lent support to Nevada's fight against the repository, contending in an issue statement that he and now-Vice President Biden do not believe that Yucca Mountain is a suitable site. Under the current nuclear waste program, DOE hopes to begin transporting spent nuclear fuel and other highly radioactive waste to Yucca Mountain by 2020. That schedule is 22 years beyond the 1998 deadline established by the Nuclear Waste Policy Act (NWPA). Because U.S. nuclear power plants will continue to generate nuclear waste after a repository opens, DOE estimates that all waste could not be removed from existing reactors until about 2066 even under the current Yucca Mountain schedule. Not all the projected waste could be disposed of at Yucca Mountain, however, unless NWPA's current limit on the repository's capacity is increased.

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:28 Page(s)

Report Number: CRS-R40202 ( *CRSR40202* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Helmet-Mounted Displays: Sensation, Perception and Cognition Issues

PDF URL: (pdf) - 57 MB -

Accession Number: ADA522022

Personal Author(s): Rash, Clarence E ; Russo, Michael B ; Letowski, Tomasz R ; Schmeisser, Elmar T

Corporate Author: ARMY AEROMEDICAL RESEARCH LAB FORT RUCKER AL

Report Date: Jan 2009

Abstract: ( U ) The role of the Warfighter in the modern world has changed tremendously over the past two decades. While the primary job remains defeating the enemy, the Warfighter's role has been expanded to include peacekeeping, disaster relief, humanitarian aid, and anti-terrorism. To more effectively perform these tasks, the U.S. military is transforming itself into a more responsive and agile force that leverages advanced technologies. These advanced systems can expand the operational environment and multiply individual and unit capabilities. However, achieving optimal performance with these systems requires matching the engineering design characteristics of the system with the characteristics of the human user. Nowhere is this truer than for head- or helmet-mounted displays (HMDs), because such systems are intimately mated to the human senses of vision and audition. Failure to understand the human-machine interface can result in degraded performance, which for the Warfighter can mean the difference between mission success and failure or between a safe return and becoming a casualty. The issues of the human-machine interface encompass human anatomy and anthropometry, ergonomics, and human factors. Embedded in these issues is the important requirement to understand the roles of sensation, perception and cognition in the optimization of human performance with these advanced systems.

Abstract Classification:Unclassified

Pages:971 Page(s)

Report Number: XA - USAARL ( XA )

Monitor Series: USAARL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Foundations of Isomer Physics for Energy Applications

PDF URL: (pdf) - 16 MB -

Accession Number: ADA495065

Personal Author(s): Carroll, James J

Corporate Author: YOUNGSTOWN STATE UNIV OH

Report Date: 16 Oct 2008

Abstract: ( U ) Metastable excited nuclear states, isomers, have been of strong interest for decades, with studies motivated by their physical properties and the promise of high-energy-density applications. Much research has concentrated on induced depletion processes as a potential means of controlling the release of energy stored in these isomers. This research comprises a very specialized sub-field of nuclear physics and, as such, has often suffered from a lack of connection with the larger body of more traditional studies. The YSU isomer project has taken a broad view of induced depletion studies with the aim of providing a firm foundation to this maturing field. This report reviews work conducted by this project on induced isomer depletion and related issues of nuclear structure, as exemplified by peer-reviewed publications during the grant period.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 15 Sep 2005-31 May 2008

Pages:102 Page(s)

Report Number: GC93-05-3 ( *GC93053* ) , AFRL-SR-AR - TR-09-0018 AFOSR/VA ( *AFRLSRARTR090018 AFOSRVA* ) , XC - TR-09-0018 AFOSR/VA ( *XCTR090018 AFOSRVA* )

Monitor Series: TR-09-0018 ( *TR090018* ) , AFOSR/VA ( *AFOSRVA* )

Contract/Grant/Transfer Number: FA9550-05-1-0486 ( *FA95500510486* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Laser Based Fusion Test Facility

PDF URL: (pdf) - 441 KB -

Accession Number: ADA521296

Personal Author(s): Obenschain, S P ; Sethian, J D ; Schmitt, A J

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC PLASMA PHYSICS DIV

Report Date: Oct 2008

Abstract: ( U ) The Fusion Test Facility (FTF) is a high repetition rate ignition facility that would bridge the gap between single shot facilities (such as NIF and LMJ) and a fully functioning laser fusion power plant. It would allow development of science and technologies so that follow-on power plants could have predictable performance. The FTF would need to have enough fusion power, about 100 MW, to rigorously test materials and components for the power plants. Because inertial fusion provides a point source for neutrons, it can provide very high fluxes for test objects placed close to the target, while the reaction chamber walls remain at conservatively large distances. Simulations indicate that direct-drive designs can achieve 100 MW fusion power with laser energies well below 1 MJ with a 5 Hz driver. High-resolution 2-D simulations of high-velocity direct-drive implosions utilizing a Krypton- Fluoride (KrF) laser

give gains of 60? at 500 kJ, and shock-ignited targets may allow higher gains at even lower driver energy. Utilizing designs that require relatively small driver energy is the most straightforward path to reducing cost and development time for a practical laser fusion energy power plant. A program to develop an FTF would build upon the science and technologies developed in the existing National Ignition Campaign and the High Average Power Laser (HAPL) program, as well as the magnetic fusion technology program.

Abstract Classification:Unclassified

Descriptive Note: Conference paper

Pages:11 Page(s)

Report Number: XB - NRL ( XB )

Monitor Series: NRL

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Ukrain's Technology Sector

PDF URL: (pdf) - 665 KB -

Accession Number: ADA513984

Personal Author(s): Goodrich, Malinda

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC FEDERAL RESEARCH DIV

Report Date: Oct 2008

Abstract: ( U ) This study provides a general assessment of major science and technology (S&T) developments in Ukraine. The report is organized into eight sections: key findings, an



economic and political overview of Ukraine, a description of Ukraine's technology sector, Ukraine's science policy, the country's research and development (R&D) resources, brief profiles of Ukraine's main technology sectors, Ukraine's participation in international S&T, and a conclusion. The Appendices list prominent Ukrainian research facilities and their respective specialties. The author used English-, Russian-, and Ukrainian-language sources in the research for this report. Whenever possible, this study relied on primary-source documents published by the Ukrainian government, including the Ukraine Ministry of Foreign Affairs, Academy of Sciences, Parliament, State Statistical Committee, and Ministry of Education and Science. Writings by specialists at the Science and Technology Center of Ukraine (STCU) have proved very fruitful, though sometimes difficult to access through the STCU portal. The Ukrainian embassy in Washington, DC, provided a report entitled A Science Profile of Ukraine, which contained a great deal of background material on the Ukrainian S&T sector unavailable elsewhere. Other documents used in this study include reports by non-Ukrainian government agencies (such as U.S. government agencies), intergovernmental organizations, and the Ukrainian and other media. The author obtained all the documents used in this study from the collections and databases at the Library of Congress, including Eastview, Intelink, ISI Emerging Markets, Jane's Information Group, Lexis-Nexis, and the Open Source Center as well as the Internet.

Abstract Classification:Unclassified

Pages:120 Page(s)

Report Number: XD - DDDRE ( XD )

Monitor Series: DDDRE

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Solid State Quantum Computer in Silicon

PDF URL: (pdf) - 2 MB -

Accession Number: ADA499325

Personal Author(s): Clark, R G ; Dzurak, A S ; Simmons, M Y ; Jamieson, D N ; Prawer, S ; Hollenberg, L C ; McCallum, J C

Corporate Author: NEW SOUTH WALES UNIV SYDNEY (AUSTRALIA) RESEARCH OFFICE GRANTS SUPPORT SECTION

Report Date: 30 Sep 2008

Abstract: ( U ) A Si:P electron-spin qubit architecture was developed in 2008, based upon research outcomes over the four-year QCCM grant. Single-shot spin readout will proceed via spin-dependent tunneling to a Si MOS rf-SET, which we have demonstrated to possess charge sensitivities equal to or better than Al rf-SETs. Spin manipulation will occur using local electron-spin resonance (ESR), which we have used to observe hyperfine-split electron spin resonances in P-doped Si MOSFETs. This spin qubit concept has been incorporated into the bi-linear array quantum computer design developed in parallel over 2004-2008 by the theory programs, which was one of the first quantum computer architectures quantitatively analyzed for the fault-tolerant threshold. Preliminary measurements on ion-implanted spin qubit devices have demonstrated transfer of P-donor electrons to a Si-SET detector with a large signal of  $0.2e$ , while tunneling structures have enabled transport spectroscopy of singly occupied ( $D0$ ) and doubly occupied ( $D-$ ) P-donor electron states. These measurements are strongly supported by the NEMO-TCAD program allowing donor species and position to be determined through transport spectroscopy. Single-ion implantation using on-chip PIN detectors now routinely produces Si:P devices with accurately positioned single donors, such as a 2-P-atom charge qubit device, in which electron transfer events and charge-state relaxation times have been measured. Using STM atom-scale lithography the narrowest conducting doped wires in silicon have been demonstrated and used to fabricate the first in-plane-gated dot architecture. Measurements of these dots highlight the stability of in-plane gates compared with top gates and provide a pathway to atomically precise single donor architectures. Ab-initio and self-consistent tight-binding approaches have made progress in describing the essential physics of these highlydoped nanostructures.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jul 2004-30 Jun 2008

Pages:47 Page(s)

Report Number: ARO - 46422-PH-QC.1 ARO ( *ARO46422PHQC1* ) , XA - 46422-PH-QC.1 ARO ( *XA46422PHQC1* )

Monitor Series: 46422-PH-QC.1 ( *46422PHQC1* ) , ARO

Contract/Grant/Transfer Number: W911NF-04-1-0290 ( *W911NF0410290* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Mathematical Frameworks for Diagnostics, Prognostics and Condition Based Maintenance Problems

PDF URL: (pdf) - 4 MB -

Accession Number: ADA500002

Personal Author(s): Heidary, Kaveh ; Scott, Andrew

Corporate Author: ALABAMA A AND M UNIV NORMAL OFFICE FOR RESEARCH AND DEVELOPMENT

Report Date: 15 Aug 2008

Abstract: ( U ) This report documents the theoretical and computational investigation of statistical pattern recognition techniques and Bayesian Networks (BN). The application of statistical pattern recognition methodology and Bayesian Networks to automatic fault diagnostics, fault prognostics, and condition based maintenance (CBM) is explored. The theory of Margin-Setting, a new pattern recognition method developed by researchers at Alabama A&M University, is documented and its applicability to problems of interest to Army is investigated. Extensive parametric studies of Margin-Setting have been carried out through training and testing the algorithms with real and simulated data. Effects of various parameters including size of the training set, the evolution of prototypes, threshold level, margin value, etc. on the accuracy of the algorithm will be studied for various types of classification problems. The interplay between false positives and false negatives as they relate to system parameters and the application environment will be studied. Algorithms for mapping the data sets of large-scale Bayesian Network graph structures in a parallel and distributed computing environment were researched. In support of the Condition Based Maintenance (CBM) philosophy, a theoretical framework and algorithmic methodology for obtaining useful diagnostic and prognostic data from electro-mechanical systems was developed. The methods are based on vibration and modal analyses of the physical components. To illustrate the concept of the derived process, two real world models, a PCI circuit card, and an example rotor hub were considered. Models were created using finite element analysis (FEA) techniques, and analyzed to determine fundamental mode shapes and vibration frequencies. The results yielded vibration modes characteristic of both undamaged and damaged systems. An  $O(N \log N)$  pattern recognition technique was utilized for signal discrimination.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Aug 2005-31 Jul 2008

Pages:189 Page(s)

Report Number: ARO - 49366-MA-H.1 ARO ( *ARO49366MAH1* ) , XA - 49366-MA-H.1 ARO ( *XA49366MAH1* )

Monitor Series: 49366-MA-H.1 ( *49366MAH1* ) , ARO

Contract/Grant/Transfer Number: W911NF-05-1-0426 ( *W911NF0510426* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Portable Neutron Source

PDF URL: (pdf) - 6 MB -

Accession Number: ADA482727

Personal Author(s): Davis, J ; Petrov, G M

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC PLASMA PHYSICS DIV

Report Date: 30 May 2008

Abstract: ( U ) The angular distribution of neutrons formed in nuclear fusion reactions of a high-energy deuteron beam with a deuterated polyethylene (CD<sub>2</sub>) was investigated with a Monte Carlo ion beam-target deposition model. The initial conditions were obtained from a two-dimensional particle-in-cell laser-target deposition model. The neutron yield and its angular distribution were studied as a function of peak laser intensity, laser pulse duration and primary target thickness. The proposed scheme for neutron production delivers a typical neutron yield of 10E+5-10E+7 neutrons/ion and 10E+5-10E+7 neutrons/Joule laser energy.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. 1 May 2007-30 Apr 2008

Pages:50 Page(s)

Report Number: NRL/MR/6720-08-9123 ( *NRLMR6720089123* ) , XD - DTRA ( *XD* )

Monitor Series: DTRA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 2 MB -

Accession Number: ADA485800

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 30 May 2008

Abstract: ( U ) The Department of Defense Dictionary of Military and Associated Terms (short title: Joint Pub 1-02 or JP 1-02) sets forth standard U.S. military and associated terminology to encompass the joint activity of the Armed Forces of the United States in both U.S. joint and allied joint operations, as well as to encompass the Department of Defense (DoD) as a whole. These military and associated terms, together with their definitions, constitute approved DoD terminology for general use by all components of the Department of Defense. The Secretary of Defense, by DoD Directive 5025.12, 23 August 1989, Standardization of Military and Associated Terminology, has directed the use of JP 1-02 throughout the Department of Defense to ensure standardization of military and associated terminology. The main body of the dictionary contains all terms and definitions approved for use within the Department of Defense, to include those terms and definitions that are approved for both DoD and NATO use. Each entry approved for both DoD and NATO appears with an asterisk in parentheses, i.e., (\*), after the

term to denote DoD-NATO acceptance. Appendix A contains a listing of current abbreviations and acronyms in common use within the Department of Defense. This is by no means a complete list of DoD abbreviations and acronyms. Rather, it serves as a guide to current DoD usage in abbreviations and acronyms.

Abstract Classification:Unclassified

Descriptive Note: Dictionary

Pages:781 Page(s)

Report Number: XD - JCS ( XD )

Monitor Series: JCS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Improvised Explosive Device Defeat Organization: Anomaly or Future Roadmap

PDF URL: (pdf) - 292 KB -

Accession Number: ADA479728

Personal Author(s): Sadowski, Robert W

Corporate Author: ARMY WAR COLL CARLISLE BARRACKS PA

Report Date: 25 Mar 2008

Abstract: ( U ) Asymmetric threats and capabilities have long characterized the conduct of war and every era seems to have its own incarnation. Exemplars include the phalanx longbow and recently Improvised Explosive Devices (IEDs). The national response to the dramatic increase in IEDs in the current conflict began as a small cell in 2003 Within four years the response evolved

into the Joint IED Defeat Organization which is currently a \$3 billion 300-person organization answerable to the Deputy Undersecretary for Defense, but coordinating the activity of thousands. JIEDDO itself has been compared to a 'Manhattan-style' project This paper provides historical perspective through case studies while exploring other analogs such as the North Atlantic shipping tragedy in WWII. More important, discerning patterns that emerge offers glimpses on how we should respond to future threats. Does the JIEDDO model represent a single point in time or does it provide a representative guide for solving difficult issues that cross service, material, agency, and national lines? Solutions to asymmetric threats have perceived single answers or silver bullet approaches, but in reality require integration across a wide domain. This is not only a contemporary assessment of JIEDDO but a comment echoed at the close of World War II.

Abstract Classification:Unclassified

Descriptive Note: Strategy research project

Pages:31 Page(s)

Report Number: XA - USAWC ( XA )

Monitor Series: USAWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Steps Towards Large Scale Production of High-Spin Hafnium Isomers by Spallation Reactions

PDF URL: (pdf) - 852 KB -

Accession Number: ADA525435

Personal Author(s): Ur, Calin A

Corporate Author: ROMANIAN CENTER FOR INDUCED GAMMA EMISSION  
BUCHAREST (ROMANIA)

Report Date: 25 Feb 2008

Abstract: ( U ) This report results from a contract tasking Induced Gamma Emission Foundation as follows: The contractor will investigate the production and accumulation of the nuclear isomer  $^{178m2}\text{Hf}$  by spallation of hafnium targets with high-energy protons. The Hafnium yield will be assayed and compared to predictions. The program will use Hf targets for the optimization of the  $^{178m2}\text{Hf}$  yield and for the minimization of the running cost related to the simplicity and availability of accelerators operating at such low energies. The operation cost for a small cyclotron that provides protons of energies around 150 MeV are order of magnitude lower than those for the operation of the Los Alamos 800 MeV meson factory facility. By the end of the first year the Foundation will have the results of the data analysis for the irradiation of the natural Hf targets and LAHET calculations will be recalibrated based on the new experimental data. The technical problems related to the design and mounting of Hf targets including heat removal solutions will be settled. Working from this base the Foundation will contract the irradiation of the enriched Hf targets at the Dubna synchrocyclotron establishing all the details concerning the beam energies, number of the irradiations and their duration.

Abstract Classification:Unclassified

Descriptive Note: Final rept., 25 Sep 2004-25 Sep 2006

Pages:29 Page(s)

Report Number: EOARD - 04-3046 EOARD ( *EOARD043046* ) , XC - 04-3046 EOARD ( *XC043046* )

Monitor Series: 04-3046 ( *043046* ) , EOARD

Contract/Grant/Transfer Number: FA8655-04-1-3046 ( *FA86550413046* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Falling Behind: International Scrutiny of the Peaceful Atom

PDF URL: (pdf) - 1 MB -

Accession Number: ADA477474

Personal Author(s): Sokolski, Henry D ; Edlow, Jack ; Khlebnikov, Nikolai ; Dillon, Garry ; Lyman, Edwin S ; Cochran, Thomas B ; von Hippel, Frank ; Zarate, Robert ; Goldschmidt, Pierre ; Michel, Quentin

Corporate Author: ARMY WAR COLL STRATEGIC STUDIES INST CARLISLE  
BARRACKS PA

Report Date: Feb 2008

Abstract: ( U ) Ask how effective International Atomic Energy Agency (IAEA) nuclear safeguards are in blocking proliferation, and you are sure to get a set of predictable reactions. Those skeptical of the system will complain that IAEA inspections are too sketchy to ferret out nuclear misbehavior (e.g., North Korea, Iraq, and Iran) and that in the rare cases when such violators are found out (almost always by national intelligence agencies), the IAEA's board of governors is loath to act. IAEA supporters have a rather opposite view. The IAEA, they point out, actually found Pyongyang, Baghdad, and Tehran in non-compliance with their IAEA safeguards agreements and reported this to the United Nations (UN) Security Council. International inspectors, moreover, were the only ones correctly to assess the status of Saddam's strategic weapons programs. The problem is not to be found in Vienna or in the IAEA's inspections system but in Washington's unwillingness to listen. In the future, the United States, they argue, should rely more, not less, on the IAEA to sort out Iran's nuclear activities and to disable North Korea's nuclear weapons complex. These two views could hardly be more opposed. There is at least one point, though, upon which both sides agree: If possible, it would be useful to enhance the IAEA's ability to detect and prevent nuclear diversions. This would not only reduce the current risk of nuclear proliferation, it would make the further expansion of nuclear power much less risky. The question is what is possible?

Abstract Classification:Unclassified

Descriptive Note: Research rept.

Pages:356 Page(s)

Report Number: XA - AWC/SSI ( XAAWCSSI )

Monitor Series: AWC/SSI ( AWCSSI )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Energy Policy

PDF URL: (pdf) - 164 KB -

Accession Number: ADA494342

Personal Author(s): Holt, Mark

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 28 Jan 2008

Abstract: ( U ) Nuclear energy policy issues facing Congress include the implementation of federal incentives for new commercial reactors, radioactive waste management policy, research and development priorities, power plant safety and regulation, nuclear weapons proliferation, and security against terrorist attacks. The Bush Administration has called for an expansion of nuclear power. For Department of Energy (DOE) nuclear energy research and development and infrastructure, the Administration requested \$801.7 million for FY2008, nearly 30% above the FY2007 funding level. The request would have boosted funding for the Advanced Fuel Cycle Initiative (AFCI) from \$167.5 million in FY2007 to \$395.0 million in FY2008. The FY2008 omnibus appropriations act holds AFCI to \$181 million and shifts the mixed-oxide (MOX) fuel program-totaling \$281 million-to the nuclear energy program from the nuclear nonproliferation program. That brings the nuclear energy total to \$970.5 million (\$961.7 million with an across-the-board rescission), about 20% above the request. An additional \$75.9 million provided in the Other Defense Activities account brings the Office of Nuclear Energy's total spending level to \$1.046 billion (\$1.037 billion with the rescission).

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:29 Page(s)

Report Number: CRS-RL33558 ( *CRSRL33558* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Development of Process Technologies for High-Performance MOS-Based SiC Power Switching Devices

PDF URL: (pdf) - 95 MB -

Accession Number: ADA473280

Personal Author(s): Cooper, James A ; Capano, Michael A ; Feldman, Leonard C ; Skowronski, Marek ; Williams, John R

Corporate Author: PURDUE UNIV LAFAYETTE IN

Report Date: 01 Aug 2007

Abstract: ( U ) In this work we developed the technology for 20 kV insulated gate bipolar transistors (IGBTs) in 4H-SiC. The p-channel IGBT is formed on a 175-micron p-type epilayer on an n+ substrate. The n-IGBT is formed on the C-face of a 200-micron n-type free-standing epilayer. When operated at 300 W/cm<sup>2</sup>, the p- and n-IGBTs carry 30 and 27 A/cm<sup>2</sup> respectively, independent of temperature from 23 deg C to 175 deg C. These results were made possible by advances in epigrowth of thick SiC epilayers with low doping, high carrier lifetime, and minimal basal plane dislocations. Ambipolar lifetimes as high as 1.7 microns and BPD densities as low as 2.6 cm<sup>-2</sup> were achieved. The work was further supported by research on the MOS interface on both C-face and Si-face SiC, including studies of threshold voltage and long-term reliability. Oxides on the C-face have comparable mobility to those on the Si-face, but lower breakdown fields and reduced long-term reliability.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 Mar 2005-31 May 2007

Pages:441 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-05-1-0437 ( N000140510437 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Energy Policy

PDF URL: (pdf) - 156 KB -

Accession Number: ADA471339

Personal Author(s): Holt, Mark

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 12 Jul 2007

Abstract: ( U ) Nuclear energy policy issues facing Congress include the implementation of federal incentives for new commercial reactors, radioactive waste management policy, research and development priorities, power plant safety and regulation, and security against terrorist attacks. The Bush Administration has called for an expansion of nuclear power. For Department of Energy (DOE) nuclear energy research and development and infrastructure, the Administration is requesting \$801.7 million for FY2008, a nearly 30% increase from the FY2007 appropriation. The request would boost funding for the Advanced Fuel Cycle Initiative (AFCI) from \$167.5 million in FY2007 to \$395.0 million in FY2008 as the primary component of the Administration's Global Nuclear Energy Partnership (GNEP). The House Appropriations Committee recommended cutting AFCI to \$120.0 million while providing a total funding level of \$835.2 million (H.R. 2641, H.Rept. 110-185). The Senate Appropriations Committee

recommended \$242.0 million for AFCI and \$795.5 million for nuclear energy overall (S. 1751, S.Rept. 110-127). Significant incentives for new commercial reactors are included in the Energy Policy Act of 2005 (P.L. 109-58), signed by the President on August 8, 2005. These include production tax credits, loan guarantees, insurance against regulatory delays, and extension of the Price-Anderson Act nuclear liability system. Together with higher fossil fuel prices and the possibility of greenhouse gas controls, the federal incentives for nuclear power have helped spur renewed interest by utilities and other potential reactor developers. Plans for about 30 reactor license applications have been announced, although no commitments have been made to build the plants. No reactor has been ordered in the United States since 1978, and all orders since 1973 were subsequently canceled.

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:26 Page(s)

Report Number: CRS-RL33558 ( *CRSRL33558* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 2 MB -

Accession Number: ADA469271

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 22 Mar 2007

Abstract: ( U ) The Department of Defense Dictionary of Military and Associated Terms (short title: Joint Pub 1-02 or JP 1-02) sets forth standard US military and associated terminology to encompass the joint activity of the Armed Forces of the United States in both US joint and allied joint operations, as well as to encompass the Department of Defense (DOD) as a whole. These military and associated terms, together with their definitions, constitute approved DOD terminology for general use by all components of the Department of Defense. The Secretary of Defense, by DOD Directive 5025.12, 23 August 1989, Standardization of Military and Associated Terminology, has directed the use of JP 1-02 throughout the Department of Defense to ensure standardization of military and associated terminology. This publication supplements standard English-language dictionaries with standard terminology for military and associated use. However, it is not the intent of this publication to restrict the authority of the joint force commander (JFC) from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the overall mission.

Abstract Classification:Unclassified

Pages:763 Page(s)

Report Number: JCS-JP-1-02 ( *JCSJP102* ) , XD - JCS ( *XD* )

Monitor Series: JCS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Precise Calculation of Complex Radioactive Decay Chains

PDF URL: (pdf) - 6 MB -

Accession Number: ADA469273

Personal Author(s): Harr, Logan J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2007

Abstract: ( U ) This thesis documents a new approach to investigate the gamma radiation activity of the fission products of three different fuels (U-235, U-238, and U-239) exposed to three different incident neutron energy spectra (thermal, fast spectrum, and high energies). An application of the exponential moments function is used with a transmutation matrix in the calculation of complex radioactive decay chains to achieve greater precision than can be attained through current methods. The result of this research is a code which can calculate the decay products from complex radioactive decay chains with a high degree of precision while quantifying the uncertainty in gamma activity due to uncertainties in the isotope properties.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:104 Page(s)

Report Number: AFIT/GNE/ENP/07-03 ( *AFITGNEENP0703* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited. This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactive Waste Streams: Waste Classification for Disposal

PDF URL: (pdf) - 554 KB -

Accession Number: ADA460717

Personal Author(s): Andrews, Anthony

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL  
RESEARCH SERVICE

Report Date: 13 Dec 2006

Abstract: ( U ) Radioactive waste is a byproduct of nuclear weapons production, commercial nuclear power generation, and the naval reactor program. Waste byproducts also result from radioisotopes used for scientific, medical, and industrial purposes. The legislative definitions adopted for radioactive wastes, for the most part, refer to the processes that generated the wastes. Thus, waste disposal policies have tended to link the processes to uniquely tailored disposal solutions. Consequently, the origin of the waste, rather than its radiological characteristics, often determines its fate. The Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) share regulatory authority for radioactive waste disposal. Radioactive waste classification continues to raise issues for policy makers. Most recently, DOE policy on managing the residue in high-level waste storage tanks proved controversial enough that Congress amended the definition of high-level waste. The disposition of waste with characteristics left undefined by statute can be decided by an NRC administrative ruling. The case for low-activity waste promises to provoke similar controversy. This report will be updated as new radioactive waste classification issues arise. The standards for public exposure to low-level radiation from the repository or cleanup of the weapons facilities have not been reconciled by EPA and NRC. The lower limit on what may be classified as radioactive waste is undefined, and both EPA and NRC jurisdiction overlap on disposal of this waste stream.

Abstract Classification:Unclassified

Descriptive Note: Research rept.

Pages:42 Page(s)

Report Number: CRS-RL32163 ( *CRSRL32163* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Analysis of Coolant Options for Advanced Metal Cooled Nuclear Reactors

PDF URL: (pdf) - 840 KB -

Accession Number: ADA462364

Personal Author(s): Can, Levent

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 2006

Abstract: ( U ) It is well known that any neutron-producing device generates induced radioactivity as a by-product of its operation. In the case of nuclear reactors, the induced radioactivity includes fission and activation products. The overall focus of this study is the build up of induced radioactivity in the coolant of metal cooled reactors as well as the evaluation of other physical and chemical properties of such coolants. The objectives of the thesis are two fold. The first objective is to independently calculate the generation of Polonium-210 in reactors cooled by lead and lead-bismuth eutectic. The motivation for this is to address a noted lack of consensus among the world researchers on the significance of Po-210 build up in lead cooled reactors. The second objective is to evaluate the advantages and disadvantages of selected candidate metal coolants. In addressing both objectives, the computer code ORIGEN was used. To establish the background basis for these assessments, fundamental concepts of reactor physics are reviewed and discussed.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:89 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Fuel Reprocessing: U.S. Policy Development

PDF URL: (pdf) - 42 KB -

Accession Number: ADA458841

Personal Author(s): Andrews, Anthony

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 29 Nov 2006

Abstract: ( U ) As part of the World War II effort to develop the atomic bomb, reprocessing technology was developed to chemically separate and recover fissionable plutonium from irradiated nuclear fuel. In the early stage of commercial nuclear power, reprocessing was thought essential to supplying nuclear fuel. Federally sponsored breeder reactor development included research into advanced reprocessing technology. Several commercial interests in reprocessing foundered due to economic, technical, and regulatory issues. President Carter terminated federal support for reprocessing in an attempt to limit the proliferation of nuclear weapons material. Reprocessing for nuclear weapons production ceased shortly after the Cold War ended. The Department of Energy now proposes a new generation of proliferation-resistant reactor and reprocessing technology.

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:7 Page(s)

Report Number: CRS-RS22542 ( *CRSRS22542* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited. This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Militant Ideology Atlas: Research Compendium

PDF URL: (pdf) - 2 MB -

Accession Number: ADA458481

Personal Author(s): McCants, William ; Brachman, Jarret ; Felter, Joseph

Corporate Author: MILITARY ACADEMY WEST POINT NY COMBATING TERRORISM CENTER

Report Date: Nov 2006

Abstract: ( U ) The Combating Terrorism Center (CTC) at West Point has dedicated many of its resources this year to understanding the Jihadi ideology through the words of its adherents. In its Harmony and Disharmony report, the CTC exposed the organizational weaknesses of al-Qaida using its own internal documents. CTC's Jihadi Imagery Report cataloged frequently used images in Jihadi propaganda. The translation of Abu Bakr Naji's Management of Savagery focused new attention on the Jihadi Movement's grand strategy in the Middle East. And Stealing al-Qaida's Playbook exposed the ideology's soft underbelly by using the writings of Jihadi scholars and ideologues. The Militant Ideology Atlas is the CTC's most recent and comprehensive attempt to better understand the ideology driving the Jihadi Movement. The empirically supported findings from this effort are generated by a systematic research methodology and critical analyses of hundreds of al-Qaida's most widely read and influential texts. The wealth of information contained in the Atlas's Research Compendium provides a new generation of scholars and analysts with the data and evidence they need to understand these adversaries and to devise strategies for combating them. The Atlas is a major step toward that goal, and it empowers scholars with a critical resource needed to contribute to such efforts. The first part of this compendium lists Jihad's most popular texts from Tawhed.ws, including name of work transliterated, name of work translated into English, author, number of times read, number of times downloaded, and brief notation on content. Part 2 is a bibliography that includes cataloging information for, and summaries of, 93 of the most popular Jihadi texts, with notes. Part 3 contains biographies of 132 Jihadi authors and frequently cited figures. The biographies include name transliterated, name in Arabic, aliases, birth and death dates, country of origin, background, a photograph (if available), and notes.

Abstract Classification:Unclassified

Descriptive Note: Research compendium

Pages:362 Page(s)

Report Number: XA - MA/CTC ( *XAMACTC* )

Monitor Series: MA/CTC ( *MACTC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited. This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Point Defect Properties in Iron Chromium Alloys

PDF URL: (pdf) - 1 MB -

Accession Number: ADA457017

Personal Author(s): Dogo, Harun

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Sep 2006

Abstract: ( U ) The behavior of Fe-Cr alloys under irradiation is in part controlled by the characteristics of point defects generated by high energy collision. Radiation enhanced diffusion and radiation induced precipitation are among the mechanisms that lead to changes in the microstructure under irradiation, and are thus controlling effects such as swelling and precipitation. Point defects in Fe-Cr alloys are diverse in nature due to their interaction with a variety of local solute configurations. Ab initio results indicate that the magnetic structure of the alloy is critical in determining its energetics. The ability to model these properties with classic potentials is still to be proven. In this work a detailed comparison between ab initio and classic values of a variety of point defects configurations is performed, testing in this way the extent to which classic potentials can be reliably used for radiation damage studies, and evaluating the dependence of point defect formation energies on Cr concentration.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:77 Page(s)

Report Number: DOE - W-7405-ENG-48 DOE ( *DOEW7405ENG48* ) , XF - W-7405-ENG-48 DOE ( *XFW7405ENG48* )

Monitor Series: W-7405-ENG-48 ( *W7405ENG48* ) , DOE

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science and Technology Policy: Issues for the 109th Congress

PDF URL: (pdf) - 214 KB -

Accession Number: ADA456417

Personal Author(s): Gottron, Frank

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 01 Sep 2006

Abstract: ( U ) Science and technology have a pervasive influence over a wide range of issues confronting the nation. Decisions on how much federal funding to invest in research and development (R&D), and determining what programs have the highest priority, for example, may have implications for homeland security, new high technology industries, government/private sector cooperation in R&D, and myriad other areas.

Abstract Classification:Unclassified

Descriptive Note: CRS Report for Congress

Pages:52 Page(s)

Report Number: RL32837 ( *RL32837* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) U.S. Climate Change Technology Program: Strategic Plan

PDF URL: (pdf) - 6 MB -

Accession Number: ADA477362

Corporate Author: CLIMATE CHANGE TECHNOLOGY PROGRAM WASHINGTON DC

Report Date: Sep 2006

Abstract: ( U ) In February 2002, President George W. Bush reorganized the overarching management structure that coordinates and directs U.S. climate change research and development activities. Under this new structure, climate change science and climate-related technology research programs are integrated to an extent not seen previously. The Climate Change Science Program (CCSP) was established to reduce the uncertainties in climate science and develop science-based resources to support decision makers. The Climate Change Technology Program (CCTP) was formed to coordinate the Federal Government's portfolio of climate-related technology research and development activities, including technology deployment and adoption activities. The Strategic Plan expands on the themes presented in CCTP's Vision and Framework for Strategy and Planning. The technologies outlined in this Plan hydrogen, biorefining, clean coal, carbon sequestration, nuclear fission and fusion, advanced concepts in buildings, industry, transportation and electric energy storage and distribution, and others have the potential to transform our economy in fundamental ways that can address not just climate change, but energy security, air quality, and other pressing needs. The Plan articulates a

vision of the role for advanced technologies, defines a supporting mission for the CCTP, establishes guiding principles for Federal R&D agencies to use in formulating R&D portfolios, outlines approaches to attain CCTP's strategic goals, and identifies a series of next steps toward implementation.

Abstract Classification:Unclassified

Pages:245 Page(s)

Report Number: XJ - CCTP ( XJ )

Monitor Series: CCTP

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proton Dose Assessment to the Human Eye Using Monte Carlo N-Particle Transport Code (MCNPX)

PDF URL: (pdf) - 2 MB -

Accession Number: ADA452145

Personal Author(s): Oertli, David B

Corporate Author: TEXAS A AND M UNIV COLLEGE STATION

Report Date: Aug 2006

Abstract: ( U ) The objective of this project was to develop a simple MCNPX model of the human eye to approximate dose delivered from proton therapy. The calculated dose included that due to proton interactions and secondary interactions, which included multiple coulombic energy scattering, elastic and inelastic scattering, and non-elastic nuclear reactions (i.e., the production of secondary particles). After benchmarking MCNPX with a known proton simulation, the proton therapy beam used at Laboratori Nazionali del Sud-INFN was modeled for simulation. A

virtual water phantom was used and energy tallies were found to correspond with the direct measurements from the therapy beam in Italy. A simple eye model was constructed and combined with the proton beam to measure dose distributions. Two treatment simulations were considered. The first simulation was a typical treatment scenario-where dose was maximized to a tumor volume and minimized elsewhere. The second case was a worst case scenario to simulate a patient gazing directly into the treatment beam during therapy. Dose distributions for the typical treatment yielded what was expected, but the worst case scenario showed the bulk of dose deposited in the cornea and lens region. The study concluded that MCNPX is a capable platform for patient planning but laborious for programming multiple simulation configurations.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:82 Page(s)

Report Number: XC - AFIT ( XC )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Investigation into the Feasibility of Highly Enriched Uranium Detection by External Neutron Stimulation (Expanded Study)

PDF URL: (pdf) - 106 MB -

Accession Number: ADA452712

Personal Author(s): Nelson, Martin E ; Ziegler, James F ; Feigel, Harry F ; Good, Crystine M ; Blackburn, Bryan N ; St John, Joseph S ; Locke, Sean J ; Allen, Jeffrey D

Corporate Author: NAVAL ACADEMY ANNAPOLIS MD DEPT OF MECHANICAL ENGINEERING



Report Date: May 2006

Abstract: ( U ) This report studied the detectability of 1kg of HEU in a cargo container, whose dimensions are 20'x8'x8', by stimulating the HEU with neutron source located external to the container and counting the neutrons that would be produced with a high sensitivity thermal neutron detector. This project examined a wide variety of different energy sources, counting options, and the effect of different cargo materials present within the container. The study considered solution approaches using both deterministic and Monte Carlo techniques. The major project conclusion is that this approach would be successful in all common environments except one, if a pulsed 14MeV neutron source with a strength of 10E12 neutrons/sec was used and the delayed fission neutron are counted between pulses. The study also developed different facility designs, which included a shielding analysis, container activation and storage requirements, and overall concept economic feasibility using the Port of Baltimore as a benchmark.

Abstract Classification:Unclassified

Descriptive Note: Technical rept., 1 Mar 2002-31 Dec 2003

Pages:238 Page(s)

Report Number: DTRA-TR-03-37 ( *DTRATR0337* ) , XD - DTRA ( *XD* )

Monitor Series: DTRA

Contract/Grant/Transfer Number: DTRA-MIPR-03-2207-M ( *DTRAMIPR032207M* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Need for Change: The Looming Energy Crisis

PDF URL: (pdf) - 233 KB -

Accession Number: ADA461433

Personal Author(s): Holzman, Simon L

Corporate Author: ARMY WAR COLL CARLISLE BARRACKS PA

Report Date: 08 Feb 2006

Abstract: ( U ) The United States (US) national interest in the Middle East has grown more complex over the years, but fundamental concerns regarding oil protection and availability remain a central theme. U.S. dependency on Middle Eastern oil to meet ever-increasing energy consumption demands have returned to the levels found just prior to the 1978-1980 oil crisis. Current Middle Eastern instability and the rise of the al-Qaeda insurgency revive questions regarding the ability of the United States to weather an abrupt and significant loss of Middle Eastern oil. This paper analyzes current and projected energy sources, consumption demands, risk associated with foreign energy dependencies, and alternative energy sources. The paper also addresses implications to the economy, the military, and other nations should an energy crisis appear prior to the elimination of foreign energy dependencies. Finally, the paper provides policy recommendations for strategic leaders, planners, and politicians regarding prudent measures needed to minimize the required use of force to protect the flow of oil from the Middle East in the advent of another oil crisis.

Abstract Classification:Unclassified

Descriptive Note: Research paper

Pages:31 Page(s)

Report Number: XA - USAWC ( XA )

Monitor Series: USAWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science and Technology Policy: Issues for the 109th Congress

PDF URL: (pdf) - 216 KB -

Accession Number: ADA474894

Personal Author(s): Gottron, Frank

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC CONGRESSIONAL RESEARCH SERVICE

Report Date: 03 Feb 2006

Abstract: ( U ) Science and technology have a pervasive influence over a wide range of issues confronting the nation. Decisions on how much federal funding to invest in research and development (R&D), and determining what programs have the highest priority, for example, may have implications for homeland security, new high technology industries, government/private sector cooperation in R&D, and myriad other areas.

Abstract Classification:Unclassified

Descriptive Note: Congressional rept.

Pages:52 Page(s)

Report Number: CRS-RL32837 ( *CRSRL32837* ) , XJ - CRS/DC ( *XJCRSDC* )

Monitor Series: CRS/DC ( *CRSDC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Guidelines for Developing Habitat-Based Threatened and Endangered Species Population Goals on Army Installations

PDF URL: (pdf) - 639 KB -

Accession Number: ADA444795

Personal Author(s): Shapiro, Ann-Marie ; Hohmann, Matthew

Corporate Author: ENGINEER RESEARCH AND DEVELOPMENT CENTER CHAMPAIGN  
IL CONSTRUCTION ENGINEERING RESEARCH LAB

Report Date: Oct 2005

Abstract: ( U ) This document provides an overview of species-habitat modeling approaches including recent recommendations and criticisms of model shortcomings. Rather than provide an exhaustive treatment of species-habitat modeling this report provides enough information that an installation could hire or supervise an expert to conduct appropriate modeling and anticipate and avoid common pitfalls and errors associated with current approaches. The overview is based on a hierarchical structure for organizing species-habitat modeling approaches. Modeling approaches are grouped into three classes, based on data requirements, effort, expense, technical difficulty, application uses, and output characteristics.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:82 Page(s)

Report Number: ERDC/CERL-TR-05-30 ( *ERDCCERLTR0530* ) , XA - DAIM ( *XA* )

Monitor Series: DAIM

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Sharing Information among Various Organizations in Relief Efforts

PDF URL: (pdf) - 1 MB -

Accession Number: ADA439276

Personal Author(s): Costur, Gurkan

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Sep 2005

Abstract: ( U ) Today, information sharing is critical to almost every institution and organization. There is no more pressing need for information sharing than during an international crisis, during which multi-national, military-civilian coordination is needed. Successful information technology implementation for international crises could be increased by analyzing prior relief efforts. The purpose of this thesis is to explore the role of information technology in enabling the sharing of actionable information among various organizations in relief efforts. An analysis is presented of the December 2004 Indian Ocean tsunami relief effort; specifically, how different organizations such as the military, United Nations, and non-governmental organizations (NGOs) used information technologies to increase information flow across the organizations and thereby enhance the level of success of the operation. At all levels of relief efforts, strategies to provide adequate help to the victims of disaster will rely on the development and distribution of actionable information. It is essential that participants strengthen their capacity to gather, share, analyze and disseminate such information. When using or developing information technology in relief operations, it is necessary to be aware of the obstacles related to information sharing. Due to the uniqueness of each relief operation, which is dependent on the participants and the nature of the disaster, it is difficult to define the problems, symptoms, and possible solutions of each one. This thesis attempts to establish the requirements for the development of a Disaster Information Management System by examining both the universal problems in disaster relief operations and their possible solutions from within information technology.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:85 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited. This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 2 MB -

Accession Number: ADA439918

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 31 Aug 2005

Abstract: ( U ) The Department of Defense Dictionary of Military and Associated Terms set forth standard US military and associated terminology to encompass the joint activity of the Armed Forces of the United States is both US joint and allied joint operations, as well as to encompass the Department of Defense (DOD) as a whole. These military and associated terms, together with their definitions, constitute approved DOD terminology for general use by all components of the Department of Defense. The Secretary of Defense, by DOD Directive 5025.12, 23 August 1989, Standardization of Military and Associated Terminology, has directed the use of JP 1-02 throughout the Department of Defense to ensure standardization of military and associated terminology.

Abstract Classification:Unclassified

Pages:746 Page(s)

Report Number: JCS-JP-1-02 ( *JCSJP102* ) , XD - JCS ( *XD* )

Monitor Series: JCS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Raison d'Etat Unleashed: Understanding Rwanda's Foreign Policy in the Democratic Republic of the Congo

PDF URL: (pdf) - 141 KB -

Accession Number: ADA521539

Personal Author(s): Curtis, Marcus

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA CENTER FOR CONTEMPORARY CONFLICT

Report Date: Jul 2005

Abstract: ( U ) This article seeks to examine the underlying causes of Rwanda's successive interventions in the DRC, with particular attention given to the country's decision to invade in 1998. It will argue that while the security threat posed by the former Hutu-dominated Rwandan Armed Forces (ex-FAR) and Interahamwe militia based in the DRC factored prominently in Rwanda's decision to intervene in both 1996 and 1998, the 1998 campaign was unique in that Rwanda's emergence as a regional power combined with a heightened threat from Hutu insurgents to render the use of force a particularly attractive option. The article will also compare Rwanda's relative success in its 1996-1997 campaign with the shortcomings of its much longer, more recent foray, offering insight in to why the country was unable to achieve a similar degree of success during its second intervention. Finally, it will assess prospects for future conflict between Rwanda and the DRC in light of the ongoing Congolese postwar transition and the April 2005 declaration by the ex- FAR/Interahamwe successor group, the Democratic Forces for the Liberation of Rwanda (FDLR), that it was abandoning its armed struggle against the Rwandan government and would henceforth seek repatriation.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:16 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited., Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Information Sharing About International Terrorism in Latin America

PDF URL: (pdf) - 367 KB -

Accession Number: ADA435495

Personal Author(s): Castillo Arias, Jaime O

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Jun 2005

Abstract: ( U ) The purpose of the thesis is to analyze the importance of sharing information when dealing with activities related to international terrorism in Latin America, especially in the aftermath of the terrorist events against the United States on September 11, 2001. The importance of information on international terrorism is critical in the war against terrorism, particular in the region due to the potential for those activities associated with the already existent organized crime. The importance of information includes organizations. Therefore, the proposed organizational process makes it possible to facilitate the sharing of information considering the complexity involved. At the same time, the necessity of information about the threat of terrorism can be demonstrated through the use of game theory. This model can drive the states to use all means necessary to obtain relevant information. The requirement for information sharing must be solved based on the relevance of the threats and the need for increased security for the states in the region.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:79 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS



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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transformation and Strategic Surprise

PDF URL: (pdf) - 2 MB -

Accession Number: ADA433054

Personal Author(s): Gray, Colin S

Corporate Author: ARMY WAR COLL CARLISLE BARRACKS PA

Report Date: Apr 2005

Abstract: ( U ) Though discounted by Clausewitz in the circumstances of his era, strategic surprise has enjoyed considerable popularity over the past century. The possibility of achieving decisive results from attacks launched on short, or zero, warning has appeared to improve greatly with advances in technology. It follows that surprise has been recognized as offering what seem to be both golden opportunities and lethal dangers. Since surprise is an ironbound necessity for the tactical success of terrorism, it is understandable that it attracts a major degree of attention today. There is no real novelty about this. After all, for 40 years the United States and its North Atlantic Treaty Organization (NATO) allies perpetually worried about surprise attack on the Central Front in Europe, as well as about a surprise first strike designed to disarm the United States of its ability to retaliate with its strategic nuclear forces.

Abstract Classification:Unclassified

Pages:47 Page(s)

Report Number: XA - USAWC ( XA )

Monitor Series: USAWC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN  
MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited., Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Internal and External Plasma Assisted Combustion in Supersonic Gas Flow

PDF URL: (pdf) - 1 MB -

Accession Number: ADA433375

Personal Author(s): Klimov, Anatoly I

Corporate Author: RUSSIAN ACADEMY OF SCIENCES MOSCOW INST OF HIGH  
TEMPERATURES

Report Date: Jan 2005

Abstract: ( U ) The Project is devoted to basic study on the field of external and internal plasma assisted combustion. This effort consists of three Tasks: Task #1 is titled Internal plasma assisted combustion controlled by improved plasma generators in metal channel at conditions similar to Scramjet; Task #2 is titled External plasma combustion experiment in a supersonic flow (Mtilde2, Pst=1 Bar). This is a study of flow around model F with plasma combustion generator in wind tunnel; Task #3 is titled Study of supersonic flow around model E with combined plasma generator (PG Comb= PG HF +E beam). Here. the main plasma parameters could be changed independently in PG- Comb. Electron concentration will be controlled by E-beam. Electron temperature could be controlled by external HF electric field. The main goals of this work is a study of following: Optimal radical generation in fuel/air mixture and combustion control by non equilibrium plasmoids, Advanced mixture of fuel in gas flow by structural plasmoids.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 Jan 2002-31 Dec 2004

Pages:36 Page(s)

Report Number: EOARD - ISTC-01-7022 EOARD ( *EOARDISTC017022* ) , XC - ISTC-01-7022 EOARD ( *XCISTC017022* )

Monitor Series: ISTC-01-7022 ( *ISTC017022* ) , EOARD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Approved for public release; distribution is unlimited., Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Controlled Extraction of Energy from Nuclear Isomers

PDF URL: (pdf) - 284 KB -

Accession Number: ADA433348

Personal Author(s): Litz, M S ; Merkel, G

Corporate Author: ARMY RESEARCH LAB ADELPHI MD

Report Date: Dec 2004

Abstract: ( U ) The Army must deploy increasingly powerful energy sources to support sustained operations anytime and anywhere in the world. Excited states of nuclei can store 5 orders of magnitude more energy than that stored in chemical bonds. Conventional nuclear storage systems such as radioisotopes cannot be turned on when the energy is required. This paper describes a switchable nuclear battery that may be formed from long-lived (ie. 100 years) excited isomeric-states in the nucleus, which can then be triggered to release their energy on demand.

Abstract Classification:Unclassified

Descriptive Note: Conference paper

Pages:7 Page(s)

Report Number: XA - ARL/ADELPHI ( *XAARLADELPHI* )

Monitor Series: ARL/ADELPHI ( *ARLADELPHI* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials and Coatings for Extreme Performances: Investigations, Applications, Ecologically Safe Technologies for Their Production and Utilization

PDF URL: (pdf) - 18 MB -

Accession Number: ADA474445

Corporate Author: INSTITUTE FOR PROBLEMS IN MECHANICS MOSCOW (USSR)

Report Date: 16 Nov 2004

Abstract: ( U ) The Final Proceedings for Materials and Coatings for Extreme Performance: Investigations, Applications, Ecologically Safe Technologies for Their Production and Utilization, 13 September 2004 - 17 September 2004 Principles of designing materials and coatings for operation in hazard conditions; Scientific fundamentals and computer models for the processes of manufacturing materials and coatings for operation in hazard conditions; Advanced technologies for production and joining materials and products for operation in hazard conditions; Structure and properties of materials and coatings for operation in hazard conditions; Experimental data obtained from performance of materials and coatings in on location hazard conditions; Potential and contemporary technologies for recycling industrial waste aimed to production structural, heat-insulative, facing and other materials.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings, 13-17 Sep 2007

Pages:590 Page(s)

Report Number: EOARD - CSP-04-5008 EOARD ( *EOARDCSP045008* ) , XC - CSP-04-5008 EOARD ( *XCCSP045008* )

Monitor Series: CSP-04-5008 ( *CSP045008* ) , EOARD

Contract/Grant/Transfer Number: FA8655-04-1-5008 ( *FA86550415008* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Source for the Study of X-Ray Driven Gamma Emission

PDF URL: (pdf) - 674 KB -

Accession Number: ADA426231

Personal Author(s): Carroll, James J

Corporate Author: YOUNGSTOWN STATE UNIV OH

Report Date: 26 Jul 2004

Abstract: ( U ) Nuclear isomers can store tremendous amounts of energy for long times - for example, the 31-year metastable excited state of (178)(subm2)Hf stores 2.445 MeV per nucleus, or 1.2 GigaJoules per gram. These special states of certain isotopes may therefore prove useful as nuclear batteries, provided that a means is found by which to control (trigger) their energy release upon demand. The concentration of current research is on the use of externally-produced photons to serve as such a trigger. At this point, much research must be conducted to test this process and measure the important physical parameters, from which an evaluation of the feasibility of applications may be conducted. The x-ray generating and support equipment purchased through this award are permitting improved investigations of triggered gamma emission from nuclear isomers and have created a unique facility for these studies.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Jun 2002-14 Dec 2003

Pages:10 Page(s)

Report Number: GC11-02-1 ( *GC11021* ) , AFRL-SR-AR - TR-04-0427 AFOSR ( *AFRLSRARTR040427* ) , XC - TR-04-0427 AFOSR ( *XCTR040427* )

Monitor Series: TR-04-0427 ( *TR040427* ) , AFOSR

Contract/Grant/Transfer Number: F49620-02-1-0235 ( *F496200210235* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introduction to Magneto-Fluid-Dynamics for Aerospace Applications

PDF URL: (pdf) - 15 MB -

Accession Number: ADA425568

Corporate Author: VON KARMAN INST FOR FLUID DYNAMICS RHODE-SAINT-GENESE (BELGIUM)

Report Date: 08 Jul 2004

Abstract: ( U ) This is a new Lecture Series that will introduce magneto-hydro-dynamics (MHD) fundamentals and will report on the current State-of-the-Art research activities throughout Europe Russia and the US. Specific topics include: Electromagnetic Theory; Governing Equations; Numerical Modeling; Hypersonic Boundary Layer Interactions; Experimental Approach to Plasma ; Physical Aspects of Traditional MHD; Hypersonics and Propulsion MHD; and Plasma Flow Control for boundary Layers.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings 27-30 Oct 2003

Pages:416 Page(s)

Report Number: EOARD - CSP-03-5075 EOARD ( *EOARDCSP035075* ) , XC - CSP-03-5075 EOARD ( *XCCSP035075* )

Monitor Series: CSP-03-5075 ( *CSP035075* ) , EOARD

Contract/Grant/Transfer Number: FA8655-03-1-5075 ( *FA86550315075* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Passage of Energetic Particles Through Matter

PDF URL: (pdf) - 6 MB -

Accession Number: ADA426039

Personal Author(s): Carron, N J

Corporate Author: MISSION RESEARCH CORP SANTA BARBARA CA

Report Date: 07 May 2004

Abstract: ( U ) This report collects cross sections for photons passing through matter. A thorough discussion of the background physics is provided, together with graphs for many processes. This material, together with additional similar material for electrons, heavy ions (protons and heavier) and neutrons, is to be published by IOP Publishing, in late 2004 or early 2005.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Feb 2003-31 May 2004

Pages:163 Page(s)

Report Number: MRC-R-1686 ( *MRCR1686* ) , AFRL-SR-AR - AR-TR-04-0459 AFOSR ( *AFRLSRARARTR040459* ) , XC - AR-TR-04-0459 AFOSR ( *XCARTR040459* )

Monitor Series: AR-TR-04-0459 ( *ARTR040459* ) , AFOSR

Contract/Grant/Transfer Number: F49620-03-C-0016 ( *F4962003C0016* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Terahertz Devices: Tunable and Mode-Locked p-Ge THz Laser

PDF URL: (pdf) - 826 KB -

Accession Number: ADA425748

Personal Author(s): Fredricksen, J ; Peale, R E

Corporate Author: ZAUBERTEK INC ORLANDO FL

Report Date: 05 May 2004

Abstract: ( U ) This Phase II STTR project developed and demonstrated a compact, turn-key, cryogen-free, p-type germanium laser, tunable over the range 1.5-2 THz (70-200 micron wavelength), with 1 Watt peak power. A new type of intracavity gain modulator with potential application to active mode locking was discovered. Improvement in the gain of the active p-Ge crystal by homogeneous neutron transmutation doping was experimentally shown. An alternative means of gain improvement, which allows operation at 77 K, via periodic delta-doping in chemical-vapor-deposited planar Ge structures was realized through Monte Carlo simulations. Potential applications to satellite communications, bio/chem sensing, non-destructive testing, and mine detection were considered.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 4 Apr 2002-3 Apr 2004

Pages:11 Page(s)



Report Number: AFRL-SR-AR - TR-04-0376 AFOSR ( *AFRLSRARTR040376* ) , XC - TR-04-0376 AFOSR ( *XCTR040376* )

Monitor Series: TR-04-0376 ( *TR040376* ) , AFOSR

Contract/Grant/Transfer Number: F49620-02-C-0027 ( *F4962002C0027* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Alternative Fuels and Propulsion Systems: Some Technology trends and Possible Implications for the Future Army

PDF URL: (pdf) - 4 MB -

Accession Number: ADA426101

Personal Author(s): Dortmans, Peter J

Corporate Author: DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION  
SALISBURY (AUSTRALIA) SYSTEMS SCIENCES LAB

Report Date: May 2004

Abstract: ( U ) Alternative fuels and propulsion systems are key emerging science and technology areas that will impact on defence in the next two decades. This report explores some of the associated issues in order to gauge where and how they might influence the military within the Army- After-Next timeframe. Our analysis is built upon an environmental scan of New Scientist magazine, from which we identified a number of key emerging themes - Strategic Issues, Non-renewable sources, Renewable sources, Recycled energy sources, Novel materials, Miniaturised systems and Novel approaches to propulsion. For each of these, technological developments are captured and considered in terms of their implications, both on military systems directly, and the broader implications for the future context. The impacts on Land Force core skills within the Army-as-a-system framework of these technologies are discussed.

Abstract Classification:Unclassified

Descriptive Note: Technical note

Pages:67 Page(s)

Report Number: DSTO-TN-0551 ( *DSTOTN0551* ) , DODA - AR-013-094 DSTO/SSL ( *DODAAAR013094 DSTOSSL* ) , X5 - AR-013-094 DSTO/SSL ( *X5AR013094 DSTOSSL* )

Monitor Series: AR-013-094 ( *AR013094* ) , DSTO/SSL ( *DSTOSSL* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An Experimental Design for Measuring In Situ Radiation Damage to a Piezoelectric Transducer

PDF URL: (pdf) - 1 MB -

Accession Number: ADA422955

Personal Author(s): Severson, Michael R

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2004

Abstract: ( U ) An experiment was conducted investigating the use of an acoustic pulse waveguide to collect response measurements from three piezoelectric acoustic emission (AE) transducers while the transducers were exposed to an active nuclear reactor neutron flux ranging from  $1 \times 10^{11}$  to  $2.4 \times 10^{12}$  neutrons per sq cms. Material, mechanical, and radiation studies were performed to determine a practical design for the construction of the experiment. Discrete frequency pulses generated by an Arbitrary Waveform Generator were transmitted by an aluminum waveguide to the core of the Ohio State University Research Reactor (OSURR). Three AF transducers coupled to the waveguide were exposed to the reactor neutron fluence and

their response to each frequency pulse was measured over time. The recorded data was used to study the correlation between the neutron dose and resulting device damage. Response measurements were also taken in situ during post-irradiation periods to determine if response changes due to radiation damage would recover with time. Data sampling of transducer response was reproducible with a standard deviation that ranged between 3% and 8% of the mean value for all frequencies. Final transducer response levels varied between devices and frequencies, but were consistently degraded. Decreases in response between transducers ranged from 36% to 78% using the average percent decrease over ten test frequencies. Individual frequency response degradation ranged from 16% to 92%.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:114 Page(s)

Report Number: AFIT/GNE/ENP/04-06 ( *AFITGNEENP0406* ) , XD - DTRA ( *XD* )

Monitor Series: DTRA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Low Temperature Hall Measurements of Neutron Irradiated Silicon Carbide

PDF URL: (pdf) - 5 MB -

Accession Number: ADA423131

Personal Author(s): Bonavita, Angelo M

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2004

Abstract: ( U ) The purpose of this research was to search for evidence of low temperature annealing from neutron irradiated 4H-silicon carbide. No features suggesting annealing were found below a temperature of 340K. Temperature dependant Hall effect measurements were taken over a range of 100K to 340K recording resistivity, carrier densities, and mobility. Resistivity was noted to increase with irradiations, and carrier densities appeared to decrease, while mobility appeared minimally affected by neutron irradiation. This suggests the creation of active acceptor defects decreasing carrier concentrations. N-type samples measured were 5mm x 5mm square with Nickel contacts, and irradiated to 10(exp 10) and 10(exp 16) n-cm/cu cm of 1MeV equivalent neutron fluence. Suggestions for continuing research include using a probe station instead of wire connections to samples, use a large source current to minimize variance, and minimize cadmium shielding to reduce negative reactivity.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:82 Page(s)

Report Number: AFIT/GNE/ENP/04-01 ( *AFITGNEENP0401* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Triggering of Electromagnetic Pulses from Isomeric Materials

PDF URL: (pdf) - 1 MB -

Accession Number: ADA420412

Personal Author(s): Carroll, James J

Corporate Author: YOUNGSTOWN STATE UNIV OH

Report Date: 18 Feb 2004

Abstract: ( U ) Nuclear isomers can store tremendous amounts of energy for long times and the prospects for a controlled clean release of this energy for applications have motivated considerable research. Significant insight into nuclear structure also results from studies of reactions that may cause a triggered energy release. The primary emphasis has been on reactions induced by externally-produced photons. These studies comprise a very narrow sub-field of nuclear physics that has often been poorly connected with the broader results of traditional investigations. This report details efforts under this grant to provide improved measurements of trigger processes for several isomers and to enhance the basic foundation of knowledge connecting triggering studies with the body of nuclear physics. The significance of the work is reflected by fifteen publications, including a result recognized by the American Physical Society as a top story in physics during 2000.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 May 1999-30 Nov 2001

Pages:20 Page(s)

Report Number: GC01-01C-1 ( *GC0101C1* ) , AFRL-SR-AR - TR-04-0122 AFOSR/VA ( *AFRLSRARTR040122 AFOSRVA* ) , XC - TR-04-0122 AFOSR/VA ( *XCTR040122 AFOSRVA* )

Monitor Series: TR-04-0122 ( *TR040122* ) , AFOSR/VA ( *AFOSRVA* )

Contract/Grant/Transfer Number: F49620-99-1-0263 ( *F496209910263* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Is What's Past, Prologue?

PDF URL: (pdf) - 1 MB -

Accession Number: ADA426320

Personal Author(s): Molholm, Kurt N

Corporate Author: DEFENSE TECHNICAL INFORMATION CENTER FORT BELVOIR VA

Report Date: Jan 2004

Abstract: ( U ) A written language and a transportable recording medium were key elements in the advancement of humankind. Five thousand years ago the Sumerians, using their cuneiform system of writing, recorded business transactions as well as epic poetry on clay tablets. For the thousand of years that have followed we have improved upon our methods of communication with others and upon how we prepare, organize, store, and share our collective knowledge. Now the Internet and the World Wide Web application operating together are causing a fundamental change in the way we have done things for millennia. We are engulfed by this new environment that is, from an historical perspective, merely in its infancy. This paper presents twelve premises regarding the digital environment that are not only reminders of major changes that are occurring, but that also serve as bumper stickers for others to consider as they examine this new environment.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:15 Page(s)

Report Number: XD - DTIC/FB ( *XDDTICFB* )

Monitor Series: DTIC/FB ( *DTICFB* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials Research Society Symposium Proceedings. Volume 789. Held in Boston, Massachusetts, December 1-5 2003. Quantum Dots Nanoparticles and Nanowires

PDF URL: (pdf) - 20 MB -

Accession Number: ADA422993

Personal Author(s): Guyot-Sionnesi, P ; Mattoussi, H ; Woggon, U ; Wang, Z L

Corporate Author: MATERIALS RESEARCH SOCIETY WARRENDALE PA

Report Date: Jan 2004

Abstract: ( U ) CdSe(sub x)Te(sub 1-x) nanoparticles (with different stoichiometry ratio x) dispersed in silicon dioxide films have been grown by magnetron sputtering technique followed by thermal annealing. Effect of Thermal annealing conditions on the structural, compositional, optical and electronic properties of nanoparticles has been studied Using GAXRD, XPS, TEM, and spectroscopic ellipsometry techniques A structural transformation in the nanoparticle core mediated purely by surface layer effects in the case of CdTe and a spontaneous self-organization of nanoparticles into nanorods in the case of CdSe via fractal growth has been observed. Preliminary observations from the ellipsometry measurements carried out on some of these nanoparticle films shows a blue shift of absorption edge.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:421 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-04-1-0067 ( N000140410067 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Civilian Control of Armed Forces Challenges for the European Union

PDF URL: (pdf) - 629 KB -

Accession Number: ADA417627

Personal Author(s): Dietmar, M

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Jun 2003

Abstract: ( U ) Since 1989 the study of democratic civil military relations has undergone a revival of the formation of new theory. These concepts deal with civilian control of armed forces at a national level. Since after the end of the Cold War the European employment of military forces within a multinational framework became a regularity it is now pertinent to ask whether and how these concepts fit at the international level. The construction of Europe and the rise of new security challenges raises the issue of democratic civil military relations in the European Union. The present thesis analyses classical and new theories of civil military relations and applies these to the current issue of security policy and the formation of strategy for a supranational European Union.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:68 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 2003 Particle Accelerator Conference. Volume 2 of 5

PDF URL: (pdf) - 60 MB -

Accession Number: ADA421576

Personal Author(s): Chew, Joe ; Lucas, Peter ; Webber, Sara

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ



Report Date: May 2003

Abstract: ( U ) The twentieth biennial Particle Accelerator Conference on Accelerator Science and Technology was held May 12 - 16, 2003 at the Hilton Hotel in Portland, Oregon. The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory organized PAC 2003, and it was held under the auspices of the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers and the Division of Physics of Beams of the American Physical Society. The attendance was 1025 registrants from 21 countries. The Program Committee was co-chaired by Alan Jackson and Ed Lee. The program they arranged had opening and closing plenary sessions that covered the most important accomplishments, opportunities, and applications of accelerators. During the remainder of the conference there were parallel sessions with oral and poster presentations. In addition, there was an industrial exhibit during the first three days. The Proceedings present a total of 1154 papers from the invited, contributed orals, and poster sessions.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:753 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-03-1-0417 ( N000140310417 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 2003 Particle Accelerator Conference. Volume 3 of 5

PDF URL: (pdf) - 60 MB -

Accession Number: ADA421575

Personal Author(s): Chew, Joe ; Lucas, Peter ; Webber, Sara

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: May 2003

Abstract: ( U ) The twentieth biennial Particle Accelerator Conference on Accelerator Science and Technology was held May 12 - 16, 2003 at the Hilton Hotel in Portland, Oregon. The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory organized PAC 2003, and it was held under the auspices of the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers and the Division of Physics of Beams of the American Physical Society. The attendance was 1025 registrant from 21 countries. The Program Committee was co-chaired by Alan Jackson and Ed Lee. The program they arranged had opening and closing plenary sessions that covered the most important accomplishments, opportunities, and applications of accelerators. During the remainder of the conference there were parallel sessions with oral and poster presentations. In addition, there was an industrial exhibit during the first three days. The Proceedings present a total of 1154 papers from the invited, contributed orals, and poster sessions.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:757 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-03-1-0417 ( N000140310417 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 2003 Particle Accelerator Conference. Volume 4 of 5

PDF URL: (pdf) - 58 MB -

Accession Number: ADA421574

Personal Author(s): Chew, Joe ; Lucas, Peter ; Webber, Sara

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: May 2003

Abstract: ( U ) The twentieth biennial Particle Accelerator Conference on Accelerator Science and Technology was held May 12 - 16, 2003 at the Hilton Hotel in Portland, Oregon. The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory organized PAC 2003, and it was held under the auspices of the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers and the Division of Physics of Beams of the American Physical Society. The attendance was 1025 registrants from 21 countries. The Program Committee was co-chaired by Alan Jackson and Ed Lee. The program they arranged had opening and closing plenary sessions that covered the most important accomplishments, opportunities, and applications of accelerators. During the remainder of the conference there were parallel sessions with oral and poster presentations. In addition, there was an industrial exhibit during the first three days. The Proceedings present a total of 1154 papers from the invited, contributed orals, and poster sessions.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:721 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-03-1-0417 ( N000140310417 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 2003 Particle Accelerator Conference. Volume 5 of 5

PDF URL: (pdf) - 64 MB -

Accession Number: ADA421573

Personal Author(s): Chew, Joe ; Lucas, Peter ; Webber, Sara

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: May 2003

Abstract: ( U ) The twentieth biennial Particle Accelerator Conference on Accelerator Science and Technology was held May 12 - 16, 2003 at the Hilton Hotel in Portland, Oregon. The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory organized PAC 2003, and it was held under the auspices of the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers and the Division of Physics of Beams of the American Physical Society. The attendance was 1025 registrants from 21 countries. The Program Committee was co-chaired by Alan Jackson and Ed Lee. The program they arranged had opening and closing plenary sessions that covered the most important accomplishments, opportunities, and applications of accelerators. During the remainder of the conference there were parallel sessions with oral and poster presentations. In addition, there was an industrial exhibit during the first three days. The Proceedings present a total of 1154 papers from the invited, contributed orals, and poster sessions.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:783 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-03-1-0417 ( N000140310417 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 2003 Particle Accelerator Conference. Volume 1 of 5

PDF URL: (pdf) - 76 MB -

Accession Number: ADA421577

Personal Author(s): Chew, Joe ; Lucas, Peter ; Webber, Sara

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: May 2003

Abstract: ( U ) The twentieth biennial Particle Accelerator Conference on Accelerator Science and Technology was held May 12 - 16, 2003 at the Hilton Hotel in Portland, Oregon. The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory organized PAC 2003, and it was held under the auspices of the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers and the Division of Physics of Beams of the American Physical Society. The attendance was 1025 registrants from 21 countries. The Program Committee was co-chaired by Alan Jackson and Ed Lee. The program they arranged had opening and closing plenary sessions that covered the most important accomplishments, opportunities, and applications of accelerators. During the remainder of the conference there were parallel sessions with oral and poster presentations. In addition, there was an industrial exhibit during the first three days. The Proceedings present a total of 1154 papers from the invited, contributed orals, and poster sessions. Particle Accelerators and Colliders, Beam Dynamics. Magnets, RF Systems, Synchrotron radiation sources, Free Electron Lasers, Energy Recovery Linacs, Instabilities, Feedback Instrumentation, Pulsed Power, High Intensity Beams, Accelerator Applications, Advanced Accelerators.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:889 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-03-1-0417 ( N000140310417 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN  
MICROFICHE

Distribution Statement:Availability: Hard copy only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effects of Ionizing Radiation on Microelectromechanical Systems (MEMS)  
Actuators: Electrostatic, Electrothermal, and Residual Stress

PDF URL: (pdf) - 8 MB -

Accession Number: ADA415708

Personal Author(s): Caffey, Jared R

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL  
OF ENGINEERING AND MANAGEMENT

Report Date: 25 Mar 2003

Abstract: ( U ) The effects of ionizing radiation on the operation of polysilicon  
mmicroelectromechanical system (MEMS) electrostatic actuators, electrothermal actuators, and  
residual stress cantilevers were examined. Pre-irradiation, in-situ, and post-irradiation  
measurements were taken for the electrosatic and electrothermal actuators. The residual stress  
cantilevers were characterized before and after irradiation. All devices were irradiated to a total  
ionizing does of 1 megarad(Si) using both the Air Force Research Laboratory's low energy X-ray  
source and Co-60 gamma source.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:217 Page(s)

Report Number: AFIT/GE/ENG/03-05 ( *AFITGEENG0305* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Investigation of a Passive, Temporal, Neutron Monitoring System that Functions within the Confines of Start I

PDF URL: (pdf) - 1 MB -

Accession Number: ADA412872

Personal Author(s): Vaughn, Stephanie

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2003

Abstract: ( U ) This study is an investigation of the theoretical and experimental possibilities of using activation foils to detect and monitor special nuclear material for treaty monitoring purposes. None of the experiments demonstrated sufficient sensitivity to detect the target flux of 0.5 neutrons/cm<sup>2</sup>-sec. The target flux could be detectable, if the limit of detection had been reduced by a factor of 4 to 6. However, many issues identified could enhance the sensitivity including: increasing foil size, increasing detector efficiency, and optimizing foil selection. The theoretical portion focused on gold, silver, indium, europium, and gadolinium foils and determined the minimum flux detectable, minimum time needed to detect a specific flux, and what gaps in coverage exist when a detection package consists of all combined foils. All calculations are based on actual gamma and beta detector responses and statistics in a high and low background. The second section consists of experiments with gold, indium, and silver foils. Detectors in a low background counted emitted gammas or betas to establish three-sigma limits of detection, which is the lowest neutron flux detectable with a 99 percent statistical reliability. The dominant factor in determining the limit of detection is the error associated with the total activity. The determined value for limit of detection was used to calculate the minimum foil surface area required to detect the target flux.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:92 Page(s)

Report Number: AFIT/GNE/ENP/03-10 ( *AFITGNEENP0310* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atmospheric and Ocean Optics. Atmospheric Physics, VIII Joint International Symposium, 25-29 June 2001, Held in Irkutsk, Russian Federation

PDF URL: (pdf) - 20 MB -

Accession Number: ADA411894

Corporate Author: AKADEMIYA NAUK SSSR TOMSK INST OF ATMOSPHERIC OPTICS

Report Date: 09 Dec 2002

Abstract: ( U ) This is an interdisciplinary conference. Topics include: Molecular Spectroscopy and Atmospheric Radiative Process; Optical Propagation in the Atmosphere and Ocean; Optical Investigation of the Atmosphere and Ocean; Physical Phenomena in the Thermosphere and Ionosphere;; Structure and Dynamics of the Middle Atmosphere; and Dynamics of the Atmosphere and Climate of the Asian Region.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:273 Page(s)

Report Number: XC - EOARD ( *XC* )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61775-01-W-F051 ( *F6177501WF051* )



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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Euchem 2002 Molten Salts Conference, St. John's College, Oxford, UK, 1-6 September 2002

PDF URL: (pdf) - 7 MB -

Accession Number: ADA412104

Corporate Author: OXFORD UNIV (UNITED KINGDOM)

Report Date: 02 Dec 2002

Abstract: ( U ) The Final Proceedings for EUCHEM 2002 Molten Salts Conference, 1 September 2002 6 September 2002: (1) Chemistry and physics of high and low temperature molten salts; (2) Applications of above in energy storage and generation, materials synthesis and waste processing.

Abstract Classification:Unclassified

Descriptive Note: Abstracts

Pages:130 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Uniframe Quality of Service Framework

PDF URL: (pdf) - 1 MB -

Accession Number: ADA486918

Personal Author(s): Brahnmath, Girish J ; Raje, Rajeev

Corporate Author: INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS DEPT OF  
COMPUTER AND INFORMATION SCIENCES

Report Date: Dec 2002

Abstract: ( U ) The Component-based Software Development (CBSD) is now being recognized as the direction towards which the software industry is headed. In order for this approach to result in software systems with predictable quality, the components utilized to build software systems should offer a guaranteed level of quality. However, there is a lack of standardization within the software community regarding the quality of software components. Also, according to the CBSD philosophy, a given component may be used under diverse operating environments and usage patterns, which can affect the Quality of Service (QoS) offered by the software component. This calls for an objective paradigm for quantifying and specifying the quality of software components, as well as, accounting for the effects of the environment and the effects of usage patterns on the QoS of software components. This thesis presents a QoS framework, called the UniFrame Quality of Service (UQOS) framework created as a part of the UniFrame Project, to address the above mentioned issues. The UQOS framework consists of four major parts namely, the QoS Catalog, the approach for accounting for the effects of environment on the QoS of software components, the approach for accounting for the effects of usage patterns on the QoS of software components and the specification of the QoS of software components. The QoS catalog is intended to act as a tool for standardizing the notion of Quality of software components. The approaches to account for the effects of the environment and the effects of usage patterns on the QoS of components consist of an empirical validation of the QoS of software components under diverse environmental conditions and usage patterns, and specification of the resulting QoS values in the component interface. These experiments and their results are presented and analyzed.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:145 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-01-1-0746 ( N000140110746 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials and Coatings for Extreme Performances: Investigations, Applications, Ecologically Safe Technologies for Their Production and Utilization

PDF URL: (pdf) - 55 MB -

Accession Number: ADA409046

Corporate Author: NATIONAL ACADEMY OF SCIENCES (UKRAINE)FRANTZEVICH  
INST FOR PROBLEMS IN MATERIALS SCIENCE

Report Date: Sep 2002

Abstract: ( U ) The Final Proceedings for Materials and Coatings for Extreme Performances: Investigations, Applications, Ecologically Safe Technologies for Their Production and Utilization, 16 September 2002 - 20 September 2002 Principles of designing materials and coatings for operation in extreme conditions; scientific fundamentals and computer models for processing materials and coatings for operation in extreme conditions; advanced technologies for production and joining materials and products for operation in extreme conditions; structure and properties of materials and coatings for operation in extreme conditions; experimental data obtained from performance of materials and coatings in extreme conditions; and, potential technologies for recycling industrial waste aimed to production of structural, heat-insulation, facing and other materials.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings 16 Sep-20 Sep 2002

Pages:675 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61775-02-WF038 ( F6177502WF038 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Milestones in Strategic Arms Control, 1945 2000: United States Air Force Roles and Outcomes

PDF URL: (pdf) - 741 KB -

Accession Number: ADA421928

Personal Author(s): Smith, James M ; Hall, Gwendolyn

Corporate Author: AIR FORCE ACADEMY COLORADO SPRINGS CO

Report Date: Sep 2002

Pages:307 Page(s)

Report Number: XC - USAFA ( XC )

Monitor Series: USAFA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electronic and Optical Materials. Work Unit Directive (WUD) 48

PDF URL: (pdf) - 4 MB -

Accession Number: ADA406388

Personal Author(s): Brown, Gail J

Corporate Author: AIR FORCE RESEARCH LAB WRIGHT-PATTERSON AFB OH  
MATERIALS AND MANUFACTURING DIRECTORATE

Report Date: Aug 2002

Descriptive Note: Bibliography 1 Jan 1988-31 Dec 1997

Pages:85 Page(s)

Report Number: AFRL-ML-WP-TP-2002-401 ( *AFRLMLWPTP2002401* ) , XC - AFRL-ML-WP ( *XCAFRMLMLWP* )

Monitor Series: AFRL-ML-WP ( *AFRLMLWP* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Paul Trap Simulator Experiment (PTSX) to Simulate Intense Beam Propagation  
Through a Periodic Focusing Quadrupole Field1

PDF URL: (pdf) - 360 KB -

Accession Number: ADP012560

Personal Author(s): Davidson, Ronald C ; Efthimion, Philip C ; Gilson, Erik ; Majeski, Richard ; Qin, Hong

Corporate Author: PRINCETON UNIV NJ PLASMA PHYSICS LAB

Report Date: 24 Jun 2002

Abstract: ( U ) The Paul Trap Simulator Experiment (PTSX) is under construction at the Princeton Plasma Physics Laboratory to simulate intense beam propagation through a periodic quadrupole magnetic field. In the Paul trap configuration, a long nonneutral plasma column is confined axially by dc voltages on end cylinders at  $z = +L$  and  $z = -L$ , and transverse confinement is provided by segmented cylindrical electrodes with applied oscillatory voltages  $\pm V$  (sub zero)(t) over 90 deg segments. Because the transverse focusing force is similar in waveform to that produced by a discrete set of periodic quadrupole magnets in a frame moving with the beam, the Paul trap configuration offers the possibility of simulating intense beam propagation in a compact laboratory facility. The experimental layout is described, together with the planned experiments to study beam mismatch, envelope instabilities, halo particle production and collective wave excitations.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Apr 2001-31 Mar 2002

Pages:6 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-01-1-0729 ( N000140110729 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Mechanism of RhoB/FTI Action in Breast Cancer

PDF URL: (pdf) - 5 MB -

Accession Number: ADA412302

Personal Author(s): Rane, Neena S ; Prendergast, George C

Corporate Author: PENNSYLVANIA UNIV PHILADELPHIA WISTAR INST

Report Date: May 2002

Abstract: ( U ) In January 2002 the laboratory of the principal investigator's mentor relocated from The Wistar Institute to the Lankenau Institute for Medical Research (LIMFI). Due to this move, as well as the departure of the principal investigator (postdoctoral fellow) from the mentor's research group, transfer of this DoD postdoctoral grant to a new principle investigator is only just now being completed. As a result, limited progress was made during 8 months of the 12 month period covered by this progress report. Aim 1 involving mouse genetics experiments are currently on hold and no new progress is reported. However, in Aim 2, we obtained positive evidence of a role for RhoB and its effector kinase PRK in the antiproliferative action of FTI in rat epithelial and fibroblast cell model systems. Briefly, we demonstrated that RhoB could phenocopy the antiproliferative response to FTI in epithelial cells transformed by activated K-Ras or Rac1 oncogenes, and by using effector mutants of RhoB, we obtained evidence that interactions between RhoB and PRK kinase is involved in this effect. Similarly, manipulating PRK level, localization, or activity in H-Ras-transformed fibroblasts altered the FTI response. This work has been accepted for publication and is currently in press at Oncogene.

Abstract Classification:Unclassified

Descriptive Note: Annual summary rept. 1 May 2001-30 Apr 2002

Pages:76 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: DAMD17-01-1-0462 ( DAMD170110462 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Parameter Study for Optimizing the Mass of a Space Nuclear Power System Radiation Shield

PDF URL: (pdf) - 1 MB -

Accession Number: ADA414058

Personal Author(s): Kowash, Benjamin R

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2002

Abstract: ( U ) A parameter study was conducted for a space nuclear reactor radiation shield. The focus of this research was to explore alternatives to current radiation shield designs to reduce the mass while maintaining the same shielding performance. MCNP4C was used to determine the parameters necessary to build an optimum shield. A design known as the split scatter shield offered some potential for reductions in shield mass. In theory, less material is required for this type of shield, which uses thin shield sections to scatter radiation away from the dose plane. The parameters for this shield design are the shield geometry, number of shield sections, and material selection. Split scatter shielding offers a potential for reducing the shield mass by allowing the gamma shield material to be moved closer to the source plane. Further research needs to be conducted on this shielding technique, however, to isolate optimum shield values. Once these optima have been identified, a split shield can be developed and compared to the original shield performance. Finally, an energy deposition study indicates that the split scatter shield will absorb less energy than the unit shield, implying that there may be less thermal stress on a scatter shield.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis Aug 2001-Mar 2002

Pages:118 Page(s)

Report Number: AFIT/GNE/ENP/02M-04 ( *AFITGNEENP02M04* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) Web-Based Collaboration Technology and Requirements for Peace Operations

PDF URL: (pdf) - 189 KB -

Accession Number: ADA403520

Personal Author(s): Spivey, Madalyn A

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Mar 2002

Abstract: ( U ) Peace Operations include Peace Making, Peace Building, and Peace Support. Although information-sharing systems may exist within individual organizations, to date no interoperable information regime exists that can link all players who participate in providing aid during a Complex Humanitarian Emergency. Effective information sharing between civilian and military organizations is needed to enhance operational efficiencies, therefore saving lives, resources, and promoting rapid recuperation and reconstruction. An off-the-shelf collaborative software package with a common architecture and common templates, standard protocols, and centralized database might initially serve as a collaboration platform. Extensible Markup Language (XML), XML-based languages, and Resource Description Framework (RDF) are important technologies that must be utilized extensively to enable this environment. Additionally, WebDAV(Web-based Distributed Authoring and Versioning) integration can provide an infrastructure for platform-neutral asynchronous collaborative authoring via the Internet. Internationalization (I18N) and localization (L10N) addresses differences in language requirements and local expectations that reflect our differences in cultures. Existing collaboration COTS architectures form a basis with which developers can integrate XML technologies. The ideal collaborative environment must include asynchronous and synchronous collaboration capabilities, as well as capabilities that will enable users to rapidly locate personnel, organize and conduct virtual teams and meetings, provide information delivery to personnel, and provide sufficient security mechanisms.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:63 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Course Deskbook, Volume 2: General Administrative Law

PDF URL: (pdf) - 15 MB -

Accession Number: ADA406281

Corporate Author: JUDGE ADVOCATE GENERAL'S SCHOOL CHARLOTTESVILLE VA  
ADMINISTRATIVE AND CIVIL LAW DIV

Report Date: Mar 2002

Pages:800 Page(s)

Report Number: JA-280-VOL-2 ( *JA280VOL2* ) , XA - JAGS-ACLD ( *XAJAGSACLD* )

Monitor Series: JAGS-ACLD ( *JAGSACLD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) X-Ray Sources for the Triggering of Electromagnetic Pulses from Isomeric Materials

PDF URL: (pdf) - 722 KB -

Accession Number: ADA418979

Personal Author(s): Carroll, James J

Corporate Author: YOUNGSTOWN STATE UNIV OH

Report Date: Jan 2002

Abstract: ( U ) Nuclear isomers can store tremendous amounts of energy for long times for example, the 31- year metastable excited state of  $^{178\text{m2}}\text{Hf}$  stores 2.445 MeV per nucleus, or 1.2 GigaJoules per gram. These special states of certain isotopes therefore may prove useful as nuclear batteries, provided that a means is found by which to control (trigger) their energy release upon demand. The concentration of current research is on the use of externally-produced photons to serve as such a trigger. At this point, much research must be conducted to test this process and measure the important physical parameters, from which an evaluation of the feasibility of applications may be conducted. The x-ray generating and support equipment purchased through this award are permitting improved investigations of triggered gamma emission from nuclear isomers and have created, at Youngstown State University's X-Ray Effects Laboratories (XEL and XEL2), a unique facility for these studies.

Abstract Classification:Unclassified

Descriptive Note: Final Performance rept. 1 Apr 2001-15 Sep 2002

Pages:10 Page(s)

Report Number: GC13-01-1 ( *GC13011* ) , XC - AFOSR/VA ( *XCAFOSRVA* )

Monitor Series: AFOSR/VA ( *AFOSRVA* )

Contract/Grant/Transfer Number: F49620-01-1-0262 ( *F496200110262* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Cedramics for Third Millennium

PDF URL: (pdf) - 9 MB -

Accession Number: ADA397909

Corporate Author: NATIONAL ACADEMY OF SCIENCES (UKRAINE)FRANTZEVICH  
INST FOR PROBLEMS IN MATERIALS SCIENCE

Report Date: 21 Nov 2001

Abstract: ( U ) The Final Proceedings for Advanced Ceramic for Third Millennium, 29 October 2001 - 2 November 2001. This conference covered the following topics: Section A - Ceramic powders: (1) modeling; (2) synthesis; (3) production processes; and (4) ecological problems. Section B - Modern processes for manufacturing ceramic products: (1) modeling; (2) compaction; (3) sintering; (4) treatment; (5) joining; and (6) ecological safety. Section C - Structural ceramics: (1) properties; and (2) industrial application. Section D - Functional ceramics: (1) properties; and (2) industrial application. Section E - Bio-ceramics: (1) reality and perspectives. Section F - Advantages of building ceramics: (1) properties, and (2) securing of ecological safety of production processes and application. Section G - Modern techniques for control and testing of ceramics. Problems of standardization.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings 29 Oct-2 Nov 2001

Pages:229 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61775-01-W-F043 ( F6177501WF043 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Solid State Crystals 2000: Growth, Characterization, and Applications of Single Crystals Held in Zakopane, Poland on 9-12 October 2000

PDF URL: (pdf) - 28 MB -

Accession Number: ADA399287

Personal Author(s): Rogalski, Antoni ; Madejczyk, Pawet ; Adamiec, Krzysztof

Corporate Author: MILITARY UNIV OF TECHNOLOGY KALISKIEGO(POLAND) INST OF APPLIED PHYSICS

Report Date: 24 Oct 2001

Abstract: ( U ) Partial Contents: Scope of ZnO growth; Influence of mechanical stress on the growth of crystals; Crystal growth of new functional materials for electro-optical applications; Possibilities and limitations of multioxide crystals growth; Single-domain HTC superconducting materials synthesis: BaZrO<sub>3</sub> substrates as a tool for optimized systems; Very high quality crystals of wide-gap II-V semiconductors: What for?; Annealing of GaSb single crystals in ionized hydrogen atmosphere; Growth and structure of strontium-doped LaGaO<sub>3</sub>; Al-Cu-Co single quasi-crystals obtained by the method of inclined front crystallization; Correlation of Cu and V sub Zn concentration within the diffusion region of ZnSe monocrystals; Chromium recharging processes in the Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Mg,Cr single crystal under the reducing and oxidizing annealing influence.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:426 Page(s)

Report Number: EOARD - CSP 00-5035 EOARD ( *EOARDCSP005035* ) , XC - CSP 00-5035 EOARD ( *XCCSP005035* )

Monitor Series: CSP 00-5035 ( *CSP005035* ) , EOARD

Contract/Grant/Transfer Number: F61775-00-WF035 ( *F6177500WF035* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 4TH International Conference on High-Temperature Ceramic Matrix Composites

PDF URL: (pdf) - 10 MB -

Accession Number: ADA395702

Corporate Author: GERMAN AEROSPACE CENTER STUTTGART (GERMANY)

Report Date: Oct 2001

Abstract: ( U ) The Book of Abstracts for 4th International Conference on High-Temperature Ceramic Matrix Composites (HT-CMC 4), 1 October 2001 - 3 October 2001. This is an interdisciplinary materials science conference. Topic to be covered include fibers, interfaces, interphases, non-oxide ceramic matrix composites, oxide/oxide ceramic matrix composites, coatings, and applications of high-temperature ceramic matrix composites for aerospace.

Abstract Classification:Unclassified

Descriptive Note: Conference abstracts 1-3 Oct 2001

Pages:169 Page(s)

Report Number: X5 - EOARD ( X5 )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61775-01-WF048 ( F6177501WF048 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electroactive Polymers and Biosystems: New Directions in Electroactive Polymer Materials for Biomimetic and Interactive Processes

PDF URL: (pdf) - 13 MB -

Accession Number: ADA400410

Corporate Author: PISA UNIV (ITALY)

Report Date: 03 Aug 2001

Abstract: ( U ) The workshop, held in Lucca, Italy, 30 July - 3 August 2001, was sponsored by ONR-IFO and DARPA and was organized by the University of Pisa, Italy. Its aim was to evaluate the progress in research and assessment of new frontiers in the field of electroactive polymers and their potential applications in biomimetics and various other interactive processes. Presentations and topics were organized into six topical areas: (1) Biomimetics, (2) Molecular Actuators, (3) Neural Communications, (4) Biostructure and Tissue Engineering, (5) Artificial Sensors and Biosensors, and (6) Robotics and Biomechantronics.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:212 Page(s)

Report Number: XB - ONREUR\* ( *XBONREUR* )

Monitor Series: ONREUR\* ( *ONREUR* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Deformation Mechanisms and Destruction of New Perspective Materials: Actual Problems of Strength

PDF URL: (pdf) - 15 MB -

Accession Number: ADA394452

Corporate Author: UKRAINIAN ACADEMY OF SCIENCES KIEV INST OF MATERIALS SCIENCE PROBLEMS

Report Date: 03 Jul 2001

Abstract: ( U ) The Final Proceedings for Deformation mechanisms and destruction of new perspective materials: Actual Problems of Strength, 2 July 2001 - 5 July 2001. Deformation and

destruction mechanisms of new advanced materials: (1) ceramics; (2) nanocrystals; (3) amorphous metal alloys; (4) quasicrystals; (5) gradient and layered materials; (6) memory shape materials; (7) sintered materials; and (8) high specific strength materials.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings rept.

Pages:356 Page(s)

Report Number: EOARD - CSP-01-5029 EOARD ( *EOARDCSP015029* ) , XC - CSP-01-5029 EOARD ( *XCCSP015029* )

Monitor Series: CSP-01-5029 ( *CSP015029* ) , EOARD

Contract/Grant/Transfer Number: F61775-01-WF029 ( *F6177501WF029* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 21ST International Conference on Defects in Semiconductors Physica B Condensed Matter, Vol 308-310, December 2001

PDF URL: (pdf) - 83 MB -

Accession Number: ADA402238

Corporate Author: PADERBORN UNIV (GERMANY F R)

Report Date: Jul 2001

Abstract: ( U ) The Final Proceedings for 21st International Conference on Defects in Semiconductors, 16 July 2001 - 21 July 2001 This is an interdisciplinary conference. Topics include defects in important semiconductor and crystalline materials such as silicon, SiC, and diamond, as well as the theory of impurity centers, and diagnostic and fabrication techniques.

Abstract Classification:Unclassified



Descriptive Note: Conference proceedings rept. 16-21 Jul 2001

Pages:1274 Page(s)

Report Number: EOARD - CSP-01-5066 EOARD ( *EOARDCSP015066* ) , XC - CSP-01-5066 EOARD ( *XCCSP015066* )

Monitor Series: CSP-01-5066 ( *CSP015066* ) , EOARD

Contract/Grant/Transfer Number: F61775-01-WF066 ( *F6177501WF066* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) National Energy Policy: Report of the National Energy Policy Development Group

PDF URL: (pdf) - 2 MB -

Accession Number: ADA392171

Personal Author(s): Bush, George W

Corporate Author: EXECUTIVE OFFICE OF THE PRESIDENT WASHINGTON DC

Report Date: May 2001

Abstract: ( U ) In his second week in office, President George W. Bush established the National Energy Policy Development Group, directing it to develop a national energy policy designed to help the private sector, and, as necessary and appropriate, State and local governments, promote dependable, affordable, and environmentally sound production and distribution of energy for the future. This Overview sets forth the National Energy Policy Development (NEPD) Group's findings and key recommendations for a National Energy Policy. America in the year 2001 faces the most serious energy shortage since the oil embargoes of the 1970s. The effects are already being felt nationwide. Many families face energy bills two to three times higher than they were a year ago. Millions of Americans find themselves dealing with rolling blackouts or brownouts; some employers must lay off workers or curtail production to absorb the rising cost of energy. Drivers across America are paying higher and higher gasoline prices.

Abstract Classification:Unclassified

Pages:171 Page(s)

Report Number: XJ - EOP ( *XJ* )

Monitor Series: EOP

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Interaction of Titanium With Hydrogen Isotopes

PDF URL: (pdf) - 646 KB -

Accession Number: ADA390175

Personal Author(s): Dash, John

Corporate Author: PORTLAND STATE UNIV OR

Report Date: 27 Apr 2001

Abstract: ( U ) Attempts to achieve low temperature nuclear fusion can be traced to the work of Paneth, Peters, and Tanberg in 1927 . Martin Fleischmann, who in his early career was a colleague of Paneth teamed with Stanley Pons at the University of Utah to pursue this goal by the electrolysis of heavy water with a palladium cathode. Palladium is a metal which strongly absorbs hydrogen isotopes. The question they sought to answer was whether the internal pressure generated by this absorption would be sufficient to overcome the coulomb repulsion of deuterium nuclei. In 1989 they claimed success in fusing deuterium nuclei to form helium 2 Their main evidence for this claim was excess heat which was orders of magnitude higher than could be explained by any known chemical reaction.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Sep 1997-31 Dec 2000

Pages:11 Page(s)

Report Number: ARO - 37386.11-MS ARO ( *ARO3738611MS* ) , XA - 37386.11-MS ARO ( *XA3738611MS* )

Monitor Series: 37386.11-MS ( *3738611MS* ) , ARO

Contract/Grant/Transfer Number: DAAG55-97-1-0357 ( *DAAG559710357* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 44 MB -

Accession Number: ADB280764

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 12 Apr 2001

Abstract: ( U ) This publication supplements standard English-language dictionaries with standard terminology for military and associated use. However it is not the intent of this publication to restrict the authority of the joint force commander (JFC) from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the overall mission.

Abstract Classification:Unclassified

Pages:622 Page(s)

Report Number: JP-1-02 ( *JP102* ) , XD - JCS ( *XD* )

Monitor Series: JCS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of High Pressure - High Temperature Treatment on Neutron Irradiation Induced Defects in Czochralski Silicon

PDF URL: (pdf) - 466 KB -

Accession Number: ADP011880

Personal Author(s): Londos, C A ; Fytros, L G ; Misiuk, A ; Bak-Misiuk, J ; Prujarczyk, M

Corporate Author: INSTITUTE OF ELECTRON TECHNOLOGY WARSAW(POLAND)

Report Date: Jan 2001

Abstract: ( U ) Czochralski-grown (Cz-grown) silicon crystals of the same initial oxygen content ( $8.33 \times 10^{17}$ /cu cm) were subjected to various high temperature - high pressure (HTHP) treatments for different time durations. Subsequently, the crystals were irradiated by fast neutrons at 50 deg C. One of the main defects form is VO pair (A-Center) usually identified in the Infrared (IR) Spectra by the 830/cm Localized Vibrational Mode (LVM) band. Upon annealing, this defect is converted to the VO<sub>2</sub> defect responsible for a LVM band at 887/cm. The purpose of this work is to study the effect of various combinations of HTHP treatment prior to irradiation on the annealing behaviour of the VO defect and particularly on its conversion to the VO<sub>2</sub> defect. We have concluded that the conversion of VO to VO<sub>2</sub> depends on the forms of oxygen impurity (i.e., oxygen aggregates, precipitates etc.) and on other defects created in the sample after the HTHP treatment, as for example dislocations and stacking faults.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:6 Page(s)

Report Number: EOARD - CSP EOARD ( EOARD ) , XC - CSP EOARD ( XC )

Monitor Series: CSP , EOARD

Contract/Grant/Transfer Number: F61775-00-W-F035 ( *F6177500WF035* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) India's Emerging Nuclear Posture Between Recessed Deterrent and Ready Arsenal

PDF URL: (pdf) - 47 MB -

Accession Number: ADA393701

Personal Author(s): Tellis, Ashley J

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Jan 2001

Pages:909 Page(s)

Report Number: RAND/MR-1127-AF ( *RANDMR1127AF* ) , XC - USAF ( *XC* )

Monitor Series: USAF

Contract/Grant/Transfer Number: F49642-96-C-0001 ( *F4964296C0001* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) System Design of Hierarchically Structured Materials

PDF URL: (pdf) - 4 MB -

Accession Number: ADA385760

Personal Author(s): Olson, Gregory B

Corporate Author: NORTHWESTERN UNIV EVANSTON IL

Report Date: 27 Nov 2000

Abstract: ( U ) Research extended the SRG systems design approach to more complex materials by establishing methodology and fundamental principles for rational design of higher levels of structural hierarchy, while incorporating increased dynamic character in the form of adaptive system concepts via synergistic integration of materials science and applied mechanics. Research addressed both the methodology of rational design at new levels of materials complexity, and the fundamental principles of specific materials behaviors necessary to support quantitative design. This included principles of microstructural evolution during coherent carbide precipitation for efficient strengthening without embrittlement, control of metastable austenite precipitation for optimal-stability transformation toughening, behavior of pseudoelastic crack-bridge toughening, and shape-memory-based healing of internal composite damage. Exploratory research also addressed conceptual design of multifunctional metal/ceramic hybrid armor systems, and transformation-plasticity based matrix alloys for shearable tungsten heavy alloy composites.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Sep 1996-30 Jun 2000

Pages:55 Page(s)

Report Number: ARO - 35743.4-MS ARO ( *ARO357434MS* ) , XA - 35743.4-MS ARO ( *XA357434MS* )

Monitor Series: 35743.4-MS ( *357434MS* ) , ARO

Contract/Grant/Transfer Number: DAAH04-96-1-0266 ( *DAAH049610266* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Coherent Structures and Chaos in Beam Plasmas

PDF URL: (pdf) - 7 MB -

Accession Number: ADA384755

Personal Author(s): Chen, Chiping

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE PLASMA FUSION CENTER

Report Date: 31 Oct 2000

Abstract: ( U ) This report summarizes our research carried out under the auspices of the above referenced grants from May 1, 1997 to December 31, 1999. The goal of this research is to investigate coherent structures and chaos in beam plasma's in regimes relevant to the development of advanced microwave/millimeter wave sources. Preprints and reprints describing detailed findings in recent investigations are provided in a compendium of 1997-2000 reprints in refereed journals at the end of the report.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 May 1997-31 Dec 1999,

Pages:113 Page(s)

Report Number: AFRL-SR-BL - TR-00-0617 AFOSR/VA ( AFRLSRBLTR000617 AFOSRVA ) , XC - TR-00-0617 AFOSR/VA ( XCTR000617 AFOSRVA )

Monitor Series: TR-00-0617 ( TR000617 ) , AFOSR/VA ( AFOSRVA )

Contract/Grant/Transfer Number: F49620-97-1-0325 ( F496209710325 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Defense Technical Information Center Thesaurus

PDF URL: (pdf) - 47 MB -

Accession Number: ADA378274

Personal Author(s): Dickert, John H

Corporate Author: DEFENSE TECHNICAL INFORMATION CENTER FORT BELVOIR VA

Report Date: Oct 2000

Abstract: ( U ) The DTIC Thesaurus provides a basic multidisciplinary subject term vocabulary used by DTIC to index and retrieve scientific and technical information from its various data bases and to aid DTIC's users in their information storage and retrieval operations. It includes an alphabetical posting term display, a hierarchy display, and a Keyword Out of Context (KWOC) display.

Abstract Classification:Unclassified

Descriptive Note: Reference document

Pages:802 Page(s)

Report Number: DTIC-TR--2000/08 ( *DTICTR200008* ) , XD - DTIC/FB ( *XDDTICFB* )

Monitor Series: DTIC/FB ( *DTICFB* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 39 MB -



Accession Number: ADA383007

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 01 Sep 2000

Abstract: ( U ) This publication sets forth standard military terminology to govern the joint activities and performance of the Armed Forces of the United States in joint operations as well as the terminology basis for US military involvement in multinational and interagency operations. It provides military terminology for use by the Armed Forces in preparing their appropriate plans. It is not the intent of this publication to restrict the authority of the joint force commander (JFC) from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the overall mission.

Abstract Classification:Unclassified

Pages:646 Page(s)

Report Number: JOINT-PUB-1-02(2000) ( *JOINTPUB1022000* ) , XP - JCS ( *XP* )

Monitor Series: JCS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) XIII International Symposium on Gas Flow and Chemical Lasers and High-Power Laser Conference

PDF URL: (pdf) - 49 MB -

Accession Number: ADA387022

Personal Author(s): Lapucci, Antonio ; Ciofini, Marco

Corporate Author: EUROPEAN OFFICE OF AEROSPACE RESEARCH AND DEVELOPMENT FPO NEW YORK 09510

Report Date: Sep 2000

Abstract: ( U ) The Final Proceedings for XIII Int'I Symposium on Gas Flow & Chemical Lasers and High Power Laser Conference, 18 September 2000-22 September 2000 This is an interdisciplinary conference. Topics include CO2 and CO lasers, metal vapor lasers, chemical lasers, solid state lasers, diode lasers, VUV/XUV lasers, new laser media, laser physics modeling, laser resonators, beam delivery, adaptive optics, fiber lasers, diffractive optics, and applications.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:660 Page(s)

Report Number: EOARD - CSP-00-5038 X5 ( *EOARDCSP005038* ) , X5 - CSP-00-5038 X5 ( *X5CSP005038* )

Monitor Series: CSP-00-5038 ( *CSP005038* ) , X5

Contract/Grant/Transfer Number: F61775-00-WF038 ( *F6177500WF038* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Silicon Carbide and Related Materials: ECSCRM2000

PDF URL: (pdf) - 73 MB -

Accession Number: ADA389451

Personal Author(s): Pensl, G ; Stephani, D ; Hundhausen, M

Corporate Author: TRANS TECH PUBLICATIONS LTD ZURICH (SWITZERLAND)

Report Date: Sep 2000

Abstract: ( U ) The Third European Conference on Silicon Carbide and Related Materials (ECSCRM2000), held September 3-7, 2000 in Kloster Banz, Germany, developed into a truly important forum in the field of wide bandgap semiconductors. All continents - some 320 participants from 21 different countries - were represented and 15 exhibitors maintained booths and demonstrated the increasingly industrial interest in and the economic impact of the wide bandgap semiconductors. Scientists from Universities and Industry discussed the exciting progress in the fields of SiC and III-Nitrides. Many young scientists have been among the participants; they are regarded as the guarantee to successfully solve the forthcoming tasks. These proceedings reveal the present experimental and theoretical knowledge on the growth of bulk crystals and epitaxial layers, the mechanical, thermal and electronic properties of the grown material, the development of suitable processes and electronic devices, which will have a profound effect on society's ability to better utilize its strategic resources in the future.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:1071 Page(s)

Report Number: XA - ERO/ARL ( *XAEROARL* )

Monitor Series: ERO/ARL ( *EROARL* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Environment Program (REP) 1992 to 1994

PDF URL: (pdf) - 2 MB -

Accession Number: ADA392711

Personal Author(s): Kaul, Dean C ; Egbert, stephen D

Corporate Author: SCIENCE APPLICATIONS INTERNATIONAL CORPSAN DIEGO CA

Report Date: Sep 2000

Abstract: ( U ) This is a report of radiation transport computations by Science Applications International Corporation (SAIC), under contract to the Defense Special Weapons Agency (DSWA). It describes efforts to verify and validate the MASH shielding system and its associated DABL69 (ENDF/B-V) cross section set. The report describes MASH calculations of free field fluence and kerma intended to match neutron and gamma ray fluence and dose measurements mad at Aberdeen Pulse Radiation Facility (APRF). It describes the technical approach taken in performing the calculations, as well as a detailed comparison between calculation and measurements made at APRE between the spring of 1992 and the Fall of 1994, which marked the end of the REP program. Calculations include those using the standard MASH package and those involving revisions and perturbations to the MASH calculations, incorporating new cross section data and new applications of MASH technology. These additions specifically account for forest in the vicinity of a measurement sire and examine the affect of revised cross sections, in order to understand and explain discrepancies between calculation and measurement.

Abstract Classification:Unclassified

Descriptive Note: Technical rept 24 Mar 1992-31 Jan 1997

Pages:61 Page(s)

Report Number: SAIC-98/1000 ( *SAIC981000* ) , DSWA - TR-98-2 DTRA/DULLES ( *DSWATR982 DTRADULLES* ) , XD - TR-98-2 DTRA/DULLES ( *XDTR982 DTRADULLES* )

Monitor Series: TR-98-2 ( *TR982* ) , DTRA/DULLES ( *DTRADULLES* )

Contract/Grant/Transfer Number: DNA001-92-C-0082 ( *DNA00192C0082* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Curves and Surfaces (4th), Saint-Malo, France, 1-7 July 1999. Proceedings, Volume 1. Curve and Surface Design

PDF URL: (pdf) - 20 MB -

Accession Number: ADA399461

Personal Author(s): Laurent, Pierre-Jean ; Sablonniere, Paul ; Schumaker, Larry L

Corporate Author: ASSOCIATION FRANCAISE D'APPROXIMATION (AFA) LA PEREREE (FRANCE)

Report Date: Apr 2000

Abstract: ( U ) This volume contains 45 papers presented at the 4th International Conference on Curves and Surfaces held in Saint-Malo, France on 1-7 July 1999. The companion Volume 2: Curve and Surface Fitting, contains 43 papers. The conference presents the classical domain of Approximation Theory (interpolation, smoothing techniques, splines, radial basis functions, wavelets) as well as more technical aspects of geometric modeling, computer-aided design and mechanics.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:460 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61775-99-W-F068 ( F6177599WF068 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Heat Produced During the Electrolysis of D2O With Titanium Cathodes

PDF URL: (pdf) - 554 KB -

Accession Number: ADA390194

Personal Author(s): Warner, J ; Dash, J

Corporate Author: PORTLAND STATE UNIV OR DEPT OF PHYSICS

Report Date: Jan 2000

Abstract: ( U ) Cold rolling 20% appears to increase both the amounts of excess heat and reproducibility obtained by electrolysis of acidified D(2)O with titanium cathodes. Unexpected elements such as chromium and iron were detected on the surfaces of cathodes after electrolysis. The presence of chromium was confirmed by neutron activation analysis.

Abstract Classification:Unclassified

Pages:8 Page(s)

Report Number: ARO - 37386.5-MB ARO ( *ARO373865MB* ) , XA - 37386.5-MB ARO ( *XA373865MB* )

Monitor Series: 37386.5-MB ( *373865MB* ) , ARO

Contract/Grant/Transfer Number: DAAG55-97-1-0357 ( *DAAG559710357* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Curves from Motion, Motion from Curves

PDF URL: (pdf) - 1 MB -

Accession Number: ADP012017

Personal Author(s): Farouki, Rida T

Corporate Author: CALIFORNIA UNIV DAVIS DEPT OF MECHANICAL AND  
AERONAUTICAL ENGINEERING

Report Date: Jan 2000

Abstract: ( U ) Geometry and kinematics have been intimately connected in their historical evolution and, although it is currently less fashionable, the further development of such connections is crucial to many computer-aided design and manufacturing applications. In this survey, we explore a variety of classical and modern problems that illustrate how simple rules of motion produce interesting curves and, conversely, the computational problems of generating motions with prescribed paths and speeds. These encompass the geometry of trajectories under centripetal forces; the transformation of rotary motion into motion along general curves by mechanisms; real-time curve interpolators for digital motion control; and the description of spatial motions that involve variations of both position and orientation. Such case studies illustrate some of the intellectual appeal, and practical importance, of a sustained dialog between the study of curves and of motions.

Abstract Classification:Unclassified

Descriptive Note: Conference paper

Pages:28 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science and Engineering Indicators 2000. Volume 1

PDF URL: (pdf) - 45 MB -

Accession Number: ADA378464

Personal Author(s): Mitchell-Kernan, Claudia I ; Armstrong, John A ; Solow, Robert M ; Tapia, Richard A ; White, John A , Jr

Corporate Author: NATIONAL SCIENCE BOARD ARLINGTON VA

Report Date: Jan 2000

Abstract: ( U ) The report enclosed contains analyses of key trends that illuminate the scope, quality, and vitality of research and education in the Nation and in an international context. In addition to a special history chapter, the report presents trends in U.S. and international R&D funds and alliances, on the S&E workforce, on science and mathematics education from the elementary level through graduate school and beyond, and on public attitudes and understanding of science and engineering. S&E Indicators-2000 also devotes a chapter to the significance of information technologies for science and the daily lives of our citizens in schools, the workplace, home, and community.

Abstract Classification:Unclassified

Pages:474 Page(s)

Report Number: XJ - XD ( XJ )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Terahertz Spectroscopy and Applications

PDF URL: (pdf) - 11 MB -

Accession Number: ADA378816

Personal Author(s): Sherwin, Mark S

Corporate Author: SPIE-THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING  
BELLINGHAM WA

Report Date: Jan 2000

Descriptive Note: Final rept.

Pages:203 Page(s)



Report Number: ARO - 40041.1-PH-CF ARO ( *ARO400411PHCF* ) , XA - 40041.1-PH-CF ARO ( *XA400411PHCF* )

Monitor Series: 40041.1-PH-CF ( *400411PHCF* ) , ARO

Contract/Grant/Transfer Number: DAAD19-99-1-0019 ( *DAAD199910019* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Legitimizing Intra-State Military Intervention on Behalf of Human Rights

PDF URL: (pdf) - 5 MB -

Accession Number: ADA374025

Personal Author(s): Steeves, Rouven J

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 1999

Abstract: ( U ) Human rights have in recent years become a key justification for outside powers to intervene in conflicts within states. NATO's intervention in Kosovo in March to June 1999 is but one important example of this rationale. Despite the allied victory, NATO's decision making was muddled and burdened by convoluted rhetoric and hesitancy and cannot serve as a model for any similar future engagements. It is out of the need to find a constructive way forward that the thesis argues for a rational course of action based on ideals but tempered with realism. International norms regarding state sovereignty, human rights, and intervention as propounded in the UN Charter and the Universal Declaration of Human Rights are discussed and critiqued. Kosovo is critically analyzed as a case study highlighting practical constraints and the need for reasserting clear definitions and guidelines that are philosophically well-grounded and legally viable. Philosophical obstacles to achieving clarity and formulating universal norms are briefly assessed. The thesis proposes a philosophical framework and norms that may well serve as the foundation for revised international guidelines. The conclusion argues for tempered international enforcement of clear and coherent guidelines that uphold specified, universally acknowledged human rights.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:140 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Creep and Fracture of Engineering Materials and Structures Proceedings of the 8th International Conference on Creep and Fracture of Engineering Materials and Structures, held in Tsukuba, Japan, November 1-5, 1999

PDF URL: (pdf) - 55 MB -

Accession Number: ADA370828

Personal Author(s): Sakuma, T ; Yagi, K

Corporate Author: TOKYO UNIV (JAPAN)

Report Date: 15 Nov 1999

Abstract: ( U ) Sampling of proceedings includes the following: (1) Recent Developments in the Analysis of Creep Rupture Data; (2) Creep Crack Growth in Nearly Fully-Lamellar Gamma TiAl Alloys; (3) Research of Welding Effect on Creep Damage of High Temperature Furnace Tubes; (4) The Reversibility of Creep Strain at Low Stresses and Low Temperatures; (5) Deformation Behavior of 7475 Aluminum Alloy at High Temperatures; and (6) Creep of Reinforced and Unreinforced AZ91 Magnesium Alloy.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings 1-5 Nov 99

Pages:857 Page(s)

Report Number: AOARD - CSP-99-12 AOARD ( *AOARDCSP9912* ) , XC - CSP-99-12 AOARD ( *XCCSP9912* )

Monitor Series: CSP-99-12 ( *CSP9912* ) , AOARD

Contract/Grant/Transfer Number: F62562-99-M-9224 ( *F6256299M9224* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Silicon Carbide and Related Materials - 1999, Part 2

PDF URL: (pdf) - 55 MB -

Accession Number: ADA379356

Personal Author(s): Carter, Calvin H , Jr ; Devaty, Robert P ; Rohrer, Gregory S

Corporate Author: DEPARTMENT OF DEFENSE WASHINGTON DC

Report Date: Oct 1999

Abstract: ( U ) These volumes contain written versions of papers which were presented at the International Conference on Silicon Carbide and Related Materials 1999 (ICSCRM'99), held October 10-15, 1999 in Research Triangle Park, North Carolina. Over 650 participants from 25 countries attended the conference. This attendance was the highest in the conference series to date. This record attendance and the large number of papers submitted attest to the rapidly increasing interest in wide bandgap semiconductors in both academic and industrial communities. Contained in the two volumes of these proceeding are 401 papers, 19 of which were invited. They document our present understanding of the many topics of interest, such as the growth of bulk crystals, the growth of epitaxial layers, theoretical approaches,-- materials characterization, device processing and design, fabrication and characterization of electronic and optoelectronic devices, some with outstanding performance.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:888 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Silicon Carbide and Related Materials - 1999, Part 1

PDF URL: (pdf) - 60 MB -

Accession Number: ADA379355

Personal Author(s): Carter, Calvin H , Jr ; Devaty, Robert P ; Rohrer, Gregory S

Corporate Author: DEPARTMENT OF DEFENSE WASHINGTON DC

Report Date: Oct 1999

Abstract: ( U ) These volumes contain written versions of papers which were presented at the International Conference on Silicon Carbide and Related Materials 1999 (ICSCRM'99), held October 10-15, 1999 in Research Triangle Park, North Carolina. Over 650 participants from 25 countries attended the conference. This attendance was the highest in the conference series to date. This record attendance and the large number of papers submitted attest to the rapidly increasing interest in wide bandgap semiconductors in both academic and industrial communities. Contained in the two volumes of these proceeding are 401 papers, 19 of which were invited. They document our present understanding of the many topics of interest, such as the growth of bulk crystals, the growth of epitaxial layers, theoretical approaches,-- materials characterization, device processing and design, fabrication and characterization of electronic and optoelectronic devices, some with outstanding performance.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:891 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference (13th) on the Electronic Properties of Two-Dimensional Systems Held in Westin Hotel, Ottawa, Canada on August 1-6, 1999; Workbook (La Conference (13th) Internationale sur les Proprietes Electroniques des Systemes Bidimensionnels; Livre de Travail)

PDF URL: (pdf) - 44 MB -

Accession Number: ADA371076

Personal Author(s): Hawrylak, Pawel

Corporate Author: NATIONAL RESEARCH COUNCIL OTTAWA (CANADA) INST FOR MICROSTRUCTURAL SCIENCES

Report Date: Aug 1999

Abstract: ( U ) 13TH INTERNATIONAL Conference on the Electronic properties of 2D systems devoted to basic physics of semiconductor systems of reduced dimension. Subject areas covered include electronic properties of semiconductor heterostructures, quantum wires, quantum dots, the integer and fractional quantum Hall effect, novel probes, techniques and applications.

Abstract Classification:Unclassified

Descriptive Note: Rept. for 1 Mar 99-28 Feb 2000

Pages:906 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-99-1-0437 ( N000149910437 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 20th International Conference on Defects in Semiconductors Held in Berkeley, CA, USA, 26-30 July 1999

PDF URL: (pdf) - 76 MB -

Accession Number: ADA375562

Personal Author(s): Van de Walle, C ; Walukiewicz, W ; De Boer, F R ; Fisk, Z ; Jochemsen, R

Corporate Author: CALIFORNIA UNIV BERKELEY

Report Date: 30 Jul 1999

Abstract: ( U ) These are the proceedings of the 20th International Conference on Defects in Semiconductors, ICDS-20, which was held in Berkeley, California, between July 26-30, 1999. It has been 40 years since the first conference in this series was organized in Gatlinburg, Tennessee, and we take this opportunity to identify and congratulate two of our friends and colleagues, Professors Anant K. Ramdas and George D. Watkins, for their seminal contributions to this field of research over the entire time span covered by the series. The advent of new materials and materials systems, together with the ever increasing technological demands regarding the sub-micrometer control of the distribution and concentrations of numerous types of dopants and defects, have kept the field of physics of imperfections vibrant and full of surprises. The 278 registered attendees from 25 countries presented and discussed a wide range of new experimental and theoretical results. Three plenary talks, all focusing on wide bandgap semiconductors, nineteen invited presentations, eighty-two contributed talks and 218 posters, for

a total of 322 presentations, gave a comprehensive panorama of the continuously evolving field. The group III-nitrides and related materials, diamond and the effects of hydrogen represented a major portion of the conference content with the remaining contributions covering many exciting findings in elemental and compound semiconductors and their alloys.

Abstract Classification:Unclassified

Pages:1092 Page(s)

Report Number: ICDS-20 ( *ICDS20* ) , XD - DOD ( *XD* )

Monitor Series: DOD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) IEEE Conference Record - Abstracts. 1999 IEEE International Conference on Plasma Science. The 26th IEEE International Conference on Plasma Science Held in Monterey, California, USA on June 20-24, 1999.

PDF URL: (pdf) - 22 MB -

Accession Number: ADA369171

Personal Author(s): Deeney,

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 24 Jun 1999

Abstract: ( U ) The ICOPS 1999 Conference was successfully held 20-24 June 1999 in Monterey, California.

Abstract Classification:Unclassified

Descriptive Note: Rept. for 1 Jun-30 Nov 99,

Pages:349 Page(s)

Report Number: IEEE-99CH36297 ( *IEEE99CH36297* ) , AFRL-SR-BL - TR-99-0242  
AFOSR ( *AFRLSRBLTR990242* ) , XC - TR-99-0242 AFOSR ( *XCTR990242* )

Monitor Series: TR-99-0242 ( *TR990242* ) , AFOSR

Contract/Grant/Transfer Number: F49620-99-1-0242 ( *F496209910242* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introspective Multistrategy Learning: On the Construction of Learning Strategies

PDF URL: (pdf) - 776 KB -

Accession Number: ADA495230

Personal Author(s): Cox, Michael T ; Ram, Ashwin

Corporate Author: WRIGHT STATE UNIV DAYTON OH DEPT OF COMPUTER SCIENCE  
AND ENGINEERING

Report Date: 08 Jun 1999

Abstract: ( U ) A central problem in multistrategy learning systems is the selection and sequencing of machine learning algorithms for particular situations. This is typically done by the system designer, who analyzes the learning task and implements the appropriate algorithm or sequence of algorithms for that task. The authors propose a solution to this problem that enables an Artificial Intelligence (AI) system with a library of machine learning algorithms to select and sequence appropriate algorithms autonomously. Furthermore, instead of relying on the system designer or user to provide a learning goal or target concept to the learning system, this method enables the system to determine its own learning goals based on an analysis of its successes and failures at the performance task. The method involves three steps: Given a performance failure, the learner examines a trace of its reasoning prior to the failure to diagnose what went wrong



(blame assignment); given the resultant explanation of the reasoning failure, the learner posts explicitly represented learning goals to change its background knowledge (deciding what to learn); and given a set of learning goals, the learner uses nonlinear planning techniques to assemble a sequence of machine learning algorithms, represented as planning operators, to achieve the learning goals (learning-strategy construction). In support of these operations, the authors define the types of reasoning failures, a taxonomy of failure causes, a second-order formalism to represent reasoning traces, a taxonomy of learning goals that specify desired change to the background knowledge of a system, and a declarative task-formalism representation of learning algorithms. They present the Meta-AQUA system, an implemented multistrategy learner that operates in the domain of story understanding.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:56 Page(s)

Report Number: XC - AFOSR ( XC )

Monitor Series: AFOSR

Contract/Grant/Transfer Number: F49620-94-1-0092 ( F496209410092 ) , IRI-9009710 ( IRI9009710 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Differential Prediction of FAA Academy Performance on the Basis of Race and Written Air Traffic Control Specialist Aptitude Test Scores.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA363587

Personal Author(s): Broach, Dana ; Farmer, William L ; Young, Willie C

Corporate Author: FEDERAL AVIATION ADMINISTRATION OKLAHOMA CITY OK  
CIVIL AEROMEDICAL INST

Report Date: May 1999

Abstract: ( U ) The written air traffic control specialist (ATCS) aptitude test battery was evaluated for evidence of predictive bias within the framework of the Uniform Guidelines on Employee Selection Procedures (29 CFR 1607) in a retrospective analysis. Step-down hierarchical regression analysis (Lautenschlager & Mendoza, 1986) was used to investigate differential prediction of performance in initial ATCS training at the Federal Aviation Administration (FAA) Academy in a sample of 282 African-American and 8,542 white first-time competitive entrants. Analysis based on correlations without corrections for restriction in range found significant differences in the intercepts, but not slopes, for African Americans and whites. Analysis based on correlations, corrected for explicit and implicit restriction in range, found significant differences in slopes and intercepts by race, suggesting that separate regression equations were appropriate to predict Academy performance for the groups. The two analyses indicated that the composite score on the written ATCS test battery exhibited predictive bias as defined by the Uniform Guidelines on Employee Selection Procedures (29 CFR 1607) and Cleary (1968). Specifically, the composite score TMC over-predicted the performance of African Americans in initial training at the FAA Academy. As a consequence of the over-prediction, significantly more of the African Americans that were accepted into training for the ATCS occupation on the basis of their aptitude test scores went on to fail training than would have been expected on the basis of the common or majority (white) regression line. An alternative explanation is considered that the observed differential prediction reflected criterion bias or other group differences in factors such as educational achievement and age. A path analytic approach is outlined for investigating the complex interactions between test score, the criterion, race, education, and age.

Abstract Classification:Unclassified

Pages:28 Page(s)

Report Number: DOT/FAA/AM-99/16 ( *DOTFAAAM9916* ) , XH - XD ( *XH* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Wide-Bandgap Semiconductors for High-Power, High-Frequency and High-Temperature Applications, MRS Symposium Proceedings Held in San Francisco on 5-8 April 1999. Volume 572

PDF URL: (pdf) - 26 MB -

Accession Number: ADA369923

Personal Author(s): Binari, Steven C ; Burk, Albert A ; Melloch, Michael R ; Nguyen, Chanh

Corporate Author: MATERIALS RESEARCH SOCIETY WARRENDALE PA

Report Date: 08 Apr 1999

Abstract: ( U ) The introduction of the SiC substrate and the demonstration of bright III-N light-emitting diodes were catalysts for a large increase in research and development of wide-bandgap semiconductor materials and devices during the nineties. This symposium, Wide-Bandgap Semiconductors for High-Power, High-Frequency and High-Temperature Applications-1999, from the 1999 MRS Spring Meeting in San Francisco, California, focused on high-power, high-frequency and high-temperature applications of these wide-bandgap semiconductors. The symposium attracted a wide range of researchers who presented 120 papers in nine different sessions on topics such as bulk crystal growth, epitaxy, materials characterization, processing, and devices.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:557 Page(s)

Report Number: ARO - 39847.2-MS-CF ARO ( *ARO398472MSCF* ) , XA - 39847.2-MS-CF ARO ( *XA398472MSCF* )

Monitor Series: 39847.2-MS-CF ( *398472MSCF* ) , ARO

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceeding of the 1999 Particle Accelerator Conference. Volume 2

PDF URL: (pdf) - 80 MB -

Accession Number: ADA373872

Personal Author(s): Luccio, A ; MacKay, W

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 02 Apr 1999

Abstract: ( U ) The topics of this volume include: (1) accelerator ring control systems, (2) room temperature RF, (3) superconducting RF, (4) RF power sources, (5) feedback systems, (6) beam injection/extraction, transport and targetry, (7) cryogenics, (8) vacuum technology, (9) alignment and survey, and (10) subsystems, technology and components.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:854 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceeding of the 1999 Particle Accelerator Conference. Volume 4

PDF URL: (pdf) - 67 MB -

Accession Number: ADA373871

Personal Author(s): Luccio, A ; MacKay, W

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 02 Apr 1999

Abstract: ( U ) The topics of this volume include: (1) Low and medium energy circular accelerators, (2) synchrotron radiation facilities, (3) free electron lasers, (4) accelerator applications, (5) radiation monitoring and safety, (6) high energy hadron accelerators and colliders, (7) insertion devices, (8) computer codes, and (9) beam dynamics.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:730 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceeding of the 1999 Particle Accelerator Conference. Volume 3

PDF URL: (pdf) - 75 MB -

Accession Number: ADA373873

Personal Author(s): Luccio, A ; MacKay, W

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 02 Apr 1999

Abstract: ( U ) The topics of this volume include: (1) pulsed power technology, (2) linear and non-linear orbit theory, (3) transverse and longitudinal instabilities and cures, (4) beam-beam interaction, (5) beam cooling, (6) high current dynamics, (7) particle sources, (8) RF guns and LINAC injectors, and (9) beam diagnostics instrumentation.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:808 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceeding of the 1999 Particle Accelerator Conference. Volume 1

PDF URL: (pdf) - 74 MB -

Accession Number: ADA373874

Personal Author(s): Luccio, A ; MacKay, W

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 02 Apr 1999

Abstract: ( U ) The topics of this volume include: (1) high energy accelerators and colliders, (2) sources and injectors, (3) multiparticle beam dynamics, (4) magnets, (5) light sources and free electron lasers, (6) extremes of beams, (7) linear colliders, (8) lepton accelerators and colliders, (9) controls and computing, (10) single particle beam dynamics and optics, (11) radiofrequency systems, (12) beam instrumentation, (13) low and medium energy accelerators and rings, (14) accelerator technology, (15) application of accelerators, (16) pulsed power and high intensity beams, and (17) instabilities and feedback.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:750 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceeding of the 1999 Particle Accelerator Conference. Volume 5

PDF URL: (pdf) - 78 MB -

Accession Number: ADA373870

Personal Author(s): Luccio, A ; MacKay, W

Corporate Author: LASERS AND ELECTRO-OPTICS SOCIETY (IEEE) PISCATAWAY NJ

Report Date: 02 Apr 1999

Abstract: ( U ) The topics of this volume include: (1) electron storage rings and circular accelerators, (2) accelerators and storage rings, other, (3) superconducting magnets, (4) pulsed power accelerators, (5) high intensity accelerators, (6) room temperature magnets, (7) electron linear, (8) linear accelerators, (9) new accelerator techniques, and (10) power supplies.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:842 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Intergranular and Interphase Boundaries in Materials (IIB'98). 9th International Conference on Intergranular and Interphase Boundaries in Materials

PDF URL: (pdf) - 61 MB -

Accession Number: ADA361390

Personal Author(s): Lejcek, Pavel ; Paidar, Vaclav

Corporate Author: CZECH ACADEMY OF SCIENCES PRAGUE INST OF PHYSICS

Report Date: Jan 1999

Abstract: ( U ) The 9th International Conference on Intergranular and Interphase Boundaries in Materials (iib'98) held on 6-9 July 1998 in Prague, Czech Republic, represents a successful continuation of the series of this Conference starting by the first meeting in Saint Etienne, France, in 1975. Following the scope of the preceding meetings, this Conference was focused on atomic level modeling of interfaces, structural and chemical characterization of internal interfaces, their thermodynamic, kinetic, mechanical, electric, magnetic behavior and high-Tc superconductivity, and application of present knowledge for design of polycrystalline materials with improved properties. More than 200 scientists from 27 countries of four continents actively participated in the meeting. Traditionally, a special symposium on an actual topic has been organized as a part of the Conference: During iib'98, the attention was paid to Non-Equilibrium Segregation in Irradiated Materials. A particular session was devoted to presentation of the results obtained during the International Cooperation in Science and Technology (COST). The contributions presented at the iib'98 are published in this volume. Nearly 200 papers that cover all above mentioned topics were presented as invited talks, oral contributions and - in the vast majority - posters. These papers bring new results in the study of interfaces and their properties obtained in the last years, and represent the present state of the art in this field. We are grateful to all referees for their assistance in preparation of this volume.

Abstract Classification:Unclassified



Descriptive Note: Conference proceedings 6-9 Jul 98

Pages:831 Page(s)

Report Number: XB - ONREUR\* ( *XBONREUR* )

Monitor Series: ONREUR\* ( *ONREUR* )

Contract/Grant/Transfer Number: N00014-98-1-1020 ( *N000149811020* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Conference on Silicon Carbide and Related Materials (2nd), Held in Montpellier, France on September 2-4, 1998

PDF URL: (pdf) - 20 MB -

Accession Number: ADA359225

Corporate Author: MONTPELLIER UNIV (FRANCE)

Report Date: 04 Sep 1998

Abstract: ( U ) Partial Contents: (1) Progress in SiC: from material growth to commercial device development; (2) Advances in SiC materials and devices: an industrial point of view; (3) State of the art in the modelling of SiC sublimation growth; (4) Mathematical simulation of mass transfer, thermal transfer, and stress formation under silicon carbide boules growth; (5) Transport phenomena during sublimation growth of bulk SiC crystals; (6) Near-thermal equilibrium growth of SiC by physical vapor transport; (7) Analysis on defect generation during the SiC bulk growth process; (8) Prospects in the use of liquid phase techniques for the growth of bulk silicon carbide crystals; (9) Seeded sublimation growth at 6H and 4H-SiC crystals; (10) Influence of reactor cleanness and process condition on the growth by PVT and the purity of 4H and 6H-SiC crystals.

Abstract Classification:Unclassified

Pages:318 Page(s)

Report Number: ARDSG - R/D-8512-MS-02 ARDSG ( *ARDSGRD8512MS02* ) , XA - R/D-8512-MS-02 ARDSG ( *XARD8512MS02* )

Monitor Series: R/D-8512-MS-02 ( *RD8512MS02* ) , ARDSG

Contract/Grant/Transfer Number: N68171-98-M-5509 ( *N6817198M5509* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ISCGT-1 First International School on Crystal Growth Technology.

PDF URL: (pdf) - 37 MB -

Accession Number: ADA354428

Personal Author(s): Scheel, Hans J

Corporate Author: EIDGENOESSISCHE TECHNISCHE HOCHSCHULE LAUSANNE  
(SWITZERLAND)

Report Date: Sep 1998

Abstract: ( U ) Compilation of abstracts from the ISCGT-1 First International School on Crystal Growth Technology Meeting held 5 - 16 September 1998 in Beatenberg, Switzerland. This first international workshop of leading scientists and experts of crystal growth technology (including epitaxy technology) serves to exchange experiences and knowhow on the highest-possible pre-competitive level. The goal is the reduction of development costs by increased scientific understanding of the complex processes where ten or more parameters have to be optimized and compromised. The multidisciplinary nature of crystal growth technology demands collaboration of chemical and process engineers, thermodynamicists, hydrodynamicists, electrical and mechanical/machine engineers, material scientists, numerical simulation specialists, physicists, and crystallographers. Thereby, a common language and terminology has to be established which permits multidisciplinary discussions and collaborations.

Abstract Classification:Unclassified

Descriptive Note: Rept. for 5-16 Sep 98,

Pages:808 Page(s)

Report Number: XB - ONREUR\* ( *XBONREUR* )

Monitor Series: ONREUR\* ( *ONREUR* )

Contract/Grant/Transfer Number: N00014-98-1-1010 ( *N000149811010* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation-Induced Transformation in Human Breast Cells.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA365542

Personal Author(s): Thraves, Peter J

Corporate Author: GEORGETOWN UNIV WASHINGTON DC

Report Date: Jul 1998

Abstract: ( U ) In this study we have shown that ionizing radiation can transform immortalized/initiated human breast epithelial cells from a donor with Li-Fraumeni syndrome (LFS) containing a germline mutation in the p53 gene to a malignant phenotype. Exponentially growing human breast cells (HME-50) were irradiated with 2 Gray of gamma radiation with additional doses of 2 Gray delivered at daily intervals to a total dose of 60 Gray. After each increment of Gray the cultures were allowed to recover for 10 7-10 days. After this recovery the cultures were tested for changes in morphology, anchorage-independent growth, growth -factor requirements, growth in the presence of serum and tumor formation in scid mice. In comparison to cultures which were unirradiated or treated with total dose of 10 and 20 Gray, HME-50O cells treated with 30-60 Gray exhibited distinct changes in cellular morphology, reduced growth factor requirements, increased cell density at confluence and anchorage- independent growth. Most significantly, they reproducibly produced tumors in scid mice at a high frequency. Further

studies using clonal isolates from these radiation transformed breast cells will be required to determine the role of the remaining wild-type p53 allele in this transformation process.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jul 96-30 Jun 98

Pages:24 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: DAMD17-96-1-6135 ( DAMD179616135 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Shallow-Level Centers in Semiconductors (8th) SLCS '98, Held in Montpellier, France on July 27-30, 1998

PDF URL: (pdf) - 13 MB -

Accession Number: ADA353913

Corporate Author: MONTPELLIER UNIV (FRANCE)

Report Date: Jul 1998

Abstract: ( U ) Partial contents: Metal-insulator transitions and defect interactions; Bound excitons and Raman scattering at shallow centers; Wide-gap I; Wide-gap II-SiC; Poster Session: Hydrogen passivation and related topics, thermal donors; Low-D systems I; Shallow excited states of deep level impurities and shallow-deep crossover; New methods in experiment. New methods in theory; Low-D systems II; Wide-gap III.

Abstract Classification:Unclassified

Pages:206 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Materials Research Society Spring Meeting Held in Strasbourg, France on 16-19 June 1998. Book of Abstracts.

PDF URL: (pdf) - 32 MB -

Accession Number: ADA359475

Corporate Author: EUROPEAN MATERIALS RESEARCH SOCIETY STRASBOURG  
(FRANCE)

Report Date: 19 Jun 1998

Abstract: ( U ) This document contains abstracts of the various symposiums held as part of the European Materials Research Society Spring Meeting held on 16-19 June 98 in Strasbourg, France. Some of the topics discussed were Light Emission from Silicon; Defects in Silicon; Hydrogen; Thin Films Epitaxial Growth and Nonstructures; Surface Processing; Microsystem Technologies; Rapid Thermal Processing; Ion Implantation into Semiconductors, Oxides and Ceramics; Carbon Based Materials; Nitrides and Related Wide Band Gap Materials; Molecular Photonics for Optical Telecommunications; and Material and Processes for Submicron Technologies.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:335 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the International Conference on High-Power Particle Beams (12th)  
Held in Haifa, Israel on June 7-12, 1998. Volume 1

PDF URL: (pdf) - 45 MB -

Accession Number: ADA396957

Personal Author(s): Markovits, Meir ; Shiloh, Joseph

Corporate Author: RAFAEL ARMAMENT DEVELOPMENT AUTHORITY HAIFA  
(ISRAEL)

Report Date: 12 Jun 1998

Abstract: ( U ) This is volume 1 of 2 of the Proceedings of the 12th International Conference on High-Power Particle Beams (BEAMS'98) held in Haifa, Israel on June 7-12,1998. The conference covered all topics relevant to the physics and technology of intense beams of charge particles and included sessions devoted to pulsed power and accelerator technology, ion beams and diodes, ICF, electron beams generation and propagation, radiation sources, HPM, beam-matter sources, z-pinchs and explosive generations. Special emphasis was given to newly emerging fields and industrial application.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:583 Page(s)

Report Number: XB - ONRIFO ( XB )

Monitor Series: ONRIFO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Materials Research Society Spring Meeting, E-MRS '98  
Scientific/Technical Symposia and Exhibition, Held in Congress Center - Palais de la Musique et  
des Congres - Strasbourg, France on June 16-19, 1998.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA348969

Corporate Author: EUROPEAN MATERIALS RESEARCH SOCIETY STRASBOURG  
(FRANCE)

Report Date: Jun 1998

Abstract: ( U ) Partial Contents: Defects in Silicon; Hydrogen; Light Emission from Silicon:  
Progress Towards Si-based Optoelectronics; Growth, Characterization and Applications of Bulk  
II-VI's; Thin Films Epitaxial Growth and Nanostructures: Thin Films Material for large Area  
Electronics; Technique and Challenges for 300mm Silicon: Processing, Characterization,  
Modelling and Equipments; Surface Processing: Laser, Lamp, Plasma; Materials Aspects in  
Microsystem Technologies; Rapid Thermal Processing; Ion Implantation into Semiconductors,  
Oxides and Ceramics; Carbon-based Materials for Microelectronics; Nitrides and Related Wide  
Band Gap Materials; Molecular Photonics for Optical Telecommunications: Materials, Physics  
and Device Technology; Material and Processes for Submicron Technologies.

Abstract Classification:Unclassified

Descriptive Note: Scientific programme.

Pages:164 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Thermoelectrics(16th), Proceedings, ICT '97 Held in  
Dresden, Germany on August 26-29, 1997

PDF URL: (pdf) - 69 MB -

Accession Number: ADA344532

Corporate Author: DEUTSCHE FORSCHUNGSANSTALT FUER LUFT- UND  
RAUMFAHRT COLOGNE (GERMANY) INST OF MATERIALS RESEARCH

Report Date: 08 May 1998

Abstract: ( U ) The Final Proceedings for XVI International Conference on Thermoelectrics, 26  
August 1997 - 29 August 1997 Thermoelectric Materials: bulk materials, thin films,  
heterostructures; preparation & processing techniques; characteristics of structure and transport  
properties; modeling.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings

Pages:802 Page(s)

Report Number: EOARD - CSP-97-1042 EOARD ( *EOARDCSP971042* ) , XC - CSP-97-  
1042 EOARD ( *XCCSP971042* )

Monitor Series: CSP-97-1042 ( *CSP971042* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0097 ( *F6170897W0097* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Back to the Future: The Historical, Scientific, Naval, and Environmental Case for Fission Fusion

PDF URL: (pdf) - 1 MB -

Accession Number: ADA347302

Personal Author(s): Manheimer, Wallace M

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC FUNDAMENTAL PLASMA PROCESSES

Report Date: 02 Apr 1998

Abstract: ( U ) It is proposed that a return to fission fusion, and especially the development of the thorium cycle could be a means to revitalize magnetic fusion research. This work analyzes recent history, attempts to find the reason magnetic fusion research is in the shape it is in, and argues that an embrace of the hybrid could improve its prospects. Then it analyzes recent Tokamak results, concluding that a research Tokamak reactor, which could generate significant amounts of nuclear fuel could be built now. Finally it discusses both whether the Navy could be involved, and the environmental issues.

Abstract Classification:Unclassified

Pages:28 Page(s)

Report Number: NRL/MR/6707--98-8151 ( *NRLMR6707988151* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Status of Cold Fusion,

PDF URL: (pdf) - 2 MB -

Accession Number: ADA338629

Personal Author(s): Nagel, David J

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 17 Feb 1998

Abstract: ( U ) The questions raised by reports of nuclear reactions at low energies, so called 'cold fusion,' are not yet answered to the satisfaction of many scientists. Further experimental investigations of these and related questions seems desirable, at least for scientific if not practical reasons. Properly conducted, such investigations would be indistinguishable from normal research. They would yield information germane to accepted areas of scientific inquiry and technological utility. The announcement on 23 March 1989 by Pons and Fleischmann that they had achieved power generation from nuclear reactions at ordinary temperature had a rapid and enormous impact. About six weeks later, the cover stories of three major popular news magazines in the U. S. were on 'cold fusion'. The response to the prospect of easy and inexhaustible energy, maybe with little residual radiation, was comparable to the public reaction to Roentgen's report of x-rays in 1895. Then it was thought that privacy would no longer be possible. The strength of the 'cold fusion' surprise had two bases. One was the strong knowledge, on the part of physicists, that high energy beams (or equivalently, high temperature plasmas, with their associated high particle velocities) are needed to force nuclei into contact, a prerequisite for their reaction. Physicists had worked hard for four decades, and spent billions of dollars, in only partially successful efforts to produce and contain the multi-million degree plasmas needed to get significant energy out of nuclear fusion. Despite the major progress on heating fusion plasmas, and on overcoming many instabilities which tend to destroy plasma containment, three milestones remain to make fusion energy useful.

Abstract Classification:Unclassified

Pages:29 Page(s)

Report Number: NRL/MR/6600--98-8135 ( *NRLMR6600988135* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Defects in Semiconductors (19th), ICDS-19, Held in Aveiro, Portugal on 21-25 July 1997, Part 2

PDF URL: (pdf) - 35 MB -

Accession Number: ADA349484

Personal Author(s): Davies, Gordon ; Nazare, Maria H

Corporate Author: AVEIRO UNIV (PORTUGAL)

Report Date: 23 Jan 1998

Abstract: ( U ) The Final Proceedings for International Conference of Defects in Semiconductors, 21 July 1997 - 25 July 1997 Emphasis will be given on the properties of wide-bandgap materials, including quantum enhancement of effective band-gaps, semiconductors (silicon and III-V materials), plus radiation effects on detector materials. Topics will also include: (1) GaN, (2) Nanostructures, (3) Large bandgap materials, (4) defects in Epitaxial growth, (5) self-organizing rare earth, (6) metastable defects, (7) pairs and complexes, (8) defect reactions, and (9) radiation effects on detector material.

Abstract Classification:Unclassified

Pages:615 Page(s)

Report Number: EOARD - CSP 97-1035 EOARD ( *EOARDCSP971035* ) , XC - CSP 97-1035 EOARD ( *XCCSP971035* )

Monitor Series: CSP 97-1035 ( *CSP971035* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0091 ( *F6170897W0091* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference of Defects in Semiconductors (19th), ICDS, Held in Aveiro, Portugal on July 21-25, 1997, Pt. 3

PDF URL: (pdf) - 33 MB -

Accession Number: ADA349474

Personal Author(s): Davies, Grodon ; Nazare, Maria H

Corporate Author: AVEIRO UNIV (PORTUGAL)

Report Date: 23 Jan 1998

Abstract: ( U ) The Final Proceedings for International Conference of Defects in Semiconductors, 21 July 1997 - 25 July 1997 Emphasis will be given on the properties of wide-bandgap materials, including quantum enhancement of effective band-gaps, semiconductors (silicon and III-V materials), plus radiation effects on detector materials. Topics will also include: (1) GaN, (2) Nanostructures, (3) Large bandgap materials, (4) defects in Epitaxial growth, (5) self-organizing rare earth, (6) metastable defects, (7) pairs and complexes, (8) defect reactions, and (9) radiation effects on detector material.

Abstract Classification:Unclassified

Pages:573 Page(s)

Report Number: EOARD - CSP 97-1035 EOARD ( *EOARDCSP971035* ) , XC - CSP 97-1035 EOARD ( *XCCSP971035* )

Monitor Series: CSP 97-1035 ( *CSP971035* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0091 ( *F6170897W0091* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nineteenth International Conference of Defects in Semiconductors.

PDF URL: (pdf) - 16 MB -

Accession Number: ADA337844

Corporate Author: AVEIRO UNIV (PORTUGAL)

Report Date: 23 Jan 1998

Abstract: ( U ) Emphasis will be given on the properties of wide-bandgap materials, including quantum enhancement of effective bandgaps, semiconductors (silicon and III-V materials), plus radiation effects on detector materials. Topics will also include: GaN. Nanostructures, Large bandgap materials, defects In Epitaxial growth. selforganizing rare earth, metastable defects, pairs and complexes, defect reactions, radiation effects on detector material.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings.

Pages:376 Page(s)

Report Number: EOARD - CSP-97-1035 EOARD ( *EOARDCSP971035* ) , XC - CSP-97-1035 EOARD ( *XCCSP971035* )

Monitor Series: CSP-97-1035 ( *CSP971035* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0091 ( *F6170897W0091* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Defects in Semiconductors (19th), ICDS-19, Held in Aveiro, Portugal on 21-25 July 1997, Part 1

PDF URL: (pdf) - 43 MB -

Accession Number: ADA349485

Personal Author(s): Davies, Gordon ; Nazare, Maria H

Corporate Author: AVEIRO UNIV (PORTUGAL)

Report Date: 23 Jan 1998

Abstract: ( U ) The Final Proceedings for International Conference of Defects in Semiconductors, 21 July 1997 - 25 July 1997 Emphasis will be given on the properties of wide-bandgap materials, including quantum enhancement of effective band-gaps. semiconductors (silicon and III-V materials), plus radiation effects on detector materials. Topics will also include: (1) GaN, (2) Nanostructures, (3) Large bandgap materials, (4) defects in Epitaxial growth, (5) self-organizing rare earth, (6) metastable defects, (7) pairs and complexes, (8) defect reactions, and (9) radiation effects on detector material.

Abstract Classification:Unclassified

Pages:708 Page(s)

Report Number: EOARD - CSP 97-1035 EOARD ( *EOARDCSP971035* ) , XC - CSP 97-1035 EOARD ( *XCCSP971035* )

Monitor Series: CSP 97-1035 ( *CSP971035* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0091 ( *F6170897W0091* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Sixth International Workshop on Laser Physics (LPHYS 97) Volume 8, No. 1

PDF URL: (pdf) - 33 MB -

Accession Number: ADA346696

Personal Author(s): Prokhorov, Alexander M

Corporate Author: RUSSIAN ACADEMY OF SCIENCES MOSCOW INST OF GENERAL PHYSICS

Report Date: Jan 1998

Abstract: ( U ) The Final Proceedings for International Workshop on Laser Physics, 4 August 1997 - 8 August 1997. The Topics covered include: (1) New laser sources, (2) measurement and diagnostics, (3) lasers in R&D, (4) communications and informatics, and (5) lasers in medicine.

Abstract Classification:Unclassified

Pages:379 Page(s)

Report Number: F61708-97-W-0181 ( *F6170897W0181* ) , EOARD - SPC-97-1054 XD ( *EOARDSPC971054* ) , X5 - SPC-97-1054 XD ( *X5SPC971054* )

Monitor Series: SPC-97-1054 ( *SPC971054* ) , XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) XX International Workshop on Condensed Matter Theories

PDF URL: (pdf) - 9 MB -

Accession Number: ADA344669

Personal Author(s): Malik, Fazley

Corporate Author: SOUTHERN ILLINOIS UNIV AT CARBONDALE

Report Date: Jan 1998

Abstract: ( U ) The primary theme of the workshops was Bose Einstein condensation. This phenomenon was extensively discussed for atomic gases and in liquid helium. Other topics include the theory of superconducting materials, recent development in density functional theory, quantum phase transitions, plasma waves in solids, and finite size scaling in Heisenberg model. The Workshop's other key objectives of facilitating interaction among physicists working in diverse areas of condensed matter physics, promoting interaction among physicists of developed and developing nations, cross fertilization of ideas and development of new interest have been fulfilled.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:183 Page(s)

Report Number: ARO - 35699.1-PH-CF ARO ( *ARO356991PHCF* ) , XA - 35699.1-PH-CF ARO ( *XA356991PHCF* )

Monitor Series: 35699.1-PH-CF ( *356991PHCF* ) , ARO

Contract/Grant/Transfer Number: DAAH04-96-1-0184 ( *DAAH049610184* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 1997 International Semiconductor Device Research Symposium (4th) Proceedings, Held in Charlottesville, Virginia on December 10-13, 1997

PDF URL: (pdf) - 41 MB -

Accession Number: ADA344411

Personal Author(s): Hull, Robert

Corporate Author: VIRGINIA UNIV CHARLOTTESVILLE



Report Date: Jan 1998

Abstract: ( U ) Introduction This volume contains the Proceedings of the Fourth International Semiconductor Device Research Symposium (ISDRS-97, Charlottesville, Virginia, December 10-13, 1997). The goal of this international meeting is to provide a congenial forum for the exchange of information and new ideas for researchers from university, industry and government laboratories in the field of semiconductor devices and device physics. Our other goal is to make this conference truly international. To achieve this, the symposium has sub-committees in Asia, Europe, Japan and the former Soviet Union. This conference is organized in cooperation with the IEEE MTT Society, the United States National Committee of URSI and the Russian Physical Society.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Aug 97-31 Jul 98

Pages:658 Page(s)

Report Number: ARO - 37600.1-EL-CF ARO ( *ARO376001ELCF* ) , XA - 37600.1-EL-CF ARO ( *XA376001ELCF* )

Monitor Series: 37600.1-EL-CF ( *376001ELCF* ) , ARO

Contract/Grant/Transfer Number: DAAG55-97-1-0365 ( *DAAG559710365* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Creating ORIGEN Models

PDF URL: (pdf) - 4 MB -

Accession Number: ADA335009

Personal Author(s): Louden, Gregory D

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSONAFB OH

Report Date: Dec 1997

Abstract: ( U ) The purpose of this study was to develop a methodology for creating problem dependent cross section libraries for ORIGEN (Oak Ridge Isotope Generation and Depletion Code). The Air Force Technical Applications Center (AFTAC) has a requirement to classify spent nuclear fuel. The ORIGEN codes provide generic models of commercial nuclear reactor designs that are not adequate for the detailed analysis required by AFTAC. After comparing the methods that ORIGEN2 and ORIGEN-S use to develop burnup dependent cross section libraries, the research focused on developing a methodology for creating new ORIGEN-S models. Models of the Ohio State University Research Reactor were created using the Coupled I-D Shielding Analysis (SAS2H) module of the Modular Code System for Performing Standardized Computer Analysis for Licensing Evaluation (SCALE4.3). Model design parameters were examined by varying the fuel loading, composition temperatures, larger unit cells, and power histories. The results indicate that the SAS2H sequence has the potential to fulfill the technical requirements of the sponsor.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:119 Page(s)

Report Number: AFIT/GAP/ENP/97D-06 ( *AFITGAPENP97D06* ) , XC - AFTAC ( *XC* )

Monitor Series: AFTAC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Challenges in Propellants and Combustion: 100 Years after Nobel.

PDF URL: (pdf) - 61 MB -

Accession Number: ADA329686

Personal Author(s): Kuo, Kenneth K ; Brill, Thomas B ; Resce-Rodriguez, Rose A ; Mitchell, Alexander R ; Covino, Josephine

Corporate Author: MEGA ENERGY TECHNOLOGY VAESTERHANINGE (SWEDEN)

Report Date: 05 Sep 1997

Abstract: ( U ) The Final Proceedings for the Fourth International Symposium on Special Topics in Chemical Propulsion 4-ISICP, 27 May 1996 - 31 May 1996. The Topics covered include: chemical kinetics of propellant combustion, environmental considerations in combustion of solid and liquid propellants, commercial application in the combustion of energetic materials, effective utilization of propellants, combustion diagnostics, and recycling.

Abstract Classification:Unclassified

Descriptive Note: Proceedings,

Pages:1196 Page(s)

Report Number: EOARD - CSP-96-1027 EOARD ( *EOARDCSP961027* ) , XC - CSP-96-1027 EOARD ( *XCCSP961027* )

Monitor Series: CSP-96-1027 ( *CSP961027* ) , EOARD

Contract/Grant/Transfer Number: F61708-96-W-0125 ( *F6170896W0125* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) First International Induced Gamma Emission Workshop

PDF URL: (pdf) - 5 MB -

Accession Number: ADA332519

Corporate Author: INSTITUTE OF ATOMIC PHYSICS BUCHAREST (ROMANIA)

Report Date: Sep 1997

Abstract: ( U ) The Final Proceedings for International Workshop on Induced Gamma Emission IGE'97, 16 August 1997 - 20 August 1997. The Topics covered include: induced gamma emission, gamma ray laser, ultra-high energy density materials, and ultrashort wavelength lasers.

Abstract Classification:Unclassified

Descriptive Note: Conference rept. 16-20 Aug 97

Pages:121 Page(s)

Report Number: EOARD - 97-1014 EOARD ( *EOARD971014* ) , XC - 97-1014 EOARD ( *XC971014* )

Monitor Series: 97-1014 ( *971014* ) , EOARD

Contract/Grant/Transfer Number: F61708-97-W-0053 ( *F6170897W0053* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Availability: This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Crisis in the Taiwan Strait

PDF URL: (pdf) - 19 MB -

Accession Number: ADA421962

Personal Author(s): Lilly, James R ; Downs, Chuck

Corporate Author: NATIONAL DEFENSE UNIV WASHINGTON DC INST FOR NATIONAL STRATEGIC STUDIES

Report Date: Sep 1997

Abstract: ( U ) It is possible that every history of the Clinton Administration's defense policy will mention the decision to send a second carrier battle group into the waters off Taiwan in March 1996. In the closing days of Taiwan's first presidential election, the USS Nimitz carrier battle group, on duty in the Mediterranean, was redirected through Southeast Asia toward Taiwan. As a military maneuver, the action was complex but not exceptionally difficult. Yet because of its significance to regional politics and diplomacy, and its long-range implications for the preservation of stability, this military action could be recorded as a watershed event in the American security policy in Asia. The first popular election of a chief executive in China's long history was accompanied by a display of frustration from Beijing. China test-fired missiles into commercial shipping and transportation lanes near Taiwan's two busiest ports. Naturally, concerns over the accuracy of Chinese missiles and questions regarding China's larger intentions worried Taiwan's citizens. Nevertheless, they turned out for the balloting and cast the majority of their votes for the candidate, Lee Teng-hui, who had so displeased Beijing.

Abstract Classification:Unclassified

Pages:357 Page(s)

Report Number: XD - NDU/INSS ( *XDNDUINSS* )

Monitor Series: NDU/INSS ( *NDUINSS* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) It Takes a Region: A Proposal for an Alternative Regional Approach to UN Collective Force Humanitarian Interventions,

PDF URL: (pdf) - 4 MB -

Accession Number: ADA327940

Personal Author(s): Jividen, David D

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: 01 Aug 1997

Abstract: ( U ) The demise of the Soviet Union, the recent kaleidoscope of human apocalypses in Iraq, Somalia, Bosnia-Herzegovina, and Rwanda, and the corresponding upsurge in United Nations (UN) peacekeeping missions all have once again lead to a myriad of governmental and academic proposals seeking to improve the UN's collective enforcement capabilities. Against the backdrop of intrastate humanitarian pressures, these proposals center on either revitalizing the stillborn UN collective enforcement security apparatus, urging the creation of a UN rapid deployment force, or a establishing a standing blue helmeted army. If history is any guide, these new proposals are destined to suffer the same fate as all previous UN blue-helmeted collective enforcement proposals, outright rejection or death through neglect. This paper attempts to discern the doctrinal reasons for their cold reception and to suggest an alternative approach to collective enforcement of humanitarian norms. The approach suggested in this paper uses liberal international law assumptions to construct a regional approach (one not necessarily defined in terms of geographical contiguity), and to argue that such an approach is one way in which effective collective enforcement can became reality instead of remaining mired in the realm of aspiration.

Abstract Classification:Unclassified

Pages:91 Page(s)

Report Number: AFIT-97-099 ( *AFIT97099* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Criticism after the Cold War: A Rhetorical Analysis of Two Contemporary Atomic Campaigns

PDF URL: (pdf) - 11 MB -

Accession Number: ADA327948

Personal Author(s): Hubbard, Bryan

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: 01 Aug 1997

Abstract: ( U ) Today is a nuclear-powered era. Since 1945 nuclear technology has mutated into a cloud filtering human experiences. Despite the apparent end to the Cold War, nuclear technology remains a critical subject. This study constructs a contemporary framework to continue the project of nuclear criticism in a post-Cold War world to contribute to the discussion of nuclear issues. Building on a comprehensive review of critical nuclear discourse since 1945, this project suggests intertextual analysis of current nuclear discourse can encourage politically-meaningful public participation and can promote a better understanding of assumptions influencing the current shape of conversations concerning nuclear policy. It draws attention to a sphere of rhetoric directly affecting nuclear policy that critics have largely ignored. It builds on the work of nuclear criticism, updating and revising the project with a politically-enabling voice for a post-Cold War era. With this perspective for nuclear criticism, this study analyzes two current nuclear campaigns. The first involves the Department of Energy's Closing the Circle on the Splitting of the Atom as state-sponsored rhetoric reflecting a sustained influence of nuclearism. The second involves the Canberra Commission as a contemporary oppositional nuclear rhetor. The findings suggest successful management of nuclear resources rests with creating an inclusive public discussion and providing perpetual criticism articulating how literary and critical assumptions shape material and discursive action as humanity deals with a lingering nuclear legacy.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:262 Page(s)

Report Number: AFIT-97-098 ( *AFIT97098* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Diamond and Related Materials: International Journal on the Science and Technology of Diamond and Related Materials, Volume 6, No. 10, August 1997.

PDF URL: (pdf) - 30 MB -

Accession Number: ADA331815

Personal Author(s): Messier, R ; Angus, J C ; Anthony, T R ; Bachmann, P K ; Bonnot, A M

Corporate Author: ELSEVIER SCIENCE PUBLISHERS LTD BARKING(UNITED KINGDOM)

Report Date: Aug 1997

Abstract: ( U ) The first European Conference on Silicon Carbide and Related Materials (ECSCRM 96) was held in Heraklion, Crete, Greece from October 6 to October 9, 1996. This was the first event of a series of biannual conferences addressing wide band gap semiconductors research field and supported by the European Union through the Euroconferences action. The next conference will be held in Montpellier, France in 1998. The conference was attended by 140 scientists from 13 countries representing most of the European research groups active in the subject. Thirteen invited talks, 18 oral and 61 poster contributions were presented in 8 oral and 2 poster sessions. These 92 contributions demonstrated the rapid development of wide band gap semiconductor research. Moreover, two panel discussions on European effort on SiC wafer production & SiC bulk and epitaxial growth apparatus and on SiC-based devices and applications were organized. Two main research areas were covered by the majority of presentations namely the SiC material aspect and the device-oriented aspect as well as balancing academic and industrial participation. The topics covered by the oral sessions were: 1. SiC bulk growth. 2. SiC epitaxial growth. 3. SiC characterization: Crystal structure & defects; Optical and electrical properties. 4. SiC processing: Oxidation, metallization, ion implantation and etching. 5. SiC-based devices and applications. 6. Nitrides growth and characterization. 7. Amorphous SiC and other SiC-related materials. The above topical structure is followed in this volume. The contributions were reviewed according to the Diamond & Related Materials Journal refereeing procedure and 75 manuscripts were accepted and published in this volume.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings,

Pages:351 Page(s)

Report Number: ISSN-0925-9635 ( ISSN09259635 ) , X5 - XD ( X5 )

Monitor Series: XD



Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 22ND International Conference on Infrared and Millimeter Waves

PDF URL: (pdf) - 30 MB -

Accession Number: ADA337918

Personal Author(s): Granatstein,

Corporate Author: MARYLAND UNIV COLLEGE PARK LAB FOR PLASMA RESEARCH

Report Date: Jul 1997

Abstract: ( U ) The conference will cover progress in all areas of infrared and millimeter waves, including the following topics, with special emphasis on new fields of research. (1) Sources: lasers, free electron lasers, gyrotrons, synchrotrons, frequency mixing, calibration and standards. (2) Detectors: receivers, mixers, amplifiers, thermal and photon detectors, Schottky diodes, Josephson and SIS devices, imaging arrays, FET amplifiers. (3) Guided propagation and components: waveguides and other structures, Gaussian beams, integrated devices, optical fibres. (4) Spectroscopic techniques: interferometric, laser and heterodyne spectroscopy. Spectroscopy of solids, liquids and gases. (5) Astronomy and atmospheric physics: techniques, results and interpretation. Applications in biology and medicine. Plasma interactions and diagnostics. Technical and industrial applications: imaging, remote sensing, non-destructive testing.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Apr-31 Dec 97

Pages:426 Page(s)

Report Number: AFRL-SR-BL - TR-98-0209 AFOSR ( *AFRLSRBLTR980209* ) , XC - TR-98-0209 AFOSR ( *XCTR980209* )

Monitor Series: TR-98-0209 ( *TR980209* ) , AFOSR

Contract/Grant/Transfer Number: F49620-97-1-0226 ( *F496209710226* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation-Induced Transformation in Human Breast Cells.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA332445

Personal Author(s): Thraves, Peter J

Corporate Author: GEORGETOWN UNIV WASHINGTON DC

Report Date: Jul 1997

Abstract: ( U ) Our study proposes to test the hypothesis that ionizing radiation can transform to a malignant phenotype immortalized/initiated breast cells from a donor with Li-Fraumeni syndrome (LFS) containing a germline mutation. Human breast cells were irradiated using a protocol similar to that used in the therapeutic treatment of breast carcinoma in situ. Exponentially growing cells were inoculated at  $5 \times 10^5$  per 75cm flask and irradiated 24 hrs later with 2Gy of gamma radiation at a dose rate of 2.37Gy/min. Additional doses of 2Gy were delivered at daily intervals to a total dose of 60Gy. After each 10Gy increment, the cultures were allowed to recover for 7-10 days. After this recovery, a portion of the irradiated cultures were tested for changes in morphology, anchorage-independent growth, growth factor requirements (i.e. removal of BPE, EGF or insulin), growth in presence of semm and tumorigenicity. Potential transformants were tested for the development of the anchorage-independent phenotype following radiation treatment by suspension in 0.3% agar at a concentration of  $1 \times 10^4$ /ml and cells were examined for clonal growth at 21 days. In addition, three week old female SCID mice were insulated in the abdominal mammary fatpad with 10(7) unirradiated or radiation-treated human breast cells.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. 1 Jul 96-30 Jun 97,

Pages:20 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: DAMD17-96-1-6135 ( DAMD179616135 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Wills Guide.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA326002

Corporate Author: JUDGE ADVOCATE GENERAL'S SCHOOL CHARLOTTESVILLE VA

Report Date: Jun 1997

Abstract: ( U ) This publication is one of a series prepared and distributed by the Legal Assistance Branch of the Administrative and Civil Law Department of TJAGSA. The series contains summaries of the law, guidance, and sample documents for handling common problems.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:151 Page(s)

Report Number: JA-262(97) ( JA26297 ) , XA - JA ( XA )

Monitor Series: JA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the NATO Advances Research Workshop on Diamond Based Composites, Saint Petersburg, Russia, June 21-22, 1997, Volume 38

PDF URL: (pdf) - 15 MB -

Accession Number: ADA344136

Corporate Author: NORTH ATLANTIC TREATY ORGANIZATION BRUSSELS (BELGIUM)

Report Date: Jun 1997

Abstract: ( U ) The objective of this meeting was to discuss the state of the art in the development of advanced composite materials using wide band gap materials (diamond and cubic boron nitride) and potential applications for these materials. The goal of this workshop was to bring together the scientific and industrial communities. It is well known that the level of materials science in the Former Soviet Union was very high. Specifically, there has been a great deal of work done on diamond and other wide band gap based composites. The Diamond (and other wide band gap) Based Composites (DBC) workshop was designed to bring together leaders in the scientific community and industry of the western and former eastern block countries to engage in discussions in this important technical area.

Abstract Classification:Unclassified

Pages:378 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1997 Particle Accelerator Conference Held in Vancouver, B.C., Canada on 12-16 May, 1997. Volume 1: Plenary and Special Sessions; Accelerators and Storage Rings.

PDF URL: (pdf) - 117 MB -

Accession Number: ADA361396

Personal Author(s): Comyn, M ; Craddock, M K ; Reiser, M ; Thomson, J

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: 16 May 1997

Abstract: ( U ) The Proceedings contains 1261 papers presented at PAC'97, held in Vancouver in May, 1997. With one third of the 1221 delegates coming from 23 countries outside North America, these papers present a comprehensive picture of accelerator science, technology and applications worldwide. Highlights include the initial operation of the SPring-8 light source, the PEP-II B-factory high-energy ring, the CERN LEP2 collider, and one sextant of RHIC. Construction reports range from the CERN Large Hadron Collider and the Fermilab Main Injector and Recycler, to the BESSY-II light source and the TRIUMF-ISAC radioactive beam facility. Upcoming projects described include the US Spallation Neutron Source, the Japanese Hadron Facility and the RIKEN Beam Factory. Important progress is reported on advanced accelerators - linear colliders, muon colliders and laser accelerators - and on pulsed-power and high-intensity beams. There are also details. of interesting advances on superconducting rf and magnets, ion sources and electron guns, controls, instrumentation, and other technology. Free-electron lasers now offer novel photon beams for users, while the standard industrial and medical applications have been joined by new schemes for contraband detection and proton radiography.

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:1380 Page(s)

Report Number: IEEE-GG-231-VOL-1 ( *IEEEGG231VOL1* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-97-1-0399 ( *N000149710399* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1997 Particle Accelerator Conference Held in Vancouver, B.C., Canada on 12-16 May 1997. Volume 2: Beam Dynamics, Instrumentation and Controls.

PDF URL: (pdf) - 116 MB -

Accession Number: ADA361397

Personal Author(s): Comyn, M ; Craddock, M K ; Reiser, M ; Thomson, J

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: 16 May 1997

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Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:1370 Page(s)

Report Number: IEEE-GG-231-VOL-2 ( *IEEEGG231VOL2* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-97-1-0399 ( *N000149710399* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1997 Particle Accelerator Conference Held in Vancouver, B.C., Canada on 12-16 May 1997. Volume 3: Subsystems, Technology and Applications.

PDF URL: (pdf) - 110 MB -

Accession Number: ADA361398

Personal Author(s): Comyn, M ; Craddock, M K ; Reiser, M ; Thomson, J

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICSENGINEERS INC  
PISCATAWAY NJ

Report Date: 16 May 1997

Abstract: ( U ) The Proceedings contains 1261 papers presented at PAC'97, held in Vancouver in May, 1997. With one third of the 1221 delegates coming from 23 countries outside North America, these papers present a comprehensive picture of accelerator science, technology and applications worldwide. Highlights include the initial operation of the SPring-8 light source, the PEP-II B-factory high-energy ring, the CERN LEP2 collider, and one sextant of RHIC.

Construction reports range from the CERN Large Hadron Collider and the Fermilab Main Injector and Recycler, to the BESSY-II light source and the TRIUMF-ISAC radioactive beam facility. Upcoming projects described include the US Spallation Neutron Source, the Japanese Hadron Facility and the RIKEN Beam Factory. Important progress is reported on advanced accelerators - linear colliders, muon colliders and laser accelerators - and on pulsed-power and high-intensity beams. There are also details of interesting advances on superconducting rf and magnets, ion sources and electron guns, controls, instrumentation, and other technology. Free-electron lasers now offer novel photon beams for users, while the standard industrial and medical applications have been joined by new schemes for contraband detection and proton radiography.

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:1284 Page(s)

Report Number: IEEE-GG-231-VOL-3 ( *IEEEGG231VOL3* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-97-1-0399 ( *N000149710399* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 8TH Brazilian Workshop on Semiconductor Physics.

PDF URL: (pdf) - 8 MB -

Accession Number: ADA324906

Personal Author(s): Fazzio, Adalberto

Corporate Author: BRAZILIAN PHYSICS SOCIETY SAO PAULO

Report Date: Apr 1997

Abstract: ( U ) Partial contents: Novel Properties of Carbon and Non-Carbon Nanotubes; Quantum Dots Grown In-Situ by MOVPE: Sizes, Densities and Optical Properties; Theoretical Studies on Transport and Optical Properties of Delta-Doped Semiconductors; Temporally and Spatially Resolved Optical Experiments on Semiconductor Quantum Wells and Quantum Dots; High Temperature Properties of Quaternary Quantum Well Laser Diodes; Semiconductor Optical Devices for Tera-bits/s Telecommunication Network; Insulator-Metal Transition in 2-d Interactmg System; Charged Excitons in GaAs Quantum Wells; Electronic Structure of Lateral Superlattices; Hofstadter Spectra and Other Phenomena; Silicon for Photonics; Magnetic Quantum Effects in Degenerate Superlattices; Reconstruction Mechanisms of Silicon Surfaces.



Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:203 Page(s)

Report Number: ARO - 37280.1-RT-CF ARO ( *ARO372801RTCF* ) , XA - 37280.1-RT-CF ARO ( *XA372801RTCF* )

Monitor Series: 37280.1-RT-CF ( *372801RTCF* ) , ARO

Contract/Grant/Transfer Number: DAAG55-97-1-0094 ( *DAAG559710094* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introspective Reasoning Models for Multistrategy Case-Based and Explanation

PDF URL: (pdf) - 11 MB -

Accession Number: ADA336546

Personal Author(s): Ram, Ashwin

Corporate Author: GEORGIA INST OF TECH ATLANTA

Report Date: 10 Mar 1997

Abstract: ( U ) On the technical front, we have been working towards using the StatLady system as the starting point for implementing our own ideas. By using StatLady, we can make use of the system's large body of domain information, its capacity for evaluating a student's comprehension of a large number of definitions, procedures, and skills related to statistics, and its tutoring algorithms. We are exploring several options for an interface, including Visual Basic, the language of the original StatLady system. On the theoretical side, we have focussed on designing our planning to tutor module, based on the PLUTO planning to learn system, for augmenting StatLady along the lines of our proposal. Our extension builds on the strengths of StatLady by expanding the way StatLady represents the student model, the way it creates a

lesson plan, and the flexibility it has to adapt a lesson plan as student performance deviates from the student model's predictions.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jan 94-31 Dec 96

Pages:198 Page(s)

Report Number: AFRL-SR-BL - TR-98-0153 AFOSR ( *AFRLSRBLTR980153* ) , XC - TR-98-0153 AFOSR ( *XCTR980153* )

Monitor Series: TR-98-0153 ( *TR980153* ) , AFOSR

Contract/Grant/Transfer Number: F49620-94-1-0092 ( *F496209410092* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) BMDO Technology and the Electric Utility Industry

PDF URL: (pdf) - 6 MB -

Accession Number: ADA338673

Corporate Author: NATIONAL TECHNOLOGY TRANSFER CENTER-WASHINGTON  
OPERATIONS ALEXANDRIA VA

Report Date: 01 Jan 1997

Abstract: ( U ) This report has been written in support of the BMDO's Technology Applications program. It is intended to put those in the electric utility industry in touch with developers of highly advanced technology funded by BMDO.

Abstract Classification:Unclassified

Pages:87 Page(s)

Report Number: XD - BMDO ( XD )

Monitor Series: BMDO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials Research Society Symposium Proceedings. Volume 442. Defects in Electronic Materials II. December 2-6, 1996, Boston, Massachusetts.

PDF URL: (pdf) - 35 MB -

Accession Number: ADA328465

Personal Author(s): Michel, Jurgen ; Kennedy, Thomas ; Wada, Kazumi ; Thonke, Klaus

Corporate Author: MATERIALS RESEARCH SOCIETY PITTSBURGH PA

Report Date: Dec 1996

Abstract: ( U ) This proceedings volume contains oral and poster contributions from a symposium on Defects in Electronic Materials at the combined meeting of the Materials Research Society (MRS) and the International Conference on Electronic Materials (ICEM) in December, 1996, in Boston. The volume comprises the areas of defects in group III-V, and wide bandgap semiconductors. The symposium was planned to represent the general field of defects in electronic materials, with a focus on issues that are currently widely discussed. The pervasive role of defects in determining the thermal, mechanical, electrical, optical and magnetic properties of materials is significant. The knowledge of generation and control of defects in electronic materials has contributed to the success of these materials. Developing novel semiconductor materials requires new insights into the role of defects to achieve new properties. New experimental techniques have to be developed to study defects in small structures, This proceedings volume provides a vivid picture of the current problems, progress and methods in defect studies in electronic materials. Of most interest were the sessions on new techniques in defect studies and on process-induced defects in Si and GaAs. Papers on new techniques addressed the issues of surface defects, defects in small dimensions and the detection of near-surface defects in Si. In process-induced defects, three areas received significant attention, Plasma processes in Si and GaAs produce defective layers. Many papers deal with the

understanding of these defects. Grown-in defects are widely studied because of their deteriorating effect on the gate-oxide integrity (GOI). These defects were identified as octahedral voids in as-grown silicon. Another recurring issue is gettering of metallic impurities to prevent contamination during processing.

Abstract Classification:Unclassified

Pages:702 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-97-1-0035 ( N000149710035 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 1ST European Conference on Silicon Carbide and Related Materials.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA326305

Corporate Author: ARISTOTLE UNIV OF THESSALONIKI (GREECE)

Report Date: Oct 1996

Pages:130 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) White Papers - 2025. Volume 2. Reach and Presence.

PDF URL: (pdf) - 19 MB -

Accession Number: ADA319863

Corporate Author: AIR UNIV MAXWELL AFB AL CENTER FOR AEROSPACE DOCTRINE  
RESEARCH AND EDUCATION

Report Date: Oct 1996

Abstract: ( U ) Accessibility replaces anxiety in 2025 logistics. Confident that logistics systems will generate what they need when they need it, commanders of aerospace forces in the year 2025 contemplate strategy and devote their energy to the battle. The overall goal of this logistics thinking team was to ensure that commanders of 2025 retain visibility and control of the resources required to support national security objectives of the United States. This paper proposes a system of systems' to provide a commander total asset visibility and seamless integration from cradle to grave for all major systems and their components. Advanced logic built into these systems streamlines the four core logistics processes discussed. Acquisition: Acquisition reform and protected access to automated systems allows machines to procure consumable and durable goods. Human intervention by empowered employees is required only when defined parameters are exceeded. Critical concepts and subsystems of this system are communications, artificial intelligence, miniaturization, and virtual reality. Materiel Management Increased reliability and maintainability, purchases directly from the manufacturer, and on-the-spot manufacturing reduces materiel management requirements. Advanced miniaturization, communication systems, and computer aided design and manufacturing, plus recycling concepts deliver requirements when needed. Transportation: Airlift is the major constraint in meeting current deployment objectives. A reduced footprint eases the airlift requirement. Efficient engines requiring less fuel and miniaturization yield increased lift capacity. Undersea and spaceborne prepositioning and linked communication systems facilitate expeditious transfer of goods. Maintenance: An aging fleet challenges 2025 maintenance personnel.

Abstract Classification:Unclassified

Pages:277 Page(s)

Report Number: XC - CADRE ( XC )

Monitor Series: CADRE

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Third International Workshop on Multistrategy Learning, May 23-25 Harpers Ferry, WV.

PDF URL: (pdf) - 32 MB -

Accession Number: ADA316878

Personal Author(s): Michalski, Ryszard S ; Wnek, Janusz

Corporate Author: GEORGE MASON UNIV FAIRFAX VA

Report Date: 16 Sep 1996

Abstract: ( U ) The Third International Workshop on Multistrategy Learning (MSL-96), held in Harpers Ferry, WV, May 23-25, 1996, attracted leading researchers in this area from Australia, Austria, Belgium, France, Germany, Italy, Japan, New Zealand, Poland, and the United States. The workshop covered theoretical and empirical issues in the development of learning systems that employ multiple inferential and/or computational strategies. The study of such systems draws upon the achievements in all subareas of machine learning, and constitutes a major new research direction in the field. Major topics of the workshop included: the study of interrelationships among learning strategies and paradigms, cognitive models of learning processes and their relationships to methods and paradigms of machine learning, the development of multistrategy learning systems, and their practical applications. Among major application areas presented at the workshop were data mining and knowledge discovery in large databases, intelligent text retrieval, flight simulation, robot navigation robot control, planning, stock market analysis, world wide web searches, and molecular biology.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May-31 Jul 96,

Pages:333 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-96-1-0859 ( N000149610859 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Spacelift 2025 The Supporting Pillar for Space Superiority

PDF URL: (pdf) - 970 KB -

Accession Number: ADA392963

Personal Author(s): Baird, Henry D ; Acenbrak, Steven D ; Harding, William J ; Hellstern, Mark J ; Juselis, Bruce M

Corporate Author: AIR COMMAND AND STAFF COLL MAXWELL AFB AL

Report Date: Aug 1996

Abstract: ( U ) The US spacelift system in 2025 focuses on routine operations. The research and development (R&D) mentality of past spacelift programs is replaced by the aircraft-like operations of a fully reusable spacelift system operated by both commercial industry and a US spacelift wing. Though developed primarily as a practical and affordable alternative for orbital access, the multipurpose transatmospheric vehicle (MTV) is expanded into force-enhancing missions like intelligence, surveillance, and reconnaissance (ISR), global mobility, and strike. MTV becomes the strategic strike platform of 2025. It can be flown manned or unmanned, depending on mission requirements, but it is primarily used in the unmanned mode. With the capability to accomplish the earth-to-orbit (ETO) mission as well as these other earth-to-earth

(ETE) missions efficiently, the MTV is a flexible platform which strengthens all air-and space-core competencies. MTV is complemented by the orbital transfer vehicle (OTV) for space orbital missions. After MTVs park satellites in low orbits, OTVs provide the additional thrust needed to push the payloads into higher energy orbits. OTVs also facilitate the maintenance of satellites in orbit by retrieving existing platforms for repair, refueling, or rearming. Finally, OTVs give the spacelift system a rapid orbital sortie capability for deterrence, space control, reconnaissance, counterspace, and force application. This paper recommends Air Force support for NASA's x-33 transatmospheric reusability demonstration and investment in a follow-on military MTV and an initial OTV using today's technologies. Once routine operations are institutionalized with these first generation reusable systems, propulsion and material technology should be infused to provide a more capable system. This paper recommends avid support of R&D funding needed to provide these technological advances.

Abstract Classification:Unclassified

Pages:57 Page(s)

Report Number: XC - ACSC ( XC )

Monitor Series: ACSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 11TH International Conference on High Power Particle Beams. Proceedings, Volume 1.

PDF URL: (pdf) - 47 MB -

Accession Number: ADA318646

Personal Author(s): Jungwirth, Karel ; Ullshmied, Jiri



Corporate Author: CZECHOSLOVAK ACADEMY OF SCIENCES PRAGUE INST OF  
PLASMA PHYSICS

Report Date: Jul 1996

Abstract: ( U ) Volume 1 of 2 containing conference proceedings from the 11th International  
Conference on High Power Particle Beams (BEAMS '96) held in Prague, Czech Republic  
between 10-14 June 1996.

Abstract Classification:Unclassified

Pages:694 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

Contract/Grant/Transfer Number: F61708-95-W-0273 ( F6170895W0273 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 11th International Conference on High Power Particle Beams.  
Volume 2,

PDF URL: (pdf) - 44 MB -

Accession Number: ADA319020

Personal Author(s): Jungwirth, Karel ; Ullschmied, Jiri

Corporate Author: CZECHOSLOVAK ACADEMY OF SCIENCES PRAGUE INST OF  
PLASMA PHYSICS

Report Date: 14 Jun 1996

Abstract: ( U ) This report is the published Proceedings of the 11th International Conference on High Power Particle Beams.

Abstract Classification:Unclassified

Pages:699 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Third International Conference on Intelligent Materials; Third European Conference on Smart Structures and Materials, Lyon, France 3-5 June 1996,

PDF URL: (pdf) - 66 MB -

Accession Number: ADA326025

Personal Author(s): Gobin, P F ; Tatibouet, J

Corporate Author: STRATHCLYDE UNIV GLASGOW (UNITED KINGDOM) SMART STRUCTURES RESEARCH INST

Report Date: 05 Jun 1996

Abstract: ( U ) The Third International Conference on Intelligent materials was held on 3-5 June 1996 in Lyon, France. The papers appearing in this book comprise the proceedings of the meeting mentioned on the cover and title page. They reflect the authors' opinions and are published as presented and without change, in the interests of timely dissemination.

Abstract Classification:Unclassified

Pages:1032 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Growth, Characterization and Device Development in Monocrystalline Diamond Films.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA310891

Personal Author(s): Davis, R F ; Nemanich, R J ; Sitar, Z ; Bergman, L ; Bozeman, S P

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH DEPT OF MATERIALS SCIENCE AND ENGINEERING

Report Date: Jun 1996

Abstract: ( U ) Nuclear transmutation of boron to lithium is being investigated for donor doping of diamond. Homoepitaxial (10)B enriched diamond films have been grown and characterized using Hall measurements and Raman and photoluminescence spectroscopies. The films have been neutron-irradiated at a dose of  $3 \times 10^{20}$  n/sq cm. Gamma ray spectroscopy of the samples indicates an activity of 5 microns Ci of (110)Ag. The samples are now being cleaned to remove this contaminant. The field emission energy distribution was measured from a molybdenum nanoscale field emitter before and after diamond coating. After coating, the Mo needle had a lower 'turn-on' voltage that was attributed to the diamond crystals acting as micro-tips which enhanced the field. The 'turn-on' voltage further decreased after in vacuo annealing of this needle. A second peak appeared with an effective work function close to the expected value for molybdenum carbide. An attempt to hydrogen terminate the diamond coating was unsuccessful as the treatment removed the diamond coating and partially melted the needle. The increase in the 'turn on' voltage most probably reflected the increase in the radius of curvature of the emission area. Under the conditions studied no peaks were observed that could be directly

related to emission from the diamond particles. An in-depth review of the optical properties of diamond films and particles is also included.

Abstract Classification:Unclassified

Descriptive Note: Quarterly technical rept. 1 Apr-30 Jun 96,

Pages:67 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-I-0437 ( N0001493I0437 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Interface Properties of Wide Bandgap Semiconductor Structures.

PDF URL: (pdf) - 11 MB -

Accession Number: ADA311700

Personal Author(s): Davis, Robert F ; Bedair, S ; Bernholc, J ; Nemanich, R J ; Sitar, Z

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH

Report Date: Jun 1996

Abstract: ( U ) Nuclear transmutation of B to Li is being investigated for donor doping of diamond. Homoepitaxial (10)B enriched diamond films have been grown, characterized using Hall measurements and Raman and PL spectroscopies and neutron-irradiated at a dose of  $3 \times 10^{20}$ /sq cm. The field emission energy distribution was measured from a Mo field emitter before and after diamond coating. After coating, the Mo needle had a lower turn on voltage that WM attributed to the diamond crystals acting as micro-tips which enhanced the field. The turn on voltage further decreased after in vacuo annealing. Comparisons between the

wetting characteristics of 6H-SiC(0001) sub si and Si(111) surfaces in various acids and bases were conducted. The 10:1 HF dipped Si(111) surfaces were hydrophobic; the (0001) sub si 6H-SiC surfaces were hydrophilic. Annealing of Si capped (0001 ) sub si 6H-SiC surfaces in UHV at 1100 deg C for 5 min. caused thermal desorption of the Si capping layer and the formation of (3 x 3) Si rich, oxygen free (0001) sub si 6H-SiC surfaces. p2

Abstract Classification:Unclassified

Descriptive Note: Semiannual technical rept. 1 Jan-30 Jun 96,

Pages:172 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-92-J-1477 ( N0001492J1477 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) World Religions: A Resource for U.S. Army Chaplains and Chaplain Assistants.

PDF URL: (pdf) - 18 MB -

Accession Number: ADA309644

Personal Author(s): Sampson, Kenneth L

Corporate Author: PRINCETON THEOLOGICAL SEMINARY NJ

Report Date: 06 May 1996

Abstract: ( U ) This project serves as a resource on world religions. Its underlying argument is that the world-wide resurgence of religious nationalism (fundamentalism) affects operations conducted by the United States Armed Forces. Based upon Appendix E (Guide to Analysis of Local Religions), of FM 16-1 (Religious Support), this manual acquaints readers with aspects of

selected world religions. It first analyzes the impact of religious nationalism on military operations. Next, it treats topics contributing to the development of culturally sensitive soldier/leaders. An analysis of designated world religions follows. Topics treated include the specific religion's broad influence on leadership, belief, ethical motivation, culture, worship, politics and manners/customs. A sample country study shows how ministry teams can quickly and readily make information available to their deploying personnel. Lastly, the guide concludes with an annotated bibliography of helpful resources. The primary audience is chaplains and chaplain assistants. Hopefully, this guide can be part of their 'kit bag' of helpful resources. Other military personnel--Special Forces teams, members of the Civil Affairs, Intelligence, Personnel, Language Study and Foreign Area Officer communities--in addition to commanders of deploying units, can benefit.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:387 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High Energy Physics Advisory Panel's Composite Subpanel for the Assessment of the Satus of Accelerator Physics and Technology.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA351202

Corporate Author: STANFORD UNIV CA DEPT OF PHYSICS

Report Date: May 1996

Abstract: ( U ) On behalf of the HEPAP Composite Subpanel for the Assessment of the Status of Accelerator Physics and Technology, I am pleased to transmit our report. This subpanel has carried out a broad assessment of the status and promise of accelerator physics and technology with respect to all five DOE Office of Energy Research (OER) programs. The subpanel drew its members from the scientific communities supported by the OER programs and included a liaison from each OER advisory committee as a full member. In meetings over a period of eight months we addressed the charge, and in doing so, sought input from all OER program offices, the accelerator physics community, representatives of those scientific communities supported by the OER programs, DOE laboratories and universities that host major accelerator facilities, and other DOE offices and federal agencies. After extensive deliberations, the subpanel has concluded that the DOE and its predecessor agencies-primarily through their long-standing and sustained investments in accelerator science and technology development-have de facto held a national trust for the stewardship of accelerator science and accelerator-based technology development. This role has provided the foundation for essential capabilities needed both to fulfill the DOE mission and to address broader national interests.

Abstract Classification:Unclassified

Pages:156 Page(s)

Report Number: XJ - XD ( XJ )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Growth, Characterization and Device Development in Monocrystalline Diamond Films.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA307989

Personal Author(s): Davis, R F ; Nemanich, R J ; Sitar, Z ; Bozeman, S P ; McClure, M T

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH

Report Date: Mar 1996

Abstract: ( U ) A combination of in-situ microprobe sampling and detailed chemical kinetic modeling has been employed to provide insight into the mechanisms of nucleation and growth of high quality diamond films in combustion flame CVD. Growth of high quality diamond with large area uniformity has been accomplished. The effects of substrate temperature and gas ratio on morphology and quality are reported. In-situ measurements of gas phase species are described. Calculations were performed using the CHEMKIN package. Equilibrium and premixed laminar flame simulations were performed. Diamond deposition was also performed on TiC(111) substrates by microwave plasma CVD. The diamond (111) pole figure showed a (111) fiber texture in the deposited layer. Approximately 16% of the diamond particles were oriented with the substrate. Nuclear transmutation of B to Li is being investigated for donor doping of diamond. Homoepitaxial (10)B enriched diamond films have been grown and characterized prior to irradiation using Hall measurements and Raman and photoluminescence spectroscopy. The films have been neutron-irradiated at a dose of  $3 \times 10^{20}$  n/sq cm. The samples showed an activity of approximately 3 mCi of (46)Sc when removed from the reactor, probably because of impurities in the natural diamond substrates.

Abstract Classification:Unclassified

Descriptive Note: Quarterly technical rept. 1 Jan-31 Mar 96,

Pages:34 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-I-0437 ( N0001493I0437 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Canada-U.S. Workshop on Frontiers of Quantum Electronics

PDF URL: (pdf) - 7 MB -



Accession Number: ADA365103

Personal Author(s): Xu, Jimmy

Corporate Author: TORONTO UNIV (ONTARIO)

Report Date: 01 Mar 1996

Descriptive Note: Final rept.

Pages:139 Page(s)

Report Number: ARO - 35666.1-RT-CF ARO ( *ARO356661RTCF* ) , XA - 35666.1-RT-CF ARO ( *XA356661RTCF* )

Monitor Series: 35666.1-RT-CF ( *356661RTCF* ) , ARO

Contract/Grant/Transfer Number: DAAH04-96-1-0022 ( *DAAH049610022* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Birefringent Fiber Devices and Lasers.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA307739

Personal Author(s): Theimer, James P

Corporate Author: ROME LAB ROME NY

Report Date: Feb 1996

Abstract: ( U ) This report describes the results of computer simulations of optical devices which contain birefringent elements. The physics of pulse propagation in birefringent fiber is summarized first. The behavior of pulses in birefringent fiber amplifiers is examined. These

pulses will break up under high amplification. This behavior is shown in the simulations. Simulations of the Nonlinear Optical Loop Mirror are shown. The differences between the behavior of these devices with pulsed and nonpulsed inputs are discussed, and approximate analytical models are derived. The effect of changing polarization controller settings is examined extensively. A fiber ring laser mode locked with a Nonlinear Optical Loop Mirror is studied. It is shown that the cavity length can be increased greatly if the dispersion of the fiber in the amplifier and in the loop mirror is balanced so that the pulse is nearly a soliton in both elements.

Abstract Classification:Unclassified

Descriptive Note: Rept. for Oct 93-Oct 95,

Pages:170 Page(s)

Report Number: RL-TR-96-10 ( *RLTR9610* ) , XC - RL\* ( *XCRL* )

Monitor Series: RL\* ( *RL* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introspective Multistrategy Learning: Constructing a Learning Strategy under Reasoning Failure

PDF URL: (pdf) - 2 MB -

Accession Number: ADA495211

Personal Author(s): Cox, Michael T

Corporate Author: GEORGIA INST OF TECH ATLANTA

Report Date: Feb 1996

Abstract: ( U ) The thesis put forth by this dissertation is that introspective analyses facilitate the construction of learning strategies. Furthermore, learning is much like nonlinear planning and problem solving. Like problem solving, it can be specified by a set of explicit learning goals (i.e., desired changes to the reasoner's knowledge); these goals can be achieved by constructing a plan from a set of operators (the learning algorithms) that execute in a knowledge space. However, in order to specify learning goals and to avoid negative interactions between operators, a reasoner requires a model of its reasoning processes and knowledge. With such a model, the reasoner can declaratively represent the events and causal relations of its mental world in the same manner that it represents events and relations in the physical world. This representation enables introspective self-examination, which contributes to learning by providing a basis for identifying what needs to be learned when reasoning fails. A multistrategy system possessing several learning algorithms can decide what to learn, and which algorithm(s) to apply, by analyzing the model of its reasoning. This introspective analysis therefore allows the learner to understand its reasoning failures, to determine the causes of the failures, to identify needed knowledge repairs to avoid such failures in the future, and to build a learning strategy (plan). Thus, the research goal is to develop both a content theory and a process theory of introspective multistrategy learning and to establish the conditions under which such an approach is fruitful.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:471 Page(s)

Report Number: TR-GIT-CC-96-06 ( *TRGITCC9606* ) , XC - AFOSR ( *XC* )

Monitor Series: AFOSR

Contract/Grant/Transfer Number: F49620-94-1-0092 ( *F496209410092* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Not with a Bang, But a Whimper. Western Europe Approaches the Third Millenium,

PDF URL: (pdf) - 4 MB -

Accession Number: ADA313989

Personal Author(s): Levine, Robert A

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Jan 1996

Abstract: ( U ) West European stability remains a vital interest of the United States; U.S. involvement in Western Europe remains a vital interest of Western Europe. Neither stability nor involvement, however, can be maintained simply by their recognition as vital interests. Foreign policy in democracies at peace is ordinarily dependent upon internal political considerations. Since the end of the Cold War, these considerations in Western Europe and the United States have been dominated by economic pressures, not all congruent with international interests perceived by foreign policy decisionmakers and commentators. This report examines the potential economic, political, and security future of Western Europe as it passes the year 2000. It concludes that the region is currently stable and that stability is likely to continue but is by no means guaranteed. The major threat is economic. Unemployment throughout Western Europe is very high, in the 10-percent range. This has already brought about serious unrest in France, and a sharp cyclical downturn could lead to worse unrest, there and elsewhere.

Abstract Classification:Unclassified

Pages:91 Page(s)

Report Number: MR-765-AF/A/OSD ( *MR765AFAOSD* ) , ISBN-0-8330-2401-9 ( *ISBN0833024019* ) , XD - OSD ( *XD* )

Monitor Series: OSD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Arthurian Poems of Charles Williams: a critical Annotated Edition

PDF URL: (pdf) - 12 MB -

Accession Number: ADA375709

Personal Author(s): Mihal, Jay A

Corporate Author: NAVAL ACADEMY ANNAPOLIS MD

Report Date: Jan 1996

Abstract: ( U ) This project entails compiling a critical edition of Charles Williams's Arthurian poems. Williams is the third and least well known member of the Inklings, the group of Christian friends (largely academics) who met at Oxford University during the 1930's and 40's. Currently there is no edition available of Williams's Arthurian poems in the United States. This project involves two stages: first, establishing a text of the poems; and, second, writing a critical introduction and notes. Williams's two Arthurian collections, *Tallessin Through Logres* and *The Region of the Summer Stars*, and no longer in print in the United States. In light of this fact, a major goal of this project is to create an edition that could conceivably be published. In order to achieve this goal several steps were necessary. First, an examination of both the original manuscripts and the previously published editions of the poems was required. Next, the project demanded an examination of Williams's life and work and research into the Arthurian tradition, especially the works of Malory's *Le Mode DArthur*, Tennyson's's idylls of the King, and de Troyes's Arthurian Romances - works that significantly influenced Williams's poetry. Then began research into the criticism and scholarship on Williams's Arthurian poems themselves. Finally, with this background, the process of editing a new edition of Charles Williams's Arthurian cycles began. Within this edition, a critical introduction and extensive notes were also included to help: (1) relate the man and his life to his theological and literary ideas as they are expressed throughout his Arthurian poems; and (2) aid with understanding the complexity of Williams's poetry.

Abstract Classification:Unclassified

Pages:347 Page(s)

Report Number: USNA-241 ( *USNA241* ) , XB - USNA ( *XB* )

Monitor Series: USNA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High Pressure Science & Technology: Proceedings of the Joint XV AIRAPT and XXXIII EHPRG International Conference Warsaw, Poland, September 11-15, 1995.

PDF URL: (pdf) - 59 MB -

Accession Number: ADA324928

Personal Author(s): Trzeciakowski, Witold A

Corporate Author: POLISH ACADEMY OF SCIENCES WARSAW

Report Date: Jan 1996

Abstract: ( U ) This conference has been organized by High Pressure Research Center (UNIPRESS), Polish Academy of Sciences and Institute of Experimental Physics at Warsaw University. This international conference was held in Warsaw University, Poland from 11-15th of September 1995. The proceedings served as a through review of high pressure research all over the world. Best of all, the conference also brought together participants from all important centers of high pressure research.

Abstract Classification:Unclassified

Pages:978 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Growth, Characterization and Device Development in Monocrystalline Diamond Films.

PDF URL: (pdf) - 880 KB -

Accession Number: ADA302964

Personal Author(s): Davis, R F ; Nemanich, R J ; Sitar, Z

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH DEPT OF MATERIALS SCIENCE AND ENGINEERING

Report Date: Dec 1995

Abstract: ( U ) X-ray photoelectron spectroscopy (XPS) has been conducted on a TiC(111) substrate to understand bias-enhanced nucleation (BEN) of CVD diamond. The data revealed two important results: i) the C:Ti ratio of the substrate decreases after an initial exposure to the biasing procedure, and ii) the C-C bonding signal is consistent with the formation of island-like deposition of an overlayer. The decrease in the C-Ti bonding signal suggests that BEN causes C vacancies to form. This procedure also appears to enhance the surface mobility of species on the surface allowing the rapid formation of carbon islands. Nuclear transmutation of B to Li is also being investigated for donor doping of diamond. Homoepitaxial 10B enriched diamond films have been grown and characterized prior to irradiation using Hall measurements to determine resistivity, mobility and carrier concentration. The irradiation will be performed at Oak Ridge National Laboratory.

Abstract Classification:Unclassified

Descriptive Note: Quarterly technical rept. 1 Oct-31 Dec 95,

Pages:18 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0437 ( N000149310437 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Interface Properties of Wide Bandgap Semiconductor Structures.

PDF URL: (pdf) - 14 MB -

Accession Number: ADA304546

Personal Author(s): Davis, Robert F ; Nemanich, R J ; Bedair, S ; Bernholc, J ; Sitar, Z

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH

Report Date: Dec 1995

Abstract: ( U ) A surface analytical study of bias enhanced nucleation of diamond on TiC(111) indicated that C vacancies form at the substrate and that the procedure may result in enhanced surface diffusion. Oriented diamond growth has been achieved on both (100) and (111) Ni substrates. A key aspect of the process is the formation of a molten Ni-C-H surface layer that promotes the nucleation of oriented particles. Experiments have been initiated to explore transmutation doping of B-doped homoepitaxial diamond by conversion of B to Li through neutron irradiation. Theoretical studies indicate that alternating exposure of hydrocarbon and fluorocarbon precursors may be suitable for ALE growth on diamond (110) surfaces. Field emission from diamond coated, needle shaped emitters demonstrated a significant enhancement of the total emission current and improved stability of the tip. A series of different ex situ chemical based techniques have been explored for cleaning of 6H-SiC surfaces. Results indicated that O bonded to C on the surface was not easily removed. The impurity concentrations were measured for epitaxial SiC films on 6H-SiC(0001) and 3C-SiC(111) that were prepared by gas source MBE using SiH<sub>4</sub> and C<sub>2</sub>H<sub>2</sub>. MIS diodes of Al/AlN/SiC were prepared by gas source MBE and characterized with C-V measurements. Ohmic contacts on p-type SiC were obtained using Ni/NiAl and annealing to 1000°C. AlGaN films were grown directly on 6H-SiC, and the films were characterized with TEM, XRD, and cathodoluminescence.

Abstract Classification:Unclassified

Descriptive Note: Semiannual technical rept. 1 Jul-31 Dec 95,

Pages:266 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-92-J-1477 ( N0001492J1477 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ENERGY AND SCIENCE: Five-Year Bibliography 1990-1994

PDF URL: (pdf) - 24 MB -

Accession Number: ADA344749

Corporate Author: GENERAL ACCOUNTING OFFICE WASHINGTON DC RESOURCES  
COMMUNITY AND ECONOMIC DEVELOPMENT DIV

Report Date: Dec 1995

Abstract: ( U ) An energy and science bibliography from 1990 to 1995 is presented.

Abstract Classification:Unclassified

Pages:354 Page(s)

Report Number: GAO/RCED-96-7W ( *GAORCED967W* ) , X1 - GAO/RCED ( *X1GAORCED* )

Monitor Series: GAO/RCED ( *GAORCED* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutron Damage in Distributed Bragg Reflectors and Microcavity Lasers.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA305361

Personal Author(s): Suriano, Mark A

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: Dec 1995

Abstract: ( U ) Distributed Bragg Reflectors (DBRs) grown on a gallium-arsenide substrate for a solid state mirror and a vertical cavity surface emitting laser (VCSEL) were subjected to a neutron fluence to determine the sensitivity of the DBRs. The samples were irradiated at Ohio State University's 500 kW research reactor. Relative and absolute reflectance measurements were taken before and after each irradiation over a spectral band of 530 880 nm. Relative reflectance measurements showed that the irradiation did not cause any spectral shift over seven decades of neutron fluences. The reflectivity of the DBRs decreased from their initial measurements after being irradiated. The reflectance decrease was correlated to the incident neutron fluence to determine a Messenger Spratt type of equation to predict the DBRs response. A radiation damage constant for the VCSEL and DBR mirror were determined to be  $3.83 \times 10^{13}$  NEUTRONS/CM<sup>2</sup> and  $2.19 \times 10^{13}$  NEUTRONS/CM<sup>2</sup> respectively utilizing a 1 MeV equivalent (Si) neutron fluence.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:109 Page(s)

Report Number: AFIT/GA/ENP/95D-15 ( *AFITGAENP95D15* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Effects and Defects in Solids. Proceedings of the Seventh Europhysical Conference on Defects in Insulating Materials Eurodim 94, Lyon 1 - University July 5-8, 1994. Part III. Volume 136, Number 1-4.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA324989

Personal Author(s): Biersack, Jochen P ; Blanchin, M G ; Davenas, J ; Moine, B ; Pedrini, C

Corporate Author: LYON UNIV (FRANCE)

Report Date: Dec 1995

Abstract: ( U ) Radiation Effects and Defects in Solids publishes experimental and theoretical papers of both a fundamental and applied nature that contribute to the understanding of either phenomena induced by the interaction of radiation with condensed matter or defects in solids introduced not only by radiation but also by other processes. Papers are categorized in three groups. Section A. Radiation Effects - Suitable topics include, but are limited to, atomic collisions, radiation induced atomic and molecular processes in solids, the stopping and range of ions and radiation damage, sputtering and mixing in solids, radiation induced transport phenomena and the role of defects and impurities introduced by radiation. Papers in ion implantation in metals and semiconductors as well as on radiation effects in insulators and superconductors, in fusion and fission devices and in space research are considered. Studies on fission tracks, isotope dating and ion beam analytic techniques are also welcome. Section B: Crystal lattice Defects and Amorphous Materials - Topics covered include atomic and electronic properties of defects, influence of defects on lattice properties and processes, the lattice defect approach to solid state reactions such as clustering, precipitation, laser annealing and the role of impurities, the defects dynamics in a non-steady state such as under particle or electromagnetic irradiation or during a rapid temperature change and problems associated with the metastable nature of amorphous materials. Section C: Radiation Effects and Defects in Solids Express - This section is available separately on subscription and presents significant short notes and communications in camera-ready form from the above fields for the fastest possible publication.

Abstract Classification:Unclassified

Descriptive Note: Proceedings,

Pages:306 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transient Radiation Effects on Electronics (TREE) Handbook Formerly Design Handbook for TREE, Chapters 1-6.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA302734

Personal Author(s): Cohn, Lewis ; Espig, Manfred ; Wolicki, Al ; Simons, Mayrant ; Rogers, Clay

Corporate Author: KAMAN SCIENCES CORP ALEXANDRIA VA ENGINEERING SCIENCES DIV

Report Date: Dec 1995

Abstract: ( U ) The objectives of the Transient Radiation Effects on Electronics (TREE) Handbook are to (1) provide information about radiation effects on semiconductor devices and materials, (2) provide guidelines for microelectronic radiation hardening technology, and (3) serve as a reference for radiation hardness assurance and microelectronic radiation testing. The radiation environments addressed in this handbook include those produced by nuclear weapons effects (NWE) and natural space. The NWE environment includes x rays, gamma rays, and neutrons. The natural space environment includes photons and electrons trapped in the Van Allen belt, and neutrons, heavy ions, and cosmic rays found in space.

Abstract Classification:Unclassified

Descriptive Note: Rept. for 15 Jan 91-31 Dec 94,

Pages:507 Page(s)

Report Number: DNA - H-95-61 DNA ( *DNAH9561* ) , XV - H-95-61 DNA ( *XVH9561* )

Monitor Series: H-95-61 ( *H9561* ) , DNA

Contract/Grant/Transfer Number: DNA001-93-C-0050 ( *DNA00193C0050* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PDE's, Random Processes and Fields: Asymptotic Problems.

PDF URL: (pdf) - 487 KB -

Accession Number: ADA304572

Personal Author(s): Freidlin, Mark

Corporate Author: MARYLAND UNIV COLLEGE PARK DEPT OF MATHEMATICS

Report Date: 10 Nov 1995

Abstract: ( U ) Asymptotic problems for classical stochastic processes and PDE's, leading to processes and boundary problems on graphs and on similar multi-dimensional spaces, were considered. Perturbations of Hamiltonian systems is an example of such problems. Wave fronts in reaction-diffusion systems are studied using the large deviations theory. Homogenization for RDE's was studied. Asymptotic image reconstruction problems were considered

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May 92-15 Sep 95,

Pages:8 Page(s)

Report Number: ARO - 29678.14-MA ARO ( ARO2967814MA ) , XA - 29678.14-MA ARO ( XA2967814MA )

Monitor Series: 29678.14-MA ( 2967814MA ) , ARO

Contract/Grant/Transfer Number: DAAL03-92-G-0219 ( DAAL0392G0219 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 'Simplify Me When I'm Dead', The Life and Poetry of Keith Douglas.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA303523

Personal Author(s): Clark, Murray R

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: Nov 1995

Descriptive Note: Master's thesis,

Pages:94 Page(s)

Report Number: AFIT-95-149 ( *AFIT95149* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Observing God: Thomas Dick (1774-1857), Evangelicalism and Popular Science in Victorian Britain and Antebellum America.

PDF URL: (pdf) - 19 MB -

Accession Number: ADA300290

Personal Author(s): Astore, William J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: 25 Oct 1995

Abstract: ( U ) Within the last 22 years, he has published about 10 volumes on literary, scientific, and theological subjects, calculated to promote the intellectual and moral improvement of society, particularly of the middle and lower ranks of the community. The general aim of these volumes has been to bring the more useful and interesting portions of science within the comprehension of general readers, and to render the discoveries of science, and the improvements of the useful arts subservient to the promotion of the interests of religion and Christian morality.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis,

Pages:381 Page(s)

Report Number: AFIT-95-019D ( *AFIT95019D* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Anomalous Behavior of the Pd/D System.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA298973

Personal Author(s): Szpak, S J ; Mosier-Boss, P A

Corporate Author: NAVAL COMMAND CONTROL AND OCEAN SURVEILLANCE  
CENTER RDT AND E DIV SAN DIEGO CA

Report Date: Sep 1995

Abstract: ( U ) In a news conference on 23 March 1989, Martin Fleischmann and Stanley Pons announced that nuclear events could be initiated by the electrochemical compression of deuterium into a palladium lattice. When researchers around the world tried to reproduce the effects described by Pons and Fleischmann in their laboratories, the results were mixed. The nature of the announcement and the Irreproducibility of the effect divided the scientific community into believers and skeptics, indicating religious fervor rather than scientific reasoning. Shortly after the Fleischmann-Pons announcement, a program at NRaD investigated anomalous effects in the Pd/D system. The NRaD program investigated the Pd/D system using standard electrochemical techniques to determine conditions for achieving high Pd/D loadings. Metallurgical aspects of the Pd/D system and the effect of additives were also examined. Tritium content in the gas/liquid phases and radiation emissions were monitored during electrolysis. This report summarizes the investigation results.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Jun 89-Aug 93,

Pages:179 Page(s)

Report Number: NCCOSC/RDT/E-TR-1696 ( *NCCOSCRDTETR1696* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Summaries of the Papers Presented at the Topical Meeting Semiconductor Lasers, Advanced Devices and Applications Held in Keystone, Colorado on 21-23 August 1995. Technical Digest Series. Volume 20.

PDF URL: (pdf) - 11 MB -

Accession Number: ADA306078



Corporate Author: OPTICAL SOCIETY OF AMERICA WASHINGTON DC

Report Date: 23 Aug 1995

Abstract: ( U ) Contents: High Speed Communications; Spectroscopic Applications; High Power Lasers: Applications and Devices; Novel Function Devices; lidar applications; High Brightness Lasers; Vertical Cavity Lasers; and Telecommunications Lasers.

Abstract Classification:Unclassified

Pages:210 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Arms Control Research: An Annotated Bibliography. Supplement 4.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA303355

Corporate Author: DEPARTMENT OF ENERGY OAK RIDGE TN OFFICE OF SCIENTIFIC AND TECHNICAL INFORMATION

Report Date: Aug 1995

Abstract: ( U ) The Arms Control Database (ACD) has been developed to assist United States Government policymakers and supporting government and contractor researchers with analysis, characterization, and utilization of arms control measures as an element of United States national security policy.

Abstract Classification:Unclassified

Pages:122 Page(s)

Report Number: DOE/OSTI-3403-SUPPL-4 ( *DOEOSTI3403SUPPL4* ) , XH - XD ( *XH* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nonlinear Physics Theory and Experiment, Proceedings of Interdisciplinary  
Workshop on Nonlinearity in Physical Sciences Held in Gallipoli, Italy on 29 June-7 July 1995.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA297617

Corporate Author: LECCE UNIV (ITALY) DIPT DI FISICA

Report Date: 07 Jul 1995

Pages:93 Page(s)

Report Number: XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 63RD MORSS --Joint Analysis for Joint Operations. Final Program and Book of Abstracts.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA297076

Personal Author(s): Kee-LaFreniere, Cynthia ; Addison, Natalie S

Corporate Author: MILITARY OPERATIONS RESEARCH SOCIETY ALEXANDRIA VA

Report Date: 01 Jun 1995

Abstract: ( U ) This publication contains titles of presentations made at the 63rd MORS Symposium (63rd MORSS), along with names, addresses, phone and fax numbers and e-mail addresses of authors, if available. In addition, abstracts of presentations, which are Unclassified and Approved for Public Release, are included. Some abstracts are missing because they had not been cleared for public release at the time of publication. (KAR) P. 2

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:187 Page(s)

Report Number: XB - CNO ( XB )

Monitor Series: CNO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Particle Accelerator Conference and International Conference on High-Energy Accelerators (16th) Held in Dallas, Texas on 1-5 May 1995. Volume 3.

PDF URL: (pdf) - 67 MB -

Accession Number: ADA310215

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 05 May 1995

Abstract: ( U ) CONTENTS: Magnet technology; Radio frequency technology; Radio frequency power sources; Superconducting RF; Room temperature RF; Injection, extraction and targetry; Power supplies; and Cryogenics, vacuum, alignment and other technical systems.

Abstract Classification:Unclassified

Pages:761 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-95-1-0791 ( N000149510791 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Particle Accelerator Conference and International Conference on High-Energy Accelerators (16th) Held in Dallas, Texas on 1-5 May 1995. Volume 4.

PDF URL: (pdf) - 70 MB -

Accession Number: ADA310214

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 05 May 1995

Abstract: ( U ) CONTENTS: Cryogenics, vacuum, alignment and other technical systems; Controls and computing; Controls; Computer codes; Instrumentation and feedback; Instrumentation; Feedback; and High energy accelerator beam dynamics.

Abstract Classification:Unclassified

Pages:785 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-95-1-0791 ( N000149510791 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Particle Accelerator Conference and International Conference on High-Energy Accelerators (16th) Held in Dallas, Texas on 1-5 May 1995. Volume 1.

PDF URL: (pdf) - 70 MB -

Accession Number: ADA310213

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 05 May 1995

Abstract: ( U ) CONTENTS: Plenary and special sessions; Accelerator applications; Synchrotron light sources and free electron lasers; Low and intermediate energy accelerators;

High energy hadron accelerators and colliders; Circular electron accelerators and colliders; Linear colliders and advanced accelerator concepts; and Linear colliders.

Abstract Classification:Unclassified

Pages:769 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-95-1-0791 ( *N000149510791* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Particle Accelerator Conference and International Conference on High-Energy Accelerators (16th) Held in Dallas, Texas on 1-5 May 1995. Volume 2.

PDF URL: (pdf) - 65 MB -

Accession Number: ADA310212

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 05 May 1995

Abstract: ( U ) CONTENTS: Linear colliders; New acceleration techniques; Accelerators and storage rings, misc.; Particle sources and injectors; Radio frequency guns and linac injectors; Particle sources; Linear accelerators; Pulsed and high intensity beams and technology; and Magnet technology.

Abstract Classification:Unclassified

Pages:767 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-95-1-0791 ( N000149510791 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Particle Accelerator Conference and International Conference on High-Energy Accelerators (16th) Held in Dallas, Texas on 1-5 May 1995. Volume 5.

PDF URL: (pdf) - 58 MB -

Accession Number: ADA310216

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 05 May 1995

Abstract: ( U ) CONTENTS: Linear and nonlinear orbit theory; Beam-beam interaction and beam cooling; Instabilities and cures; Low energy accelerator beam dynamics; and Beam dynamics, misc.

Abstract Classification:Unclassified

Pages:715 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-95-1-0791 ( N000149510791 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Study of the Pumping of a Gamma-Ray Laser.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA293561

Personal Author(s): Collins, C B ; Carroll, J J

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTER FOR QUANTUM ELECTRONICS

Report Date: 15 Apr 1995

Abstract: ( U ) The most productive approaches to the problem of the gamma ray laser have focused upon upconversion techniques in which metastable nuclei are pumped with long wavelength radiation. At the nuclear level the storage of energy can approach tera-Joules ( $10^{12}$  J) per liter for thousands of years. However, any plan to use such a resource for a gamma ray laser poses problems of a broad interdisciplinary nature requiring the fusion of concepts taken from relatively unrelated fields of physics. Our research group has described several means through which this energy might be coupled to radiation field with cross sections for stimulated emission that could reach  $10^{-17}$  sq cm. Such a stimulated release could lead to output powers as great as  $3 \times 10^2$  Watts/liter. Since 1978 we have pursued an approach for the upconversion of longer wavelength radiation incident upon isomeric nuclear populations that can avoid many of the difficulties encountered with traditional concepts of single-photon pumping. Experiments have confirmed the general theory and have indicated that a gamma-ray laser is feasible if the right combination of energy levels and branching ratios exists in some real material. Of the 1,886 distinguishable nuclear materials, the present state-of-the-art has been adequate to identify 29 first-class candidates, but further evaluation cannot proceed without remeasurements of nuclear. A laser-grade database of nuclear properties does not yet exist but the techniques for constructing one have been developed and utilized under this contract.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. 15 Mar 94-14 Mar 95,

Pages:116 Page(s)



Report Number: GRL/9501 ( *GRL9501* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-93-K-2005 ( *N0001493K2005* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Safeguards and the International Atomic Energy Agency

PDF URL: (pdf) - 11 MB -

Accession Number: ADA336502

Corporate Author: OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC

Report Date: Apr 1995

Abstract: ( U ) From the dawn of the nuclear age, nuclear power has been recognized as a 'dual-use' technology. The same nuclear reactions that give bombs the destructive force of many thousands of tons of high explosive can, when harnessed in a controlled fashion, produce energy for peaceful purposes. The challenge for the international nuclear nonproliferation regime-the collection of policies, treaties, and institutions intended to stem the spread of nuclear weapons-is to prevent nuclear proliferation while at the same time permitting nuclear energy's peaceful applications to be realized. One of the key institutions involved in meeting these two objectives is the International Atomic Energy Agency (IAEA), an international organization created in 1957 as a direct outgrowth of president Eisenhower's 'Atoms for Peace' program. The IAEA Statute, which creates the legal framework for the agency, charges it to 'accelerate and enlarge the contribution of atomic energy to peace, health, and prosperity throughout the world.' At the same time, it gives the agency the authority to enter into so-called safeguards agreements with individual nations or groups of nations to ensure that nuclear materials, equipment, or facilities are not used to produce nuclear weapons. The IAEA's mission and its safeguards responsibilities were extended with the enactment in 1970 of the Treaty on the Non-Proliferation of Nuclear Weapons (also known as the Non-Proliferation Treaty, or NPT). The Treaty requires non-nuclear-weapon states that are parties to the accord to enter into safeguards agreements with the IAEA covering all nuclear materials on their territory (e.g., uranium and plutonium, whether in

forms directly usable for weapons or forms that require additional processing before becoming usable in weapons).

Abstract Classification:Unclassified

Pages:153 Page(s)

Report Number: OTA-ISS-615 ( *OTAISS615* ) , X1 - XD ( *XI* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Soviet Space Power Technology.

PDF URL: (pdf) - 18 MB -

Accession Number: ADA305582

Personal Author(s): Timashev, S V

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC WRIGHT-PATTERSON AFB OH

Report Date: Mar 1995

Abstract: ( U ) This publication contains information on the space power experience fo the former Soviet Union. Topics covered include nuclear power generation, thermionic energy conversion, thermoelectrics, thermal management, and radioisotope generators. This document is intended to be an AIAA textbook.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Jul-15 Sep 91,

Pages:372 Page(s)

Report Number: WL\* - TR-95-2040 WL\* ( *WLTR952040 WL* ) , XC - TR-95-2040 WL\* ( *XCTR952040 WL* )

Monitor Series: TR-95-2040 ( *TR952040* ) , WL\* ( *WL* )

Contract/Grant/Transfer Number: F33615-90-C-2088 ( *F3361590C2088* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology Applications Report

PDF URL: (pdf) - 13 MB -

Accession Number: ADA339017

Corporate Author: BALLISTIC MISSILE DEFENSE ORGANIZATION WASHINGTON DC

Report Date: Jan 1995

Abstract: ( U ) This report highlights 50 examples of BMDO-funded technologies that have been or are being commercialized in areas such as communications energy, manufacturing, and medicine.

Abstract Classification:Unclassified

Pages:99 Page(s)

Report Number: XD - BMDO ( *XD* )

Monitor Series: BMDO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Brightness and Current Limitations in Intense Charged Particle Beams.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA304074

Personal Author(s): Reiser, M ; Guharay, S

Corporate Author: MARYLAND UNIV COLLEGE PARK LAB FOR PLASMA RESEARCH

Report Date: 31 Dec 1994

Abstract: ( U ) Our research on intense, high brightness charged particle beams encompassed efficient generation and transport of H beams. The work was directed towards the development of neutral particle beams for space defense applications. Other important relevance of this work has been in the context of developing low emittance injectors for future high luminosity colliders. In both the cases, the present state of the art of beam qualities is far from the desired level. Over the past several years, we made detailed theoretical work, both analytical and computational, on the problem of emittance growth. A 30 mA, 35 kV H beam was considered with the aim of transporting this highly diverging beam from an ion source over a distance of about 30 cm and transforming it into a converging beam which would match with the acceptance ellipse parameters of a high frequency radio frequency quadrupole accelerator (RFQ). We studied the beam dynamics in detail using simulation codes, and then designed a low energy beam transport (LEBT) device. We included the practical constraints as much as possible in our theoretical studies; this led us to expect good performance of the LEBT. The LEBT has been built in house. During the period of mid January 1994 to December 1994 we focussed on the operation of the magnetron type H source; the major components of the source were earlier received from the Superconducting Super Collider Laboratory (SSCL). After a good deal of investigation of the control parameters we decided to implement some major modifications in the source for long, reliable operation. The technological know how for source operation has been developed. We are now fully equipped to run in house experiments using the magnetron ion source facility and the LEBT system.

Abstract Classification: Unclassified

Descriptive Note: Final rept. 1 Jul 93-31 Dec 94,

Pages: 102 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-90-J-1913 ( *N0001490J1913* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nanoscience and Nanotechnology in Europe.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA290214

Personal Author(s): Tolles, William A

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 30 Dec 1994

Abstract: ( U ) The subject of nanoscience and/or nanotechnology is of considerable interest as a rapidly expanding frontier of research. This report documents information gathered at 44 laboratories in Europe by the author over a six month period. Research activities in physics, electronics, materials, chemistry, and biotechnology are included. Fundamental advances in fabrication, characterization, and utilization of nanostructures are presented. Areas of greatest interest include nanostructures for electronic and optical materials and devices, sensors, and other applications envisioned. Research programs covered include lithography, materials, self-assembly, local probes, transport properties, quantum dots and wires, surface film behavior, some magnetic and optical behavior, including nonlinear spectroscopy, high frequency device behavior, and mechanical measurements at nanodimensions. A short description of the environment at each laboratory visited is included.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Jan-Dec 94,

Pages:157 Page(s)

Report Number: NRL/FR/1003--94-9755 ( *NRLFR1003949755* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Strategic Planning in Public Sector Organizations of Botswana.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA290119

Personal Author(s): Sharp, Paul T

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 1994

Abstract: ( U ) It is important that a strategic planning approach be chosen that is compatible with the culture of Botswana. This choice will enhance the managerial effectiveness, productivity, and performance of public sector organizations in Botswana. Western management approaches transferred to and implanted in Botswana without adapting them to the culture of Botswana are not effective. People do not identify themselves with these methods, and thus cannot utilize them fully and efficiently. Unfamiliar to the people, a western approach cannot attain the same effective performance in Botswana that it does in industrialized countries. The analysis of five western strategic planning approaches (Bryson's Rational-Analytic; Entrepreneurial-Innovative; Dialogue-Deliberation; Incremental; and Political) with regard to the culture and traditions of Botswana reveals that two of these approaches are suitable for use in Botswana. These are the Rational-Analytic and the Dialogue-Deliberation approaches. Some of the elements of these approaches which are in harmony with the national culture of Botswana have been used to build the Sharp Model, which is modeled on the traditional kgotla decision-making process.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:80 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Acquisition Systems Protection Planning the Manhattan Project: A Case Study

PDF URL: (pdf) - 5 MB -

Accession Number: ADA284690

Personal Author(s): Conklin, George E , II

Corporate Author: ARMY COMMAND AND GENERAL STAFF COLL FORT  
LEAVENWORTH KS

Report Date: 03 Jun 1994

Abstract: ( U ) This study examines the counterintelligence and security programs of the Manhattan Project, the United States acquisition of the atomic bomb, using the Department of Defense's Acquisition Systems Protection Program (ASPP) methodology. Using the ASPP methodology as presented in the April 1993 draft of DOD Manual 5200.1, Acquisition Systems Program Protection, the study examines the Manhattan Project's: essential program information, technologies and systems (EPITS), foreign intelligence collection threat assessment, and countermeasures programs. The study, using today's criteria, concludes that the project's countermeasures program was marginally successfully because the project lacked a unifying security objective. Additionally, the project leadership failed to clearly identify and counteract the collection threat posed by wartime ally, the Soviet Union. The study determined that there are lessons learned from the historical case that are applicable to the contemporary ASPP.

Lessons learned include; proposed doctrinal changes, threat assessment methodology and counterintelligence techniques and procedures. Acquisition systems, Program protection, Manhattan Project, Atomic bomb, Technology protection, Counterintelligence, Security.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:145 Page(s)

Report Number: XA - USACGSC ( XA )

Monitor Series: USACGSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Great Lakes Regional Phase 3 Commercialization Conference, Held in Detroit, Michigan on May 23 - 25, 1994

PDF URL: (pdf) - 5 MB -

Accession Number: ADA280372

Corporate Author: FORESIGHT SCIENCE AND TECHNOLOGY WEST PALM BEACH FL

Report Date: 25 May 1994

Pages:119 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1993 Particle Accelerator Conference Held in Washington, DC on May 17-20, 1993. Volume 4

PDF URL: (pdf) - 63 MB -

Accession Number: ADA280385

Personal Author(s): Blewett, John P ; Clayton, C E ; Nakajima, K ; Schultz, S ; Kimura, W D

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 18 May 1994

Abstract: ( U ) 1) Adventures with accelerators; 2) Demonstration of Plasma Beat Wave Acceleration of Electrons from 2 MeV to 20 MeV; 3) Laser Wakefield Accelerator Experiments using 1ps 30TW Nd:glass Laser; 4) Photonic Band Gap Resonators for High Energy Accelerators; 5) Update on the ATF Inverse Cerenkov Laser Acceleration Experiment.

Abstract Classification:Unclassified

Descriptive Note: Conference Papers, 17-20 May 1993

Pages:742 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0623 ( N000149310623 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1993 Particle Accelerator Conference Held in Washington, DC on May 17-20, 1993. Volume 5

PDF URL: (pdf) - 70 MB -

Accession Number: ADA280386

Personal Author(s): Gluckstern, Robert L ; Machida, S ; Ryne, Robert D ; Seeman, J T ; Guo, Z Y

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 18 May 1994

Abstract: ( U ) 1) Methods of Impedance Calculation; 2) Space-Charge Calculations in Synchrotrons; 3) Advanced computers and simulation; 4) Measured Optimum BNS Damping configuration of the SLC Linac; 5)Single Beam phenomena in BEPC...

Abstract Classification:Unclassified

Descriptive Note: Conference papers, 17-20 May 1993

Pages:839 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0623 ( N000149310623 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Study of the Pumping of a Gamma-Ray Laser

PDF URL: (pdf) - 5 MB -

Accession Number: ADA278537

Personal Author(s): Collins, C B ; Carroll, J J ; Heyde, K ; Sinor, T W ; Von Neumann-Cosel, P ; Standifird, J D ; Olariu, S ; Rivlin, Lev A

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTER FOR QUANTUM ELECTRONICS

Report Date: 15 Apr 1994

Abstract: ( U ) The most productive approaches to the problem of the gamma-ray laser have focused upon upconversion techniques in which metastable nuclei are pumped with long wavelength radiation. At the nuclear level the storage of energy can approach tera-Joules ( $10^{12}$ J) per liter for thousands of years. However, any plan to use such a resource for a gamma-ray laser poses problems of a broad interdisciplinary nature requiring the fusion of concepts taken from relatively unrelated fields of physics. Our research group has described several means through which this energy might be coupled to radiation fields with cross sections for stimulated emission that could reach  $1 \times 10^{17}$ /sq cm. Such a stimulated release could lead to output powers as great as  $3 \times 10^{21}$  Watts/ liter. Since 1978 we have pursued an approach for the upconversion of longer wavelength radiation incident upon isomeric nuclear populations that can avoid many of the difficulties encountered with traditional concepts of single-photon pumping. Experiments have confirmed the general theory and have indicated that a gamma-ray laser is feasible if the right combination of energy levels and branching ratios exists in some real material. Gamma-ray laser, Ultrashort wavelength laser.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. 15 Mar 1993-14 Mar 1994

Pages:107 Page(s)

Report Number: GRL/9401 ( *GRL9401* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-93-K-2005 ( *N0001493K2005* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Strategic Challenges during Changing Times: A Prioritized Research Program, 1994

PDF URL: (pdf) - 2 MB -

Accession Number: ADA279816

Personal Author(s): Tilford, Jr , Earl H ; Barry, III, William A

Corporate Author: ARMY WAR COLL STRATEGIC STUDIES INST CARLISLE  
BARRACKS PA

Report Date: 01 Apr 1994

Abstract: ( U ) The Strategic Studies Institute (SSI) examines global, regional and transregional issues and trends, and identifies research themes that will be critical to the Army's strategic role in support of national military strategy. SSI's regional and transregional assumptions, trends, issues, and research themes that are derived from then helpful to many who are also responsible for long-range research and planning.

Abstract Classification:Unclassified

Descriptive Note: Special rept.

Pages:48 Page(s)

Report Number: ACN-94007 ( ACN94007 ) , XA - AWC/SSI ( XAAWCSSI )

Monitor Series: AWC/SSI ( AWCSSI )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Design of a High Power X-Band Magnicon Amplifier

PDF URL: (pdf) - 1 MB -

Accession Number: ADA277001

Personal Author(s): Gold, S H ; Nezhevenko, O A ; Yakovlev, V P ; Hafizi, B

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 14 Feb 1994

Abstract: ( U ) We present a design study for an X-band frequency-doubling magnicon amplifier driven by a 500 keV, 172 A beam from a field-emission diode. This study makes use of steady-state particle simulations employing the realistic fields of magnicon cavities connected by beam tunnels, and includes the effects of finite electron beam diameter. The simulations propagate an electron beam through a sequence of deflection cavities at 5.7 GHz, followed by an output cavity that operates at 11.4 GHz. The deflection cavities and the output cavity contain synchronously rotating TM modes. The deflection cavities progressively spin up the beam transverse momentum, until  $a = v_1/v_z \sim 1$ , where  $v_1$  and  $v_z$  are the velocity components perpendicular and parallel to the axial magnetic field. The output cavity uses this synchronously gyrating beam to generate microwave radiation at twice the drive frequency. Self-consistency of the simulation is achieved by iteration until power balance.

Abstract Classification:Unclassified

Descriptive Note: Interim rept.

Pages:44 Page(s)

Report Number: NRL/MR/6790--94-7408 ( *NRLMR6790947408* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Surface Exposure Geochronology Using Cosmogenic Nuclides: Applications in Antarctic Glacial Geology

PDF URL: (pdf) - 10 MB -

Accession Number: ADA279392

Personal Author(s): Brook, Edward J

Corporate Author: WOODS HOLE OCEANOGRAPHIC INSTITUTION MA

Report Date: Feb 1994

Abstract: ( U ) Cosmogenic  $^3\text{He}$ ,  $^{26}\text{Al}$ , and  $^{10}\text{Be}$  were measured in Antarctic glacial deposits in the McMurdo Sound-Dry Valleys region to constrain surface exposure ages. Moraines deposited by the Taylor glacier, an outlet glacier of the East Antarctic Ice Sheet, have exposure ages from approx. 120 kyr to 2myr.  $^{10}\text{Be}$  and  $^3\text{He}$  ages of  $122 \pm 29$  and  $134 \pm 54$  kyr, respectively, for the Taylor II moraine are consistent with deposition during isotope stage 5e (approx. 120 kyr) . Mean  $^{10}\text{Be}$  exposure ages for older moraines in the valley of  $362 \pm 26$  kyr (Taylor III),  $1.1 \pm 0.1$  myr (Taylor IVa) and  $1.9 \pm 0.1$  myr (Taylor IVb) suggest that major ice sheet advances during the last 2 myr were similar in extent to changes during the last glacial-interglacial cycle. Exposure ages for the 'late Wisconsin' Ross Sea Drift, deposited on the coast of McMurdo Sound by the Ross Sea Ice Sheet, range from 8-106 kyr, suggesting that this deposit does not, as previously thought, represent a single ice advance in response to lowered sea

level at the last glacial maximum. The data suggest instead that the Ross Sea Ice Sheet may have grounded and advanced on the coast several times during the last glacial period.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:234 Page(s)

Report Number: WHOI-93-50 ( *WHOI9350* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: NSF-DPP88-17406 ( *NSFDPP8817406* ) , NSF-DPP91-17458 ( *NSFDPP9117458* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Survey of Laboratories and Implementation of the Federal Defense Laboratory Diversification Program. Annex D. Ballistic Missile Defense Organization Technology Transition Program

PDF URL: (pdf) - 968 KB -

Accession Number: ADA277794

Corporate Author: OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND  
ENGINEERING WASHINGTON DC

Report Date: Jan 1994

Abstract: ( U ) This Annex discusses a unique technology transition program in one of the Department of Defense's separate operating organizations-the Ballistic Missile Defense Organization (BMDO). BMDO is not a laboratory, nor does it direct any Department of Defense Laboratories. It does, however, use many of the Federal Laboratories, including those in the Department of Defense, in the pursuit of designing and developing a missile defense system. Because it uses all the Department of Defense Services and many of its agencies as technology agents in its defense mission, BMDO has a unique position in the transition of technology from the Defense and other Federal Laboratories. The BMDO technology transition program is also one of the most active and innovative of any Federal technology transition program. The following Annex will describe the BMDO technology transition program through, not only Defense Laboratories, but also the other Federal Laboratories and research organizations in the BMDO research team. It will also briefly document the types of success stories that a pro- active Federal technology transition program can anticipate when applied as we believe the Congress intended. Data included in this Annex is correct as of October 1993.

Abstract Classification:Unclassified

Pages:19 Page(s)

Report Number: XD - ODDRE ( XD )

Monitor Series: ODDRE

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 1994 Technology Applications Report

PDF URL: (pdf) - 13 MB -

Accession Number: ADA339074

Corporate Author: BALLISTIC MISSILE DEFENSE ORGANIZATION WASHINGTON DC

Report Date: Jan 1994



Abstract: ( U ) Nineteen ninety-four was a year of accomplishment for the Ballistic Missile Defense Organization (BMDO). Our Clementine satellite thrilled the nation and inspired the aerospace community with its multispectral images of the moon's surface, viewable daily on any personal computer linked to the Internet. Clementine tested 2 dozen advanced BMDO technologies in deep space, and she was launched in less than 2 years for an unfathomable \$75 million. Also, the Delta Clipper Experiment showcased BMDO's single-stage-to-orbit technology with a second successful demonstration of vertical takeoff and landing. As this publication will attest, however, BMDO has continued to exploit these and many other technological successes for their commercial as well as military value. The aggressive technology transfer program that we began in 1986 drives our investment strategy to consider the market and military application of our research at the start of every endeavor.

Abstract Classification:Unclassified

Pages:94 Page(s)

Report Number: XD - BMDO ( XD )

Monitor Series: BMDO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology Applications Report 1993

PDF URL: (pdf) - 11 MB -

Accession Number: ADA338640

Corporate Author: BALLISTIC MISSILE DEFENSE ORGANIZATION WASHINGTON DC

Report Date: 01 Jan 1994

Abstract: ( U ) The United States is now selling products and services in a global economy that is dynamic, complex, and increasingly competitive. To maintain U.S. prestige as a world-class innovator, American business leaders and entrepreneurs must manufacture the highest quality products at competitive prices. The Ballistic Missile Defense Organization (BMDO) recognizes

that one of the most efficient ways to incorporate innovation into the nation's economy is to transfer federal technology - developed by matchless expertise - into American businesses. BMDO's Technology Applications program has been a leader in federal technology transfer for seven years, and to solidify our leadership we recently formed a new partnership with the National Technology Transfer Center (NTTC). Under this agreement, the NTTC will operate the Technology Applications Information System, our on-line database, and provide other technology transfer and commercialization Support, including many of the activities described in this report. Some technologies discussed in this report include: microelectronics, optoelectronics, optics, manufacturing, health, materials, energy and assorted spinoffs.

Abstract Classification:Unclassified

Pages:85 Page(s)

Report Number: XD - BMDO ( XD )

Monitor Series: BMDO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Greening of Global Security: The U.S. Military and International Environmental Security

PDF URL: (pdf) - 3 MB -

Accession Number: ADA277754

Personal Author(s): Carr, Roberta B

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: 16 Dec 1993

Abstract: ( U ) This thesis examines the roles and missions of the U.S. military, and compares them to potential international environmental conflicts. Five specific environmental issues are examined in detail: deforestation, fresh water, nuclear contamination, overpopulation, and ecological terrorism. Ten U.S. military roles are also examined in detail: communications, interdiction, enforcement, education and training, assistance, leadership, warfighting, surveillance, intelligence, and deterrence. Analysis reveals that the U.S. military can play a support role in the majority of the environmental conflict issues. Use of force roles apply to fewer of the environmental issues. The U.S. military's primary use of force role of warfighting applies only to one environmental issue. Environmental security, National security, Roles and missions, Environmental degradation, Military and the environment.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:91 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Strategic Environmental Research & Development Program (SERDP): Phase I and Phase II Strategic Investment Plans FY 1992 and Interim Status Report of the Council.

PDF URL: (pdf) - 17 MB -

Accession Number: ADA348708

Corporate Author: LABAT-ANDERSON INC ARLINGTON VA

Report Date: Oct 1993

Abstract: ( U ) The SERDP efforts in FY91/92 emphasize assessing the state of the global atmospheric and ocean environments; the effectiveness of clean-up technologies for hazardous

waste materials; the approach to minimize, treat, and dispose of hazardous waste; and methods for assessing hazards in existing and restored areas.

Abstract Classification:Unclassified

Descriptive Note: Interim rept.,

Pages:381 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

Contract/Grant/Transfer Number: DAAA21-90-D-1015 ( DAAA2190D1015 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the International Congress (12th), Corrosion Control for Low-Cost Reliability, Held in Houston, Texas on September 19 -24, 1993. Volume 1. Coatings

PDF URL: (pdf) - 27 MB -

Accession Number: ADA273661

Corporate Author: NATIONAL ASSOCIATION OF CORROSION ENGINEERS HOUSTON TX

Report Date: 24 Sep 1993

Abstract: ( U ) Topics presented include the following: (1) Coatings on steel; (2) Coatings; (3) Metallic coating and surface treatments; and Non-metallic coatings on steel substrates.

Abstract Classification:Unclassified

Pages:551 Page(s)

Report Number: XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Personnel Attrition Rates in Historical Land Combat Operations: A Catalog of Attrition and Casualty Data Bases on Diskettes Usable with Personal Computers

PDF URL: (pdf) - 7 MB -

Accession Number: ADA279069

Personal Author(s): Helmbold, Robert L

Corporate Author: ARMY CONCEPTS ANALYSIS AGENCY BETHESDA MD

Report Date: Sep 1993

Abstract: ( U ) This paper provides a catalog and guide to the principal data bases on personnel casualties and attrition that are available on diskettes for use with personal computers. It will be of considerable value to all who use personnel casualty and attrition data in studies and analyses, weapons evaluation, wargames and simulations, model validation, assessing the utility of protective measures, and so forth

Abstract Classification:Unclassified

Descriptive Note: Research paper Mar-Sep 1993

Pages:176 Page(s)

Report Number: CAA-RP-93-4 ( *CAARP934* ) , XA - CAA ( *XA* )

Monitor Series: CAA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ONRASIA Scientific Information Bulletin. Volume 8, Number 3, July- September 1993

PDF URL: (pdf) - 10 MB -

Accession Number: ADA271584

Personal Author(s): Yamamoto, Sachio ; Barron, Irene

Corporate Author: OFFICE OF NAVAL RESEARCH ASIAN OFFICE APO SAN FRANCISCO 96503

Report Date: Sep 1993

Abstract: ( U ) This is a quarterly publication presenting articles covering recent developments in Far Eastern (particularly Japanese) scientific research. It is hoped that these reports (which do not constitute part of the scientific literature) will prove to be of value to scientists by providing items of interest well in advance of the usual scientific publications. The articles are written primarily by members of the staff of ONRASIA, with certain reports also being contributed by visiting stateside scientists. Occasionally, a regional scientist will be invited to submit an article covering his own work, considered to be of special interest. This publication is approved for official dissemination of technical and scientific information of interest to the Defense research community and the scientific community at large. It is available free of charge to approved members of the DoD scientific community. Send written request describing DoD affiliation to: Director, Office of Naval Research, Asian Office, Unit 45002, APO AP 96337-0007. Apertos, Hyperbaric medicine unit, Fuzzy hierarchical control, Cold-fusion research, dBase, Numerical linear algebra.

Abstract Classification:Unclassified

Pages:130 Page(s)

Report Number: XB - ONRASIA ( XB )

Monitor Series: ONRASIA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Development of a Modified Betatron Accelerator

PDF URL: (pdf) - 3 MB -

Accession Number: ADA269610

Personal Author(s): Marsh, Spencer ; Smith, Kevin ; Krafzig, Steve ; Seto, Lloyd

Corporate Author: SFA INC LANDOVER MD

Report Date: Aug 1993

Abstract: ( U ) Under contract NOOO14-89-C-2265, SFA provided support to the Naval Research Laboratory Beam Physics Branch by researching and developing the Modified Betatron. This branch is engaged in research and development of compact, high-power accelerators and their applications. The major research emphasis is on high-current, cyclic accelerators, such as the modified betatron located at NRL in Washington, DC. In a betatron, electrons are accelerated to high energies by an electric field. Particular applications of interest include intense coherent radiation sources and beam propagation. SFA has supported the Beam Physics Branch for 12 years. Under multiple tasks, SFA technical personnel have engineered, designed, fabricated, installed, and tested special-purpose equipment, components, and instruments for conducting various research projects to improve the capabilities of compact accelerators. This engineering and development work is performed in close collaboration with

the experimental effort to ensure compatibility, optimal function, and effective use of government equipment and facilities.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 13 Sep 1989-12 Jun 1993

Pages:56 Page(s)

Report Number: SFA--93/007 ( *SFA93007* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-89-C-2265 ( *N0001489C2265* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Europe/International

PDF URL: (pdf) - 5 MB -

Accession Number: ADA354717

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 21 Jul 1993

Abstract: ( U ) This report contains articles on Science and Technology in Europe.

Abstract Classification:Unclassified

Pages:58 Page(s)

Report Number: JPRS-EST-93-023 ( *JPRSEST93023* ) , XJ - XD ( *XJ* )

Monitor Series: XD



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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Brightness and Current Limitations in Intense Charged Particle Beams

PDF URL: (pdf) - 3 MB -

Accession Number: ADA268283

Personal Author(s): Reiser, M ; Guharay, S

Corporate Author: MARYLAND UNIV COLLEGE PARK LAB FOR PLASMA RESEARCH

Report Date: 30 Jun 1993

Abstract: ( U ) Over the past several years of ONR support for our research program we have mainly studied the various schemes for intense, high-brightness H(-) beam transport and focusing in the context of its application in space defense. Detailed theoretical studies revealed that the conventional gas focusing system is not suitable as a low-energy beam transport (LEBT) system and also that there are too many unknown parameters to model accurately the behavior of partially charge-neutralized particle beams. We concluded that the electrostatic quadrupole lens system will be a good choice. We have developed a large number of simulation codes and also accessed into the existing codes in the accelerator community (e.g., PARMILA, SNOW-2D, PARMTEQ, etc.) to strengthen our analysis. During the 1992-93 contract period we focused our attention to the experimental activities on H(-) beam characterization and on the installation of a LEBT system for beam transport experiments. We have simultaneously improved our code by incorporating many practical features that we encountered during the analysis of experimental data. We have studied H(-) beams from two types of ion sources: a volume ionization type and a magnetron type source. One of the major problems in this work is to transform a highly diverging beam from the source into a highly converging one so that the output beam from the LEBT can be matched into the acceptance ellipse of an RFQ. Furthermore, the emittance budget is quite restricted.

Abstract Classification:Unclassified

Descriptive Note: Progress rept. 1 Jul 92-30 Jun 93,

Pages:88 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-90-J-1913 ( *N0001490J1913* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Mental Health in Corrections Symposium (1993) Held in Kansas City, Missouri on June 9 - 11, 1993

PDF URL: (pdf) - 14 MB -

Accession Number: ADA266526

Corporate Author: DEPARTMENT OF JUSTICE WASHINGTON DC

Report Date: 11 Jun 1993

Pages:325 Page(s)

Report Number: XJ - DOJ ( *XJ* )

Monitor Series: DOJ

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactivity and Environmental Security in the Oceans: New Research and Policy Priorities in the Arctic and North Atlantic

PDF URL: (pdf) - 34 MB -

Accession Number: ADA279423

Personal Author(s): Pfirman, Stephanie ; Garrett, Christopher ; Adushkin, Vitaly ; Baskaran, M ; Denner, Warren W ; Foyn, Lars ; Baxter, Murdoch ; Curtis, William R ; Barsegov, Yuriy G ; Chircop, Aldo ; Veksler, Michael

Corporate Author: WOODS HOLE OCEANOGRAPHIC INSTITUTION MA

Report Date: 09 Jun 1993

Abstract: ( U ) Inventory: Routes, Rates and Reactions, Assessment and Remediation, legal, economic and policy priorities.

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings 7-9 Jun 1993

Pages:663 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Dual-Use Applications of Infrared Sensitive Materials: Appendices

PDF URL: (pdf) - 15 MB -

Accession Number: ADA275212

Personal Author(s): Blechman, Barry M ; Lush, Scott C

Corporate Author: DEFENSE FORECASTS INC WASHINGTON DC

Report Date: Jun 1993

Abstract: ( U ) High performance infrared focal plane arrays made from sensitive materials such as mercury cadmium telluride grown on a substrate of cadmium zinc telluride have been proposed for use in an extensive variety of military equipment for over a decade, ranging from early-warning satellites to missile seekers. In this report, we describe and quantify the potential dual-use markets for such detectors.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:501 Page(s)

Report Number: XD - DARPA ( XD )

Monitor Series: DARPA

Contract/Grant/Transfer Number: MDA972-91-C-0046 ( MDA97291C0046 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the International Workshop on Multistrategy Learning (2nd) Held in Harpers Ferry, West Virginia on May 26-29, 1993

PDF URL: (pdf) - 23 MB -

Accession Number: ADA282947

Personal Author(s): Michalski, Ryszard S ; Tecuci, Gheorghe

Corporate Author: GEORGE MASON UNIV FAIRFAX VA

Report Date: 26 May 1993

Abstract: ( U ) This volume contains the papers accepted for presentation at the Second International Workshop on Multistrategy Learning (briefly, MSL-93), held in Harpers Ferry, WV, May 26-29, 1993. The workshop was sponsored by the Office of Naval Research and organized by the Center for Artificial Intelligence at George Mason University

Abstract Classification:Unclassified

Pages:322 Page(s)

Report Number: MSL-93 ( *MSL93* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0060 ( *N000149310060* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1993 Particle Accelerator Conference Held in Washington, DC on May 17-20, 1993. Volume 3

PDF URL: (pdf) - 82 MB -

Accession Number: ADA280384

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 20 May 1993

Pages:975 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0623 ( N000149310623 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1993 Particle Accelerator Conference Held in Washington, DC on May 17-20, 1993. Volume 2

PDF URL: (pdf) - 77 MB -

Accession Number: ADA280383

Personal Author(s): Dylla, H F ; Poirier, R L ; Proch, D ; Moffat, D ; Bridges, J F

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 20 May 1993

Abstract: ( U ) Operating experience with high beta superconducting rf cavities; perpendicular biased ferrite-tuned cavities; srf cavities for future applications; preparation and testing of a superconducting cavity for CESR-B; high power operation of a single-cell 352 MHz cavity for the advanced photon source (APS)...

Abstract Classification:Unclassified

Descriptive Note: Confernece proceedings

Pages:959 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0623 ( N000149310623 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 1993 Particle Accelerator Conference Held in Washington, DC on May 17-20, 1993. Volume 1

PDF URL: (pdf) - 69 MB -

Accession Number: ADA280382

Personal Author(s): Wiik, B H ; Lee, S Y ; Raubenheimer, T O ; Scandale, W ; Palkovic, John A ; Weisz, S ; Caussyn, D D ; Akchurin, N ; Shan, J P

Corporate Author: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC  
PISCATAWAY NJ

Report Date: 20 May 1993

Abstract: ( U ) HERA Operations and Physics; Nonlinear Beam Dynamics Experiments at the IUCF Cooler Ring; The Preservation of Low Emittance Flat Beams; Long-Term Stability Studies for CERN-LHC; Emittance Growth in a Low Energy Proton Beam; Proton extraction from the CERN-SPS by a bent crystal; Longitudinal Tracking with Phase and Amplitude Modulator RF; Measurement of Spin Motions in a Storage Ring Outside the Stable Polarisation Direction; A clean way to measure nonlinear momentum compaction factor

Abstract Classification:Unclassified

Descriptive Note: Conference proceedings, 17-20 May 1993

Pages:815 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0623 ( N000149310623 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Defense Conversion Redirecting R and D

PDF URL: (pdf) - 19 MB -

Accession Number: ADA269029

Corporate Author: OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC



Report Date: May 1993

Abstract: ( U ) Defense conversion means finding productive civilian uses for the resources and people formerly devoted to the Nation's defense. Channeling the savings from reduced defense R and D to civilian R and D is, of course, only one option for using the peace dividend. There are many others, including deficit reduction. This Report examines opportunities to advance civilian technologies and improve U.S. industrial competitiveness internationally by redirecting research and development from defense to dual-use or civilian purposes. The Report has two parts. Part One analyzes how R and D institutions currently pursuing defense missions could be more responsive and useful to civilian technology development. Defense R and D has historically dominated government R and D, and it will continue to do so even with reduced funding. However, there are opportunities to use a growing portion of the resources and talents of the defense research infrastructure for civilian technology development. The Report focuses particularly on the Department of Energy's (DOE's) three nuclear weapons laboratories, Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories. These labs are very large, with combined operating budgets of \$3.4 billion and more than 24,000 employees. More than other defense- related R and D institutions, these labs are under heavy pressure to devote greater resources to civilian technologies, largely through cooperative research and development agreements (CRADAs) with industry. In the short term, DOE needs an improved process for initiating CRADAs in order to be responsive to industry's surprisingly large demand for shared R and D with the defense labs

Abstract Classification:Unclassified

Pages:243 Page(s)

Report Number: XJ - OTA ( XJ )

Monitor Series: OTA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Lectures in Complex Systems, (1992). Volume 5

PDF URL: (pdf) - 34 MB -

Accession Number: ADA275458

Personal Author(s): Nadel, Lynn ; Stein, Daniel L

Corporate Author: SANTA FE INST NM

Report Date: May 1993

Abstract: ( U ) The Complex Systems Summer School focuses on developing techniques for measuring and analyzing complex behavior, and applying these techniques to the study of a limited number of specific mathematical, physical, and living systems. The 1992 summer school consisted of approximately twelve short courses together with a number of seminars on selected topics, and took place over a period of four weeks. Topics covered include chaos, computational and algorithmic complexity, neural nets and computational neurobiology, parallel models in cognition, stochastic processes in physical and biological systems and pattern formation in biological systems. An important component of the schools is the publication of the complete set of lecture notes in book form, the purpose of which is to provide students and researchers in the general scientific community with an overview of the emerging concepts of complex behavior, and their applications to specific systems.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Apr 1992-31 Mar 1993

Pages:688 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-92-J-1455 ( N0001492J1455 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology China: Energy

PDF URL: (pdf) - 2 MB -

Accession Number: ADA357469

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Apr 1993

Pages:32 Page(s)

Report Number: JPRS-CEN-93-004 ( *JPRSCEN93004* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Defense Nuclear Agency Fiscal Year 1994 Program Document. Research, Development, Test and Evaluation, Defense Agencies. (Supports Congressional Budget Estimates) April 1993

PDF URL: (pdf) - 2 MB -

Accession Number: ADA264197

Corporate Author: DEFENSE NUCLEAR AGENCY WASHINGTON DC

Report Date: Apr 1993

Pages:36 Page(s)

Report Number: XD - DNA ( XD )

Monitor Series: DNA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Image Understanding Workshop. Proceedings of a Workshop (22nd) Held in Washington, D.C. on April 18-21, 1993

PDF URL: (pdf) - 93 MB -

Accession Number: ADA279914

Corporate Author: DEFENSE ADVANCED RESEARCH PROJECTS AGENCY ARLINGTON VA

Report Date: Apr 1993

Pages:1111 Page(s)

Report Number: XD - DARPA ( XD )

Monitor Series: DARPA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Office of the Secretary of Defense Research, Development Test and Evaluation, Development and Test Evaluation, Defense, Director of Operational Test and Evaluation Defense, FY 1994 Budget Estimates, Justification of Estimates Submitted to Congress April 1993

PDF URL: (pdf) - 47 MB -

Accession Number: ADA265125

Corporate Author: OFFICE OF THE SECRETARY OF DEFENSE WASHINGTON DC

Report Date: Apr 1993

Pages:940 Page(s)

Report Number: XD - OSD ( XD )

Monitor Series: OSD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ONRASIA Scientific Information Bulletin, Volume 18 Number 1, January - March 1993,

PDF URL: (pdf) - 10 MB -

Accession Number: ADA262882

Personal Author(s): Yamamoto, Sachio ; Barron, Irene

Corporate Author: OFFICE OF NAVAL RESEARCH ASIAN OFFICE APO SAN FRANCISCO 96503

Report Date: Mar 1993

Abstract: ( U ) This is a quarterly publication presenting articles covering recent developments in Far Eastern (particularly Japanese) scientific research. It is hoped that these reports (which do not constitute part of the scientific literature) will prove to be of value to scientists by providing items of interest well in advance of the usual scientific publications. The articles are written primarily by members of the staff of ONRASIA, with certain reports also being contributed by visiting stateside scientists. Occasionally, a regional scientist will be invited to submit an article covering his own work, considered to be of special interest. This publication is approved for official dissemination of technical and scientific information of interest to the Defense research community and the scientific community at large.

Abstract Classification:Unclassified

Pages:126 Page(s)

Report Number: NAVSO-P-3580 ( *NAVSOP3580* ) , XB - ONRASIA ( *XB* )

Monitor Series: ONRASIA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cosmogenic <sup>32</sup>P and <sup>33</sup>P in the Atmosphere and Oligotrophic Ocean and Applications to the Study of Phosphorus Cycling

PDF URL: (pdf) - 6 MB -

Accession Number: ADA279438

Personal Author(s): Waser, Nathalie A

Corporate Author: WOODS HOLE OCEANOGRAPHIC INSTITUTION MA DEPT OF  
APPLIED OCEAN PHYSICS AND ENGINEERING

Report Date: Feb 1993

Abstract: ( U ) Cosmogenic  $^{32}\text{P}$  (14.28 days) and  $^{33}\text{P}$  (25.3 days) are powerful tracers of upper ocean P cycling, when coupled with time-series of the atmospheric sources. A method was developed to determine the low-level beta activities in rainwater and plankton. The wet deposition rates of  $^{32}\text{P}$  and  $^{33}\text{P}$  were determined during 12 months at a marine site, at Bermuda, coinciding with measurements of the activities and activity ratio  $^{33}\text{P}/^{32}\text{P}$  in suspended particles and plankton tows at BATS station. The in situ production rates of radiophosphorus in the upper ocean were estimated by measuring the activities induced in Cl, K and S targets by cosmic rays. Knowledge of all the sources of radiophosphorus to the Sargasso Sea allowed the cycling of  $^{32}\text{P}$  and  $^{33}\text{P}$  in suspended particles and macro-zooplankton to be studied. The study was based on the determination of the activity ratio  $^{33}\text{P}/^{32}\text{P}$  in different particulate pools. The activity ratio was higher in particle collections dominated by higher levels in the food web. The increase in the ratio in plankton relative to rain allowed the determination of the turnover times of P in plankton and in situ grazing rates. Cosmogenic, Phosphorus, Nutrient cycling

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:157 Page(s)

Report Number: WHOI-93-16 ( *WHOI9316* ) , XJ - NSF ( *XJ* )

Monitor Series: NSF

Contract/Grant/Transfer Number: NSF-OCE-9022284 ( *NSFOCE9022284* ) , NSF-OCE-8817836 ( *NSFOCE8817836* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Verification of Dismantlement of Nuclear Warheads and Controls on Nuclear Materials

PDF URL: (pdf) - 4 MB -

Accession Number: ADA261678

Personal Author(s): Drell, S ; Callan, C ; Cornwall, J ; Dyson, F ; Eardley, D

Corporate Author: MITRE CORP MCLEAN VA JASON PROGRAM OFFICE

Report Date: 12 Jan 1993

Abstract: ( U ) This study addresses the question of verification of future agreements with respect to dismantlement and destruction of nuclear warheads, bans on the production of additional quantities of plutonium (Pu) and highly enriched uranium (HEU) for nuclear weapons, and agreements on the end-use or ultimate disposal of special nuclear materials (SNM) (i.e., Pu and HEU from warhead dismantlement). The authors consider national technical means (NTM) both as a stand-alone means for monitoring and also in conjunction with aerial overflights (open skies) and other cooperative technologies and procedures.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:121 Page(s)

Report Number: JSR-92-331 ( *JSR92331* ) , XD - DOD ( *XD* )

Monitor Series: DOD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Industry Study Report 1992-1993



PDF URL: (pdf) - 26 MB -

Accession Number: ADA274553

Corporate Author: INDUSTRIAL COLL OF THE ARMED FORCES WASHINGTON DC

Report Date: Jan 1993

Abstract: ( U ) The Industry Studies Program of the Industrial College of the Armed Forces analyzes selected industries to assess their ability to provide the weapons, products, and services that are required both now and in the future. Sixteen committees of students were formed to study industries that play major roles in defense production. Each committee investigated a vital industry and analyzed its composition, structure, operations, management techniques, economic health, business objectives and strategies, and its current trends and problems. From this survey, an assessment was made of the ability of the industry as a whole to meet the requirements of a national mobilization and its state of readiness to surge production for the armed forces. During the course of its study, each committee interviewed leaders of its industry, held seminars with supporters and critics, conducted individual research, traveled to domestic and foreign industry plants and facilities, and drew heavily upon the experience of the members. The written report of each committee follows this introduction. Taken together, these assessments give a topical look at the industrial mobilization base of the United States as it exists, a view of the world-wide industrial base and provide a summary view of the major problems faced by the industries we consider to be crucial to the defense of the nation

Abstract Classification:Unclassified

Pages:443 Page(s)

Report Number: XD - ICAF ( XD )

Monitor Series: ICAF

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Learning To Recognize Visual Concepts: Development and Implementation of a Method for Texture Concept Acquisition Through Inductive Learning

PDF URL: (pdf) - 8 MB -

Accession Number: ADA530266

Personal Author(s): Bala, Jerzy W

Corporate Author: GEORGE MASON UNIV FAIRFAX VA

Report Date: Jan 1993

Abstract: ( U ) The goal of this research is to explore the application of symbolic learning methods to problems of computer vision. The research presented in this thesis has been concerned primarily with the development of methods for inductive learning of texture descriptions. Texture description learning is done in the following phases: (i) data pre-processing and attribute extraction, (ii) acquisition of texture concept descriptions, (iii) optimization of acquired descriptions, and (iv) recognition of unknown texture samples. The methodology adapted to the acquisition and recognition of complex vision data is based on an extension of AQ [Michalski, 1986], a learning from-examples algorithm. This approach for inductive learning of texture descriptions was originally proposed by Michalski [1973] and was initially applied using ILL IAC III image recognition computer facilities. This research presents a novel extension to the initial approach, which is called Multilevel Logical Templates. The novelty lies in multilevel symbolic image transformations, new advanced concept description optimization methods for noise-tolerant learning, and a multistrategy approach to learning from vision data. An important contribution of the research is the experimental demonstration that symbolic inductive learning methods can be successfully applied to the domain of continuous attributes of low level vision in which non symbolic methods have been traditionally employed.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:128 Page(s)

Report Number: MLI-93 ( *MLI93* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-91-J-1854 ( *N0001491J1854* ) , N00014-88-K-0397 ( *N0001488K0397* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Science Notes Information Bulletin. Reports on Current European and Middle Eastern Science

PDF URL: (pdf) - 6 MB -

Accession Number: ADA266495

Corporate Author: OFFICE OF NAVAL RESEARCH EUROPEAN OFFICE FPO AE 09499-0700

Report Date: Jan 1993

Pages:70 Page(s)

Report Number: ONREUR-ESNIB-93-04 ( *ONREURES**NIB9304* ) , NAVSO-P-3678 ( *NAVSOP3678* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) LDEF- 69 Months in Space: Second Post-Retrieval Symposium, Part 1

PDF URL: (pdf) - 16 MB -

Accession Number: ADA338729

Personal Author(s): Levine, Arlene S

Corporate Author: NATIONAL AERONAUTICS AND SPACE ADMIN LANGLEY  
RESEARCH CENTER HAMPTON VA

Report Date: 01 Jan 1993

Abstract: ( U ) This document is a compilation of papers presented at the Second Long Duration Exposure Facility (LDEF) Post-Retrieval Symposium, June 1-5, 1992, San Diego, CA Co-sponsored by LDEF Science Office NASA and AIAA. The papers represent the data analyses of the 57 experiments flown on the LDEF. The experiments include materials, coatings, thermal systems, power and propulsion, science (cosmic ray, interstellar gas, heavy ions, micrometeoroid, etc.,) electronics, optics, and life science.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:278 Page(s)

Report Number: NASA-L-CONF PUB-3194-PT-1 ( *NASALCONFPUB3194PT1* ) , NASA - CP-3134-PT-1 NASA ( *NASACP3134PT1* ) , XG - CP-3134-PT-1 NASA ( *XGCP3134PT1* )

Monitor Series: CP-3134-PT-1 ( *CP3134PT1* ) , NASA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology. Europe: Economic Competitiveness

PDF URL: (pdf) - 5 MB -

Accession Number: ADA344115

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Dec 1992

Abstract: ( U ) This report contains translations/transcriptions of articles and/or broadcasts on economic competitiveness in Europe. Titles include: Austrian Programs to Promote Technology Viewed; France: Reduction in Number of Electronics Patents Recorded; EC, Political Leaders at Impasse Over R&D Funding; German Research Ministry Announces Molecular Bioinformatics Program; Daimler-Benz Group Announces Defense-Related Cutbacks; Swedish Ericsson to Supply Mobile Phone System to Romania; and others.

Abstract Classification:Unclassified

Pages:61 Page(s)

Report Number: JPRS-EST-92-037 ( *JPRSEST92037* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Quantum Coherence and Reality: International Conference on Fundamental Aspects of Quantum Theory Held in Columbia, South Carolina on December 10-12, 1992

PDF URL: (pdf) - 13 MB -

Accession Number: ADA286800

Personal Author(s): Anandan, Jeeva S ; Safko, John L

Corporate Author: SOUTH CAROLINA UNIV COLUMBIA DEPT OF PHYSICS

Report Date: Dec 1992

Pages:370 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-93-1-0285 ( N000149310285 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Japan, Present Status of Nuclear Energy Development and Utilization in Japan 1992

PDF URL: (pdf) - 1 MB -

Accession Number: ADA334290

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 28 Oct 1992

Abstract: ( U ) Partial contents: Position of Nuclear Energy Development and Utilization in Japan; Japan's Organization for Development and Utilization of Nuclear Energy; Present Status of the Development and Utilization of Nuclear Energy in Japan; Present Status of Nuclear Power Generation in Japan; Trend of nuclear power generation by light-water reactor and other types of reactors; Establishment of a nuclear fuel cycle; Prospects of plutonium utilization; Promotion of Nuclear Research and Development; Promotion of nuclear fusion research and development; Present status of radiation application; High temperature engineering testing and research.

Abstract Classification:Unclassified

Pages:31 Page(s)

Report Number: JPRS-JST-92-030 ( JPRSJST92030 ) , XJ - XD ( XJ )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Clinical Investigation Program Report

PDF URL: (pdf) - 7 MB -

Accession Number: ADA259377

Personal Author(s): Plowman, Kent M

Corporate Author: DWIGHT DAVID EISENHOWER ARMY MEDICAL CENTER FORT  
GORDON GA DEPT OF CLINICAL INVESTIGATION

Report Date: 01 Oct 1992

Abstract: ( U ) Subject report identifies the research activities conducted by Dwight David Eisenhower Army Medical Center investigators through protocols approved by the Institutional Review Committee for registration with the Department of Clinical Investigation during Fiscal Year 1992, and other known publications and presentations by the Dwight David Eisenhower Army Medical Center professional staff. A detail sheet of each protocol giving the objective, technical approach, and progress is presented.

Abstract Classification:Unclassified

Descriptive Note: Annual FY 92 rept. 1 Oct 91-30 Sep 92,

Pages:226 Page(s)

Report Number: XA - HCSCIA ( XA )

Monitor Series: HCSCIA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Wide Band-Gap Semiconductors. 1991 Materials Research Society Symposium Proceedings

PDF URL: (pdf) - 31 MB -

Accession Number: ADA263418

Personal Author(s): Ballance, John

Corporate Author: MATERIALS RESEARCH SOCIETY PITTSBURGH PA

Report Date: Sep 1992

Abstract: ( U ) Topics include: Theoretical studies of diamond surface chemistry and diamond-metal interfaces; Growth technique for large area mosaic diamond films; Chemical vapor deposition of diamond films using water:alcohol:organic-acid solutions; Remote ECR plasma deposition of diamond thin films from water- methanol mixtures; Deposition of flame grown diamond films in a controlled atmosphere; Sequential growth of high quality diamond films from hydrocarbon and hydrogen gases; Diamond growth from sputtered atomic carbon and hydrogen gas; The CVD diamond nucleation mechanism on Si overlaid with sp<sup>2</sup> carbon; and investigation into the use of a diffusion barrier in microwave plasma assisted chemical vapor deposition of diamond on iron based substrates; Selective nucleation of diamond crystals on the apex of silicon pyramids; and Effect of laser irradiation on carbon-implanted copper substrates.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Sep 1991-14 Sep 1992

Pages:771 Page(s)

Report Number: AFOSR - TR-93-0180 AFOSR ( *AFOSRTR930180* ) , XC - TR-93-0180 AFOSR ( *XCTR930180* )

Monitor Series: TR-93-0180 ( *TR930180* ) , AFOSR



Contract/Grant/Transfer Number: AFOSR-91-0411 ( *AFOSR910411* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology Applications Report.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA338812

Corporate Author: STRATEGIC DEFENSE INITIATIVE ORGANIZATION WASHINGTON DC

Report Date: 01 Aug 1992

Abstract: ( U ) By creating new products, improving existing products, and making manufacturing processes more efficient, new technologies can improve our standard-of-living and create or save millions of jobs. Without technological advances, America will face economic stagnation as the rest of the world races to gain new markets. As a result, the United States needs a continuous flow of new inventions and process refinements to fuel its economic engine. And when business is looking for technological innovations, the Strategic Defense Initiative (SDI) can provide some of that fuel. Each year, as SDI research and development programs mature from basic research to product identification, more and more SDI-sponsored technologies are getting ready to enter the marketplace. Examples abound, with more than 50 technologies highlighted in this year's report alone. But while the technology exists, SDI and industry must work together to commercialize it. Private companies need to know what technologies SDI has before they can use them, and SDI is making sure they can find out. The SDI Organization's (SDIO's) Office of Technology Applications runs an on line database, the Technology Applications Information System (TAIS), that is open to American corporations and citizens free-of- charge. The database contains nearly 2,000 abstracts of SDI-funded technologies, and is continually updated and expanded to include new developments in SDI research. By requesting more information on a technology, the TAIS refers users to the SDI researchers involved with the technology. This first-hand access to a technical expert helps users commercialize the research (see the conclusion of this report for information about how to become a TAIS user).

Abstract Classification:Unclassified

Pages:73 Page(s)

Report Number: XO - SDIO ( *XO* )

Monitor Series: SDIO

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Central Eurasia: Materials Science

PDF URL: (pdf) - 4 MB -

Accession Number: ADA335341

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 30 Jun 1992

Abstract: ( U ) Partial Contents: (1) Analysis and Testing; (2) Coatings; (3) Corrosion; (4) Ferrous Metals; (5) Nonferrous Metals, Alloys, Brazes and Solders; (6) Nonmetallic Materials. This is report of Science & Technology Central Eurasia: Materials Science.

Abstract Classification:Unclassified

Pages:41 Page(s)

Report Number: JPRS-UMS-92-010 ( *JPRSUMS92010* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report China

PDF URL: (pdf) - 8 MB -

Accession Number: ADA334741

Corporate Author: NATIONAL TECHNICAL INFORMATION SERVICE SPRINGFIELD VA

Report Date: 29 Jun 1992

Abstract: ( U ) CONTENTS; Political; Economic - General, Soviet Union, Southeast Asia & Pacific, Agriculture; Social; Regional - Central-South, North region, Northwest region; Taiwan; Hong Kong, Macao.

Abstract Classification:Unclassified

Pages:81 Page(s)

Report Number: JPRS-CAR-92-045 ( *JPRSCAR92045* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) IRP Stage 2 Remedial Investigation/Feasibility Study, Appendices A through K and M through R, for BOMARC Missile Site, McGuire AFB, New Jersey.

PDF URL: (pdf) - 26 MB -

Accession Number: ADA257831

Personal Author(s): Watts, Phillip ; Collins, Donna

Corporate Author: EARTH TECHNOLOGY CORP ALEXANDRIA VA

Report Date: 26 May 1992

Abstract: ( U ) This document contains appendices to the final RI/FS report for the BOMARC Missile Site, McGuire AFB, New Jersey. The BOMARC site became contaminated in 1960 as the result of a fire which partially consumed a nuclear warhead-equipped BOMARC missile. The purpose of the RI/FS report is to document the extent and magnitude of environmental contamination at the site, to assess risks to human health and the environment, to determine the need for site remediation, and to evaluate feasible remedial alternatives. The appendices include borehole logs, analytical data, modeling information, etc.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Nov 1989-May 1992,

Pages:666 Page(s)

Report Number: XC - MAC ( XC )

Monitor Series: MAC

Contract/Grant/Transfer Number: F33615-90-D-4007 ( F3361590D4007 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The KRAKEN Normal Mode Program

PDF URL: (pdf) - 6 MB -

Accession Number: ADA252409

Personal Author(s): Porter, M B

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 22 May 1992

Abstract: ( U ) In the late 1970's several normal-mode models existed which were widely used for predicting acoustic transmission-loss in the ocean; however, each had its own problems. Typical difficulties included numerical instabilities for certain types of sound-speed profiles and failures to compute a complete set of ocean modes. In short, there was a need for a model that was robust, accurate, and efficient. In order to resolve these problems a new algorithm was developed forming the basis for the KRAKEN normal mode model. Over subsequent years, KRAKEN was greatly extended, with options for modeling ocean environments that are range-independent, range-dependent or fully 3-dimensional. The current version offers a specialist a vast number of options for treating ocean-acoustics problems (or more generally acousto-elastic waveguides). On the other hand, it is easy for a less sophisticated user to learn the small subset of tools needed for the common problem of transmission-loss modeling in range-independent ocean environments. This report addresses the need for a more complete user's guide to supplement the on-line help files. The first chapters give a fairly technical description of the mathematical and numerical basis of the model. Additional chapters give a simpler description of its use and installation in a manner that is accessible to less scientifically-oriented readers.

Abstract Classification:Unclassified

Descriptive Note: Memorandum rept.,

Pages:198 Page(s)

Report Number: NRL/MR/5120-92-6920 ( *NRLMR5120926920* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Programme and Abstracts. Workshop on Expert Evaluation and Control of Compound Semiconductor Materials and Technologies (1st) Held in Ecole Centrale De Lyon, France on 19 -22 May 1992. (EXAMTEC' 92)

PDF URL: (pdf) - 6 MB -

Accession Number: ADA254023

Personal Author(s): Krawczyk, S K

Corporate Author: ECOLE CENTRALE DE LYON ECULLY (FRANCE)

Report Date: 22 May 1992

Abstract: ( U ) This workshop included the following topics: Performance and reliability of micro-optoelectronic devices in connection with material properties and process conditions. Material Related Issues and Their Characterization in View of III-V Heterojunction Device Optimization; Material Problems for the Development of InGaAs/InAlAs HEMTs Technology; Theoretical and Experimental Study of Failure Mechanisms in RF Reliability Life Tested HEMTs; A Study of Detrimental Transient Effects in GaAs HEMTs; Relating Micron Wave Mapped Data to Physical Parameters for MODFETs; Performance and reliability of micro-optoelectronic devices in connection with material properties and process conditions; Material Related Reliability Aspects of III-V Optical Devices; A possible Origin of Degradation Mechanisms in AlGaAs/GaAs Laser-Like Structures; Thermal Stability of Pseudomorphic HEMT's; Detailed Process Analysis for Controlling the Yield of GaAs MMIC's Technology; Spatially Resolved Photoluminescence Techniques Applied to the Control of InGaAsP/InP Laser Processing; Growth and characterization of epitaxial structures; Atomic Ordering and Phase Separations in Compound Semiconductors and their Effect on Device Behavior; Improved Device Quality by Strained Layer Epitaxy; II-VI Semiconductor Strained Heterostructures: A Structural Review; and Interface Properties of Strained InGaAs/InP Quantum Wells Grown by LP-MOVPE.

Abstract Classification:Unclassified

Pages:121 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

Contract/Grant/Transfer Number: DAJS45-92-M-0190 ( DAJS4592M0190 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Approaches to Defect Thermochemistry

PDF URL: (pdf) - 13 MB -

Accession Number: ADA254278

Personal Author(s): Van Vechten, James A ; Wager, John F

Corporate Author: OREGON STATE UNIV CORVALLIS DEPT OF ELECTRICAL AND  
COMPUTER ENGINEERING

Report Date: 30 Apr 1992

Abstract: ( U ) We have achieved insight into the role of H in semiconductor crystal growth in processes such as organometallic chemical vapor deposition, OMCVD. If allowed, H will compensate shallow dopants and suppress the formation of other compensators when the Fermi level moves significantly from the intrinsic level at growth or processing temperatures, T. This can be a great advantage because the H can be removed at low T with no rearrangement of other atoms. This has led to the first attainment of good p-type GaN and to improvement of n-type GaN. It should work for any semiconductor. We have improved the thermodynamic analysis of heterojunction band offsets as functions of T and strain. We have done the first fundamental studies of the diffusion equation with boundary conditions appropriate for crystal growth and diffusion and obtained major insights. We devised a simple new experiment to study interstitial impurity diffusion in semiconductors with striking results. We demonstrated that host interstitials play no role in thermal in Si or GaAs and similar low ionicity crystals and have explained the 'U-shaped' profile of transition metal impurities. We have verified that the DX center can be getter out of AlGaAs without reducing donor concentration and studied its properties by various capacitance transient. We have characterized the aging and charge trapping properties of ZnS ACTFEL display materials. We have calculated the entropy of atomic hopping.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Apr 1989-31 Mar 1992

Pages:250 Page(s)

Report Number: AFOSR - TR-92-0782 AFOSR ( *AFOSRTR920782* ) , XC - TR-92-0782 AFOSR ( *XCTR920782* )

Monitor Series: TR-92-0782 ( *TR920782* ) , AFOSR

Contract/Grant/Transfer Number: AFOSR-89-0309 ( *AFOSR890309* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Defects in Semiconductors (16th) Held in Bethlehem, Pennsylvania on 22-26 July 1991

PDF URL: (pdf) - 15 MB -

Accession Number: ADA258035

Personal Author(s): Stavola, M ; DeLeo, G

Corporate Author: LEHIGH UNIV BETHLEHEM PA

Report Date: 30 Apr 1992

Abstract: ( U ) This report consists of the abstracts for the 16th International Conference on Defects in Semiconductors held at Lehigh University, Bethlehem, PA on July 22-26, 1991. Approximately 250 papers were presented. This meeting addressed the fundamental science of imperfection in semiconductor materials. A wide range of defects of both fundamental and technological interest that include native defects, impurities, dislocations, and defects at surfaces and interfaces in variety of semiconductor materials (Si, Ge, diamond, III-V and II- VI compounds, and related alloys) were discussed. Properties of interest included defect structures (atomic and electronic), defect introduction, reactions, motion, electrical and optical



characteristics, etc. The following are a few examples of recent work that is breaking new ground in the field: (1) Oxygen in GaAs has been identify recently and has metastable characteristics. (2) After many years of effort, There has been progress in the doping of II-VI materials.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May 1991-30 Apr 1992

Pages:329 Page(s)

Report Number: LEHIGH-429054 ( *LEHIGH429054* ) , AFOSR - 91-0217 AFOSR ( *AFOSR910217* ) , XC - 91-0217 AFOSR ( *XC910217* )

Monitor Series: 91-0217 ( *910217* ) , AFOSR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Analysis of Systems Hardware Flown on LDEF-Results of the Systems Special Investigation Group

PDF URL: (pdf) - 27 MB -

Accession Number: ADA338845

Personal Author(s): Dursch, H W ; Spear, W S ; Miller, E A ; Bohnhoff-Hlavacek, G L ; Edelman, J

Corporate Author: BOEING DEFENSE AND SPACE GROUP SEATTLE WA

Report Date: Apr 1992

Abstract: ( U ) The Long Duration Exposure Facility (LDEF) was retrieved after spending 69 months in low Earth orbit (LEO). LDEF carried a remarkable variety of mechanical, electrical, thermal, and optical systems, subsystems, and components. The Systems Special Investigation Group (Systems SIG) was formed to investigate the effects of the long term exposure to LEO on

systems related hardware and to coordinate and collate all systems analysis of LDEF hardware. This report discusses the status of the LDEF Systems SIG investigation through the end of 1991.

Abstract Classification:Unclassified

Descriptive Note: Contractor rept.

Pages:308 Page(s)

Report Number: NASA-L - CR-189628 XD ( *NASALCR189628* ) , XG - CR-189628 XD ( *XGCR189628* )

Monitor Series: CR-189628 ( *CR189628* ) , XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High-Level Nuclear Waste Disposal: Policy and Prognosis

PDF URL: (pdf) - 1 MB -

Accession Number: ADA262251

Personal Author(s): Bouton, Jr, Edwin H

Corporate Author: INDUSTRIAL COLL OF THE ARMED FORCES WASHINGTON DC

Report Date: Apr 1992

Abstract: ( U ) Solving the United States' high level nuclear waste disposal dilemma is vital to our energy Independence and economic growth. The issue has been stalled for decades and presently faces enormous political obstacles despite renewed government effort to achieve a solution. Some technical questions persist. however the issue is mainly one of politics. The current course of action, in which the federal government is forcing a state to accept siting of the permanent waste repository. is flawed and politically deadlocked. A better plan would be one in

which the region accepting the repository benefits and thus seeks to host, vice impede, its construction.

Abstract Classification:Unclassified

Descriptive Note: Research rept. Aug 1991-Apr 1992

Pages:44 Page(s)

Report Number: NDU-ICAF-92-S9 ( *NDUICAF92S9* ) , XD - NDU/ICAF ( *XDNDUICAF* )

Monitor Series: NDU/ICAF ( *NDUICAF* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Europe

PDF URL: (pdf) - 10 MB -

Accession Number: ADA344177

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 18 Feb 1992

Abstract: ( U ) The report contains foreign media information on issues related to European Science and Technology. The report began with overviews on industrial applications of advanced materials. The report, in addition, was organized to cover a range of topics dealing with Aerospace technology, automotive industry, biotechnology, computer systems, energy conservation and environmental regulations on emission control, waste recycling, and water quality.

Abstract Classification:Unclassified

Pages:99 Page(s)

Report Number: JPRS-EST-92-005 ( *JPRSEST92005* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report Science and Technology Central Eurasia: Physics and Mathematics

PDF URL: (pdf) - 3 MB -

Accession Number: ADA334587

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 15 Jan 1992

Abstract: ( U ) Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal names and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Abstract Classification:Unclassified

Pages:34 Page(s)

Report Number: JPRS-UPM-82-001 ( *JPRSUPM82001* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Comparison of One-Way Wave Propagation Algorithms in Underwater Acoustics - Error Estimates and Sensitivity

PDF URL: (pdf) - 920 KB -

Accession Number: ADA245660

Personal Author(s): Fishman, Louis

Corporate Author: COLORADO SCHOOL OF MINES GOLDEN DEPT OF MATHEMATICS AND COMPUTER SCIENCES

Report Date: 06 Jan 1992

Abstract: ( U ) The long-range objective is to develop and apply microscopic phase space methods and global path integral constructions to gain a deeper theoretical and computational understanding of acoustic, electromagnetic, and seismic direct and inverse wave propagation problems. This seems to be an appropriate approach for ocean seismo-acoustic modeling, which is characterized by rapidly changing, multidimensional environments extending over many wavelengths. Much of the mathematical development can indeed be motivated by the well-known parabolic (paraxial) approximation. Combining wave field splitting, invariant imbedding, and phase space (pseudo-differential and Fourier integral operator) methods has led to the development of both one- and two-way direct Helmholtz solvers, in addition to providing the framework for multidimensional profile reconstruction algorithms based on exact solution methods.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Oct 89-30 Sep 91,

Pages:15 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-90-J-1023 ( N0001490J1023 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Applications of the Strategic Defense Initiative's Compact Accelerators,

PDF URL: (pdf) - 669 KB -

Accession Number: ADA339072

Personal Author(s): Montanarelli, Nick ; Lynch, Ted

Corporate Author: STRATEGIC DEFENSE INITIATIVE ORGANIZATION WASHINGTON DC

Report Date: 01 Jan 1992

Abstract: ( U ) The Strategic Defense Initiative's (SDI) investment in particle accelerator technology for its directed energy weapons program has produced breakthroughs in the size and power of new accelerators. These accelerators, in turn, have produced spinoffs in several areas: the radio frequency quadrupole linear accelerator (RFQ linac) was recently incorporated into the design of a cancer therapy unit at the Loma Linda University Medical Center, an SDI sponsored compact induction linear accelerator may replace Cobalt 60 radiation and hazardous ethylene oxide as a method for sterilizing medical products, and other SDIO funded accelerators may be used to produce the radioactive isotopes oxygen 15, nitrogen 13, carbon 11, and fluorine 18 for positron emission tomography (PET). Other applications of these accelerators include bomb detection, non destructive inspection, decomposing toxic substances in contaminated ground water, and eliminating nuclear waste.

Abstract Classification:Unclassified

Pages:10 Page(s)

Report Number: SDIO-N92-22732 ( *SDION9222732* ) , XO - SDIO ( *XO* )

Monitor Series: SDIO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Defects in Semiconductors 16: Proceedings of the International Conference (16th)  
Held in Bethlehem, Pennsylvania on 22-26 July 1991. Part 3

PDF URL: (pdf) - 33 MB -

Accession Number: ADA246521

Personal Author(s): Davies, Gordon ; DeLeo, Gary G ; Stavola, Michael

Corporate Author: LEHIGH UNIV BETHLEHEM PA

Report Date: Jan 1992

Abstract: ( U ) Partial contents include: (1) Atomic defect configuration identified by nuclear techniques; (2) Combination of deep level transient spectroscopy; (3) Microscopy of Frenkel pairs in semiconductors by nuclear techniques; (4) Muon stopping sites in semiconductors from decay positron channeling; (5) Polarized spectroscopy of complex luminescence centers; (6) A re-evaluation of electric field enhanced emission measurements for use in type and charge state determination; (7) X ray spectroscopy following neutron irradiation of semi- conductor silicon; (8) Transition metals in silicon carbide (SiC) : vanadium and titanium; (9) Photoluminescence excitation spectroscopy of cubic SiC grown by chemical vapor deposition on Si substrates; (10) Luminescence and absorption of vanadium in 6H SiC; (11) Impurity defect reactions in ion implanted diamond; (12) Electron trapping defects in MBE-grown relaxed n-In<sub>0.05</sub>- Ga<sub>0.95</sub> As on gallium arsenide; (13) Scanning tunneling microscopy studies of semiconductor surface defects; (14) Photoluminescence characterisation of the silicon surface exposed to plasma treatment; (15) An analysis of point defect fluxes during silicon dioxide precipitation in silicon;

(16) Electrical properties of oxidation-induced stacking faults in n-type silicon; (17) Morphology change of oxygen precipitates in CZ-Si wafers during two-step heat-treatment; (18) Ion implantation induced sheet stress due to defects in thin (100) silicon films; and (19) Hydrogen induced defects and defect passivation in silicon solar cells.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May 1991-30 Apr 1992

Pages:525 Page(s)

Report Number: ISBN-0-87849-628-9 ( *ISBN0878496289* ) , ARO - 28661.1-EL-CF-PT-3 ARO ( *ARO286611ELCFPT3* ) , XA - 28661.1-EL-CF-PT-3 ARO ( *XA286611ELCFPT3* )

Monitor Series: 28661.1-EL-CF-PT-3 ( *286611ELCFPT3* ) , ARO

Contract/Grant/Transfer Number: DAAL03-91-G-0113 ( *DAAL0391G0113* ) , N00014-91-J-1912 ( *N0001491J1912* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introduction to Rocket Propulsion

PDF URL: (pdf) - 11 MB -

Accession Number: ADA250424

Personal Author(s): Lyon, J M

Corporate Author: ARMY MISSILE COMMAND REDSTONE ARSENAL AL PROPULSION  
DIRECTORATE

Report Date: Dec 1991



Abstract: ( U ) The design process for solid propellant rocket motors is presented in an introductory text suitable for professional reference as well as for instruction at the high school senior through college junior level. Beginning with a brief history of rocketry and a short discussion of the basic properties of matter, the text progresses through the development of the governing laws of rocket propulsion and utilization of important propulsion theories and equations. Design considerations for various motor components (propellants, grain, and inert hardware) are presented. Performance prediction using computers and instrumentation and testing are discussed. Numerous examples and problems are provided.

Abstract Classification:Unclassified

Descriptive Note: Summary rept.

Pages:230 Page(s)

Report Number: AMSMI-TR-RD-PR-91-17 ( *AMSMITRRDPR9117* ) , XA - AMSMI/RK ( *XAAMSMIRK* )

Monitor Series: AMSMI/RK ( *AMSMIRK* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) From Alliance to Acquaintance: The Australian-American Security Relationship

PDF URL: (pdf) - 16 MB -

Accession Number: ADA247337

Personal Author(s): Taylor, Mark J

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 1991

Abstract: ( U ) This thesis explores the development of Australian concepts of national security, in the context of traditional and continuing psychological dependency upon its links of alliance to the West. The Government claims that Australia's policy of defence self-reliance within an alliance framework is a conceptual watershed 'conceptual watershed' that has 'liberated' Australian foreign policy; but it is an old theme in defence policy. Australia still awaits a real revolution in its security concepts and sense of regional and world identity. ANZUS, symbol of Australia's ties to the western community, and the false impressions and expectations it creates, now acts more to inhibit than to assist Australia's future growth as a nation.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:374 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Unclassified Controlled Nuclear Information DOD (UCNI)

PDF URL: (pdf) - 1 MB -

Accession Number: ADA272038

Corporate Author: ASSISTANT SECRETARY OF DEFENSE (COMMAND CONTROL COMMUNICATIONS AND INTELLIGENCE) WASHINGTON DC

Report Date: 15 Nov 1991

Abstract: ( U ) This Directive implements reference (a) by establishing policy, assigning responsibilities, and prescribing procedures for identifying, controlling, and limiting the

dissemination of unclassified information on the physical protection of DoD special nuclear material (SNM), equipment, and facilities. That information shall be referred to as the Department of Defense Unclassified Controlled Nuclear Information (DoD UCNI), to distinguish it from a similar Department of Energy (DoE) program.

Abstract Classification:Unclassified

Pages:25 Page(s)

Report Number: DODD-5210.83 ( *DODD521083* ) , XD - WHS/DD ( *XDWHSDDD* )

Monitor Series: WHS/DD ( *WHSDD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Workshop on: Hydrogen Migration and the Stability of Hydrogen Related Complexes in Crystalline Semiconductors Held in Federal Republic of Germany on 3-6 November 1991

PDF URL: (pdf) - 5 MB -

Accession Number: ADA243427

Corporate Author: PARIS-6 UNIV (FRANCE)

Report Date: 06 Nov 1991

Abstract: ( U ) Content: Hydrogen passivation of carbon acceptors in GaAs grown from metalorganic sources; Raman spectroscopy of localized vibrational modes from carbon-hydrogen pairs in heavily carbon doped GaAs layers grown by metal organic vapor phase epitaxy; H-enhanced oxygen diffusion in silicon; Carbon-hydrogen complexes in gallium arsenide; The hydrogen-carbon complex in silicon: tunneling effect of electrons; Hydrogen ion-implanted into crystalline silicon; Hydrogen related complexes in neutron transmutation doped FZ silicon grown under hydrogen atmosphere; Vibrations of hydrogen complexes in silicon; Hydrogen

neutralization of double acceptor centers in silicon; Stability of hydrogen complexes in semi-insulating indium phosphide grown by the liquid encapsulated Czochralski method; O-H and N-H complexes in semi-insulating gallium arsenide; What did we learn from PAC experiments about hydrogen in semiconductors?; Structure, stability and internal dynamics of Cd-H complexes in semiconductors; Structure and energy of interstitial hydrogen and hydrogen-related complexes in crystalline semiconductors; Hydrogen in silicon: aspects of solubility, diffusion and catalyzed enhanced oxygen diffusion; The stability of hydrogen complexes in Si and GaAs; Recent studies of hydrogen in silicon and III-V semiconductors; and Multitrapping of atomic hydrogen in doped crystalline silicon.

Abstract Classification:Unclassified

Pages:107 Page(s)

Report Number: R/D - 6603-EE-03 R/D ( *RD6603EE03 RD* ) , XA - 6603-EE-03 R/D ( *XA6603EE03 RD* )

Monitor Series: 6603-EE-03 ( *6603EE03* ) , R/D ( *RD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, USSR: Life Sciences.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA333941

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 09 Oct 1991

Abstract: ( U ) No abstracts.

Abstract Classification:Unclassified

Pages:34 Page(s)

Report Number: JPRS-ULS-91-018 ( *JPRSULS91018* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on the Application of Accelerators in Research and Industry (11th) Held in Denton, Texas on November 5-8, 1990. Volume 35, Number 8

PDF URL: (pdf) - 25 MB -

Accession Number: ADA240315

Personal Author(s): Duggan, Jerome L

Corporate Author: NORTH TEXAS STATE UNIV DENTON DEPT OF PHYSICS

Report Date: 30 Aug 1991

Abstract: ( U ) The content of the 1990 conference will be quite similar to that of the 1988 proceedings attached to this proposal. The major change will be an expansion in the area of materials science with ion beams and the deletion of some topics that are perhaps not quite as popular. The growth of nuclear science techniques in materials science is not surprising since accelerators are just beginning to be utilized in this area of research. The entire field of Materials Science is growing rapidly, as is evidenced by the Materials Research Society being one of the fastest growing scientific societies in the world. Another interesting bit of data in this regard, is that one company which is the largest manufacturer of electrostatic accelerators has in the last few years processed more orders for materials analysis accelerators than it has produced for this application in its twenty-four year history.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:257 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-91-J-1900 ( *N0001491J1900* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Behavior of Systems in the Space Environment

PDF URL: (pdf) - 39 MB -

Accession Number: ADA286750

Personal Author(s): DeWitt, Robert N ; Duston, Dwight ; Hyder, Anthony K

Corporate Author: OFFICE NATIONAL D'ETUDES ET DE RECHERCHES  
AEROSPATIALES CHATILLON-SOUS-BAGNEUX (FRANCE)

Report Date: 19 Jul 1991

Abstract: ( U ) This ASI emphasized the basic physics of the space environment and the engineering aspects of the environment's interactions with spacecraft. The objective of the ASI was to bring together the latest data characterizing the space environment and the analyses of the interactions of spacecraft systems operating in that environment. The first is the emerging perspective of the space environment that has resulted from the vast quantity of new data on space physics that has been obtained recently. These data have provided a revised understanding of the near-earth space environment as well as the interplanetary regions. The second is related to

the worldwide renewal of interest in extended space operations for military, commercial, and scientific missions. The ability of the spacecraft engineers to properly design and build spacecraft to accommodate the interactions of their systems with the space environment will pace the future uses of space. The theme of the Institute was the enhancement of scientific communication and exchange among academic, industrial, and government laboratory groups having a common interest in the behavior of systems in the environment of space. In line with the focus of the Institute, the program was organized into three main sessions: an introduction to and historical perspective of the space environment; the physics of the interactions of materials and components with the space environment; and, lastly, the engineering of systems for operations in the environment.

Abstract Classification:Unclassified

Descriptive Note: Final proceedings, 7-19 Jul 1991

Pages:946 Page(s)

Report Number: XC - EOARD ( XC )

Monitor Series: EOARD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, China: Energy.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA357198

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 07 Jun 1991

Abstract: ( U ) This report contains translations/transcriptions of articles and/or broadcasts from Chinese sources on energy related topics.

Abstract Classification:Unclassified

Pages:47 Page(s)

Report Number: JPRS-CEN-91-006 ( *JPRSCEN91006* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Ionospheric and Magnetospheric Processes.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA239967

Personal Author(s): Chang, Tom

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE

Report Date: 17 May 1991

Abstract: ( U ) Results of a five-year study of a variety of kinetic plasma processes in the ionosphere and magnetosphere are described. Specific topics discussed in detail include: (1) The formation of ion conics due to electromagnetic ion cyclotron and/or lower hybrid turbulence. (2) Auroral beam-plasma interactions and VLF turbulence, (3) Heating of charged particles in the ionosphere and magnetosphere due to strong plasma turbulence, (4) Formation of counterstreaming electron distributions along auroral field lines, and (5) Double layer formation along discrete auroral field lines. A complete listing of published papers and books during the years 1986-1991 are also included. Particle Acceleration by electromagnetic ion cyclotron turbulence; Particle acceleration by intense auroral VLF turbulence; Equatorially generated ULF waves as a source for the turbulence associated with ion conics and a 3D model of double layer formation on auroral field lines are described.



Abstract Classification:Unclassified

Descriptive Note: Final rept. 28 Feb 86-28 Feb 91,

Pages:108 Page(s)

Report Number: PL - TR-91-2117 PL ( *PLTR912117* ) , XF - TR-91-2117 PL ( *XFTR912117* )

Monitor Series: TR-91-2117 ( *TR912117* ) , PL

Contract/Grant/Transfer Number: F19628-86-K-0005 ( *F1962886K0005* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) IEEE Particle Accelerator Conference on Accelerator Science and Technology Held in San Francisco, California on 6-9 May 1991. Volume 2

PDF URL: (pdf) - 63 MB -

Accession Number: ADA247537

Corporate Author: CALIFORNIA UNIV BERKELEY LAWRENCE BERKELEY LAB

Report Date: May 1991

Abstract: ( U ) Contents: Accelerator Technology II-RF, Power Supplies, Operations; Beam Dynamics; Synchrotron Radiation Sources/FELs; Accelerator Technology I- Instrumentation, Control, Feedback.

Abstract Classification:Unclassified

Pages:726 Page(s)

Report Number: XF - DOE ( XF )

Monitor Series: DOE

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) IEEE Particle Accelerator Conference on Accelerator Science and Technology Held in San Francisco, California on 6-9 May 1991. Volume 5

PDF URL: (pdf) - 60 MB -

Accession Number: ADA247540

Corporate Author: CALIFORNIA UNIV BERKELEY LAWRENCE BERKELEY LAB

Report Date: May 1991

Abstract: ( U ) Synchrotron Radiation Sources/FELs; Low- and Medium-Energy Accelerators and Rings; High Energy Accelerators and Colliders; Accelerator Technology II, RF, Power Supplies, Operations; Linear Accelerators and Pulsed Power Devices; Linear Colliders; and CERN plans for the future.

Abstract Classification:Unclassified

Pages:707 Page(s)

Report Number: XF - DOE ( XF )

Monitor Series: DOE

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Accelerator Technology Division: Annual Report FY 1990

PDF URL: (pdf) - 9 MB -

Accession Number: ADA338866

Personal Author(s): Schriber, Stanley O ; Hardekopf, Robert A

Corporate Author: LOS ALAMOS NATIONAL LAB NM

Report Date: 01 May 1991

Abstract: ( U ) The Accelerator Technology (AT) Division continued in fiscal year 1990 to fulfill its mission of developing accelerator science and technology for application to research, defense, energy, and other problems of national interest. Highlights for the year included (1) Successful operation of the first cryogenically cooled radiofrequency quadrupole (RFQ). The RFQ accelerated a beam of negative hydrogen ions to the design energy of 2.5 MeV with high transmission and beam quality. This is the first acceleration stage for the Ground Test Accelerator (GTA), being developed for the Neutral Particle Beam (NPB) program sponsored by Strategic Defense initiative Organization (SDIO) and the US Army Strategic Defense Command. (2) Completion of a conceptual design for a high current, continuous wave linear accelerator for application to accelerator production of tritium (APT). The concept was reviewed by a Department of Energy Energy Research Advisory Board panel that found the APT proposal and the accelerator design to be technically sound. Initial operation of the High Brightness Accelerator FEL (HIBAF), designed to produce an intense electron beam for free electron laser (FEL) research. First acceleration of the high current beam from a photoelectric injector to 17 MeV produced exceptional brightness that verified the design codes. This will lead the way to a new generation of high efficiency FELs. (3) Organization and hosting of the Conference on Computer Codes and the Linear Accelerator Community. (4) Hosting of the 1990 Linac Conference, a biennial international conference dedicated to advances in linear accelerator technology.

Abstract Classification:Unclassified

Descriptive Note: Annual rept.

Pages:135 Page(s)

Report Number: LA-12022-PR ( *LA12022PR* ) , XD - BMDO ( *XD* )

Monitor Series: BMDO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology Japan.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA358541

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 12 Mar 1991

Abstract: ( U ) Partial Contents: Science and Technology Policy, Aerospace, Biotechnology, Computers, Energy, Lasers, Sensors, Optics, Microelectronics, Nuclear Engineering.

Abstract Classification:Unclassified

Pages:65 Page(s)

Report Number: JPRS-JST-91-008 ( *JPRSJST91008* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Photodynamics and Physics behind Tunable Solid-State Lasers

PDF URL: (pdf) - 15 MB -

Accession Number: ADA238365

Personal Author(s): Alfano, R R ; Petricevic, V ; Demos, S G

Corporate Author: CITY COLL NEW YORK ULTRAFast SPECTROSCOPY AND LASER LAB

Report Date: 28 Feb 1991

Abstract: ( U ) Research was focused in two areas: (1) Using excite-and-probe anti-Stokes Raman scattering apparatus, the nonequilibrium phonons which participate in the overall complex nonradiative decay in tunable solid-state laser crystals, were directly identified. Rise and decay behavior of different Raman-active phonon modes were measured. (2) A new laser ion, Chromium 4(+) in chromium-doped forsterite was discovered, and its spectroscopic and laser characteristics were investigated.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jan 1988-31 Dec 1990

Pages:146 Page(s)

Report Number: ARO - 25293.16-PH ARO ( ARO2529316PH ) , XA - 25293.16-PH ARO ( XA2529316PH )

Monitor Series: 25293.16-PH ( 2529316PH ) , ARO

Contract/Grant/Transfer Number: DAAL03-88-K-0014 ( DAAL0388K0014 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Ion Implantation Technology: Proceedings of the International Conference on Ion Implantation Technology (8th) Held at the University of Surrey, Guildford, UK on 30 July - 3 August 1990

PDF URL: (pdf) - 60 MB -

Accession Number: ADA237955

Personal Author(s): Stephens, K G ; Hemment, P L ; Reeson, K J ; Sealy, B J ; Colligon, J S

Corporate Author: SURREY UNIV GUILDFORD (UNITED KINGDOM)

Report Date: Jan 1991

Abstract: ( U ) The implantation of semiconductor devices as a manufacturing routine is a relatively recent development. But there is a much longer-standing tradition of scientific interest in the production of focused beams of heavy ions and in the various ways in which they interact with surfaces. This has its origins in Goldstein's 1886 description of Kanalstrahlen in an electric discharge. However, the real significance of this - almost inadvertent - observation of collimated beams of energetic ions only became apparent in 1993 when J.J. Thomson described the detailed behaviour of such positive rays in his parabola-ray apparatus. He gave a convincing explanation of the phenomenon of ionisation and he provided a pioneering account of ion implantation when he noted that: some of the atoms constituting the positive rays seem to enter a metal against which they strike and either combine with the metal or get absorbed by it . The intensity of these ion beams was evidence by his description of the extent of the spluttering in his apparatus, as well as by his report of the effects of ion bombardment in the presence of reactive gases.

Abstract Classification:Unclassified

Pages:938 Page(s)

Report Number: R/D - 6461-EE-02 R/D ( *RD6461EE02 RD* ) , XA - 6461-EE-02 R/D ( *XA6461EE02 RD* )

Monitor Series: 6461-EE-02 ( *6461EE02* ) , R/D ( *RD* )

Contract/Grant/Transfer Number: DAJA45-90-M-0185 ( *DAJA4590M0185* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Analysis of Space Radiation Effects in Gallium Arsenide and Cadmium Selenide Semiconductor Samples Using Luminescence Spectroscopic Techniques

PDF URL: (pdf) - 4 MB -

Accession Number: ADA230684

Personal Author(s): Shaffer, Brad L

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING

Report Date: Dec 1990

Abstract: ( U ) Analysis of space radiation effects in gallium arsenide and cadmium selenide semiconductor samples using luminescence spectroscopic techniques. The M0006 semiconductor samples were placed into a 28.5 degree inclination, 480 km altitude, near-circular orbit aboard the Long Duration Exposure Facility satellite and exposed to direct space environment for a period of 11 months, and were shielded by 0.313 inches of aluminum for another 58 months. The samples were examined for changes using cathodoluminescence and photoluminescence in various wavelength regions from 0.5 to 1.8 microns. Samples were cooled to approximately 10 degrees Kelvin in a vacuum of 10-8.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:120 Page(s)

Report Number: AFIT/GSO/ENP/90D-02 ( *AFITGSOENP90D02* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Impurities, Defects and Diffusion in Semiconductors: Bulk and Layered Structures.  
Materials Research Society Symposium Proceedings. Volume 163

PDF URL: (pdf) - 53 MB -

Accession Number: ADA229590

Personal Author(s): Ballance, Joan B ; Wolford, Donald J ; Bernholc, Jerzy ; Haller, Eugene E

Corporate Author: MATERIALS RESEARCH SOCIETY PITTSBURGH PA

Report Date: 21 Nov 1990

Abstract: ( U ) This volume of proceedings contains manuscripts from Symposium G, entitled Impurities, Defects, and Diffusion in Semiconductors: Bulk and Layered Structures. Historically, Symposium G was the seventh in a series of MRS- sponsored symposia which focused on various aspects of defects and defect properties in semiconducting materials. This symposium was conceived from the view that impurities, defects, and diffusion play key roles in modern-day research and development of semiconducting materials, structures, and devices. Recent breakthroughs in materials preparation with monolayer control, in diversity and sensitivity of characterization techniques, and in new theoretical methods, have collectively led to great advances in the understanding of defect- and impurity-related phenomena.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 22 Nov 1989-21 Nov 1990

Pages:1043 Page(s)

Report Number: AFOSR - TR-90-1059 AFOSR ( *AFOSRTR901059* ) , XC - TR-90-1059  
AFOSR ( *XCTR901059* )

Monitor Series: TR-90-1059 ( *TR901059* ) , AFOSR

Contract/Grant/Transfer Number: AFOSR-90-0081 ( *AFOSR900081* )



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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Civil Defense Home Shelters: a Viable Defense Strategy for the 1990s

PDF URL: (pdf) - 4 MB -

Accession Number: ADA229402

Personal Author(s): Evans, Val J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: Sep 1990

Abstract: ( U ) This study investigated the question Why are fallout shelters not a part of U.S. national defense strategy and policy? Initial research determined that the U.S. has the technology to design and build shelters, they are effective protection from radioactive fallout, and nuclear aggression against the U.S. remains a potential national threat. The research examined the physical threats posed by nuclear weapons, followed by a brief description of fallout shelters and their ability to shield against fallout radiation in terms of the ration of time in shelter to amount of exposure. Several opposing arguments from opponents and proponents of a national fallout shelter program were categorized and expressed within U.S. National Security Strategy, military, economic, and political terms. The principal argument against a national fallout shelter program, including home fallout shelters, is the momentum of over 30 years of successful deterrence. On the other hand, the relatively simple technology, the affordability, and the potential for saving millions of lives in low-risk areas that would otherwise be lost should deterrence fail, argue strongly in favor of a national home fallout shelter system.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:131 Page(s)

Report Number: AFIT/GLM/LSR/90S-16 ( *AFITGLMLSR90S16* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Legal Assistance Guide: Wills

PDF URL: (pdf) - 18 MB -

Accession Number: ADA230991

Corporate Author: JUDGE ADVOCATE GENERAL'S SCHOOL CHARLOTTESVILLE VA

Report Date: Sep 1990

Abstract: ( U ) This text provides the legal assistance attorney with a synopsis of the basic principles of wills and estate planning and a single volume reference to the will and intestacy laws of the 50 states, District of Columbia, Guam, Puerto Rico and the Virgin Islands.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:493 Page(s)

Report Number: JA-262-90 ( *JA26290* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, China

PDF URL: (pdf) - 8 MB -

Accession Number: ADA335747

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 17 Aug 1990

Abstract: ( U ) This report covers: (1) International; (2) Economic; (3) Social; (4) Military, Public Security; (5)Taiwan and (6) Hong Kong, Macao.

Abstract Classification:Unclassified

Pages:79 Page(s)

Report Number: JPRS-CAR-90-064 ( *JPRSCAR90064* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Political and Economic Issues within the Alliance: The Future of Burdensharing and the Southern Region

PDF URL: (pdf) - 1 MB -

Accession Number: ADA257675

Personal Author(s): Steinberg, James ; Cooper, Charles

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Aug 1990

Abstract: ( U ) Over the years, many NATO members have viewed the burden-sharing question as simply a matter of figuring out a fair way of dividing up NATO's direct financial costs. It is therefore not surprising that the debate has focused unduly on the extent of free riding within the Alliance and comparisons of each nation's percent of GNP spent on defense. These measures are clearly partial, incomplete, and occasionally misleading indications of the contribution that each ally makes toward the common defense. The argument over burden-sharing frequently masks more fundamental disagreements over Alliance goals and the means to achieve them. Divisions have stemmed from various sources, including differing views of the appropriate political military strategy for responding to the perceived Warsaw Pact threat, and from conflicts over economic issues, including problems related directly to defense economics and the broader transatlantic economic relationship. Since the end of massive retaliation, the United States has pressed the European members to place a greater emphasis on conventional forces and the ability to conduct a successful conventional defense. Europeans, by contrast, have tended to argue that increased conventionalization of NATO strategy risks undermining deterrence by making war more thinkable. This difference of view has had two distinct consequences for the burdensharing debate. First, the high cost associated with maintaining adequate conventional forces for a robust conventional defense caused the United States to push for increased European defense spending. Second, the disagreement exposed the most intractable element of burdensharing -- the costs associated with the failure of deterrence.

Abstract Classification:Unclassified

Descriptive Note: Monograph

Pages:34 Page(s)

Report Number: RAND/N-3177-FF ( *RANDN3177FF* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, USSR : Chemistry

PDF URL: (pdf) - 2 MB -

Accession Number: ADA357771

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 05 Apr 1990

Pages:29 Page(s)

Report Number: JPRS-UCH-90-002 ( *JPRSUCH90002* ) , XX - FBIS ( XX )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proof of the Feasibility of Coherent and Incoherent Schemes for Pumping a Gamma-Ray Laser

PDF URL: (pdf) - 9 MB -

Accession Number: ADA219972

Personal Author(s): Collins, Carl B

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTERFOR QUANTUM ELECTRONICS

Report Date: Mar 1990

Abstract: ( U ) Contents: Thermal Economy of a Gamma-Ray Laser; Photoexcitation of Nuclear Isomers by (Gamma, Gamma') Reactions; Adaptation of a Fixed Energy Electron Accelerator to Produce Variable Endpoint Bremsstrahlung; Determination of Gateway States in  $^{197}\text{Au}$  with a Compton X-Ray Spectrometer; Calibration of Pulsed Bremsstrahlung Spectra with Photonuclear Reactions of  $^{77}\text{Se}$  and  $^{79}\text{Br}$ ; Scaling to High Average Powers of a Flash X-Ray Source Producing Nanosecond Pulses; Frequency Modulation Spectrometer for Mossbauer Studies; Calibration of Pulsed X-Ray Spectra; Depopulation of the Isomeric State  $^{180}\text{Ta}(m)$  by the Reaction  $^{180}\text{Ta}(m) (\text{Gamma}, \text{Gamma}') ^{180}\text{Ta}$ ; Diamond-like Carbon Films Prepared with a Laser Ion Source; Activation of  $^{115}\text{In}(m)$  by Single Pulses of Intense Bremsstrahlung; Flash X-Ray Source Excited by Stacked Blumlein Generators; Activation of  $^{111}\text{Cd}(m)$  by Single Pulses of Intense Bremsstrahlung; Comment on 'Mossbauer Sidebands from a Single Parent Line'; Large Scale Effects of the Magnetic Phase Modulation of Recoilless Gamma Transitions; Laser Plasma Source of Amorphous Diamond; 'Mossbauer Isomer Shift Measurements without Mechanical Tuning'; and Accelerated Decay of  $^{180}\text{Ta}(m)$  and  $^{176}\text{Lu}$  in Stellar Interiors through (Gamma, Gamma') Reactions.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 26 Sep 1986-24 Dec 1989

Pages:198 Page(s)

Report Number: UTD-GRL/8903 ( *UTDGRL8903* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-86-C-2488 ( *N0001486C2488* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Japan, Mechanism of Superconductivity

PDF URL: (pdf) - 16 MB -

Accession Number: ADA335719

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 05 Jan 1990

Abstract: ( U ) Partial contents: Photoemission Study of High - Tc Superconductors and Related Compounds; Synchrotron - Radiation Photoemission Study of Single Crystal Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub>; Low - Energy Electron Energy Loss Spectroscopy on High - Tc Superconductors; Optical Absorption in (La(1-x)Sr(x) <sub>2</sub>CuO<sub>4</sub> Single Crystal Thin Films; Transmission Spectra of Crystal Film Bi-Sr-Ca-Cu-O in the Range 3 to 500 /cm; Universality of Infrared Anomaly in (La(1-x)M<sub>x</sub>)<sub>2</sub>(Cu(1-y)N<sub>y</sub>)O<sub>4</sub> M = Ca, Sr, Ba; N=Ni,Zn; Raman Studies of Magnons, Phonons, and Electronic States in High Tc Superconductors.

Abstract Classification:Unclassified

Pages:311 Page(s)

Report Number: JPRS-JST-90-002 ( *JPRSJST90002* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) American Catholic Responses to Evolutionary Theories, 1845-75

PDF URL: (pdf) - 5 MB -

Accession Number: ADA224682

Personal Author(s): Astore, William J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: Jan 1990

Abstract: ( U ) Historians have often focused exclusively on Orestes Augustus Brownson, the leading Catholic journalist in America from 1845-75, and portrayed his strident anti-evolutionary rhetoric as exemplifying the religiously- motivated extremism of American Catholic responses to evolution. However, American Catholic responses to evolutionary theories reflected a distinctly American context. Brownson's opposition to evolution was motivated more by his political philosophy than by religious concerns. He abhorred individualism and the idea (which assumed added significance during the Civil War) that governments were self-developing or mutable, and his rejection of evolutionary theories was an extension of this sentiment. The abrupt dismissal of evolution by Clarence Augustus Walworth also reflected an American context. Walworth, a noted Catholic priest and amateur geologist, theorized that saltations, caused by some unspecified internal force or forces, occurred within species, but that species themselves always remained intact. American Catholics were generally illiterate in science, and those few who were literate were predominantly converts from Protestantism such as Walworth. Conservative Catholics such as Brownson also exploited the anti-Catholic rhetoric of scientists such as John William Draper to stifle discourse between the Church and scientists and to strengthen their hold on the Church. Keywords: Evolution(Biology); Theses; Churches; Religion.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:137 Page(s)

Report Number: AFIT/CI/CIA-90-059 ( *AFITCICIA90059* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutron Scattering for Materials Science. Materials Research Society Symposium Proceedings, Volume 166

PDF URL: (pdf) - 21 MB -

Accession Number: ADA226300



Personal Author(s): Shapiro, S M ; Moss, S C ; Jorgensen, J D

Corporate Author: MATERIALS RESEARCH SOCIETY PITTSBURGH PA

Report Date: Jan 1990

Abstract: ( U ) Neutron Scattering is by now a well-established technique which has been used by condensed matter scientists to probe both the structure and the dynamical interactions in solids and liquids. The use of neutron scattering methods in materials science research has in turn increased dramatically in recent years. The symposium was assembled to bring together scientists with a wide range of interest, including high-Tc superconducting materials, phase transformations, neutron depth profiling, structure and dynamics of glasses and liquids, surfaces and interfaces, porous media, intercalation compounds and lower dimensional systems, structure and dynamics of polymers, residual stress analysis, ordering and phase separation in alloys, and magnetism in alloys and multilayers. The symposium included invited talks covering the latest advances in broad areas of interest such as Rietveld structure refinement, triple axis spectrometry, quasielastic scattering and diffusion, small angle scattering and surface scattering. Contributed papers reporting recent research results were often grouped in several subfields covered by invited, tutorial lectures. (JS)

Abstract Classification:Unclassified

Pages:498 Page(s)

Report Number: ARO - 27596.3-MS-CF ARO ( ARO275963MSCF ) , XA - 27596.3-MS-CF ARO ( XA275963MSCF )

Monitor Series: 27596.3-MS-CF ( 275963MSCF ) , ARO

Contract/Grant/Transfer Number: DAAL03-90-G-0014 ( DAAL0390G0014 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report Science & Technology Japan STA 1988 White Paper Part 2.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA347862

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 13 Dec 1989

Abstract: ( U ) This report from Japan contains articles on Science and Technology.

Abstract Classification:Unclassified

Pages:255 Page(s)

Report Number: JPRS-JST-89-027-II ( *JPRSJST89027II* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, East Europe.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA345075

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 04 Dec 1989

Abstract: ( U ) This report contains various information on Political and Economic issues in East Europe.

Abstract Classification:Unclassified

Pages:43 Page(s)

Report Number: JPRS-EER-89-134 ( *JPRSEER89134* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) United States Naval Academy Summary of Research, Academic Departments 1989 - 1990

PDF URL: (pdf) - 16 MB -

Accession Number: ADA221219

Personal Author(s): Fetrow, Fred M

Corporate Author: NAVAL ACADEMY ANNAPOLIS MD

Report Date: Dec 1989

Pages:273 Page(s)

Report Number: XB - USNA ( XB )

Monitor Series: USNA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms. Incorporating the NATO Glossary of Terms and Definitions (English and French)

PDF URL: (pdf) - 28 MB -

Accession Number: ADA258036

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 01 Dec 1989

Pages:397 Page(s)

Report Number: XD - DOD ( XD )

Monitor Series: DOD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials Research Society Symposium on the Electrical, Optical and Magnetic Properties of Organic Solid State Materials Held in Boston Massachusetts on 27 November-2 December 1989

PDF URL: (pdf) - 73 MB -

Accession Number: ADA217490

Personal Author(s): Chiang, Long Y

Corporate Author: MATERIALS RESEARCH SOCIETY PITTSBURGH PA

Report Date: Dec 1989

Abstract: ( U ) Session topics included: Beam-solid interactions -- Physical phenomena; In-situ patterning -- Selective area deposition and etching; Atomic scale structure of interfaces; Layered structures -- Heteroepitaxy, superlattices, strain and metastability; Properties of II-VI semiconductors -- Bulk crystals, epitaxial films, Quantum well structures, and dilute magnetic systems; Diamond, boron nitride, silicon carbide and related wide bandgap semiconductors; Impurities, defects and diffusion in semiconductors -- Bulk and layered structures; Materials issues in microcrystalline semiconductors; Characterization of plasma-enhanced CVD processes; Neutron scattering for materials science; Advanced electronic packaging materials; CVD of refractory metals and ceramics; High-temperature superconductors -- Fundamental properties and novel materials processing; Tailored interfaces in composite materials; Polymer based molecular composites; Optical fiber materials and processing; Electrical, optical, and magnetic properties of organic solid state materials; Materials synthesis using biological processes; Multifunctional materials; Fractal aspects of materials; Scientific basis for nuclear waste management; Macromolecular liquids; Fly ash and coal conversion by-products characterization, Use and disposal; Specialty cements with advanced properties.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:750 Page(s)

Report Number: ARO - 27489.1-CH-CF ARO ( *ARO274891CHCF* ) , XA - 27489.1-CH-CF ARO ( *XA274891CHCF* )

Monitor Series: 27489.1-CH-CF ( *274891CHCF* ) , ARO

Contract/Grant/Transfer Number: DAAL03-89-G-0121 ( *DAAL0389G0121* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, China.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA358615

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 22 Sep 1989

Abstract: ( U ) Partial Contents: Science and Technology Policy, Scientists, Scientific Organizations, Aerospace, Computers, Factory Automation, Robotics, Lasers, Sensors, Optics, Microelectronics, Telecommunications, Physics.

Abstract Classification:Unclassified

Pages:103 Page(s)

Report Number: JPRS-CST-89-018 ( *JPRSCST89018* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, China

PDF URL: (pdf) - 9 MB -

Accession Number: ADA348503

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 20 Sep 1989

Abstract: ( U ) This report contains foreign media information from China on issues related to international politics, economics, finance, banking, industry, national affairs policy, international trade, labor, investments, transportation, military affairs and public security.

Abstract Classification:Unclassified

Pages:90 Page(s)

Report Number: JPRS-CAR-89-097 ( *JPRSCAR89097* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Deconvolution Methods for Multi-Detectors

PDF URL: (pdf) - 4 MB -

Accession Number: ADA213568

Personal Author(s): Berenstein, Carlos

Corporate Author: UNIVERSITY RESEARCH FOUNDATION GREENBELT MD

Report Date: 30 Aug 1989

Abstract: ( U ) Deconvolution of a single convolution equation is usually an ill- posed problem. This has been sufficiently illustrated in the literature. The shortcomings of linear and of non-linear deconvolution methods can be found, for instance, in the very clear review paper. Advances in the theory of holomorphic functions of several complex variables led Berenstein, Taylor and Yger to realize that systems of convolution equations could be deconvolved exactly, thus avoiding the above ill-posedness. Their preliminary papers eventually led to this project. The practical interest of this observation is that whenever such a set of convolution equations represents a set of physically realizable devices (e.g. transducers, sensors) then one has, by use of a digitally implemented inverse, essentially an arbitrary bandwidth device.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 16 Jun 1986-15 May 1989

Pages:172 Page(s)

Report Number: URF-89-1862 ( *URF891862* ) , ARO - 24018.10-MA ARO ( *ARO2401810MA* ) , XA - 24018.10-MA ARO ( *XA2401810MA* )

Monitor Series: 24018.10-MA ( *2401810MA* ) , ARO

Contract/Grant/Transfer Number: DAAL03-86-K-0115 ( *DAAL0386K0115* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology Japan.

PDF URL: (pdf) - 8 MB -

Accession Number: ADA347640

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Jul 1989

Abstract: ( U ) The Science & Technology report on Advanced Materials in Japan.

Abstract Classification:Unclassified

Pages:185 Page(s)

Report Number: JPRS-JST-89-013 ( *JPRSJST89013* ) , X5 - XD ( *X5* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) JPRS Report, Science and Technology, USSR: Computers.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA335471

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 27 Jun 1989

Abstract: ( U ) This document contains translated articles from various Russian language periodicals concerning the USSR and Computers. Some topics discussed are programming, automated data processing, microcomputers, and computer equipment.

Abstract Classification:Unclassified

Pages:56 Page(s)

Report Number: JPRS-UCC-89-004 ( *JPRSUCC89004* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An Investigation of the Irradiation Swelling Mechanisms in Refractory Metals at High Temperatures

PDF URL: (pdf) - 9 MB -

Accession Number: ADA211406

Personal Author(s): Bajaj, R ; Hall, B O ; Fenske, G R ; Gregg, J C ; Taylor, A T

Corporate Author: WESTINGHOUSE ELECTRIC CORP PITTSBURGH PA ADVANCED ENERGY SYSTEMS DIV

Report Date: Jun 1989

Abstract: ( U ) This report presents the results of an investigation of elevated temperature irradiation swelling in refractory metals with an objective of understanding swelling mechanisms in these materials and demonstrating practicality of swelling-resistant materials. The study was divided into three phases. During the first phase, a theoretical model was developed for the swelling in body-centered cubic (bcc) metals. The model was based on chemical reaction rate formalism. Calculations were carried out on a model material, niobium, which was selected for the study. Experimental and theoretical work was conducted to determine the swelling mechanism. Niobium was irradiated with Nb(++) ions to a dose of 50 dpa and swelling was determined by transmission electron microscopy. A peak swelling at 900C of 7% was observed. No swelling was observed above 1300C. The experimental data were compared to those predicted by the theoretical model. Reasonable agreements were obtained between the experimental and theoretical swelling curve when niobium-oxygen interaction was included. Sink strength ratios were also calculated from the data. The theoretical model was extended during the second phase to include loop growth/ shrinkage in bcc metals. During the third phase of the program, two alloys, Nb- 5Hf and Nb-5W, were irradiated with Nb(++) alone and with Nb(++) + He(+) over a temperature range of 800 - 1350C.

Abstract Classification:Unclassified

Descriptive Note: Final scientific rept. 1 Mar 1985-31 Jul 1988

Pages:267 Page(s)

Report Number: WAES-TR-89-0010 ( *WAESTR890010* ) , AFOSR - TR-89-1051 AFOSR ( *AFOSRTR891051* ) , XC - TR-89-1051 AFOSR ( *XCTR891051* )

Monitor Series: TR-89-1051 ( *TR891051* ) , AFOSR

Contract/Grant/Transfer Number: F49620-85-C-0060 ( *F4962085C0060* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proof of the Feasibility of Coherent and Incoherent Schemes for Pumping a Gamma-Ray Laser

PDF URL: (pdf) - 9 MB -

Accession Number: ADA212315

Personal Author(s): Collins, Carl B

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTERFOR QUANTUM ELECTRONICS

Report Date: Jun 1989

Abstract: ( U ) This report continues to focus upon our approach that is the nuclear analog to the ruby laser. It embodies the simplest concepts for a gamma-ray laser and not surprisingly, the greatest rate of achievement in the quest for a subAngstrom laser continues in that direction. For ruby the identification and exploitation of a band width funnel were the critical keys in the development of the first laser. There was a broad absorption band linked through efficient cascading to the narrow laser level. Determination of Gateway States in  $^{197}\text{Au}$  with a Compton Gamma Ray; Determination of Photoexcitation Cross Sections for  $^{176}\text{Lu}$  (Gamma Gamma)  $^{176}\text{Lu(m)}$  using A 6 MeV Bremsstrahlung Source; Accelerated Decay of  $^{180\text{a}}(\text{m})$  and  $^{176}\text{Lu}$  in Stellar Interiors through (Gamma Gamma) Reactions; Spectral Characterization of Intense, Short Duration Bremsstrahlung Pulses with Nuclear Photoactivation Techniques; The use of a Compton Spectrograph/Monochromator for the Photoactivation of Nuclei into Metastable States; Photoexcitation of Nuclear Isomers by (Gamma Gamma) Reactions through Relatively Unhindered Transitions Accessed with Bremsstrahlung from Medical Linear Accelerators; and Limits on Neutron Activation Interferences in Photoactivation Cross-Section Measurements in the 1.5-6 MeV Range.

Abstract Classification:Unclassified

Descriptive Note: Annual technical progress rept. 1 Apr 1988-31 Mar 1989

Pages:223 Page(s)

Report Number: GRL/8805 ( *GRL8805* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-86-C-2488 ( *N0001486C2488* )

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Two Swords Controversy and the Roots of Modern Political Theory

PDF URL: (pdf) - 2 MB -

Accession Number: ADA218350

Personal Author(s): Clark, Delane E

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: May 1989

Abstract: ( U ) I will focus on the political and religious controversies which erupted during the twelfth and thirteenth centuries. By tracing some of the varied forces at work during this period I intend to demonstrate that the accepted theory of medieval life that organized and directed all of society, secular and ecclesiastical, became increasingly in conflict with the actual institutional and cultural expressions of that life. This conflict was brought to a head by the Investiture Contest of the eleventh century and the Two Swords struggle that ensued in the following two-hundred or so years. (EG)

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:62 Page(s)

Report Number: AFIT/CI/CIA-89-091 ( *AFITCICIA89091* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Textbook of Military Medicine. Part 1. Warfare, Weaponry, and the Casualty.  
Volume 2. Medical Consequences of Nuclear Warfare

PDF URL: (pdf) - 19 MB -

Accession Number: ADA278722

Personal Author(s): Zajtchuk, Russ ; Jenkins, Donald P ; Walker, Richard I ; Cerveney, T J  
; Alt, Leonard A ; Bogo, Victor ; Dons, Robert F ; Farzaneh, Nushin K

Corporate Author: OFFICE OF THE SURGEON GENERAL (ARMY) WASHINGTON DC

Report Date: Apr 1989

Abstract: ( U ) The first line of medical defense in wartime is the combat medic. Although in ancient times medics carried the caduceus into battle to signify the neutral, humanitarian nature of their tasks, they have never been immune to the perils of war.

Abstract Classification:Unclassified

Descriptive Note: Textbook

Pages:300 Page(s)

Report Number: XA - DASG ( XA )

Monitor Series: DASG

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Assessment of Space Power Related Measurement Requirements of the Strategic Defense Initiative

PDF URL: (pdf) - 5 MB -

Accession Number: ADA344769

Personal Author(s): Olthoff, James K ; Hebner, Robert E

Corporate Author: NATIONAL INST OF STANDARDS AND TECHNOLOGY  
GAITHERSBURG MD

Report Date: Apr 1989

Abstract: ( U ) A survey has been performed to determine the measurement requirements of space power related parameters for anticipated SDI systems. These requirements have been compared to present state-of-the-art metrology capabilities as represented by the calibration capabilities of the National Institute of Standards and Technology. Metrology areas where present state-of-the-art capabilities are inadequate to meet SDI requirements are discussed, and areas of metrology-related research which appear promising to meet these needs are examined. Particular attention is paid to the difficulties of long-term, unattended sensor calibrations and long-term measurement reliability.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:147 Page(s)

Report Number: NIST/TN-1259 ( *NISTTN1259* ) , XV - DNA ( *XV* )

Monitor Series: DNA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Point Defects in Semiconductors: Microscopic Identification, Metastable Properties, Defect Migration, and Diffusion

PDF URL: (pdf) - 6 MB -

Accession Number: ADA206947

Personal Author(s): Van Vechten, James A ; Wager, John F

Corporate Author: OREGON STATE UNIV CORVALLIS DEPT OF ELECTRICAL AND COMPUTER ENGINEERING

Report Date: 31 Mar 1989

Abstract: ( U ) The goal of the research program described herein was to provide insight into the identity and properties of point defects in semiconductors. Particular emphasis was devoted to problems involving microscopic identification, metastable properties, defect migration, and diffusion of point defects in semiconductors. Our approach was to apply atomistic thermodynamic theory, Monte Carlo simulation, and experimental analysis to elucidate the nature and properties of semiconductor defects. Significant progress has been made in the following seven areas: 1) recombination enhanced vacancy migration in silicon, 2) Monte Carlo simulation of diffusion in semiconductors, 3) phosphorous vacancy nearest-neighbor hopping in InP, 4) entropy of migration for atomic hopping, 5) EL2/EL0 identification in GaAs, 6) characterization and identification of DX in AlGaAs, and 7) temperature dependence of band offsets

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 31 Aug 1986-31 Mar 1989

Pages:136 Page(s)

Report Number: AFOSR - TR-89-0402 AFOSR ( *AFOSRTR890402* ) , XC - TR-89-0402 AFOSR ( *XCTR890402* )

Monitor Series: TR-89-0402 ( *TR890402* ) , AFOSR

Contract/Grant/Transfer Number: AFOSR-86-0309 ( *AFOSR860309* )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology. China.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA345157

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 29 Mar 1989

Abstract: ( U ) This report from China contains articles on Science and Technology.

Abstract Classification:Unclassified

Pages:174 Page(s)

Report Number: JPRS-CST-89-008 ( *JPRSCST89008* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Energy Technology Annual Progress Report 1 January - 31 December 1988

PDF URL: (pdf) - 1 MB -



Accession Number: ADA212830

Personal Author(s): Micheelsen, B ; List, F

Corporate Author: RISOE NATIONAL LAB ROSKILDE (DENMARK)

Report Date: Mar 1989

Abstract: ( U ) The general development of the Department of Energy Technology at Ris0 during 1988 is presented, and the activities within the major subject fields are described in some detail. Lists of staff and publications are included. Partial Contents: Reactor Physics; Combustion Research; Reservoirs; New Features in the COSIMA Boiling Water Reactor Core Simulator; Flux Calculations in a New Horizontal Irradiation Facility; Implementation and Modification of Aerosol Codes; The Temperature Calibration Laboratory; 2-MW circulating Fluid Bed Test Facility; Experimental Investigation of Pulverized; Coal Burners; Studies of Laser Methods; Large Scale Laboratory Tests of Two- phase flow Phenomena; Computer Modeling of Steady Three-dimensional Turbulent Gas/Particle Flows; Gasification of Straw; Oil Recovery from Fractured Reservoirs; and The Temperature Field around a Hot Magma Sheet.

Abstract Classification:Unclassified

Descriptive Note: Annual progress rept.

Pages:44 Page(s)

Report Number: RISOE-R-567 ( *RISOER567* ) , X5 - RISOE ( X5 )

Monitor Series: RISOE

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, USSR: Chemistry

PDF URL: (pdf) - 4 MB -

Accession Number: ADA336064

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 02 Feb 1989

Abstract: ( U ) This report contains foreign media information from the USSR concerning analytical chemistry, electrochemistry, environmental chemistry, inorganic compounds, organophosphorous compounds, polymers (rubber) and radiation chemistry.

Abstract Classification:Unclassified

Pages:54 Page(s)

Report Number: JPRS-UCH-89-001 ( *JPRSUCH89001* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Anniversary of the First Public Announcement of the Successful Test of Fission Proceedings (50th) Held in Washington, DC on 17 January 1989

PDF URL: (pdf) - 4 MB -

Accession Number: ADA249905

Personal Author(s): Rothman, Sam

Corporate Author: GEORGE WASHINGTON UNIV WASHINGTON DC INST FOR  
TECHNOLOGY AND STRATEGIC RESEARCH

Report Date: 17 Jan 1989

Abstract: ( U ) On January 26, 1939 Niels Bohr of Copenhagen read a fateful telegram he had just received from Otto Hahn in Berlin to the assembled Fifth Washington Conference on

Theoretical Physics at The George Washington University. The telegram announced the successful disintegration of uranium into barium with the attendant release of approximately two hundred million electron volts of energy per disintegration. To commemorate the 50th anniversary of this event, the original sponsors, The George Washington University and The Carnegie Institution, will hold a one-day conference on January 17th at The George Washington University. The surviving members of the original attendees will be invited as special guests to the conference. In addition, it is planned to host 300-400 members of the scientific, engineering, and political communities.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Dec 1988-31 Mar 1989,

Pages:111 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-89-J-1072 ( N0001489J1072 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proof of the Feasibility of Coherent and Incoherent Schemes for Pumping a Gamma-Ray Laser

PDF URL: (pdf) - 2 MB -

Accession Number: ADA205371

Personal Author(s): Collins, Carl B

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTER FOR QUANTUM ELECTRONICS

Report Date: Jan 1989

Abstract: ( U ) Recent approaches to the problem of the gamma-ray laser have focused upon upconversion techniques in which metastable nuclei are pumped with long wavelength radiation. At the nuclear level the storage of energy can approach tera-Joules (10<sup>12</sup>J) per liter for thousands of years. However, any plan to use such a resource for a gamma-ray laser poses problems of a broad interdisciplinary nature requiring the fusion of concepts taken from relatively unrelated fields of physics. Since 1978 we have pursued an approach for the upconversion of longer wavelength radiation incident upon isomeric nuclear populations that can avoid many of the difficulties encountered with traditional concepts of single of single photon pumping. Recent experiments have confirmed the general feasibility and have indicated that a gamma-ray laser is feasibility and have indicated that a levels and branching ratios exist in some real material. A laser-grade database of nuclear properties does not yet exist, but the techniques for constructing one have been developed under this contract and are now being utilized.

Abstract Classification:Unclassified

Descriptive Note: Quarterly technical progress rept. 1 Oct-31 Dec 1988

Pages:78 Page(s)

Report Number: GRL/8803 ( *GRL8803* ) , XB - NRL ( *XB* )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00014-86-C-2488 ( *N0001486C2488* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Beam Envelope, Injection and Acceleration in a Compact, High Current, Strong Focused Recirculating Accelerator Scheme

PDF URL: (pdf) - 1 MB -

Accession Number: ADA203224

Personal Author(s): Prakash, Anand

Corporate Author: ARMY BALLISTIC RESEARCH LAB ABERDEEN PROVING GROUND  
MD

Report Date: Dec 1988

Abstract: ( U ) In order to meet the criterion of compactness in developing high current, high energy electron accelerators, it is advantageous to recirculate the electron beam through an accelerating module. Various such recirculating accelerator concepts that use strong focusing magnetic fields may be conveniently referred to as SFRA (Strong Focused Recirculating Accelerators). The strong focusing field can be produced by external current carrying stellarator or torsatron windings. SLIA, Stellatron, RIA and rebatron are examples of SFRA. High current electron beam transport in externally applied stellarator and longitudinal magnetic fields is analyzed. It is shown that a constant of motion exists for a matched beam of rotating elliptical cross-section, with self-fields included. A differential equation for the beam envelope is derived and is shown to reduce to the familiar beam envelope equation for a beam of circular cross-section when the stellarator field is turned off. A summary description of beam dynamics of acceleration in one SFRA, the rebatron, is given. Although a rebatron with major radius 100 cm and minor radius 10 cm can accelerate electrons to gamma about 65 with a fixed vertical (bending) magnetic field, the insensitivity to energy mismatch poses a problem for beam trapping and injection. It is shown that a beam trapping scheme, in which a rapidly varying vertical magnetic field is applied before activating the rebatron acceleration gap, would work for a 10 kA beam of 1 cm radius injected near the wall of a rebatron of minor radius 16 cm.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:38 Page(s)

Report Number: BRL-TR-2956 ( *BRLTR2956* ) , XA - ARBRL ( XA )

Monitor Series: ARBRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electronic Reliability Design Handbook. Volume 1

PDF URL: (pdf) - 42 MB -

Accession Number: ADA229245

Corporate Author: DEPARTMENT OF DEFENSE WASHINGTON DC

Report Date: 12 Oct 1988

Abstract: ( U ) This military Handbook is approved for use by all Departments and Agencies of the Department of Defense. This Electronic Reliability Design Handbook is an updating and extensive revision of the Reliability Design Handbook, published in 1976 by the Reliability Analysis Center under contract with RADC. The Handbook contains the most up-to-date, practical, pertinent guidelines for use by design engineers, reliability engineers, and managers to design, produce, and deploy reliable and maintainable military electronic equipment/systems at minimum life cycle cost. (rrh)

Abstract Classification:Unclassified

Descriptive Note: Military handbook.

Pages:1057 Page(s)

Report Number: MIL-HDBK-338-1A-VOL-1 ( *MILHDBK3381AVOL1* ) , XC - RADC ( *XC* )

Monitor Series: RADC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Dynamic Structure of Everyday Life

PDF URL: (pdf) - 16 MB -

Accession Number: ADA205677

Personal Author(s): Agre, Philip E

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB

Report Date: 12 Oct 1988

Abstract: ( U ) Computational theories of action have generally understood the organized nature of human activity in terms of the construction and execution of computer-program-like structures called plans. By consigning the phenomena of contingency and improvisation to peripheral roles, this view of activity has led to grossly impractical technical proposals. I would like to propose an alternative view of human activity. According to this view, contingency is a central feature of the world of everyday activity and improvisation is the principal means by which people get along in the world. Starting from these premises, I offer a computational model of certain aspects of everyday routine activity. This model is based on two ideas, a way of organizing improvised activity called running arguments and an account of representation for situated agents called deictic representation. Deictic representation means individuating things in the world not objectively (independently of the agent's location or heading or projects or attitudes) but rather indexically (in terms of their relation to the agent) and functionally (in terms of the role they play in the agent's ongoing projects). Deictic representation does not involve a notion of objective identity, but then objective identity is rarely a help, usually a hindrance, and always much too great an epistemic problem to make into a central representational category. A computer program called Pengi illustrates the use of deictic representation.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:280 Page(s)

Report Number: AI-TR-1085 ( AITR1085 ) , XD - DARPA ( XD )

Monitor Series: DARPA

Contract/Grant/Transfer Number: N00014-85-K-0124 ( N0001485K0124 )

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report China

PDF URL: (pdf) - 4 MB -

Accession Number: ADA347859

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 03 Oct 1988

Abstract: ( U ) This report contains articles on various issues relating to China.

Abstract Classification:Unclassified

Pages:50 Page(s)

Report Number: JPRS-CAR-88-061 ( *JPRSCAR88061* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 53 - NATO FURNISHED

Distribution Statement:Approved for public release; distribution is unlimited. NATO.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Structure-Property Relationships in Ion-Beam Surface-Modified Ceramics - Theory and Applications



PDF URL: (pdf) - 1 MB -

Accession Number: ADA212785

Personal Author(s): Catlow, C R ; Singer, I L ; Mazzoldi, P ; Parkin, Don M ; Pollock, John T ; Sawicki, J A ; Schou, Jorgen ; Saris, F W ; Battaglin, G

Corporate Author: NATO ADVANCED STUDY INST BRUSSELS (BELGIUM)

Report Date: 09 Sep 1988

Pages:49 Page(s)

Report Number: R/D - 5956-MS-02 NATO ( *RD5956MS02* ) , X5 - 5956-MS-02 NATO ( *X55956MS02* )

Monitor Series: 5956-MS-02 ( *5956MS02* ) , NATO

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Defects in Insulating Crystals Held at Parma, Italy on August 29th September 2nd, 1988

PDF URL: (pdf) - 19 MB -

Accession Number: ADA206030

Corporate Author: PARMA UNIV (ITALY) DIPT DI FISICA

Report Date: Sep 1988

Abstract: ( U ) The 1988 Parma Conference carries on the tradition of International Conferences, which originated as a meeting on Color Centers in Alkali Halides in 1956. Over the years the meeting has developed into the International Conference on Defects in Insulating

Crystals. This year it will focus on the current state of knowledge of defects and defect processes in a wide range of materials. It will bring together scientists from both academic institutions and industry and will present a unique opportunity for discussion of the role of defects in modern material technology. The Conference will stress the value of a fundamental scientific understanding of defects in the design and application of materials for specific purposes. Defects, Crystals.

Abstract Classification:Unclassified

Pages:615 Page(s)

Report Number: R/D - 5988-PH-02 R/D ( *RD5988PH02 RD* ) , XA - 5988-PH-02 R/D ( *XA5988PH02 RD* )

Monitor Series: 5988-PH-02 ( *5988PH02* ) , R/D ( *RD* )

Contract/Grant/Transfer Number: DAJA45-88-M-0196 ( *DAJA4588M0196* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Study of Personal Values of Selected Senior U.S. Army and U.S. Air Force Officers

PDF URL: (pdf) - 4 MB -

Accession Number: ADA201580

Personal Author(s): Marumoto, Glen S

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF SYSTEMS AND LOGISTICS

Report Date: Sep 1988

Abstract: ( U ) The purpose of this study was to examine the difference in values between senior military officers and civilians and between senior military officers of the Army and Air Force. The study used the ideas of Huntington and Janowitz as the basic guidelines for the analysis of the results. The study used the Rokeach Value Survey as the instrument in measuring the values of the different populations. The populations of interest were civilians, Army officers attending the Army War College, and Air Force officers attending the Air War College. An Air Force field grade officer sample had to be substituted for one of the Air War College populations. The study found civilian values differed from the military. Keywords: Military personnel, Officer personnel, Value, Ethics Army personnel, Air Force personnel, Theses.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:130 Page(s)

Report Number: AFIT/GLM/LSR/88S-44 ( *AFITGLMLSR88S44* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Latin America

PDF URL: (pdf) - 5 MB -

Accession Number: ADA362837

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Jul 1988

Pages:69 Page(s)

Report Number: JPRS-LAM-88-025 ( *JPRSLAM88025* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, USSR: Chemistry.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA345392

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 06 Jul 1988

Abstract: ( U ) Partial Contents: Alkaloids, Chemical Industry, Colloid Chemistry, Combustion and Explosives, Fertilizers, Laser Materials, Organometallic Compounds, Petroleum and Coal Processing, Radiation Chemistry, USSR.

Abstract Classification:Unclassified

Pages:27 Page(s)

Report Number: JPRS-UCH-88-011 ( *JPRSUCH88011* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology Europe.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA346198

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 01 Jul 1988

Abstract: ( U ) Partial Contents: Advanced Materials, Aerospace, Civil Aviation, Biotechnology, Computers, Defense Industries, Energy, Factory Automation, Robotics, Lasers, sensors, Optics, microelectronics, Science and Technology Policy, West Europe.

Abstract Classification:Unclassified

Pages:65 Page(s)

Report Number: JPRS-EST-98-004 ( *JPRSEST98004* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Progress Report for the Joint Services Electronics Program

PDF URL: (pdf) - 5 MB -

Accession Number: ADA196788

Personal Author(s): Jenkins, William K

Corporate Author: ILLINOIS UNIV AT URBANA COORDINATED SCIENCE LAB

Report Date: 30 Jun 1988

Abstract: ( U ) This report summarizes the research that was carried out under the Joint Services Electronics Program at the Coordinated Sciences Laboratory, University of Illinois at Urbana-Champaign, during the period April 1, 1987, through March 31, 1988. The current JSEP contract that began on October 1, 1986, contains 22 work units (Unit 3 of the new contract was withdrawn and Unit 6 has been replaced by Unit 24). In all, there are 9 units in Physical Electronics, 2 units in Electromagnetics, 10 units in Information Electronics, and 1 discretionary unit used by the Director to seed new projects. During the last year three JSEP accomplishments stand out as particularly significant, each of which is described briefly below. These are: (1) a new CAD program called iSMILE for the modeling and simulation of new microelectronic and optoelectronic devices and circuits; (2) a first-time experimentally observed charge density wave (CDW) discommensuration domain structure in the nearly commensurate phase of 1T-TaS<sub>2</sub>; and (3) new progress in achieving controlled doping in MBE silicon.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. no. 2, 1 Apr 1987-31 Mar 1988

Pages:95 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-84-C-0149 ( N0001484C0149 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Effects of Neutron Irradiation on High Temperature Superconductors

PDF URL: (pdf) - 2 MB -

Accession Number: ADA199966

Personal Author(s): Hammerer, Jr, John J

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Jun 1988

Abstract: ( U ) Neutron irradiation of high temperature superconductors was performed in order to determine the effects of nuclear weapons on these novel materials. This radiation could also be encountered in space radiation belts, fusion reactors and particle accelerators. Fluences used were on the order of 10 to the 18th power fast and thermal neutrons/sq cm. The result of the irradiation was a complete loss of observed superconductivity in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub> and ErBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>. A combination of gamma heating of 5 W/g and fast neutron flux imposed serve thermal stress on sample pellets. In two cases, the pellets were reduced to powder. Samples were prepared at the Naval Research Laboratory and the National Research Laboratory and the National Bureau of Standards. They were checked for the Meissner effect using magnetic levitation. The dc four terminal method was used to determine the transition temperature. Keywords: Yttrium compounds; Erbium compounds; Barium oxides; Copper compounds; Radiation effects; High temperature superconductivity.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:60 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proof of the Feasibility of Coherent and Incoherent Schemes for Pumping a Gamma-Ray Laser

PDF URL: (pdf) - 9 MB -

Accession Number: ADA199327

Personal Author(s): Collins, Carl B

Corporate Author: TEXAS UNIV AT DALLAS RICHARDSON CENTER FOR QUANTUM ELECTRONICS

Report Date: Jun 1988

Abstract: ( U ) Recent approaches to the problem of the gamma-ray laser have focused upon upconversion techniques in which metastable nuclei are pumped with long wavelength radiation. At the nuclear level the storage of energy can approach tera-Joules ( $10$  to the  $12$ th power J) per liter for thousands of years. However, any plan to use such a resource for a gamma-ray laser poses problems of a broad interdisciplinary nature requiring the fusion of concepts taken from relatively unrelated fields of physics. Our research group has described several means through which this energy might be coupled to the radiation fields with cross sections for stimulated emission that could reach  $10$  to the minus  $17$ th power sq cm. Such a stimulated release could lead to output powers as great as  $3 \times 10$  to the  $21$ st power Watts/liter. Since 1978 we have pursued an approach for the upconversion of longer wavelength radiation incident upon isomeric nuclear populations that can avoid many of the difficulties encountered with traditional concepts of single photon pumping.

Abstract Classification:Unclassified

Descriptive Note: Annual technical rept. 1 Jun 1987-31 May 1988

Pages:195 Page(s)

Report Number: GRL/8705 ( *GRL8705* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-86-C-2488 ( *N0001486C2488* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) JPRS Report, Soviet Union: Political Affairs

PDF URL: (pdf) - 5 MB -

Accession Number: ADA350860

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 02 May 1988

Abstract: ( U ) This report contains translations/transcriptions of articles and/or broadcasts from the USSR. Titles include: Question of Whether to Appoint or Elect Ministry Officials Examined; Religious Beliefs of Young Soldiers Seen as Threat to Military Service; Armenian Daily Reports Statistics on Vagrancy; USSR Academy of Sciences Member on Uzbek Family Planning, Employment Issues; Specific Rules to Implement Kazakh Bilingualism Policy Lacking; Stapahakert Strikes Blamed on Group Pressure, Past Attitudes; Central Asian Water Resource Management Measures Summarized; Common Bonds Between Azeris, Armenians Stressed; Ukrainian Ecological Movement Sparks Growing Concerns; and others.

Abstract Classification:Unclassified

Pages:54 Page(s)

Report Number: JPRS-UPA-88-016 ( *JPRSUPA88016* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Psychic Warfare: Exploring the Mind Frontier

PDF URL: (pdf) - 2 MB -

Accession Number: ADA202099

Personal Author(s): McKelvy, Dolan M

Corporate Author: AIR WAR COLL MAXWELL AFB AL

Report Date: May 1988

Abstract: ( U ) Man's greatest potential remains a prisoner of man. Vast untapped mental capabilities create an entirely new battlefield dimension which, if ignored, pose a threat to self and country more serious than nuclear weapons. This threat starts from within. Our fears and cynical attitudes towards psychic capabilities make us our own worst enemies. The Soviets, on the other hand, take psychic research very seriously at all levels, particularly for its military application. Exploring the mind frontier is essential and the key to successful exploration is a greater psychic awareness. The mind is rich in unfathomed resources ripe for exploration, a limitless source of treasures for advancing all mankind, and a serious threat to those who ignore its potential. We must overcome our psychic inhibitions, stop denying the existence of paranormal events, and start trying instead to understand the nature of these phenomena. We must shed the super secret cloaks and educate our leaders at all levels on the real psi military potentials and threats so we can adequately focus and prioritize national resources.

Abstract Classification:Unclassified

Descriptive Note: Research rept.

Pages:59 Page(s)

Report Number: XC - AWC ( XC )

Monitor Series: AWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Latin America.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA362491

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 03 Mar 1988

Pages:59 Page(s)

Report Number: JPRS-LAM-88-009 ( *JPRSLAM88009* ) , XX - FBIS ( XX )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutrino Detection Primer

PDF URL: (pdf) - 2 MB -

Accession Number: ADA193805

Personal Author(s): Callan, C ; Dyson, F ; Treiman, S

Corporate Author: MITRE CORP MCLEAN VA

Report Date: Mar 1988

Abstract: ( U ) This report is intended to provide for non-expert readers a survey of natural and man made neutrino sources and a critical review of various methods which have been proposed for their detection. Detection methods may be divided into two classes, those which have very modest performance and might actually work, and those which promise spectacular performance

but violate the laws of physics. Emphasis in this report is on the second class of methods. The purpose is not to describe in detail what is possible, but to establish firm limits beyond which all schemes for detection capability are impossible. The last two sections of the report are for advanced students only and should be skipped by the non expert. They provide precise mathematical statements and proofs of the limits which the laws of physics impose upon neutrino cross sections. The limits are neither simple nor obvious. Consequently, it may be useful to have their technical justification here put on record.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:97 Page(s)

Report Number: JSR-84-105 ( *JSR84105* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: F19628-86-C-0001 ( *F1962886C0001* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Near East & South Asia

PDF URL: (pdf) - 3 MB -

Accession Number: ADA347363

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 24 Feb 1988

Abstract: ( U ) This report contains articles on various issues relating to Near East and South Asia.

Abstract Classification:Unclassified

Pages:34 Page(s)

Report Number: JPRS-NEA-88-009 ( *JPRSNEA88009* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fusion Applications and Market Evaluation (FAME) Study

PDF URL: (pdf) - 6 MB -

Accession Number: ADA243768

Personal Author(s): Bourque, R F ; Schultz, K R

Corporate Author: LAWRENCE LIVERMORE NATIONAL LAB CA

Report Date: Feb 1988

Abstract: ( U ) This report discusses the known applications of fusion energy and estimates possible market. Because fusion reactors can generate surplus neutrons (10 times greater than fusion), other valuable products can be made besides thermal energy for electrical power. The purpose of this study was to explore the many other products that could result from neutronic interactions, from the volumetric nature of nuclear heating, and from use of electromagnetic and charged particle energy. Even with other products being sold, electricity is the major product of the neutron thermal energy and sale of it is generally required for acceptable economics. Other products that are either unique to fusion or can be generated in great quantities that are otherwise unattainable are: (1) fissile fuels; (2) tritium; (3) radioisotopes; especially cobalt 60; and (4) some rare metals. In particular, the market for cobalt 60 is expected to grow substantially as the food irradiation industry matures. To a limited extent, the fusion neutrons might also be used to transmute fission waste and for radiation testing sources. Thermal energy from fusion reactors can be used for nonelectrical applications such as synthetic fuel production, industrial process heat, and district heating. Inherently safe reactor designs with low activity materials could be

sited near the thermal energy user. Finally, in the long term, the high energy content of fusion fuel makes it an interesting possibility as a power source for deep space missions.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:164 Page(s)

Report Number: UCRL-21073 ( *UCRL21073* )

Contract/Grant/Transfer Number: W-7405-ENG-48 ( *W7405ENG48* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Precipitation Phenomena: Deformation and Aging. Proceedings of an International Conference Held in Conjunction with the 1988 World Materials Congress, Chicago, Illinois, USA, 24-30 September 1988

PDF URL: (pdf) - 7 MB -

Accession Number: ADA204707

Personal Author(s): Ney, B N

Corporate Author: ASM INTERNATIONAL DETROIT MI

Report Date: Jan 1988

Abstract: ( U ) The proceedings of the 1988 World Materials Congress were published by ASM and consists of the following volumes: Microalloyed HSLA Steels Conference Proceedings, Inclusions and Their Influence on Material Behavior, High Integrity Castings, Precipitation

Phenomena: Deformation and Aging, Wear Resistance of Metals and Alloys, Electronic Materials and Processing, Corrosion-Resistant Automotive Sheet Steels, Cast Reinforced Metal Composites.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:117 Page(s)

Report Number: ARO - 25297.1-MS-CF ARO ( *ARO252971MSCF* ) , XA - 25297.1-MS-CF ARO ( *XA252971MSCF* )

Monitor Series: 25297.1-MS-CF ( *252971MSCF* ) , ARO

Contract/Grant/Transfer Number: DAAL03-87-G-0128 ( *DAAL0387G0128* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High-Performance Polymeric Materials.

PDF URL: (pdf) - 12 MB -

Accession Number: ADA190708

Personal Author(s): Mark, J E

Corporate Author: CINCINNATI UNIV OH DEPT OF CHEMISTRY

Report Date: 07 Dec 1987

Abstract: ( U ) A variety of theoretical methods were used to elucidate the structure and properties of rigid rodlike polymer chains which are of interest as high-performance polymeric materials. Semi-empirical molecular mechanics methods were used to calculate the intramolecular and intermolecular energies pertinent to conformational flexibility and chain packing effects. Also, geometry optimized CNDO/2 molecular orbital calculations were carried

out to investigate the structure and conformational characteristics of the rodlike polymers, in both the unprotonated and protonated states. Electronic band gap calculations within the extended Huckel approximation were carried out to elucidate the packing and electronic properties of these chains in the crystalline state. Keywords: Rodlike polymers, Aromatic heterocyclic polymers, Conformational energies, Intermolecular interactions, Polybenzobisoxazoles, Polybenzobisthiazoles, Chain flexibility, Chain packing, Electrical conductivity, Ceramic particles, Elastomer reinforcement.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Nov 82-31 Oct 87,

Pages:233 Page(s)

Report Number: AFOSR - TR-87-2011 ( *AFOSRTR872011* )

Monitor Series: TR-87-2011 ( *TR872011* )

Contract/Grant/Transfer Number: AFOSR-83-0027 ( *AFOSR830027* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Historical Shifts in the Use of Analogy in Science.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA189522

Personal Author(s): Gentner, Dedre ; Jeziorski, Michael

Corporate Author: ILLINOIS UNIV AT URBANA DEPT OF COMPUTER SCIENCE

Report Date: 26 Nov 1987

Abstract: ( U ) Analogy is widely considered to be an important mechanism of scientific thinking and a source of creative insight in theory development. This paper considers the implicit



constraints that determine analogical soundness. First examine the constraints that govern analogical reasoning as it is predicted today. Then trace the scientific uses of analogy through three time periods and contrast the styles of analogizing practice by scientists at different points in history. This comparison suggests that the notion of analogical soundness has evolved over time. Keywords: Analogy; Similarity; Structure mapping; systematically; Relational systems.

Abstract Classification:Unclassified

Descriptive Note: Technical rept. 1 Sep 85-30 Aug 88,

Pages:61 Page(s)

Report Number: UICDCS-R-87-1389 ( *UICDCSR871389* ) , UILU-ENG-87-1778 ( *UILUENG871778* )

Contract/Grant/Transfer Number: N00014-85-K-0559 ( *N0001485K0559* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, USSR: Life Sciences

PDF URL: (pdf) - 3 MB -

Accession Number: ADA349181

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 05 Nov 1987

Abstract: ( U ) This report contains articles on Science and Technology, USSR: Life Science.

Abstract Classification:Unclassified

Pages:73 Page(s)

Report Number: JPRS-ULS-87-013 ( *JPRSULS87013* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ESSDERC (European Solid State Device Research Conference) 17th Held in Bologna, Italy on 14-17 September 1987

PDF URL: (pdf) - 60 MB -

Accession Number: ADA212842

Corporate Author: CONSIGLIO NAZIONALE DELLE RICERCHE BOLOGNA (ITALY) IST LAMEL

Report Date: 17 Sep 1987

Pages:1139 Page(s)

Report Number: R/D - 5851-EE-02 R/D ( *RD5851EE02 RD* ) , XA - 5851-EE-02 R/D ( *XA5851EE02 RD* )

Monitor Series: 5851-EE-02 ( *5851EE02* ) , R/D ( *RD* )

Contract/Grant/Transfer Number: DAJA45-87-M-0234 ( *DAJA4587M0234* ) , DASA45-87-M-0234 ( *DASA4587M0234* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Mechanisms of Radiation Effects in Electronic Materials and Devices

PDF URL: (pdf) - 6 MB -

Accession Number: ADA186936

Personal Author(s): McLean, F B ; Oldham, Timothy R

Corporate Author: HARRY DIAMOND LABS ADELPHI MD

Report Date: Sep 1987

Abstract: ( U ) This report reviews the primary physical processes underlying the response of electronic materials and devices to radiation as well as the relationship of these processes to the modes of circuit degradation and failure. An overview presents brief discussions of the major radiation environments of practical interest, the interaction of radiation with solid targets, common terminology of radiation exposure, and the primary radiation effects in electronic materials, including ionization effects (radiation-induced photocurrents and space charge buildup) and atomic displacement damage effects. An emphasis is given to the problem of total-dose ionization response, primarily in metal-oxide-semiconductor (MOS) systems. In particular, a description of the basic physical phenomena underlying the complex time history of the MOS radiation response is given, and some implications of the time-dependent response for issues of radiation testing, hardness assurance and radiation response prediction are pointed out. There is also discussion on the implications of scaling down the gate oxide thickness and on the increasingly important problem of radiation-induced leakage currents. Keywords: Radiation effects, Ionizing radiation, Nuclear weapons effects, Microelectronics, Metal oxide semiconductor devices, Bipolar devices, Total dose ionization, Transient radiation, Single event upset.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Sep 1986-Sep 1987

Pages:91 Page(s)

Report Number: HDL-TR-2129 ( *HDLTR2129* ) , XD - DNA ( *XD* )

Monitor Series: DNA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Approximate Expansion for Function Theoretic Representation of Solutions of the Helmholtz Equation

PDF URL: (pdf) - 412 KB -

Accession Number: ADA227339

Personal Author(s): Duston, Mark D ; Gilbert, Robert P ; Wood, David H

Corporate Author: LEHIGH UNIV BETHLEHEM PA DEPT OF MECHANICAL  
ENGINEERING AND MECHANICS

Report Date: 03 Aug 1987

Abstract: ( U ) This document is based on a presentation given at the American Mathematical Society National Meeting, New Orleans, Louisiana, January 1986. We start from a function theoretic (transmutation) representation of the solutions of the class of Helmholtz equations that have coefficients that vary in one direction and satisfy a radiation condition in orthogonal directions. The kernel of the required transmutation operator satisfies a mixed Cauchy-Goursat problem for a hyperbolic partial differential equation in two variables. We present an expansion of the kernel function that can be truncated to produce approximations that are suitable for applications for the desired transmutations, and we compare to other approximation techniques.

Abstract Classification:Unclassified

Descriptive Note: Technical document

Pages:15 Page(s)

Report Number: NUSC-TD-7795 ( *NUSCTD7795* ) , XB - NUSC ( *XB* )

Monitor Series: NUSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Shielding Analysis of a Small Compact Space Nuclear Reactor

PDF URL: (pdf) - 6 MB -

Accession Number: ADA185566

Personal Author(s): Woodrow, Lee L , Jr

Corporate Author: AIR FORCE WEAPONS LAB KIRTLAND AFB NM

Report Date: Aug 1987

Abstract: ( U ) The SP-100 reactor concept, currently in its developmental stage, has layered tungsten--lithium hydride shield. Studies indicate that this shield configuration is the lightest weight shield. This configuration and three other shielding concepts were analyzed to determine the lightest shield and to determine the shield configuration with the smallest volume. The other three concepts were a boron carbide--beryllium layered shield, and a lithium hydride--beryllium shield. FEMP2D and FEMP1D codes were used in this analysis. These codes were developed at Sandia National Laboratory (SNL), using the input from another code, RFCC, which produced energy dependent dose conversion factors, and determined the shield's ability to attenuate the neutron and gamma radiation to permissible dose limits. The results of this analysis show that the lithium hydride--tungsten layered shield was indeed the lightest weight shield. However, a boron carbide--tungsten shield was calculated volume constraint. Therefore volume, not weight, may be the driving factor in determining the shield configuration.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:206 Page(s)

Report Number: AFWL-TR-87-94 ( AFWLTR8794 ) , XC - AFWL ( XC )

Monitor Series: AFWL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Science & Technology, Europe & Latin America

PDF URL: (pdf) - 6 MB -

Accession Number: ADA356990

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 20 Jul 1987

Pages:114 Page(s)

Report Number: JPRS-ELS-87-039 ( *JPRSELS87039* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Scholarly Research in Aerospace Power.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA311903

Personal Author(s): Pinson, Jay D

Corporate Author: SAN JOSE STATE UNIV CA

Report Date: 01 Jul 1987

Abstract: ( U ) This final report summarizes the efforts of Air Force contract F33615-81-C-2013 entitled 'Scholarly Research In Aerospace Power' administered by Dr. Jay Pinson, School of Engineering, San Jose State University, accomplished under the contract. Each task identifies the principal investigator and includes objective, conclusions and recommendations.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Apr 81-Jun 87,

Pages:67 Page(s)

Report Number: WL\* - TR-96-2099 WL\* ( *WLTR962099 WL* ) , XC - TR-96-2099 WL\* ( *XCTR962099 WL* )

Monitor Series: TR-96-2099 ( *TR962099* ) , WL\* ( *WL* )

Contract/Grant/Transfer Number: F33615-81-C-2013 ( *F3361581C2013* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report East Asia Southeast Asia

PDF URL: (pdf) - 6 MB -

Accession Number: ADA346713

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 24 Jun 1987

Abstract: ( U ) This report contains information concerning political, civil, and economic affairs of South East Asia. The following countries are included: (1) Laos, (2) Thailand, (3) Philippines, and (4) Vietnam.

Abstract Classification:Unclassified

Pages:127 Page(s)

Report Number: JPRS-SEA-87-085 ( *JPRSSEA87085* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Availability: Superintendent of Documents, GPO, Washington, DC  
20402 PC \$4.50.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ONR Far East Scientific Bulletin. Volume 12, Number 2, April-June 1987,

PDF URL: (pdf) - 12 MB -

Accession Number: ADA185242

Personal Author(s): Wright, George B ; Kawano, Sandy

Corporate Author: OFFICE OF NAVAL RESEARCH LIAISON OFFICE FAR EAST APO  
SAN FRANCISCO 96503

Report Date: Jun 1987

Abstract: ( U ) Partial Contents: High Temperature Oxide Superconductors in Japan; The Indian Department of Ocean Development; International Conference on Semiconductor and Integrated Circuit Technology, Beijing, China; Propeller-Hull Interaction Research in Japan; Third U.S.-Japan Seminar on Dielectric and Piezoelectric Ceramics; Visits to Some Heat Transfer Research Groups in Japan; Chinese Institute of Electronics 1986 International Conference on Radar; Three Out-of-the-Ordinary Hydrodynamics Research Investigations Underway in Japan; Research



Activities of Kajima Corp. including some technical details of carbon fiber reinforced cement; International Conference on Laser Advanced Materials Processing; Optoelectrics Joint Research Laboratory--A review of accomplishments; International Meetings in the Far East, 1987-1994.

Abstract Classification:Unclassified

Pages:162 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Applied Material Science in Turkey

PDF URL: (pdf) - 801 KB -

Accession Number: ADA181337

Personal Author(s): Cartz, Louis

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (UNITED KINGDOM)

Report Date: 01 Jun 1987

Abstract: ( U ) This report covers visits to several of Turkey's leading technical institutions and provides a survey of some of their facilities and ongoing research in applied material science; primarily with minerals, ceramics, polymers, and elastic constants. The institutes visited included: Middle East Technical University (METU), Ankara; Turkish Scientific and Technical Development Agency (Tubitak), Ankara; Mining Research Institute Ankara (MTA); Tubitak Electronics and Electrical Research Institute, Ankara; Marmara Research Institute, Gebese; and Ankara Nuclear Research and Training Center (ANAEM). Keywords: Metallography; Ceramics; Material Science; Minerals; Polymers.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:10 Page(s)

Report Number: ONRL-7-013-R ( *ONRL7013R* ) , XB - ONRL ( *XB* )

Monitor Series: ONRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Guide for the Management of Multinational Programs. A Handbook for Managers Entering the World of International Acquisition. Second Edition

PDF URL: (pdf) - 30 MB -

Accession Number: ADA191433

Personal Author(s): Marr, Francis C ; McGovern, William M ; Snyder, Terry W ; McCleave, Robert E

Corporate Author: ADVANCED TECHNOLOGY INC ARLINGTON VA

Report Date: 11 May 1987

Abstract: ( U ) The guide was published with the approval of DSMC. Its goal is to provide program managers, who have had experience with domestic programs, background and substantive information on the many special and complex features of multinational programs. The guide stresses the need for all managers to consider early in their programs the important objectives of international armaments cooperation. Major International Arms Collaboration Approaches; NATO Standardization and Planning Systems; NATO Allies Overview; Selected Non-Nato Countries Overview; Acquisition Strategy; Offset/Countertrade; Technology Transfer; Contract Management; Intellectual Property; Technical and Business Management; Financial Management; Foreign Weapons Evaluation (FWE) and Nato Comparative Test (NCT) Programs; Manufacturing and Production; Logistics; Disclosure of Military Information; and Modes of Communication.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jul 86-11 May 87

Pages:564 Page(s)

Report Number: XD - DSMC ( XD )

Monitor Series: DSMC

Contract/Grant/Transfer Number: MDA903-86-C-0099 ( MDA90386C0099 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Services Electronics Program.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA182867

Personal Author(s): Jenkins, William K

Corporate Author: ILLINOIS UNIV AT URBANA COORDINATED SCIENCE LAB

Report Date: 31 Mar 1987

Abstract: ( U ) Contents: Crystal Growth from the Vapor Phase and Controlled Doping of Equilibrium and Metastable Semiconductor Alloys; Ion/Surface Interactions; Studies of Transport Phenomena in Semiconductors; Basic Studies of the Optical and Electronic Properties of Defects and Impurities in Compound Semiconductor Epitaxial Layers and Related Superlattices; Heterostructure Electronic Devices by Metalorganic Chemical Vapor Deposition (MOCVD); High-Speed and Other Optical Properties of MBE-Grown Structures; Computer-Aided Design of High-Performance Integrated Circuits with Ultra-Small Features; Collective Electronic Transport in Quasi-One-Dimensional Systems; An Investigation of Plasma and Chemistry Processes in Cylindrical Magnetron Plasma Discharges; Excited State Chemistry in Gases; Monolithic Millimeter-Wave Integrated Circuits with Microstrip Antennas; Investigation of Radar Scattering Characteristics of Controllable Surface Shapes with Application to Low Observable Targets; High-Performance Testable Electronic Systems; New Directions in Fault-

Tolerant Computing; Efficient Computation Techniques; High-Resolution Sensor Array Processing; Parallel VLSI Structures for Sensor Array Processing; Adaptive Algorithms for Identification, Filtering, Control, and Signal Processing; Distributed and Decentralized Systems; Robust Feedback Control of Nonlinear Systems; Multiple-Terminal Digital Communication Systems; Statistical Signal Processing in Communication Systems; Basic Research in Electronics.

Abstract Classification:Unclassified

Descriptive Note: Progress rept. 1 Apr 86-31 Mar 87,

Pages:83 Page(s)

Contract/Grant/Transfer Number: N00014-84-C-0149 ( *N0001484C0149* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Near East/South Asia Report

PDF URL: (pdf) - 6 MB -

Accession Number: ADA372740

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Mar 1987

Pages:115 Page(s)

Report Number: JPRS-NEA-87-037 ( *JPRSNEA87037* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) West Europe Report.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA348884

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 20 Mar 1987

Abstract: ( U ) This JPRS report contains information on the Political Affairs in West Europe.

Abstract Classification:Unclassified

Pages:117 Page(s)

Report Number: JPRS-WER-87-021 ( *JPRSWER87021* ) , X5 - XD ( *X5* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) DLTS Analysis and Modeling of Electron and Proton Irradiated (AlGa)As/GaAs Multijunction Solar Cells.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA180234

Personal Author(s): Li,Sheng S

Corporate Author: FLORIDA UNIV GAINESVILLE DEPT OF ELECTRICAL  
ENGINEERING

Report Date: Mar 1987

Abstract: ( U ) A numerical model has been developed to calculate the displacement defects, the damage constant of minority carrier diffusion length and the degradation of short circuit current ( $I_{sc}$ ), open circuit voltage ( $V_{oc}$ ) and conversion efficiency ( $\eta_c$ ) in the 1 MeV electron and proton irradiated AlGaAs/GaAs/InGaAs multijunction solar cell under normal incidence conditions. The results show good agreement between our calculated values and the experimental data of  $I_{sc}$ ,  $V_{oc}$  and  $\eta_c$ . In addition, DLTS analysis of defects in AlGaAs p-n junction solar cells irradiated by 1-MeV electrons has also been carried out in this work. The I-V analysis on several MOCVD-grown Ge/GaAs tunnel junction diodes has also been made in this study. Keywords: Gallium Arsenide, Aluminum Gallium Arsenide; Indium Gallium Arsenide; Deep Level Transient Spectroscopy; Germanium; Radiation Defects; Multijunction Solar Cells; Tunnel Junctions.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Oct 85-Oct 86,

Pages:44 Page(s)

Report Number: AFWAL - TR-86-2120 ( *AFWALTR862120* )

Monitor Series: TR-86-2120 ( *TR862120* )

Contract/Grant/Transfer Number: F33615-81-C-2058 ( *F3361581C2058* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Methods for Estimating Physicochemical Properties of Inorganic Chemicals of  
Environmental Concern. Volume 1

PDF URL: (pdf) - 39 MB -

Accession Number: ADA182275

Personal Author(s): Lyman, Warren J ; Bodek, Itamar ; Reehl, William F ; Birkett, James D ; Bonazountas, Marc

Corporate Author: LITTLE (ARTHUR D) INC CAMBRIDGE MA

Report Date: Mar 1987

Abstract: ( U ) This report provides information on environmentally important physicochemical properties of inorganic and organometallic chemicals. Part I provides generic descriptions of sixteen properties or processes including, where available, estimation methods for the properties along with example calculations. Part I also discusses uptake of inorganic pollutants by biota and mathematical (computerized) models for predicting speciation in water and environmental transport. Part II of the report presents environmentally important property data for several groups of elements or compounds. The data include, for example, precalculated speciation diagrams (vs pH and/or pe), complexation and solubility product constants, soil sorption constants, and several other items. Appendices provide information on background concentrations (in air, water and soil) of metals and other inorganics, federal standards and criteria for inorganic pollutants, and the properties of soils that affect the mobility of inorganic pollutants. Volume I includes the following five sections: Introduction; Description of Individual Processes; Kinetics fo Selected Processes; Uptake by Biota; and Mathematical Environmental Fate Modeling.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 30 Sep 1983-31 Mar 1987

Pages:721 Page(s)

Report Number: ADL-C-50075-VOL-1 ( *ADLC50075VOL1* ) , XA - USABRDL ( XA )

Monitor Series: USABRDL

Contract/Grant/Transfer Number: DAMD17-83-C-3274 ( *DAMD1783C3274* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transactions of the Army Conference on Applied Mathematics and Computing (4th)  
Held in Ithaca, New York on 27-31 May 1986

PDF URL: (pdf) - 88 MB -

Accession Number: ADA183544

Corporate Author: ARMY RESEARCH LAB RESEARCH TRIANGLE PARK NC ARMY  
RESEARCH OFFICE

Report Date: Feb 1987

Abstract: ( U ) The Fourth Army Conference on Applied Mathematics and Computing was held 27-30 May 1986 at Cornell University, Ithaca, New York. It coincided with the formal opening of the recently established Mathematical Sciences Institute (MSI). This meeting's seven invited speakers addressed the vital areas of combustion, computational fluid dynamics, parallel computation, stochastic analysis, multiple bifurcation, numerical solutions of partial differential equations and problems in many scales of length and time in modern computing environments. There were two special sessions that dealt with Stochastic Algorithms and Computational Vison, and Probabilistic Methods in Solid Mechanics. The one hundred and eight contributed technical papers covered nearly the entire spectrum of basic research. During the course of the meeting several synergetic relationships developed, and the feedback from the Army scientists was very positive. As in previous meetings, this meeting provided its attendees a chance to see the many scientific developments taking place in the various Army laboratories. Through these meetings, techniques developed at one installation are brought to the attention of scientists at other places, this reducing duplication of effort. Another important phase of these meetings is presenting the members of the audience an opportunity to hear nationally known scientists discuss recent developments of their own fields.

Abstract Classification:Unclassified

Pages:1330 Page(s)

Report Number: ARO-87-1 ( ARO871 ) , XA - AROD ( XA )

Monitor Series: AROD



Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Bibliography of Soviet Laser Developments, Number 79, September - October 1985.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA191370

Corporate Author: DEFENSE INTELLIGENCE AGENCY WASHINGTON DC  
DIRECTORATE FOR SCIENTIFIC AND TECHNICAL INTELLIGENCE

Report Date: Jan 1987

Abstract: ( U ) This is the Soviet Laser Bibliography for September-October 1985, and is No. 79 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications systems; beam propagation; adaptive optics; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.

Abstract Classification:Unclassified

Pages:130 Page(s)

Report Number: DIA-DST-2700Z-002-87 ( *DIADST2700Z00287* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutron Irradiation Effects on the Mechanical Properties of HY-80 Steel

PDF URL: (pdf) - 3 MB -

Accession Number: ADA174712

Personal Author(s): Nold, William F

Corporate Author: PENNSYLVANIA STATE UNIV UNIVERSITY PARK DEPT OF  
NUCLEAR ENGINEERING

Report Date: Dec 1986

Abstract: ( U ) HY-80 steel is a high strength steel used by the U.S. Navy in constructing nuclear submarine hulls. The need to know the effects of neutron irradiation on its mechanical properties is evident because the steel will acquire a fast neutron dose over the lifetime of the vessel. Future construction of reactor vessels and components is expected to rely, to a higher degree, on the use of these high strength steel alloys. The mechanical properties of HY-80 steel is affected by neutron irradiation when bombarding neutrons collide with the material's atomic structure. Radiation defects caused by this damage hinder or prevent dislocation movement through the structure, which in turn hardens the steel. Previous research on this subject has concluded that irradiation levels on the order of  $3 \times 10$  to the 19th power n/sq cm can increase the steel's strength by as much as 50%, and raise its ductile-brittle transition temperature several hundred degrees. Few previous studies have shown measurable effects on the mechanical properties of HY-80 steel if irradiation levels are below  $1 \times 10$  to the 17th power n/sq cm. The research discussed in this paper found that irradiation levels of  $5 \times 10$  to the 17th power n/sq cm do result in measurable effects on the strength and hardness of HY-80 steel, and that increasing irradiation fluence levels increases the magnitude of these effects.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:96 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

Contract/Grant/Transfer Number: N00028-85-G-3278 ( N0002885G3278 )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Presentation on Explicit Normal Modes for a Perturbed Ocean Model by Perturbation

PDF URL: (pdf) - 806 KB -

Accession Number: ADA227338

Personal Author(s): Duston, Mark D ; Gilbert, Robert P ; Verma, Ghasi R ; Wood, David H

Corporate Author: NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT

Report Date: 07 Oct 1986

Abstract: ( U ) Subject to simplifying assumptions, one can use the method of normal modes, involving the eigenvalues and eigenfunctions of a depth dependent Sturm-Liouville problem. The constant sound speed of the idealized uniform ocean model is modified by a function that is multiplied by a small parameter, epsilon. The changes that result, both the classical theory of perturbation for Sturm-Liouville problems and a newer transmutation approach. The transmutation approach is used in a way that overcomes its main disadvantage, at least to first order in epsilon. Explicit formulas are obtained for both the eigenvalues and eigenfunctions to first order, without having to expend the eigenfunctions in an infinite series, as is done in the classical approach. Finally, the new formulas are consistent with the classical infinite series.

Abstract Classification:Unclassified

Descriptive Note: Technical document

Pages:33 Page(s)

Report Number: NUSC-TD-7791 ( *NUSCTD7791* ) , XB - NUSC ( *XB* )

Monitor Series: NUSC

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Presentation on Perturbation Modeling for Ocean Sound Propagation

PDF URL: (pdf) - 709 KB -

Accession Number: ADA227341

Personal Author(s): Duston, Mark D ; Verma, Ghasi R ; Wood, David H

Corporate Author: PENNSYLVANIA UNIV PHILADELPHIA SCHOOL OF CHEMICAL ENGINEERING

Report Date: 07 Oct 1986

Abstract: ( U ) Assume that the speed of sound in the water and the bottom of the ocean is a function of only the depth, and not the range. Also assume that the ocean and its bottom eventually interface with a rigid halfspace. This problem can be solved by the method of normal modes, involving the eigenvalues and eigenfunctions of depth dependent ordinary differential equation. Since the sound speed in this problem varies only a little from its average value, the eigenfunctions and eigenvalues are known when the sound speed is constant. The changes in these eigenvalues and eigenfunctions that result from changes in the depth dependent sound speed within the ocean and its bottom, using an algebraic formulation of the effect of the perturbation. Another more recent approach to finding the changes in the eigenvalues and eigenfunctions is a transmutation approach. We show a method of approximating the kernel of an integral transform and use it to find the first order corrections to the eigenvalues and eigenfunctions. Finally we compare the results of these two approaches with the results of classical perturbation theory for the same problem.

Abstract Classification:Unclassified

Descriptive Note: Technical document

Pages:30 Page(s)

Report Number: NUSC-TD-7793 ( *NUSCTD7793* ) , XB - NUSC ( *XB* )

Monitor Series: NUSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Subject Categorization Guide for Defense Science and Technology

PDF URL: (pdf) - 15 MB -

Accession Number: ADA172650

Corporate Author: DEFENSE TECHNICAL INFORMATION CENTER ALEXANDRIA VA

Report Date: Oct 1986

Abstract: ( U ) This guide is an extensive revision of the COSATI Subject Category List (DoD Modified) AD 624000. It provides a basis for the subject grouping of scientific and technical reports used by the Defense Technical Information Center (DTIC). It is used primarily as a standardized mechanism for defining areas of need-to-know in the distribution of information about DoD-supported technologies.

Abstract Classification:Unclassified

Pages:280 Page(s)

Report Number: DTIC/TR-86/16 ( *DTICTR8616* ) , XD - DTIC ( *XD* )

Monitor Series: DTIC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Soviet Central Asian Challenge: A Neo-Gramscian Analysis.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA175262

Personal Author(s): Dorn, Allen E

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Sep 1986

Abstract: ( U ) The Soviet Union faces a revolutionary challenge from its Central Asian Muslim population which is capable of undermining Soviet authority in the region. This thesis establishes a neo-Gramscian theory for analyzing the Soviet Central Asian challenge as a developing counterhegemonic movement against the Russian-dominated State. Antonio Gramsci's theory of hegemony and counterhegemony explains the mechanism of rule essential for group control of a state as well as the mechanism of revolt required to permit a subordinate group to stage a successful social revolution. For the purpose of this thesis, traditional Gramscian theory was broadened to allow its application to societies like the Soviet Union where the dominant division of civil society is not economic class but rather nationality group. From this neo-Gramscian perspective, the Soviet Union is a 'State of nations' hegemonically ruled by a single nation - the Russian nation - through a national ideology - Russian communism. The Central Asian counterhegemonic challenge to Russian hegemony revolves around three key issues: the rapidly expanding Muslim population of the region, the continued strength of Soviet Islam and Sufism, and Central Asia's Muslim nationalism. This thesis concludes that the Central Asian challenge appears capable of producing a successful Gramscian counter-hegemonic revolution against the Soviet State without foreign aid or support. (Author)

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:80 Page(s)

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology

PDF URL: (pdf) - 4 MB -

Accession Number: ADA354906

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 18 Aug 1986

Pages:134 Page(s)

Report Number: JPRS-CST-86-033 ( *JPRSCST86033* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) East Europe Report

PDF URL: (pdf) - 7 MB -

Accession Number: ADA372770

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 28 Jul 1986

Pages:108 Page(s)

Report Number: JPRS-EER-86-111 ( *JPRSEER86111* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 53 - NATO FURNISHED

Distribution Statement:Approved for public release; distribution is unlimited. NATO.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the NATO Advanced Study Institute on High-Brightness Accelerators Held in Pitlochry, Scotland on 13-25 July 1986. Series B. Volume 178

PDF URL: (pdf) - 30 MB -

Accession Number: ADA205203

Personal Author(s): Hyder, Anthony K ; Rose, M F ; Guenter, Arthur H

Corporate Author: AUBURN UNIV AL

Report Date: 25 Jul 1986

Abstract: ( U ) Partial contents: High-Brightness Accelerators; Brightness, Emittance and Temperature; High-Intensity Circular Proton Accelerators; Wakefield Acceleration: Concepts and Machines; Wake Fields: Limitations and Possibilities; High-Brightness RF Linear Accelerators; The Physics of Codes; High-Current Electron-Beam Transport in Recirculating Accelerators; Requirements on the Beam for mm- and Sub-mm-Wave Generation; Brightness Limits for Ion Sources; Radial Transmission-Line Linear Accelerators; RF Breakdown Limits; RF Power Sources for High-Brightness RF Linacs; Fundamental Features of Superconducting Cavities for High-Brightness Accelerators; Free-Electron Laser Amplifier Driven by an Induction Linac; FEL Oscillators (Microtrons); The ACO Storage Ring Free Electron Laser; Emittance, Brightness, Free-Electron Laser Beam Quality, and the Scaled Thermal Velocity; Induction Linacs for Heavy-Ion Fusion; High-Average- Power Electron Accelerators for Food Processing; and Summary of Linear-Beam Transport. Books; Symposia.

Abstract Classification:Unclassified

Pages:813 Page(s)

Report Number: X5 - NATO ( X5 )



Monitor Series: NATO

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Amphoteric Impurities in Gallium Arsenide.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA173160

Personal Author(s): Stillman,Gregory E

Corporate Author: ILLINOIS UNIV AT URBANA ENGINEERING RESEARCH CENTER  
FOR COMPOUND SEMICONDUCTOR MICROELECTRONICS

Report Date: 14 Jul 1986

Abstract: ( U ) Low temperature photoluminescence spectroscopy has been applied to the study of high purity GaAs grown by liquid phase epitaxial, hydride vapor phase epitaxial, metalorganic chemical vapor deposition and molecular beam epitaxial growth techniques. This analytical technique has been used in combination with the analysis of variable temperature Hall effect data to quantitatively analyze the acceptor species present in high purity epitaxial GaAs. The incorporation of the amphoteric column IV elements has been studied for different growth conditions in each of the epitaxial growth techniques.

Abstract Classification:Unclassified

Descriptive Note: Annual technical rept. 1 Feb 85-31 Jan 86,

Pages:27 Page(s)

Report Number: AFOSR - TR-86-0944 ( *AFOSRTR860944* )

Monitor Series: TR-86-0944 ( *TR860944* )

Contract/Grant/Transfer Number: AFOSR-83-0030 ( *AFOSR830030* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Electric Propulsion MPD (Magnetoplasmdynamic).

PDF URL: (pdf) - 1 MB -

Accession Number: ADA169792

Personal Author(s): Kelley,A J ; Von Jaskowsky,W ; Polk,J ; Jahn,R G

Corporate Author: PRINCETON UNIV NJ DEPT OF MECHANICAL AND AEROSPACE  
ENGINEERING

Report Date: May 1986

Abstract: ( U ) An in-situ method of measuring MPD(Magnetoplasmdynamic) thruster component erosion has been developed and tested on a reference multimegawatt thruster configuration. The technique involves activation of selected areas on the components to be studied by precisely controlled high energy (Me4V) ion beam bombardment. Monitoring the decrease in activity during thruster operation provides a precise (sub-micron accuracy), quantitative measure of the amount of material removed from the surface. In preliminary tests, erosion of the tungsten cathode occurred at all operating conditions, but a number of factors contributed to the lack of detectable erosion of the copper anode or the boron nitride insulator. These results tentatively indicate that cathode erosion is linearly related to the charge transfer, but scatter in the individual test sequence erosion rate data prevents a more definitive conclusion to be drawn at this time. Nevertheless, a comparison of erosion data obtained at two different pulse lengths (1 msec, 2 msec) indicates that cathode material loss is generally independent of the number of current transients. Work is continuing in a broad effort to refine the Surface Layer Activation (SLA) technique and to obtain a data base for additional thrusters.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Aug 79-31 May 86,

Pages:35 Page(s)

Report Number: AFRPL - TR-86-044 ( *AFRPLTR86044* )

Monitor Series: TR-86-044 ( *TR86044* )

Contract/Grant/Transfer Number: F04611-79-C-0039 ( *F0461179C0039* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology.

PDF URL: (pdf) - 8 MB -

Accession Number: ADA354742

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Feb 1986

Pages:143 Page(s)

Report Number: JPRS-CST-86-005 ( *JPRSCST86005* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Modeling and DLTS Analysis of Irradiated III-V Multijunction Solar Cells.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA167670

Personal Author(s): Li,Sheng S

Corporate Author: FLORIDA UNIV GAINESVILLE DEPT OF ELECTRICAL  
ENGINEERING

Report Date: Feb 1986

Abstract: ( U ) The objective of this research project was to develop a simple theoretical model based on Wilson's model to calculate the displacement damages introduced by either proton or electron irradiation in AlGaAs, GaAs, InGaAs and Ge. These calculations would then be applied to obtain an optimized triple junction solar cell structure using these materials with a specified end of life conversion efficiency. Empirical formulae and theoretical expressions were derived for calculating the displacement cross section, penetration depth, path length, total number of defects formed by an incident electron or proton, and the fractional loss of electron-hole pairs due to recombination loss. Formulae to calculate the degradation of short-circuit current under different electron and proton fluences and energies in AlGaAs, GaAs, InGaAs, Ge single junction solar cells and the triple junction cells formed from these materials were developed. The results of our calculations indicate that the degradation rate in each cell varies greatly, and depends critically not only the energy, fluence and the direction of the incident electrons and protons but also on the thickness of each cell in the triple junction cells. Major difficulties encountered in performing the theoretical calculations using the model developed in this report included many unknown parameters and the lack of experimental data on electron and proton damages in the AlGaAs and InGaAs solar cells for comparison with theoretical calculations. These uncertainties can be removed once the actual cell structures for the proposed triple junction cells are fabricated and measurements of radiation damage are made in these cells.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Nov 84-Oct 85,

Pages:88 Page(s)

Report Number: AFWAL - TR-85-2108 ( *AFWALTR852108* )

Monitor Series: TR-85-2108 ( *TR852108* )

Contract/Grant/Transfer Number: F33615-81-C-2058 ( *F3361581C2058* )

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Services Electronics Program.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA169790

Personal Author(s): Trick, Timothy N

Corporate Author: ILLINOIS UNIV AT URBANA COORDINATED SCIENCE LAB

Report Date: Jan 1986

Abstract: ( U ) Contents: Molecular Beam Epitaxy; Heterostructure Electronic Devices by Metalorganic Chemical Vapor Deposition; Studies of Transport Phenomena in Semiconductors; Crystal Growth of Semiconductor Alloys from the Vapor Phase and Controlled Doping; Ion-Surface Interactions; An Investigation of the Plasma and Chemistry Processes in Cylindrical Magnetron Reactive Ion Etching Discharges; Acoustic Charge Transport; Vapor Phase Growth and Characterization of InGaAsP Heterostructures and Devices; Direct Examination of the Metal-Semiconductor Interface; Quantum Dynamics of Charge-Density Waves; Excited State Chemistry in Gases; Electromagnetic Radiation and Scattering; Millimeter and Submillimeter Wave Integrated Circuits; Control and Decision Strategies for Systems under Imperfect Information; Implementation Constrained Decomposition and Hierarchical Control; Multiple-Terminal Digital Communication Systems; Digital Detection and Estimation; Hierarchical Simulation and Design Verification of VLSI Circuits and Systems; Computer Architecture; Fault-Tolerant Computer Systems; Efficient Computation Techniques; Multi-Sensor Digital Array Processing; Basic Research in Electronics.

Abstract Classification:Unclassified

Descriptive Note: Progress rept. 1 Apr 85-31 Mar 86,

Pages:97 Page(s)

Contract/Grant/Transfer Number: N00014-84-C-0149 ( N0001484C0149 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Services Electronics Program.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA163108

Personal Author(s): Tinkham,M

Corporate Author: HARVARD UNIV CAMBRIDGE MA DIV OF APPLIED SCIENCES

Report Date: 31 Dec 1985

Abstract: ( U ) This annual report of the JSEP (Joint Services Electronic Program) in solid state electronics, quantum electronics, information electronics, control and optimization, and electromagnetic phenomenon is presented. Results of the research to date are summarized and significant accomplishments are discussed. Keywords: Solid state electronics; quantum electronics; information and control electronics; optimization; electromagnetic phenomena.

Abstract Classification:Unclassified

Descriptive Note: Annual progress rept. no. 99, 1 Apr-31 Dec 85,

Pages:83 Page(s)

Contract/Grant/Transfer Number: N00014-84-K-0465 ( N0001484K0465 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution unlimited. Hard copies availability from AFGL/CA, Attn: A. JURSA, Hanscom AFB, MA 01730-5000. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Handbook of Geophysics and the Space Environment

PDF URL: (pdf) - 80 MB -

Accession Number: ADA167000

Personal Author(s): Jursa, Adolph S

Corporate Author: AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA

Report Date: 05 Dec 1985

Abstract: ( U ) This fourth edition of the Air Force Handbook of Geophysics and the Space Environment has been completely revised. It begins with chapters on the sun and its emissions, then treats the earth's magnetic field and the radiation belts, and follows with chapters on the ionosphere and the aurora. The subject of electrical charging of space vehicles has been of special concern to the Air Force and has been included to aid the designers interested in that problem. The next group of chapters deals with properties of the atmosphere, and the handbook concludes with chapters on the earth sciences and infrared astronomy. Keywords: Geophysics; Sun; Solar wind; Solar irradiance; Radiation belts; Ionosphere; Aurora; Air glow; Density; Temperature; Pressure; Winds; Earth atmosphere; Gravity; Geodesy; Infrared astronomy.

Abstract Classification:Unclassified

Descriptive Note: 4th edition (Final)

Pages:1023 Page(s)

Report Number: AFGL-TR-85-0315 ( *AFGLTR850315* ) , AFGL-SR-253 ( *AFGLSR253* ) , XC - AFGL ( *XC* )

Monitor Series: AFGL

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) InP:Fe and GaAs:Cr Picosecond Photoconductive Radiation Detectors.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA164413

Personal Author(s): Keipper, Phillip J

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 1985

Abstract: ( U ) The dark current, impulse and square-pulse response measurements of photoconductive devices fabricated from two different types of materials, Gallium Arsenide with Chromium dopant (GaAs:r) and Indium Phosphide with Iron dopant (InP:Fe) are reported. These devices have been subjected to irradiation from the S-band Electron Linear Accelerator (LINAC) with an energy of 100 MeV at room temperature. Fluence ranged between 10 to the 13th power and 10 to the 16th power electrons/sq cm. Dark current decreases with increasing fluence for the GaAs:Cr devices whereas InP:Fe shows an increase in the dark current. Both types of materials exhibit extremely fast impulse response after the irradiation. Electron mobility, drift velocity and response speed decrease with increasing fluence. Response speeds of 100 ps are achieved by fast carrier relaxation in the semiconductor due to the introduction of trapping and recombination centers resulting from the irradiation damage. The GaAs:Cr, unlike the InP:Fe, more closely follows the longer square-pulse exhibiting non nonlinearity. All results are consistent with previously investigated neutron irradiated devices. (Thesis).

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:123 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Physico-Chemical Factors Affecting Hydrothermal Resistance and Bonding of Polymeric Composites to Steel Surfaces

PDF URL: (pdf) - 9 MB -

Accession Number: ADA163906

Personal Author(s): Sugama, T ; Kukacka, L E ; Carciello, N R ; Warren, J B

Corporate Author: BROOKHAVEN NATIONAL LAB UPTON NY

Report Date: Nov 1985

Abstract: ( U ) The failure upon exposure to hydrothermal conditions of most conventional polymers containing functional groups in which any two atoms selected from N, O, and S are joined to the same carbon atom, is generally due to 1) high segmental mobility of molecular chains, 2) low thermal relaxation of the polymers, 3) an increase in hydrophilic groups, and 4) low dynamic mechanical properties. Each of these factors must be considered in attempting to provide the total protection needed for long service life in hydrothermal environments. Therefore, the physico-chemical factors that determine the hydrothermal stability and the bonding characteristics of inorganic macromolecule-ionomer composite films have been investigated. Contents include: Self-Healing Type Methylmethacrylate Composite Coatings; Nature of Interfacial Interactions Between Polymers and Phosphate-Treated Metal Surfaces; and Characteristics of Polyelectrolyte-Modified Zinc Phosphate Conversion Precoatings. Keywords: Stiffness; Adhesion; Cold Rolled Carbon Steel.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Aug 1982-Jul 1985

Pages:165 Page(s)

Report Number: BNL-37376 ( *BNL37376* ) , XA - ARO ( *XA* )

Monitor Series: ARO

Contract/Grant/Transfer Number: DE-AC02-76CH00016 ( *DEAC0276CH00016* ) , MIPR-ARO-62-82 ( *MIPRARO6282* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Antiproton Annihilation Propulsion

PDF URL: (pdf) - 12 MB -

Accession Number: ADA160734

Personal Author(s): Forward, R L

Corporate Author: DAYTON UNIV OH RESEARCH INST

Report Date: Sep 1985

Abstract: ( U ) Antiproton annihilation propulsion is a new form of space propulsion, where milligrams of antimatter are used to heat tons of reaction fluid to high temperatures. The hot reaction fluid is exhausted from a nozzle to produce high thrust at high specific impulse. This study was to determine the physical, engineering, and economic feasibility of antiproton annihilation propulsion. The conclusion of the study is that antiproton propulsion is feasible, but expensive. Because the low mass of the antimatter fuel more than compensates for its high price, comparative mission studies show that antimatter fuel can be cost effective in space, where even normal chemical fuel is expensive because its mass must be lifted into orbit before it can be used. Antiproton annihilation propulsion is mission enabling, in that it allows missions to be performed that cannot be performed by any other propulsion system. Keywords: Antimatter propulsion; Antiproton; Advanced propulsion.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Apr 1984-31 Jan 1985

Pages:212 Page(s)

Report Number: UDR-TR-85-55 ( *UDRTR8555* ) , AFRPL - TR-85-034 AFRPL ( *AFRPLTR85034* ) , XC - TR-85-034 AFRPL ( *XCTR85034* )

Monitor Series: TR-85-034 ( *TR85034* ) , AFRPL

Contract/Grant/Transfer Number: F04611-83-C-0046 ( *F0461183C0046* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report, Translations from Kommunist, Number 7, May 1985

PDF URL: (pdf) - 11 MB -

Accession Number: ADA373113

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 08 Aug 1985

Pages:172 Page(s)

Report Number: JPRS-UKO-85-013 ( *JPRSUKO85013* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Clustering and Ordering in III-V Alloys.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA161099

Personal Author(s): Wolfe,C M ; Muller,M W ; Hsieh,S J ; Patten,Elizabeth A ; Roblin,P

Corporate Author: WASHINGTON UNIV ST LOUIS MO SEMICONDUCTOR RESEARCH LAB

Report Date: 31 Jul 1985

Abstract: ( U ) Staggered lineup heterojunctions are expected to exhibit tunneling assisted optical transitions across the interfacial energy gap  $E_{\text{sub I}}$ . In the staggered lineup,  $E_{\text{sub I}}$  is smaller than either of the energy gaps of the constituent semiconductors. In this work, we examined two staggered lineup heterojunctions,  $\text{ZnSnP}_2/\text{GaAs}$  and  $\text{In}_{1-x}\text{GaP}/\text{GaAs}$ . Below bandgap emission and absorption were observed in these structures, allowing the experimental determination of  $E_{\text{sub I}}$ . Good agreement was seen between this value of  $E_{\text{sub I}}$  and that from the predicted band lineup. Advances in technology have made possible the fabrication of rapidly varying heterostructures which hold the promise of important applications. We develop a set of approximate treatments of electron states in a variety of layered heterostructures. Recent III-V alloy formation models indicate that negative charge transfer energy can overcome positive bond distortion energy to stabilize long-range order or compound formation. Although a report of a layered ordering in  $\text{Al}_x\text{Ga}_{1-x}\text{As}$  tends to confirm this result, we have as yet obtained no convincing evidence for such ordering in  $\text{In}_x\text{Ga}_{1-x}\text{P}$ .

Abstract Classification:Unclassified

Descriptive Note: Annual scientific rept. 1 Jun 84-31 May 85,

Pages:137 Page(s)

Report Number: WU/SRL-59583A-9 ( *WUSRL59583A9* ) , AFOSR - TR-85-0931 ( *AFOSRTR850931* )

Monitor Series: TR-85-0931 ( *TR850931* )

Contract/Grant/Transfer Number: AFOSR-82-0231 ( *AFOSR820231* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electrical Properties of Nitrogen Doped Float Zone Silicon.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA159629

Personal Author(s): O'Leary,M A ; Mitchel,W C

Corporate Author: AIR FORCE WRIGHT AERONAUTICAL LABS WRIGHT-PATTERSON  
AFB OH

Report Date: Jul 1985

Abstract: ( U ) Examination of nitrogen doped float zone silicon indicates that electrical properties are similar to commercial Czochralski material. This material deserves further consideration for use in high power device and intrinsic infrared detector applications. Temperature dependent Hall effect measurements have been made on as received and neutron transmutation doped (NTD) sample of a nitrogen doped float zone silicon crystal to determine its electrical properties. Samples were studied in both as-received state and after various high temperature anneals. Results were compared with commercial n-type Czochralski silicon and conventional neutron doped float zone silicon. Undoped, annealed samples of Si:N showed signs of inhomogeneities were not seen in lightly NTD's and annealed nitrogen doped material, indicating that even light doping will mask effects of the proposed precipitation. No evidence was detected for any electrically active level that could be directly related to the nitrogen.

Abstract Classification:Unclassified

Descriptive Note: Interim rept. Mar 84-Mar 85,

Pages:37 Page(s)

Report Number: AFWAL-TR-85-4048 ( *AFWALTR854048* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Performance Measurement Guidelines for Research.

PDF URL: (pdf) - 12 MB -

Accession Number: ADA159055

Personal Author(s): Vreuls,D ; Obermayer,R W ; Wooldridge,A L ; Kelly,M J

Corporate Author: VREULS RESEARCH CORP THOUSAND OAKS CA

Report Date: 13 Jun 1985

Abstract: ( U ) All three military services are developing automated human performance measurement systems fore aviation training devices and research on human performance. The purpose of this study was to create a set of aircrew-system performance measurement guidelines for research based on a review of current practice, and the measurement experience and technical judgement of the investigators. A subjective analysis of common measurement requirements among flight tasks for all phases of military aviation was conducted. The selection of system state variables would be dictated by the individual research problem, but guidelines for sampling, measure segmentation, and selection of transforms to create measurement were developed for common flight tasks and measurement problems. Performance measurement issues in system design, training, and automated performance measurement system design were discussed. FORTRAN program listings for common transforms and specialized multivariate data analyses for selecting and constructing measurement from empirical data were appended. Use of the illustrated techniques was recommended, as was the need to update these techniques as measurement experience accrues. Keywords: Performance Measurement, Segmentation Logic, Transformations.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Mar 80-30 Sep 82,

Pages:201 Page(s)

Report Number: AFOSR - TR-85-0642 ( *AFOSRTR850642* )

Monitor Series: TR-85-0642 ( *TR850642* )

Contract/Grant/Transfer Number: F49620-80-C-0058 ( *F4962080C0058* )

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report, Engineering and Equipment.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA357675

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 15 May 1985

Abstract: ( U ) This USSR Report contains articles on Engineering and Equipment. The main topics are Marine and Shipbuilding and Nuclear Energy.

Abstract Classification:Unclassified

Pages:115 Page(s)

Report Number: JPRS-UEQ-85-004 ( *JPRSUEQ85004* ) , XX - FBIS ( XX )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Mathematical Structure of Elementary Particles. II.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA158191

Personal Author(s): Nowosad,P

Corporate Author: WISCONSIN UNIV-MADISON MATHEMATICS RESEARCH CENTER

Report Date: May 1985

Abstract: ( U ) This report is the second part of a general theory purporting to describe the mathematical structure of the elementary particles, deriving it from first principles. It consists of Chapters 6 and 7, continuing the MRC Technical Summary Report 2581, October 1983. These chapters study the implications of the  $SL(2, \mathbb{R})$  transformation group of the particles geometry. Chapter 6 shows how the discrete series of representations implies the quantization of the geometries and in particular why the electron does not interact strongly. Chapter 7 obtains the resonances as states corresponding to the principal series of representations. Keywords: monochromatic algebra; Light quanta; real unimodular group; unitary representations; Poincare plane; discrete series; principal series; quantization of geometries; resonances; Regge poles. (Author)

Abstract Classification:Unclassified

Descriptive Note: Technical summary rept.,

Pages:102 Page(s)

Report Number: MRC-TSR-2818 ( *MRCTSR2818* )

Contract/Grant/Transfer Number: DAAG29-80-C-0041 ( *DAAG2980C0041* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Services Electronics Program.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA154748



Personal Author(s): Trick,T N

Corporate Author: ILLINOIS UNIV AT URBANA COORDINATED SCIENCE LAB

Report Date: 30 Mar 1985

Abstract: ( U ) Contents: Molecular Beam Epitaxy, Heterostructure Electronic Devices by Metalorganic Chemical Vapor Deposition, Studies of Transport Phenomena in Semiconductors, Crystal Growth of Semiconductor Alloys from the Vapor Phase and Controlled Doping: Ion-Surface Interactions, An Investigation of the Plasma and Chemistry Processes in Cylindrical Magnetron Reactive Ion Etching Discharges, Acoustic Charge Transport, Vapor Phase Growth and Characterization of InGaAs and InGaAsP Heterostructures and Devices, Direct Examination of the Metal-Semiconductor Interface, Quantum Dynamics of Charge-Density Waves, Excited State Chemistry in Gases, Electromagnetic Radiation and Scattering, Millimeter and Submillimeter Wave Integrated Circuits, Control and Decision Strategies for Systems Under Imperfect Information, Implementation Constrained Decomposition and Hierarchical Control, Multiple-Terminal Digital Communication Systems, Digital Detection and Estimation, Hierarchical Simulation and Design Verification of VLSI Circuits and Systems, Computer Architecture, Fault Tolerant Computer Systems, Efficient computation techniques, Multi-Sensor Digital Array Processing, and Basic Research in Electronics.

Abstract Classification:Unclassified

Descriptive Note: Progress rept. 1 Jul 84-31 Mar 85,

Pages:89 Page(s)

Contract/Grant/Transfer Number: N00014-84-C-0149 ( *N0001484C0149* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USAF/SCEEE (United States Air Force/Southeastern Center for Electrical Engineering Education) Research Initiation Program Research Reports. Volume 1.

PDF URL: (pdf) - 42 MB -

Accession Number: ADA161907

Personal Author(s): Peele, Warren D

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL

Report Date: Mar 1985

Abstract: ( U ) Partial contents: A Statistic For Measuring The Balance Of A Sample; Numerical And Analytical Study of High Resolution Limb Spectral Radiance From Non-Equilibrium Atmospheres; Electron Waves In The Electrical Breakdown of Gases, With Application to The Dart Leader in Lightning; Investigation of Liquid Sloshing In Spin-Stabilized Satellites; Surface Potential as a laser Damage Diagnostic; A Study of Slot Waveguides For Electrostatically Variable SAW Delay Lines; Combustion Modeling of Homogeneous Solid Propellants with Selectively Absorbing Inert Particle Additives; Interim Report Development and Testing of an Animal Model of State Dependent Effects With Atrophine; Combined Blast and Fragment Loading of Reinforced Concrete; Infrared Spectroscopy of Extrinsic P-Type Silicon; Interfacing of Models and Information Systems: A Systematic approach; the Proton in Multisolvant Clusters. 1. The Acetonitrile-Water System; Training to Improve the Accuracy and Validity of Performance Ratings; Laser Damage in Crystalline Silicon Observed under RHEED; Analysis of Swirling Nozzle Flow by a Time-Dependent finite Difference Technique; Analysis of Condensation Phenomena for Conventional Heat Pipes; Avionics Reliability Analysis; Communications network Simulation topics With a Computer network Simulation Model; Development and Evaluation of Scales for the Organizational Assessment Package with Work Groups as the Unit of Analysis.

Abstract Classification:Unclassified

Descriptive Note: Interim rept.,

Pages:1125 Page(s)

Report Number: AFOSR - TR-85-0904 ( *AFOSRTR850904* )

Monitor Series: TR-85-0904 ( *TR850904* )

Contract/Grant/Transfer Number: F49620-82-C-0035 ( *F4962082C0035* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electrical Properties of Bulk Grown Nitrogen Doped Silicon.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA155471

Personal Author(s): O'Leary,M A

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING

Report Date: Mar 1985

Abstract: ( U ) The electrical parameters of a boule of nitrogen doped float zone silicon were studied by Hall effect analysis. Samples were annealed at temperatures ranging from 800 to 900 C. In addition, a section of this boule was neutron transmuted (NTD) to increase the n-type doping. Samples from the NTD section were annealed at 800 C. Resistivity and mobility varied considerably from sample to sample, but the variation is not a function of annealing temperature. The annealed Si:N samples were found to be inhomogeneous; however, the Si:N NTD samples were homogeneous. In addition, annealing activated deep energy levels. The shallow energy levels reported in studies on ion implanted nitrogen in silicon were not found. The only shallow energy level found was phosphorus. The conclusion is nitrogen does not go into substitutional sites in silicon to any great extent. Although what happens to nitrogen in silicon is unknown it is suggested that nitrogen may form silicon-nitride complexes and precipitates, This could be the mechanism for strengthening the lattice.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:150 Page(s)

Report Number: AFIT/GE/ENG/85M-3 ( *AFITGEENG85M3* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Glossary of Terms--Nuclear Weapon Phenomena and Effects

PDF URL: (pdf) - 47 MB -

Accession Number: ADB098405

Personal Author(s): Gould, Kenneth E

Corporate Author: DOD NUCLEAR INFORMATION AND ANALYSIS CENTER SANTA BARBARA CA

Report Date: 15 Feb 1985

Abstract: ( U ) This glossary is a broad reference encompassing words and acronyms used in the variety of disciplines related to the study of nuclear weapon phenomena and effects. The terms and discussions are collected from various source documents, with weight given to the most authoritative.

Abstract Classification:Unclassified

Descriptive Note: Technical rept. 1 Nov 1983-31 Oct 1984

Pages:183 Page(s)

Report Number: DASIAC-SR-208 ( *DASIACSR208* ) , XD - DNA ( *XD* )

Monitor Series: DNA

Contract/Grant/Transfer Number: DNA001-82-C-0274 ( *DNA00182C0274* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An Investigation of the Irradiation Swelling Mechanisms in Refractory Metals at High Temperatures.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA154149

Personal Author(s): Bajaj,R ; Hall,B O ; Fenske,G R

Corporate Author: WESTINGHOUSE ADVANCED ENERGY SYSTEMS DIV LARGE PA

Report Date: Feb 1985

Abstract: ( U ) This report presents the results of progress made during the first year of a three year program on the investigation of swelling mechanisms in refractory metals irradiated at elevated temperatures, i.e.  $0.3 T_{\text{sub m}}$  -  $0.6 T_{\text{sub m}}$  (where  $T_{\text{sub m}}$  = melting point in K). The objective of this work is to achieve an understanding of the elevated temperature swelling in these body centered cubic (bcc) metals by a close coupling of theoretical development and experimental verification. Originator supplied keywords include: Swelling, Radiation effects, Ion bombardment, Refractory metals, Theory of swelling, Ion-simulation irradiation.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1983-1984 on Phase 1,

Pages:128 Page(s)

Report Number: WAESD-TR-85-005 ( *WAESDTR85005* ) , AFOSR - TR-85-0378 ( *AFOSRTR850378* )

Monitor Series: TR-85-0378 ( *TR850378* )

Contract/Grant/Transfer Number: F49620-83-C-0120 ( *F4962083C0120* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology

PDF URL: (pdf) - 14 MB -

Accession Number: ADA362611

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 28 Jan 1985

Pages:247 Page(s)

Report Number: JPRS-CST-85-003 ( *JPRSCST85003* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology

PDF URL: (pdf) - 4 MB -

Accession Number: ADA338419

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 17 Dec 1984

Abstract: ( U ) Topics discussed include: National Developments, Applied Sciences, Life Sciences, Ballistics, Biochemistry, Chemistry, Engineering, Epidemiology, Ydrodynamics, Physics, Radiation and Virology.

Abstract Classification:Unclassified

Pages:111 Page(s)

Report Number: JPRS-CST-84-042 ( *JPRSCST84042* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Striation Free Doped Silicon.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA155730

Personal Author(s): Robertson,G D

Corporate Author: HUGHES RESEARCH LABS MALIBU CA

Report Date: Dec 1984

Abstract: ( U ) The growth of float zone doped silicon crystals in the presence of strong magnetic fields has been investigated. Fields of 5000 G, oriented both transverse to and along the growth axis, have produced dopant distributions in Ga-doped Si that have not been observed previously. Reductions of dopant concentration fluctuations by factors of three have been seen for strong axial fields. In the transverse fields, the dopant distributions are quite different from those obtained in normal growth, but the fluctuations are not appreciably reduced. However, the growth of crystals without rotation is stabilized by the transverse field and this stabilization makes possible the study of fine striae in the absence of rotational striae. Such studies promise insight into the physics of the float zone process. On the other hand, the axial field appears to destabilize growth, especially at low rotation rates. Further work with the axial field is needed to develop growth techniques which will allow us to capitalize on the uniform dopant distributions that it provides.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Sep 81-1 Sep 84,

Pages:154 Page(s)

Report Number: AFWAL - TR-84-4156 ( *AFWALTR844156* )

Monitor Series: TR-84-4156 ( *TR844156* )

Contract/Grant/Transfer Number: F33615-81-C-5065 ( *F3361581C5065* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on the Physics of Semiconductors (17th) Held in San Francisco, California on August 6-10, 1984

PDF URL: (pdf) - 14 MB -

Accession Number: ADA216082

Personal Author(s): Bachrach, Robert Z

Corporate Author: XEROX CORP PALO ALTO CA

Report Date: 30 Sep 1984

Abstract: ( U ) Over 350 papers were presented at 59 technical sessions during this conferences  
Abstracts of the papers presented are included in this report.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May-30 Sep 1984

Pages:428 Page(s)



Report Number: AFOSR - TR-89-1721 ( *AFOSRTR891721* )

Monitor Series: TR-89-1721 ( *TR891721* )

Contract/Grant/Transfer Number: MIPR-84-00018 ( *MIPR8400018* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report: Electronics and Electrical Engineering

PDF URL: (pdf) - 6 MB -

Accession Number: ADA354436

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 25 Sep 1984

Pages:132 Page(s)

Report Number: JPRS-UEE-84-011 ( *JPRSUEE84011* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Southeast Asia Report

PDF URL: (pdf) - 8 MB -

Accession Number: ADA349870

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 20 Sep 1984

Abstract: ( U ) This report contains articles on various issues relating to Southeast Asia.

Abstract Classification:Unclassified

Pages:144 Page(s)

Report Number: JPRS-SEA-84-129 ( *JPRSSEA84129* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Selection of Air Traffic Controllers,

PDF URL: (pdf) - 35 MB -

Accession Number: ADA147765

Personal Author(s): Sells,S G ; Dailey,J T ; Pickrel,E W

Corporate Author: FEDERAL AVIATION ADMINISTRATION WASHINGTON DC OFFICE  
OF AVIATION MEDICINE

Report Date: Aug 1984

Abstract: ( U ) An encyclopedic report on air traffic controller selection research. Eighteen contributors have prepared twenty-five chapters encompassing research over the past 40 years. A historical review of controller selection research includes an international overview, U.S. research from 1941 to 19663, contributions of the Civil Aeromedical Institute and the Office of Aviation Medicine, and adjustments following the PATCO strike. A section on job analysis and characteristics of air traffic controllers is followed by six chapters on measurement of air traffic controller performance. These include Terminal, Enroute, and Flight Service Station training program assessment, controller skills tests, dynamic paper-and-pencil simulations for proficiency measurement, and criterion measurement in selection research. Research leading to the FAA's 1981 ATC selection tests includes chapters on development of the new Multiplex Controller Aptitude Test and Occupational Knowledge Test, personality assessment of ATC applicants, studies from 1972 through 1978 to validate the new selection tests, conformity of the new experimental battery to the Uniform Guidelines on Employee Selection Requirements, and recommendations for adoption of the new battery and further research. An overview of projected developments in ATC systems technology from now to the year 2000 is used to project changes that will occur in the air traffic controller's future role and function.

Abstract Classification:Unclassified

Pages:619 Page(s)

Report Number: FAA-AM-84-2 ( *FAAAM842* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Study of Defects in Neutron Transmutation Doped Silicon: Gallium by Hall Effect Analysis

PDF URL: (pdf) - 2 MB -

Accession Number: ADA146047

Personal Author(s): Gassman, Richard A ; Mitchel, W C

Corporate Author: AIR FORCE WRIGHT AERONAUTICAL LABS WRIGHT-PATTERSON  
AFB OH

Report Date: Jul 1984

Abstract: ( U ) Temperature-dependent Hall effect analysis has been used to study neutron transmutation doped, p-type silicon conventionally doped with gallium. Moderate temperature anneals of the irradiated material produced three shallow acceptor levels. The first, at 0.57 ev., was detected after prolonged anneals at 525 C and has been identified as the Ga-X level, a substitutional gallium-substitutional carbon complex. The other two levels appeared after anneals at 600 C.

Abstract Classification:Unclassified

Descriptive Note: Interim technical rept. Oct 82-Oct 83

Pages:58 Page(s)

Report Number: AFWAL-TR-83-4158 ( *AFWALTR834158* ) , XC - AFWAL ( *XC* )

Monitor Series: AFWAL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Physics in Europe--A Data File of Selected Research.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA143428

Personal Author(s): Mosher,D

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 18 Jun 1984

Abstract: ( U ) This report describes a data file of 1200 entries on European research in physics and related areas. The tables provided allow one to access research projects by subject matter and location. (Author)

Abstract Classification:Unclassified

Descriptive Note: Technical rept.,

Pages:190 Page(s)

Report Number: ONRL-R-7-84 ( *ONRLR784* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report, Life Sciences, Biomedical and Behavioral Sciences

PDF URL: (pdf) - 4 MB -

Accession Number: ADA350963

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 06 Jun 1984

Pages:95 Page(s)

Report Number: JPRS-UBB-84-012 ( *JPRSUBB84012* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Methods for Estimating Physicochemical Properties of Inorganic Chemicals of Environmental Concern.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA144154

Personal Author(s): Lyman,W J ; Barnett,B M ; Berkowitz,J B ; Bodek,I ; Bonazountas,M

Corporate Author: LITTLE (ARTHUR D) INC CAMBRIDGE MA

Report Date: Jun 1984

Abstract: ( U ) This study was the first phase of a program designed to produce (in Phase II) a handbook which will provide information, including descriptions of calculational procedures or estimation methods, on environmentally important properties of inorganic and organometallic chemicals. The Phase I program evaluated the state-of-knowledge in this area and also assessed the capabilities and probable needs of environmental scientists and managers for guidance in this area. Outside experts were used in this process. This Phase I report provides a detailed outline and discussion of the handbook to be prepared in Phase II. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept. Sep 83-Sep 84 on Phase I,

Pages:120 Page(s)

Report Number: ADL-C-50075 ( *ADLC50075* )

Contract/Grant/Transfer Number: DAMD17-83-C-3274 ( *DAMD1783C3274* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electronic Properties of Grain Boundaries in GaAs: A Study of Oriented Bicrystals Prepared by Epitaxial Lateral Overgrowth.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA144358

Personal Author(s): Salerno,J P ; Fan,J C C ; McClelland,R W ; Vohl,P ; Mavroides,J G

Corporate Author: MASSACHUSETTS INST OF TECH LEXINGTON LINCOLN LAB

Report Date: 10 May 1984

Abstract: ( U ) The electronic properties of grain boundaries in GaAs have been investigated. The optoelectronic properties of melt-grown polycrystalline GaAs were studied by cathodoluminescence. This analysis showed that grain boundary properties are influenced by both the boundary structure and the composition of the matrix. For a systematic investigation of the relationship between grain boundary structure and electronic behavior, a technique has been developed for the growth of oriented GaAs bicrystal layers by vapor-phase epitaxy using lateral overgrowth. Using this technique, a series of n-type bicrystal layers containing 110/(111) tilt boundaries with selected misorientation angles ranging from 0 to 30 degrees were grown.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.,

Pages:191 Page(s)

Report Number: TR-669 ( *TR669* ) , ESD - TR-83-066 ( *ESDTR83066* )

Monitor Series: TR-83-066 ( *TR83066* )

Contract/Grant/Transfer Number: F19628-80-C-0002 ( *F1962880C0002* ) , XZ-0-9158-1 ( *XZ091581* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Impurity and Defect Characterization in Epitaxial GaAs InP and the Ternary and Quaternary Compound Semiconductors.

PDF URL: (pdf) - 325 KB -

Accession Number: ADA143551

Personal Author(s): Button,K J ; Afsar,M N

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE FRANCIS BITTER  
NATIONAL MAGNET LAB

Report Date: 04 May 1984

Abstract: ( U ) Experimental techniques were developed and used for the unambiguous identification of donors in high-purity epitaxial GaAs, InP and related compounds. Magnetic fields up to 20 T and high-resolution submillimeter spectroscopy were used to distinguish the Zeeman transitions  $1s\ 2p(m=1)$  of each different donor and to describe the dependence of the line shape on field intensity. Transmutation doping was used to distinguish Se and Ge donors, molecular beam epitaxy to distinguish Sn. These methods were extended to InGaAs near millimeter wavelengths. Finally, the magnetic field dependence of the spin doublet in GaAs was measured.

Abstract Classification:Unclassified

Descriptive Note: Final scientific rept. 1 Aug 78-31 Jul 83,

Pages:8 Page(s)

Report Number: AFOSR - TR-84-0585 ( *AFOSRTR840585* )

Monitor Series: TR-84-0585 ( *TR840585* )

Contract/Grant/Transfer Number: AFOSR-78-3708 ( *AFOSR783708* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) A Model of the Performance Characteristics of Silicon-Gallium Infrared Detectors for Low Background Applications.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA143932

Personal Author(s): McGuigan,S ; Szmulowicz,F ; Hemenger,P M

Corporate Author: UNIVERSAL ENERGY SYSTEMS INC DAYTON OH

Report Date: Apr 1984

Abstract: ( U ) The Si:Ga system is modeled for detection of infrared (IR) radiation in low backgrounds. The responsivity and detectivity are calculated as functions of residual B, compensation ratio, and temperature. The results demonstrate a large potential for improvement in device performance if starting material with a low residual B is used to manufacture the detectors. These improvements include higher responsivity, higher operating temperature, increased detectivity, greater uniformity in spatial response, and increased radiation hardness.

Abstract Classification:Unclassified

Descriptive Note: Interim rept. 1 Sep 81-31 Mar 84,

Pages:36 Page(s)

Report Number: AFWAL - TR-84-4035 ( *AFWALTR844035* )

Monitor Series: TR-84-4035 ( *TR844035* )

Contract/Grant/Transfer Number: F33615-82-C-5001 ( *F3361582C5001* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Impurity and Defect Interactions in GaAs.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA139592

Personal Author(s): Wolfe,C M ; Fedders,P A ; Burgess,J H ; Stillman,G E ; Yee,C M L

Corporate Author: WASHINGTON UNIV ST LOUIS MO SEMICONDUCTOR RESEARCH LAB

Report Date: 29 Feb 1984

Abstract: ( U ) This work was initiated to examine interactions among impurities and defects in GaAs which produce problems in the fabrication of high-speed integrated circuits. For this purpose various aspects of impurity and defect identification, interaction, redistribution, incorporation, and carrier scattering were investigated. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 Aug 80-31 Dec 83,

Pages:178 Page(s)

Report Number: WU/SRL-64422-22 ( *WUSRL6442222* )

Contract/Grant/Transfer Number: N00014-80-C-0762 ( *N0001480C0762* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Optical and Electrical Characterization of Multiply Doped Silicon: A Study of the Si:(In, Al) System.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA143820

Personal Author(s): Brown,G J ; Ohmer,M C ; Fischer,D W ; Rome,J J ; Beasley,K D

Corporate Author: DAYTON UNIV OH RESEARCH INST

Report Date: Feb 1984

Abstract: ( U ) Infrared absorption, spectral photoconductivity, photoluminescence, and Hall effect transport measurements have been used to study the optical and electrical properties of silicon single crystals grown by the Czochralski method, which were intentionally doped with indium and aluminum. Thermal annealing did not produce the expected concentrations of In-X acceptors but did increase the concentration of donors in this material. The Al-X level was observed in a concentration of 1% of the parent concentration. Temperature dependence of the intensity of Al-X excited states was determined by photothermal ionization and observed to be the same as that of simple group IIIA acceptors.

Abstract Classification:Unclassified

Descriptive Note: Interim rept. Mar 81-Mar 83,

Pages:59 Page(s)

Report Number: AFWAL - TR-83-4108 ( *AFWALTR834108* )

Monitor Series: TR-83-4108 ( *TR834108* )

Contract/Grant/Transfer Number: F33615-81-C-5095 ( *F3361581C5095* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Experimental and Theoretical Studies of Radiative and Nonradiative Processes in Semiconductors.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA162032

Personal Author(s): McGill, T C

Corporate Author: CALIFORNIA INST OF TECH PASADENA

Report Date: Jan 1984

Abstract: ( U ) The study of impurities and defect levels in semiconductors is of major scientific and technological interest. In many cases, the phenomena associated, particularly with deep levels, are not well understood even in this day. In the programs supported under this contract, a number of major contributions were made in this broad area of research. We developed a new form of spectroscopy which allows one to explore some of the excited states of various centers. We were the first to identify and study in detail a change in the structure of a defect due to a radiation with a laser, the so-called non-radiative induced defect reaction process. We studied the properties of some interesting deep levels in silicon and, in particular, attempted to develop an understanding of the origin of these deep levels which are thought to be associated with clusters of one of the classic shallow acceptors and iron.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Feb 81-31 Jul 84,

Pages:67 Page(s)

Contract/Grant/Transfer Number: N00014-81-K-0305 ( *N0001481K0305* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Behaviorism and Natural Selection

PDF URL: (pdf) - 4 MB -

Accession Number: ADA151764

Personal Author(s): Campbell, C B

Corporate Author: WALTER REED ARMY INST OF RESEARCH WASHINGTON DC

Report Date: Jan 1984

Abstract: ( U ) This reprint is a commentary on 'Selection by consequences' by B.F. Skinner published in the Behavioral and Brain Sciences (1984) 7:477-510. Originator-supplied key words include: Operant conditioning, Natural selection, and Evolution.

Abstract Classification:Unclassified

Pages:37 Page(s)

Report Number: XA - USAMRDC ( XA )

Monitor Series: USAMRDC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) United States Air Force Summer Faculty Research Program (1983). Technical Report. Volume 1

PDF URL: (pdf) - 49 MB -

Accession Number: ADA139403

Personal Author(s): Peele, Warren D ; Steele, Earl L ; Otis, Amos L

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL

Report Date: Dec 1983

Abstract: ( U ) The United States Air Force Summer Faculty Research program (USAF- SFRP) is a program designed to introduce university, college, and technical institute faculty members to Air Force research. This is accomplished by the faculty members being selected on a nationally advertised competitive basis for a ten-week assignment during the summer intersession period to perform research at Air Force laboratories/centers. Each assignment is in a subject area and at an Air Force facility mutually agreed upon by the faculty members and the Air Force. In addition to compensation, travel and cost of living allowances are also paid. The USAF-SFRP is sponsored by the Air Force Office of Scientific Research, Air Force Systems Command, United States Air Force, and is conducted by the Southeastern Center for Electrical Engineering.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:1231 Page(s)

Report Number: AFOSR - TR-84-0154 AFOSR ( *AFOSRTR840154* ) , XC - TR-84-0154 AFOSR ( *XCTR840154* )

Monitor Series: TR-84-0154 ( *TR840154* ) , AFOSR

Contract/Grant/Transfer Number: F49620-82-C-0035 ( *F4962082C0035* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Waste Disposal: Can Government Cope?

PDF URL: (pdf) - 9 MB -

Accession Number: ADA152815

Personal Author(s): Braitman,J L

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Dec 1983

Abstract: ( U ) The research reported here is a device for considering whether the Department of Energy can succeed in siting nuclear waste repositories through marginal program and legislative changes or whether more fundamental changes in the mechanisms for public control are needed. The analysis presented here strongly suggests the need for fundamental changes if public responsibilities, such as nuclear waste disposal, are to be met. Contents: Facility Siting; Differences in the Institutional Environments of Public and Private Sector Organizations; Implications for Siting Noxious Facilities; The Department of Energy Program to Site High-Level Radioactive Waste Repositories; An Oil Company Program for Siting Petrochemical Facilities; Findings and Policy Implications.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis,

Pages:207 Page(s)

Report Number: RAND/P-6942-RGI ( *RANDP6942RGI* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fallout Fractionation in Silicate Soils

PDF URL: (pdf) - 4 MB -

Accession Number: ADA159226

Personal Author(s): Martin, Charles R

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSONAFB OH SCHOOL OF ENGINEERING

Report Date: Dec 1983

Abstract: ( U ) The existing models for treating fractionation in nuclear weapon debris are discussed and compared. A method which extends the existing theory for the case of surface bursts over silicate soils is developed and validated with weapons test data. Fission product

uptake is modeled as follows: The weapon debris and some soil is fully vaporized. Some soil is merely melted. As the fireball cools, the refractory fission products are absorbed by this liquid material. After the fireball has cooled below the soil solidification temperature, the remaining fission products can be adsorbed onto any available surfaces. Soil which enters the fireball after the soil solidification time will also adsorb fission products. Test data and other evidence indicate that the distributions of melted and unmelted soil particles have different modes. This model uses diffusion theory to transport the fission products into the particles. In addition, it allows for injection of unmelted material near the time of soil solidification. The results of the research indicate that in standard DELFIC calculations too much activity is carried in the larger particles. In addition, the distribution of volatile fission product nuclides relative to a refractory reference nuclide is in general better modeled by the new method. (Author)

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis, Aug 80-Jul 83

Pages:166 Page(s)

Report Number: AFIT/DS/PH/83-3 ( *AFITDSPH833* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) United States Air Force Summer Faculty Research Program (1983). Program Management Report.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA139366

Personal Author(s): Peele,W D ; Steele,E L ; Otis,A L

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL



Report Date: Dec 1983

Abstract: ( U ) The program provides opportunities for research in the physical sciences, engineering, life sciences, business, and administrative sciences. The program has been effective in providing basic research opportunities to the faculty of universities, colleges, and technical institutions throughout the United States. The program is available to faculty members in all academic grades: instructor, assistant professor, associate professor, professor, department chairman, and research facility directors. It has proven especially beneficial to young faculty members who are starting their academic research programs and to senior faculty members who have spent time in university administration and are desirous of returning to scholarly research programs. Beginning with the 1982 program, research opportunities were provided for 17 graduate students. The 1982 pilot student program was judged highly successful and was expanded for the 1983 program to 53 students.

Abstract Classification:Unclassified

Descriptive Note: Final Rept.,

Pages:179 Page(s)

Report Number: AFOSR - TR-84-0153 ( *AFOSRTR840153* )

Monitor Series: TR-84-0153 ( *TR840153* )

Contract/Grant/Transfer Number: F49620-82-C-0035 ( *F4962082C0035* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transformation of ADA Program Units into Silicon

PDF URL: (pdf) - 2 MB -

Accession Number: ADA141004

Personal Author(s): Organick, E I

Corporate Author: UTAH UNIV SALT LAKE CITY SCHOOL OF COMPUTING

Report Date: Nov 1983

Abstract: ( U ) This report, augmented with several appended papers and supplementary reports, describes the most recent six months of work on the research project. Transformation of Ada Programs into Silicon. This report is also the last of the series to be rendered under the current contract. Research has centered on methodologies for synthesizing asynchronous (speed-independent) VLSI circuits from Ada-like high-order specifications and a companion development of a comprehensive strategy and means for simulating and testing the derived circuits in a manner similar to the testing of software modules. The relationship between our emphasis on speed-independent circuits and Ada (or Ada-like) specifications is not accidental, as Ada semantics for intermodule communication are mapped with relative ease, in meaning-preserving ways, into protocols useful for implementing speed-independent circuits. Also reported is work in areas of research perceived as related to our main theme, e.g., development of the applicative multiprocessing architecture named Rediflow.

Abstract Classification:Unclassified

Descriptive Note: Semiannual technical rept. no. 4 (Final), 1 Apr-15 Nov 1983

Pages:38 Page(s)

Report Number: UTEC-83-075 ( *UTEC83075* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: MDA903-81-C-0411 ( *MDA90381C0411* ) , ARPA ORDER-4305 ( *ARPAORDER4305* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Algiers Point: Historical Ambience and Property Analysis of Squares Ten, Thirteen, and Twenty, with a View Toward Their Archaeological Potential,

PDF URL: (pdf) - 8 MB -

Accession Number: ADA145746

Personal Author(s): Fritz,D L ; Reeves,S K

Corporate Author: NATIONAL PARK SERVICE DENVER CO DENVER SERVICE CENTER

Report Date: 14 Oct 1983

Abstract: ( U ) The US Army Corps of Engineers, New Orleans District, is planning to realign the existing Mississippi River levee in the vicinity of Algiers Point, Algiers, LA. The realignment is designed to provide adequate flood protection for the community of Algiers. Previous historical investigations by the National Park Service demonstrated the historical and archaeological potential of Algiers Point. To better understand the character of these archaeological (subsurface) deposits, this detailed historical assessment focuses on individual properties within the Impacted Area (IA), and relates them to the larger social, economic and cultural picture that was the entirety of Algiers Point. This report is intended to reveal all historical data available concerning squares ten, thirteen and twenty at Algiers Point for the purpose of informing archaeologists about the potential of subject area for their discipline. Part One of the report is an historical narrative of two chapters, and Part Two is an appendix containing more site-specific historical data than Part One. Chapter One of Part One deals with the various influences on the IA, including: cave-ins, crevasses, floods, economic influences, cultural influences (ethnic), social influences, ferryboats, railroads, streetcars, the Navy Yard and personalities. Part Two, included as an appendix, goes over much the same ground but provides site-specific information concerning the IA. Chapter Two of Part one makes observations concerning the archaeological potential of sites mentioned in this appendix.

Abstract Classification:Unclassified

Pages:207 Page(s)

Report Number: PD-RC-84-07 ( *PDRC8407* )

Contract/Grant/Transfer Number: LMPD-83-17 ( *LMPD8317* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The NICROSIL versus NISIL Type N Thermocouple: A Commercial Reality,

PDF URL: (pdf) - 2 MB -

Accession Number: ADA142805

Personal Author(s): Burley,N A ; Hobson,J W ; Paine,A

Corporate Author: MATERIALS RESEARCH LABS ASCOT VALE (AUSTRALIA)

Report Date: Oct 1983

Abstract: ( U ) The Technology Transfer Council, Australia, through its Metals Technology Centre, has conducted a series of seminars on the nicrosil versus nilsil thermocouple system in capital cities throughout Australia. These seminars, which culminated in the latter half of 1982, were directed towards the adoption of the new thermocouple in science and industry in Australia. The authors of this report presented papers at the seminars on various aspects of the formulation, development, standardization, laboratory and industrial testing, and the commercial adaption and utilization of the nicrosil versus nilsil system. This report, which is a consolidated summary of their presentations, constitutes the Proceedings of the seminars. (Author)

Abstract Classification:Unclassified

Pages:71 Page(s)

Report Number: MRL-R-903 ( *MRLR903* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The United States Air Force Graduate Student Summer Support Program (1983)  
Management Report.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA139363

Personal Author(s): Peele,W D ; Steele,E L ; Otis,A L

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL

Report Date: Oct 1983

Abstract: ( U ) A pilot program for Graduate Student Summer Support via the Air Force Office of Scientific Research Summer Faculty Research Program (SFRP) was initiated by contract modification on 26 March 1982. The program was developed as an adjunct effort to the SFRP. Its purpose is to provide funds for selected graduate students to work at an appropriate Air Force Laboratory or Center with a supervising professor who holds a concurrent SFRP appointment. SCEE appointed 17 graduate students representing fifteen (15) schools and ten (10) disciplines in science and engineering in the 1982 program. In 1983 the Program was expanded to 53 students representing 36 schools and 18 disciplines. The 53 participants were selected from 117 applicants. To be eligible, all candidates had to be currently registered in a graduate program. The graduate students were selected from the fields of engineering, computer science, mathematics, or the physical sciences and were supervised by a faculty member who held an appointment as a SCEE Fellow for the summer of 1983 under the Summer Faculty Research Program. The students were U.S. citizens, working toward an appropriate graduate degree, and currently enrolled in the graduate school at their respective institutions. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:110 Page(s)

Report Number: AFOSR - TR-84-0151 ( *AFOSRTR840151* )

Monitor Series: TR-84-0151 ( *TR840151* )

Contract/Grant/Transfer Number: F49620-82-C-0035 ( *F4962082C0035* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report, Earth Sciences, No. 28

PDF URL: (pdf) - 4 MB -

Accession Number: ADA364244

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 20 Sep 1983

Pages:83 Page(s)

Report Number: JPRS-84367 ( *JPRS84367* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Earth's Radiation Belts.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA142673

Personal Author(s): Spjeldvik,W N ; Rothwell,P L

Corporate Author: AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA

Report Date: 20 Sep 1983

Abstract: ( U ) This report develops radiation belt transport theory from physical principles and compares the results with experimental data. It also provides an easy reference to the present empirical radiation flux models with some simple application techniques given. Specialized topics include shell-splitting, effects of wave-particle interactions, the ring current,

geosynchronous environment, nuclear detonations and radiation effects. Heavy ions are specifically high-lighted as a significant component of the radiation belts.

Abstract Classification:Unclassified

Descriptive Note: Environmental research papers,

Pages:133 Page(s)

Report Number: AFGL-TR-83-0240 ( *AFGLTR830240* ) , AFGL-ERP-854 ( *AFGLERP854* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Calibration Relationships for Optically Measuring the Concentrations of Boron, Gallium, and Indium in Silicon.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA134867

Personal Author(s): Rome,J J

Corporate Author: AIR FORCE WRIGHT AERONAUTICAL LABS WRIGHT-PATTERSON AFB OH

Report Date: Sep 1983

Abstract: ( U ) New, more effective calibration relationships have been experimentally determined which enable FTIR absorption spectroscopy to accurately measure the impurity concentration of In, Ga, and B in silicon. The peak areas of the Group III acceptor related spectra are shown to behave linearly with concentration  $1/3$  or concentration  $2/3$ , rather than simply being proportional to concentration as was previously assumed. These calibration relationships were determined for optical measurements made on samples cooled to 5K for In and Ga, and 5-8K for B. The relationships for some lines of Ga and In were tested and found to still be accurate for sample temperatures up to 9K. From the high resolution optical measurements made in this study, previously unobserved acceptor related spectral lines were seen. These lines were

observed in the p<sub>3/2</sub> spectra of In, Ga, Al. and B. Also a 5p' was observed in the p<sub>1/2</sub> spectra of Ga. A feature in each acceptor's p<sub>3/2</sub> spectrum is defined as EI, the ground stated binding energy, and the spin-orbit splitting of the silicon valence bands was measured. All the IR induced excited states of In, Ga, Al, and B were measured. After renumbering of the B lines 5 - 11, a more complete correspondence between all the Group III excited state lines was shown than any published previously.

Abstract Classification:Unclassified

Descriptive Note: Interim technical rept. Jul-Dec 82,

Pages:69 Page(s)

Report Number: AFWAL-TR-83-4051 ( *AFWALTR834051* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Scientific Notes. Volume 37, Number 8.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA133938

Personal Author(s): Armstrong,Ronald W ; Shaffer,Larry E

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 31 Aug 1983

Abstract: ( U ) Partial contents: Small Firms--Growth and Jobs?; High Polymers as Thin Films; Robotics at ASEA; Software Systems Research at Linkping Institute of Technology; and European Microwave Semiconductor Devices Conference.

Abstract Classification:Unclassified

Descriptive Note: Monthly rept.,



Pages:57 Page(s)

Report Number: ESN-37-8 ( *ESN378* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) International Conference on Liquid and Amorphous Metals (5th) Held at Los Angeles, California on August 15-19, 1983. Abstract.

PDF URL: (pdf) - 8 MB -

Accession Number: ADA134441

Corporate Author: CALIFORNIA UNIV LOS ANGELES DEPT OF MATERIALS SCIENCE AND ENGINEERING

Report Date: 19 Aug 1983

Abstract: ( U ) This Document contains abstracts from reports given at the Fifth International Conference on Liquid and Amorphous Metals held at the University of California, Los Angeles, California.

Abstract Classification:Unclassified

Pages:110 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Symposium on Military Space Communications and Operations  
Held at USAF Academy, Colorado on 2-4 August 1983

PDF URL: (pdf) - 8 MB -

Accession Number: ADA135021

Corporate Author: AIR FORCE ACADEMY COLORADO SPRINGS CO DEPT OF  
ELECTRICAL ENGINEERING

Report Date: 04 Aug 1983

Abstract: ( U ) This document on military Space Communications and Operations contains papers presented at the following seven sessions: (1) Operational Concepts/Missions; (2) Network Control/Architecture; (3) Space System Survivability/Reliability; (4) Space System Technology/Analysis; (5) DoD Command and Control Centers; (6) Policy, Strategy and Legal Aspects of Space; (7) Simulation and Testing.

Abstract Classification:Unclassified

Pages:129 Page(s)

Report Number: XC - USAFA ( XC )

Monitor Series: USAFA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Annual Progress Report of Research Activities that Occured in the Coordinated  
Science Laboratory for July 1, 1982 through Jun 30, 1983,

PDF URL: (pdf) - 13 MB -

Accession Number: ADA132132

Personal Author(s): Poor,H V

Corporate Author: ILLINOIS UNIV AT URBANA COORDINATED SCIENCE LAB

Report Date: Aug 1983

Abstract: ( U ) This report summarizes all sponsored research activities that occurred in the Coordinated Science Laboratory during the period July 1, 1982 to June 30, 1983. The summaries are categorized into nineteen technical areas. A comprehensive list of faculty, graduate students, publications, and supporting agencies during this period of time is included.

Abstract Classification:Unclassified

Pages:173 Page(s)

Contract/Grant/Transfer Number: N00014-79-C-0424 ( *N0001479C0424* ) , N00014-75-C-0612 ( *N0001475C0612* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Horizons of Technology (Selected Articles),

PDF URL: (pdf) - 743 KB -

Accession Number: ADA131897

Personal Author(s): Perkowski,Zdzislaw

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 21 Jul 1983

Pages:19 Page(s)

Report Number: FTD-ID(RS)T-0817-83 ( *FTDIDRST081783* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Analysis and Control of a Class of Stiff Linear Distributed Systems.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA142364

Personal Author(s): Salhi,H

Corporate Author: ILLINOIS UNIV AT URBANA DECISION AND CONTROL LAB

Report Date: Jul 1983

Abstract: ( U ) This thesis examines a class of systems whose models are described by linear partial differential equations that depend on a small parameter epsilon. First, the spectral decomposition of the so-called stiff operators (using the terminology of 24) is investigated, including the convergence of clarifying their eigenvalue eigenvector pairs as epsilon approaches 0, with the objective of clarifying their singular behavior. Second, asymptotic approximation of the solution boundary value problems involving stiff operators are constructed, using the weak limits of their eigenvectors. This approach leads to a decomposition into regular approximation and internal layer approximation, which are found separately and then combined to provide an approximation to the original problem. This methodology is not complicated. Moreover, it alleviates the inherent stiffness when numerical algorithms are employed. Third, the same approach is applied to some control problems. In this case, similar results are obtained, provided additional requirements are satisfied, due to the type of control, which may drastically alter the system behavior. (Author)

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis,

Pages:186 Page(s)

Report Number: DC-61 ( *DC61* ) , UILU-ENG-83-2209 ( *UILUENG832209* )

Contract/Grant/Transfer Number: N00014-79-C-0424 ( *N0001479C0424* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) East Europe Report: Political, Sociological and Military Affairs. No. 2149

PDF URL: (pdf) - 14 MB -

Accession Number: ADA346832

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 07 Jun 1983

Abstract: ( U ) This report contains translations/transcriptions of articles and/or broadcasts on political, sociological and military affairs from Eastern Europe. Titles include: Former Minister's Coastal Defense Proposal Rejected; Political Stagnation, Lack of Reforms Prevail; Vitriolic Attacks Against FRG' Social Democratic Party Renewed; Antitank Rocket Training Vehicle Described; Internment Camp Interview with Solidarity's Gwiazda; Provincial PRON Activities Noted; Warsaw Mayor Suspends Fine Artists Union; Jaruzelski Addresses Steelworkers' Delegation; and others

Abstract Classification:Unclassified

Pages:220 Page(s)

Report Number: JPRS-83621 ( *JPRS83621* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Red Flag.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA346318

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 06 Jun 1983

Pages:84 Page(s)

Report Number: JPRS-83613 ( *JPRS83613* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Scientific Notes. Volume 37, Number 4,

PDF URL: (pdf) - 4 MB -

Accession Number: ADA129044

Personal Author(s): Stannett,Vivian T ; Shaffer,Larry E

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 30 Apr 1983

Abstract: ( U ) European Scientific Notes (ESN) is a monthly publication with brief articles on recent developments in European Scientific research. The publication is not intended to be part of the scientific literature. The value of ESN articles to Americans is to call attention to current developments in European science and technology and to the institutions and people responsible for these efforts. ESN authors are primarily ONRL staff members. Occasionally articles are prepared by or in cooperation with staff members of the USAF European Office of Aerospace Research and Development or the US Army Research and Standardization Group. Qualified US scientists traveling in Europe may also be invited to author an ESN article. (Author)

Abstract Classification:Unclassified

Pages:50 Page(s)

Report Number: ESN-37-4 ( *ESN374* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Conference on Semi-Insulating III-V Materials (2nd), held 19-21 Apr 82, Evian (France),

PDF URL: (pdf) - 983 KB -

Accession Number: ADA126918

Personal Author(s): Bishop,S G ; Swiggard,E M

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 28 Feb 1983

Abstract: ( U ) The Second Conference on Semi-insulating III-V Materials dealt with four main issues: growth of bulk III-V crystals, assessment of high resistivity materials, behavior of high resistivity materials under heat treatments, and problems of III-V devices related to the semi-insulating conditions.

Abstract Classification:Unclassified

Pages:13 Page(s)

Report Number: ONRL-C-2-82 ( *ONRLC282* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Noise Thermometry Measurements in Combustion Processes.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA127945

Personal Author(s): Gill,S P ; Shimmin,W L ; Watson,J D

Corporate Author: ARTEC ASSOCIATES INC HAYWARD CA

Report Date: Jan 1983

Abstract: ( U ) Experiments are described in which the temperature of combustion gases is measured by directly sensing the thermal noise emissions from the flowing gases. The temperatures measured by the noise thermometer are compared to reference thermocouple readings. Within the limitations of the reference thermocouple and the accuracy of the noise thermometer calibration standards, the temperature determined by direct noise thermometry appears to represent the true gas temperature and is uncomplicated by contaminating sources of electromagnetic noise.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 30 Jun 81-29 Jun 82,

Pages:57 Page(s)

Report Number: ARTEC-13-176 ( *ARTEC13176* ) , AFOSR - TR-83-0352 ( *AFOSRTR830352* )



Monitor Series: TR-83-0352 ( *TR830352* )

Contract/Grant/Transfer Number: F49620-81-C-0084 ( *F4962081C0084* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USSR Report: Political and Sociological Affairs, No. 1347, Current Political Issues.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA368126

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 27 Dec 1982

Pages:76 Page(s)

Report Number: JPRS-82539 ( *JPRS82539* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology, No. 174.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA357194

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 23 Sep 1982

Abstract: ( U ) This China Report contains articles on Science and Technology.

Abstract Classification:Unclassified

Pages:41 Page(s)

Report Number: JPRS-81833 ( *JPRS81833* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Mechanisms of Radiation Effects on Electronic Materials, Devices, and Integrated Circuits

PDF URL: (pdf) - 3 MB -

Accession Number: ADA136393

Personal Author(s): Srour, Joseph R

Corporate Author: NORTHROP RESEARCH AND TECHNOLOGY CENTERPALOS VERDES PENINSULA CA

Report Date: 01 Aug 1982

Abstract: ( U ) This report describes in a tutorial manner the basic mechanism of radiation effects on electronic materials, devices, and integrated circuits. Radiation effects in bulk silicon

and in silicon devices are treated. Ionizing radiation effects in silicon dioxide films and silicon MOS devices are discussed. Single event phenomena are considered. Key literature references and a bibliography are provided.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:99 Page(s)

Report Number: NRTC-82-21R ( *NRTC8221R* ) , DNA - TR-82-20 AD-E301 278 DTRA ( *DNATR8220 ADE301278* ) , SBI - TR-82-20 AD-E301 278 DTRA ( *SBITR8220 ADE301278* ) , XV - TR-82-20 AD-E301 278 DTRA ( *XVTR8220 ADE301278* )

Monitor Series: TR-82-20 ( *TR8220* ) , AD-E301 278 ( *ADE301278* ) , DTRA

Contract/Grant/Transfer Number: DNA001-82-C-0055 ( *DNA00182C0055* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Optical Investigations of Recombination Processes in Laser-Annealed and Thermally-Annealed Semiconductors.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA121147

Personal Author(s): Merz,James L

Corporate Author: CALIFORNIA UNIV SANTA BARBARA

Report Date: Aug 1982

Abstract: ( U ) Electron-beam-induced current (EBIC) and low-temperature photoluminescence have been used to study minority-carrier recombination processes in ion-planted Si subjected to scanned laser or electron beam annealing. Dark stripes parallel to the laser scanning direction

always appear in the EBIC display of laser-annealed samples. The contrast of these dark stripes increases with laser power, while the charge collection efficiency decreases. Both EBIC and photoluminescence results indicate that damage is induced by the annealing laser beam, and that this laser-induced damage extends several microns below the implanted layer. On the other hand, electron-beam annealing yields a laterally uniform pattern and superior charge collection efficiency. Deep Level Transient Spectroscopy (DLTS) is also used to study deep defect levels in beam annealed silicon. A dominant hole ( $E_{\text{sub}} Y + 0.45 \text{ eV}$ ) was observed in CW laser-annealed samples immediately after sample preparation. In contrast, only a low concentration of hole traps appears in electron-annealed Si. By correlating these results with published literature, the laser-induced quenched-in defects are identified as interstitial Fe and Fe-B pair reactions in Si. Possible sources of Fe in Si will be discussed. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 Jul 79-30 Sep 81,

Pages:210 Page(s)

Report Number: RADC - TR-82-226 ( *RADCTR82226* )

Monitor Series: TR-82-226 ( *TR82226* )

Contract/Grant/Transfer Number: F19628-79-C-0128 ( *F1962879C0128* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) China Report, Science and Technology, No. 164

PDF URL: (pdf) - 2 MB -

Accession Number: ADA352962

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Jun 1982

Pages:56 Page(s)

Report Number: JPRS-81028 ( *JPRS81028* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Rapid Deployment Strategies for the Half War: Planning U.S. General Purpose Forces to Meet a Limited Contingency, 1960-1980.

PDF URL: (pdf) - 17 MB -

Accession Number: ADA119071

Personal Author(s): Haffa,Robert P , Jr

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: Jun 1982

Abstract: ( U ) This thesis consists of a strategic, organizational and logistic analysis of the contemporary planning of conventional forces to meet a limited contingency. It is centered around this question: Why, from 1960 to 1980 did the United States fail to construct a coherent limited contingency force? An analysis of a series of strategic, organizational, and logistic case studies, utilizing a method of structured, focused comparison, revealed the following. The strategic concept of the 'half war' or limited contingency was never articulated adequately to support specific force planning. Because a range of scenarios imbedded in the 'half war' planning factor were not disaggregated from the overall strategic concept, the 'half war' served as a poor guide to conventional force planning. Organizations designed to oversee and command limited contingency forces, fragmented by interservice rivalries and the lack of joint doctrine, were deprived of multi-service composition and a unified command structure. A search for economy in limited contingency forces fostered an unrealistic assumption that these forces could be deployed rapidly and could fight effectively in any environment against any adversary. Logistical and mobility systems dedicated to these strategies and organizations were never

procured in numbers adequate to support a rapid deployment capability owing to low budgetary priority and perceptions that such a capability would encourage U.S. global intervention.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis,

Pages:380 Page(s)

Report Number: AFIT/CI/NR/82-20D ( *AFITCINR8220D* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Silicon Material Development for LADIR

PDF URL: (pdf) - 4 MB -

Accession Number: ADA120980

Personal Author(s): Kimura, H ; Young, M H ; Robertson, G D ; Marsh, O J

Corporate Author: HUGHES RESEARCH LABS MALIBU CA

Report Date: Dec 1981

Abstract: ( U ) Results from several float-zoned 100 Si:Ga crystals show that the uniformity of Ga distribution improves as the growth rate is decreased and the rotation rate during growth is increased, in agreement with diffusion theory. For 2-in. diameter crystals, the lowest growth rate that will yield dislocation- free crystals in our equipment is about 3 mm/min. The onset of mechanical resonance and vibration of the growing crystal supported on its slender seed crystal limits the rotation rate of about 10 rpm. Crystals grown under these conditions, and later neutron transmutation counterdoped, show very good spatial uniformity of both major and compensating dopants. Thermal diffusion studies showed that annealing at 1300 C for several hundred hours also reduced Ga concentration fluctuations. Longitudinal detectors were fabricated from

processed FPA wafers covering a Ga concentration range from 0.2 to  $2 \times 10$  to the 17th power Ga atoms/cu cm. Experimentally determined quantum efficiency and  $D^*$  for these detectors agreed very well with theoretical predictions based on a model developed by Baron and Szmulowicz. The value of this model to future FLIR system design is now firmly established.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 15 Aug 1978-1 Sep 1981

Pages:148 Page(s)

Report Number: AFWAL - TR-81-4021 AFWAL ( *AFWALTR814021* ) , XC - TR-81-4021 AFWAL ( *XCTR814021* )

Monitor Series: TR-81-4021 ( *TR814021* ) , AFWAL

Contract/Grant/Transfer Number: F33615-78-C-5062 ( *F3361578C5062* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Impurity and Defect Characterization in Epitaxial GaAs, InP and the Ternary and Quaternary Compound Semiconductors

PDF URL: (pdf) - 743 KB -

Accession Number: ADA109052

Personal Author(s): Button, Kenneth J ; Afsar, M N

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE FRANCIS BITTER NATIONAL MAGNET LAB

Report Date: 14 Oct 1981

Abstract: ( U ) An ultimate method for the unambiguous identification of donors in epitaxial GaAs and related compounds has been devised and demonstrated. A specimen is grown by

means of the molecular beam epitaxy technique and is lightly doped with a single donor element during growth so as to render the specimen n-type. The far infrared photoconductivity method of spectroscopy is used to determine the energy difference between the electron ground state and the next higher excited state ( $2p, m = -1$ ) at low temperature and in high intensity magnetic fields. A 'signature curve' of energy vs. magnetic field intensity is generated for various values of applied magnetic field intensity. Thereafter, any time that this particular element is present as a residual donor in any other specimen, a single measurement at any field will yield a point which must lie on the signature curve of the particular donor element. By this means any residual donor can be identified without ambiguity. We have generated and published signature curves for Sn, Se, Si, Ge and sulfur. (Author)

Abstract Classification:Unclassified

Descriptive Note: Annual interim rept. 1 Aug 80-31 Jul 81

Pages:17 Page(s)

Report Number: AFOSR - TR-81-0849 AFOSR ( *AFOSRTR810849* ) , XC - TR-81-0849 AFOSR ( *XCTR810849* )

Monitor Series: TR-81-0849 ( *TR810849* ) , AFOSR

Contract/Grant/Transfer Number: AFOSR-78-3708 ( *AFOSR783708* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Job-Grading System Manual for Nonappropriated Fund Instrumentalities

PDF URL: (pdf) - 22 MB -

Accession Number: ADA268039

Corporate Author: ASSISTANT SECRETARY OF DEFENSE (MANPOWER RESERVE AFFAIRS AND LOGISTICS) WASHINGTON DC



Report Date: Oct 1981

Abstract: ( U ) Contents: CHAPTER 1- Pay Plans; CHAPTER 2 - Occupational Categories; CHAPTER 3 - Job-Grading Methods; CHAPTER 4 - Job-Grading Standards and Guides.

Abstract Classification:Unclassified

Pages:454 Page(s)

Report Number: DOD-1401.1-M-1 ( *DOD14011M1* ) , XD - WHS/DD ( *XDWHSDDD* )

Monitor Series: WHS/DD ( *WHSDD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Impurity and Defect Interactions in GaAs.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA106106

Personal Author(s): Wolfe,C M ; Fedders,P A ; Stillman,G E ; Yee,Camellia M L ; Green,R T

Corporate Author: WASHINGTON UNIV ST LOUIS MO SEMICONDUCTOR RESEARCH LAB

Report Date: 30 Sep 1981

Abstract: ( U ) The construction of an epitaxial reactor to examine the basic aspects of complex formation in GaAs has been completed. This reactor is designed to simultaneously dope the growing layer with a donor impurity and Cr and/or O so that impurity interaction regions are obtained in the same sample. We are currently calibrating this system for several dopants. The redistribution of Cr during the annealing of uniform and ion-implanted bulk samples has been examined. Preliminary results indicate that the Cr build-up at the surface can be modified by applying an electric field to the surface during the annealing process. With the availability of high-purity GaAs from a variety of epitaxial growth techniques, improved donor identifications

have been made by far infrared photoconductivity measurements. Samples grown by AsCl<sub>3</sub>-H<sub>2</sub> VPE, AsCl<sub>3</sub>-N<sub>2</sub> VPE, AsH<sub>3</sub> VPE, LPE, MBE, and MOCVD have been examined and the common residual donors have been identified.

Abstract Classification:Unclassified

Descriptive Note: Annual technical rept. 1 Aug 80-31 Jul 81,

Pages:50 Page(s)

Report Number: 64422-1 ( 644221 )

Contract/Grant/Transfer Number: N00014-80-C-0762 ( N0001480C0762 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Transmutation Doping of GaAs.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA110433

Personal Author(s): Fritzsche,Hans

Corporate Author: CHICAGO UNIV IL JAMES FRANCK INST

Report Date: Sep 1981

Abstract: ( U ) Shallow donors have been introduced into GaAs crystals by irradiation with thermal neutrons and subsequent nuclear transmutation. Good agreement was found between the measured concentrations of added donors and the values expected from the neutron capture cross sections and the neutron fluences used. This doping method is approximately 1000 times more efficient in GaAs than in Si because of the higher abundances and neutron capture cross sections of the transmutable isotopes in GaAs. In epitaxially grown GaAs of high purity, the recoil and radiation damage associated with transmutation doping can be removed by annealing at about 600 C which is below the critical temperature for As effusion. The electronic transport properties

of transmutation doped GaAs samples were studied between 1.4 and 450K of concentrations both above and below the metal-nonmetal transition. We found that transmutation doping is a convenient method for introducing a desired concentration of shallow donors into GaAs crystals for modifying their electronic properties.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 Jun 80-30 Jun 81,

Pages:50 Page(s)

Report Number: AFOSR - TR-82-0024 ( *AFOSRTR820024* )

Monitor Series: TR-82-0024 ( *TR820024* )

Contract/Grant/Transfer Number: AFOSR-80-0231 ( *AFOSR800231* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Potential for Conflict Between Soviet and Cuban Policies in the Third World,

PDF URL: (pdf) - 1 MB -

Accession Number: ADA120706

Personal Author(s): Gottemoeller,Rose E

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Aug 1981

Abstract: ( U ) The Soviet Union and Cuba have stirred up considerable controversy by their participation in the confusing national liberation struggles of the Third World. Analysts in the West have puzzled over the exact nature of the relationship between the two countries, for in places like Angola and Ethiopia, it has appeared that Cuba is providing the muscle and firepower, while the USSR is providing the money and brainpower. One of the commonest

explanations is that the Cubans are playing a simple surrogate role in the Third World, repaying their large economic debt to the Soviet Union by taking orders from that superpower in its bid for influence among the developing countries. However, other have argued quite convincingly that Cuba is not performing as a Soviet proxy, in Africa or elsewhere. This paper will first discuss the evolution of the current relationship between the USSR and Castro's Cuba, highlighting areas where different approaches to a problem have resulted in policy conflict or independent action. Next, the paper will cover possible areas where conflict could develop out of present Soviet-Cuban cooperation in the Third World. These speculations will reflect past differences in behavior, as discussed in the first section. Finally, the paper will conclude with some ideas concerning the essential nature of the Soviet-Cuban allied relationship, including consideration of the influence to be gained by smaller nations in their dealings with the great powers.

Abstract Classification:Unclassified

Pages:31 Page(s)

Report Number: RAND/P-6668 ( *RANDP6668* ) , SBI - AD-E750 320 ( *SBIAD E750320* )

Monitor Series: AD-E750 320 ( *ADE750320* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint Logistics Commanders Guide for the Management of Multinational Program,

PDF URL: (pdf) - 20 MB -

Accession Number: ADA108017

Personal Author(s): Fargher,John S W ; Geisler,Murray A

Corporate Author: LOGISTICS MANAGEMENT INST WASHINGTON DC

Report Date: Jul 1981

Abstract: ( U ) This guide was published with the approval of the undersecretary of Defense for Research and Engineering and the Joint Logistics Commanders. Its goal is to provide program managers, who have had experience with domestic programs, background and substantive information on the many special and complex features of multinational programs. The guide stresses the need for all managers to consider early in their programs the important objectives of rationalization, standardization, and interoperability (RSI). (Author)

Abstract Classification:Unclassified

Pages:349 Page(s)

Report Number: LMI-RE003 ( *LMIRE003* )

Contract/Grant/Transfer Number: MDA903-77-C-0370 ( *MDA90377C0370* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Semiconductor Technology Program. Progress Briefs

PDF URL: (pdf) - 6 MB -

Accession Number: ADA102895

Personal Author(s): Bullis, W M

Corporate Author: NATIONAL BUREAU OF STANDARDS WASHINGTON DC NATIONAL  
ENGINEERING LAB

Report Date: Jul 1981

Abstract: ( U ) This report provides information on the current status of NBS work on measurement technology for semiconductor materials, process control, and devices. Emphasis is

placed on silicon and silicon-based devices. Highlighted activities include newly issued resistivity SRMs, characteristics of sulfur- related deep levels in silicon, photoluminescence of indium-doped silicon, effect of tertiary interferograms on Fourier transform spectroscopy, design information for a set of wafer optical line-width standards, modeling of short- channel MOS transistors, acoustic-emission testing of tape-bonded ICs, laser scanning of a solar cell test pattern, power loss of transistor leads during fast switching, and second breakdown and radiation effects in power MOS transistors. Brief descriptions of an upcoming linewidth measurement seminar and a survey of Federal IC processing facilities are given. In addition, recent publications and publications in press are listed. The report is not meant to be exhaustive; contacts for obtaining further information are listed.

Abstract Classification:Unclassified

Descriptive Note: Rept. for Jan-Mar 1981

Pages:16 Page(s)

Report Number: NBSIR-81-2230-2 ( *NBSIR8122302* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: ARPA ORDER-3882 ( *ARPAORDER3882* ) , EA77-A01-6010 ( *EA77A016010* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Laser Journal (Selected Articles),

PDF URL: (pdf) - 1 MB -

Accession Number: ADA100719

Personal Author(s): Zhong, Ji ; Li, Qun ; Zunkui, Chang

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 03 Jun 1981

Pages:43 Page(s)

Report Number: FTD-ID(RS)T-2101-80 ( *FTDIDRST210180* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ONR Tokyo Scientific Bulletin. Volume 6, Number 2, April-June 1981,

PDF URL: (pdf) - 8 MB -

Accession Number: ADA103321

Personal Author(s): Kim,Young B ; Moore,Mary Lou

Corporate Author: OFFICE OF NAVAL RESEARCH SCIENTIFIC LIAISON GROUP APO  
SAN FRANCISCO 96503

Report Date: Jun 1981

Abstract: ( U ) This is a quarterly publication presenting articles covering recent developments in Far Eastern (particularly Japanese) scientific research. It is hoped that these reports (which do not constitute part of the scientific literature) will prove to be of value to scientists by providing items of interest well in advance of the usual scientific publications. The articles are written primarily by members of the staff of ONR Tokyo, with certain reports also being contributed by visiting stateside scientists. Occasionally a regional scientist will be invited to submit an article covering his own work, considered to be of special interest. (Author)

Abstract Classification:Unclassified

Pages:136 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A 20-Year's Survey of Laser Science and Technology in China (II),

PDF URL: (pdf) - 1 MB -

Accession Number: ADA101276

Personal Author(s): Zhong, Ji ; Li, Qun

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 30 Apr 1981

Pages:35 Page(s)

Report Number: FTD-ID(RS)T-2102-80 ( *FTDIDRST210280* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effects of Yttrium Additions on Void Swelling in Liquid Metal Fast Breeder Reactor Candidate Cladding Alloys.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA098753



Personal Author(s): Hopson,Richard D

Corporate Author: ARMY MILITARY PERSONNEL CENTER ALEXANDRIA VA

Report Date: 28 Apr 1981

Abstract: ( U ) Candidate Liquid Metal Fast Breeder Reactor cladding alloys AL1 (Fe-26% Ni-9% Cr) and AL2 (Fe-35% Ni-12% Cr) without and with the addition of 0.1% yttrium were bombarded by 4 MeV Fe56(2+) ions without and with simultaneous bombardment by 0.4 MeV He4(+) ions. These bombardments were conducted at various irradiation temperatures to determine the effect of yttrium on void swelling. The addition of yttrium decreased peak swelling for 4 MeV Fe56(2+) ion bombarded AL1 and AL2 28% and 20%, respectively. In all cases where similar sample comparisons were made (i.e., undoped with undoped and doped with doped) and where bombardment conditions were similar (i.e., single with single beam and dual with dual beam), AL1 showed less peak swelling than did AL2. Simultaneously implanting helium during heavy-ion bombardment increased peak swelling in undoped and doped AL1 by factors of 2.3 and 2.6, respectively. It was also observed that the coimplantation of helium in undoped and doped AL2 increased peak swelling by factors of 2.0 and 1.3, respectively. No conclusions were drawn with respect to shifts in peak swelling temperatures due to yttrium additions or helium implantations. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:85 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Seven Murine Cell Lines with Properties of Macrophages,

PDF URL: (pdf) - 2 MB -

Accession Number: ADA099277

Personal Author(s): Peters,Clarence J

Corporate Author: ARMY MEDICAL RESEARCH INST OF INFECTIOUS DISEASES  
FREDERICK MD

Report Date: Feb 1981

Abstract: ( U ) Seven phagocytic murine cell lines established from cultures of thymic lymphomas closely resembled authentic mouse peritoneal macrophages in their morphology and phagocytic properties. They secreted lysozyme and contained large quantities of nonspecific esterase, beta-glucuronidase, acid phosphatase, and lysozyme. They lacked the surface antigens of thymic lymphocytes (Thy-1,2 antigen) or bursa-equivalent lymphocytes (immunoglobulin), but they expressed receptors for immunoglobulin and complement. Complement-mediated rosettes did not occur in the absence of divalent cations. Efficient phagocytosis of sheep erythrocytes required opsonization with rabbit IgG antibodies. Ia8 antigen was recent on all four H2D cell lines. Two of the cell lines can be readily cloned; we used these to demonstrate that variation in receptor expression and morphology was not due to the presence of multiple cell types. None of the cell lines was tumorigenic in nude mice or normal syngeneic mice. These macrophage-like cell lines provide well-characterized models which can be used to examine certain aspects of macrophage function under defined conditions without lymphoid cell admixture. (Author)

Abstract Classification:Unclassified

Pages:50 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Use of the Ocean for Man's Wastes. Proceedings of Symposium Held at Lewes, Delaware on 23-24 June 1981.

PDF URL: (pdf) - 15 MB -

Accession Number: ADA111358

Corporate Author: NATIONAL RESEARCH COUNCIL WASHINGTON DC MARINE  
BOARD

Report Date: Jan 1981

Abstract: ( U ) The sea is potentially an important receiver of wastes. The Marine Board, Assembly of Engineering, National Research Council, convened a symposium to explore the capacity of the oceans to assimilate wastes and the processes by which that capacity can be utilized. The symposium was held in Lewes, Delaware in June, 1981. The speakers at the symposium defined the major technical problems and engineering concerns involved in using the oceans to accept and assimilate waste. Speakers and panel participants recognized that there are many wastes--such as biodegradable organic matter, and under certain circumstances, industrial wastes--that can be assimilated by the ocean. Moreover, they frequently expressed the view that the ocean option should be considered with land and air disposal in waste management assessments. The capability of the ocean is underused, in the view of the presenters, many of whom also emphasized that the ocean assimilative capacity can be exceeded and must be evaluated on a site-specific basis.

Abstract Classification:Unclassified

Pages:311 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the 35th Annual Symposium on Frequency Control, 27-29 May 1981, Philadelphia, Pennsylvania.

PDF URL: (pdf) - 32 MB -

Accession Number: ADA110870

Corporate Author: ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND  
ADELPHI MD

Report Date: Jan 1981

Abstract: ( U ) This technical report deals with: Plenary session; Resonator Processing and Acceleration Resistant Crystal Units; Miniature Resonators and Resonator Theory; Filter Crystals and Crystal Measurements; Crystal Synthesis and Fundamental Properties of Quartz;

Surface Acoustic Wave Devices; Frequency Generation and Frequency Stability; Future Frequency Control Needs and Frequency and Time Distribution, and Atomic and Molecular Frequency Control Devices.

Abstract Classification:Unclassified

Pages:723 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Annual Conference of the Military Testing Association (23rd) held at Arlington, Virginia, on 25-30 October 1981. Volume 1

PDF URL: (pdf) - 36 MB -

Accession Number: ADA130702

Corporate Author: ARMY RESEARCH INST FOR THE BEHAVIORAL AND SOCIAL SCIENCES ALEXANDRIA VA

Report Date: Jan 1981

Abstract: ( U ) It is not clear at this time whether the strategy advocated in the Defense Guidance will enhance the national security of the United States. Both its technological and sociological feasibility are seriously in doubt. The manpower policy challenges posed by that strategy are enormous in their applications. The branchings in the paths ahead are altogether too numerous for easy mapping or classification. It seems crystal clear, however, that most of them involve choices that could more confidently be made were we to have much better information about our manpower than is presently available to commanders and managers in the Department of Defense.

Abstract Classification:Unclassified

Pages:824 Page(s)

Report Number: XA - ARI ( XA )

Monitor Series: ARI

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cooperative Radiation Effects Simulation Program.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA093743

Personal Author(s): Beach,L A ; Smidt,F A , Jr

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 16 Dec 1980

Abstract: ( U ) The Cooperative Radiation Effects Simulation Program (CORES) is a collaborative effort of the Material Science and Technology and the Radiation Technology Divisions of the NRL Material Science and Component Technology Area. The goal of the research is to provide the theoretical and experimental bases for understanding the mechanisms of nuclear radiation damage of metals, as well as a theoretical insight into energy deposition processes. In this, the Van de Graaff and Cyclotron are used to simulate rapidly the radiation damage produced over long periods in reactor neutron environments. Progress for the period, 1 September 1978 to 31 August 1979, includes: (1) the effect of Ni<sup>+</sup>ion bombardment on nickel and binary nickel alloys was investigated at 675 C, 625 C and 525 C and compared with neutron irradiation at 455 C; (2) the microstructures of titanium scoping alloys following low fluence neutron at 450 C were studied by transmission electron microscopy; and (3) X-ray diffraction measurements of early stages of radiation damage in metals was studied in single crystal and polycrystalline Cu specimens. (Author)

Abstract Classification:Unclassified

Descriptive Note: Annual progress rept. 1 Sep 78-31 Aug 79,

Pages:63 Page(s)

Report Number: NRL-MR-4379 ( *NRLMR4379* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Offshore Installations and Their Relevance to the Coast Guard through the Next Twenty-Five Years. Volume II. Detailed Forecasts.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA100671

Personal Author(s): Simmons,Kendall W ; Burton,William J ; Williams,Charles W

Corporate Author: WILLIAMS (CHARLES W) INC ALEXANDRIA VA

Report Date: Nov 1980

Abstract: ( U ) This three-volume study forecasts the universe of offshore installations (OSI) in waters proximate to U.S. territory out the year 2005, and assesses the impact of the growth in numbers and types of these installation on the Coast Guard. Volume II present detailed forecasts of a variety of categories of offshore installations related to energy, food, minerals, industrial expansion seaward, military and space, transportation, and science and technology. The conclusions of the study are summarized: By the year 2005 the population of oil and gas OSI will have expanded very significantly; OTEC installations will be a distant second; all other types of OSI will be a still farther distant third. The expansion of the OSI universe will increase the operating load on the Coast Guard enormously by the year 2005; there will be a strong need for decision to either expand Coast Guard capability or to reduce Coast Guard load. The study recommends that the Coast Guard opt to move in a direction that makes maximum use of its unique operational capability, if necessary at the expense of its regulatory and other nonoperational roles. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept. 21 Sep 79-17 Nov 80,

Pages:241 Page(s)

Report Number: USCG-D - 23-81-VOL-2 ( *USCGD2381VOL2* )

Monitor Series: 23-81-VOL-2 ( *2381VOL2* )

Contract/Grant/Transfer Number: DOT-CG-916668-A ( *DOTCG916668A* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Study and Identification of Residual Donor Species in High Purity Semiconductors.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA092542

Personal Author(s): Low,T S ; Stillman,G E

Corporate Author: ILLINOIS UNIV AT URBANA DEPT OF ELECTRICAL ENGINEERING

Report Date: Nov 1980

Abstract: ( U ) A far infrared Fourier transform spectroscope has been constructed which uses photothermal ionization to probe the energy level structure of shallow impurities, enabling identification and measurement of relative concentrations of residual impurity species in high purity semiconductors. Spectra from samples grown by MO-CVD, MBE, LPE, and both hydride and chloride VPE are shown and analyzed. Some mathematical details about the Fourier transform are considered and a computer investigation of spectral line shape distortion by the transform is described.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 4 Jun 79-31 Jul 80,

Pages:65 Page(s)

Report Number: UILU-ENG-80-2553 ( *UILUENG802553* )

Contract/Grant/Transfer Number: N00173-79-C-0184 ( *N0017379C0184* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Chemical Toxicity of Low-Level Wastes, Main Report, Volume 1.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA324760

Corporate Author: GENERAL RESEARCH CORP SANTA BARBARA CA

Report Date: Nov 1980

Abstract: ( U ) This report is presented in two volumes and provides an assessment of the chemical toxicity of low-level radioactive wastes.

Abstract Classification:Unclassified

Pages:263 Page(s)

Report Number: NUREG - CR-1793-VOL-1 XD ( *NUREGCR1793VOL1* ) , XJ - CR-1793-VOL-1 XD ( *XJCR1793VOL1* )

Monitor Series: CR-1793-VOL-1 ( *CR1793VOL1* ) , XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE



Distribution Statement: Approved for public release; distribution is unlimited., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Transmutation Doping of GaAs

PDF URL: (pdf) - 862 KB -

Accession Number: ADA093217

Personal Author(s): Fritzsche, H

Corporate Author: CHICAGO UNIV IL JAMES FRANCK INST

Report Date: Oct 1980

Abstract: ( U ) Superior GaAs material is in great demand for high frequency and high speed GaAs devices such as Impatt diodes, Gunn diodes, field effect transistors, and avalanche photodiodes. The quality and control of impurities in GaAs material is much less advanced than in elemental semiconductors such as Si. This is partly because substitutional dopants can occupy either Ga sites or As sites and they tend to associate and cluster. We intend to develop a new method for preparing homogeneous and well controlled GaAs material. This method is nuclear transmutation doping. It has yielded superior Si and Ge semiconductor device material and should be even more successful in the case of GaAs because of the larger neutron capture cross sections and shorter radioactive decay times involved. We intend to study the doping characteristics of bulk and epitaxial layers of GaAs using nuclear transmutation doping and the resulting electrical characteristics.

Abstract Classification: Unclassified

Descriptive Note: Final rept. 1 Jun 1976-30 Jun 1979

Pages: 19 Page(s)

Report Number: AFOSR - TR-80-1315 AFOSR ( *AFOSRTR801315* ) , XC - TR-80-1315 AFOSR ( *XCTR801315* )

Monitor Series: TR-80-1315 ( *TR801315* ) , AFOSR

Contract/Grant/Transfer Number: AFOSR-76-3044 ( *AFOSR763044* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) United States Air Force Summer Faculty Research Program. 1980 Program Management Report.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA097395

Personal Author(s): Peele, Warren D

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL

Report Date: Oct 1980

Abstract: ( U ) The United States Air Force Summer Faculty Research Program (USAF-SFRP) is a program designed to introduce university, college, and technical institute faculty members to Air Force research. This is accomplished by the faculty members being selected on a nationally advertised competitive basis for a ten-week assignment during the summer intercession to perform research at Air Force Laboratories/centers. Each assignment is in a subject area and at an Air Force facility mutually agreed upon by the faculty member and the Air Force. In addition to compensation and travel expenses, a cost of living allowance is also paid. The USAF-SFRP is sponsored by the Air Force Office of Scientific Research/Air Force Systems Command, United States Air Force, and is conducted by the Southeastern Center for Electrical Engineering Education, Inc. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:129 Page(s)

Report Number: AFOSR - TR-81-0194 ( *AFOSRTR810194* )

Monitor Series: TR-81-0194 ( *TR810194* )

Contract/Grant/Transfer Number: F49620-79-C-0038 ( F4962079C0038 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Techniques for Transmutation Compensation of Extrinsic Silicon Detectors.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA094781

Personal Author(s): Meese,J M ; Cowan,D L ; Chandrasekhar,Meera ; Glairon,P J ; Lindley,R

Corporate Author: MISSOURI UNIV-COLUMBIA RESEARCH REACTOR FACILITY

Report Date: Oct 1980

Abstract: ( U ) The effects of nuclear transmutation doping in high quality detector grade silicon have been investigated. A theoretical treatment of the concepts of critical fluence for exact compensation, extrema of silicon electrical parameters as a function of fluence, and defect production rates is presented. Theoretical models of resistivity homogeneity as a function of compensation ratio and maximum possible mean resistivity by NTD as a function of initial resistivity fluctuations are also treated. Experimental techniques such as NAA, isochronal annealing, EPR, optical absorption, Raman scattering, resistivity measurements and DLTS have been used to classify quantitatively the types of defects produced during NTD compensation. Several defect energy levels have been identified by a correlation of EPR and DLTS. The total number of atomic displacements which survive room temperature irradiation have been found to be only about 7% of the total displacements created during irradiation. In addition, highly disordered regions, which in many ways is similar to amorphous silicon, have been observed to anneal in the temperature range of 300-600C. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 15 Feb 78-31 Oct 80,

Pages:272 Page(s)

Report Number: AFWAL - TR-80-4137 ( *AFWALTR804137* )

Monitor Series: TR-80-4137 ( *TR804137* )

Contract/Grant/Transfer Number: F33615-78-C-5015 ( *F3361578C5015* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Manufacturing Methods and Technology (MM&T) Measure for Fabrication of Silicon Transcendent Transistor.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA092079

Personal Author(s): DeVito,M F ; Kessler,S W ; Reed,R E ; Trout,D R

Corporate Author: RCA CORP LANCASTER PA SSD-ELECTRO-OPTICS AND DEVICES

Report Date: Sep 1980

Abstract: ( U ) The purpose of this test is to provide evidence of production contractor conformance to contractual requirements, reveal defects of workmanship or material nature that may reduce the effective operation of these vehicles in the field and to compare existing quality with previous standards. Two M840 Dolly Sets were provided for testing. The dolly sets each consists of a front and rear dolly trailer. The sets contain air-over-hydraulic brakes, air-spring suspension, automotive type shock absorbers, a quickly removable hinged towing bar, taillights and stoplights and standard military tires. Mechanical hand parking brakes are provided for the rear wheels. Each dolly is equipped with an independent, manually-operated hydraulically-actuated lifting/leveling system. A lifting leveling jack is connected between each lifting bracket and a torque tube arm. Two tilting jacks are mounted on each torque tube and may be actuated to align the transporter with the mating brackets on the shelter when on uneven terrain. Two hydraulically operated lifting jacks and two hydraulically operated tilting jacks are provided on each dolly for lifting and leveling a shelter. These jacks provide the means of installing the dolly set to the shelter when resting on the ground and to lift the shelter to a height of 17 inches for

tactical deployment. The dolly set has a rated payload of 9000 lbs. The M840 Dolly Sets successfully met the requirements of the Performance Tests.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 2 Apr 79-30 Mar 80,

Pages:143 Page(s)

Contract/Grant/Transfer Number: DAAK70-79-C-0019 ( DAAK7079C0019 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Neutron and Gamma Radiation Effects on GaAlAs Laser Diodes.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA091795

Personal Author(s): Ackerman,Harro ; Walsh,Thomas E , Jr

Corporate Author: AIR FORCE WEAPONS LAB KIRTLAND AFB NM

Report Date: Aug 1980

Abstract: ( U ) The effects of two kinds of radiation on the performance of double heterojunction aluminum-gallium-arsenide (AlGaAs) laser diodes were investigated. One set of diodes received neutron radiation in a nuclear reactor; another set was exposed to gamma radiation from a cobalt-60 source. Each set contained two types of lasers, an RCA C30127 and a Laser Diode Laboratories LCW-10, both designed to operate continuously at room temperature. At neutron fluences of 10 to the 14th power n/sq cm, both types of diodes showed significant decreases in power output and external quantum efficiency, and increases in threshold current. There was no significant change in bias voltage versus forward current or in spectral composition of the light outputs at neutron fluences up to 10 to the 15th power n/sq cm. Under gamma radiation, the C30127 laser exhibited rapid degradation. A dosage of 10 to the 4th power rad(Si) reduced the output power by half. Threshold current, efficiency, and intensity distribution were

all adversely affected. The damage factor at constant voltage was  $1.5 \times 10^{-7}$  power rad to the minus 1 power. The LCW-10 performance improved to a dosage of  $10^{-6}$  power rad(Si) before degradation began. After  $10^{-8}$  power rad(Si), power output was still comparable to preirradiation values. Beam characteristics were not appreciably altered. The damage factor at constant voltage was  $4 \times 10^{-8}$  power rad to the minus 1 power.

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:83 Page(s)

Report Number: AFWL-TR-79-43 ( *AFWLTR7943* ) , SBI - AD-E200 589 ( *SBIAD E200589* )

Monitor Series: AD-E200 589 ( *ADE200589* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Improved Capabilities to Detect Incipient Bearing Failures.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA091687

Personal Author(s): Alcorta,J A ; Mohn,J H ; Packer,L L

Corporate Author: PRATT AND WHITNEY AIRCRAFT GROUP WEST PALM BEACH FL  
GOVERNMENT PRODUCTS DIV

Report Date: Jul 1980

Abstract: ( U ) A methodology using safe, low level radiation technique for the detection of wear in gas turbine engine mainshaft bearings has been developed and evaluated in a simulated gas turbine engine bearing environment. In conjunction with spectrometric analyses of engine oil samples, the radioactive tag will detect low levels of wear and will simultaneously indicate

whether the tagged bearing is the source of the wear. Iron-55 is employed as the active tag owing to its low radiation levels, long half-life, and homogeneity of the isotope in the bearing rollers. The low levels of radiation existent in the tagged wear particles requires the separation of wear debris from the oil. Test results showed that the tagging method would provide a means of identifying the tagged rollers experiencing abnormal wear at the + or - 0.5 part per million iron level. Safe, low-level radioactive bearing roller tagging was achieved by waiting six months after neutron irradiation for the decay of the iron-59 and the chromium-51 gamma emitting radioisotopes. Wear measurements are conducted using the long half-life, low energy emitting X-rays from iron-55. The technique used for tagging, debris concentration, debris measurement, and bearing testing is given. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 May 78-31 Mar 80,

Pages:86 Page(s)

Report Number: PWA-FR-13036A ( *PWAFR13036A* ) , AFWAL - TR-80-2057 ( *AFWALTR802057* )

Monitor Series: TR-80-2057 ( *TR802057* )

Contract/Grant/Transfer Number: F33615-78-C-2008 ( *F3361578C2008* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Silicon Material Development for LADIR.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA087286

Personal Author(s): Kimura,H ; Marsh,O J

Corporate Author: HUGHES RESEARCH LABS MALIBU CA

Report Date: Jun 1980

Abstract: ( U ) This interim report gives dopant distribution results from several float-zoned 100 silicon crystals. Uniformity of Ga improves as the growth rate is decreased and the rotation rate during growth is increased. This results agree qualitatively with diffusion theory and show promise of substantial uniformity improvement over state of the art Si:Ga material for IR detector applications. (Author)

Abstract Classification:Unclassified

Descriptive Note: Interim rept. 15 Aug 78-15 Aug 79,

Pages:48 Page(s)

Contract/Grant/Transfer Number: F33615-78-C-5062 ( F3361578C5062 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Sojourn Times in Markov Queueing Networks: Little's Formula Revisited.

PDF URL: (pdf) - 1 MB -

Accession Number: ADA089658

Personal Author(s): Beutler,Frederick J

Corporate Author: MICHIGAN UNIV ANN ARBOR COMPUTER INFORMATION AND CONTROL ENGINEERING PROGRAM

Report Date: Jun 1980

Abstract: ( U ) It is commonly supposed that  $L = \lambda W$  applies to 'almost any' queueing system, with  $\lambda$  the mean customer entrance rate,  $L$  the asymptotic expectation of the number of customers in the system, and  $W$  the asymptotic sojourn time expectation. We study the formula for irreducible positive recurrent Markov queueing systems whose state vector  $Z$  consists of entries representing queue lengths at the respective service stations; such a model



permits blocking, finite capacities, jockeying, state-dependent or random routing, bulk and/or Erlang service, and variable arrival and service rates. To define waiting times under various queueing disciplines,  $Z$  is augmented by a customer location process to yield the new Markov process  $Y = (Z, U)$ . It is shown that the standard regenerative process proof of Little's equality fails in the absence of further hypotheses; however, additional assumptions assure the validity of  $L = \lambda W$  for a broad variety of queueing disciplines.

Abstract Classification:Unclassified

Descriptive Note: Interim rept.,

Pages:37 Page(s)

Report Number: AFOSR - TR-80-0923 ( *AFOSRTR800923* )

Monitor Series: TR-80-0923 ( *TR800923* )

Contract/Grant/Transfer Number: AFOSR-76-2903 ( *AFOSR762903* ) , NSF-ENG75-20223 ( *NSFENG7520223* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Z2/A Dependence in Heavy-Ion Fusion for the Reactions of Chlorine on Thulium, Lutetium, Tantalum and Tungsten.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA084863

Personal Author(s): DiRienzo,Anthony Charles

Corporate Author: ARMY MILITARY PERSONNEL CENTER ALEXANDRIA VA

Report Date: Jun 1980

Abstract: ( U ) Evaporation residues produced in the reactions  $^{35}\text{Cl}+^{169}\text{Tm}$  and  $^{37}\text{Cl}+^{169}\text{Tm}$ ,  $^{175}\text{Lu}$ ,  $^{181}\text{Ta}$  and  $^{186}\text{W}$  were observed at zero degree utilizing the Mass Inst of Tech.-Brookhaven Nat'l Lab Recoil Mass Spectrometer. The recoiling nuclei were separated from the beam and refocused onto a surface barrier detector by a combination of electrostatic and magnetic fields and magnetic quadrupole lenses. The residual nuclei are alpha radioactive and can thus be identified by a characteristic alpha line observed after the arrival pulse of the evaporation residue. The recoiling nuclei also pass through a gas ionization chamber whereas the decay alpha do not. A separate anti-coincidence spectrum therefore displayed the alphas background free. Trends of evaporation residue cross section were charted versus  $Z^2$  (proton no.)/  $A$  (atomic no.) and compared to statistical evaporation codes. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:139 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Subject Headings of the Morris Swett Library, USAFAS. Revised.

PDF URL: (pdf) - 10 MB -

Accession Number: ADA084673

Personal Author(s): Relph,Martha H C

Corporate Author: ARMY FIELD ARTILLERY SCHOOL FORT SILL OK

Report Date: 15 May 1980

Abstract: ( U ) This comprehensive subject listing indicates how the Morris Swett library has developed their catalog over the past seventy-five years. Headings have been devised/adopted from various library thesaurus, USAFAS subject specialists, and from librarian experience. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:432 Page(s)

Report Number: INDEX-5-REV ( *INDEX5REV* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Algorithm for Estimating Aerodynamic Static Moments of Long Rod Penetrators at 2  
Less than M Less than 5

PDF URL: (pdf) - 1 MB -

Accession Number: ADA086095

Personal Author(s): Donovan, William F

Corporate Author: ARMY BALLISTIC RESEARCH LAB ABERDEEN PROVING GROUND  
MD

Report Date: May 1980

Abstract: ( U ) Estimation of the aerodynamic normal force and static moment of a given class of flight vehicles is demonstrated with reference to AMCP 706-280, which in turn derives from the classic British work 'Wings'. By means of linearized algebraic reduction, a transmutation permits the designer to quickly evaluate the effects of variation on the flight system.

Abstract Classification:Unclassified

Descriptive Note: Memorandum rept.

Pages:49 Page(s)

Report Number: ARBRL-MR-03020 ( *ARBRLMR03020* ) , XA - BRL ( XA )

Monitor Series: BRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Wisdom of Homer Lea.

PDF URL: (pdf) - 5 MB -

Accession Number: ADA080648

Personal Author(s): Kennedy,William V

Corporate Author: ARMY WAR COLL STRATEGIC STUDIES INST CARLISLE  
BARRACKS PA

Report Date: 15 Jan 1980

Abstract: ( U ) This paper considers some of the writings of Homer Lea, a military strategist of the early 1900's, in the contemporary timeframe.

Abstract Classification:Unclassified

Descriptive Note: Occasional paper,

Pages:12 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Off-Site Monitoring of Nuclear Fuel Reprocessing Plants for Nuclear Weapons Proliferation

PDF URL: (pdf) - 3 MB -

Accession Number: ADA083518

Personal Author(s): Karch, Lawrence G

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSONAFB OH SCHOOL OF ENGINEERING

Report Date: Jan 1980

Abstract: ( U ) Techniques for off-site monitoring of foreign nuclear fuel reprocessing plants for indications of nuclear weapons proliferation are examined. Air sampling of the reprocessing plant exhaust plume and remote sensing of the stack exhaust by infrared absorption spectrometry and differential absorption LIDAR are considered. The fission product ratios: xenon/ krypton, xenon/Kr-85, Xe-136/Kr-85, and I-129/I-127 are shown to be positive indicators of nuclear weapons proliferation. Off-site monitoring by air sampling alone cannot establish the fission product ratios with sufficient accuracy or certainty to detect Pu-239 isolation or U-233 production. Detection of highly burned-up LWR fuel by air sampling appears possible under favorable plant discharge and meteorological conditions. Remote sensing of the stack discharge by infrared absorption spectrometry for HI129 and HI127 appears feasible at a distance of 1 kilometer. Measurement of xenon and krypton concentrations at stack discharge using either infrared absorption spectrometry or differential absorption LIDAR is not feasible. (Author)

Abstract Classification:Unclassified

Descriptive Note: Master's thesis

Pages:97 Page(s)

Report Number: AFIT/GNE/PH/80M-3 ( *AFITGNEPH80M3* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Laser Ablation and Resonance Ionization Spectroscopy (LARIS) for Trace Analysis of Solids.

PDF URL: (pdf) - 890 KB -

Accession Number: ADA102234

Personal Author(s): Mayo,S ; Lucatorto,T B ; Luther,G G

Corporate Author: NATIONAL BUREAU OF STANDARDS WASHINGTON DC

Report Date: Jan 1980

Abstract: ( U ) A new analytical technique has been developed for the detection of trace sodium impurity in single crystal silicon using laser ablation and resonance ionization spectroscopy. Sodium is detected in the ablated vapor by using two tunable laser probes to induce resonantly enhanced multiphoton ionization via the intermediate 3P and 4D levels. At present, the technique provides only relative quantitative results. For absolute quantitative results, characterization of complex laser-solid interaction phenomena in a buffer gas is required. The minimum detectable sodium density in the solid is estimated to be about 10 to the 11th power atoms/cu cm. Generalization of this technique to other impurities is limited only by laser availability. (Author)

Abstract Classification:Unclassified

Pages:26 Page(s)

Contract/Grant/Transfer Number: N00014-80-F-0046 ( *N0001480F0046* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Unclassified Publications of Lincoln Laboratory. Volume 7

PDF URL: (pdf) - 5 MB -

Accession Number: ADA101092

Corporate Author: MASSACHUSETTS INST OF TECH LEXINGTON LINCOLN LAB

Report Date: 15 Dec 1979

Abstract: ( U ) Contents: Quarterly Technical Summaries; Semiannual Technical Summary Reports; Miscellaneous Progress Reports; Technical Reports; Technical Notes; Journal Articles; Meeting Speeches; Author Index; and Subject Index.

Abstract Classification:Unclassified

Descriptive Note: Rept. bibliography 15 Dec 1977-15 Dec 1979

Pages:81 Page(s)

Report Number: ESD - TR-79-318 ESD ( *ESDTR79318* ) , XC - TR-79-318 ESD ( *XCTR79318* )

Monitor Series: TR-79-318 ( *TR79318* ) , ESD

Contract/Grant/Transfer Number: F19628-80-C-0002 ( *F1962880C0002* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USAF/SCEEE Summer Faculty Research Program (1979). Volume 1

PDF URL: (pdf) - 31 MB -

Accession Number: ADA082402

Personal Author(s): Miller, Richard N

Corporate Author: SOUTHEASTERN CENTER FOR ELECTRICAL ENGINEERING  
EDUCATION INC ST CLOUD FL

Report Date: Dec 1979

Abstract: ( U ) This Volume 1 of 3 volumes presents the final research reports of the 1979 Summer Faculty Research Program participants. The program designed to stimulate scientific and engineering interaction between university faculty members and technical personnel at the Air Force laboratories, centers, and divisions has four specific objectives: (1) To develop the basis for continuing research of interest to the Air Force at the faculty member's institution; (2) To further the research objectives of the Air Force; (3) To stimulate continuing relations among faculty members and their peers in the Air Force; (4) To enhance the research interests and capabilities of scientific and engineering educators.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:711 Page(s)

Report Number: AFOSR - TR-80-0247 AFOSR ( *AFOSRTR800247* ) , XC - TR-80-0247  
AFOSR ( *XCTR800247* )

Monitor Series: TR-80-0247 ( *TR800247* ) , AFOSR

Contract/Grant/Transfer Number: F49620-79-C-0038 ( *F4962079C0038* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Proceedings of the Image Understanding Workshop, Held at Los Angeles, California  
November 7-8, 1979

PDF URL: (pdf) - 12 MB -

Accession Number: ADA077568

Personal Author(s): Baumann, Lee S

Corporate Author: SCIENCE APPLICATIONS INC ARLINGTON VA

Report Date: Nov 1979

Abstract: ( U ) This document contains the technical papers and outlines of semi- annual progress reports presented by the research activities in Image Understanding sponsored by the Information Processing Techniques Office; Defense Advanced Research Projects Agency. The papers were presented at a workshop conducted on 7-8 November 1979 in Los Angeles, California.

Abstract Classification:Unclassified

Descriptive Note: Semiannual technical rept. Apr-Nov 1979

Pages:188 Page(s)

Report Number: SAI-80-974-WA ( SAI80974WA ) , XD - DSS ( XD )

Monitor Series: DSS

Contract/Grant/Transfer Number: MDA903-78-C-0095 ( MDA90378C0095 ) , ARPA  
ORDER-3456 ( ARPAORDER3456 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cooperative Radiation Effects Simulation Program.

PDF URL: (pdf) - 27 MB -

Accession Number: ADA075608

Personal Author(s): Smidt,F A , Jr ; Beach,L A

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 04 Oct 1979

Abstract: ( U ) The Cooperative Radiation Effects Simulation Program (CORES) is a collaborative effort of the Material Science and Technology and Radiation Technology Divisions of NRL Material and Radiation Science and Technology Area. The goal of the research is to provide the theoretical and experimental bases for understanding the mechanisms of nuclear radiation damage of metals, as well as a theoretical insight into energy deposition processes. In this the Van de Graaff and Cyclotron are used to simulate rapidly the radiation damage produced over long periods in reactor neutron environments.

Abstract Classification:Unclassified

Descriptive Note: Annual progress rept. 1 Sep 77-31 Aug 78,

Pages:72 Page(s)

Report Number: NRL-MR-4080 ( *NRLMR4080* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Summary of Research Activities. Academic Departments, 1979-1980.

PDF URL: (pdf) - 15 MB -

Accession Number: ADA086544

Personal Author(s): Heflin,Wilson L

Corporate Author: NAVAL ACADEMY ANNAPOLIS MD

Report Date: Oct 1979

Abstract: ( U ) This annual report summarizes the research work of the Naval Academy faculty and midshipmen for the period 1 July 1978--30 June 1979. Sponsored and independent research projects are listed by title, followed by the names of the investigators and an abstract. A list of publications and their abstracts are included as well as presentations at professional meetings, conferences, and seminars.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. 1 Jul 78-30 Jun 79,

Pages:289 Page(s)

Report Number: USNA-AR-5 ( USNAAR5 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Influence of Contact and Interface Effects of the Electronic Properties and Stability of Chemically Unstable Materials.

PDF URL: (pdf) - 22 MB -

Accession Number: ADA073073

Personal Author(s): Mark,Peter

Corporate Author: PRINCETON UNIV N J DEPT OF ELECTRICAL ENGINEERING

Report Date: 23 Jul 1979

Abstract: ( U ) This report summarizes an effort to assess the usefulness of electron beam probe analysis, such as Auger electron spectroscopy (AES), in the analysis of initiation event in primary explosives, principally, azides. Attempts were made to extract a variety of chemical and

physical information from AES analyses of KN and NaN<sub>3</sub> crystal specimens to determine whether one could ascribe the chemical instability of these materials to surface as distinct from volume properties. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jul 74-30 Sep 78,

Pages:53 Page(s)

Report Number: ARO - 12606.2-P 13370.2-P ( *ARO126062P 133702P* ) , ARO - 12606.2-P 13370.2-P ( *ARO126062P 133702P* )

Monitor Series: 12606.2-P ( *126062P* ) , 13370.2-P ( *133702P* )

Contract/Grant/Transfer Number: DAAG29-76-G-0017 ( *DAAG2976G0017* ) , DAHC04-74-G-0193 ( *DAHC0474G0193* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electron Paramagnetic Resonance Characterization and Monitoring of Silicon Detector Materials.

PDF URL: (pdf) - 2 MB -

Accession Number: ADA088809

Personal Author(s): Miner,George K

Corporate Author: DAYTON UNIV OHIO

Report Date: 01 Jun 1979

Abstract: ( U ) The general objective of the work reported here was to apply the Electron Paramagnetic Resonance (EPR) technique to the characterization and monitoring of impurities and dopants in silicon detector materials. Silicon is the focus of the detector materials program.

The thrust of this project was divided into two parts, one specific project and a second more general one. The first was a study of indium-doped silicon, and was an attempt to aid in the understanding of the so-called 'X-level'. This understanding is very important to the development of detectors for the 3-5 micrometer range. The second part was of a more general study of defects in silicon detector materials using Electron Paramagnetic Resonance.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jun 79-31 May 80,

Pages:88 Page(s)

Report Number: AFOSR - TR-80-0697 ( *AFOSRTR800697* )

Monitor Series: TR-80-0697 ( *TR800697* )

Contract/Grant/Transfer Number: AFOSR-79-0108 ( *AFOSR790108* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Soviet Intermodal Transport.

PDF URL: (pdf) - 39 MB -

Accession Number: ADA078738

Personal Author(s): Barrie, Jeffrey E

Corporate Author: NAVAL WAR COLL NEWPORT RI CENTER FOR ADVANCED RESEARCH

Report Date: Jun 1979

Abstract: ( U ) Interrelations between the major Soviet freight carrying modes of transport are described in the context of the Soviet economic, political, and social systems. The evolutions of transportation development is traced, with particular emphasis on containerization. A form of

decentralized planning introduced at Leningrad in 1978 is outlined. The study concludes with recommendations for U.S. economic policy toward the Soviet Union. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:100 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Improved Capabilities to Detect Incipient Bearing Failures.

PDF URL: (pdf) - 26 MB -

Accession Number: ADA073123

Personal Author(s): Alcorta,J A ; Packer,L L

Corporate Author: PRATT AND WHITNEY AIRCRAFT GROUP WEST PALM BEACH FL  
GOVERNMENT PRODUCTS DIV

Report Date: Jun 1979

Abstract: ( U ) A methodology using a low level radiation technique for the detection of wear in gas turbine engine mainshaft bearings has been developed. In conjunction with SOAP analyses, the radioactive tag will detect low levels of wear and will simultaneously indicate whether the tagged bearing is the source of the wear. Iron-55 is employed as the active tag owing to its low radiation levels, long half-life, and homogeneity of the isotope in the bearing rollers. The low levels of radiation existent in the tagged wear particles requires the separation of wear debris from the oil. Membrane filtration of the oil for debris removal is undertaken due to its high recovery efficiency, simplicity of use, and adaptability for direct incorporation into the nuclear counting system. A gas flow proportional counter with cosmic guard detector and background shielding constitutes the most suitable low-level radio-activity measuring device for the iron-55 x-ray counting. The radioactive bearing tagging technique complements engine modularization by defining a diagnostic system that will identify specific engine bearings experiencing wear. By

assessing the location of the distressed bearing, the tagging technique permits the confinement of engine teardown to the module in which the bearing is located. (Author)

Abstract Classification:Unclassified

Descriptive Note: Interim technical rept. 1 May 78-28 Feb 79,

Pages:67 Page(s)

Report Number: FR-11509 ( *FR11509* ) , AFAPL - TR-79-2050 ( *AFAPLTR792050* )

Monitor Series: TR-79-2050 ( *TR792050* )

Contract/Grant/Transfer Number: F33615-78-C-2008 ( *F3361578C2008* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Computers in the Service of Science,

PDF URL: (pdf) - 826 KB -

Accession Number: ADA083356

Personal Author(s): Kolendowski,Jerzy ; Ksiezyk,Marek

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 02 May 1979

Pages:19 Page(s)

Report Number: FTD-ID(RS)T-0333-79 ( *FTDIDRST033379* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology for Commercial Radioactive Waste Management. Volume 4.

PDF URL: (pdf) - 162 MB -

Accession Number: ADA078258

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) Contents: Transportation of Radioactive Fuel Cycle Wastes; Final Isolation and Disposal of Long-Lived Wastes; Decommissioning of Retired Facilities; and Wastes FROM Thorium Fuel Cycles.

Abstract Classification:Unclassified

Pages:486 Page(s)

Report Number: DOE/ET-0028-VOL-4 ( *DOEET0028VOL4* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Environmental Aspects of Commercial Radioactive Waste Management. Volume 3.

PDF URL: (pdf) - 104 MB -

Accession Number: ADA078262



Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) Contents: A reference environment for assessing environmental impacts associated with construction and operation of waste treatment, interim storage and/or final disposition facilities; Dose calculations and radiologically related health effects; Socioeconomic impact assessments; Release/dose factors and dose in 5-year intervals to regional and world wide population from reference integrated systems; Resource availability; Environmental monitoring; Detailed dose results for radionuclide migration in groundwater from a waste repository; and Annual average dispersion factors for selected release points.

Abstract Classification:Unclassified

Pages:319 Page(s)

Report Number: DOE/ET-0029-VOL-3 ( *DOEET0029VOL3* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Environmental Aspects of Commercial Radioactive Waste Management. Volume 1.

PDF URL: (pdf) - 203 MB -

Accession Number: ADA078260

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) Contents: Approach To Assessment of Environmental Effects From Radioactive Waste Management; Environmental Effects Related To Radioactive Management In A Once-Through Fuel Cycle; and Environmental Effects Of Radioactive Waste Management Associated With An LWR Fuel Reprocessing Plant.

Abstract Classification:Unclassified

Pages:570 Page(s)

Report Number: DOE/ET-0029-VOL-1 ( *DOEET0029VOL1* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology for Commercial Radioactive Waste Management. Volume 1.

PDF URL: (pdf) - 93 MB -

Accession Number: ADA078255

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) This report was prepared in support of the 'Environmental Impact Statement on Management of Commercially Generated Radioactive Wastes', DOE/EIS-0046-D. The scope of this report is limited to technology for management of post-fission wastes produced in the commercial nuclear power light-water reactor (LWR) fuel cycle. Management of spent fuel (as a waste), high-level and other transuranic (TRU) wastes, and gaseous wastes are characterized. Non-transuranic wastes are described but management of these wastes, except for gaseous wastes, is excluded from the scope of this report.

Abstract Classification:Unclassified

Pages:300 Page(s)

Report Number: DOE/ET-0028-VOL-1 ( *DOEET0028VOL1* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Environmental Aspects of Commercial Radioactive Waste Management. Volume 2.

PDF URL: (pdf) - 155 MB -

Accession Number: ADA078261

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) Contents: Environmental Effects Related To Radioactive Waste Management Associated with LWR Fuel Reprocessing - Mixed-Oxide Fuel Fabrication Plant; Environmental Effects Related To Transporting Radioactive Wastes Associated With Light Water Reactor Fuel Reprocessing And Fabrication; Environmental Effects Related to Radioactive Waste Management Associated With LWR Fuel Reprocessing - Retrievable Waste Storage Facility; Environmental Effects Related To Geologic Isolation of Light Water Reactor Fuel Reprocessing Wastes (DOE/ET-0028 Sec. 7.5); Integrated Systems for Commercial Radioactive Waste Management.

Abstract Classification:Unclassified

Pages:438 Page(s)

Report Number: DOE/ET-0029-VOL-2 ( *DOEET0029VOL2* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Study and Identification of Residual Donor Species in High Purity Semiconductors.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA071059

Personal Author(s): Stillman, Gregory E

Corporate Author: ILLINOIS UNIV AT URBANA-CHAMPAIGN DEPT OF ELECTRICAL ENGINEERING

Report Date: May 1979

Abstract: ( U ) A Fourier transform spectroscopy apparatus has been constructed. This apparatus uses photothermal ionization to probe the energy level structure of shallow impurities in semiconductors. The present form of the apparatus, and progress made in modifying it to increase its resolution are described in detail. An account of our immediate and possible future applications of the apparatus is given. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jun 78-31 May 79,

Pages:24 Page(s)

Report Number: UILU-ENG-79-2553 ( *UILUENG792553* )

Contract/Grant/Transfer Number: N00173-78-C-0129 ( *N0017378C0129* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology for Commercial Radioactive Waste Management. Volume 3.

PDF URL: (pdf) - 165 MB -

Accession Number: ADA078257

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) Contents: Interim Storage Alternatives; High Level Liquid Waste Storage; Storage of Fuel Residue; Non-High-Level Solid Waste Storage; Solidified High-Level Waste Storage; Plutonium Oxide Storage; Krypton Storage; Spent Fuel Storage.

Abstract Classification:Unclassified

Pages:384 Page(s)

Report Number: DOE/ET-0028-VOL-3 ( *DOEET0028VOL3* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of the Navy Energy Fact Book.

PDF URL: (pdf) - 248 MB -

Accession Number: ADA069138

Corporate Author: TETRA TECH INC ARLINGTON VA

Report Date: May 1979

Abstract: ( U ) The Department of the Navy Energy Fact Book presents the U.S., including the DOD and Navy, energy situation; summarizes Navy energy R and D initiatives; provides an in-depth description of the various processes and developments related to hydrocarbon fuels, synthetic fuels, non-hydrocarbon energy sources, and energy conversion; and briefly describes energy R and D legislation and cooperative energy programs.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:520 Page(s)

Report Number: TETRAT-A-6054-79-403 ( *TETRATA605479403* )

Contract/Grant/Transfer Number: N00014-78-C-0434 ( *N0001478C0434* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Technology for Commercial Radioactive Waste Management. Volume 2.

PDF URL: (pdf) - 192 MB -

Accession Number: ADA078256

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC ASSISTANT  
SECRETARY FOR ENERGY TECHNOLOGY

Report Date: May 1979

Abstract: ( U ) This section describes conceptual processes and facilities for treating gaseous and various transuranium (TRU) wastes produced during the postfission portion of the Light Water Reactors (LWR) fuel cycle. The goal of the treatment process for TRU wastes and for long-lived radionuclides removed from the gaseous waste streams is to convert these wastes to stable products suitable for placement in geologic isolation repositories. The treatment concepts are based on available technology. They do not necessarily represent an optimum design but are representative of what could be achieved with current technology. In actual applications it is reasonable to expect that there could be some improvement over these concepts that might be reflected in either lower costs or lower environmental impacts or both. These conceptual descriptions do provide a reasonable basis for development of estimates of environmental impacts.

Abstract Classification:Unclassified

Pages:550 Page(s)

Report Number: DOE/ET-0028-VOL-2 ( *DOEET0028VOL2* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Laser Studies of Reactions.

PDF URL: (pdf) - 9 MB -

Accession Number: ADA067855

Personal Author(s): Eyring,Edward M

Corporate Author: UTAH UNIV SALT LAKE CITY DEPT OF CHEMISTRY

Report Date: 28 Feb 1979

Abstract: ( U ) Research at the University of Utah under ONR contract covering the period March 1975 - February 1979 includes: (1) Results of ultrasonic absorption kinetics studies of macrocyclic ligands (crown ethers and cyclodextrins) in aqueous salt solutions and application of these results to a scheme for separating radioactive cesium and strontium from nuclear reactor wastes; (2) An unsuccessful laser flash photolysis study of bovine rhodospin; (3) The evolution of hydrogen gas from a visibly illuminated, water bathed, titanium (III) exchanged zeolite and the construction of a photoacoustic spectroscopy apparatus for determining the action spectrum of this material. Three recommendations for further work are outlined. The report concludes with a list of sixteen publications acknowledging ONR support.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. Mar 75-Feb 79,

Pages:21 Page(s)

Contract/Grant/Transfer Number: N00014-75-C-0796 ( *N0001475C0796* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Developments in Science and Technology

PDF URL: (pdf) - 9 MB -

Accession Number: ADA098095

Corporate Author: JOHNS HOPKINS UNIV LAUREL MD APPLIED PHYSICS LAB

Report Date: Jan 1979

Abstract: ( U ) This is a compilation of brief accounts of the Laboratory's significant accomplishments during Fiscal Year 1979 that can be reported on an unclassified level. The following areas are covered: military systems technology, space science and technology, computer technology applications, energy research and development, biomedical science and engineering, ocean science and technology, fundamental research, and urban technology.

Abstract Classification:Unclassified

Descriptive Note: Annual rept.

Pages:158 Page(s)

Report Number: JHU/APL-DST-7 ( *JHUAPLDST7* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00024-78-C-5384 ( *N0002478C5384* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE



Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Mind/Brain/Matter Model Consistent with Quantum Physics and UFO phenomena

PDF URL: (pdf) - 3 MB -

Accession Number: ADA068988

Personal Author(s): Bearden, Thomas E

Corporate Author: COMPUTER SCIENCES CORP HUNTSVILLE AL

Report Date: Jan 1979

Abstract: ( U ) The author introduces a speculative model of mind and matter and their interaction that is consistent with the experimental basis of physics, and which offers mechanisms for paranormal phenomena of all types, including UFO phenomena. Certain conclusions are reached by a new fourth law of logic, which is briefly described and summarized. A new photon interaction model of quantized observable change is also presented. A solution to the problem of the nature of mind is generated, using the author's fourth law of logic, and a seven- dimensional hyperspatial physical model of a living biosystem is developed. Using this basic model, an infinite-dimensional cotermporal hyperspatial model of the physical universe complete with all its life forms is constructed. Levels of unconsciousness-- including the collective human species unconscious--emerge naturally as types of crosstalk between hyperframes. By the author's formula, the psychokinetic power of a mind level increases exponentially as the number of biosystem stages involved. At the level of the collective human species unconscious, the psychokinesis is sufficient to materialize symbolic tulpoids (thought forms), given a sufficient stress stimulus in large groups. Using the cold war as the major stress stimulus on mankind since World War II, the author shows that most major UFO waves in the literature precisely fit the model.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:41 Page(s)

Report Number: XD - DOD ( XD )

Monitor Series: DOD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) USAF-ASEE (1978) Summer Faculty Research Program (WPAFB). Volume I.

PDF URL: (pdf) - 187 MB -

Accession Number: ADA065650

Personal Author(s): Bailey,Cecil D

Corporate Author: OHIO STATE UNIV RESEARCH FOUNDATION COLUMBUS

Report Date: Nov 1978

Abstract: ( U ) Partial contents: Regularization of Ill-posed Problems; Unconditionally Stable Second Order Accurate Method for Transonic Flutter Calculations; Large Amplitude Response of Complex Structures due to High Intensity Noise; Synthesis of Manual and Automatic Control Applied to Integrated Fire and Flight Control; Catalytic Flame Stabilization for Aircraft Afterburners; Cadmium Deposition Reactions on Cadmium and Nickel Electrodes by Cyclic Voltammetry; Turbulent Flow Measurements of Sudden Expansion Cylindrical Tube Using Laser Doppler Velocimeter; Design Procedure for High Power Density MHD Generators; Computer-aided Process Planning for Sheet Metal Operations; Feasibility of using the EPR Technique on Detector Grade Silicon; A Simulation Metamodel; Analysis of the GPS Receiver Loss-of-lock Problem; and Physics of Matrix Cathodes.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Jan 76-30 Sep 78,

Pages:515 Page(s)

Report Number: AFOSR - TR-79-0231 ( *AFOSRTR790231* )

Monitor Series: TR-79-0231 ( *TR790231* )

Contract/Grant/Transfer Number: F44620-76-C-0052 ( *F4462076C0052* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) User's Guide to Research Reports,

PDF URL: (pdf) - 16 MB -

Accession Number: ADA077828

Personal Author(s): Davidson,Ted G

Corporate Author: MILITARY ACADEMY WEST POINT NY OFFICE OF THE DIRECTOR  
OF INSTITUTIONAL RESEARCH

Report Date: Nov 1978

Abstract: ( U ) This guide provides operational descriptions of statistical terms, concepts and techniques to assist readers in better understanding research reports which use statistical analysis. The guide is not intended to equip the reader to either conduct statistical analysis or to evaluate the appropriateness of statistical techniques for specific applications. Its sole purpose is to help the reader to more clearly understand the contents of statistical reports. (Author)

Abstract Classification:Unclassified

Pages:28 Page(s)

Report Number: 79-002 ( 79002 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Experimental-Series Parameters for the Decay of Multigroup Beta and Gamma Spectra from 0.1 to 1000 Seconds After a Fission Burst

PDF URL: (pdf) - 3 MB -

Accession Number: ADA066039

Personal Author(s): Foster, Jr , D Graham ; England, T R ; Whittemore, N L

Corporate Author: AIR FORCE WEAPONS LAB KIRTLAND AFB NM

Report Date: Nov 1978

Abstract: ( U ) Accurate predictions of beta and gamma spectra as a function of time following neutron-induced fission can be made by summation calculations from the fission-product data in the Evaluated Nuclear Data File, Part B(ENDF/B), but the calculations are expensive and the data base is very large. A multigroup spectrum can be represented sufficiently accurately over a limited time range by a few-term exponential series obtained by least-squares fitting to the summation calculations. This report summarizes the preparation of such a parameter set for the Air Force Weapons Laboratory (AFWL). The set describes decay of beta and gamma spectra from 0.1 to 1000 seconds after fission of U235, U238, or Pu239 induced by fission-spectrum or 14-MeV neutrons. Fits that are as accurate as the ENDF/B data warrant can be made with five or fewer terms per energy group. An alternative set of parameters that uses the same decay constants in each group for all six combinations of isotope and neutron energy, but different amplitudes for each combination, requires only one additional term for comparable accuracy.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:65 Page(s)

Report Number: AFWL-TR-78-4 ( *AFWLTR784* ) , XC - AFWL ( *XC* )

Monitor Series: AFWL

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science & Engineering Symposium Proceedings, 16-19 October. Volume V. Material.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA371397

Corporate Author: AIR FORCE SYSTEMS COMMAND WASHINGTON DC

Report Date: 19 Oct 1978

Abstract: ( U ) The initial co-sponsored Air Force Systems Command/Naval Material Command Science and Engineering Symposium was held at the Naval Amphibious Base, Coronado on 16 - 19 October 1978. The theme of the 1978 Symposium was Advanced Technologies - Key to Capabilities at Affordable Cost. The objectives of this first joint Navy/Air Force Science and Engineering Symposium were to: Provide a forum for military and civilian laboratory scientific and technical researchers to demonstrate the spectrum and nature of 1978 achievements by their services in the areas of Armament, Human Resources, Avionics, Materials, Basic Research, Propulsion, and Flight Dynamics.

Abstract Classification:Unclassified

Pages:277 Page(s)

Report Number: XC - AFSC ( XC )

Monitor Series: AFSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cooperative Radiation Effects Simulation Program.

PDF URL: (pdf) - 21 MB -

Accession Number: ADA060748

Personal Author(s): Steele ,L E ; Beach,L A

Corporate Author: NAVAL RESEARCH LAB WASHINGTON D C

Report Date: Jul 1978

Abstract: ( U ) The Cooperation Radiation Effects Simulation Program (CORES) is a collaborative effort of the Engineering Materials and Radiation Technology Divisions of NRL Materials and General Sciences Area. The goal of the research is to provide the theoretical and experimental bases for understanding the mechanisms of nuclear radiation damage of metals, as well as a theoretical insight into energy deposition processes. In this the Van de Graaff and Cyclotron are used to simulate rapidly the radiation damage produced over long periods in reactor neutron environments. Progress for the period 1 March 1977 - 31 August 1977, includes: (1) the completion of a semiautomatic system for the analysis of transmission electron micrographs, (2) profiling hydrogen and helium in parts per million concentration by elastic scattering techniques, and (3) the microstructural characterization of stress and ion-induced transient creep in cold-worked nickel and its comparisons with predictions of creep models. (Author)

Abstract Classification:Unclassified

Descriptive Note: Semiannual progress rept. 1 Mar-31 Aug 77,

Pages:59 Page(s)

Report Number: NRL-MR-3806 ( *NRLMR3806* ) , SBI - AD-E000 215 ( *SBIADE000215* )

Monitor Series: AD-E000 215 ( *ADE000215* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Job Performance Aids: Research and Technology State-of-the-Art

PDF URL: (pdf) - 5 MB -

Accession Number: ADA057562

Personal Author(s): Booher, Harold R

Corporate Author: NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER SAN DIEGO CA

Report Date: Jul 1978

Abstract: ( U ) This report describes and compares the various Job Performance Aid techniques and identifies and categorizes factors important to selection, design, cost-performance trade-off, conduct of future research, and implementation of performance aiding technology. More than 100 surveyed JPA systems and techniques are classified under five categories: (1) format/content, (2) display media, (3) applied training, (4) peripheral test/diagnostic, and (5) delivery systems. Major factors are identified as critical to the development of a JPA algorithm, including personnel aptitude and experience, type and complexity of task, type and complexity of equipment, and degree of proceduralization required. A conceptual model is presented for use by the JPA community in cost trade-off analyses, in JPA selection algorithms, and in the grouping of theoretical trends. The report also presents a theoretical base for use of memory in JPA; previews a theory for mixing JPA techniques, principles, and methodologies; and outlines goals for future JPA research and technology efforts.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:91 Page(s)

Report Number: NPRDC-TR-78-26 ( *NPRDCTR7826* ) , XB - NPRDC ( *XB* )

Monitor Series: NPRDC

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Electronic Technology.

PDF URL: (pdf) - 7 MB -

Accession Number: ADA058018

Personal Author(s): Herlin,Melvin A ; McWhorter,Alan L

Corporate Author: MASSACHUSETTS INST OF TECH LEXINGTON LINCOLN LAB

Report Date: 15 May 1978

Abstract: ( U ) This Quarterly Technical Summary covers the period 1 February through 30 April 1978. It consolidates the reports of Division 2 (Data Systems) and Division 8 (Solid State) on the Advanced Electronic Technology Program. (Author)

Abstract Classification:Unclassified

Descriptive Note: Quarterly technical summary rept. 1 Feb-30 Apr 78,

Pages:19 Page(s)

Report Number: ESD - TR-78-82 ( *ESDTR7882* )

Monitor Series: TR-78-82 ( *TR7882* )

Contract/Grant/Transfer Number: F19628-78-C-0002 ( *F1962878C0002* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) Energy Development from Elemental Transmutations in Biological Systems

PDF URL: (pdf) - 12 MB -

Accession Number: ADA056906

Personal Author(s): Goldfein, S

Corporate Author: ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT  
COMMAND FORT BELVOIR VA

Report Date: May 1978

Abstract: ( U ) The purpose of the study was to determine whether recent disclosures of elemental transmutations occurring in biological entities have revealed new possible sources of energy. The works of Kervran, Komaki, and others were surveyed; and it was concluded that, granted the existence of such transmutations (Na to Mg, K to Ca, and Mn to Fe), then a net surplus of energy was also produced. A proposed mechanism was described in which Mg adenosine triphosphate, located in the mitochondrion of the cell, played a double role as an energy producer. In addition to the widely accepted biochemical role of MgATP in which it produces energy as it disintegrates part by part, MgATP can also be considered to be a cyclotron on a molecular scale. The MgATP when placed in layers one atop the other has all the attributes of a cyclotron in accordance with the requirements set forth by E. O. Lawrence, inventor of the cyclotron. It was concluded that elemental transmutations were indeed occurring in life organisms and were probably accompanied by a net energy gain.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Dec 1977-Apr 1978

Pages:27 Page(s)

Report Number: MERADCOM-2247 ( *MERADCOM2247* ) , XA - MERADCOM ( *XA* )

Monitor Series: MERADCOM

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Display of Complex Three Dimensional Finite Element Models.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA058886

Personal Author(s): Evans,David C ; Christiansen,Henry N ; Sederberg,Thomas W

Corporate Author: UTAH UNIV SALT LAKE CITY DEPT OF COMPUTER SCIENCE

Report Date: Apr 1978

Abstract: ( U ) Complex three dimensional models can be displayed after an automatic generation of a finite element (panel) mapping. Although this automatic generation algorithm fails at certain levels of model complexity, the elimination of these failures can be accomplished through user interaction. This report presents the algorithm solution to the problem of converting a contour definition of an arbitrary surface into a panel definition. The algorithm has been rigorously tested and experience with a highly complex data base lends credence to the claim of a general solution. Future work might focus on reducing the amount of user dependence in the algorithm, although most reasonable cases currently require no user interaction. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 1 May 75-30 Sep 77,

Pages:104 Page(s)

Report Number: UTEC-CSC-78-135 ( UTECCSC78135 )

Contract/Grant/Transfer Number: N00014-75-C-0194 ( N0001475C0194 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Effects of Neutron Radiation on Aluminum-Gallium-Arsenide Lasers.

PDF URL: (pdf) - 24 MB -

Accession Number: ADA055627

Personal Author(s): Walsh,Thomas Edward , Jr

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OHIO  
SCHOOL OF ENGINEERING

Report Date: Mar 1978

Abstract: ( U ) Double heterojunction aluminum-gallium-arsenide laser diodes were irradiated in a nuclear reactor to determine the effects of neutron radiation. Two types of lasers were used; both types of diodes showed significant decreases in power output at neutron fluences of 10 to the 14th power n/sq cm. Linear increases in threshold current and linear decreases in external quantum efficiency were observed. There was no significant change in bias voltage versus forward current or in the spectral composition of the output of the diodes at neutron fluences up to 10 to the 15th power n/sq cm. Formulas were developed to predict the changes in threshold current, external quantum efficiency and power at a constant current above threshold. Damage coefficients for these formulas were derived from the irradiation data. Unusual discontinuities were observed in the poewr output versus input current curves of some diodes. Neutron irradiation tended to enhance these anomalies.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:65 Page(s)

Report Number: AFIT/GNE/PH/78-11 ( *AFITGNEPH7811* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Flywheel Technology Symposium Proceedings Held on 5-7 October 1977 at San Francisco, California,

PDF URL: (pdf) - 29 MB -

Accession Number: ADA302039

Personal Author(s): Chang, G C ; Stone, R G

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC

Report Date: Mar 1978

Pages:476 Page(s)

Report Number: XF - XD ( XF )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Scientific Notes Number 32-2,

PDF URL: (pdf) - 24 MB -

Accession Number: ADA052067

Personal Author(s): Pryce,A W ; Hewitson,V S

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 28 Feb 1978

Abstract: ( U ) This is a monthly publication presenting brief articles concerning recent developments in European Scientific Research. It is hoped that these articles (which do not constitute part of the scientific literature) may prove of value to American scientists by disclosing interesting information well in advance of the usual scientific publications.

Abstract Classification:Unclassified

Pages:46 Page(s)

Report Number: ESN-32-2 ( *ESN322* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Silicon Detector Compensation by Nuclear Transmutation.

PDF URL: (pdf) - 51 MB -

Accession Number: ADA057786

Personal Author(s): Meese,J M

Corporate Author: MISSOURI UNIV-COLUMBIA RESEARCH REACTOR FACILITY

Report Date: Feb 1978

Abstract: ( U ) The effects of nuclear transmutation doping in high quality detector grade silicon have been studied. A theoretical treatment of the variations of electrical parameters with fluence and the experimental isochronal annealings of float zone Si, transmutation doped are presented. It is found that several annealing stages observed previously only in Czochralski Si are also observed in this lightly compensated float zone Si. A large concentration of acceptors is produced as a result of thermal irradiation and annealing to 500 C. This concentration is independent of fluence and appears to be related to residual Si impurities previously undetected by electrical, optical or neutron activation analysis experiments. Defect decoration of oxygen or carbon impurities is believed to be the source of these acceptors. Techniques have been devised to produce very high resistivities as a result of high precision nuclear transmutation compensation in nominally undoped material.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 30 Jun 76-31 Jul 77,

Pages:175 Page(s)

Report Number: AFML - TR-77-178 E144-0854 ( *AFMLTR77178 E1440854* ) , GIDEP - TR-77-178 E144-0854 ( *GIDEPTR77178 E1440854* )

Monitor Series: TR-77-178 ( *TR77178* ) , E144-0854 ( *E1440854* )

Contract/Grant/Transfer Number: F33615-76-C-5230 ( *F3361576C5230* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Virtual State Engineering and Its Implications.

PDF URL: (pdf) - 11 MB -

Accession Number: ADA065762

Personal Author(s): Bearden,T E

Corporate Author: COMPUTER SCIENCES CORP HUNTSVILLE ALA

Report Date: Jan 1978

Abstract: ( U ) Experimental evidence of zero-point energy of vacuum has been established beyond question. Soviet direct measurement of this energy has been reported. Prigogine's Nobel Prize work confirms that in theory a highly disordered, chaotic, virtual state, zero-point energy can be cohered to crosstalk into observable quantum change and even macroscopic energy production. Several simple devices can be demonstrated to observably tap zero-point energy. Extension of the theory onto even a simplified hyperspace model indicates direct applications in certain specialized amplifiers. Consideration of multiple simultaneous observation (Everett's interpretation of quantum mechanics) ties together virtual and observable states into the same time change, allowing superposition of virtual state into observable state. By considering virtual

state patterns to be carried by the individual photon, then superposition effects can be obtained upon a target radiated by a radar beam if each and every photon of the radar beam contains one virtual state pattern in common, added into its other (incoherent) virtual state patterns. Sufficient superposition of the coherent pattern in the target produces real observable changes which may have significant applications. Such applications include electron current dissolution (dudding of electromagnetic circuits), cancellation of electromagnetic fields, de-activation (dudding) of nuclear warheads by transmutation of fissionable materials, and simple production of particle beams of enormous power density. Electron current dissolution is also effective against the nervous systems of biological targets.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.,

Pages:26 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Automatic Language Discrimination.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA050841

Personal Author(s): Leonard,R Gary ; Doddington,George R

Corporate Author: TEXAS INSTRUMENTS INC DALLAS

Report Date: Jan 1978

Abstract: ( U ) A language discrimination algorithm was developed that utilizes single steady-state phoneme-like reference sounds. The algorithm makes use of the relative frequency of occurrence of these reference sounds and nearest-mean decision strategy. The reference sounds were determined interactively and have been shown to have good language specificity. The number of reference sounds required is small enough to allow real-time operation. Standardization of each speaker's long-term average spectrum removed much of the data

variation that was due to variations in data recording conditions. This standardization provided a 41 percent decrease in the number of test speaker misclassifications. In a performance test involving 50 test speakers of five languages, 80 percent correct classification was achieved. Excellent discrimination among L1, L3, and L5 was attained, while additional references with more language specificity are needed for discriminating between L2 and L4. (Author)

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. Mar 76-Aug 77,

Pages:81 Page(s)

Report Number: TI-08-77-46 ( *TI087746* ) , RADC - TR-78-5 ( *RADCTR785* )

Monitor Series: TR-78-5 ( *TR785* )

Contract/Grant/Transfer Number: F30602-76-C-0168 ( *F3060276C0168* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Voynich Manuscript: An Elegant Enigma

PDF URL: (pdf) - 8 MB -

Accession Number: ADA070618

Personal Author(s): D'Imperio, Mary E

Corporate Author: NATIONAL SECURITY AGENCY/CENTRAL SECURITY SERVICE  
FORT GEORGE G MEADE MD

Report Date: Jan 1978



Abstract: ( U ) In spite of all the papers that others have written about the manuscript, there is no complete survey of all the approaches, ideas, background information and analytic studies that have accumulated over the nearly fifty- five years since the manuscript was discovered by Wilfrid M. Voynich in 1912. This report pulls together all the information the author could obtain from all the sources she has examined, and to present it in an orderly fashion. The resulting survey will provide a firm basis upon which other students may build their work, whether they seek to decipher the text or simply to learn more about the problem.

Abstract Classification:Unclassified

Pages:143 Page(s)

Report Number: XM - NSA ( XM )

Monitor Series: NSA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Encyclopedia of Explosives and Related Items. Volume 8

PDF URL: (pdf) - 69 MB -

Accession Number: ADA057762

Personal Author(s): Kaye, Seymour M

Corporate Author: ARMY ARMAMENT RESEARCH AND DEVELOPMENT CENTER  
DOVER NJ LARGE CALIBER WEAPON SYSTEMS LAB

Report Date: Jan 1978

Abstract: ( U ) This volume represents a continuing effort to cover comprehensively the unclassified information on explosives and related subjects in the same manner and format as in previous volumes. The reader is urged to obtain the previous volumes and to read both the

PREFACE and INTRODUCTION in Volume 1 in order to understand the authors' way of presenting the subject matter. In preparation for and during the writing of this Encyclopedia, the authors have consulted freely with and have had the cooperation of many individuals who contributed their expert knowledge and advice. This fact is acknowledged throughout the text at the end of the subject item.

Abstract Classification:Unclassified

Pages:1008 Page(s)

Report Number: PATR-2700-VOL-8 ( *PATR2700VOL8* ) , XA - ARDEC ( XA )

Monitor Series: ARDEC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Thermal Neutron Damage in Bipolar Transistors.

PDF URL: (pdf) - 30 MB -

Accession Number: ADA049626

Personal Author(s): Stanley,T D

Corporate Author: AIR FORCE WEAPONS LAB KIRTLAND AFB N MEX

Report Date: Dec 1977

Abstract: ( U ) An experimental test was made of the hypothesis that the source of thermal neutron damage in bipolar PNP transistors is the result of thermal neutron captures by the Boron-10 present in the emitter region of the transistors. Transistors were specifically made using three different ratios of Boron-10 to Boron-11 as the emitter dopant material, and in four different geometries. Forty-two of these specially made transistors were exposed to thermal neutron fluences as high as approximately  $5 \times 10^{15}$  neutrons per square centimeter. In each case the damage observed corresponded to the fraction of Boron-10 to total boron used as the emitter dopant material, thus confirming the hypothesized damage mechanism. The dependence of the

collector current, thermal neutron fluence, and emitter-base geometry on the observed gain degradation also indicated that bulk damage is responsible for thermal neutron damage in PNP transistors. Some devices were also irradiated in a fast-neutron environment. Fast neutrons were found to be approximately 100 times more effective than thermal neutrons in producing damage in the devices that use a naturally occurring ratio of Boron-10 to Boron-11 in the emitter.

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:70 Page(s)

Report Number: AFWL-TR-77-168 ( *AFWLTR77168* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) On the Economy of the Human Processing System: A Model of Multiple Capacity.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA059575

Personal Author(s): Navon, David ; Gopher, Daniel

Corporate Author: TECHNION - ISRAEL INST OF TECH HAIFA FACULTY OF  
INDUSTRIAL AND MANAGEMENT ENGINEERING

Report Date: Nov 1977

Abstract: ( U ) An approach to human performance which is based on economic concepts is proposed. This approach hinges on the idea that the human processing system has a number of mechanisms each having its own capacity. Those capacities can at any moment be allocated among several processes. Since tasks may differ with respect to the types of mechanisms they call for and the demands they pose for the use of those mechanisms, it is argued that the hope to find single measures for system capacity and mental load may be groundless. Different pairs of time-shared tasks may conflict with each other to a variable degree, which is difficult to predict

without knowing the overlap in their demand for various mechanisms. The amount and specific nature of trade-off between time-shared tasks can be displayed by means of performance operating characteristics. The effects of a number of properties of the system and of the tasks on the shape and interpretation of performance operating characteristics are discussed. The analysis in this paper also serves to elucidate the notion of resources brought forward by previous authors, to elaborate on the distinction between demand for and supply of resources, to discuss possible interactions between the effects of supply of resources and situation parameters on performance, and to conjecture about the way by which allocation policy depends on the value of outcomes of different allocations.

Abstract Classification:Unclassified

Descriptive Note: Interim rept. Apr-30 Sep 77,

Pages:81 Page(s)

Report Number: AFOSR - TR-78-1353 ( *AFOSRTR781353* )

Monitor Series: TR-78-1353 ( *TR781353* )

Contract/Grant/Transfer Number: AFOSR-77-3131 ( *AFOSR773131* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Exploratory Development on Silicon Material for ladir.

PDF URL: (pdf) - 62 MB -

Accession Number: ADA070740

Personal Author(s): Arst,M C

Corporate Author: ROCKWELL INTERNATIONAL ANAHEIM CALIF

Report Date: Sep 1977

Abstract: ( U ) This report contains a background description of the program, an evaluation of test approaches, test results, and a description of the process which has been developed to produce silicon material which meets the requirements of the contract. Where applicable, these subjects are discussed under the following tasks: Task I, Purification of Intrinsic Silicon; Task 2, Growth of Doped Silicon Crystals; Task 3, Crystal Material Evaluation; and Task 4, Definition of Growth Process. A major conclusion of the program is that the most suitable counter dopant for the residual boron concentration is antimony (Sb). This impurity has characteristics that are compatible with the other impurities in the material and remains stable during the on-chip microelectronics processing. In addition, it is easy to introduce into the silicon ingot during the doping process and distributes evenly over the bulk.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Aug 75-30 Sep 77,

Pages:134 Page(s)

Report Number: C77-239/034A ( C77239034A ) , AFML - TR-76-125 ( AFMLTR76125 )

Monitor Series: TR-76-125 ( TR76125 )

Contract/Grant/Transfer Number: F33615-76-C-5024 ( F3361576C5024 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Army Training Research: A Thirty-Five Year History with Implications for Educational Research and Development.

PDF URL: (pdf) - 113 MB -

Accession Number: ADA046787

Personal Author(s): Lavisky, Saul

Corporate Author: MARYLAND UNIV BALTIMORE COUNTY CATONSVILLE

Report Date: 29 Jul 1977

Abstract: ( U ) The focus of this study has been upon the organizations which have been, and are, involved in Army training research, and upon their relationships to one another and to the Army's training establishment. Four types of organizations, or organizations performing four types of functions, appear to be necessary and sufficient for the conduct and utilization of training research in an operating system: (1) an organization that has or can pose a problem whose solution would result in increased proficiency of human performance on the job, or an increased efficiency in training; (2) an organization that can perform the required research and development activities; (3) an organization that can support--with funds, materiel, and non-research manpower--the research and development activities; and (4) an organization that can act to cause implementation of a successful solution to the problem posed.

Abstract Classification:Unclassified

Descriptive Note: Doctoral thesis

Pages:290 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Comparative Evaluation of the Neutron/Gamma and Kelly-Vail Techniques for Determining Water and Cement Content of Fresh Concrete.

PDF URL: (pdf) - 53 MB -

Accession Number: ADA040061

Personal Author(s): Howdyshe, P A

Corporate Author: CONSTRUCTION ENGINEERING RESEARCH LAB (ARMY)  
CHAMPAIGN ILL

Report Date: May 1977

Abstract: ( U ) The objective of this investigation was to comparatively evaluate a nuclear (neutron/gamma) technique and a chemical (Kelly-Vail) technique determining water and cement content of fresh concrete. The nuclear technique relies on the characteristic energy emissions of various elements during neutron interactions for determining water and cement content. The chemical technique relies on chloride ion titration to determine water content and flame photometry to determine cement content. Tests results indicate that the neutron/gamma method can estimate water contents to + or - 6 percent, and cement contents to + or - 9 to 22 percent, depending on the type of aggregate used. This compared to cement and water content accuracies of 7.1 and 5.2 percent, respectively, for the chemical technique.

Abstract Classification:Unclassified

Descriptive Note: Final rept.,

Pages:167 Page(s)

Report Number: CERL-SR-M-216 ( *CERLSRM216* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Semiannual Review of Research under the Associate Joint Services Electronics Program.

PDF URL: (pdf) - 35 MB -

Accession Number: ADA043576

Personal Author(s): Saeks,R ; Chao,K S ; Liberty,S R ; Gustafson,D ; Walkup ,J

Corporate Author: TEXAS TECH UNIV LUBBOCK INST FOR ELECTRONICS SCIENCE

Report Date: Apr 1977

Abstract: ( U ) This report represents the first semiannual review of research conducted under the auspices of the Associate Joint Services Electronics Program at the Institute for Electronic Science at Texas Tech University. Specific Topics covered include fault analysis, Computer-aided design, stochastic control and estimation, decentralized control, mathematical system theory, optical noise, and pattern recognition.

Abstract Classification:Unclassified

Descriptive Note: Interim rept.,

Pages:125 Page(s)

Contract/Grant/Transfer Number: N00014-76-C-1136 ( N0001476C1136 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Investigation of Card Programmable and Chip Programmable Pocket Calculators and Calculator Systems for Use at Naval Postgraduate School and in the Naval Establishment.

PDF URL: (pdf) - 68 MB -

Accession Number: ADA041067

Personal Author(s): Kruse,Harry Rudolph ; Burkett,Hugh Alan

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CALIF

Report Date: Mar 1977

Abstract: ( U ) This thesis investigates the usefulness of card programmable pocket calculators in the Management curricula of the Naval Postgraduate School and in the fleet, based upon manufacturer-provided information on the HP-67, HP-97, SR-52, TI-59, and NS-7100 calculators; NPS classroom experimentation; hands on programming of the HP-67 and SR-52; interviews; and the literature. All aspects of calculator functions, programming and



programmability are surveyed with particular emphasis on educational and practical applications. Thus, this is a baseline document for study by potential purchasers and users. This study concludes that these machines provide significant advantages in teaching or learning mathematical concepts and that the pocket calculator is a potentially important management and tactical support tool navy-wide. In addition, thinking process transmutation, discovered during this study, is concluded to be an inevitable and important by-product of calculator programming which significantly improves the user's overall analytic capacity. (Author)

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:187 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Silicon Detector Compensation by Nuclear Transmutation.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA038471

Personal Author(s): Meese,J M

Corporate Author: MISSOURI UNIV-COLUMBIA RESEARCH REACTOR FACILITY

Report Date: Feb 1977

Abstract: ( U ) The primary objective of this program is to devise, through the research to be discussed, an optimum set of techniques capable of compensating the residual boron always found in detector grade silicon by the process of nuclear transmutation doping. The material to be developed by this program is intended for use in infrared detector systems such as those of the Air Force LADIR (Low Cost Arrays for the Detection of Infrared) program.

Abstract Classification:Unclassified

Descriptive Note: Interim technical rept. 30 Jun 76-31 Dec 76,

Pages:108 Page(s)

Contract/Grant/Transfer Number: F33615-76-C-5230 ( F3361576C5230 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cooperative Radiation Effects Simulation Program.

PDF URL: (pdf) - 30 MB -

Accession Number: ADA039192

Personal Author(s): Beach,L A ; Steele,L E

Corporate Author: NAVAL RESEARCH LAB WASHINGTON D C

Report Date: Feb 1977

Abstract: ( U ) The Cooperative Radiation Effects Simulation Program (CORES) is a collaborative effort of the Engineering Materials and Radiation Technology Divisions of the NRL Materials and General Sciences Area. The goal of the research is to provide the theoretical and experimental bases for understanding the mechanisms of void nucleation, as well as a theoretical insight into energy deposition processes. In this the Van de Graaff and Cyclotron are used to simulate rapidly the radiation damage produced over long operating periods in reactor neutron environments. Progress for the period 1 April - 31 August 1976 includes the continuation of studies on the stability of Ni<sub>3</sub>Al precipitates in nickel under Ni<sup>58</sup>(+) ion bombardment. Specimens examined by transmission electron microscopy after irradiation at different dose levels and dose rates showed a modification of the precipitate structure. The precipitate size distribution in the high level, high dose rate specimens decreased in size but increased in density. In the low level, low dose rate specimens, the precipitates developed contrast features but retained their size distribution. In another study a computer program was developed to convert the size of an arbitrary projection of a polyhedral void to a characteristic edge length for the void. These edge lengths can be used to calculate void volumes from the correct formula for each void shape. The microstructure of cold worked, high purity nickel has

been investigated following ion-simulated irradiation-induced creep with 22-Me-V alpha particles.

Abstract Classification:Unclassified

Descriptive Note: Semiannual progress rept. 1 Apr-31 Aug 76,

Pages:73 Page(s)

Report Number: NRL-MR-3456 ( *NRLMR3456* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Moral Dimension of Strategy

PDF URL: (pdf) - 1 MB -

Accession Number: ADA512319

Personal Author(s): Kriete, Charles F

Corporate Author: ARMY CHAPLAINS CENTER AND SCHOOL FORT MONMOUTH NJ

Report Date: Jan 1977

Abstract: ( U ) The interaction of war and national values is a phenomenon to which military strategists of the western democracies must pay closer attention. Most of the public debate over national defense policy centers on weapons systems and budgets, and invites the unanswerable question, How much is enough? Yet the power of value concerns is such that they can be, when mobilized either in support of or in opposition to military power, the decisive dimension of strategy. Our Vietnam experience, regardless of one's feelings or value judgments on its outcome, illustrates the way a population's value perceptions become a powerful influence on who wins and who loses. So far, Communist strategists appear to have learned better than we that the moral dimension of strategy is changing the nature of international conflict. That both

the wars in Korea and Vietnam have been ambiguous in terms of American public acceptance of their political purposes is a somewhat mild description in view of the political turmoil they occasioned. One possible reason is the plain fact that neither conflict clearly represented a struggle for values that Americans hold deeply as their own cultural heritage. Granted that Asian cultural values are quite different from our own, both wars were defended by the American Government in power as struggles by an attacked country for the right of self-determination. Over the course of the fighting, however, public opinion shifted as the reporting of events made it clear that the dominant characteristics of the governments we were supporting were, if not repugnant, at least unattractive by American standards.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:13 Page(s)

Report Number: XA - USAWC ( XA )

Monitor Series: USAWC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Thermal Neutron Damage in Bipolar PNP Transistors.

PDF URL: (pdf) - 34 MB -

Accession Number: ADA034881

Personal Author(s): Stanley,Timothy D

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OHIO  
SCHOOL OF ENGINEERING

Report Date: Dec 1976

Abstract: ( U ) An experimental test was made of the hypothesis that the source of thermal neutron damage in bipolar PNP transistors is the result of thermal neutron captures by the Boron 10 present in the emitter region of the transistors. Transistors were specifically made using three different ratios of Boron 10 to Boron 11 as the emitter dopant material, and in four different geometries. Forty-two of these specially made transistors were exposed to thermal neutron fluences as high as approximately  $5 \times 10$  to the 15th power neutrons per square centimeter. In each case the damage observed corresponded to the fraction of Boron 10 to total boron used as the emitter dopant material, thus confirming the hypothesized damage mechanism. The dependence of the collector current, thermal neutron fluence, and emitter-base geometry on the observed gain degradation also indicated that bulk damage is responsible for thermal neutron damage in PNP transistors. Some devices were also irradiated in a fast neutron environment. Fast neutrons were found to be approximately one hundred times more effective than thermal neutrons in producing damage in the devices that use a naturally occurring ratio of Boron 10 to Boron 11 in the emitter. (Author)

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:88 Page(s)

Report Number: AFIT/GNE/PH/76-6 ( *AFITGNEPH766* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Changing Moral Dimension of Strategy.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA033389

Personal Author(s): Kriete,Charles F

Corporate Author: ARMY WAR COLL STRATEGIC STUDIES INST CARLISLE  
BARRACKS PA

Report Date: 05 Nov 1976

Abstract: ( U ) The interaction of strategy, war, and national values has proved to be a confusing phenomenon for the western democracies since the end of World War II. Technologically and organizationally oriented, western powers have tended to focus their planning largely on the mechanics of projecting military forces abroad in support of national interests, neglecting to consider certain cultural factors which have had a powerful impact on the success of some policies. This neglect of what Clausewitz called the moral dimension of strategy reflects a historical perspective on the philosophy of war which has lead American planners especially to misperceive the intimate relationship between war and politics which Clausewitz, and now Marxist societies in general applying his insights, understand well. The American political system tends to support the notion that there should be a high degree of autonomy in the pursuit of military objectives, and in general tends to reject any requirement to link military goals with national values. The processes by which national values are formed however, lie so deeply embedded in the development of human personality that these values have peculiar power and impact on the formation of public opinion. Global strategies of the United States will be successful in gaining public support only to the degree that their objectives are perceived as congruent with the democratic values held by the public.

Abstract Classification:Unclassified

Descriptive Note: Military issues research memo.,

Pages:36 Page(s)

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Annual Department of Defense Procurement Research Symposium (5th), held 17-19 Nov 76, Monterey, California.

PDF URL: (pdf) - 26 MB -

Accession Number: ADA128657

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Nov 1976

Abstract: ( U ) The fifth Annual DOD Procurement Research Symposium was held 17-19 November 1976 at Monterey, California. Presentations covered the following areas: research candidate evaluation, acquisition research management, grants, competition, commercial products, technology incentives, reliability and maintainability, socio-economic considerations, acquisition strategy and PROFIT 76.

Abstract Classification:Unclassified

Descriptive Note: Final rept. for period ending 1976.

Pages:405 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Chinese-English Electronics and Telecommunications Dictionary. Volume 2

PDF URL: (pdf) - 29 MB -

Accession Number: ADA032208

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: Nov 1976

Abstract: ( U ) Contents: Chinese-English Dictionary; Telegraph Code Index; Character Index.

Abstract Classification:Unclassified

Pages:1003 Page(s)

Report Number: FTD-ID(RS)I-1622-76-VOL-2 ( *FTDIDRSI162276VOL2* ) , XC - FTD ( XC )

Monitor Series: FTD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Test Accessibility Design Guide for Army Mechanical, Hydraulic and Pneumatic Materiel.

PDF URL: (pdf) - 328 MB -

Accession Number: ADA040129

Personal Author(s): Hohn,Fred W ; Hopkins,Ken G ; Blanchard,Richard C ; Hartwell,Robert E

Corporate Author: RCA GOVERNMENT SYSTEMS DIV BURLINGTON MASS  
AUTOMATED SYSTEMS

Report Date: Sep 1976

Abstract: ( U ) Test accessibility is becoming more important as automatic test equipment (ATE) proliferates, especially for mechanical, hydraulic and pneumatic materiel. A test accessibility program fits best into the overall acquisition cycle for vehicles or aircraft as a part of the established reliability and maintainability (R and M) methods and procedures. Test accessibility in terms of design considerations for new equipment is a new and most important design goal. It is believed that the most expedient way to 'sell' test accessibility is as an expanding part of the standard maintainability program. It is for this reason that the Test Accessibility Design Guide has taken the approach of interweaving important test accessibility information with maintainability approaches. The design guide has been written for both equipment designers and management; it provides needed data and information to the prime equipment design engineer and to Government/Army/Industrial procurement and project management personnel.

Abstract Classification:Unclassified

Descriptive Note: Engineering design handbook (Final), Jul 75-Sep 76,

Pages:750 Page(s)



Report Number: FA - FCF-10-76 ( *FAFCF1076* )

Monitor Series: FCF-10-76 ( *FCF1076* )

Contract/Grant/Transfer Number: DAAA25-75-C-0681 ( *DAAA2575C0681* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Storage Camera Tube with Non-Destructive Readout

PDF URL: (pdf) - 1 MB -

Accession Number: ADA030926

Personal Author(s): Yaggy, L S

Corporate Author: HUGHES AIRCRAFT CO CARLSBAD CA INDUSTRIAL PRODUCTS  
DIV

Report Date: Aug 1976

Abstract: ( U ) Efforts and accomplishments are reviewed at the conclusion of a storage cameratube contract. This was a follow-on to the development started on Contract No. DAAB07-73-C-0330, which resulted in a tube capable of dual-mode operation; real-time television or storage with non-destructive readout. Performance of the resulting device approached the goals outlined in Technical Guidelines BD-2, which included mode-switching on command, useful sensitivity at 1.06 micrometer wavelength, and 6:1 zoom in the stored mode. The follow-effort was aimed primarily at increasing the quantum efficiency at 1.06 micrometer and, at the same time, realizing the resolution goal of 900 TV-lines per raster- height. A new tube was designed and fabricated to accommodate a larger diode array target having more resolution elements and a greater thickness for photon absorption. Data from resulting tubes are presented.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 14 Feb 1975-12 Apr 1976

Pages:52 Page(s)

Report Number: ECOM - 75-1305-F ( *ECOM751305F* )

Monitor Series: 75-1305-F ( *751305F* )

Contract/Grant/Transfer Number: DAAB07-75-C-1305 ( *DAAB0775C1305* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Preliminary Reports, Memoranda and Technical Notes of the Materials Research Council Summer Conference, La Jolla, California

PDF URL: (pdf) - 179 MB -

Accession Number: ADA042805

Personal Author(s): Sinnott, Maurice J

Corporate Author: MICHIGAN UNIV ANN ARBOR DEPT OF MATERIALS AND METALLURGICAL ENGINEERING

Report Date: Jul 1976

Abstract: ( U ) Contents: Summary of Meeting on Pyroelectric and Piezoelectric Materials; Fundamental Limitations on Performance on Pyroelectric Vidicon Detectors; Heating Effects in High-Frequency Metallic Josephson Devices: Voltage Limit, Bolometric Mixing and Noise; Molecular Dipolar Pyroelectricity; Summary of the MRC Workshop on NDE; Workshop on the Theory of Ultrasonic Scattering with Application to Adaptive Computerized NDE; Interpretation of Elastic Wave Scattering Theory; Experimental Characterization of Defects with Elastic Waves; Summary of Meeting on Rapidly Solidified Powders and Related Technology; Methods of Achieving Rapid Solidification in Fine Particles; Systems for Storage and Retrieval of

Thermochemical Data and Calculation of Phase Diagrams; Small Particle Technology; Some Recent Developments of Powder Processing in Electronic Devices; Amorphous Alloy Powders; Suggested New Alloys with Promise for Small-Particle Alloy Development; Metallic Glasses; Structural Reliability of Optical Fibers; Thermal Decomposition of CFX in Fluorine and in Other Atmospheres; The Use of Bubble Domain Materials for Submillimeter Wave Magnetic Devices and Mechanistic Limitations on the Speed of Response of Electrochromic Optical Devices.

Abstract Classification:Unclassified

Pages:666 Page(s)

Report Number: XD - DARPA ( XD )

Monitor Series: DARPA

Contract/Grant/Transfer Number: MDA903-76-C-0250 ( MDA90376C0250 ) , ARPA ORDER-2341 ( ARPAORDER2341 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Army Materials Technology Conference (4th) on Advances in Joining Technology, Held in Watertown, Massachusetts on 16-19 September 1975,

PDF URL: (pdf) - 29 MB -

Accession Number: ADA301017

Personal Author(s): Burke, John J ; Gorum, Alvin E ; Tarpinian, Arum

Corporate Author: MARITIME ADMINISTRATION WASHINGTON DC

Report Date: Jan 1976

Abstract: ( U ) The Army Materials and Mechanics Research Center initiated a new conference series in the fall of 1972 with the express purpose of bringing to industry, academic, and Governmental organizations the most recent advances in materials technology. This publication

is the result of the fourth conference on the advances made in the technology of materials joining. The purpose of this conference was to promote an interchange of experience leading to the successful application of a broad category of materials to advanced structural and electronic design concepts. The focus of the conference was on the relevant developments in the areas of joining metals, ceramics, polymers and composites. Consideration in this volume is given to joining methodology, factors affecting joint design, and the impact of joining methods on design concepts. (MM)

Abstract Classification:Unclassified

Pages:634 Page(s)

Report Number: XJ - XD ( XJ )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Annual Technical Progress Report for 1975/76

PDF URL: (pdf) - 79 MB -

Accession Number: ADA050699

Corporate Author: CORNELL UNIV ITHACA NY MATERIALS SCIENCE CENTER

Report Date: Jan 1976

Abstract: ( U ) Significant efforts are now underway in the area of non-destructive testing, grain matrix deformation processes, grain boundary deformation and fracture processes, and flaw top processes. The non-destructive testing (NDT) area has been developed from essentially a zero base to a very significant experimental effort using ultrasonic pulse spectroscopy, holographic interferometry, and acoustic emission. The Grain Matrix Deformation area continues to build on the continuing success of the mechanical equation of state approach. A phenomenological model

of the processes described by the mechanical equation of state is under development, which may point the way to a better understanding of the microscopic processes. A new project has been started to evaluate the usefulness of mechanical equation of state concepts in describing the high-pressure creep deformation of ceramics. Possible areas of application include analysis of hot pressing processing techniques and of deformation of mantle materials in the earth. A new area of Grain Boundary Deformation and Fracture Processes has developed with new projects started on grain boundary crack initiation/damage in creep-fatigue loading of ceramics (hot pressed silicon nitride) and metals (stainless steels). Environmental effects are under study both in the creep-fatigue problem and in a program to characterize hydrogen attack at grain boundaries in steel (methane bubble attack). In the flaw tip processes area the emphasis upon crazing at crack tips in glassy polymers continues, but new efforts have been initiated on crack tip deformation processes in metallic glasses and on slow crack growth in metals at elevated temperatures.

Abstract Classification:Unclassified

Pages:171 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-75-C-1109 ( *N0001475C1109* ) , ARPA ORDER-3010 ( *ARPAORDER3010* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science, Technology, and the Modern Navy. Thirtieth Anniversary, 1946-1976

PDF URL: (pdf) - 43 MB -

Accession Number: ADA111477

Personal Author(s): Salkovitz, Edward I

Corporate Author: OFFICE OF NAVAL RESEARCH ARLINGTON VA

Report Date: Jan 1976

Abstract: ( U ) When it was established in 1946, the Office of Naval Research was the main channel for Federal support of science in the United States. Since there are few fields of science or technology that cannot be related directly or indirectly to Navy requirements, the real choice becomes one of emphasizing areas of particular interest where anticipated results may have a direct bearing on future naval activities. Most research programs within ONR are organized along disciplinary lines, the main disciplines being the physical, mathematical, information, biological, medical, psychological, earth, material, and ocean sciences; but some programs center on such fields as aviation, vehicle, and sensor technologies. The Physical Science Program pursues research on radiation, lasers, acoustics, optics, electronics, superconductivity, magnetism, and surfaces. Research in the Mathematical Sciences Program covers the mathematical and computer sciences, the design of techniques for logistics and systems analysis, and the mechanics of fluids. The objectives of Biomedical research are to understand principles essential to maintaining the health and work capacity of personnel, to prevent disease, and to reduce stress factors such as pressure in diving. The Psychological Research Program seeks a better basis for understanding, improving, and predicting human performance in military environments. Thus, the reduction of manpower costs and the betterment of personnel effectiveness are anticipated benefits from investments in man-job and man-machine designs. The Earth Sciences Program has the objective of providing comprehensive knowledge of physical environments in which the Navy and Marine Corps must operate.

Abstract Classification:Unclassified

Pages:578 Page(s)

Report Number: ONR-37 ( *ONR37* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Engineering Design Handbook. Development Guide for Reliability. Part Two. Design for Reliability

PDF URL: (pdf) - 10 MB -

Accession Number: ADA027370

Corporate Author: ARMY MATERIEL COMMAND ALEXANDRIA VA

Report Date: Jan 1976

Abstract: ( U ) This handbook is directed toward reliability engineers who need to be familiar with the mathematical-probabilistic-statistical techniques for predicting the reliability of various configurations of hardware. The material in standard textbooks is not repeated here; the important points are summarized, and references are given to the standard works.

Abstract Classification:Unclassified

Pages:244 Page(s)

Report Number: AMCP-706-196 ( *AMCP706196* ) , XA - AMC ( *XA* )

Monitor Series: AMC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Optoelectronic Aspects of Avionic Systems II

PDF URL: (pdf) - 40 MB -

Accession Number: ADB008070

Personal Author(s): Biard, J R

Corporate Author: SPECTRONICS INC RICHARDSON TX

Report Date: May 1975

Abstract: ( U ) This document is the final report of a second year study of the optoelectronic aspects of avionic systems. Avionics systems are moving toward the use of a combination of multiplex data buses for the transmission of the growing number of digital signals found in modern aircraft and high performance dedicated cables for the transmission of wide-band analog signals. Optoelectronic technology based on the use of light emitting diodes (LEDs), multimode flexible fiber optic bundles, and photodiodes offers a data transmission capability that is consistent with military requirements and potentially superior to wire techniques. The optoelectronic interface is suitable for use in high data rate digital data buses and wide-band analog channels. The primary objective of this program is to study non-coherent optical components, devices and techniques in order to discover the unique constraints imposed on optoelectronic data transmission systems. This second year study starts with the results of the initial study performed on contract number F33615-72-C-1565 and goes further into the study of signaling and detection, data bus structure, and optoelectronic components. A study of radiation effects on active and passive optical components is also presented.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Apr 1973-Dec 1974

Pages:362 Page(s)

Report Number: AFAL - TR-75-45 AFAL ( *AFALTR7545* ) , XC - TR-75-45 AFAL ( *XCTR7545* )

Monitor Series: TR-75-45 ( *TR7545* ) , AFAL

Contract/Grant/Transfer Number: F33615-73-C-1272 ( *F3361573C1272* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Engineering Design Handbook: Environmental Series. Part Four. Life Cycle Environments

PDF URL: (pdf) - 19 MB -

Accession Number: ADA015179

Corporate Author: ARMY MATERIEL COMMAND ALEXANDRIA VA

Report Date: 31 Mar 1975

Abstract: ( U ) This handbook presents information on the environment to which Army materiel is subjected during its life cycle. It is directed to the materiel design engineer to alert him to the multiplicity of environmental effects on materiel, and to provide him with sufficient information to identify specific environmental effects that require more extensive analysis. The emphasis in the chapters is on the totality of factors characterizing a climate, on the totality of effects experienced by classes of materiel, and on the totality of factor combinations experienced in the life cycle-separated into logistic and operational phases.

Abstract Classification:Unclassified

Pages:407 Page(s)

Report Number: AMCP-706-118 ( *AMCP706118* ) , XA - AMC ( *XA* )

Monitor Series: AMC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Military Chiefs and Presidential Policy: the Problem of Dissent.

PDF URL: (pdf) - 129 MB -

Accession Number: ADA053544

Personal Author(s): Sammon,William L

Corporate Author: CHICAGO UNIV ILL DEPT OF POLITICAL SCIENCE

Report Date: Jan 1975

Abstract: ( U ) This paper analyses the conflicts between the demands of bureaucratic loyalty, professional integrity, and constitutional principles of civil control that arise when senior military officers are faced with the dilemma of opposing presidential defense policies. At issue is the question of whether or not intensive bureaucratization of the American military since 1947 has undermined the officer corps' traditional sense of professional independence and political neutrality.

Abstract Classification:Unclassified

Descriptive Note: Research paper,

Pages:208 Page(s)

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Survey of Advanced Propulsion Systems for Surface Vehicles

PDF URL: (pdf) - 12 MB -

Accession Number: ADA011848

Personal Author(s): Riddell, Frederick R

Corporate Author: INSTITUTE FOR DEFENSE ANALYSES ALEXANDRIA VA SCIENCE  
AND TECHNOLOGY DIV

Report Date: Jan 1975

Abstract: ( U ) Future military needs in propulsion systems for surfaces vehicles are examined in order to provide guidance for Technology Base programs directed at improved engines,

transmissions, thrusters and fuels. It is observed that there is a physical tendency for power-generating systems to grow heavier per horsepower as output increases. This trend runs counter to the requirements of more mobile vehicles which need more power for less weight. These effects are quantified and it is shown that the performance demands of many projected military surface vehicles severely restrict the propulsion system options that technology can provide.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Oct 1973-Dec 1974

Pages:203 Page(s)

Report Number: P-1073 ( *P1073* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: DAHC15-73-C-0200 ( *DAHC1573C0200* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Functional Capabilities for a Military Message Processing Service

PDF URL: (pdf) - 2 MB -

Accession Number: ADA011166

Personal Author(s): Tugender, Ronald ; Oestreicher, Donald R

Corporate Author: UNIVERSITY OF SOUTHERN CALIFORNIA MARINA DEL REY  
INFORMATION SCIENCES INST

Report Date: Sep 1974

Abstract: ( U ) This report describes the functional capabilities necessary to support an advanced military message processing service. The functions described are meant to be incorporated as part of a larger, more comprehensive effort which addresses the total needs of the military message processing community. The functions discussed include those for message creation, coordination, transmission, delivery, reception, and archival. With respect to these functions, specific needs of a potential military user group are addressed.

Abstract Classification:Unclassified

Descriptive Note: Research rept.

Pages:56 Page(s)

Report Number: ISI/RR-74-23 ( *ISIRR7423* ) , XT - ARPA ( *XT* )

Monitor Series: ARPA

Contract/Grant/Transfer Number: DAHC15-72-C-0308 ( *DAHC1572C0308* ) , ARPA ORDER-2223 ( *ARPAORDER2223* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the International Congress on Marine Corrosion and Fouling (3rd). Held at Gaithersburg, Maryland, on October 2-6, 1972

PDF URL: (pdf) - 65 MB -

Accession Number: AD0785898

Corporate Author: NATIONAL BUREAU OF STANDARDS GAITHERSBURG MD

Report Date: Jan 1974

Abstract: ( U ) The fields of corrosion and marine biology are known to overlap significantly in that the only metals resistant to colonization by marine organisms in quiescent sea water are those which corrode and produce toxic corrosion products. Measures taken to prevent the corrosion (such as cathodic protection) cause these metals to foul, and a common antifouling measure -- the electrolytic production of hypochlorous acid -- may alter substantially the corrosive character of sea water. As is reported in several papers of the Third Congress, marine algae may penetrate and cause deterioration of marine coatings and anaerobic bacteria may alter the corrosion behavior of steel in a marine environment. These are examples of the complex interplay between biological factors, corrosion, and the measures used to control both fouling and corrosion. These kinds of interactions document the need for a Congress which included coverage from the sometimes disparate disciplines of biology, chemistry, physics, and engineering.

Abstract Classification:Unclassified

Pages:1042 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-72-C-0281 ( *N0001472C0281* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The New Economic Togetherness: American and Soviet Reactions

PDF URL: (pdf) - 5 MB -

Accession Number: ADA004611

Personal Author(s): Leites, Nathan

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Dec 1973

Abstract: ( U ) The report describes and comments on changes in U.S. attitudes toward the Soviet Union in the early 1970s. The former belief that trade with the Soviets was a bad thing has been replaced by the feeling that it's a good thing. By selecting and juxtaposing statements from public figures, the author presents a process of rising hopes and expansiveness on the American part. The higher the level of East/West exchanges and contact, the lower the chance of conflict, it appears, and the greater the likelihood of influencing Soviet policy and practice.

Abstract Classification:Unclassified

Pages:81 Page(s)

Report Number: R-1369-ARPA ( *R1369ARPA* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: DAHC15-73-C-0181 ( *DAHC1573C0181* ) , ARPA  
ORDER-189-1 ( *ARPAORDER1891* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Energy Demand and Resources of Japan. Volume 2

PDF URL: (pdf) - 19 MB -

Accession Number: ADA015975

Personal Author(s): Dance, K ; Ryan, B ; Schneider, J F

Corporate Author: SCIENCE APPLICATIONS INC ARLINGTON VA

Report Date: Aug 1973

Abstract: ( U ) The five major energy resources of Japan (hydroelectric, coal, oil, gas, and nuclear power) are discussed in detail. Areas of demand, consumption, future prospects, and potential political problems are covered.

Abstract Classification:Unclassified

Descriptive Note: Final rept. Mar-Aug 1973

Pages:158 Page(s)

Report Number: SAI-73-550-AR-VOL-2 ( *SAI73550ARVOL2* ) , RADC - TR-74-39-VOL-2 RADC ( *RADCTR7439VOL2* ) , XC - TR-74-39-VOL-2 RADC ( *XCTR7439VOL2* )

Monitor Series: TR-74-39-VOL-2 ( *TR7439VOL2* ) , RADC

Contract/Grant/Transfer Number: F30602-73-C-0159 ( *F3060273C0159* ) , ARPA ORDER-2339 ( *ARPAORDER2339* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Engineering Design Handbook. Maintainability Guide for Design

PDF URL: (pdf) - 21 MB -

Accession Number: AD0754202

Corporate Author: ARMY MATERIEL COMMAND ALEXANDRIA VA

Report Date: Oct 1972

Abstract: ( U ) The objective of this handbook, Maintainability Guide for Design, is to influence design so that equipment can be (1) serviced efficiently and effectively if servicing is required, and repaired efficiently and effectively if it should fail, or (2) operable for the period of intended life without failing and without servicing, if possible. The designer who considers the

technology of maintainability as one of the prime design considerations can play a vital part in the solution of the Maintenance Problem, whereas the designer who fails to do this adds to the intensity of the problem. Part One describes the extent of the maintenance problem in terms of the expenditure of money, men, and materiel. Part Two presents maintainability objectives, principles, and procedures. Part Three describes the nature of the maintenance problem in terms of the conditions under which weapon systems must be operated and maintained.

Abstract Classification:Unclassified

Descriptive Note: Pamphlet

Pages:448 Page(s)

Report Number: AMCP-706-134 ( *AMCP706134* ) , XA - AMC ( *XA* )

Monitor Series: AMC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Propulsion Concepts - Project Outgrowth

PDF URL: (pdf) - 22 MB -

Accession Number: AD0750554

Personal Author(s): Mead, Jr, Franklin B

Corporate Author: AIR FORCE ROCKET PROPULSION LAB EDWARDS AFB CA

Report Date: Jun 1972

Abstract: ( U ) A study was conducted by an ad hoc group within the Air Force Rocket Propulsion Laboratory during the calendar year of 1970 in an attempt to predict the major propulsion developments that may occur in the next 30 to 40 years. The report evaluates the



future of conventional chemical rocketry based on thermodynamic principles and revolutionary conceptual approaches to system applications. Advanced concepts falling under the general headings of Thermal, Field and Photon Propulsion are evaluated to a degree necessary to define their potential. The report does not define a long list of very near-term technology program subjects, but is designed to encourage and motivate talented and interested scientists and engineers to once again strive for advanced propulsion concepts.

Abstract Classification:Unclassified

Descriptive Note: Survey rept. 1 Jan-31 Dec 1970

Pages:274 Page(s)

Report Number: AFRPL-TR-72-31 ( *AFRPLTR7231* ) , XC - AFRPL ( *XC* )

Monitor Series: AFRPL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Journal of the Royal Naval Scientific Service. Volume 27, Number 2, March 1972

PDF URL: (pdf) - 13 MB -

Accession Number: AD0595842

Corporate Author: ROYAL NAVAL SCIENTIFIC SERVICE LONDON (UNITED KINGDOM)

Report Date: Mar 1972

Abstract: ( U ) Contents: A History of the Torpedo--Parts 3 - 4; Survival from Hypothermia in Divers; Materials for Extreme Environments; The Supply of Gas Mixtures at Constant Oxygen Partial Pressure to Semi Closed Circuit Breathing Apparatus; Stress Wave Analysis; Machinery Seatings for Surface Ships.

Abstract Classification:Unclassified

Pages:77 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Irradiation Effects on Reactor Structural Materials.

Accession Number: AD0739312

Personal Author(s): Stelle,L E ; Shahinian,P ; Smith,H H ; Watson,H E ; Hawthorne,J R

Corporate Author: NAVAL RESEARCH LAB WASHINGTON D C

Report Date: 15 Feb 1972

Abstract: ( U ) The research program of the NRL Metallurgy Division, Reactor Materials Branch, involves a broad study of the effects of nuclear radiation upon materials. This report, covering research for the period 1 November 1971-31 January 1972, includes: (1) a study on fatigue crack growth rates in several 300 series stainless steels, (2) the effect of irradiation on the fatigue properties of thin section Type 348 stainless steel at 550F (288C), (3) an evaluation of notch toughness of AISI Type 304 and 316 stainless steel submerged arc weldments, (4) description of a subsize R-specimen for assessments of postirradiation fracture extension resistance, (5) electron microscopy observations of the postirradiation microstructure of pure iron and dilute iron alloys (6) mechanisms of vacancy generation in laser bombarded targets, and (7) the cyclotron simulation of helium transmutation damage in 304 stainless steel. (Author)

Abstract Classification:Unclassified

Descriptive Note: Quarterly progress rept. 1 Nov 71-31 Jan 72,

Pages:41 Page(s)

Report Number: NRL-MR-2398 ( *NRLMR2398* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Department of Defense Dictionary of Military and Associated Terms

PDF URL: (pdf) - 26 MB -

Accession Number: AD0734441

Corporate Author: JOINT CHIEFS OF STAFF WASHINGTON DC

Report Date: 03 Jan 1972

Abstract: ( U ) The Department of Defense (DOD) Dictionary of Military and Associated Terms is prepared under the direction of the Joint Chiefs of Staff, in coordination with the Office of the Secretary of Defense, the military Services, and the Defense agencies, for planning and operational usage. The Secretary of Defense has directed its use throughout DOD. Terms defined which are designated by 'DOD' will not be defined otherwise within DOD. When a term has been included in the DOD Dictionary, DOD issuances will use the definitions established. The appendix format, as used in the 1968 edition, was modified and all terms and titles, with their meaning, are entered in alphabetical sequence in the main body of the DOD Dictionary.

Abstract Classification:Unclassified

Pages:342 Page(s)

Report Number: JCS-PUB-1 ( *JCSPUB1* ) , XD - JCS ( *XD* )

Monitor Series: JCS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Physics in Perspective. Volume 2. Part A. The Core Subfields of Physics

PDF URL: (pdf) - 60 MB -

Accession Number: AD0753834

Corporate Author: NATIONAL ACADEMY OF SCIENCES WASHINGTON DC PHYSICS  
SURVEY COMMITTEE

Report Date: Jan 1972

Abstract: ( U ) Contents: Elementary-particle physics; Nuclear physics; Atomic, electron, and molecular physics; Physics of condensed matter; Optics; Acoustics; Plasma physics and the physics of fluids; Appendix: physics survey-a charge to the survey panels.

Abstract Classification:Unclassified

Pages:753 Page(s)

Report Number: XJ - NSF ( XJ )

Monitor Series: NSF

Contract/Grant/Transfer Number: N00014-67-A-0244-0020 ( N0001467A02440020 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transport Processes in Ceramic Oxides

PDF URL: (pdf) - 3 MB -

Accession Number: AD0732032

Personal Author(s): Vasilos, Thomas ; Wuensch, Bernhardt J ; Gruber, Philip E

Corporate Author: AVCO CORP LOWELL MA SYSTEMS DIV

Report Date: 15 Sep 1971

Abstract: ( U ) Final results are summarized for a program designed to clarify the nature of mass transport in MgO through growth of crystals of improved perfection and purity, measurement of cation self-diffusion rates with the aid of a stable isotope tracer over a wide range of temperatures, and extension of impurity cation and cation self-diffusion measurements to temperatures as close as possible to 2800C, the melting point of the material. Crystals of MgO 2 cm in diameter and up to 2 mm in thickness have been grown epitaxially on MgO substrates with the aid of chemical vapor transport with HCl at 1000C. Growth rates up to 100 micron/hr. have been achieved. Purification results from the process, and negligible concentrations of transport agent are incorporated in the deposit. Cation self-diffusion coefficients have been determined over a temperature range of 1100 - 2400C. Measurements of Ni(2+) diffusion in MgO have been extended to 2460C (0.88 T(m)). No difference in transport behavior is noted for crystals of moderate purity and crystals of the best quality commercially available at present.

Abstract Classification:Unclassified

Descriptive Note: Final technical rept. 15 Apr 1968-15 Jun 1971

Pages:81 Page(s)

Report Number: AVSD-0468-71-RR ( AVSD046871RR ) , XD - DARPA ( XD )

Monitor Series: DARPA

Contract/Grant/Transfer Number: DAHC15-68-C-0296 ( DAHC1568C0296 ) , ARPA ORDER-1130 ( ARPAORDER1130 )

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of The 13th Annual Conference, Military Testing Association.

PDF URL: (pdf) - 18 MB -

Accession Number: ADA328158

Corporate Author: MARINE CORPS WASHINGTON DC

Report Date: Sep 1971

Abstract: ( U ) A collection of presentations on topics such as: Performance testing, psychological testing, profiles, evaluations and other personnel issues.

Abstract Classification:Unclassified

Pages:455 Page(s)

Report Number: XY - USMC ( XY )

Monitor Series: USMC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Application of Nuclear Irradiation Techniques to the Tailoring of Semiconductor Properties

PDF URL: (pdf) - 2 MB -

Accession Number: AD0884921

Personal Author(s): Fischer, John E

Corporate Author: NAVAL WEAPONS CENTER CHINA LAKE CA

Report Date: Jun 1971

Abstract: ( U ) Nuclear irradiation has a profound influence on the electrical, optical and physical properties of semiconductors. These effects are usually viewed as 'radiation damage', degradation in a nuclear environment leading ultimately to device failure. Recently, several irradiation techniques have been employed to produce beneficial changes in bulk semiconductor materials, leading either to improved device performance or to otherwise impossible device structures. The author briefly reviews several of these techniques, with emphasis on opto-electronic devices. The author also reviews the basic research literature which led to the proposal of a new optimization possibility; its feasibility is being studied under the IED project 'Extended Long Wavelength Cutoff for Silicon Surface Barrier Detectors'.

Abstract Classification:Unclassified

Descriptive Note: Research rept. Jun 1967-Oct 1970

Pages:18 Page(s)

Report Number: NWC-TP-5111 ( *NWCTP5111* ) , GIDEP - 347.65.00.00-X7-01 NWC ( *GIDEP347650000X701* ) , XB - 347.65.00.00-X7-01 NWC ( *XB347650000X701* )

Monitor Series: 347.65.00.00-X7-01 ( *347650000X701* ) , NWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Chinese-English Nuclear and Physics Dictionary

PDF URL: (pdf) - 56 MB -

Accession Number: ADA032209

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSONAFB OH

Report Date: Jun 1971

Abstract: ( U ) The purpose of this dictionary is to provide rapid reference tools for translators, abstractors, and research analysts concerned with scientific and technical materials in Mainland China. This dictionary contains about 28000 terms selected from sources published in Mainland China. The terms included relate not only to general physics, nuclear physics, reactor physics, isotope technology, etc., but incorporate vocabulary from the basic sciences and the auxiliary technologies closely associated with the fields of physics, such as chemistry, engineering, mechanics, mineralogy, etc. The special features of this dictionary are Mainland Chinese practice in regard to: (1) terminology; (2) style of characters; and (3) complete alphabetic lookup by means of the 'pinyin' spelling. Characters in some of the terms have been regrouped for optimum clearness and suitability for computer processing.

Abstract Classification:Unclassified

Pages:1164 Page(s)

Report Number: FTD-HC-23-1617-71 ( *FTDHC23161771* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Alliance at Armageddon: Franco-British Military Cooperation, 1914-1918.



PDF URL: (pdf) - 72 MB -

Accession Number: ADA067459

Personal Author(s): Griffiths, William Richard

Corporate Author: ARMY COMMAND AND GENERAL STAFF COLL FORT  
LEAVENWORTH KS

Report Date: Jan 1971

Abstract: ( U ) The manner in which the Allied military forces of the First World War were coordinated has had an enormous influence upon subsequent alliance doctrines. The necessity for cooperative military efforts, the detailed coordination of all national resources and the interaction of military decisions with the entire fabric of society were lessons painfully learned during the first total war. The exact methods by which the Entente Powers controlled and coordinated their military might are examined in this thesis.

Abstract Classification:Unclassified

Descriptive Note: Master's thesis,

Pages:180 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Air Force Scientific Research Bibliography, 1963-1964. Volume 7

PDF URL: (pdf) - 52 MB -

Accession Number: AD0719871

Personal Author(s): Goodwin, Thomas C ; Yates, Doris C ; Lamb, Norman G ; Carr, Marion S ; Martin, Phyllis M

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC SPECIAL  
BIBLIOGRAPHIES SECTION

Report Date: Jun 1970

Abstract: ( U ) This is the seventh volume of a continuing bibliographic series, and includes abstracts and approximately fifty percent of all technical reports, journal articles, books, symposium proceedings, and monographs produced and published by scientists supported by the Air Force Office of Scientific Research during the calendar years 1963-1964. The Air Force Office of Scientific Research supports fundamental research in the six major scientific disciplines: physics, chemistry, engineering sciences (subsuming electronics, mechanics and propulsion), life sciences (both biological and behavioral, but not medical), mathematics, and the information sciences. The abstracts are identified by item numbers and are listed under the numbers in the indexes. The form of entry is, in general, that being used for DDC catalog cards i.e., source of the document; title; personal author, if any; date; pagination; report number; contract number; and accession number.

Abstract Classification:Unclassified

Pages:746 Page(s)

Report Number: AFOSR - 700-VOL-7 AFOSR ( *AFOSR700VOL7* ) , XC - 700-VOL-7  
AFOSR ( *XC700VOL7* )

Monitor Series: 700-VOL-7 ( *700VOL7* ) , AFOSR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Journal of the Royal Naval Scientific Service Volume 25, Number 1, January 1970

PDF URL: (pdf) - 13 MB -

Accession Number: AD0399632

Corporate Author: ROYAL NAVAL SCIENTIFIC SERVICE LONDON (UNITED KINGDOM)

Report Date: Jan 1970

Abstract: ( U ) Contents: Tidal Influences in Shallow Water Sound Propagation--The normal mode effects; Non-Tidal Influences in Shallow Water Sound Propagation-- The effects due to fish; A Machine for Tracing Profiles of Propeller Blades; Environmental Effects and Residual Stress; Thirty Days of Drifting; Further Problems on the Development and Application of Effective Anti-Corrosive Paint Systems; Physics Exhibition 1970; Audio Visual Training Methods in use in H.M.S. Vernon. Development of Software; Trace Element Determination by Neutron Activation Analysis; and Time.

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:72 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) FORTRAN IV PROGRAMMING FOR CARTOGRAPHY AND TYPOGRAPHY

PDF URL: (pdf) - 4 MB -

Accession Number: AD0703220

Personal Author(s): Hershey, A V

Corporate Author: NAVAL WEAPONS LAB DAHLGREN VA

Report Date: Sep 1969

Abstract: ( U ) Documentation is provided for a new system of cartography and typography. Input to the system is on IBM punched cards. Typographic input is in the FORTRAN IV character set. A card of textual data is followed by any number of cards of functional data. Mnemonic control codes are provided for the functional data. Samples of output from the new system have been prepared on a mechanical plotter and on a cathode ray printer.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:104 Page(s)

Report Number: NWL-TR-2339 ( *NWLTR2339* ) , XB - NWL ( *XB* )

Monitor Series: NWL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Radiation Hardening for Electronic Components

PDF URL: (pdf) - 4 MB -

Accession Number: AD0750290

Personal Author(s): Hnatek, Eugene R

Corporate Author: LOCKHEED MISSILES AND SPACE CO INC SUNNYVALE CA SPACE SYSTEMS DIV

Report Date: 25 Aug 1969

Abstract: ( U ) This document comprises a survey of the causes and effects of a radiation environment on various electronic components, and the techniques that must be employed to harden these devices against radiation. In applying radiation hardening techniques to electronic equipment and components, the requirement for such hardening often conflicts with both the equipment's electrical performance and physical requirements. Among these requirements are frequency response, device current ratings, switching speed efficiency, weight and volume (size). Thus tradeoffs must be made. Some guidelines are included here for establishing tradeoffs for specific designs.

Abstract Classification:Unclassified

Pages:77 Page(s)

Report Number: LMSC-A956468 ( *LMSCA956468* ) , XD - DOD ( *XD* )

Monitor Series: DOD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Investigation of Luminescent Diode Arrays for Photochromic Film Recording

PDF URL: (pdf) - 7 MB -

Accession Number: ADA031922

Personal Author(s): Siderowitz, Joshua ; Klahr, Carl N

Corporate Author: FUNDAMENTAL METHODS ASSOCIATES INC LAWRENCE NY

Report Date: 30 Jun 1969

Abstract: ( U ) The work of this report is directed toward the optical recording of time-sequential information from a spatial array of hydrophones or other sensors. The time sequence

of signals from the sensor array is initially a space-time matrix of data. An optical recording process is required which will convert this data into a two-dimensional spatial matrix. Such a recording process will require the following elements: 1. A photographic recording film or other medium 2. A writing head capable of simultaneous recording of data in parallel columns on the film from many information channels. 3. A hydrophone signal distributor to transfer the signal from each hydrophone to the matching channel of the writing head, with signal amplification or other input matching to assure compatibility with the writing head. This report will assess the practicability of such a recording system in which the recording medium is photochromic film and the writing head is an array of luminescent semiconductor diodes. The diode arrays considered here will be made by neutron transmutation doping since this technique promises high density packing of luminescent diodes with high optical power density per unit area. The recording medium to be considered will be photochromic film because it can be repeatedly re-used, and therefore offers the possibility of long term use with a relatively low volume of film. It also offers the property of high resolution storage of the information.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:96 Page(s)

Report Number: XB - NUSC ( *XB* )

Monitor Series: NUSC

Contract/Grant/Transfer Number: N00024-67-C-1107 ( *N0002467C1107* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Compensation and Avalanche Techniques for Tree Hardening. Volume II. Nuclear Damage on Avalanche Transistors and Diodes

PDF URL: (pdf) - 12 MB -

Accession Number: AD0852788

Personal Author(s): Cates, Harold T ; Grannemann, W W ; Boatwright, L T ; Davis, Jr, Goebel

Corporate Author: NEW MEXICO UNIV ALBUQUERQUE BUREAU OF ENGINEERING RESEARCH

Report Date: Apr 1969

Abstract: ( U ) An analytical model to describe the behavior of a forward biased or reverse biased (including avalanche breakdown) diode in a transient X-ray environment is developed. The calculated results are compared with experimental results. The avalanche multiplication phenomenon is related to the physical parameters of the device. Equivalent circuits for the device under irradiation are developed. The basic theory of avalanche transistor operation is reviewed and the critical design factors for operation of an avalanche circuit in a radiation environment are discussed. The circuits were tested in the range from 1,000,000 R/sec to over 10 to the 10th power R/sec. Circuits were tested with and without different types of junction compensations. Avalanche diodes and transistors were also irradiated in a neutron environment. Some of the diodes and transistors were still functioning properly at doses of 8.6 10 to the 15th power nvt. An avalanche circuit was shown to be relatively insensitive to a neutron environment after exposure to neutron fluence in excess of 10 to the 15th power n/sq cm. (Author)

Abstract Classification:Unclassified

Descriptive Note: Technical rept. 15 Nov 1966-14 Sep 1967

Pages:215 Page(s)

Report Number: AFWL - TR-67-95-VOL-2 AFWL ( *AFWLTR6795VOL2* ) , XC - TR-67-95-VOL-2 AFWL ( *XCTR6795VOL2* )

Monitor Series: TR-67-95-VOL-2 ( *TR6795VOL2* ) , AFWL

Contract/Grant/Transfer Number: F29601-67-C-0017 ( *F2960167C0017* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) FAA THESAURUS OF TECHNICAL DESCRIPTORS. THIRD EDITION,  
INFORMATION RETRIEVAL BULLETIN

PDF URL: (pdf) - 6 MB -

Accession Number: AD0686837

Corporate Author: FEDERAL AVIATION ADMINISTRATION WASHINGTON DC OFFICE  
OF MANAGEMENT SYSTEMS

Report Date: Jan 1969

Abstract: ( U ) This edition, with 3,123 descriptors, includes new terms established since the last publication, in November, 1965. Further, it is presented in the format developed by Project LEX for the Thesaurus of Engineering and Scientific Terms, issued recently by the Department of Defense. The purpose of this thesaurus is to provide a definitive, working vocabulary for the field of civil aviation; its terms or descriptors serve as reference standards for the indexing and retrieval of information. The thesaurus is designed to permit effective specific descriptions of documents on input and answerable search queries on output.

Abstract Classification:Unclassified

Pages:67 Page(s)

Report Number: XH - FAA ( XH )

Monitor Series: FAA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE SOLUTION OF SOME SINGULAR CAUCHY PROBLEMS,

Accession Number: AD0673004

Personal Author(s): Solomon,J M



Corporate Author: NAVAL ORDNANCE LAB WHITE OAK MD

Report Date: 31 Jul 1968

Abstract: ( U ) Singular Cauchy problems which are generalizations of the classical Euler-Darboux-Poisson (EPD) problem are considered. Solutions are obtained in some instances using transmutation operators and in other cases using integral operators. Uniqueness and Huygen's property of the solutions are discussed. (Author)

Abstract Classification:Unclassified

Pages:110 Page(s)

Report Number: NOLTR-68-105 ( *NOLTR68105* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) On the Connection Between Hyaline and Amyloid Degeneration in the Spleen

PDF URL: (pdf) - 827 KB -

Accession Number: AD0846825

Personal Author(s): Stilling, H

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: Jul 1968

Abstract: ( U ) If both substances are found at the same time, if this form of degeneration is found in one case and an identical case reveals another form, it is permissible to deduce the close relationship of these processes. However, no proof is established thereby of the theory that one substance represents the necessary preceding stage of the other. This proof can be submitted only when it becomes possible to generate amyloid degeneration experimentally; only then shall one

be able to determine the preceding tissual changes with greater certainty than has been possible by the comparison and investigation of historic cases.

Abstract Classification:Unclassified

Pages:15 Page(s)

Report Number: TRANS-240 ( *TRANS240* ) , XA - SMUFD ( *XA* )

Monitor Series: SMUFD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cultivation of Yellow Fever Virus in Human Explants

PDF URL: (pdf) - 2 MB -

Accession Number: AD0846558

Personal Author(s): Hallauer, C

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: Jul 1968

Abstract: ( U ) It is deduced from tentative results of pathogenicity tests with monkeys, that strain 17 D has not lost its original quality after more than 145 passages through human explants. A reversion to the viscerotropic form, such as the one apparently achieved by Findlay and Clarke by monkey liver passage of the French neurotropic strain, could not be demonstrated. The loss of viscerotropy shown by the pantropic Asibi strain is noteworthy because it proved the independence of this mutation from the species-specific origin of the explanted tissue, i.e. it takes place also in tissue explants of the natural host.

Abstract Classification:Unclassified

Pages:11 Page(s)

Report Number: TRANS-408 ( *TRANS408* ) , XA - SMUFD ( XA )

Monitor Series: SMUFD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ON THE NATURE OF ANTHRAX VACCINES (OPRIRODE SIBIRELAS  
VENNYKH VAKTSIN)

PDF URL: (pdf) - 609 KB -

Accession Number: AD0675065

Personal Author(s): Kolzsov, S G

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: 01 Jul 1968

Abstract: ( U ) The vaccines discussed in this report should be considered as a variety, or perhaps a new species of anthrax microbes which have lost their pathogenicity toward big animals but which still retain a low virulence and, therefore, possess immunogenic properties. These vaccines are of the anthracis microbial type, because they possess - cultural - morphological, biochemical and serological properties which are characteristic for the strains of anthrax. They also possess an expressed development of spores.

Abstract Classification:Unclassified

Descriptive Note: Journal article

Pages:10 Page(s)

Report Number: TRANS-1346 ( *TRANS1346* ) , XA - ABL/MD ( *XAABLMD* )

Monitor Series: ABL/MD ( *ABLMD* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Seventh Annual Report - AEC Fuels and Materials Development Program

PDF URL: (pdf) - 27 MB -

Accession Number: ADA379966

Corporate Author: GENERAL ELECTRIC CO PLEASANTON CA NUCLEAR  
TECHNOLOGY DEPT

Report Date: 31 Mar 1968

Abstract: ( U ) This report, GEMP-1004, is the seventh annual report on the unclassified portion of the GE-NMPO Fuels and Materials Development Program conducted during calendar year 1967 under Contract No. AT(40-1)-2847. This report covers eleven unclassified jobs: (1) properties of reactor materials from 1000 deg to 3000 deg C (2) radiation effects on the time-, temperature, and stress-dependent properties of fast breeder reactor (FBR) cladding and structural materials; (3) fabrication of FBR advanced fuel element cladding; (4) physical metallurgy of FBR cladding materials and refractory metals; (5) development of advanced FBR fuel element cladding materials with improved performance capability; (6) parameters affecting low-cycle fatigue behavior of heat-resistant alloys; (V) applicability of high strength steels to nuclear reactor pressure vessels; (8) behavior of Zircaloy-4-clad and Type 304 stainless steel-clad UO<sub>2</sub> in meltdown environments; (9) high-temperature thermocouple and electrical materials; (10) physico-chemical stability and reactions between Fe-Cr-Al alloys and UO<sub>2</sub>; and (11) refractory carbides for fuel and structural applications.

Abstract Classification:Unclassified

Descriptive Note: Annual rept. no. 7, 31 Jan 1967-31 Jan 1968

Pages:382 Page(s)

Report Number: GEMP-1004 ( *GEMP1004* ) , XF - AEC ( *XF* )

Monitor Series: AEC

Contract/Grant/Transfer Number: AT(40-1)-2847 ( *AT4012847* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 1968 ANNUAL REPORT. NAVAL RESEARCH LABORATORY,  
WASHINGTON, DC

PDF URL: (pdf) - 10 MB -

Accession Number: AD0700249

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: Jan 1968

Abstract: ( U ) Contents: The Naval Research Laboratory; The research program; Highlights; Research areas (Electronics, Materials, General sciences, Oceanology); Contributions to science and technology (Papers published in scientific journals, Formal NRL Reports, Patents received); and Recognition of personnel.

Abstract Classification:Unclassified

Pages:144 Page(s)

Report Number: XB - NRL ( *XB* )

Monitor Series: NRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A BIBLIOGRAPHY OF THE ELECTRICALLY EXPLODED CONDUCTOR  
PHENOMENON, FOURTH EDITION

PDF URL: (pdf) - 7 MB -

Accession Number: AD0662345

Personal Author(s): Chace, William G ; Watson, Eleanor M

Corporate Author: AIR FORCE CAMBRIDGE RESEARCH LABS HANSCOM AFB MA

Report Date: Oct 1967

Abstract: ( U ) The bibliography includes abstracts of reports on the exploding conductor (exploding wire) phenomenon published from 1774 through 1966. There is also some coverage of important papers in adjacent areas of spectroscopy and instrumentation. Arrangement is by subject group, alphabetically by authors.

Abstract Classification:Unclassified

Descriptive Note: Special repts. no. 68

Pages:157 Page(s)

Report Number: AFCRL-67-0556 ( *AFCRL670556* ) , XC - AFCRL ( *XC* )

Monitor Series: AFCRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION EFFECTS IN THERMOELECTRICS. 2. PERMANENT AND QUASI-PERMANENT EFFECTS OF PILE BOMBARDMENT ON SEVERAL COMPOUND SEMICONDUCTORS,

Accession Number: AD0658326

Personal Author(s): Winslow,J W

Corporate Author: NAVAL RADIOLOGICAL DEFENSE LAB SAN FRANCISCO CALIF

Report Date: 18 Jul 1967

Abstract: ( U ) The effects of reactor bombardment on the thermoelectric properties of several compound semiconductors have been observed experimentally for exposure doses up to  $2.3 \times 10$  to the 19th power fast (E 1 MeV) neutrons/sq cm. Results are reported for the following materials: PbTe; Ge.<sub>95</sub>Bi.<sub>05</sub>T<sub>3</sub>; Ag<sub>2</sub>Se; n- and p-types of a Ge-Si alloy whose exact composition is classified; (GeTe)<sub>90</sub>%(AgSbTe<sub>2</sub>)<sub>10</sub>%; CoSi; n- and p-types of commercial grade Bi<sub>2</sub>Te<sub>3</sub>; and single-crystal, stoichiometric Bi<sub>2</sub>Te<sub>3</sub>. Properties measured were Seebeck coefficient, electrical resistivity, and thermal diffusivity. The effects observed ranged from an apparently simple case of change in majority charge carrier concentration due to transmutations, to rather complicated cases in which the behavior of the variables was strongly influenced, both for the better and for the worse, by post-irradiation, thermally activated processes, e.g., annealing. In some cases, no effects at all were found. Some indications that substantial improvements in the thermoelectric figure of merit for the Ge-Si alloys may be possible through appropriate sequences of irradiation and post-irradiation thermal treatment, were seen.

Abstract Classification:Unclassified

Pages:212 Page(s)

Report Number: USNRDL-TR-67-83 ( *USNRDLTR6783* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioisotopes in the Biological Sciences: An Annotated Bibliography of Selected Literature

PDF URL: (pdf) - 10 MB -

Accession Number: ADA383516

Personal Author(s): Ward, Helen L

Corporate Author: ATOMIC ENERGY COMMISSION WASHINGTON DCDIV OF BIOLOGY AND MEDICINE

Report Date: Apr 1967

Abstract: ( U ) This bibliography contains a total of 959 selected references on the use of radioisotopes in biological research. These references were selected from the scientific literature published during the period 1958-1963. Author, isotope, and report number indexes are included.

Abstract Classification:Unclassified

Pages:116 Page(s)

Report Number: TID-3585 ( *TID3585* ) , TID-4500 ( *TID4500* ) , XJ - AEC ( *XJ* )

Monitor Series: AEC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) EFFECTS OF RADIATION ON SEMICONDUCTOR MATERIALS AND DEVICES

PDF URL: (pdf) - 10 MB -

Accession Number: AD0650195

Personal Author(s): Wilson, D K ; Mitchell, J P ; Cuthbert, J D ; Blair, R R

Corporate Author: WESTERN ELECTRIC CO INC NEW YORK

Report Date: 31 Dec 1966

Abstract: ( U ) Results of investigations on the effects of nuclear radiation on semiconductor materials, device surfaces, and devices are discussed. Radiation damage in gallium phosphide was studied using electro- and cathodo-luminescence. Studies were also made of radiative and non-radiative recombination mechanisms in various compound and elemental semiconductors. A non-radiative Auger-type mechanism observed at neutral defect centers appears to explain non-radiative lifetime degradation from both chemical and radiation damage defects. The Fermi level dependence of the ESR spectrum associated with the phosphorus-vacancy complex was studied in electron-bombarded, phosphorus-doped LOPEX silicon. These studies confirm one assumption that the Si-G8 (E) center is not seen until the Fermi level falls below  $E_{\text{sub C}} - 0.48$  eV. Experiments to determine the effects of device bias, temperature, and radiation dose rate on surface damage to MOS FET's showed qualitative agreement with a model of positive space charge buildup at traps in the devices' SiO<sub>2</sub> layer.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 Oct 1964-30 Nov 1966

Pages:259 Page(s)

Report Number: AFCRL - 67-0068 AFCRL ( *AFCRL670068* ) , XC - 67-0068 AFCRL ( *XC670068* )

Monitor Series: 67-0068 ( *670068* ) , AFCRL

Contract/Grant/Transfer Number: AF 19(628)-4157 ( *AF196284157* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PROBLEMS IN THE LABORATORY SIMULATION OF SPACE PARTICULATE RADIATION

PDF URL: (pdf) - 2 MB -

Accession Number: AD0804214

Personal Author(s): Kirby, W G ; Kindall, S M

Corporate Author: ARNOLD ENGINEERING DEVELOPMENT CENTER ARNOLD AFB TN

Report Date: Dec 1966

Abstract: ( U ) Space particulate radiation is reviewed, the damage mechanisms are discussed, and estimates are made of the hazardous nature of the various radiation zones. The existing capability for reproducing the space environment in ground test facilities is evaluated. It is concluded that the duplication of the complete space environment is not possible but that useful testing can be accomplished with existing techniques. Research programs are proposed for the evaluation of ground test requirements.

Abstract Classification:Unclassified

Descriptive Note: Technical rept. 1 Sep 1964-25 Mar 1966

Pages:42 Page(s)

Report Number: AEDC-TR-66-131 ( *AEDCTR66131* ) , XC - AEDC ( *XC* )

Monitor Series: AEDC

Contract/Grant/Transfer Number: AF 40(600)-1200 ( *AF406001200* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SOVIET BIOMEDICAL JOURNALS, SERIES 4, NO. 1: SELECTED ABSTRACTS

PDF URL: (pdf) - 3 MB -

Accession Number: AD0648880

Personal Author(s): Pollitzer, Robert

Corporate Author: FORDHAM UNIV BRONX NY INST OF CONTEMPORARY RUSSIAN STUDIES

Report Date: Oct 1966

Abstract: ( U ) Selected abstracts from various Soviet biomedical journals are presented. Emphasis is placed on the etiology, microbiology, immunity and epidemiology of infectious diseases.

Abstract Classification:Unclassified

Pages:61 Page(s)

Report Number: XA - DA ( XA )

Monitor Series: DA

Contract/Grant/Transfer Number: DA-18-064-AMC-495(A) ( DA18064AMC495A )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) FALLOUT PHENOMENA SYMPOSIUM APRIL 12-14 1966,  
PROCEEDINGS/PART 1

PDF URL: (pdf) - 16 MB -

Accession Number: AD0488164

Personal Author(s): Mikhail, Saad Z

Corporate Author: NAVAL RADIOLOGICAL DEFENSE LAB SAN FRANCISCO CA

Report Date: 09 Jun 1966

Abstract: ( U ) By agreement between the Department of the Navy and the Office of Civil Defense, the U. S. Naval Radiological Defense Laboratory provides technical advisory services for specific areas of the OCD research program. In addition to recommending annual research programs, monitoring and reviewing research progress, and evaluating research proposals, such technical advisory services include efforts to promote the exchange and examination of pertinent information and consequently, includes development of appropriate scientific symposia. It is in this capacity that the USNRDL assisted in the planning and development of the OCD/DASA Fallout Phenomena Symposium.

Abstract Classification:Unclassified

Pages:518 Page(s)

Report Number: USNRDL ( *USNRDL* ) , REVIEWS/LECTURES-177 ( *REVIEWSLECTURES177* ) , XA - OCD ( *XA* )

Monitor Series: OCD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONSOLIDATED TRANSLATION SURVEY. NUMBER 102

PDF URL: (pdf) - 16 MB -

Accession Number: AD0486759

Corporate Author: CENTRAL INTELLIGENCE AGENCY WASHINGTONDC FOREIGN DOCUMENTS DIV

Report Date: Jun 1966

Abstract: ( U ) This survey is prepared monthly by the Foreign Documents Division, Office of Central Reference, CIA, from lists received through the cooperation of US government agencies and includes translations prepared by such agencies, private industry, universities, research institutions, and commercial translation organizations. It is a compilation of foreign documentary projects completed or started during the preceding month. Translations are listed by area and subject category. Scientific projects are grouped as a section regardless of geographic area. Title in English, author, foreign language title of source of material, date of publication, and publication identification of the completed project are given when available. Tables of contents of journals translated cover-to-cover are reproduced from the current publications.

Abstract Classification:Unclassified

Pages:267 Page(s)

Report Number: XX - CIA ( XX )

Monitor Series: CIA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) EXPLODING WIRE RESEARCH 1774-1963

PDF URL: (pdf) - 993 KB -

Accession Number: AD0633623

Personal Author(s): McGrath, J R

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: May 1966

Abstract: ( U ) A review of Exploding Wire Phenomena (EWP) research is presented. This review covers the work performed from 1774 to the most current publication. Representative and significant studies are cited to indicate the difficulties associated with EWP research and the recent progress made in overcoming them.

Abstract Classification:Unclassified

Descriptive Note: Memo. rept.

Pages:19 Page(s)

Report Number: NRL-MR-1698 ( *NRLMR1698* ) , XB - NRL ( *XB* )

Monitor Series: NRL

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SOVIET POLICY IN LATIN AMERICA

PDF URL: (pdf) - 2 MB -

Accession Number: AD0633053

Personal Author(s): Dinerstein, Herbert S

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: May 1966

Abstract: ( U ) An examination of Soviet policy for the last ten years in underdeveloped countries in general and in Latin America in particular. Two factors have motivated the Soviet Union to modify its traditional attitude toward the transition to communism in underdeveloped countries: (1) Soviet leaders have accepted the idea of peaceful transition to socialism on the assumption that it will eventually become communism; and (2) the Cuban revolution and its aftermath have shown that traditional methods are not necessarily viable models for the present. Soviet foreign policy objectives in Latin America now appear more limited and realistic than in the period before the missile crisis; current efforts are directed toward strengthening Latin American nationalism.

Abstract Classification:Unclassified

Descriptive Note: Memorandum

Pages:52 Page(s)

Report Number: RAND-RM-4967-PR ( *RANDRM4967PR* ) , XC - USAF ( *XC* )

Monitor Series: USAF

Contract/Grant/Transfer Number: AF 49(638)-1700 ( *AF496381700* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) AIR FORCE SCIENTIFIC RESEARCH BIBLIOGRAPHY 1960, VOLUME 4

PDF URL: (pdf) - 61 MB -

Accession Number: AD0647817

Personal Author(s): Hooker, G V ; Yates, Doris C ; Brookins, Harvey D ; Halpin, Joan E ; Patrick, Parthenia A

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC

Report Date: Jan 1966

Abstract: ( U ) This is the fourth volume of a continuing bibliographic series, and includes, within the limitations of the law of diminishing returns, abstracts of all technical reports, journal articles, books, symposium proceedings, and monographs produced and published by scientists supported in whole or in part by the Air Force Office of Scientific Research during the calendar year 1960. Previous publications in this series have been: Vol. I (1950-1956), issued in 1961; Vol. II (1957-1958), issued in 1964; Vol. III (1959), issued in 1965. The Air Force Office of Scientific Research supports fundamental research in the five major scientific disciplines: physics, chemistry, engineering sciences (subsuming mechanics and propulsion), life sciences (both biological and behavioral, but not medical), and mathematics (including during the period of this bibliography, the information sciences). Thus the publications abstracted are multi-disciplinary, their common link being task support by AFOSR.

Abstract Classification:Unclassified

Pages:928 Page(s)

Report Number: AFOSR - 700-VOL-4 AFOSR ( *AFOSR700VOL4* ) , XC - 700-VOL-4 AFOSR ( *XC700VOL4* )

Monitor Series: 700-VOL-4 ( *700VOL4* ) , AFOSR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ENCYCLOPEDIA OF EXPLOSIVES AND RELATED ITEMS. VOLUME 3

PDF URL: (pdf) - 44 MB -

Accession Number: AD0653029

Personal Author(s): Fedoroff, Basil T ; Sheffield, Oliver E



Corporate Author: PICATINNY ARSENAL DOVER NJ

Report Date: Jan 1966

Abstract: ( U ) This volume contains entries 'Chlorides' through 'Detonating relays'. Each entry is supported by references to the appropriate source literature. A cumulative index of items discussed in Vols. 1, 2, and 3 is included.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:563 Page(s)

Report Number: PA-TR-2700-VOL-3 ( *PATR2700VOL3* ) , XA - PA ( *XA* )

Monitor Series: PA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ENVIRONMENTAL EFFECTS OF NUCLEAR WEAPONS. VOLUME ONE

PDF URL: (pdf) - 15 MB -

Accession Number: AD0632279

Personal Author(s): Ayres, Robert U

Corporate Author: HUDSON INST CROTON-ON-HUDSON NY

Report Date: 01 Dec 1965

Abstract: ( U ) Volume 1 summarizes current knowledge of the effects of nuclear weapons on area targets. Radiological effects are divided roughly into three categories: external gamma-radiation from fallout fields; external beta-burns and internal hazards due to cycling of Sr-90, Cs-137 and I-131. Vulnerabilities of different classes of targets or 'biomes' are considered, e.g. vertebrates, insects, conifer forests, deciduous forests, grasslands and crop lands. Thermal ignition and probabilities of fire spread under various conditions are discussed in Chapter 2. Chapter 3 is concerned with potential meteorological and climatic problems. Chapter 4 discusses a variety of 'second-order' problems such as epidemics, pest outbreaks, floods, erosion and ecological changes.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 30 Sep 1964-1 Dec 1965

Pages:285 Page(s)

Report Number: HI-518-RR-VOL-1 ( *HI518RRVOL1* ) , XA - OCD ( *XA* )

Monitor Series: OCD

Contract/Grant/Transfer Number: OCD-OS-62-218 ( *OCDOS62218* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) OPTICAL SPECTROSCOPY AND CRYSTAL GROWTH OF CEO<sub>2</sub> AND THO<sub>2</sub>

PDF URL: (pdf) - 9 MB -

Accession Number: AD0476001

Personal Author(s): Linares, Robert C

Corporate Author: PERKIN-ELMER CORP NORWALK CT ELECTRO-OPTICAL DIV

Report Date: 29 Nov 1965

Abstract: ( U ) The optical spectra and crystal growth of CeO<sub>2</sub> and ThO<sub>2</sub> were studied to determine their potential usefulness as laser materials. Crystal growth was carried out by the flux technique. Phase equilibria and solubility determinations were made in order to select a flux for the growth of spectroscopic samples to eventually permit the growth of laser size crystals. Erbium, terbium, europium, samarium, dysprosium, manganese, and uranium were incorporated into single crystals of CeO<sub>2</sub>. Transmission measurements were made on all samples. When samples were observed to fluoresce with x-ray or UV excitation, their emission spectra, excitation spectra, and fluorescent lifetime were studied. The effect of charge compensation on these properties was also studied.

Abstract Classification:Unclassified

Descriptive Note: Yearly technical summary rept. for the period ending 31 Oct 1965

Pages:87 Page(s)

Report Number: 8197 ( 8197 ) , XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: NONR-4660(00) ( NONR466000 ) , ARPA ORDER-306-62 ( ARPAORDER30662 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONSOLIDATED TRANSLATION SURVEY. NUMBER 90 FOR JUNE 1965

PDF URL: (pdf) - 10 MB -

Accession Number: AD0467068

Corporate Author: CENTRAL INTELLIGENCE AGENCY WASHINGTON DC

Report Date: Jun 1965

Abstract: ( U ) This survey is prepared monthly by the Foreign Documents Division, Office of Central Reference, CIA, from lists received through the cooperation of US government Agencies and includes translations prepared by such agencies, private industry, universities, research institutions, and commercial translation organizations. It is a compilation of foreign documentary projects completed during the preceding month. Translations are listed by area and subject category. Scientific projects are grouped as a section regardless of geographic area. Title in English, author, foreign language title of source of material, date of publication, and publication identification of the completed project are given when available. Tables of contents of journals translated cover-to-cover are reproduced from the current publications.

Abstract Classification:Unclassified

Pages:223 Page(s)

Report Number: XX - CIA ( XX )

Monitor Series: CIA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SCIENCE IN THE SIXTIES

PDF URL: (pdf) - 9 MB -

Accession Number: AD0678056

Personal Author(s): Arm, David L

Corporate Author: NEW MEXICO UNIV ALBUQUERQUE

Report Date: Jun 1965

Abstract: ( U ) Contents: Paths to the sixties; The concept of mathematics historically surveyed; Science and technology in the emerging nations; Implications of population trends for the military; The frontiers of psychology; Living models for lively artifacts; Theories of memory; Biological clocks; Combustion instability; The stability of nonlinear dynamical systems; Tides of the planet Earth; High field magnets and magnetospectroscopy; The relation of ATR to absorption spectra in the infrared; Space chemistry; and The nature of the long-range interaction in hemoglobin.

Abstract Classification:Unclassified

Descriptive Note: Final scientific rept.

Pages:215 Page(s)

Report Number: AFOSR - AF-68-2384 AFOSR ( *AFOSRAF682384* ) , XC - AF-68-2384 AFOSR ( *XCAF682384* )

Monitor Series: AF-68-2384 ( *AF682384* ) , AFOSR

Contract/Grant/Transfer Number: AF-AFOSR-861-65 ( *AFAFOSR86165* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JOURNAL OF THE ROYAL NAVAL SCIENTIFIC SERVICE. VOLUME 20.  
NUMBER 3

PDF URL: (pdf) - 12 MB -

Accession Number: AD0396846

Corporate Author: ROYAL NAVAL SCIENTIFIC SERVICE LONDON (UNITED  
KINGDOM)

Report Date: May 1965

Abstract: ( U ) Contents: The Way to the Stars; The Digital Computer in Nuclear Training at Royal Naval College, Greenwich; A Semiconductor Laser Array; Summer School on Infra-red Spectroscopy; The First Naval Transmitter; Design and Synthesis of a Valve Controlled Electro-hydraulic Servo System; Scientific Service to Management; R. N. Nuclear Submarine Prototype Propulsion Plant at Dounreay; Symposium on Radio Chemical Methods of Analysis.

Abstract Classification:Unclassified

Descriptive Note: Journal

Pages:66 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RESEARCH AND EXPERIMENTATION. 1960 - 1964

PDF URL: (pdf) - 11 MB -

Accession Number: AD0627924

Corporate Author: MITRE CORP BEDFORD MA

Report Date: Mar 1965

Abstract: ( U ) The technical work reported here results from direct support of systems engineering or systems planning projects, and some relates to research expected to have a broad application to existing problems or to the advancement of science and technology. The research and experimentation activities are divided into nine technological areas: Sensor systems; communications systems; environmental factors; computer and display technology; systems

design laboratory; information processing techniques; information transfer; systems studies; and mathematical studies.

Abstract Classification:Unclassified

Pages:119 Page(s)

Report Number: M65-1A ( *M651A* ) , ESD - TR-65-407 ESD ( *ESDTR65407* ) , XC - TR-65-407 ESD ( *XCTR65407* )

Monitor Series: TR-65-407 ( *TR65407* ) , ESD

Contract/Grant/Transfer Number: AF19(628)-2390 ( *AF196282390* ) , AF33(600)-39852 ( *AF3360039852* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) High Temperature Materials and Reactor Component Development Programs.  
Volume 1 - Materials

PDF URL: (pdf) - 13 MB -

Accession Number: ADA392860

Corporate Author: GENERAL ELECTRIC CO CINCINNATI OH NUCLEAR MATERIALS  
AND PROPULSION OPERATION

Report Date: 26 Feb 1965

Descriptive Note: Annual rept. no. 4

Pages:235 Page(s)

Report Number: GEMP-334A-VOL- ( *GEMP334AVOL* ) , XF - DOE ( *XF* )

Monitor Series: DOE

Contract/Grant/Transfer Number: AT(40-1)-2847 ( AT4012847 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SELECTED ABSTRACTS FROM SOVIET BIOMEDICAL JOURNALS, SERIES  
3, NO. 1

PDF URL: (pdf) - 5 MB -

Accession Number: AD0610381

Personal Author(s): Pollitzer, Robert

Corporate Author: FORDHAM UNIV BRONX NY INST OF CONTEMPORARY RUSSIAN  
STUDIES

Report Date: Oct 1964

Abstract: ( U ) The abstracted materials deal with communicable diseases, particularly from the  
standpoint of the pathogens and vectors involved.

Abstract Classification:Unclassified

Pages:103 Page(s)

Report Number: TT-65-61096 ( TT6561096 ) , XA - DA ( XA )

Monitor Series: DA

Contract/Grant/Transfer Number: DA-18-108-405-CML-867(A) ( DA18108405CML867A )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) GROWTH AND DEFORMATION MECHANISMS IN SINGLE CRYSTAL  
SPINEL

PDF URL: (pdf) - 2 MB -

Accession Number: AD0607778

Personal Author(s): Palmour, Hayne ,III ; McBrayer, R Douglas ; witter, DavidE ; Kriegel, W  
Wurth

Corporate Author: NORTH CAROLINA STATE UNIV AT RALEIGH

Report Date: Sep 1964

Abstract: ( U ) This final report of a program of research on growth and deformation processes in spinel includes a description of an R. F. plasma growth facility and its operation. The main conclusion from the growth experiments is that the instability of spinel at its melting point precludes the growth of large stoichiometric single crystals by direct fusion. Alternative techniques are discussed. The effect of heat treatment on the microindentation behavior and room temperature compressive strength of alumina-rich spinel single crystals is discussed. Some high temperature strength data on alumina-rich spinel are included.

Abstract Classification:Unclassified

Descriptive Note: Final rept. for Aug 1962-Jun 1964

Pages:46 Page(s)

Report Number: AFML - TDR-64-284 AFML ( *AFMLTDR64284* ) , XC - TDR-64-284  
AFML ( *XCTDR64284* )

Monitor Series: TDR-64-284 ( *TDR64284* ) , AFML

Contract/Grant/Transfer Number: AF-33-616-7820 ( *AF336167820* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) INVESTIGATION OF TECHNIQUES FOR SPACE-ORIENTED TUBES

PDF URL: (pdf) - 66 MB -

Accession Number: AD0607529

Personal Author(s): Meeker, John G ; Peifer, A G

Corporate Author: BENDIX CORP SOUTHFIELD MI

Report Date: Sep 1964

Abstract: ( U ) The primary goal of the study was to establish criteria for designing high power microwave amplifiers capable of adequately functioning in environments associated with space missions. The expected space environment, both natural and artificial, was carefully catalogued and a special treatment for calculating the ionizing radiation of the Van Allen Belts developed, including assumptions and their degree of uncertainty. The effects of the over- all environment on the materials of a space tube package were evaluated and the materials given a preference ranking. The essential properties required of a space tube are also enumerated and means of achieving them discussed, in detail, for linear-beam tubes, especially for traveling-wave amplifiers required to operate in the range between 1 Gc at 10,000 watts CW and 10 Gc at 100 watts CW. Limitations and problem areas are pointed out and some new concepts are advanced. The importance of pre-flight testing is emphasized, and a philosophy of combined-environment testing advanced; sequential testing is also discussed.

Abstract Classification:Unclassified

Descriptive Note: Final rept.

Pages:161 Page(s)

Report Number: RADC - TDR-64-201 RADC ( *RADCTDR64201* ) , XC - TDR-64-201 RADC ( *XCTDR64201* )

Monitor Series: TDR-64-201 ( *TDR64201* ) , RADC

Contract/Grant/Transfer Number: AF 30(602)-2984 ( *AF306022984* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Meteoritics, Number 19

PDF URL: (pdf) - 10 MB -

Accession Number: ADA276988

Personal Author(s): Nauk, Izdatelstvo A

Corporate Author: NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
WASHINGTON DC

Report Date: Jun 1964

Pages:211 Page(s)

Report Number: NASA-TT-F-100 ( *NASATTf100* ) , XG - NASA ( *XG* )

Monitor Series: NASA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SELECTED ABSTRACTS FROM SOVIET BIOMEDICAL JOURNALS, SER. 2,  
NO. 5,

PDF URL: (pdf) - 5 MB -

Accession Number: AD0606517

Personal Author(s): Pollitzer, Robert

Corporate Author: FORDHAM UNIV BRONX NY INST OF CONTEMPORARY RUSSIAN  
STUDIES

Report Date: May 1964

Abstract: ( U ) Selected abstracts from Soviet biomedical journals are listed. Topics include immunology, epidemiology, bacteriology, virology, and microbiology.

Abstract Classification:Unclassified

Pages:104 Page(s)

Report Number: TT-64-71478 ( *TT6471478* ) , XA - ABL/MD ( *XAABLMD* )

Monitor Series: ABL/MD ( *ABLMD* )

Contract/Grant/Transfer Number: DA-18-108-405-CML-867 ( *DA18108405CML867* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Third Plowshare Symposium Engineering with Nuclear Explosives Held in Davis California on April 21-23, 1964

PDF URL: (pdf) - 28 MB -

Accession Number: ADA396463

Corporate Author: CALIFORNIA UNIV LIVERMORE RADIATION LAB

Report Date: Apr 1964

Abstract: ( U ) The Third Plowshare Symposium was held April 21-23, 1964, in Freeborn Hall at the University of California's Davis Campus. The theme, Engineering with Nuclear Explosives, reflected the major objective of the Symposium; informing engineers in industry, in the military, in educational institutions, and in government agencies throughout the world of the current state-of-the-art from an engineering standpoint. The need for such an information exchange had been felt for some time by most organizations engaged in Plowshare activities. Since the last Plowshare Symposium in 1959, observation of a large number of nuclear detonations has established the reliability of predictions concerning the effects of nuclear explosions. The reliability of these predictions has a direct bearing on the use of nuclear explosions for civil and industrial purposes. This Symposium was attended by 700 visitors and drew world-wide attention. Other nations represented at the sessions included the United Kingdom, France, Australia, Canada, Mexico, Switzerland, South Africa, Austria, and Israel.

Abstract Classification:Unclassified

Pages:388 Page(s)

Report Number: UCRL-TID-7695 ( UCRLTID7695 ) , XF - AEC ( XF )

Monitor Series: AEC

Contract/Grant/Transfer Number: W-7405-ENG-48 ( W7405ENG48 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONTRIBUTION TO THE STUDY OF THE BEHAVIOR OF PATHOGENIC MICROBES IN HEMATOPHAGOUS INSECTS FIRST REPORT

PDF URL: (pdf) - 2 MB -

Accession Number: AD0837907

Personal Author(s): Blanc, Georges ; Baltazard, Marcel

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: 30 Oct 1963

Abstract: ( U ) The following facts were concluded from the studies on the behavior of *S. suispestifer* in biting insects, and especially in a rat flea, *Xenopsylla cheopis*: (1) A flea that bites a guinea-pig infected with *S. suispestifer* becomes infected itself. The ingested bacilli multiply in the digestive tube of the insect, passing into the excrements where they can be preserved dry for a considerable time. (2) An infected flea that bites a healthy guinea-pig may give it the infection. (3) The guinea-pigs infected by flea bites come down with a febrile illness, usually mortal. They may also incur an infection without symptoms and particularly without febrile reaction. This infection is accompanied by septicemia. Some animals stricken by this inapparent salmonellosis are in an unstable physiological equilibrium, and even a slight traumatism may be sufficient to transform this inapparent infection into an acute type of infection.

Abstract Classification:Unclassified

Pages:26 Page(s)

Report Number: TRANS-940 ( *TRANS940* ) , XA - SMUFD ( *XA* )

Monitor Series: SMUFD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) EXPERIMENTAL AND BIOCHEMICAL STUDY OF A STRAIN OF PLAGUE BACILLUS DERIVED FROM A STRAIN OF THE MALASSEZ AND VIGNAL BACILLUS

PDF URL: (pdf) - 437 KB -

Accession Number: AD0836717

Personal Author(s): Blanc, Georges ; Mollaret, Henri

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: Oct 1963

Abstract: ( U ) According to the authors' experiments and to the biochemical properties of the two strains, everything happens as if Malassez and Vignal's bacillus had been transformed into plague bacillus. The authors point out that as this 'transformation' was taking place, no strain of plague bacillus was under experimentation at the Pasteur Institute, Casablanca, and that, on the other hand, among several thousand guinea-pigs used every year in this Institute, neither Yersin's nor Malassez and Vignal's bacillus has ever been isolated.

Abstract Classification:Unclassified

Pages:8 Page(s)

Report Number: TRANS-939 ( TRANS939 ) , XA - SMUFD ( XA )

Monitor Series: SMUFD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) TRANSIENT GAMMA RADIATION EFFECTS ON ELECTRONIC SYSTEMS

PDF URL: (pdf) - 4 MB -

Accession Number: AD0430654

Corporate Author: HUGHES AIRCRAFT CO FULLERTON CA

Report Date: 29 Aug 1963

Abstract: ( U ) This document contains a series of summaries of the current state-of- the-art on transient gamma radiation effects on electronics. The state-of-the-art

Abstract Classification:Unclassified

Pages:153 Page(s)

Report Number: FR-63-17-179 ( *FR6317179* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE AIR FORCE AND NUCLEAR PHYSICS: A HISTORY OF THE AIR FORCE  
OFFICE OF SCIENTIFIC RESEARCH NUCLEAR PHYSICS PROGRAM

PDF URL: (pdf) - 6 MB -

Accession Number: AD0706092

Personal Author(s): Komons, Nick A ; Bushnell, David



Corporate Author: OFFICE OF AEROSPACE RESEARCH ARLINGTON VA

Report Date: Aug 1963

Abstract: ( U ) The volume relates the nuclear physics research supported by the Air Force Office of Scientific Research in the areas of experimental high energy physics, experimental nuclear structure physics, cosmic radiation, theoretical nuclear physics and studies of tritium and radiostrontium.

Abstract Classification:Unclassified

Pages:147 Page(s)

Report Number: OAR-14 ( *OAR14* ) , XC - AFOSR ( *XC* )

Monitor Series: AFOSR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE SIMULATION OF HIGH ENERGY PENETRATING RADIATIONS

PDF URL: (pdf) - 2 MB -

Accession Number: AD0409747

Personal Author(s): MacFarlane, G

Corporate Author: ARNOLD ENGINEERING DEVELOPMENT CENTER ARNOLD AFS TN

Report Date: Jul 1963

Abstract: ( U ) The basis of this study has been a search of current literature to determine the penetrating radiation characteristics of the space environments and to assess the necessity for reproducing such environments completely or in part. This study of the radiation environments

led to the formulation of some possible test objectives. The advantages and disadvantages of performing these objectives in the proposed chamber are listed. Two main simulation approaches, one using radiation from isotopic sources and the other particles generated by high energy accelerators, are feasible, but only the latter is worthy of consideration, taking into account the size of the vehicles to be tested. Furthermore, only the second method can provide a worthwhile match of the energy and flux spectra of space radiation.

Abstract Classification:Unclassified

Pages:71 Page(s)

Report Number: AEDC - TDR-63-118 AEDC ( *AEDCTDR63118* ) , XC - TDR-63-118 AEDC ( *XCTDR63118* )

Monitor Series: TDR-63-118 ( *TDR63118* ) , AEDC

Contract/Grant/Transfer Number: AF 40(600)-1000 ( *AF406001000* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited., Availability:  
Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CULTURAL AND BIOCHEMICAL CHARACTERISTICS OF MALASSEZ AND  
VIGNAL'S BACILLUS

PDF URL: (pdf) - 8 MB -

Accession Number: AD0837214

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: May 1963

Abstract: ( U ) Contents: Cultural characters; Metabolic characters; Vitality, preservation and sensitivity to physical, chemical agents and to bacteriophage; Biochemical identify of the various strains and the case of Serotype IV; Relations with Yersin's bacillus and taxonomic problems.

Abstract Classification:Unclassified

Pages:114 Page(s)

Report Number: TRANS-807 ( *TRANS807* ) , XA - ABL/MD ( *XAABLMD* )

Monitor Series: ABL/MD ( *ABLMD* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SOLAR RADIATION SIMULATION STUDIES, PART 2

PDF URL: (pdf) - 4 MB -

Accession Number: AD0404176

Personal Author(s): Jaatinen, W A ; Rothacker, D L ; Fitz, C D ; Bull, R H ; Dachs, M A ; Shanker, M

Corporate Author: VITRO LABS WEST ORANGE NJ

Report Date: May 1963

Abstract: ( U ) Studies and tests performed to establish the feasibility of solar simulation systems for an environmental chamber are reported. Performance objectives for the chamber and other solar simulator systems are delineated and compared. Tests were initiated on several short-arc lamps including the 10-kw xenon lamp, the 2.5-kw xenon mercury lamp and the fluid-transpiration arc source. The spectral energy distribution, radiant efficiency, polar diagram, intensity and uniformity as well as size and shape of the radiating medium under several conditions for each radiant source are examined. The influence of quartz envelope adsorption,

envelope blackening, optical system reflectivities, detector fatigue, and standard source calibration is under evaluation. A reference module optical system concept based upon three and one half on-axis reflectors is examined. Ray tracing techniques are applied to determine the collimation and uniformity obtainable with an ideal short-arc source, and optical efficiencies of the several components are examined. Preliminary studies of the stability of simulator materials in the nuclear radiation environment of the chamber are also reported. In addition, the multiple source concept supplying a single collimator and the problems associated with refracting vs reflecting elements are analyzed.

Abstract Classification:Unclassified

Pages:124 Page(s)

Report Number: 2244-6-0 ( 224460 ) , AEDC - TDR-63-91 AEDC ( AEDCTDR6391 ) , XC - TDR-63-91 AEDC ( XCTDR6391 )

Monitor Series: TDR-63-91 ( TDR6391 ) , AEDC

Contract/Grant/Transfer Number: AF 40(600)-951 ( AF40600951 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Problems of Internal Constitution and Kinematics of Main Sequence Stars

PDF URL: (pdf) - 2 MB -

Accession Number: AD0740677

Personal Author(s): Stroemgren, Bengt

Corporate Author: PRINCETON UNIV NJ DEPT OF ASTRONOMY

Report Date: 15 Apr 1963

Abstract: ( U ) The report discusses the questions of distinguishing observationally between stars of different ages in the main sequence band, and accounting for the main sequence band in terms of evolution during the hydrogen-burning phase. In particular, can one account for the location of the so-called zero-age line, as well as for the observed width of the main sequence band, and can one determine reliable ages for main sequence stars. The report also discusses the question of the possibility at the present stage of development of observation and theory combining ages and space velocities of main sequence stars to obtain significant knowledge regarding their places of formation in the galaxy.

Abstract Classification:Unclassified

Pages:32 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: NONR-1858(33) ( NONR185833 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) MONTHLY ACCESSION LIST. ABSTRACTS, PART 1

PDF URL: (pdf) - 2 MB -

Accession Number: AD0405134

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: Apr 1963

Pages:46 Page(s)

Report Number: REIC-AL-62 ( *REICAL62* ) , XC - ASD ( *XC* )

Monitor Series: ASD

Contract/Grant/Transfer Number: AF 33(657)-10085 ( *AF3365710085* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION EFFECTS ON SEMICONDUCTORS AND SEMICONDUCTING  
MATERIALS: AN ANNOTATED BIBLIOGRAPHY

PDF URL: (pdf) - 4 MB -

Accession Number: AD0401198

Personal Author(s): McCormick, Helen B

Corporate Author: AIR FORCE SPECIAL WEAPONS CENTER KIRTLAND AFB NM

Report Date: Apr 1963

Pages:118 Page(s)

Report Number: SB-62-47 ( *SB6247* ) , XC - AFSWC ( *XC* )

Monitor Series: AFSWC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION HYGIENE (SELECTED PARTS)

PDF URL: (pdf) - 7 MB -

Accession Number: AD0401728

Personal Author(s): Gorodinskiy, S M ; Parkhomenko, G M

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 26 Mar 1963

Pages:172 Page(s)

Report Number: FTD-TT-62-1616 ( *FTD TT 62 1616* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) AN APPROACH TO THE STUDY OF SOCIAL AND PSYCHOLOGICAL  
EFFECTS OF NUCLEAR ATTACK

PDF URL: (pdf) - 20 MB -

Accession Number: AD0402098

Personal Author(s): Nordlie, Peter G

Corporate Author: HUMAN SCIENCES RESEARCH INC MCLEAN VA

Report Date: Mar 1963

Pages:468 Page(s)

Report Number: HSR-RR-63-3-RR ( *HSRRR633RR* ) , XA - OCD ( *XA* )

Monitor Series: OCD

Contract/Grant/Transfer Number: OCD-OS-62-62 ( *OCDOS6262* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) BIOLOGY AND MEDICINE (26)

PDF URL: (pdf) - 5 MB -

Accession Number: AD0334612

Corporate Author: CENTRAL INTELLIGENCE AGENCY WASHINGTON DC

Report Date: 20 Feb 1963

Descriptive Note: Scientific info. rept.

Pages:118 Page(s)

Report Number: CIA-SR-4310 ( *CIASR4310* ) , XX - CIA ( *XX* )

Monitor Series: CIA

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FOIA U2 Display



Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PERSPECTIVES IN MATERIALS RESEARCH

PDF URL: (pdf) - 46 MB -

Accession Number: AD0405483

Personal Author(s): Himmel, L ; Harwood, J J ; Harris, Jr , W J ; Herring, Conyers ; Brooks, Harvy ; Goldman, J E ; Maurer, Robert J ; Lazarus, David

Corporate Author: OFFICE OF NAVAL RESEARCH ARLINGTON VA

Report Date: Feb 1963

Abstract: ( U ) Contents: The Science of Materials Cohesive Properties of Solids Magnetism and Magnetic Materials Electrical, Optical and Thermal Properties of Solids Diffusion and Mass Transport in Solids Phase Transformations in the Solid State Growth, Structure, and Morphology of Crystals Mechanical Behavior of Crystalline Solids Surface Phenomena - The Nature and Properties of Solid Surfaces and Interfaces Structure and Properties of Liquids Effects of Radiation on Materials Techniques and Instrumentation.

Abstract Classification:Unclassified

Pages:791 Page(s)

Report Number: ONR-ACR-61 ( *ONRACR61* ) , ONR - SNS-15 ONR ( *ONRSNS15* ) , XB - SNS-15 ONR ( *XBSNS15* )

Monitor Series: SNS-15 ( *SNS15* ) , ONR

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Current Beryllium Literature: A Selected Bibliography January 1961 - December 1962

PDF URL: (pdf) - 23 MB -

Accession Number: ADA388813

Corporate Author: CALIFORNIA UNIV LIVERMORE RADIATION LAB

Report Date: Jan 1963

Abstract: ( U ) This bibliography is the result of a current awareness service performed by the American Society for Metals, (ASM) under a purchase order with the University of California Lawrence Radiation Laboratory. The references were gathered from the world's leading journals, books, technical reports, dissertations, and patents for the period January 1961 through December 1962. In each section of this bibliography, books and journal articles appear first, arranged alphabetically by author. Anonymous articles are arranged alphabetically by journal name at the end of each grouping. These are followed by reports and patents arranged by report numbers. Translations are located in the groupings in accordance with their original form, i. e. book, journal, etc. Because of diversity of subject content, some references are located in more than one section.

Abstract Classification:Unclassified

Pages:344 Page(s)

Report Number: UCRL-5705-SUPPL-2 ( *UCRL5705SUPPL2* ) , XD - XD ( *XD* )

Monitor Series: XD

Contract/Grant/Transfer Number: W-7405-ENG-48 ( *W7405ENG48* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) BIOCHEMISTRY OF THE PLAGUE BACILLUS

PDF URL: (pdf) - 8 MB -

Accession Number: AD0297740

Personal Author(s): GUBAREV, YE M ; IVANOVSKIY, N N

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: 28 Dec 1962

Pages:159 Page(s)

Report Number: T-703 ( T703 ) , XA - ABL/MD ( XAABLMD )

Monitor Series: ABL/MD ( ABLMD )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) DOSIMETRIC CONTROL OF ATOMIC SHIPS

PDF URL: (pdf) - 6 MB -

Accession Number: AD0400209

Personal Author(s): Lyush, D V ; Nikolaev, B N

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 17 Dec 1962

Pages:136 Page(s)

Report Number: 16703 ( 16703 ) , XJ - JPRS ( XJ )

Monitor Series: JPRS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) STUDY OF FAILURE MECHANISMS

PDF URL: (pdf) - 12 MB -

Accession Number: AD0403690

Personal Author(s): Skinner, S M ; Dzimianski, J W

Corporate Author: WESTINGHOUSE ELECTRIC CORP BALTIMORE MD

Report Date: Dec 1962

Abstract: ( U ) Various approaches to the study of properties of semiconductor surfaces are taken up, in particular, the very sensitive electrical-frictional probe which is applied to the study of defects and processing technology under various conditions. The distribution of failures in the manufacturing and testing phase of two military systems are compared, and the factors described which caused failure ratios in the one to be one-seventh those in the other. By various studies, it has been determined that the aging of a semiconductor surface does not take place uniformly, but occurs differently at different regions on the surface. The effect of different types of etching and processing solutions on the photovoltaic response of the surface at individual points is used to investigate the nature of the aging and chemical changes on the surface. Characteristic changes in transistor performance have been demonstrated from the charging of passivating layers by

electrons or ions, from the frictional effects of loose desic cant under vibration, from ultraviolet light, and from steep transients in the non-overload range. In all cases, recovery occurs by a relaxation mechanism, which, if translated to the manufacturer's carefully planned ambient environment, involves time constants often of days or months.

Abstract Classification:Unclassified

Descriptive Note: Final rept. 1 July 1961-30 Sep 1962

Pages:305 Page(s)

Report Number: RADC - TDR-63-30 RADC ( *RADCTDR6330* ) , XC - TDR-63-30 RADC ( *XCTDR6330* )

Monitor Series: TDR-63-30 ( *TDR6330* ) , RADC

Contract/Grant/Transfer Number: AF 30(602)-2558 ( *AF306022558* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A BIBLIOGRAPHY OF THE ELECTRICALLY EXPLODED CONDUCTOR PHENOMENON

PDF URL: (pdf) - 4 MB -

Accession Number: AD0299253

Personal Author(s): CHACE, WILLIAM G ; WATSON, ELEANOR M

Corporate Author: AIR FORCE CAMBRIDGE RESEARCH LABS HANSCOM AFB MA

Report Date: Oct 1962

Pages:126 Page(s)

Report Number: AFCRL-62-1053 ( *AFCRL621053* ) , XC - AFCRL ( *XC* )

Monitor Series: AFCRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) EMPIRICAL AND THEORETICAL STUDIES OF ATMOSPHERIC  
ENERGETICS

PDF URL: (pdf) - 3 MB -

Accession Number: AD0419082

Personal Author(s): Horn, L H ; Astling, E G ; Bryson, R A ; Deland, R J ; Dutton, J A  
; Johnson, D R ; Schwerdtfeger, W

Corporate Author: WISCONSIN UNIV-MADISON

Report Date: 15 Sep 1962

Abstract: ( U ) Differential heating of the atmosphere by the sun has been long recognized as the source of the kinetic energy of the atmosphere. However, the mechanisms through which the differential heating produces and maintains the kinetic energy of various scales of atmospheric circulation remains as one of the most challenging problems of meteorology. The research presented here, in the form of an annual report, consists of five papers representing various approaches to this basic problem.

Abstract Classification:Unclassified

Descriptive Note: Annual rept.

Pages:123 Page(s)

Report Number: XJ - WB ( *XJ* )

Monitor Series: WB

Contract/Grant/Transfer Number: CWB-10240 ( *CWB10240* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) QUANTIZATION OF FIELDS WITH INFINITE-DIMENSIONAL INVARIANCE GROUPS. III. GENERALIZED SCHWINGER-FEYNMAN THEORY

Accession Number: AD0275778

Personal Author(s): DEWITT,BRYCE S

Corporate Author: NORTH CAROLINA UNIV CHAPEL HILL INST OF FIELD PHYSICS

Report Date: May 1962

Abstract: ( U ) Nonlinear field theories having elementary vertex functions of arbitrarily high order are presented. Emphasis is given to purely formal aspects of the theory which may be expected to survive generalization to situations in which standard asymptotic conditions are inapplicable. Since the context in which the field nonlinearities are assumed to appear is that of a non-Abelian infinite dimensional invariance group, detailed attention is given to the question of a group invariant measure for the Feynman functional integral. It is shown that the physically important part of the measure is not determined by the group. The theory of the propagators and correlation functions are also given which characterize the system when invariant variables are introduced. The existence of a c-number action functional which contains a complete description of all quantum processes is proved. The second variational derivatives of this functional constitute the wave operator for the one-particle propagators (including all radiative corrections) and its higher derivatives are the renormalized vertex functions. Finally, the implications for application to quantum gravodynamics are discussed. Because it leads to nonlocal covariant equations for a complex metric tensor the way is open to transmutations of topology at the quantum level. (Author)

Abstract Classification:Unclassified

Pages:1 Page(s)

Report Number: 132572 ( 132572 ) , AFOSR - 2572 ( AFOSR )

Monitor Series: 2572

Contract/Grant/Transfer Number: NONR85507 ( NONR85507 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SAMPLING OF AIRBORNE RADIOACTIVE PARTICLES BY  
ELECTROSTATIC PRECIPITATION

PDF URL: (pdf) - 10 MB -

Accession Number: AD0284014

Personal Author(s): BAKER, JOHN W

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH

Report Date: May 1962

Abstract: ( U ) A report of an experimental study conducted to design, build, and test an electrostatic precipitator to determine the feasibility of fallout sampling by electrostatic precipitation is presented. Electrostatic precipitation of airborne particulates provides a capability of qualitatively defining the nuclides present as well as quantitatively defining the gross radiative activity. The conclusions are; electrostatic precipitation will provide a superior sample collection rate that might be increased even further by continued design studies, removing collected particulates in a fluid bath would result in a selective solubility fractionation that would prevent an accurate concentration by filtration but would permit concentration by evaporation of the fluid, and electrostatic collection on a thin compactible, conducting plastic film would provide an optimum collection technique since the film could be advanced through the collector at periodic intervals to allow a continuous sampling capability and all of the sample could be contained in a good thin-disc sample geometry. The samples collected during this study provided readily analyzable gamma scintillation spectra and an analysis of this spectra is presented.



Abstract Classification:Unclassified

Pages:243 Page(s)

Report Number: GNE/PHYS/62/2 ( *GNEPHYS622* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) HEATING OF METALS AND ALLOYS IN ELECTROLYTES

PDF URL: (pdf) - 6 MB -

Accession Number: AD0273410

Personal Author(s): YASNOGORODSKIY, I Z

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 21 Feb 1962

Pages:198 Page(s)

Report Number: TT ( *TT* ) , 61 70 ( *6170* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) EXPERIMENTAL AND THEORETICAL INVESTIGATION OF THE  
ELECTRONIC PROPERTIES OF GERMANIUM SEMICONDUCTORS AT HELIUM  
TEMPERATURES

Accession Number: AD0283261

Personal Author(s): FRITZSCHE,H

Corporate Author: CHICAGO UNIV ILL INST FOR THE STUDY OF METALS

Report Date: 20 Feb 1962

Abstract: ( U ) Germanium semiconductors were prepared by transmutation-doping. In this method, pure Ge or Ge containing a known impurity concentration is irradiated with slow neutrons. Ge70 and Ge7 capture these neutrons and transmute into Ga71 AND As75, respectively, in a ratio which depends on the isotopic abundances and capture cross sections. The advantages are: the compensation ratio is accurately known; one can prepare series of samples in which either the compensation ratio is held constant and the impurity concentration varies, or the minority impurity concentration is fixed and the majority impurity concentration is varied, or the majority impurity concentration is fixed and the minority impurity concentration is varied; and the samples are homogeneous. (Author)

Abstract Classification:Unclassified

Pages:1 Page(s)

Report Number: 2277 ( 2277 ) , AFOSR - 2277 ( AFOSR )

Monitor Series: 2277

Contract/Grant/Transfer Number: AF49 638 802 ( AF49638802 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONSOLIDATED TRANSLATION SURVEY NUMBER 50

PDF URL: (pdf) - 11 MB -

Accession Number: AD0834352

Corporate Author: CENTRAL INTELLIGENCE AGENCY WASHINGTON DC

Report Date: Feb 1962

Abstract: ( U ) This Survey is prepared by Foreign Documents Division, CIA, from lists received through cooperation of US government agencies and includes translations of such agencies, private industry, universities, research institutions, and commercial translation organizations. It is a compilation of foreign documentary projects, completed or started during the month preceding this publication. Translations are listed by area and subject category. Scientific projects are grouped as a section regardless of geographic area. Title in English, author, foreign language title of source of material, date and data of publication, and publication identification of the completed project are given when available.

Abstract Classification:Unclassified

Pages:325 Page(s)

Report Number: XX - CIA ( XX )

Monitor Series: CIA

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PROCEEDINGS OF THE ARMY CONFERENCE ON DYNAMIC BEHAVIOR OF MATERIALS AND STRUCTURES, SPRINGFIELD ARMORY, MASS., 26-28 SEPT. 1962, WITH ABSTRACT SUPPLEMENTS OF SYMPOSIUM ON STRUCTURAL DYNAMICS UNDER HIGH IMPULSE LOADING, 17- 18 SEPT. 1962, DAYTON, OHIO.

PDF URL: (pdf) - 34 MB -

Accession Number: AD0416474

Corporate Author: ARMY RESEARCH LAB RESEARCH TRIANGLE PARK NC ARMY RESEARCH OFFICE

Report Date: Jan 1962

Abstract: ( U ) State-of-the-art technology regarding the dynamic behavior of non- metallic materials and structures is reviewed in sixty conference papers. Topics covered include: loading and testing of the materials and structures under a variety of stress conditions (blasts, shocks, vibrations, thermal, strain, high velocity impacts, compression properties, etc.), and impact, spallation, and fracture resistance of materials. Various applications of the materials and studies for military weapons, vehicles and other structural uses are described. (LS-PL).

Abstract Classification:Unclassified

Pages:570 Page(s)

Report Number: XA - AROD ( XA )

Monitor Series: AROD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THERMOELECTRIC GENERATORS AND MATERIALS. RADIATION EFFECTS, RELIABILITY, LIFETIME, AND FAILURE. AN ANNOTATED BIBLIOGRAPHY

PDF URL: (pdf) - 2 MB -

Accession Number: AD0273953

Personal Author(s): Graziano, E

Corporate Author: LOCKHEED MISSILES AND SPACE CO INC SUNNYVALE CA

Report Date: Jan 1962

Abstract: ( U ) This literature search was conducted as part of research on the problems of using thermoelectric generators in space, which would directly convert heat from nuclear sources, into electricity. The purpose was to bring to light any information regarding reliability, lifetime, and mean time of failure of thermoelectric generators and materials due to oxidation, cracking, galvanic action, short circ its, radiation effects, and sublimation. The results indicate that almost nothing exists in the technical literature concerning lifetime and reliability of thermoelectric generators: for this reason, the scope of the bibliography was broadened considerably to include selected references to other thermoelectric devices and material when any mention was made of factors that might cause failure or malfunction.

Abstract Classification:Unclassified

Pages:48 Page(s)

Report Number: SB-61-60 ( *SB6160* ) , 3-88-61-1 ( *388611* ) , XC - AFSC ( *XC* )

Monitor Series: AFSC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) HANDBOOK OF ENVIRONMENTAL ENGINEERING

PDF URL: (pdf) - 26 MB -

Accession Number: AD0272272

Personal Author(s): THEISS, E C ; Mileaf, H ; Egan, F

Corporate Author: MCGRAW-HILL BOOK CO INC NEW YORK

Report Date: Dec 1961

Pages:343 Page(s)

Report Number: ASD - TR-61-363 ASD ( *ASDTR61363* ) , XC - TR-61-363 ASD ( *XCTR61363* )

Monitor Series: TR-61-363 ( *TR61363* ) , ASD

Contract/Grant/Transfer Number: AF 33(616)-6252 ( *AF336166252* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) REVIEW OF RECENT DEVELOPMENTS IN THE TECHNOLOGY OF BERYLLIUM

PDF URL: (pdf) - 333 KB -

Accession Number: AD0267079

Personal Author(s): Hodge, Webster

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH DEFENSE METALS INFORMATION CENTER

Report Date: 16 Nov 1961

Abstract: ( U ) A review was made of recent literature dealing with Be technology. eight publications are cited which are concerned with commercial production, purification by distillation, welding, corrosion, and radiation effects.

Abstract Classification:Unclassified

Pages:9 Page(s)

Report Number: DMIC-138 ( *DMIC138* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of Nuclear Radiation on Elastomeric and Plastic Components and Materials

PDF URL: (pdf) - 14 MB -

Accession Number: AD0267890

Personal Author(s): KING, R W ; BROADWAY, N J ; PALINCHAK, S

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: 01 Sep 1961

Abstract: ( U ) Organic materials are susceptible to damage from all types of nuclear radiation. Consequently, plastics and particularly elastomers, present serious problems in connection with the development of components and systems for nuclear powered vehicles. In addition to being susceptible to damage by radiation, many of these rubber and plastic materials are adversely affected by environmental conditions, such as extreme temperatures (-100 to +500 F), vacuum, oxidizing atmospheres (ozone), and various types of fuels, lubricants, and hydraulic fluids. Although there are a number of organic materials which have radiation resistance in the range required, they are not useful in the construction of many components and systems because they

are lacking in some other needed property. For example, polystyrene has very good radiation resistance but low strength and heat resistance. Therefore, the major problem is to develop materials which will resist radiation and which are also satisfactory in the environments mentioned above.

Abstract Classification:Unclassified

Pages:373 Page(s)

Report Number: REIC-R-21 ( *REICR21* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Selections from Kuang-Ming Jih-Pao (Source Span: 21 February-12 June 1961),  
Number 7 - Communist China.-

PDF URL: (pdf) - 6 MB -

Accession Number: ADA336491

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 28 Aug 1961

Abstract: ( U ) This serial report is comprised of translations of selected articles from the daily Kuang-Ming Jih-Pao published in Peiping. The source span indicates only the earliest and latest issues processed for any given report and should not be construed as all-inclusive dates. Selections are full translations unless otherwise indicated. Topics include sociology, economics, life sciences, education, engineering, and political science.

Abstract Classification:Unclassified

Pages:85 Page(s)



Report Number: JPRS-4938 ( *JPRS4938* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Selections from Che-Hsueh Yen-Chiu (Philosophy Research) - Communist China.

PDF URL: (pdf) - 11 MB -

Accession Number: ADA357781

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 15 Aug 1961

Abstract: ( U ) The following are translations of selected articles from Che-Hsueh Yen-chiu (Philosophy Research), No. 1, Peiping, January 1961.

Abstract Classification:Unclassified

Pages:126 Page(s)

Report Number: JPRS-4877 ( *JPRS4877* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE EFFECTS OF IRRADIATION ON MAGNETIC PROPERTIES OF ALLOYS AND FERRITES

PDF URL: (pdf) - 1 MB -

Accession Number: AD0262261

Personal Author(s): SCHINDLER, A I

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 11 Aug 1961

Abstract: ( U ) Studies were made on the effects of neutron irradiation on the magnetic characteristics of metal alloys and ferrites. The magnetic properties included the coercive force, remanence, shape of the hysteresis loop, Curie temperature, and magnetic moment. Only the Curie temperature, was found to be relatively insensitive to neutron irradiation; all the other properties were modified by varying amounts. The radiation sensitivity of metal alloys and selected ferrites appears to be primarily related to the dependence of magnetic properties on the shortrange ordering of the atoms along certain crystallographic directions. Materials which can be easily ordered show the greatest sensitivity. It has been found that the application of a magnetic field during irradiation can cause directional ordering to take place which in many cases produces more desirable magnetic characteristics. The studies of the ferrites are more complicated since the effects appear to be related to atomic displacements as well as possible radiation induced oxidation. This has been deduced from magnetic measurements of irradiated samples coupled with neutron diffraction data of the same material.

Abstract Classification:Unclassified

Pages:44 Page(s)

Report Number: NRL-5686 ( *NRL5686* ) , XB - NRL ( *XB* )

Monitor Series: NRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) MATERIALS SYMPOSIUM, 13-15 SEPTEMBER 1961, PHOENIX, ARIZONA

PDF URL: (pdf) - 62 MB -

Accession Number: AD0264193

Corporate Author: AERONAUTICAL SYSTEMS DIV WRIGHT-PATTERSON AFB OH

Report Date: Jul 1961

Abstract: ( U ) State-of-the-art technology on high performance materials being studied for aerospace and military weapon system applications is reviewed in fifty four Conference papers. Of these, seventeen are of direct interest to Plastec. The topics covered include inorganic (refractories, ceramics and metal alloys), organic (polymers), and fiber (metal fiber, fiberglass, and graphite fiber) reinforced ceramic and organic matrix composites. The space environment effects (solar, gamma, UV, IR and thermal radiation) on the mechanical, physical and optical properties of these materials were studied, and coatings for controlling the effects are discussed. (LS-PL).

Abstract Classification:Unclassified

Pages:898 Page(s)

Report Number: ASD-TR-61-322 ( *ASDTR61322* ) , ASD - TR-61-322 ASD ( *ASDTR61322* ) , XC - TR-61-322 ASD ( *XCTR61322* )

Monitor Series: TR-61-322 ( *TR61322* ) , ASD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION DAMAGE THRESHOLDS FOR PERMANENT MAGNETS

PDF URL: (pdf) - 1 MB -

Accession Number: AD0262051

Personal Author(s): SERY, R S ; LUNDSTEN, R H ; GORDON, D I

Corporate Author: NAVAL ORDNANCE LAB WHITE OAK MD

Report Date: 18 May 1961

Abstract: ( U ) Permanent magnets were irradiated to integrated neutron flux levels from  $3.0 \times 10$  to the 17th to  $4.0 \times 10$  to the 20th power epicadmium n/sq cm. In spite of this relatively high dose, Alnicos II, V and XII showed negligible change in properties whether irradiated at 60 C, 235 C, or 325 C. Cunico I, though affected, showed changes less than a threshold of radiation damage of + or - 10%. Cunife I and 3-1/2 Chromium Steel showed slight improvements in properties. The Barium Ferrites, Silmanal, 36 Cobalt Steel and others exceeded the 10% damage threshold by various amounts which extended up to severe demagnetization. Differentiation between temperature and radiation effects was accomplished by the use of control magnets, and by the 60 C irradiation. Limitations on the use of Alnicos II, V, XII and Cunico I in combined heat and nuclear radiation environments may be imposed by the higher vulnerability of associated soft magnetic circuit components, e.g., pole pieces of soft iron, to radiation damage and by high gamma heating which can occur if a magnetic circuit must be used in a sealed container (for protection from corrosion or other reasons). The Alnicos exhibit the highest resistance to radiation, while the barium ferrites show the least.

Abstract Classification:Unclassified

Pages:53 Page(s)

Report Number: NOLTR-61-45 ( *NOLTR6145* ) , XB - NOL ( *XB* )

Monitor Series: NOL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Ways of Science - USSR

PDF URL: (pdf) - 1 MB -

Accession Number: ADA365694

Personal Author(s): Nesmeyanov, A N

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 31 Jan 1961

Pages:14 Page(s)

Report Number: JPRS-4364 ( *JPRS4364* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) GASP. CONTAMINATION STUDY

PDF URL: (pdf) - 3 MB -

Accession Number: AD0325052

Personal Author(s): MALAKER, S F ; ANDERSON, C J ; ROSSI, R A

Corporate Author: MALAKER LABS INC HIGH BRIDGE NJ

Report Date: Jan 1961

Abstract: ( U ) Calculations and analyses were performed to evaluate the radiological hazards associated with the use of a contained underground fission detonation for the propulsion of large space platforms. This investigation included a study of fission product release, neutron induced activity, ground water contamination, chemical reactions, decontamination and closure mechanisms. Analytical results, representing extreme conditions, were obtained for a defined reference system. The key to control of the environmental hazard in the GASP system is the closure mechanism - if operating properly, the radiological hazard is acceptable but upon failure, the hazard may be substantial.

Abstract Classification:Unclassified

Descriptive Note: Final status rept.

Pages:104 Page(s)

Report Number: CM-102-1 ( *CM1021* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: NONR-3095(00) ( *NONR309500* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) AIR FORCE SCIENTIFIC RESEARCH BIBLIOGRAPHY 1950 - 1956. VOLUME  
1

PDF URL: (pdf) - 111 MB -

Accession Number: AD0265450

Personal Author(s): HOOKER, G V ; DUFFNER, MABEL H ; DANN, AARON S ; YATES,  
DORIS C

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC SCIENCE AND TECHNOLOGY DIV

Report Date: Jan 1961

Abstract: ( U ) This bibliography includes abstracts of all publications supported in whole or in part by the Air Force Office of Scientific Research during the period 1954 through 1956. It also includes all earlier reports supported by AFOSR or its anlage found during this search back through 1950. The Air Force Office of Scientific Research supports fundamental research in the five major scientific disciplines: physics, chemistry, engineering sciences (subsuming mechanics and propulsion), life sciences (both biological and behavioral, but not medical), and mathematics. References, reports, and clues to the existence of reports were found by searching the indexes and report collections of the AFOSR Technical Library, and the Armed Services Technical Information Agency. Reports are posted chronologically and/or alphabetically under contracts, these in turn under laboratories, and these under contractors. The abstracts are coded for future machine searching. A detailed subject index, arranged alphabetically, is provided. Because of the high percentage of mathematical papers included in this volume, a separate mathematical classification is included. In addition to the subject indexes, a contract index, an AFOSR control number index, and a personal author index are provided. AD0265450 AD0265451 Div. 18, 32U (TIPSB/ MS) OTS price \$21.00American Geographical Society, New York. PAKISTAN: A COMPENDIUM, by Raye R. Platt. June 61, 393p. incl. illus. tables, 82 refs. (Contract Nonr-64101) Unclassified report DESCRIPTORS: (\*Pakistan, History, Agriculture, Industry.)

Abstract Classification:Unclassified

Pages:1174 Page(s)

Report Number: AFOSR - 700-VOL-1 AFOSR ( *AFOSR700VOL1* ) , XC - 700-VOL-1 AFOSR ( *XC700VOL1* )

Monitor Series: 700-VOL-1 ( *700VOL1* ) , AFOSR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Tsitologiya (Cytology), No. 1, 1960.

PDF URL: (pdf) - 16 MB -

Accession Number: ADA366077

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 15 Aug 1960

Pages:296 Page(s)

Report Number: JPRS-2914 ( *JPRS2914* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Prospects of Using Radioactive Isotopes and Nuclear Radiation in Metallurgy and Other Technical Sciences

PDF URL: (pdf) - 885 KB -

Accession Number: ADA284600

Personal Author(s): Samarin, A M ; Fomichev, M S

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Jul 1960

Pages:13 Page(s)

Report Number: JPSR-3607 ( *JPSR3607* ) , XJ - JPRS ( *XJ* )



Monitor Series: JPRS

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PRINCIPLES OF NUCLEAR PHYSICS

PDF URL: (pdf) - 15 MB -

Accession Number: AD0608964

Corporate Author: DEFENSE ATOMIC SUPPORT AGENCY KIRTLAND AFB NM ATOMIC WEAPONS TRAINING GROUP

Report Date: 24 Mar 1960

Abstract: ( U ) This publication, has been issued as a source of background information for students attending the nuclear courses of the Atomic Weapons Training Group, DASA. Students whose training in physics is incomplete, or who lack an understanding of the unclassified aspects of nuclear phenomena as revealed by modern research, will find the information in this publication of value in comprehending course material. Because this publication deliberately has been slanted toward a specific objective, it makes no claim of being exhaustive or all-inclusive. Instructors will be glad to recommend standard texts available from the Atomic Weapons Training Group, when further information is required.

Abstract Classification:Unclassified

Pages:234 Page(s)

Report Number: XD - DASA/NM ( *XDDASANM* )

Monitor Series: DASA/NM ( *DASANM* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Concepts of Cybernetics: USSR

PDF URL: (pdf) - 4 MB -

Accession Number: ADA354472

Personal Author(s): Yablonskiy, S V

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 11 Mar 1960

Abstract: ( U ) As in the case of other disciplines it is hard to fix the exact time when cybernetics was born. The fact of the matter is that certain formulations of problems and a number of ideas relating to the field appeared long before our time. It can be said, however, that the shaping of cybernetics into a scientific discipline began in the middle of the twentieth century. This process was fostered by a series of problems presented by practice. Among them we must include the need for intricate computing machines, the automation of production, the automation of certain thinking actions and the study of the mechanisms involved in heredity, evolution, and nervous activity. The first attempt to present a unified exposition of cybernetics was made by N. Wiener in 1948. Since, however, Wiener's Cybernetics dealt more with the ideal side of the question, controversies arose among a broad segment of scientists. Some of them, while recognizing cybernetics, demanded a clearer definition of the subject and formulations of its fundamental problems; others, while finding nothing unscientific in cybernetics, said that it as at best a mechanical combination of a number of questions or that it as a part of automatics; still others, not have fully grasped the facts, regarded cybernetics as an attempt to create a new science of sciences and therefore called it a scientific fraud. In this paper we offer an exposition of the basic concepts of cybernetics, with the intention of filling the gaps referred to above. The conception on which the paper is based arose in 1955 and the writer has used it in different variations in reports on cybernetics.

Abstract Classification:Unclassified

Pages:43 Page(s)

Report Number: JPRS-2314 ( *JPRS2314* ) , OTS-60-11347 ( *OTS6011347* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) INVESTIGATION OF IMPURITY CONDUCTION IN TRANSMUTATION-DOPED GERMANIUM,

Accession Number: AD0613738

Personal Author(s): Fritzsche,H ; Cuevas,M

Corporate Author: CHICAGO UNIV ILL INST FOR THE STUDY OF METALS

Report Date: Jan 1960

Abstract: ( U ) Gallium and arsenic impurities were introduced into pure and previously doped germanium by slow neutron irradiation and subsequent nuclear transmutation. Three problems were studied. (1) The dependence of impurity conduction on the average impurity separation for fixed compensation K. (2) The transition to metallic impurity conduction. (3) The K dependence of the activation energy of impurity conduction. The results are compared with Miller's theory and the orbit radius of the acceptor is deduced. (Author)

Abstract Classification:Unclassified

Pages:4 Page(s)

Report Number: AFOSR - 3337 ( *AFOSR* )

Monitor Series: 3337

Contract/Grant/Transfer Number: AF49 638 802 ( *AF49638802* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ENCYCLOPEDIA OF EXPLOSIVES AND RELATED ITEMS. VOLUME 1

PDF URL: (pdf) - 50 MB -

Accession Number: AD0257189

Personal Author(s): Fedoroff, Basil T ; Aaronson, Henry A ; Reese, Earl F ; Sheffield, Oliver E ; Clift, George D ; Dunkle, Cyrus G ; Walter, Hans ; McLean, Dan C

Corporate Author: PICATINNY ARSENAL DOVER NJ

Report Date: Jan 1960

Abstract: ( U ) The first volume (A to Azoxy) of an encyclopedia of explosives and related items is presented. The encyclopedia is intended to cover: (1) military, industrial, and other explosives; explosive compositions; propellants; a of the presence of phosphoric groups; (4) ammunition items, such as projectiles, bombs, grenades, detonators, fuzes; (5) calibers of weapons and projectiles used in the US and foreign countries; (6) brief definitions of ordnance terms; and (7) names of scientists who have made important pyrotechnic compositions; (2) analytical procedures for the more common explosives, propellants, and pyrotechnic compositions; (3) compounds which deflagrate or may possibly explode because of the presence of phosphoric groups; (4) ammunition items, such as projectiles, bombs, grenades, detonators, fuzes; (5) calibers of weapons and projectiles used in the US and foreign countries; (6) brief definitions of ordnance terms; and (7) names of scientists who have made important contributions in the fields of explosives, ammunition, and weapons. This volume contains sections on physical tests used to determine explosive properties; abbreviations, code names, and symbols; descriptive text of encyclopedic items; tables concerning US, British, and German Sieve series; and calibers of US and foreign ammunition; and an index of subjects as alternate names of items.

Abstract Classification:Unclassified

Pages:804 Page(s)

Report Number: PA-TR-2700-VOL-1 ( *PATR2700VOLI* ) , XA - ARDEC ( *XA* )

Monitor Series: ARDEC

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONSOLIDATED LIST OF INFORMATION RETRIEVAL WORDS

PDF URL: (pdf) - 4 MB -

Accession Number: AD0436827

Corporate Author: BUREAU OF NAVAL WEAPONS HYDROBALLISTICS ADVISORY  
COMMITTEE WASHINGTON DC

Report Date: Jan 1960

Pages:218 Page(s)

Report Number: XB - BUSHIPS ( *XB* )

Monitor Series: BUSHIPS

Contract/Grant/Transfer Number: NOAS-59-6243 ( *NOAS596243* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Aerodynamic Phenomena in Stellar Atmospheres - A Bibliography

PDF URL: (pdf) - 5 MB -

Accession Number: ADA278521

Personal Author(s): Thomas, R N

Corporate Author: NATIONAL BUREAU OF STANDARDS BOULDER CO

Report Date: Sep 1959

Abstract: ( U ) This is an attempt to provide a working bibliography for particular use in preparation for the Fourth Symposium on Cosmical Gas Dynamics: Aerodynamic Phenomena in Stellar Atmospheres

Abstract Classification:Unclassified

Descriptive Note: Technical note

Pages:98 Page(s)

Report Number: NBS-TN-30 ( *NBSTN30* ) , XJ - NBS ( *XJ* )

Monitor Series: NBS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Fourth Ordnance Conference on Operations Research

PDF URL: (pdf) - 9 MB -

Accession Number: ADA417096

Corporate Author: ARMY MATHEMATICS ADVISORY PANEL ARLINGTON VA

Report Date: Apr 1959

Abstract: ( U ) This is a Technical report resulting from the Proceedings of the Fourth Ordnance Conference on Operations Research.

Abstract Classification:Unclassified

Descriptive Note: Proceedings

Pages:178 Page(s)

Report Number: ARO - OORR-59-3 ARO ( *AROOORR593* ) , XA - OORR-59-3 ARO ( *XAOORR593* )

Monitor Series: OORR-59-3 ( *OORR593* ) , ARO

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Symposium on Materials Research in the Navy. Volume I. Held at Benjamin Franklin Hotel, Philadelphia, Pa. 17-19 March 1959

PDF URL: (pdf) - 21 MB -

Accession Number: AD0217822

Corporate Author: OFFICE OF NAVAL RESEARCH ARLINGTON VA

Report Date: 19 Mar 1959

Abstract: ( U ) The results of various materials research programs being conducted for application to U.S. Navy applications (aircraft, missile ordnance, ship structures electronic equipment, and radiation and corrosion resistant materials) are reviewed in detail in twenty-one conference papers; all of which are of interest to PLASTEC. Materials discussed include: Thermosets, thermoplastics, fiber reinforced resin composites, elastomers, vulcanizates, foams, and ceramics, mechanical thermal and electrical property data of these materials are also reported. (LS-PL).

Abstract Classification:Unclassified

Pages:418 Page(s)

Report Number: ONR-5-VOL-1 ( *ONR5VOL1* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Living with Radiation

PDF URL: (pdf) - 4 MB -

Accession Number: ADA383605

Personal Author(s): Brannigan, Francis L

Corporate Author: ATOMIC ENERGY COMMISSION WASHINGTON DC

Report Date: Jan 1959

Abstract: ( U ) The subject of ionizing radiation and its effects is extremely confusing to the average layman. Much that appears in newspapers and magazines is written with an eye to the sensational and presents the hazard of radiation as if its unique aspects make it impossible to understand and so set it apart from all the of other hazards of normal, everyday, existence. The result is that the average individual feels that only a highly skilled technician can understand this extremely complex subject, and he either ignores the entire subject and the possibility of hazard



to himself, or, on the other hand, has an unreasonable fear of radiation injury in situations where in fact no real hazard exists.

Abstract Classification:Unclassified

Pages:70 Page(s)

Report Number: X1 - GPO/DC ( *X1GPODC* )

Monitor Series: GPO/DC ( *GPODC* )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THIRD SEMI-ANNUAL RADIATION EFFECTS SYMPOSIUM, 28-30  
OCTOBER, 1958. VOLUME 2. DOSIMETRY AND NUCLEAR MEASUREMENTS PAPERS

PDF URL: (pdf) - 8 MB -

Accession Number: AD0296307

Corporate Author: LOCKHEED AIRCRAFT CORP MARIETTA GA

Report Date: Dec 1958

Pages:207 Page(s)

Report Number: NR ( *NR* ) , 51 V2 ( *51V2* ) , XC - ARDC ( *XC* )

Monitor Series: ARDC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THIRD SEMI-ANNUAL RADIATION EFFECTS SYMPOSIUM, 28-30  
OCTOBER, 1958. VOLUME 3. AIRCRAFT SYSTEMS AND MATERIALS PAPERS

PDF URL: (pdf) - 6 MB -

Accession Number: AD0296308

Corporate Author: LOCKHEED AIRCRAFT CORP MARIETTA GA

Report Date: Dec 1958

Pages:178 Page(s)

Report Number: NR ( NR ) , 51 V3 ( 51V3 ) , XC - ARDC ( XC )

Monitor Series: ARDC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THIRD SEMI-ANNUAL RADIATION EFFECTS SYMPOSIUM, 28-30  
OCTOBER, 1958. VOLUME4. ELECTRONICS AND SEMI-CONDUCTORS PAPERS

PDF URL: (pdf) - 14 MB -

Accession Number: AD0296309

Corporate Author: LOCKHEED AIRCRAFT CORP MARIETTA GA

Report Date: Dec 1958

Abstract: ( U ) Contents: The effects of radiation on various resistor types Radiation effects in compound semiconductors A critical survey of radiation damage to circuits Radiation stabilization of transistor circuits by active feedback Comparison of neutron damage in germanium and silicon transistors Pulsed radiation effects in semiconductors The effect of variation of the width of the base region on the radiation tolerance of silicon diodes The effect of nuclear radiation on commercial silicon diodes Evaluation of silicon diode irradiation results in terms of magnetic amplifier performance Gamma radiation effects in silicon solar cells The effects of nuclear radiation on power transistors The performance of some Zener reference elements during exposure to nuclear radiation Effects of electron bombardment on cadmium sulfide whiskers

Abstract Classification:Unclassified

Pages:314 Page(s)

Report Number: NR ( NR ) , 51 V4 ( 51V4 ) , XC - ARDC ( XC )

Monitor Series: ARDC

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) NEUTRON-INDUCED RADIOACTIVE ISOTOPES IN SOILS

PDF URL: (pdf) - 3 MB -

Accession Number: AD0617180

Personal Author(s): Johnson, R F ; Cook, C S ; Webb, L A ; Mather, R L

Corporate Author: NAVAL RADIOLOGICAL DEFENSE LAB SAN FRANCISCO CA

Report Date: 07 Aug 1958

Abstract: ( U ) This report is concerned with the activities induced in the surface of the earth near ground zero by neutrons released from a nuclear detonation. Gamma-ray spectral measurements of Nevada Test Site soil obtained from the vicinity of ground zero following Shots 1, 4, and 7 have been studied. From these it is concluded that the relative quantities of observed neutron-induced activity to fission-fallout activity are functions of height, yield, and type of detonation. Ten different soil samples were exposed to the neutrons from Shot 5. While only Na24 and Mn56 activities could be definitely found in significant quantities in all soils, the relative amounts of these two radio-isotopes varied over a considerable range and, within reasonable accuracy, can be said to have been activated in proportion to the amount of sodium and manganese atoms present in the soil at the time of irradiation.

Abstract Classification:Unclassified

Pages:51 Page(s)

Report Number: DASA - WT-1117 DASA ( *DASAWT1117* ) , XD - WT-1117 DASA ( *XDWT1117* )

Monitor Series: WT-1117 ( *WT1117* ) , DASA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Three Requirements for the Establishment of Valid Research Requirements,

PDF URL: (pdf) - 6 MB -

Accession Number: ADA075714

Personal Author(s): Hill, Charles W

Corporate Author: OFFICE OF THE SURGEON GENERAL (ARMY) WASHINGTON D C

Report Date: Jan 1958

Abstract: ( U ) In summary, I will simply call again to your attention the three characteristics which I believe to be of greatest importance for the successful functioning of a research requirements system in the military services. First, the responsibility for the conducting of research should be centralized in a separate, autonomous agency which is receptive to, but not constrained by, the problems and requirements of the military operator. Second, the most valuable requirement to be established and maintained within any research system or agency is one calling for a continuous, comprehensive and fundamental research effort in specific scientific fields. And third, research administrators at all levels must translate, not just transmit the requirements they receive into more and more researchable hypotheses before passing them on down to the research laboratories for action. (Author)

Abstract Classification:Unclassified

Pages:14 Page(s)

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RIVER STYX

PDF URL: (pdf) - 2 MB -

Accession Number: AD0340638

Personal Author(s): Elnick, Marvin ; Ralph, William ; Lubold, Guy

Corporate Author: FRANKFORD ARSENAL PHILADELPHIA PA

Report Date: 13 Dec 1957

Abstract: ( U ) Absorption by living tissues of electromagnetic radiation in the one to ten thousand megacycle frequency range produces thermal effects which are shown to grossly degrade bodily functions. A flux of 10 watts/sq cm is indicated as being lethal for humans in an irradiation time of one second or less. Lesser effects which reduce combat effectiveness are predicted from lower fluxes or lower irradiation times down to energy absorption rates low enough to allow the recuperative (cooling) mechanisms of the body to counteract the rise in temperature caused by absorption in the localized volumes of the fat and muscle tissues. The most vulnerable organisms are identified as those with the least effective internal cooling mechanism, e.g. the brain, the testes, the eyes, and like organs. Generalized applications on effect as a military weapon are considered, and the tactical and strategic implications are pointed out. The principal engineering, medical, psychological, political, and other problems requiring solution to achieve these applications are identified. A specific application for a tactical ground forces role selected deliberately because it minimizes the magnitude of the engineering problems requiring solution for its successful development is treated in detail.

Abstract Classification:Unclassified

Pages:65 Page(s)

Report Number: FA - TN-1097 FA ( *FATN1097* ) , XA - TN-1097 FA ( *XATN1097* )

Monitor Series: TN-1097 ( *TN1097* ) , FA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Protection Against Neutron Radiation Up to 30 Million Electron Volts

PDF URL: (pdf) - 3 MB -

Accession Number: ADA286681

Corporate Author: NATIONAL BUREAU OF STANDARDS GAITHERSBURG MD

Report Date: 22 Nov 1957

Descriptive Note: Handbook

Pages:95 Page(s)

Report Number: XJ - NBS ( XJ )

Monitor Series: NBS

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SURVEYS OF PROGRESS ON MILITARY SUBSISTENCE PROBLEMS.  
SERIES 1. FOOD STABILITY. CHAPTER 8. YEAST - ITS CHARACTERISTICS,  
GROWTH, AND FUNCTION IN BAKED PRODUCTS

PDF URL: (pdf) - 6 MB -

Accession Number: AD0649732

Corporate Author: NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH  
COUNCIL WASHINGTON DC COMMITTEE ON FOODS

Report Date: Jan 1957

Abstract: ( U ) Contents: History of the development of active dry yeast; Genetic principles as tools for the taxonomic study of yeasts; Conditioning yeasts for the production of enzymes; Effects of yeast on bread flavor; Evaluation of the bread baking properties of various genera and species of yeasts; Theoretical and practical aspects of brew fermentation; Relationship of yeast fermentation, ingredients, and bread processing methods upon finished bread quality; Role of active dry yeast in commercial bread manufacture.

Abstract Classification:Unclassified

Pages:122 Page(s)

Report Number: XA - DA ( XA )

Monitor Series: DA

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE EFFECTS OF NEUTRON IRRADIATION ON REACTOR FUEL  
COMPOSITION AND REACTIVITY.

Accession Number: AD0605022

Personal Author(s): Safonov,G

Corporate Author: RAND CORP SANTA MONICA CALIF

Report Date: 22 Feb 1956

Abstract: ( U ) Topics include: the transmutation chains of nuclear fuel (approximate chains for reactor work, concentrations of chain nuclei as a function of irradiation); effects of irradiation on reactor reactivity (the concept of a 'design' reactor and 'design' operating conditions, the 'reactiveness' of fuel, examples of 'off-design' reactor operation); remarks on feed costs for U235, U238 burners.

Abstract Classification:Unclassified

Descriptive Note: Lecture notes,

Pages:28 Page(s)

Report Number: P-838 ( P838 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Cue for Survival. Operation Cue

PDF URL: (pdf) - 10 MB -

Accession Number: ADA395954

Corporate Author: FEDERAL CIVIL DEFENSE ADMINISTRATION WASHINGTON DC

Report Date: 03 May 1955

Abstract: ( U ) The Operation Cue nuclear explosion took place at 5:10 o'clock Thurs- day morning, May 5, 1955, on Yucca Flat, at the Nevada Test Site of the Atomic Energy Commission. The device was -detonated as part of the AEC developmental program. It took place on a 500-foot steel tower and was equivalent in power to approximately 30 kilotons of TNT. There were 65 associated experiments in this test. The effects studied included 17 diagnostic, 9 military, and 48 civil effects projects. Operation Cue was the fourth civil defense participation in Nevada atomic tests. -%Its activities were composed of 3 major elements: (a) an observer program, (b) a field exercise program, and (c) the civil effects tests. In the first, the Federal Civil Defense Administration continued the pro- gram of informing the public, their officials, representatives of business and industry, and members of the information media on the effects of nuclear weapons. The high point of the observer program was the detona- tion. In addition to this all observers received extensive preshot and post- shot briefings on atomic blast, thermal and nuclear radiation, precautions for public safety, and objectives of the experiments. The field exercise program represented the first participation of this kind by volunteer civil defense workers. These representatives of civil defense services came from all over the Nation to witness the explosion. They were organized by services to operate as a team, exchanging ideas, conduct- ing simulated exercises, and preparing themselves for communicating their experiences to their associates at home.

Abstract Classification:Unclassified

Pages:166 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) BIBLIOGRAPHY ON PLAGUE AND PASTEURELLA PESTIS

PDF URL: (pdf) - 10 MB -

Accession Number: AD0293214

Corporate Author: ARMY BIOLOGICAL LABS FREDERICK MD

Report Date: 01 Jan 1954

Pages:189 Page(s)

Report Number: XA - ABL/MD ( *XAABLMD* )

Monitor Series: ABL/MD ( *ABLMD* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RESEARCH AND DEVELOPMENT IN THE FIELD OF TUNABLE NARROW BAND OPTICAL FILTERS

PDF URL: (pdf) - 25 MB -

Accession Number: AD0024377

Personal Author(s): CARPENTER, ROBERT O B ; MCDONOUGH, RALPH ; PATTERSON, W A

Corporate Author: BAIRD ASSOCIATES INC CAMBRIDGE MA

Report Date: 31 Dec 1953

Pages:123 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N8ONR60801 ( N8ONR60801 )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A COMPARISON BETWEEN THE EMPIRICAL AND RATIONAL APPROACHES FOR KEYING A HETEROGENEOUS TEST

PDF URL: (pdf) - 4 MB -

Accession Number: AD0019091

Personal Author(s): Berkeley, Marvin H

Corporate Author: AIR FORCE PERSONNEL AND TRAINING RESEARCH CENTER  
LACKLAND AFB TX

Report Date: Jul 1953

Pages:43 Page(s)

Report Number: RB-53-24 ( *RB5324* ) , XC - HRRC ( *XC* )

Monitor Series: HRRC

Contract/Grant/Transfer Number: AF 33(038)-10588 ( *AF3303810588* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) European Scientific Notes. Volume 7, Number 6.

PDF URL: (pdf) - 6 MB -

Accession Number: ADA042531

Personal Author(s): Aspinall,S R

Corporate Author: OFFICE OF NAVAL RESEARCH LONDON (ENGLAND)

Report Date: 15 Mar 1953

Pages:14 Page(s)

Report Number: ESN-7-6 ( *ESN76* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Gamma Ray Sources and Techniques for Gamma Ray Radiology

PDF URL: (pdf) - 35 MB -

Accession Number: AD0019207

Personal Author(s): Hirschfield, J J ; O'Connor, D T ; Polansky, D

Corporate Author: NAVAL ORDNANCE LAB WHITE OAK MD

Report Date: 26 Feb 1953

Pages:90 Page(s)

Report Number: NAVORD - 2666 NAVORD ( *NAVORD* ) , XB - 2666 NAVORD ( *XB* )

Monitor Series: 2666 , NAVORD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Approved for public release; distribution is unlimited. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CHANGES IN VISUAL DEPTH PERCEPTION WITH THE WEARING OF  
CONTACT LENSES

PDF URL: (pdf) - 1 MB -

Accession Number: AD0005469

Personal Author(s): ALLUISI, E A ; INABA, E ; NUNGESSER, JR , F L

Corporate Author: ARMY MEDICAL RESEARCH LAB FORT KNOX KY

Report Date: 02 Dec 1952

Abstract: ( U ) Data for spectacles and each of 3 types of contact lenses (Obri g fluid, Obrig Lacrilens, and Dallos) at each of 6 times of measurement during a 460-min wearing period were analyzed for 8 subjects. The differential performances with the different lenses in altering the stereoptic acuities (standard deviation of 15 rangings made with a stereoptometer on a target at 3020 mm) and the spatial localization (arithmetic mean of the 15 rangings) scores were dependent upon the differences among the subjects. Spatial localization scores tended to increase with time.

Abstract Classification:Unclassified

Pages:31 Page(s)

Report Number: USAMRL-105 ( *USAMRL105* ) , XA - USAMRL ( *XA* )

Monitor Series: USAMRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) BOMBARDMENT INDUCED PHOTOCONDUCTIVITY AND OPTICAL ABSORPTION IN MAGNESIUM OXIDE

PDF URL: (pdf) - 1 MB -

Accession Number: AD0002240

Personal Author(s): DAY, HAROLD R

Corporate Author: MISSOURI UNIV-COLUMBIA DEPT OF PHYSICS

Report Date: 01 Nov 1952

Abstract: ( U ) Measurements of the spectral dependence of the optical absorption of colored MgO crystals revealed several absorption bands (2.1, 3.7, and 4.8 ev) in the visible and UV regions. The bands were superimposed upon a gradually rising tail which extended over the entire spectrum and increased to only about 20 cm<sup>-1</sup> at 200 millimicrons or 6.2 ev, the limit of measurement. A photoconductivity band was found at 1.2 ev. Irradiation of the crystals by UV caused an enhancement of the photoconductivity which reached a saturation level independent of the UV intensity; this enhancement is a measure of the density of imperfections in the crystal lattice. The direction of the displacement of the UV-activated region by an electric field indicated that the charge carriers are holes in the valence band. The enhancement of photoconductivity produced by bombardment with Van de Graaff electrons was unstable at room temperature, while that produced by neutron irradiation and the crystals was thermally unstable throughout the spectrum. Neutron irradiation also causes an increase in the level of UV saturation; the increase is stable at room temperature and indicates new lattice defects. The photoconductivity bands present after irradiation corresponded to the optical absorption bands caused by excess Mg. An estimate of the density of lattice defects can be made from the photoconductivity. An energy level model is proposed to explain the photoconductivity bands and the enhancement and saturation effects.

Abstract Classification:Unclassified

Descriptive Note: Technical rept.

Pages:42 Page(s)

Report Number: TR-13 ( *TR13* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N7ONR-292(05) ( *N7ONR29205* )

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) REGIONAL STUDY WITH SPECIAL REFERENCE TO GEOGRAPHY: STATUS OF RESEARCH IN AMERICAN GEOGRAPHY

PDF URL: (pdf) - 8 MB -

Accession Number: AD0016676

Personal Author(s): James, P E ; Jones, C F

Corporate Author: NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL WASHINGTON DC

Report Date: 30 Sep 1952

Abstract: ( U ) A survey was made of literature concerning the evolution of regional studies, theory and exemplification of the region, elements of the corpus regionis, and the method of regional study.

Abstract Classification:Unclassified

Pages:76 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: N7ONR-291-24 ( N7ONR29124 )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SCINTILLATION COUNTERS



PDF URL: (pdf) - 2 MB -

Accession Number: AD0005466

Personal Author(s): KREBS, A T

Corporate Author: ARMY MEDICAL RESEARCH LAB FORT KNOX KY

Report Date: 11 Aug 1952

Abstract: ( U ) A critical review of developments in scintillation counters is presented with emphasis on radiobiological applications. The theory of scintillation counting is discussed, and the advantages and disadvantages of both photon counters and photomultipliers are considered with regard to their counting and recording of scintillations. Various scintillation phosphors are evaluated, and tabular data are presented on the fluorescence properties of scintillation substances. Applications of scintillation counters are pointed out for use in measurements of particle energies, gamma-ray spectroscopy, coin- phenomena, and radiobiological reactions.

Abstract Classification:Unclassified

Pages:68 Page(s)

Report Number: USAMRL-89 ( *USAMRL89* ) , XA - USAMRL ( *XA* )

Monitor Series: USAMRL

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Tritium (H3), A Bibliography of Unclassified Literature.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA317488

Personal Author(s): Croxton, Fred E ; Schwind, Simone B

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 25 Aug 1950

Abstract: ( U ) This bibliography, arranged chronologically, consists of 250 references covering the period 1933 to 1950. Indexes to authors, subjects, and report numbers are included. The references listed cover primarily the nuclear and physical properties of tritium; a few articles on its use in tracer studies are included.

Abstract Classification:Unclassified

Descriptive Note: Rept. for 1933-1950,

Pages:36 Page(s)

Report Number: TID-371 ( *TID371* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Role of Cyclotron in Medical Research,

PDF URL: (pdf) - 1 MB -

Accession Number: ADA315396

Personal Author(s): Hamilton, Joseph G

Corporate Author: CALIFORNIA UNIV LIVERMORE RADIATION LAB

Report Date: 19 Apr 1950

Abstract: ( U ) The uses of radioactive isotopes in medical research can be conveniently divided into three principal categories; namely, the applications as tracers for the study of metabolic phenomena, as diagnostic aids in clinical medicine, and finally their role in therapy. Frequently

radioisotopes available from the chain-reacting pile do not have a sufficient degree of specific activity for satisfactory use. A number of radioisotopes which can be produced with high specific activity in the pile possess half-lives too short to be of any practical value. Then, there are a few cases in which the desired radioisotope may be made in the pile with high specific activity, but concomitantly there is formed another radioisotope of the same element whose half-life is of such duration as to render its use hazardous in man. Finally, there are several elements of biological and medical interest whose radioactive isotopes can be produced only by the cyclotron.

Abstract Classification:Unclassified

Pages:15 Page(s)

Report Number: UCRL-925 ( *UCRL925* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Preparation of Transplutonium Isotopes by Neutron Irradiation,

PDF URL: (pdf) - 104 KB -

Accession Number: ADA319556

Personal Author(s): Ghiorso, A ; James, R A ; Morgan, L O ; Seaborg, G T

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Feb 1950

Pages:2 Page(s)

Report Number: AECD-2822 ( *AECD2822* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Measurements of Radioactivity,

PDF URL: (pdf) - 8 MB -

Accession Number: ADA317685

Personal Author(s): Curtiss, Leon F

Corporate Author: NATIONAL BUREAU OF STANDARDS GAITHERSBURG MD

Report Date: 15 Oct 1949

Pages:90 Page(s)

Report Number: NBS-CIRCULAR-476 ( *NBSCIRCULAR476* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Antiaircraft Journal. Volume 92, Number 4, July-August 1949

PDF URL: (pdf) - 9 MB -

Accession Number: ADA509812

Personal Author(s): Brady, W I

Corporate Author: COAST ARTILLERY TRAINING CENTER FORT MONROE VA

Report Date: 01 Aug 1949

Descriptive Note: Journal

Pages:65 Page(s)

Report Number: XA - CATC/VA ( XACATCVA )

Monitor Series: CATC/VA ( CATCVA )

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Instrument Work in an Atomic Energy Laboratory,

PDF URL: (pdf) - 3 MB -

Accession Number: ADA321784

Personal Author(s): Fisher, H U

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 24 Sep 1948

Abstract: ( U ) Before we can discuss some of the applications of nuclear instrumentation, it would be well to describe some of the measurements which our instruments are capable of

making. The most important one is the measurement of radiation and of course this field is quite comprehensive. Radiation occurs in a number of forms; alpha, beta, gamma, neutron, and X-rays. For this discussion we will consider only the first four and the X-ray will be left to others, since our work had very little to do with it. The first three types have properties which make it possible to measure directly while the neutron is measured indirectly. Strictly speaking, this is not true as far as gamma radiation is concerned but we can consider it so for the present discussion.

Abstract Classification:Unclassified

Pages:27 Page(s)

Report Number: MDDC-1059 ( *MDDC1059* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Conference on the Chemical Effects of Nuclear Transformation (Hot Atom Chemistry) August 19 - 20, 1948.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA319238

Corporate Author: BROOKHAVEN NATIONAL LAB UPTON NY

Report Date: 20 Aug 1948

Abstract: ( U ) Since I have been given the privilege of making introductory remarks at the start of this conference on hot atom chemistry, I should like to make some observations about the background of the subject and to indicate some of the problems which appear to be of present interest. It is probably a safe generalization to say that most of the thousands of known nuclear

transformations have significant chemical effects. This is automatically true for those reactions in which the nuclear charge changes, since then the product is a different chemical element. Whether or not this occurs, it is also the case that the net energy evolved is usually large compared to chemical bond energies and activation energies, so that one may expect bond rupture and other chemical reactions to occur if the energy is properly distributed among the various degrees of freedom. The energy is usually concentrated first on the particular atom in which the nuclear event occurred. The resulting energetic atom is called a 'hot atom', which term has given the name to our conference.

Abstract Classification:Unclassified

Pages:86 Page(s)

Report Number: BNL-C-7 ( *BNLC7* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Field Tests of Optical Instruments

PDF URL: (pdf) - 45 MB -

Accession Number: ADA800373

Corporate Author: NAVAL SEA SYSTEMS COMMAND WASHINGTON DC

Report Date: 15 Mar 1947

Pages:179 Page(s)

Report Number: NAVORD - 77-46 BUORD ( *NAVORD7746* ) , XB - 77-46 BUORD ( *XB7746* )

Monitor Series: 77-46 ( 7746 ) , BUORD

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FOIA U2 Display  
Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Summary Technical Report of the Applied Psychology Panel, NDRC. Volume 1.  
Human Factors in Military Efficiency - Aptitude and Classification

PDF URL: (pdf) - 18 MB -

Accession Number: AD0200808

Personal Author(s): Wolfle, Dael ; Lindsley, Donald B ; Kappauf, Jr , William E ; Kennedy, John L ; Frederiksen, Norman

Corporate Author: OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT  
WASHINGTON DC NATIONAL DEFENSE RESEARCH COMMITTEE

Report Date: 30 Sep 1946

Abstract: ( U ) A systematic account of work performed under the direction of the Applied Psychology Panel is presented. Selection and classification of military personnel, as well as military training and the human factors involved in the design and operation of military equipment are described.

Abstract Classification:Unclassified

Pages:324 Page(s)

Report Number: XD - OSRD ( XD )

Monitor Series: OSRD

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FOIA U2 Display



Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Tolerance Dose,

PDF URL: (pdf) - 1 MB -

Accession Number: ADA322447

Personal Author(s): Cantril, S T ; Parker, H M

Corporate Author: ARGONNE NATIONAL LAB IL

Report Date: 05 Jan 1945

Abstract: ( U ) In the development of the science of radiotherapy, a special nomenclature has grown up, which, for the most part, is clear and unambiguous to the doctors and physicists engaged in the field. For special reasons, some of the quantities involved were defined in a different manner from that in which analogous quantities in pure physics would have been handled. The present project makes it a matter of general interest to correlate these two aspects. Some account of the terms used will therefore be given before proceeding to the main discussion.

Abstract Classification:Unclassified

Pages:24 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA U2 Display

Distribution/Classification

Distribution Code:01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:Approved for public release; distribution is unlimited.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Coast Artillery Journal. Volume 62, Number 4, April 1925

PDF URL: (pdf) - 6 MB -

Accession Number: ADA497723

Corporate Author: COAST ARTILLERY TRAINING CENTER FORT MONROE VA

Report Date: Apr 1925

Abstract: ( U ) This journal is published monthly under the supervision of the Commandant, Coast Artillery School, by direction of the Chief of Coast Artillery, for the information of the Coast Artillery personnel of the Regular Army, Organized Reserve and National Guard. Articles in this issue include topics such as gun models, reserve personnel, antiaircraft defense, adjustment of fire at moving targets, Coast Artillery Board notes and book reviews.

Abstract Classification:Unclassified

Pages:103 Page(s)

Report Number: XA - CATC/VA ( XACATCVA )

Monitor Series: CATC/VA ( CATCVA )

Highest Classification: Unclassified

Highest Classification: Unclassified

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Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; NOV 2011. Other requests shall be referred to U.S. Department of Energy, Office of Classification, Washington, DC 20585.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Joint DOE/DoD Radiation Hardened Microelectronics Classification Guide

PDF URL: (pdf) - 11 MB -

Accession Number: ADB375298

Corporate Author: DEPARTMENT OF ENERGY WASHINGTON DC OFFICE OF CLASSIFICATION

Report Date: Nov 2011

Descriptive Note: Security classification guide

Pages:71 Page(s)

Report Number: CG-MIC-1 ( *CGMIC1* ) , XF - DOE/OC ( *XFDOEOC* )

Monitor Series: DOE/OC ( *DOEOC* )

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FOIA UL Display

Distribution/Classification

Distribution Code:16 - DOD AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to DoD and DoD contractors only; Administrative/Operational Use; 06 SEP 2011. Other requests shall be referred to Office of the Assistant Secretary of the Army for Installations, Energy and Environment, ATTN: OASA (IE&E), 1235 S. Clark Street, Suite 307, Arlington, VA 22202-3263.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Western Hemisphere Security Analysis Center (WHEMSAC) Research and Analysis for the Headquarters of United States Southern Command. Democratizing Violence: The Case of the Dominican Republic

PDF URL: (pdf) - 574 KB -

Accession Number: ADB376291

Personal Author(s): Bobea, Lilian

Corporate Author: NATIONAL DEFENSE CENTER FOR ENERGY AND ENVIRONMENT  
JOHNSTOWN PA

Report Date: 06 Sep 2011

Descriptive Note: Final research paper

Pages:58 Page(s)

Report Number: NDCEE-CR-2011-217 ( *NDCEE CR2011217* ) , XA - ASA/IENDCEE ( *XAASAIENDCEE* )

Monitor Series: ASA/IENDCEE ( *ASAIENDCEE* )

Contract/Grant/Transfer Number: W91WAW-09-D-0022 ( *W91WAW09D0022* )

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Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAY 2011. Other requests shall be referred to Defense Threat Reduction Agency, ATTN: OP-OSA, 8725 John J. Kingman Rd., MS 6201, Fort Belvoir, VA 22060-6201.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The New Strategic Arms Reduction Treaty (New START)

PDF URL: (pdf) - 919 KB -

Accession Number: ADB369974

Corporate Author: DEFENSE THREAT REDUCTION AGENCY FORT BELVOIR VA

Report Date: 06 May 2011

Descriptive Note: Security Classification Guide

Pages:82 Page(s)

Report Number: XD - DTRA/FB ( *XDDTRAFB* )

Monitor Series: DTRA/FB ( *DTRAFB* )

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Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; JUL 2010. Other requests shall be referred to Air Force Research Lab., Attn: AFRL/RIEH, Rome, NY 13441-4505.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Managed Information Delivery to Multiple Devices (MIDMD)

PDF URL: (pdf) - 1 MB -

Accession Number: ADB361507

Personal Author(s): Clark, Catherine H ; Hunt, Neil ; Kawata, Stephen

Corporate Author: VISION SYSTEMS AND TECHNOLOGY INC ELLICOTT CITY MD

Report Date: Jul 2010

Descriptive Note: Final rept. May 2008-May 2010

Pages:34 Page(s)

Report Number: AFRL-RI-RS - TR-2010-145 AFRL-RI-RS ( *AFRLRIRSTR2010145 AFRLRIRS* ) , XC - TR-2010-145 AFRL-RI-RS ( *XCTR2010145 AFRLRIRS* )

Monitor Series: TR-2010-145 ( *TR2010145* ) , AFRL-RI-RS ( *AFRLRIRS* )

Contract/Grant/Transfer Number: FA8750-08-C-0107 ( *FA875008C0107* )

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Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 19 JAN 2010. Other requests shall be referred to Naval Sea Systems Command, Attn: Small Business Innovation Research Program Office SEA05D1R, 1333 Isaac Hull Ave. SE, Washington Navy Yard, Washington, DC 20376.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Step Frequency Time Domain Reflectometry for Distributed Temperatures Sensing

PDF URL: (pdf) - 6 MB -

Accession Number: ADB355907

Personal Author(s): Tolani, Devendra

Corporate Author: INTELLIGENT AUTOMATION INC ROCKVILLE MD

Report Date: 19 Jan 2010

Descriptive Note: Final rept. 18 Jun 2009-15 Jan 2010

Pages:58 Page(s)

Report Number: XB - NSLC ( XB )

Monitor Series: NSLC

Contract/Grant/Transfer Number: N65538-09-M-0071 ( N6553809M0071 )

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Government Information; 18 MAY 2001. Other requests shall be referred to Royal Netherlands Embassy, Office for Science and Technoogy, 4200 Linnean Ave., NW, Washington, DC 20008-3896.

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) Detection Methods for Radioactive Material (Methoden voor de Detectie van Radioactief Materiaal)

PDF URL: (pdf) - 10 MB -

Accession Number: ADB352394

Personal Author(s): Polhuijs, M

Corporate Author: TNO DEFENCE SECURITY AND SAFETY RIJSWIJK (NETHERLANDS)

Report Date: Jun 2009

Descriptive Note: Final rept.

Pages:90 Page(s)

Report Number: TNO-DV-2008-A221 ( *TNODV2008A221* ) , TDCK - TD2008-0088 TNO ( *TDCKTD20080088* ) , X5 - TD2008-0088 TNO ( *X5TD20080088* )

Monitor Series: TD2008-0088 ( *TD20080088* ) , TNO

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Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 17 MAR 2008. Other requests shall be referred to Air Force Inst. of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH 45433-7765.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Near-Time Characterization of a Domestic Nuclear Event Using Gamma Spectroscopy

PDF URL: (pdf) - 1 MB -

Accession Number: ADB338838

Personal Author(s): Smith, Briana J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2008

Descriptive Note: Master's thesis

Pages:101 Page(s)

Report Number: AFIT/GNE/ENP/08-M06 ( *AFITGNEENP08M06* ) , XJ - DHS ( *XJ* )

Monitor Series: DHS

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Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; JAN 2006. Other requests shall be referred to Air Force Research Laboratory/PRPE, Wright-Patterson AFB, OH 45433-7251.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fabrication and Testing of an Optically Activated Switch for Pulse Power Applications

PDF URL: (pdf) - 3 MB -

Accession Number: ADB321053

Personal Author(s): Giorgi, David

Corporate Author: OPTISWITCH TECHNOLOGY CORP SAN DIEGO CA

Report Date: Jan 2006

Descriptive Note: Final rept. 29 Jul 2002-31 Dec 2005

Pages:59 Page(s)

Report Number: AFRL-PR-WP - TR-2006-2133 AFRL-PR-WP ( *AFRLPRWPTR20062133 AFRLPRWP* ) , XC - TR-2006-2133 AFRL-PR-WP ( *XCTR20062133 AFRLPRWP* )

Monitor Series: TR-2006-2133 ( *TR20062133* ) , AFRL-PR-WP ( *AFRLPRWP* )

Contract/Grant/Transfer Number: F33615-02-C-2289 ( *F3361502C2289* )

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Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 25 Feb 2004. Other requests shall be referred to Air Force Office of Scientific Research/AOARD, Unit 45002, APO AP 96337-5002., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Asian-Australasian Conference on Composite Materials (ACCM-4) (4th), Composites Technologies for 2020, Held at the University of Sydney, Australia on 6-9 July 2004

PDF URL: (pdf) - 61 MB -

Accession Number: ADB305250

Personal Author(s): Ye, L ; Mai, Y -W ; Su, Z

Corporate Author: SYDNEY UNIV (AUSTRALIA)

Report Date: 09 Jul 2004

Descriptive Note: Conference proceedings 6-9 Jul 2004

Pages:1097 Page(s)

Report Number: AOARD - CSP-04-1011 AOARD ( *AOARDCSP041011* ) , XC - CSP-04-1011 AOARD ( *XCCSP041011* )

Monitor Series: CSP-04-1011 ( *CSP041011* ) , AOARD

Contract/Grant/Transfer Number: FA5209-04-P-0213 ( *FA520904P0213* )

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Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 01 JAN 1988. Other requests shall be referred to U. S. Army National  
Ground Intelligence Ctr., 2055 Boulders Rd., Charlottesville, VA 22911-8318., Availability:  
This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Miscellaneous Reports about Conferences Held by the Iraqi DOD

PDF URL: (pdf) - 1 MB -

Accession Number: ADB309177

Corporate Author: NATIONAL GROUND INTELLIGENCE CENTER CHARLOTTESVILLE  
VA

Report Date: 09 Jul 2004

Pages:154 Page(s)

Report Number: BIAT-2003-000928 ( *BIAT2003000928* ) , XA - NGIC ( *XA* )

Monitor Series: NGIC

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Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 25 Feb 2004. Other requests shall be referred to Air Force Office of  
Scientific Research/AOARD, Unit 45002, APO AP 96337-5002., Availability: Document  
partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study on the Polypropylene(PP) Fiber/Cement Mortar Workability

PDF URL: (pdf) - 294 KB -

Accession Number: ADP205872

Personal Author(s): Zhang, Hui ; Zou, Liming ; Ni, Jianhua ; Wang, Yimin

Corporate Author: DONGHUA UNIV SHANGHAI (CHINA)

Report Date: 06 Jul 2004

Descriptive Note: Conference paper

Pages:6 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary  
Information; Nov 2003. Other requests shall be referred to US Army Medical Research and  
Materiel Command, 504 Scott Street, Ft. Detrick, MD 21702-5012

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Centrosome Defects Genetic Instability and Prostate Cancer

PDF URL: (pdf) - 10 MB -

Accession Number: ADB297815

Personal Author(s): Doxsey, Stephen J

Corporate Author: MASSACHUSETTS UNIV MEDICAL SCHOOL WORCESTER

Report Date: Nov 2003

Descriptive Note: Final addendum rept. 1 Nov 2002-31 Oct 2003

Pages:160 Page(s)

Report Number: XA - USAMRMC ( XA )

Monitor Series: USAMRMC

Contract/Grant/Transfer Number: DAMD17-98-1-8521 ( DAMD179818521 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative or Operational Use; Mar 2003. Other requests shall be referred to Air Force Inst. of Technology, 2950 Hobson Way, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Calculation of the Activity of Isotopes in Fallout From a Nuclear Detonation

PDF URL: (pdf) - 811 KB -

Accession Number: ADB288057

Personal Author(s): Morrow, David

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: 25 Mar 2003

Descriptive Note: Master's thesis

Pages:93 Page(s)

Report Number: AFIT/GNE/ENP/03-06 ( *AFITGNEENP0306* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative or Operational Use; Mar 2003. Other requests shall be referred to Air Force Inst. of Technology, Hobson Way, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Linking Heat Transfer to Plutonium Production at a Gas-Cooled Reactor

PDF URL: (pdf) - 2 MB -

Accession Number: ADB288094

Personal Author(s): Wooten, David J

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT/DEPT OF ENGINEERING PHYSICS

Report Date: 15 Mar 2003

Descriptive Note: Master's thesis

Pages:94 Page(s)

Report Number: AFIT/GNE/ENP/03-12 ( *AFITGNEENP0312* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; 1 Dec 2002. Other requests shall be referred to US Army Missile Strategic Missile Defense Comd., PO Box 1500, Huntsville, AL 35807.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An Inexpensive Material-Specific y-Ray Detector

PDF URL: (pdf) - 2 MB -

Accession Number: ADB285462

Personal Author(s): Cremer, J T ; Adams, Roy

Corporate Author: ADELPHI TECHNOLOGY INC PALO ALTO CA

Report Date: 01 Dec 2002

Descriptive Note: Final Rept.

Pages:145 Page(s)

Report Number: XC - SMDC ( *XC* )

Monitor Series: SMDC

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FOIA UL Display



Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 29 Jul 2002. Other requests shall be referred to USARDSG-UK, PSC 802, Box 15, FPO AE 09499-1500.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Multiscale Materials Modelling. Conference Programme and Book of Abstracts

PDF URL: (pdf) - 7 MB -

Accession Number: ADB284594

Personal Author(s): Wheeler, P W ; Clare, J C ; Empringham, L

Corporate Author: QUEEN MARY COLL LONDON (UNITED KINGDOM) DEPT OF MATERIALS

Report Date: 20 Jun 2002

Pages:162 Page(s)

Report Number: R&D-9124-MS-02 ( *RD9124MS02* ) , X5 - X5 ( *X5* )

Monitor Series: X5

Contract/Grant/Transfer Number: N62558-02-M-5875 ( *N6255802M5875* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 17 Oct 1999. Other requests shall be referred to NRL, Washington, DC 20375.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) New Mid-Infrared (IR) Laser Materials

PDF URL: (pdf) - 2 MB -

Accession Number: ADB277951

Personal Author(s): Gabbe, David R

Corporate Author: SENSARRAY CORP BURLINGTON MA

Report Date: Mar 2002

Descriptive Note: Final rept. 28 Sep 2001-28 Mar 2002, Phase 1

Pages:41 Page(s)

Report Number: XB - NRL ( XB )

Monitor Series: NRL

Contract/Grant/Transfer Number: N00421-01-C-0405 ( N0042101C0405 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 26 - NOT AVAILABLE  
IN MICROFICHE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative or Operational Use; Mar 2002. Other requests shall be referred to Air Force Inst.  
of Technology, 2950 P St., Wright-Patterson AFB, OH 45433-3002., Availability: Hard copy  
only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Updating and Benchmarking a Nuclear Reactor Burn Code

PDF URL: (pdf) - 2 MB -

Accession Number: ADB279439

Personal Author(s): Fee, James R , Jr

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING AND MANAGEMENT

Report Date: Mar 2002

Descriptive Note: Master's thesis

Pages:124 Page(s)

Report Number: AFIT/GNE/ENP/02M-02 ( *AFITGNEENP02M02* ) , XC - AFIT/ENY ( *XCAFITENY* )

Monitor Series: AFIT/ENY ( *AFITENY* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 01 FEB 2002. Other requests shall be referred to Director, Defense Threat Reduction Agency, Combat Support Directorate, 6801 Telegraph Road, Alexandria, VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Handbook

PDF URL: (pdf) - 12 MB -

Accession Number: ADB314828

Corporate Author: DEFENSE THREAT REDUCTION AGENCY FORT BELVOIR VA

Report Date: 01 Feb 2002

Pages:234 Page(s)

Report Number: DTRA-AR-40H ( *DTRAAR40H* ) , XD - DTRA/FB ( *XDDTRA FB* )

Monitor Series: DTRA/FB ( *DTRA FB* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; Nov 1998. Other requests shall be referred to AFRL/PRPE, WPAFB, OH 45433

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Optically Activated Switch for Pulse Power Applications

PDF URL: (pdf) - 1 MB -

Accession Number: ADB283605

Personal Author(s): Giorgi, David

Corporate Author: OPTISWITCH TECHNOLOGY CORP SAN DIEGO CA

Report Date: 07 Jan 2002

Descriptive Note: Final rept. 26 Mar-26 Dec 2001

Pages:46 Page(s)

Report Number: AF020107 ( *AF020107* ) , AFRL-PR-WP - TR-2002-2015 AFRL-PR-WP ( *AFRLPRWPTR20022015 AFRLPRWP* ) , XC - TR-2002-2015 AFRL-PR-WP ( *XCTR20022015 AFRLPRWP* )

Monitor Series: TR-2002-2015 ( *TR20022015* ) , AFRL-PR-WP ( *AFRLPRWP* )

Contract/Grant/Transfer Number: F33615-01-M-2135 ( *F3361501M2135* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995.  
Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache,  
4101 Reservoir Rd., N.W., Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Les Perspectives de l'Energie Nucleaire dans le Cadre des Changements Climatiques.  
Ct Energies et Climat (Prospects for Nuclear Energy Within the Framework of Climatic  
Changes. CT Energies and Climate)

PDF URL: (pdf) - 1 MB -

Accession Number: ADB282514

Personal Author(s): Dautray, R

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: 30 Dec 2001

Pages:20 Page(s)

Report Number: CEDOCAR-C-02-003726 ( *CEDOCARC02003726* ) , X5 - CEDOCAR ( X5  
)

Monitor Series: CEDOCAR

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995.  
Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache,  
4101 Reservoir Rd., N.W., Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Apres le 11 Septembre (After September 11th)

PDF URL: (pdf) - 14 MB -

Accession Number: ADB281526

Personal Author(s): Gallois, P M ; Robin, G ; Soutou, G H ; Bonnefous, M ; Duval, M

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Oct 2001

Pages:142 Page(s)

Report Number: CEDOCAR-C-02-F00406 ( *CEDOCARC02F00406* ) , X5 - CEDOCAR ( X5 )

Monitor Series: CEDOCAR

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995. Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache, 4101 Reservoir Rd., N.W., Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Les Perspectives Energetiques Mondiales et Europeennes: La Contribution du Nucleaire (World and European Energy Prospects. The Contribution of Nuclear Power)

PDF URL: (pdf) - 5 MB -

Accession Number: ADB281531

Personal Author(s): Bouchard, Jacques ; Bauquis, Pierre-Rene ; Commeau, N ; Smedts, Jean-Jacques ; Francony, Michel

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Oct 2001

Pages:47 Page(s)

Report Number: CEDOCAR-C-02-F00424 ( *CEDOCARC02F00424* ) , X5 - CEDOCAR ( X5 )

Monitor Series: CEDOCAR

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 1 Sep 2001. Other requests shall be referred to Defense Threat Reduction Agcy., Combat Support Directorate, 6801 Telegraph Rd., Alexandria, VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Reference Handbook

PDF URL: (pdf) - 9 MB -

Accession Number: ADB275812

Corporate Author: DEFENSE THREAT REDUCTION AGENCY ALEXANDRIA VA

Report Date: 01 Sep 2001

Pages:229 Page(s)

Report Number: XD - DTRA ( XD )

Monitor Series: DTRA

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Modeling the Dynamic Complexity of the Nuclear Energy Policymaking Process:  
The Nuclear Proliferation Issue

PDF URL: (pdf) - 3 MB -

Accession Number: ADA390750

Personal Author(s): Sobeski, Robert

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE DEPT OF NUCLEAR  
ENGINEERING

Report Date: Jun 2001

Descriptive Note: Master's thesis

Pages:79 Page(s)

Report Number: XA - DA ( XA )

Monitor Series: DA

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED



Distribution Statement: Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995. Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache, 4101 Reservoir Rd., N.W., Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) L'Asie du Sud et du Sud- Est - L'Oceanie (South Asia and the South East - the South Sea Islands)

PDF URL: (pdf) - 12 MB -

Accession Number: ADB269899

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Jun 2001

Pages: 79 Page(s)

Report Number: X5 - CEDOCAR ( X5 )

Monitor Series: CEDOCAR

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FOIA UL Display  
Distribution/Classification

Distribution Code: 04 - DOD ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995. Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache, 4101 Reservoir Rd., N.W., Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Quelle Politique de Defense Pour la France a l'Aube du XXIe Siecle? (What Is the French Defense Policy at the Dawn of 21st Century?)

PDF URL: (pdf) - 24 MB -

Accession Number: ADB270929

Personal Author(s): Pascallon, P

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Jan 2001

Descriptive Note: Congressional rept.

Pages:573 Page(s)

Report Number: CEDOCAR-C-01-F01297 ( *CEDOCARC01F01297* ) , X5 - CEDOCAR ( X5 )

Monitor Series: CEDOCAR

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Gov't. Info.; 12 Jul 1995. Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache, 4101 Reservoir Rd., NW, Washington, DC 20007.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Puissance, science et technologie. (Power, Science and Technology)

PDF URL: (pdf) - 18 MB -

Accession Number: ADB267774

Personal Author(s): Stern, J ; Moore, D ; Attali, J ; Dupuis, M ; de Juniac, A

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Sep 2000

Descriptive Note: Publication

Pages:173 Page(s)

Report Number: X5 - CEDOCAR ( X5 )

Monitor Series: CEDOCAR

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Software Documentation; 8 Oct 1998. Other requests shall be referred to Defense Threat Reduction Agency, 45045 Aviation Drive, Dulles, VA 20166-7517.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Cloud Code Integration

PDF URL: (pdf) - 12 MB -

Accession Number: ADB271532

Personal Author(s): McGahan, Joseph ; Bacon, David ; Cockayne, John ; Dunn, Thomas ; Furlong, James

Corporate Author: SCIENCE APPLICATIONS INC MCLEAN VA

Report Date: Jul 2000

Descriptive Note: Technical rept. 1 Jun 1994-15 Apr 1998

Pages:253 Page(s)

Report Number: DSWA - TR-98-34 DTRA/DULLES ( DSWATR9834 DTRADULLES ) , XD - TR-98-34 DTRA/DULLES ( XDTR9834 DTRADULLES )

Monitor Series: TR-98-34 ( TR9834 ) , DTRA/DULLES ( DTRADULLES )

Contract/Grant/Transfer Number: DNA001-94-C-0059 ( DNA00194C0059 )

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Government Information; 12 Jul 1995. Other requests shall be referred to Embassy of France, Office of Defense Cooperation Attache, 4101 Reservoir Road, NW, Washington, DC 2000.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Le Nucleaire Russe sur Internet (The Russian Nuclear Technology on the Internet)

PDF URL: (pdf) - 13 MB -

Accession Number: ADB264040

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Mar 2000

Pages:153 Page(s)

Report Number: C-00-F05332 ( C00F05332 ) , X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; Mar 2000. Other requests shall be referred to Air Force Institute of Technology, ATTN: EN, Wright-Patterson AFB, OH 54433-7765.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Estimating Isotopic Composition of Unconventional Reactor Spent Fuel

PDF URL: (pdf) - 4 MB -

Accession Number: ADB260118

Personal Author(s): Kucko, Jay F

Corporate Author: AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING

Report Date: Mar 2000

Descriptive Note: Master's thesis

Pages: 113 Page(s)

Report Number: AFIT/GNE/ENP/00M-02 ( *AFITGNEENP00M02* ) , XC - AFIT ( *XC* )

Monitor Series: AFIT

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FOIA UL Display

Distribution/Classification

Distribution Code: 03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; Sep 99. Other requests shall be referred to Defense Threat Reduction Agcy., 6801 Telegraph Rd., Alexandria VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Near-Source Model for Chemically Reacting Radionuclides

PDF URL: (pdf) - 4 MB -

Accession Number: ADB266096

Personal Author(s): Moussa, N A ; Devarakonda, Venkat V

Corporate Author: BLAZETECH CORP CAMBRIDGE MA

Report Date: Sep 1999

Descriptive Note: Final rept. 29 Apr-31 May 1998, Phase 1

Pages:94 Page(s)

Report Number: BTC-1999-4016 ( *BTC19994016* ) , XV - DTRA ( *XV* )

Monitor Series: DTRA

Contract/Grant/Transfer Number: DSWA01-98-M-0336 ( *DSWA0198M0336* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Specific Authority; 1 Jul 99. Other requests shall be referred to Defense Threat Reduction Agcy., Joint Nuclear Accident Coordination Ctr., (JNACC), 6801 Telegraph Rd., Alexandria VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Handbook

PDF URL: (pdf) - 8 MB -

Accession Number: ADB265018

Corporate Author: DEFENSE THREAT REDUCTION AGENCY ALEXANDRIA VA

Report Date: 01 Jul 1999

Descriptive Note: Handbook

Pages:205 Page(s)

Report Number: DTRA-AR-40H ( *DTRAAR40H* ) , XV - DTRA ( *XV* )

Monitor Series: DTRA

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; May 99. Other requests shall be referred to U.S. Army Space and Missile Defense Command, PO Box 1500, Huntsville, AL 35807-3801.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Xenon Production by Iodine Transmutation

PDF URL: (pdf) - 1 MB -

Accession Number: ADB244246

Personal Author(s): Guss, W ; Hruby, V

Corporate Author: BUSEK CO INC NATICK MA

Report Date: 03 May 1999

Descriptive Note: Final rept. 8 Apr 98-7 Apr 99

Pages:32 Page(s)

Report Number: BUSEK-075-1 ( *BUSEK0751* ) , XA - SMDC ( *XA* )

Monitor Series: SMDC

Contract/Grant/Transfer Number: DASG60-98-M-0064 ( *DASG6098M0064* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Specific Authority; May 99. Other requests shall be referred to AFRL/IFTC, Rome, NY 13441-4514

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Mixed Signal Simulation and Modeling Techniques

PDF URL: (pdf) - 6 MB -

Accession Number: ADB243610

Personal Author(s): Hirsch, Herbert L ; Huber, Richard J ; Mundstock, Edwin J ; Carter, Harold W

Corporate Author: MTL SYSTEMS INC DAYTON OH

Report Date: Mar 1999

Descriptive Note: Final technical rept. Jul 96-Jul 98

Pages:138 Page(s)

Report Number: AFRL-IF-RS - TR-1999-40 AFRL/RS ( *AFRLIFRSTR199940 AFRLRS* ) , XC - TR-1999-40 AFRL/RS ( *XCTR199940 AFRLRS* )

Monitor Series: TR-1999-40 ( *TR199940* ) , AFRL/RS ( *AFRLRS* )

Contract/Grant/Transfer Number: F30602-96-C-0155 ( *F3060296C0155* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Managing Wastes With and Without Plutonium Separation,

PDF URL: (pdf) - 2 MB -

Accession Number: ADB243914

Personal Author(s): Chow, Brian G ; Jones, Gregory S

Corporate Author: RAND CORP SANTA MONICA CA

Report Date: Jan 1999

Pages:47 Page(s)

Report Number: X0 - XD ( X0 )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; Nov 98. Other requests shall be referred to NAIC/STINFO, Wright-Patterson  
AFB, OH 45433-5648.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Mythology

PDF URL: (pdf) - 13 MB -

Accession Number: ADB240953

Personal Author(s): Yablokov, A V

Corporate Author: NATIONAL AIR INTELLIGENCE CENTER WRIGHT-PATTERSON AFB  
OH

Report Date: 06 Nov 1998

Pages:247 Page(s)

Report Number: NAIC-ID(RS)T-0194-98 ( *NAICIDRST019498* ) , XC - NAIC/WP ( *XCNAICWP* )

Monitor Series: NAIC/WP ( *NAICWP* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Specific Authority; 1 Jun 98. Other requests shall be referred to Defense Special Weapons Agency (OPSF), 6801 Telegraph Rd., Alexandria, VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Handbook

PDF URL: (pdf) - 7 MB -

Accession Number: ADB236657

Corporate Author: DEFENSE SPECIAL WEAPONS AGENCY ALEXANDRIA VA

Report Date: 01 Jun 1998

Pages:205 Page(s)

Report Number: DSWA-AR-40H ( *DSWAAR40H* ) , XV - DSWA ( *XV* )

Monitor Series: DSWA

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; 2 Feb 98. Other requests shall be referred to Naval Air Warfare Center, Weapons Div., ATTN: Code 4T42A0D, China Lake, CA 93355-6100.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Treatment to Increase the Strength of Sapphire Windows and Domes

PDF URL: (pdf) - 1 MB -

Accession Number: ADB256517

Corporate Author: ASPEN SYSTEMS INC MARLBOROUGH MA

Report Date: 02 Feb 1998

Descriptive Note: Phase 1 of final rept.

Pages: 30 Page(s)

Report Number: XB - NAWC-WPNS ( *XBNAWCWPNS* )

Monitor Series: NAWC-WPNS ( *NAWCWPNS* )

Contract/Grant/Transfer Number: N68936-97-C-0183 ( *N6893697C0183* )

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FOIA UL Display

Distribution/Classification

Distribution Code: 12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Report on the Control of the Safety and the Security of the Nuclear Installations. First Part. The French-German Nuclear Reactor Project

PDF URL: (pdf) - 5 MB -

Accession Number: ADB243938

Personal Author(s): Birraux, M Claude

Corporate Author: CENTRE DE DOCUMENTATION DE L'ARMEMENT PARIS (FRANCE)

Report Date: Jan 1998

Pages:133 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 1 Jan 88. Other requests shall be referred to US Army National Ground Intelligence Center, 220 7th St., NE, Charlottesville, VA 22902-5396.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ATOM. Issue No. 2, 1996

PDF URL: (pdf) - 6 MB -

Accession Number: ADB232462

Corporate Author: NATIONAL GROUND INTELLIGENCE CENTER CHARLOTTESVILLE  
VA

Report Date: 29 May 1997

Pages:94 Page(s)

Report Number: NGIC-HT-0879-96 ( *NGICHT087996* ) , XA - NGIC ( XA )

Monitor Series: NGIC

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Specific Authority; 1 May 97. Other requests shall be referred to Dir., Defense Special Weapons Agency, 6801 Telegraph Rd., Alexandria, VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Handbook.

PDF URL: (pdf) - 7 MB -

Accession Number: ADB224366

Corporate Author: DEFENSE SPECIAL WEAPONS AGENCY ALEXANDRIA VA

Report Date: 01 May 1997

Pages:179 Page(s)

Report Number: DSWA-AR-40H ( *DSWAAR40H* ) , XV - DSWA ( *XV* )

Monitor Series: DSWA

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; 16 May 97. Other requests shall be referred to US Army Research Office, Attn: AMXRO-ICA, P.O. Box 12211, Research Triangle Park, NC 27709-2211.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Energy-Tuning and Reinforcement of Metal Matrices with Shape-Memory Elements for Improved Energy Absorption, Toughness and Impact Resistance.

PDF URL: (pdf) - 7 MB -

Accession Number: ADB224517

Personal Author(s): Hsu, Jer-Wen ; Soroushian, Parviz

Corporate Author: DPD INC LANSING MI

Report Date: 01 Apr 1997

Descriptive Note: Final rept. 14 Aug 96-14 Feb 97,

Pages:173 Page(s)

Report Number: ARO - 359531.1-EG-ST1 ARO ( *ARO3595311EGST1 ARO* ) , XA - 359531.1-EG-ST1 ARO ( *XA3595311EGST1 ARO* )

Monitor Series: 359531.1-EG-ST1 ( *3595311EGST1* ) , ARO ( *ARO* )

Contract/Grant/Transfer Number: DAAH04-96-C-0070 ( *DAAH0496C0070* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Myths and Social Discourse: The U.S. Decision to Pursue Nuclear Weapons.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA326029

Personal Author(s): Williams, David L

Corporate Author: NAVAL POSTGRADUATE SCHOOL MONTEREY CA

Report Date: Dec 1996

Descriptive Note: Master's thesis,

Pages:95 Page(s)

Report Number: XB - NPS ( XB )

Monitor Series: NPS

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) 15TH International CODATA Conference: Scientific Data in the Age of Networking, Their Use for Global Prosperity and Better Human Life, Scientific Program, Extended Abstracts and Proceedings.

PDF URL: (pdf) - 11 MB -

Accession Number: ADB214794

Personal Author(s): Glaeser, Phyllis S ; Prado, Christina ; Tsugita, Akira

Corporate Author: INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS/COMMITTEE ON DATA FOR SCIENCE AND TECHNOLOGY

Report Date: Oct 1996

Descriptive Note: Rept. for 29 Sep-3 Oct 96,

Pages:277 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Specific Authority; 1 Oct 96. Other requests shall be referred to Director, Defense Special Weapons Agency (OPO), Alexandria, VA 22310-3398.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Weapons of Mass Destruction Terms Handbook.

PDF URL: (pdf) - 7 MB -

Accession Number: ADB219836

Corporate Author: DEFENSE SPECIAL WEAPONS AGENCY ALEXANDRIA VA

Report Date: 01 Oct 1996

Pages:179 Page(s)

Report Number: DSWA-AR-40H ( *DSWAAR40H* ) , XV - DSWA ( XV )

Monitor Series: DSWA

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Irradiation Induced Surface Segregation in Concentrated Alloys: A Contribution (Contribution a l'Etude de la Segregation de surface Induite par Irradiation dan les Alliages Concentres).

PDF URL: (pdf) - 11 MB -

Accession Number: ADB232468

Personal Author(s): Grandjean, Yves

Corporate Author: COMMISSARIAT A L'ENERGIE ATOMIQUE PARIS(FRANCE)

Report Date: Sep 1996

Pages:250 Page(s)

Report Number: CEA-R-5731 ( *CEAR5731* ) , X5 - XD ( *X5* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; 22 May 96. Other requests shall be referred to U.S. Air Force Office of Scientific Research, AFOSR/NE, Bolling AFB, DC 20332-0001.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Compliant Substrates for GaN Growth.

PDF URL: (pdf) - 1 MB -

Accession Number: ADB211658

Personal Author(s): Powell, Adrian

Corporate Author: ADVANCED TECHNOLOGY MATERIALS INC DANBURY CT

Report Date: 22 May 1996

Descriptive Note: FInal rept. 1 Aug 95-31 Jan 96,

Pages:20 Page(s)

Report Number: AFOSR - TR-96-0292 AFOSR ( *AFOSRTR960292 AFOSR* ) , XC - TR-96-0292 AFOSR ( *XCTR960292 AFOSR* )

Monitor Series: TR-96-0292 ( *TR960292* ) , AFOSR ( *AFOSR* )

Contract/Grant/Transfer Number: F49620-95-C-0055 ( *F4962095C0055* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Administrative/Operational Use; 31 May 96. Other requests shall be referred to Director, Office of Special Technology, Fort Washington, MD 20744

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Engineering Design Model for X-ray Imaging Inspection Systems

PDF URL: (pdf) - 4 MB -

Accession Number: ADB242781

Personal Author(s): Spradling, Michael L ; Hyatt, Roger W

Corporate Author: BATTELLE COLUMBUS OPERATIONS OH

Report Date: May 1996

Descriptive Note: Final rept.

Pages:100 Page(s)

Report Number: BCO-G660074-RP-04 ( *BCOG660074RP04* ) , XB - OST ( *XB* )

Monitor Series: OST

Contract/Grant/Transfer Number: DAAD05-93-D-7021 ( *DAAD0593D7021* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Environmental Monitoring for Nuclear Safeguards

PDF URL: (pdf) - 3 MB -

Accession Number: ADA336767

Corporate Author: OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC

Report Date: Sep 1995

Pages:49 Page(s)

Report Number: OTA-BP-ISS-168 ( *OTABPISS168* ) , X1 - XD ( *X1* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Accelerator Based Conversion of Plutonium.

PDF URL: (pdf) - 1 MB -

Accession Number: ADB198061

Personal Author(s): Cornwall, John M ; Eardley, Douglas M ; Garwin, R ; Koonin, Steven E ; MacDonald, Gordon J

Corporate Author: MITRE CORP MCLEAN VA JASON PROGRAM OFFICE

Report Date: Mar 1995

Pages:35 Page(s)

Report Number: JSR-94-310 ( *JSR94310* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Safeguards and the International Atomic Energy Agency.

PDF URL: (pdf) - 13 MB -

Accession Number: ADA338840

Corporate Author: OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC

Report Date: Jan 1995

Pages:161 Page(s)

Report Number: OTA-ISS-615 ( *OTAISS615* ) , X1 - XD ( *XI* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Software Documentation; 30 AUG 1993. Other requests shall be referred to Defense Threat Reduction Agency, DTRA/Security, SCS Mail Stop 6201, 8725 John J. Kingman Rd, Fort Belvoir, VA 22060-6201.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactivity Attachment Model

PDF URL: (pdf) - 5 MB -

Accession Number: ADB181640

Personal Author(s): Simmons, John A ; Nelson, Eric R ; Cockayne, John E ; McGahan, Joseph T

Corporate Author: SCIENCE APPLICATIONS INTERNATIONAL CORP MCLEAN VA

Report Date: 01 Mar 1994

Descriptive Note: Technical rept. 1 Apr 1992-15 Jun 1993

Pages:146 Page(s)

Report Number: SAIC-93/1137 ( *SAIC931137* ) , DNA - TR-93-92 DSWA ( *DNATR9392* ) , XD - TR-93-92 DSWA ( *XDTR9392* )

Monitor Series: TR-93-92 ( *TR9392* ) , DSWA

Contract/Grant/Transfer Number: DAAL02-89-C-0059 ( *DAAL0289C0059* ) , MIPR-92-634 ( *MIPR92634* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; FEB 1994. Other requests shall be referred to Defense Public Affairs Office, Attn: DFOISR, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A 6M3V Heavy Ion Beam Probe for the Large Helical Device

PDF URL: (pdf) - 956 KB -

Accession Number: ADB183695

Personal Author(s): Fujisawa, A ; Iguchi, H ; Taniike, A ; Sasao, M ; Hamada, Y

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Feb 1994

Descriptive Note: Research rept.

Pages:34 Page(s)

Report Number: NIFS-272 ( *NIFS272* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; FEB 1994. Other requests shall be referred to Defense Public Affairs Office, Attn: DFOISR, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Large Amplitude Langmuir and Ion-Acoustic Waves in a Relativistic Two-Fluid Plasma

PDF URL: (pdf) - 1 MB -

Accession Number: ADB183694

Personal Author(s): Nejoh, Yasunori ; Sanuki, Heiji

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Feb 1994

Descriptive Note: Research rept.

Pages: 44 Page(s)

Report Number: NIFS-271 ( *NIFS271* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; JAN 1994. Other requests shall be referred to Embassy of Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Efficiencies of the ICRF Minority Heating in the CHS and LHD Plasmas

PDF URL: (pdf) - 773 KB -

Accession Number: ADB183300

Personal Author(s): Murakami, S ; Okamoto, M ; Nakajima, N ; Mutoh, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jan 1994

Descriptive Note: Research rept.

Pages:27 Page(s)

Report Number: NIFS-270 ( *NIFS270* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JAN 1994. Other requests shall be referred to Embassy of Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Formation and Self-Healing of Magnetic Islands in Finite-Beta Helias Equilibria

PDF URL: (pdf) - 971 KB -

Accession Number: ADB183271

Personal Author(s): Hayashi, T ; Sato, T ; Merkel, P ; Nuehrenberg, J ; Schwenn, U

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)



Report Date: Jan 1994

Descriptive Note: Research rept.

Pages:24 Page(s)

Report Number: NIFS-269 ( *NIFS269* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; JAN 1994. Other requests shall be referred to Embassy of Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of Magnetic Field Configuration on Particle Pinch Velocity in Compact Helical System (CHS)

PDF URL: (pdf) - 615 KB -

Accession Number: ADB183299

Personal Author(s): Iguchi, H ; Ida, K ; Yamada, H ; Itoh, K ; Itoh, S I

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jan 1994

Descriptive Note: Research rept.

Pages:21 Page(s)

Report Number: NIFS-267 ( *NIFS267* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JAN 1994. Other requests shall be referred to Embassy of Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Development of High Time-Resolution Laser Flash Equipment for Thermal Diffusivity Measurements Using Miniature-Size Specimens

PDF URL: (pdf) - 595 KB -

Accession Number: ADB183270

Personal Author(s): Shikama, Tatsuo ; Namba, Chusei ; Kosuda, Michinori ; Maeda, Yukio

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jan 1994

Descriptive Note: Research rept.

Pages:19 Page(s)

Report Number: NIFS-268 ( *NIFS268* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 25 FEB 1994. Other requests shall be referred to U.S. Army Research Office, P.O. Box 12211, Research Triangle Park, NC 27709-2211.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Templated Synthesis of Fullerenes

PDF URL: (pdf) - 1 MB -

Accession Number: ADB180522

Personal Author(s): Zhang, Zhenyu ; Tsveybak, Ilya ; Fehlner, James ; Ruderman, Warren

Corporate Author: INRAD INC NORTHVALE NJ

Report Date: 30 Dec 1993

Descriptive Note: Final rept. 16 Feb-31 Aug 1993

Pages:38 Page(s)

Report Number: ARO - 30837 ARO ( ARO ) , XA - 30837 ARO ( XA )

Monitor Series: 30837 , ARO

Contract/Grant/Transfer Number: DAAH04-93-C-0008 ( DAAH0493C0008 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; DEC 1993. Other requests shall be referred to Embassy of Japan, 2520 Massachusetts Ave., NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) X-Ray Enhancement of SN 1987A Due to Interaction with Its Ring-Like Nebula

PDF URL: (pdf) - 870 KB -

Accession Number: ADB181262

Personal Author(s): Masai, K ; Nomoto, K

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Dec 1993

Pages:30 Page(s)

Report Number: NIFS-265 ( *NIFS265* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; DEC 1993. Other requests shall be referred to Office of Naval Research, One Liberty Center, 875 North Randolph Street, Arlington, VA 22203-1995.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) MOS Controlled Thyristor Characterizations: Measurements, Methods and Instrumentation for Initial Experiments

PDF URL: (pdf) - 12 MB -

Accession Number: ADB179801

Personal Author(s): Ericson, Terry S ; Smith, Stephen G ; Duong, Tuan ; McLaughlin, David E

Corporate Author: NAVAL SURFACE WARFARE CENTER CARDEROCK DIV  
BETHESDA MD

Report Date: Dec 1993

Descriptive Note: Technical rept.

Pages:381 Page(s)

Report Number: CARDIVNSWC-TR-81-93/52 ( *CARDIVNSWCTR819352* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; DEC 1993. Other requests shall be referred to National Institute for Fusion Science, Nagoya 464-01, Japan.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Research of Possibility for Negative Muon Production by a Low Energy Electron Beam Accompanying Ion Beam

PDF URL: (pdf) - 868 KB -

Accession Number: ADB181263

Personal Author(s): Uramoto, Joshin

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Dec 1993

Pages:40 Page(s)

Report Number: NIFS-266 ( *NIFS266* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to National Institute for Fusion Sciences, Nagoya 464-01, Japan.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Pellet Ablation in the Large Helical Device

PDF URL: (pdf) - 1 MB -

Accession Number: ADB181261

Personal Author(s): Kuteev, Boris V

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:61 Page(s)

Report Number: NIFS-260 ( *NIFS260* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to Japan Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proposal of 'Modular Heliotron': Advanced Modular Helical System Compatible with Closed Helical Divertor

PDF URL: (pdf) - 828 KB -

Accession Number: ADB181187

Personal Author(s): Yamazaki, K

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Descriptive Note: Research rept.

Pages:31 Page(s)

Report Number: NIFS-261 ( *NIFS261* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to Japan Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Temporal Behavior of the Electron Density Profile During Limiter Biasing in the HYBTOK-II Tokamak

PDF URL: (pdf) - 548 KB -

Accession Number: ADB181260

Personal Author(s): Sasaki, S ; Uesugi, Y ; Takamura, S ; Sanuki, H ; Kadota, K

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Descriptive Note: Research rept.

Pages:17 Page(s)

Report Number: NIFS-257 ( *NIFS257* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Improvement of a High Current DC Power Supply System for Testing the Large Scaled Superconducting Cables and Magnets (PREPRINT)

PDF URL: (pdf) - 1 MB -

Accession Number: ADB180026

Personal Author(s): Yamada, S ; Chikaraishi, H ; Tanahashi, S ; Mito, T ; Takahata, K ; Yanagi, N ; Sakamoto, M ; Nishimura, A ; Motojima, O ; Yamamoto, J ; Yonenaga, Y ; Watanabe, R

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993



Descriptive Note: Research rept.

Pages:23 Page(s)

Report Number: NIFS-256 ( *NIFS256* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; NOV 1953. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Direct Energy Conversion of Radiation Energy in Fusion Reactor

PDF URL: (pdf) - 747 KB -

Accession Number: ADB179799

Personal Author(s): Yamaguchi, S ; Iiyoshi, A ; Motojima, O ; Okamoto, M ; Sudo, S  
; Ohnishi, M ; Onozuka, M ; Uenosono, C

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:17 Page(s)

Report Number: NIFS-254 ( *NIFS254* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to Embassy of Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Reduction of Hydrocarbon Impurities in 200L/H Helium Liquefier- Refrigerator System

PDF URL: (pdf) - 589 KB -

Accession Number: ADB181190

Personal Author(s): Yamada, S ; Mito, T ; Nishimura, A ; Takahata, K ; Satoh, S

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Descriptive Note: Research rept.

Pages:24 Page(s)

Report Number: NIFS-259 ( *NIFS259* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proposed High Speed Pellet Injection System 'HIPEL' for Large Helical Device

PDF URL: (pdf) - 745 KB -

Accession Number: ADB180027

Personal Author(s): Sudo, S ; Kanno, M ; Kaneko, H ; Saka, S ; Shirai, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:18 Page(s)

Report Number: NIFS-255 ( *NIFS255* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to Embassy of Japan, Washington DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Direct Energy Conversion System for D(-3)He Fusion

PDF URL: (pdf) - 606 KB -

Accession Number: ADB180031

Personal Author(s): Tomita, Y ; Shu, L Y ; Momota, H

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:14 Page(s)

Report Number: NIFS-252 ( *NIFS252* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Characteristics of D-(3)He Fueled FRC Reactor: ARTEMIS-L,

PDF URL: (pdf) - 833 KB -

Accession Number: ADB179800

Personal Author(s): Momota, H ; Motojima, O ; Okamoto, M ; Sudo, S ; Tomita, Y ; Yamaguchi, S ; Iiyoshi, A ; Onozuka, M ; Ohnishi, M ; Uenosono, C

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:17 Page(s)

Report Number: NIFS-251 ( *NIFS251* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; NOV 1993. Other requests shall be referred to Embassy of  
Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Hydrogen Production in Fusion Reactors

PDF URL: (pdf) - 743 KB -

Accession Number: ADB180028

Personal Author(s): Sudo, S ; Tomita, Y ; Yamaguchi, S ; Iiyoshi, A ; Momota, H

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Pages:18 Page(s)

Report Number: NIFS-253 ( *NIFS253* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; NOV 1993. Other requests shall be referred to Japan Embassy,  
2520 Massachusetts Ave., NW, Washington, DC 20008. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Design of Central Control System for Large Helical Device (LHD)

PDF URL: (pdf) - 508 KB -

Accession Number: ADB181189

Personal Author(s): Yamazaki, K ; Kaneko, H ; Yamaguchi, S ; Wantanabe, K Y ; Taniguchi, Y

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Nov 1993

Descriptive Note: Research rept.

Pages:17 Page(s)

Report Number: NIFS-258 ( *NIFS258* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 22 OCT 1993. Other requests shall be referred to Department of Defense, Attn: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The International Energy Conference (5th) Proceedings Held in Seoul, Korea on 18 - 22 October 1993. Volume 1. Keynote Address, Plenary Sessions and Participants List

PDF URL: (pdf) - 7 MB -

Accession Number: ADB185254

Corporate Author: KOREA INST OF ENERGY AND RESOURCES TAEJON

Report Date: 22 Oct 1993

Descriptive Note: Conference proceedings

Pages:163 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; OCT 1993. Other requests shall be referred to Embassy of  
Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Innovative Energy Production in Fusion Reactors

PDF URL: (pdf) - 1 MB -

Accession Number: ADB180029

Personal Author(s): Iiyoshi, A ; Momota, H ; Motojima, O ; Okamoto, M ; Sudo, S

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Oct 1993

Pages:22 Page(s)

Report Number: NIFS-250 ( *NIFS250* ) , X5 - NIFS ( X5 )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; OCT 1993. Other requests shall be referred to Embassy of  
Japan, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Attractors of Dissipative Structure in Three Dissipative Fluids

PDF URL: (pdf) - 1 MB -

Accession Number: ADB180030

Personal Author(s): Kondoh, Yoshiomi

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Oct 1993

Pages:35 Page(s)

Report Number: NIFS-248 ( *NIFS248* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; OCT 1993. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, Washington, DC 20008-2869. Document partially illegible.



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Monte Carlo Simulation Study of the ICRF Minority Heating in the Large Helical Device

PDF URL: (pdf) - 1 MB -

Accession Number: ADB179858

Personal Author(s): Murakami, S ; Okamoto, M ; Nakajima, N ; Ohnishi, M ; Okada, H

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Oct 1993

Pages:39 Page(s)

Report Number: NIFS-249 ( *NIFS249* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; OCT 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Trapped Electron Instabilities due to Electron Temperature Gradient and Anomalous Transport

PDF URL: (pdf) - 749 KB -

Accession Number: ADB179859

Personal Author(s): Yamagishi, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Oct 1993

Pages:22 Page(s)

Report Number: NIFS-247 ( *NIFS247* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; SEP 1993. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Averaged Resistive MHD Equations

PDF URL: (pdf) - 694 KB -

Accession Number: ADB178947

Personal Author(s): Todoroki, Jiro

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Sep 1993

Descriptive Note: Research rept.

Pages:19 Page(s)

Report Number: NIFS-244 ( *NIFS244* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; SEP 1993. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Origin of Collisionless Dissipation in Magnetic Reconnection

PDF URL: (pdf) - 697 KB -

Accession Number: ADB178949

Personal Author(s): Tanaka, Motohiko

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Sep 1993

Pages:20 Page(s)

Report Number: NIFS-245 ( *NIFS245* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; SEP 1993. Other requests shall be referred to THE EMBASSY OF JAPAN, 2520 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Modelling of Transport Phenomena

PDF URL: (pdf) - 1 MB -

Accession Number: ADB179223

Personal Author(s): Itoh, K ; Itoh, S -I ; Fukuyama, A

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Sep 1993

Pages: 39 Page(s)

Report Number: NIFS-243 ( *NIFS243* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; SEP 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Current Diffusive Ballooning Mode in Second Stability Region of Tokamaks

PDF URL: (pdf) - 448 KB -

Accession Number: ADB179182

Personal Author(s): Itoh, K ; Itoh, S -I ; Fukuyama, A ; Yagi, M ; Azumi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Sep 1993

Pages:19 Page(s)

Report Number: NIFS-246 ( *NIFS246* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; AUG 1993. Other requests shall be referred to The Embassy  
of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially  
illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Observation of Non Diffusive Term of Toroidal Momentum Transport in the JFT-2M  
Tokamak

PDF URL: (pdf) - 655 KB -

Accession Number: ADB179221

Personal Author(s): Ida, K ; Miura, Y ; Matsuda, T ; Itoh, K

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Aug 1993

Pages:21 Page(s)

Report Number: NIFS-241 ( *NIFS241* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; AUG 1993. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Ion Heat Pulse After Sawtooth Crash in the JFT-2M Tokamak

PDF URL: (pdf) - 731 KB -

Accession Number: ADB178948

Personal Author(s): Miura, Y ; Okano, F ; Suzuki, N ; Mori, M ; Hoshino, K ; Maeda, H  
; Takizuka, T ; Itoh, K ; Itoh, S I

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Aug 1993

Descriptive Note: Research rept.

Pages:21 Page(s)

Report Number: NIFS-240 ( *NIFS240* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; JUL 1993. Other requests shall be referred to the Embassy of  
Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially  
illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) LHD Helical Divertor (Preprint)

PDF URL: (pdf) - 1 MB -

Accession Number: ADB179444

Personal Author(s): Ohyabu, N ; Ji, Hanto ; Akao, K ; Ono, T ; Kawamura, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jul 1993

Pages:40 Page(s)

Report Number: NIFS-239 ( *NIFS239* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; JUL 1993. Other requests shall be referred to The Netherlands  
Embassy, 4200 Linnean Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Q-Profile Flattening due to Nonlinear Development of Resistive Kink Mode and Ensuring Fast Crash in Sawtooth Oscillations

PDF URL: (pdf) - 898 KB -

Accession Number: ADB179201

Personal Author(s): Watanabe, K ; Sato, T ; Nakayama, Y

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jul 1993

Pages:34 Page(s)

Report Number: NIFS-238 ( *NIFS238* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUL 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Carbon Sheet Pumping (Preprint)

PDF URL: (pdf) - 445 KB -

Accession Number: ADB179443



Personal Author(s): Ohyabu, N ; Sagara, A ; Ono, T ; Kawamura, T ; Motojima, O

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jul 1993

Pages:14 Page(s)

Report Number: NIFS-237 ( *NIFS237* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Comment on 'A Mean Field Ohm's Law for Collisionless Plasmas

PDF URL: (pdf) - 463 KB -

Accession Number: ADB176252

Personal Author(s): Itoh, K ; Yagi, M ; Fukuyama, A ; Itoh, S -I ; Azumi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Descriptive Note: Research rept.

Pages:13 Page(s)

Report Number: NIFS-229 ( *NIFS229* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; JUN 1993. Other requests shall be referred to THE  
EMBASSY OF JAPAN, 2520 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC  
20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Confinement Improvement in H-Mode-Like Plasmas in Helical Systems

PDF URL: (pdf) - 784 KB -

Accession Number: ADB179222

Personal Author(s): Itoh, K ; Itoh, S -I ; Fukuyama, A ; Sanuki, H ; Yagi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Pages:22 Page(s)

Report Number: NIFS-232 ( *NIFS232* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to Japanese Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Transition of Radial Electric Field by Electron Cyclotron Heating in Stellarator Plasmas.

PDF URL: (pdf) - 1 MB -

Accession Number: ADB176254

Personal Author(s): Idei, H ; Ida, K ; Sanuki, H ; Yamada, H ; Iguchi, H ; Kubo, S ; Akiyama, R ; Arimoto, H ; Fujiwara, M ; Hosokawa, M ; Matsuoka, K ; Morita, S ; Nishimura, K ; Ohkuobo, K ; Okamura, S

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Pages: 21 Page(s)

Report Number: NIFS-230 ( *NIFS230* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to the Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008-2869. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Prandtl Number of Toroidal Plasmas

PDF URL: (pdf) - 639 KB -

Accession Number: ADB179181

Personal Author(s): Itoh, K ; Itoh, S -I ; Fukuyama, A ; Yagi, M ; Azumi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Pages:29 Page(s)

Report Number: NIFS-234 ( *NIFS234* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to Japanese Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Collisionless Driven Magnetic Reconnection

PDF URL: (pdf) - 687 KB -

Accession Number: ADB178946

Personal Author(s): Horiuchi, Ritoku ; Sato, Tetsuya

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Descriptive Note: Research rept.

Pages:19 Page(s)

Report Number: NIFS-233 ( *NIFS233* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to Department of Defense, Attn: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Screening Constants for Plasma

PDF URL: (pdf) - 786 KB -

Accession Number: ADB179442

Personal Author(s): Kawata, S ; Kato, S ; Kiyokawa, S

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Pages:28 Page(s)

Report Number: NIFS-235 ( *NIFS235* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JUN 1993. Other requests shall be referred to Australian Embassy, 1601 Massachusetts Avenue, NW, Washington, DC 20036.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Free-Boundary Equilibrium Studies for the Large Helical Device

PDF URL: (pdf) - 723 KB -

Accession Number: ADB175931

Personal Author(s): Gardner, H J ; Ichiguchi, K

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: Jun 1993

Descriptive Note: Research rept.

Pages:29 Page(s)

Report Number: NIFS-231 ( *NIFS231* ) , X5 - DSTO ( *X5* )

Monitor Series: DSTO

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAY 1993. Other requests shall be referred to Japanese Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Theory of Pseudo-Classical Confinement and Transmutation to L-Mode

PDF URL: (pdf) - 715 KB -

Accession Number: ADB175957

Personal Author(s): Itoh, K ; Itoh, S -I ; Yagi, M ; Fukuyama, A ; Azumi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: May 1993

Descriptive Note: Research rept.

Pages:25 Page(s)

Report Number: NIFS-223 ( *NIFS223* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAY 1993. Other requests shall be referred to Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Anomalous Cross Field Flux in CHS

PDF URL: (pdf) - 927 KB -

Accession Number: ADB176250

Personal Author(s): Yamagishi, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: May 1993

Descriptive Note: Research rept.

Pages:22 Page(s)

Report Number: NIFS-227 ( *NIFS227* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAY 1993. Other requests shall be referred to Japanese Embassy, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Bounce Resonance Heating and Transport in a Magnetic Mirror

PDF URL: (pdf) - 549 KB -

Accession Number: ADB175960

Personal Author(s): Hojo, H ; Hatori, T

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: May 1993

Descriptive Note: Research rept.

Pages:16 Page(s)



Report Number: NIFS-225 ( *NIFS225* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAY 1993. Other requests shall be referred to Embassy of Japan, 2520 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Theory of Anomalous Transport in H-Mode Plasmas

PDF URL: (pdf) - 698 KB -

Accession Number: ADB176251

Personal Author(s): Itoh, S -I ; Itoh, K ; Fukuyama, A ; Yagi, M

Corporate Author: NATIONAL INST FOR FUSION SCIENCE NAGOYA (JAPAN)

Report Date: May 1993

Descriptive Note: Research rept.

Pages:22 Page(s)

Report Number: NIFS-226 ( *NIFS226* ) , X5 - NIFS ( *X5* )

Monitor Series: NIFS

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to DoD only; Administrative/Operational Use; 24 SEP 1993. Other requests shall be referred to Defense Advanced Research Projects Agency (S&IO/TIO), 3701 N. Fairfax Drive, Arlington, VA 22203-1714.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Summary of Proceedings of the Arms Control and Disarmament Agency Symposium Held in Washington, DC on 4-5 February 1993

PDF URL: (pdf) - 5 MB -

Accession Number: ADB177231

Personal Author(s): Nall, Julian C ; Hurley, William L ; Licato, Nancy P

Corporate Author: INSTITUTE FOR DEFENSE ANALYSES ALEXANDRIA VA

Report Date: Apr 1993

Descriptive Note: Final rept.

Pages: 126 Page(s)

Report Number: IDA-D-1351 ( *IDAD1351* ) , IDA/HQ - 93-43838 ARPA ( *IDAHQ9343838* ) , XD - 93-43838 ARPA ( *XD9343838* )

Monitor Series: 93-43838 ( *9343838* ) , ARPA

Contract/Grant/Transfer Number: MDA903-89-C-0003 ( *MDA90389C0003* )

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FOIA UL Display

Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; APR 1993. Other requests shall be referred to the Canadian Embassy, 501 Pennsylvania Avenue, NW, Washington, DC 20001.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) List of Publications, 1992 (Atomic Energy of Canada Limited) (Liste des Publications, 1992 Janvier-Decembre (Energie Atomique du Canada Limitee))

PDF URL: (pdf) - 1 MB -

Accession Number: ADB179689

Corporate Author: ATOMIC ENERGY OF CANADA LTD CHALK RIVER ONTARIO

Report Date: Apr 1993

Pages:51 Page(s)

Report Number: AECL-11000 ( *AECL11000* ) , X5 - AECL ( *X5* )

Monitor Series: AECL

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Reconstitution of Nuclear Weapons Production Capability: Should We Maintain the Separation Between Civilian and Military Assets

PDF URL: (pdf) - 2 MB -

Accession Number: ADA278359

Personal Author(s): Burkart, Alex R

Corporate Author: INDUSTRIAL COLL OF THE ARMED FORCES WASHINGTON DC

Report Date: Apr 1993

Descriptive Note: Research rept. Aug 1992-Apr 1993

Pages:63 Page(s)

Report Number: NDU-ICAF-93-S8 ( *NDUICAF93S8* ) , XD - NDU ( *XD* )

Monitor Series: NDU

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report: Proliferation Issues.

PDF URL: (pdf) - 3 MB -

Accession Number: ADA333176

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 07 Jan 1993

Pages:33 Page(s)

Report Number: JPRS-TND-93-001 ( *JPRSTND93001* ) , X5 - XD ( *X5* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Vision: Image Segmentation (Vision: Segmentation D'Images).

PDF URL: (pdf) - 7 MB -

Accession Number: ADB202510

Personal Author(s): Louchet, Jean

Corporate Author: ECOLE NATIONALE SUPERIEURE DE TECHNIQUES AVANCEES  
PARIS (FRANCE)

Report Date: Jan 1992

Pages:139 Page(s)

Report Number: ENSTA-1992 ( *ENSTA1992* ) , X5 - XD ( *X5* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; SEP 1991. Other requests shall be referred to British  
Embassy, 3100 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Aquatic Problems. DPLU Silver Jubilee Conference, Disasters, Pollution and the  
Environment, Held in Bradford, UK on September 10-12, 1991. Volume 4

PDF URL: (pdf) - 9 MB -

Accession Number: ADB184676

Personal Author(s): Keller, A Z ; Wilson, H C

Corporate Author: BRADFORD UNIV (UNITED KINGDOM)

Report Date: Sep 1991

Pages:252 Page(s)

Report Number: X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Copyright, Specific Authority; 14 Feb 1991. Other requests shall be referred to FTD/STINFO, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Electric Aging and the Lifetime of Monolithic Polymeric Insulation

PDF URL: (pdf) - 12 MB -

Accession Number: ADB154214

Personal Author(s): Ushakov, V Ya

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSONAFB OH

Report Date: 14 Feb 1991

Pages:324 Page(s)

Report Number: FTD-ID(RS)T-1125-90 ( *FTDIDRST112590* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; JUL 1990. Other requests shall be referred to U.S. Army Toxic & Hazardous Materials Agency, ATTN: CETHA-BC-CR, Aberdeen Proving Ground, MD 21010-5401.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Tacony Warehouse Environmental Investigation. Phase I. Accident Prevention Safety Plan

PDF URL: (pdf) - 44 MB -

Accession Number: ADB332511

Personal Author(s): Green, K ; McKown, G

Corporate Author: ICF TECHNOLOGY INC FAIRFAX VA

Report Date: Jul 1990

Descriptive Note: Final rept. Jan-Jul 1990

Pages:226 Page(s)

Report Number: XA - USATHAMA ( *XA* )

Monitor Series: USATHAMA

Contract/Grant/Transfer Number: DAAA15-88-D-0009 ( *DAAA1588D0009* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 16 MAR 1990. Other requests shall be referred to Foreign Technology  
Division, Attn: STINFO, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introduction to Planetary Aeronomy

PDF URL: (pdf) - 57 MB -

Accession Number: ADB145051

Personal Author(s): Marov, M Y ; Kolesnichenko, A V

Corporate Author: AIR FORCE SYSTEMS COMMAND WRIGHT-PATTERSON AFB OH  
FOREIGN TECHNOLOGY DIVISION

Report Date: 16 Mar 1990

Pages:884 Page(s)

Report Number: FTD-ID(RS)T-0913-89 ( *FTDIDRST091389* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 01 JAN 1988. Other requests shall be referred to U.S. Army Intelligence  
Agency, Foreign Science and Technology Center, 220 7th Street, NE, Charlottesville, VA  
22901-5396.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) Forecasting Radioactive Contamination

PDF URL: (pdf) - 4 MB -

Accession Number: ADB142041

Personal Author(s): Timofeyev, Boris N ; Nesytov, Yuriy K

Corporate Author: ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER  
CHARLOTTESVILLE VA

Report Date: 26 Jan 1990

Pages:82 Page(s)

Report Number: FSTC-HT-0144-89 ( *FSTCHT014489* ) , XA - FSTC ( *XA* )

Monitor Series: FSTC

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Nuclear Developments

PDF URL: (pdf) - 4 MB -

Accession Number: ADA348651

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Dec 1989

Pages:45 Page(s)

Report Number: JPRS-TND-89-023 ( *JPRSTND89023* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) JPRS Report, Nuclear Developments.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA349243

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Oct 1989

Pages:54 Page(s)

Report Number: JPRS-TND-89-020 ( *JPRSTND89020* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; SEP 1989. Other requests shall be referred to British Embassy, 3100 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Neutron Activation, Transmutation and Dose Rate Benchmark Study

PDF URL: (pdf) - 3 MB -

Accession Number: ADB139841

Personal Author(s): Sublet, J-Ch ; Mann, F M ; Ponti, C

Corporate Author: UKAEA CULHAM LAB ABINGDON (UNITED KINGDOM)

Report Date: Sep 1989

Pages:48 Page(s)

Report Number: CLM-R295 ( *CLMR295* ) , X5 - DRIC ( *X5* )

Monitor Series: DRIC

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; 16 MAY 1989. Other requests shall be referred to Italian Embassy, 3000 Whitehaven Street, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Flux of the Vertical Negative Muons Stopping at Depths 0.35 - 1000 hg/cm<sup>2</sup>

PDF URL: (pdf) - 2 MB -

Accession Number: ADB144370

Personal Author(s): Bilokon, H ; Castagnoli, G C ; Castellina, A ; Piazzoli, B D ; Mannocchi, G

Corporate Author: ISTITUTO NAZIONALE DI FISICA NUCLEARE FRASCATI (ITALY)  
LAB NAZIONALI DI FRASCATI

Report Date: 16 May 1989

Pages:19 Page(s)

Report Number: LNF-89/026(P) ( *LNF89026P* ) , X5 - X5 ( X5 )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 01 JAN 1988. Other requests shall be referred to US Army Intelligence  
Agency, Foreign Science and Technology Center, 220 7th St., NE. Charlottesville, VA 22901-  
5396.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Lasers and Their Applications (Lazery i Ikh Primeneniye)

PDF URL: (pdf) - 8 MB -

Accession Number: ADB130770

Personal Author(s): Tarasov, Les V

Corporate Author: ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER  
CHARLOTTESVILLE VA

Report Date: 23 Feb 1989

Pages:227 Page(s)

Report Number: FSTC-HT-0484-88 ( *FSTCHT048488* ) , XA - FSTC ( XA )

Monitor Series: FSTC

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only;  
Administrative/Operational Use; 6 Sep 1988. Other requests shall be referred to Space Div., AF  
Systems Comd., Los Angeles Air Force Base, PO Box 92960, Los Angeles, CA 90009-2960.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Spacecraft Heating Due to Interactions with Nuclear Reactor Radiations

PDF URL: (pdf) - 5 MB -

Accession Number: ADB284586

Personal Author(s): Jimenez, R D

Corporate Author: AEROSPACE CORP EL SEGUNDO CA

Report Date: 06 Sep 1988

Pages:172 Page(s)

Report Number: TOR-0088(3062)-2 ( *TOR008830622* ) , XC - SSD ( *XC* )

Monitor Series: SSD

Contract/Grant/Transfer Number: F04701-85-C-0086-P00019 ( *F0470185C0086P00019* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 22 JUL 1988. Other requests shall be referred to Foreign Technology Div.,  
FTD/STINFO, Wright-Patterson AFB 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Agrometeorology

PDF URL: (pdf) - 32 MB -

Accession Number: ADB124252

Personal Author(s): Gringof, I G ; Popova, V V ; Strashnyy, V N

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 22 Jul 1988

Pages:632 Page(s)

Report Number: FTD-ID(RS)T-0096-88 ( *FTDIDRST009688* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Foreign Government Information; MAY 1988. Other requests shall be referred to Netherlands Embassy, 4200 Linnean Avenue, Nw, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Chemische Technologie Literatuuroverzicht (Chemical Technology Literature Survey)

PDF URL: (pdf) - 8 MB -

Accession Number: ADB122351

Corporate Author: SCIENTIFIC AND TECHNICAL DOCUMENTATION AND  
INFORMATION CENTER OF THE ARMED FORCES HAGUE (NETHERLANDS)

Report Date: May 1988

Pages:79 Page(s)

Report Number: TDCK-CT-269 ( *TDCKCT269* ) , X5 - TDCK ( *X5* )

Monitor Series: TDCK

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; APR 1988. Other requests shall be referred to Japan Embassy,  
1601 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Japan/US Workshop on FFTF/MOTA Experimenters' Workshop  
(1st) Held in Tokyo, Japan on August 24-26, 1987.

PDF URL: (pdf) - 11 MB -

Accession Number: ADB126250

Personal Author(s): Doran, Donald G ; Ishino, Shiori ; Namba, Chusei

Corporate Author: NAGOYA UNIV (JAPAN) INST OF PLASMA PHYSICS

Report Date: Apr 1988

Descriptive Note: Research rept.

Pages:258 Page(s)

Report Number: IPPJ-866 ( *IPPJ866* ) , X5 - IPPJ ( *X5* )

Monitor Series: IPPJ

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 17 DEC 1986. Other requests shall be referred to Air Force Foreign  
Technology Division, FTD/STINFO, Wright-Patterson AFB, OH 45433. Copyright.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Investigation of the Kinetics of the Solid-Phase Reaction S(n) Yields S(2)

PDF URL: (pdf) - 3 MB -

Accession Number: ADB108031

Personal Author(s): Churbanov, M F ; Skripachev, I V ; Devyatykh, G G

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 17 Dec 1986

Pages:16 Page(s)

Report Number: FTD-ID(RS)T-1129-86 ( *FTDIDRST112986* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation;  
29 JAN 1987. Other requests shall be referred to Naval Air Development Center, Code 8131.  
Warminster, PA 18974-5000.



Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Militarized Optical Disk Study

PDF URL: (pdf) - 9 MB -

Accession Number: ADB108405

Corporate Author: FAIRCHILD COMMUNICATIONS AND ELECTRONICS CO  
GERMANTOWN MD

Report Date: Dec 1986

Descriptive Note: Final rept. Dec 1985-Jun 1986

Pages:253 Page(s)

Report Number: NADC - 87002-50 NADC ( *NADC8700250* ) , XB - 87002-50 NADC ( *XB8700250* )

Monitor Series: 87002-50 ( *8700250* ) , NADC

Contract/Grant/Transfer Number: N62269-86-C-0424 ( *N6226986C0424* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; SEP 1986. Other requests shall be referred to British Embassy, 3100 Massachusetts Ave., NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Assessment of the Manning Requirements for a Fusion Power Plant

PDF URL: (pdf) - 3 MB -

Accession Number: ADB111731

Personal Author(s): Guthrie, J A

Corporate Author: UKAEA CULHAM LAB ABINGDON (UNITED KINGDOM)

Report Date: Sep 1986

Pages:54 Page(s)

Report Number: CLM-R268 ( *CLMR268* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 01 JUN 1984. Other requests shall be referred to Army Foreign Science and  
Technology Center, 220 7th Street, NE, Charlottesville, VA 22901-5396.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Introduction to Biotechnology (2)

PDF URL: (pdf) - 929 KB -

Accession Number: ADB112060

Personal Author(s): Tomida, Koyu

Corporate Author: ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER  
CHARLOTTESVILLE VA

Report Date: Sep 1986

Pages:11 Page(s)

Report Number: FSTC-HT-0704-84 ( *FSTCHT070484* ) , XA - FSTC ( *XA* )

Monitor Series: FSTC

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 06 JUN 1986. Other requests shall be referred to Air Force Foreign Technology Division, FTD/STINFO. Wright-Patterson AFB, OH 45433. Copyright.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Quantization of Interacting Electromagnetic and Gravitational Perturbations

PDF URL: (pdf) - 2 MB -

Accession Number: ADB102150

Personal Author(s): Zhuk, A I ; Frolov, V P

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 15 May 1986

Pages:12 Page(s)

Report Number: FTD-ID(RS)T-0463-86 ( *FTDIDRST046386* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; APR 1986. Other requests shall be referred to British Embassy, 3100 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Study of the Prospects for Development of Low-Activation Martensitic Stainless Steels for First Wall and Blanket Structures in Fusion Reactors

PDF URL: (pdf) - 2 MB -

Accession Number: ADB111851

Personal Author(s): Butterworth, G J ; Tupholme, K W ; Orr, J ; Dulieu, D

Corporate Author: UKAEA CULHAM LAB ABINGDON (UNITED KINGDOM)

Report Date: Apr 1986

Pages:48 Page(s)

Report Number: CLM-R-264 ( *CLMR264* ) , X5 - DRIC ( *X5* )

Monitor Series: DRIC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAR 1985. Other requests shall be referred to Netherlands Embassy, 4200 Linnean Avenue, NW, Washington, DC 20008. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Physics and Reactor Technology Literature Survey (Natuurkunde En Reactor Technologie Literatuuroverzicht)

PDF URL: (pdf) - 7 MB -

Accession Number: ADB092047

Corporate Author: TECHNISCH DOCUMENTATIE EN INFORMATIE CENTRUM VOOR DE KRIJGSMACHT THE HAGUE (NETHERLANDS)

Report Date: Mar 1985

Pages:32 Page(s)

Report Number: TDCK-NR-224 ( *TDCKNR224* ) , X5 - TDCK ( *X5* )

Monitor Series: TDCK

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Worldwide Report, Nuclear Development and Proliferation.

PDF URL: (pdf) - 4 MB -

Accession Number: ADA362426

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 26 Feb 1985

Pages:93 Page(s)

Report Number: JPRS-TND-85-004 ( *JPRSTND85004* ) , XX - FBIS ( *XX* )

Monitor Series: FBIS

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Worldwide Report, Nuclear Development and Proliferation

PDF URL: (pdf) - 5 MB -

Accession Number: ADA350250

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 27 Nov 1984

Pages:92 Page(s)

Report Number: JPRS-TND-84-029 ( *JPRSTND84029* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Worldwide Report, Nuclear Development and Proliferation

PDF URL: (pdf) - 4 MB -

Accession Number: ADA350265

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 24 Sep 1984

Pages:79 Page(s)

Report Number: JPRS-TND-84-024 ( *JPRSTND84024* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC Users Only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Worldwide Report, Nuclear Development and Proliferation

PDF URL: (pdf) - 1 MB -

Accession Number: ADA355020

Corporate Author: JOINT PUBLICATIONS RESEARCH SERVICE ARLINGTON VA

Report Date: 14 Sep 1984

Pages:39 Page(s)

Report Number: JPRS-TND-84-023 ( *JPRSTND84023* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; Jun 82. Other requests for this document must be referred to Secretary, Advisory Group Electron Devices, 201 Varick St., New York, NY 10014.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Electron Device Technology.

Accession Number: ADB065275

Corporate Author: OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGRG WASHINGTON DC ADVISORY GROUP ON ELECTRON DEVICES

Report Date: Jun 1982

Descriptive Note: Status rept. 188.

Pages:38 Page(s)

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Critical Technology; 22 May 1990. Other requests shall be referred to Defense Advanced Research Projects Agency, 1400 Wilson Blvd., Arlington, VA 22209.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) IMAAWS-Tank Breaker Program. Phase 1. Demonstration



PDF URL: (pdf) - 17 MB -

Accession Number: ADC046210

Corporate Author: HUGHES AIRCRAFT CO CANOGA PARK CA MISSILE SYSTEMS GROUP

Report Date: 12 Apr 1981

Descriptive Note: Final technical rept. 15 Apr 1980-12 Apr 1981

Pages:419 Page(s)

Report Number: HAC-MSG-1036 ( *HACMSG1036* ) , HAC-REF-E2676 ( *HACREFE2676* ) , XA - AMSMI ( *XA* )

Monitor Series: AMSMI

Contract/Grant/Transfer Number: DAAH01-80-C-0798 ( *DAAH0180C0798* ) , ARPA ORDER-3974 ( *ARPAORDER3974* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation; 30 MAR 1981. Other requests shall be referred to Army Electronics Research and Development Command, Attn: DELNV-R, Fort Belvoir, VA 22060.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Compensation of Extrinsic Silicon for Uniform High Infrared Detectivity

PDF URL: (pdf) - 10 MB -

Accession Number: ADB056665

Personal Author(s): Braggins, T T ; Hobgood, H M ; Sopira, M M ; Swartz, J C ; Thomas, R N

Corporate Author: WESTINGHOUSE RESEARCH AND DEVELOPMENT CENTER  
PITTSBURGH PA

Report Date: 16 Jul 1980

Descriptive Note: Final rept.

Pages:215 Page(s)

Report Number: 80-9F7-NUDOP-R2 ( *809F7NUDOPR2* ) , SBI - ADE450002 DARPA ( *SBI* ) , XD - ADE450002 DARPA ( *XD* )

Monitor Series: ADE450002 , DARPA

Contract/Grant/Transfer Number: DAAG53-76-C-0170 ( *DAAG5376C0170* ) , ARPA  
ORDER-321 ( *ARPAORDER321* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Study of Chemical Toxicity of Low-Level Wastes.

PDF URL: (pdf) - 10 MB -

Accession Number: ADB222542

Corporate Author: GENERAL RESEARCH CORP SANTA BARBARA CA

Report Date: Mar 1980

Pages:261 Page(s)

Report Number: IRT-22200/1 ( *IRT222001* ) , XJ - XD ( *XJ* )

Monitor Series: XD

Contract/Grant/Transfer Number: NRC-02-77-183 ( *NRC0277183* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation; AUG 1977. Other requests shall be referred to Commander, Army Electronics Research and Development Command, Attn: DELNV. Fort Belvoir, VA 22060.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Studies of Indium-Doped Silicon

PDF URL: (pdf) - 1 MB -

Accession Number: ADB044698

Personal Author(s): Jones, C E ; Schafer, D E ; Scott, M W ; Hager, R J

Corporate Author: HONEYWELL CORPORATE TECHNOLOGY CENTER BLOOMINGTON  
MN

Report Date: Oct 1979

Descriptive Note: Semi-annual rept. 1 Aug 1978-31 Jan 1979

Pages:47 Page(s)

Report Number: HR-47556 ( *HR47556* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: DAAK70-77-C-0194 ( *DAAK7077C0194* ) , ARPA  
ORDER-3211 ( *ARPAORDER3211* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation;  
19 JUN 1981. Other requests shall be referred to Office of Naval Research, Attn: Code 421.  
Arlington, VA 22203. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An IRIA-IRIS Proceedings: Meeting of the IRIS Specialty Group on Infrared  
Detectors. Held 12, 13 June 1979, Minneapolis, Minnesota. Volume I.

PDF URL: (pdf) - 8 MB -

Accession Number: ADB053886

Corporate Author: INFRARED INFORMATION AND ANALYSIS CENTER ANN ARBOR  
MI

Report Date: Oct 1979

Pages:440 Page(s)

Report Number: ERIM-139600-3-X ( *ERIM1396003X* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-77-C-0125 ( *N0001477C0125* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; 31  
Jul 79. Other requests for this document must be referred to Director, Air Force Materials Lab.,  
Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Techniques for Transmutation Compensation of Extrinsic Silicon Detectors.

Accession Number: ADB038418

Corporate Author: MISSOURI UNIV-COLUMBIA RESEARCH REACTOR FACILITY

Report Date: Feb 1979

Descriptive Note: Interim technical rept. 15 Feb-30 Dec 78.

Pages:179 Page(s)

Contract/Grant/Transfer Number: F33615-78-C-5015 ( F3361578C5015 )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational use; 1 Dec 1998. Other requests shall be referred to Defense Threat Reduction Agency, 45045 Aviation Dr., Dulles, VA 20166-7517.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Design Handbook for TREE. Chapter 1. Introduction

PDF URL: (pdf) - 2 MB -

Accession Number: ADC020622

Personal Author(s): Espig, M A

Corporate Author: GENERAL ELECTRIC CO SANTA BARBARA CA DASIAC

Report Date: 01 Dec 1978

Pages:42 Page(s)

Report Number: DASIAC-SR-163-1 ( *DASIACSR1631* ) , DNA - 1420H-1 AD-E300 676 DTRA ( *DNA1420H1 ADE300676* ) , SBI - 1420H-1 AD-E300 676 DTRA ( *SBI1420H1 ADE300676* ) , XV - 1420H-1 AD-E300 676 DTRA ( *XV1420H1 ADE300676* )

Monitor Series: 1420H-1 ( *1420H1* ) , AD-E300 676 ( *ADE300676* ) , DTRA

Contract/Grant/Transfer Number: DNA001-74-C-0162 ( *DNA00174C0162* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; Oct 78. Other requests for this document must be referred to Advisory Group on Electron Devices, ODDRE, Attn: Secretary. 201 Varick St., New York, NY 10014.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Electron Device Technology.

Accession Number: ADB031564

Corporate Author: OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGRG WASHINGTON DC ADVISORY GROUP ON ELECTRON DEVICES

Report Date: Oct 1978

Descriptive Note: Status rept. no. 167.

Pages:33 Page(s)

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; NOV 1977. Other requests shall be referred to Office of the Chief of Naval Research, One Liberty Center, 875 North Randolph Street, Arlington, VA 22217.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An IRIA-IRIS Proceedings: Meeting of the IRIS Specialty Group on Infrared Detectors. Volume 1, Held 22-23 March 1977

PDF URL: (pdf) - 11 MB -

Accession Number: ADB025619

Corporate Author: ENVIRONMENTAL RESEARCH INST OF MICHIGAN ANN ARBOR

Report Date: Nov 1977

Pages:286 Page(s)

Report Number: ERIM-127200-3-X(1) ( *ERIM1272003X1* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N00014-77-C-0125 ( *N0001477C0125* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution limited to U.S. Gov't. agencies and their Contractors; Specific authority; Aug 77. Other requests must be referred to Advisory Group on Electron Devices, ODDRE, Attn: Secretary. 201 Varick St., New York, N. Y. 10014.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Advanced Electron Device Technology.

Accession Number: ADB020754

Corporate Author: OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND  
ENGINEERING WASHINGTON DC ADVISORY GROUP ON ELECTRON DEVICES

Report Date: Aug 1977

Descriptive Note: Status Rept. no. 160.

Pages:58 Page(s)

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation;  
04 FEB 1977. Other requests shall be referred to Army Electronics Command, Attn: DRSEL-  
NV, Fort Belvoir, VA 22060.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Compensation of Extrinsic Silicon for Uniform High Infrared Detectivity

PDF URL: (pdf) - 3 MB -

Accession Number: ADB020933

Personal Author(s): Thomas, R N ; Braggins, T T ; Hobgood, H M ; Takei, W J ; Nathanson,  
H C

Corporate Author: WESTINGHOUSE RESEARCH AND DEVELOPMENT CENTER  
PITTSBURGH PA

Report Date: 14 Feb 1977

Descriptive Note: Semi-annual technical rept. 30 Jun-31 Dec 1976

Pages:92 Page(s)

Report Number: 77-9F7-NUDOP-R1 ( 779F7NUDOPR1 ) , XD - DARPA ( XD )

Monitor Series: DARPA



Contract/Grant/Transfer Number: DAAG53-76-C-0170 ( *DAAG5376C0170* ) , ARPA  
ORDER-3211 ( *ARPAORDER3211* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 10 SEP 1981. Other requests shall be referred to Commander, Army Missile Command, Attn: DRSMI-RNS. Redstone Arsenal, AL 35898.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CCD2 Program Technical Report Number 3. Volume 2

PDF URL: (pdf) - 447 KB -

Accession Number: ADB059559

Personal Author(s): Marsh, O J ; Baukus, J P

Corporate Author: HUGHES AIRCRAFT CO EL SEGUNDO CA ELECTRO-OPTICAL AND  
DATA SYSTEMS GROUP

Report Date: Jul 1976

Descriptive Note: Technical rept. Dec 1975-Jun 1976

Pages:10 Page(s)

Report Number: HAC-P76-244-VOL-2 ( *HACP76244VOL2* ) , HAC-REF-D3108-VOL-2 ( *HACREFD3108VOL2* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: DAAH01-75-C-0276 ( *DAAH0175C0276* ) , ARPA  
ORDER-2871 ( *ARPAORDER2871* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 25 Nov 2003. Other requests shall be referred to the Defense Threat Reduction Agency, 8725, John J. Kingman Road, MS 6201, Fort Belvoir, VA 22060-6201.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Symposium on Transient Radiation Effects and Techniques for Circuit Hardening (STRETCH)

PDF URL: (pdf) - 13 MB -

Accession Number: ADC011152

Personal Author(s): Caldwell, R S ; Johnston, A H ; Egelkrout, D W ; Milliman, L D ; Rosenberg, C

Corporate Author: BOEING CO SEATTLE WA

Report Date: Jul 1976

Descriptive Note: Final rept.

Pages:483 Page(s)

Report Number: DNA - 2652F-VOL-1 DNA ( *DNA2652FVOLI* ) , XD - 2652F-VOL-1 DNA ( *XD2652FVOLI* )

Monitor Series: 2652F-VOL-1 ( *2652FVOLI* ) , DNA

Contract/Grant/Transfer Number: DNA001-74-C-0108 ( *DNA00174C0108* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; 26 FEB 1976. Other requests shall be referred to Foreign Technology Division, Attn: STINFO, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Philosophy and Military Theory. Part 2

PDF URL: (pdf) - 28 MB -

Accession Number: ADB009289

Personal Author(s): Tyushkevich, S A

Corporate Author: AIR FORCE SYSTEMS COMMAND WRIGHT-PATTERSON AFB OH  
FOREIGN TECHNOLOGY DIVISION

Report Date: 02 Feb 1976

Pages: 236 Page(s)

Report Number: FTD-ID(RS)T-2486-75-PT-2 ( *FTDIDRST248675PT2* ) , XC - FTD ( *XC* )

Monitor Series: FTD

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FOIA UL Display  
Distribution/Classification

Distribution Code: 03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement: Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation; 01 OCT 1974. Other requests shall be referred to Director, Ballistic Missile Defense Advanced Technology Center, Attn: ATC-P. P. O. Box 1500, West Station, Huntsville, AL 35807.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Reliable Software

PDF URL: (pdf) - 25 MB -

Accession Number: ADB008031

Personal Author(s): Ikezawa, Michael A ; Kundu, Sukhamay ; Lambert, Roberta L ; McGill, William F ; Nielsen, William C

Corporate Author: LOGICON INC SAN PEDRO CA STRATEGIC AND INFORMATION SYSTEMS DIV

Report Date: 14 Nov 1975

Descriptive Note: Final rept. 5 May-5 Dec 1975

Pages:306 Page(s)

Report Number: CSS-75022-R2850 ( *CSS75022R2850* ) , XA - BMDATC ( *XA* )

Monitor Series: BMDATC

Contract/Grant/Transfer Number: DASG60-75-C-0093 ( *DASG6075C0093* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Specific Authority; 14 JAN 1975. Other requests shall be referred to Chief, Office of Naval Research, Attn: Code 473. Arlington, VA 22203.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Report of Workshop on Light Weight Nuclear Power Plants 22-25 October 1974

PDF URL: (pdf) - 12 MB -

Accession Number: ADB001149

Personal Author(s): Roberts, Ralph

Corporate Author: OFFICE OF NAVAL RESEARCH ARLINGTON VA

Report Date: 14 Jan 1975

Descriptive Note: Final rept.

Pages:177 Page(s)

Report Number: ONR-473-01-75 ( *ONR4730175* ) , XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation; 13 AUG 1975. Other requests shall be referred to Officer-in-Charge (Code 862), Fleet Missile Systems Analysis and Evaluation Group Annex, Attn: GIDEP Administration Office, Corona, CA 91720.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Physics of RF Sputter Deposition

PDF URL: (pdf) - 8 MB -

Accession Number: ADB005867

Personal Author(s): Bailey, R F

Corporate Author: AUTONETICS ANAHEIM CA

Report Date: Nov 1974

Pages:33 Page(s)

Report Number: X74-1042/501 ( *X741042501* ) , GIDEP - 347.00.00.00-C1-219 FMSAEG ( *GIDEP347000000C1219* ) , XB - 347.00.00.00-C1-219 FMSAEG ( *XB347000000C1219* )

Monitor Series: 347.00.00.00-C1-219 ( 347000000C1219 ) , FMSAEG

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; 1  
Oct 1972. Other requests for this document must be referred to Commander, Army Foreign  
Science and Technology Center, Charlottesville, VA 22901., Availability: Document partially  
illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ABC Service for All Weapons: Service with Units and Subunits

PDF URL: (pdf) - 10 MB -

Accession Number: AD0922738

Corporate Author: ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER  
CHARLOTTESVILLE VA

Report Date: 17 Sep 1974

Pages:188 Page(s)

Report Number: FSTC-HT-23-1571-71 ( *FSTCHT23157171* ) , XA - FSTC ( XA )

Monitor Series: FSTC

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Foreign Government Information; SEP 1974. Other requests shall be referred to Canadian  
Embassy, 501 Pennsylvania Ave., NW, Washington, DC 20001.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Impact of Energy on Strategy - Nuclear Energy

PDF URL: (pdf) - 6 MB -

Accession Number: ADB004661

Personal Author(s): Nellestyn, Andrew

Corporate Author: OPERATIONAL RESEARCH AND ANALYSIS ESTABLISHMENT  
OTTAWA (ONTARIO)

Report Date: Sep 1974

Pages:92 Page(s)

Report Number: ORAE-M54 ( *ORAEM54* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; JUN 1974. Other requests shall be referred to British Embassy,  
3100 Massachusetts Avenue, NW, Washington, DC 20001.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) R and D Abstracts. Volume 29, Number 11, 1 June 1974

PDF URL: (pdf) - 9 MB -

Accession Number: ADB000228

Corporate Author: TECHNOLOGY REPORTS CENTRE ORPINGTON (UNITED KINGDOM)

Report Date: 01 Jun 1974

Pages:92 Page(s)

Report Number: X5 - DRIC ( X5 )

Monitor Series: DRIC

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 01 JAN 1974. Other requests shall be referred to Defense Threat Reduction  
Agency, DTRA/Security, SCS Mail Stop 6201, 8725 John J. Kingman Road, Fort Belvoir, VA  
22060-6201.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Sourcebook of Radiation Effects on Propellants, Explosives, and Pyrotechnics.  
Volume 1

PDF URL: (pdf) - 20 MB -

Accession Number: AD0916941

Personal Author(s): Paitchel, Howard ; Cockayne, John E ; Alger, Raymond S ; Elsberry,  
Robert T ; Thomas, William B ; McSwain, John M

Corporate Author: PICATINNY ARSENAL DOVER NJ

Report Date: 01 Jan 1974

Descriptive Note: Final rept.

Pages:314 Page(s)

Report Number: DNA - 2881F-1 DNA ( DNA2881F1 ) , XD - 2881F-1 DNA ( XD2881F1 )



Monitor Series: 2881F-1 ( 2881F1 ) , DNA

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; 06 MAR 1975. Other requests shall be referred to Officer-in-Charge (Code  
862), Fleet Missile Systems Analysis and Evaluation Group Annex, Attn: GIDEP Administration  
Office. Corona, CA 91720.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Bibliography on X-Rays

PDF URL: (pdf) - 29 MB -

Accession Number: ADB003003

Corporate Author: MCDONNELL AIRCRAFT CO ST LOUIS MO

Report Date: May 1973

Pages:293 Page(s)

Report Number: MAC-LB-725 ( MACLB725 ) , GIDEP - 347.10.00.00-F4-73 FMSAEG (   
GIDEP347100000F473 ) , XB - 347.10.00.00-F4-73 FMSAEG ( XB347100000F473 )

Monitor Series: 347.10.00.00-F4-73 ( 347100000F473 ) , FMSAEG

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Research in Materials.

PDF URL: (pdf) - 18 MB -

Accession Number: ADB212300

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE

Report Date: Jan 1973

Descriptive Note: Annual rept. no. 12, 1972-1973.

Pages:417 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; 1970. Other requests shall be referred to HQs Air Force Systems Command, Dir. of Labs., Washington, DC 20330.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Air Force Research Plan 1970

PDF URL: (pdf) - 122 MB -

Accession Number: ADB341978

Corporate Author: AIR FORCE SYSTEMS COMMAND WASHINGTON DC DIRECTOR OF LABS

Report Date: Jan 1970

Pages:260 Page(s)

Report Number: XC - AFSC/DL ( *XCAFSCDL* )

Monitor Series: AFSC/DL ( *AFSCDL* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; OCT 1969. Other requests shall be referred to Director, Army Materiel Systems Analysis Activity, Attn: AMXSU-PS. Aberdeen Proving Ground, MD 21005.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Detection and Evaluation by Neutron Activation Analysis

PDF URL: (pdf) - 39 MB -

Accession Number: AD0505278

Personal Author(s): Kuykendall, Jr, William E

Corporate Author: TEXAS A AND M UNIV COLLEGE STATION ACTIVATION  
ANALYSIS RESEARCH LAB

Report Date: Oct 1969

Descriptive Note: Final rept. Jul 1967-Oct 1968

Pages:127 Page(s)

Report Number: LWL - CR-08C67 LWL ( *LWLCR08C67* ) , XA - CR-08C67 LWL ( *XACR08C67* )

Monitor Series: CR-08C67 ( *CR08C67* ) , LWL

Contract/Grant/Transfer Number: DAAD05-68-C-0027 ( DAAD0568C0027 )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; 12 Jan 72. Other requests for this document must be referred to Director, Air Force Avionics Lab., Wright-Patterson AFB, Ohio 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) GALLIUM ARSENIDE DOPING FOR MICROWAVE APPLICATION.

Accession Number: AD0840456

Personal Author(s): Cohen, Melvin S ; Cutler, Sylven N ; Klahr, Carl N

Corporate Author: FUNDAMENTAL METHODS ASSOCIATES INC LAWRENCE NY

Report Date: Aug 1968

Descriptive Note: Final rept. 1 May 66-1 Oct 67,

Pages:68 Page(s)

Report Number: AFAL - TR-68-42 ( AFALTR6842 )

Monitor Series: TR-68-42 ( TR6842 )

Contract/Grant/Transfer Number: AF 33(615)-3889 ( AF336153889 )

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FOIA UL Display

Distribution/Classification

Distribution Code:13 - U.S. GOVT. ONLY; NON-DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Info., Jun 68. Other requests shall be referred to Department of Energy, Washington, DC 20585.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) AEC Fuels and Materials Development

PDF URL: (pdf) - 9 MB -

Accession Number: ADB258198

Corporate Author: GENERAL ELECTRIC CO CINCINNATI OH NUCLEAR SYSTEMS PROGRAMS

Report Date: 29 Jun 1968

Descriptive Note: Progress rept. no. 74, 1 Feb 30 Apr 1968

Pages:198 Page(s)

Report Number: GEMP-1006 ( *GEMP1006* ) , XJ - AEC ( *XJ* )

Monitor Series: AEC

Contract/Grant/Transfer Number: AT(40-1)-2847 ( *AT4012847* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; 12 Jun 73. Other requests for this document must be referred to Officer-in-Charge (Code 862), Fleet Missile Systems Analysis and Evaluation Group Annex, Attn: GIDEP Administration Office, Corona, Calif. 91720.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Effects of Irradiation on the Mechanical Properties of Two Vacuum-Melted Heats of Hastelloy N,

Accession Number: AD0910533

Personal Author(s): McCoy,H E , Jr

Corporate Author: UNION CARBIDE CORP OAK RIDGE TENN Y-12 PLANT

Report Date: Jan 1968

Pages:47 Page(s)

Report Number: GIDEP - 502.53.60.11-CN-01 ( *GIDEP502536011CN01* )

Monitor Series: 502.53.60.11-CN-01 ( *502536011CN01* )

Contract/Grant/Transfer Number: W-7405-eng-26 ( *W7405eng26* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only;  
Administrative/Operational Use; Aug 1967. Other requests shall be referred to the Department of  
Defense, Attn: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A SURVEY OF NUCLEAR RADIATION EFFECTS ON AEROSPACE  
MATERIALS

PDF URL: (pdf) - 7 MB -

Accession Number: AD0823137

Personal Author(s): Wilson, James P ; Jones, H G

Corporate Author: BOEING CO SEATTLE WA SPACE DIV

Report Date: 18 Aug 1967

Pages:152 Page(s)

Report Number: D5-13311 ( *D513311* ) , XD - DOD ( *XD* )

Monitor Series: DOD

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U. S. Gov't. agencies only; Test and Evaluation;  
12 Jan 72. Other requests for this document must be referred to Director, Air Force Avionics  
Lab., Wright-Patterson AFB, Ohio 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ADVANCED CONCEPTS FOR IMPROVED SEMICONDUCTOR TECHNIQUES.

Accession Number: AD0805451

Personal Author(s): Mayer, J W ; Marsh, O J ; Bower, R W

Corporate Author: HUGHES RESEARCH LABS MALIBU CA

Report Date: 05 Jan 1967

Descriptive Note: Interim technical rept. no. 2, 2 Sep-1 Dec 66,

Pages:24 Page(s)

Contract/Grant/Transfer Number: AF 33(615)-5073 ( *AF336155073* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC Users Only., Availability: Document partially  
illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CBE FACTORS: MONTHLY SURVEY NO. 15

PDF URL: (pdf) - 9 MB -

Accession Number: AD0652484

Corporate Author: LIBRARY OF CONGRESS WASHINGTON DC AEROSPACE  
TECHNOLOGY DIV

Report Date: Jan 1967

Pages:259 Page(s)

Report Number: ATD-67-18 ( *ATD6718* ) , LOC/ATD - 67-62024 LOC/ATD ( *LOCATD6762024 LOCATD* ) , XJ - 67-62024 LOC/ATD ( *XJ6762024 LOCATD* )

Monitor Series: 67-62024 ( *6762024* ) , LOC/ATD ( *LOCATD* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:16 - DOD AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to DoD and DoD contractors only; Foreign Government Information; 31 AUG 1966. Other requests shall be referred to The British Embassy, 3100 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) R AND D ABSTRACTS. VOLUME 19 NUMBER 16, 16-31 AUGUST 1966

PDF URL: (pdf) - 7 MB -

Accession Number: AD0492699



Corporate Author: MINISTRY OF AVIATION LONDON (UNITED KINGDOM)  
TECHNICAL INFORMATION AND LIBRARY SERVICES

Report Date: 31 Aug 1966

Pages:125 Page(s)

Report Number: X5 - RAE ( X5 )

Monitor Series: RAE

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution limited to U.S. Gov't. agencies only; Test and Evaluation; 12 Jan 72. Other requests for this document must be referred to Director, Air Force Avionics Lab., Wright-Patterson AFB, Ohio 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) GALLIUM ARSENIDE SEMICONDUCTOR DEVICES PRODUCED BY  
NEUTRON TRANSMUTATION DOPING.

Accession Number: AD0476999

Personal Author(s): Klahr, Carl N ; Cohen, Melvin S ; Stein, Norman ; Heitner, Jerome

Corporate Author: FUNDAMENTAL METHODS ASSOCIATES INC LAWRENCE NY

Report Date: Nov 1965

Descriptive Note: Technical rept. Jul 64-Aug 65,

Pages:40 Page(s)

Report Number: AFAL - TR-65-272 ( AFALTR65272 )

Monitor Series: TR-65-272 ( TR65272 )

Contract/Grant/Transfer Number: AF33(615)-1745 ( AF336151745 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAY 1965. Other requests shall be referred to Arnold Engineering Development Center, Arnold AFB, TN 37389.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Sixth Annual Symposium on Space Environmental Simulation

PDF URL: (pdf) - 13 MB -

Accession Number: AD0465701

Corporate Author: ARNOLD ENGINEERING DEVELOPMENT CENTER ARNOLD AFB TN

Report Date: May 1965

Pages:202 Page(s)

Report Number: XC - AEDC ( XC )

Monitor Series: AEDC

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1965. Other requests shall be referred to Department of the Air Force, Attn: Public Affairs Office, Washington, DC 20330. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) INDEX TO THE COLLECTION. PART 2. BIBLIOGRAPHY, 6358 TO 13600

PDF URL: (pdf) - 33 MB -

Accession Number: AD0615414

Corporate Author: HUGHES AIRCRAFT CO CULVER CITY CA ELECTRONIC  
PROPERTIES INFORMATION CENTER

Report Date: Jan 1965

Pages:410 Page(s)

Report Number: XC - USAF ( XC )

Monitor Series: USAF

Contract/Grant/Transfer Number: AF 33(616)-8438 ( AF336168438 ) , AF 33(615)-1235 ( AF336151235 )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE EFFECTS OF NEUTRON INDUCED TRANSMUTATION IMPURITIES ON  
THE ELECTRICAL PROPERTIES OF GERMANIUM AND SILICON.

Accession Number: AD0466004

Personal Author(s): Rossi,M L ; Bolles,G ; D'Agostino,M ; Nostrand,J W

Corporate Author: GRUMMAN AIRCRAFT ENGINEERING CORP BETHPAGE N Y

Report Date: Dec 1964

Descriptive Note: Final rept.,

Pages:62 Page(s)

Report Number: RE-199 ( *RE199* )

Contract/Grant/Transfer Number: NOas-60-6079 ( *NOas606079* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; OCT 1964. Other requests shall be referred to Air Force Research and Technology Division Det 4, Directorate of Armament Development, Eglin AFB, FL.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ENERGY EXTRACTION FROM HIGH ENERGY DENSITY STORAGE DEVICES

PDF URL: (pdf) - 6 MB -

Accession Number: AD0355489

Personal Author(s): Baldwin, G C ; Terhune, J H ; Bredt, J H ; Vought, R H

Corporate Author: GENERAL ELECTRIC CO SCHENECTADY NY

Report Date: Oct 1964

Pages:148 Page(s)

Report Number: ATL - TR-64-73 ATL ( *ATLTR6473* ) , XC - TR-64-73 ATL ( *XCTR6473* )

Monitor Series: TR-64-73 ( *TR6473* ) , ATL

Contract/Grant/Transfer Number: AF 08(635)-3722 ( *AF086353722* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; Sep 1964. Other requests shall be referred to AFML, WPAFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Materials Performance for Defense and Space Programs. Report of the Technical Meeting Held in the Hotel Dayton Biltmore and AFML Wright-Patterson Air Force Base, Dayton, OH on September 23-24, 1964

PDF URL: (pdf) - 15 MB -

Accession Number: ADB272730

Corporate Author: AMERICAN ORDNANCE ASSOCIATION WASHINGTON DC

Report Date: Sep 1964

Pages:253 Page(s)

Report Number: XC - AFML ( XC )

Monitor Series: AFML

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ADVANCES IN BIOLOGICAL CHEMISTRY, 1962, VOL. 4

PDF URL: (pdf) - 26 MB -

Accession Number: AD0608603

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSONAFB OH

Report Date: 04 Aug 1964

Pages:512 Page(s)

Report Number: 65-60267 ( 6560267 ) , FTD - TT-63-1083 FTD ( *FTD TT631083* ) , XC - TT-63-1083 FTD ( *XCTT631083* )

Monitor Series: TT-63-1083 ( *TT631083* ) , FTD

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Proprietary Information; Apr 1964. Other requests shall be referred to NASA, Washington, DC 20546

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Supporting Research and Advanced Development

PDF URL: (pdf) - 17 MB -

Accession Number: ADB271470

Corporate Author: JET PROPULSION LAB PASADENA CA

Report Date: 30 Apr 1964

Descriptive Note: Summary rept. no. 37-26, Vol. 4, 1 Feb-31 Mar 1964

Pages:277 Page(s)

Report Number: XG - NASA ( XG )

Monitor Series: NASA

Contract/Grant/Transfer Number: NAS-7-100 ( NAS7100 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 28 FEB 1964. Other requests shall be referred to Defense  
Threat Reduction Agency, 8725 John J. Kingman Road, Fort Belvoir, VA 22060-6201.  
Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) TREE (Transient Radiation Effects on Electronics) Handbook

PDF URL: (pdf) - 11 MB -

Accession Number: ADB193305

Personal Author(s): Jones, Dale C

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH

Report Date: 28 Feb 1964

Pages:222 Page(s)

Report Number: DASA - 1420 DASA ( DASA ) , XD - 1420 DASA ( XD )

Monitor Series: 1420 , DASA

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; FEB 1964. Other requests shall be referred to Defense Advanced Research Projects Agency, ASBD-TIO, 675 North Randolph Street, Arlington, VA 22203-2114.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ELECTRICAL INSULATORS AND SPACERS FOR NUCLEAR THERMIONIC DEVICES

PDF URL: (pdf) - 1 MB -

Accession Number: AD0440369

Personal Author(s): Grossman, L N

Corporate Author: GENERAL ELECTRIC CO PLEASANTON CA

Report Date: 10 Feb 1964

Pages:34 Page(s)

Report Number: GEST-2022 ( *GEST2022* ) , XD - DARPA ( *XD* )

Monitor Series: DARPA

Contract/Grant/Transfer Number: NOBS-88578 ( *NOBS88578* ) , ARPA ORDER-219 ( *ARPAORDER219* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; FEB 1964. Other requests shall be referred to Aeronautical Systems Center, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified



Collection: Technical Reports

Title: ( U ) TESTS, STUDIES, AND INVESTIGATIONS FOR DEVELOPMENT OF AIRFRAME, PROPULSION, SECONDARY POWER, AVIONICS, BOOSTERS, PAYLOADS, FLIGHT TEST SUBSYSTEMS, AIR CONDITIONING, SUPPORT, RANGE AND SYSTEM STUDIES TECHNOLOGY REQUIRED FOR THE LOW ALTITUDE SUPERSONIC VEHICLE PROGRAM. PART 2 - TECHNICAL INFORMATION. VOLUME 8 - NUCLEAR RADIATION EFFECTS ANALYSIS AND TESTS - FLYAWAY

PDF URL: (pdf) - 19 MB -

Accession Number: AD0348757

Corporate Author: LTV AEROSPACE CORP DALLAS TX VOUGHT AERONAUTICS DIV

Report Date: Feb 1964

Descriptive Note: Technical documentary rept. for 18 Dec 1962-30 Sep 1963

Pages:543 Page(s)

Report Number: BPSN-6299-655A-PT-2-VOL-8 ( *BPSN6299655APT2VOL8* ) , ASD - TDR-63-947-PT-2-VOL-8 ASD ( *ASDTDR63947PT2VOL8* ) , XC - TDR-63-947-PT-2-VOL-8 ASD ( *XCTDR63947PT2VOL8* )

Monitor Series: TDR-63-947-PT-2-VOL-8 ( *TDR63947PT2VOL8* ) , ASD

Contract/Grant/Transfer Number: AF 33(657)-10439 ( *AF3365710439* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1964. Other requests shall be referred to Air Force Office of Scientific Research, Arlington, VA 22203-1977.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE SPECTRUM OF VERY HEAVY NUCLEI IN COSMIC RADIATION AND THE PASSAGE THROUGH INTERSTELLAR MATTER

PDF URL: (pdf) - 935 KB -

Accession Number: AD0434847

Personal Author(s): Kristiansson, K

Corporate Author: LUND UNIV (SWEDEN) DEPT OF PHYSICS

Report Date: 24 Jan 1964

Descriptive Note: Journal article

Pages:22 Page(s)

Report Number: AFOSR - 64-0640 AFOSR ( *AFOSR640640* ) , XC - 64-0640 AFOSR ( *XC640640* )

Monitor Series: 64-0640 ( *640640* ) , AFOSR

Contract/Grant/Transfer Number: AF-EOAR-62-71 ( *AFEOAR6271* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution: USGO: others to Commander, Naval Ship Systems Command, Washington, D. C. 20360. Attn: SHIPS-2021.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE DEVELOPMENT OF A LOW TEMPERATURE VAPOR FILLED THERMIONIC CONVERTER FOR NUCLEAR APPLICATIONS.

Accession Number: AD0804033

Corporate Author: RADIO CORP OF AMERICA LANCASTER PA DIRECT ENERGY CONVERSION DEPT

Report Date: Jan 1964

Descriptive Note: Quarterly technical rept. no. 8, 1 Oct-31 Dec 63.

Pages:11 Page(s)

Contract/Grant/Transfer Number: NObs-84823 ( *NObs84823* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; JAN 1964. Other requests shall be referred to Department of the Air Force, ATTN: Public Affairs Office, Washington, DC 20330.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE COMBINED EFFECTS OF SPACE ENVIRONMENTAL PARAMETERS  
UPON SATELLITE SYSTEMS AND COMPONENTS: AN ANNOTATED BIBLIOGRAPHY

PDF URL: (pdf) - 12 MB -

Accession Number: AD0445142

Personal Author(s): Gros, Charles G

Corporate Author: LOCKHEED MISSILES AND SPACE CO INC SUNNYVALE CA

Report Date: Jan 1964

Descriptive Note: Special bibliography

Pages:287 Page(s)

Report Number: 3-35-64-3/SB-64-4 ( *335643SB644* ) , XC - USAF ( *XC* )

Monitor Series: USAF

Contract/Grant/Transfer Number: AF 04(647)-67 ( *AF0464767* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 31 DEC 1963. Other requests shall be referred to Army Signal Research and Development Laboratory, Fort Monmouth, NJ.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PULSE COHERENT TRANSPONDER

PDF URL: (pdf) - 4 MB -

Accession Number: AD0436314

Personal Author(s): Ossoff, A

Corporate Author: ACF INDUSTRIES INC PARAMUS NJ ACF ELECTRONICS DIV

Report Date: 31 Dec 1963

Descriptive Note: Quarterly progress rept. no. 2, 1 Oct-31 Dec 1963

Pages:148 Page(s)

Report Number: AR-1792/4-64 ( *AR1792464* ) , XA - USASRDL ( XA )

Monitor Series: USASRDL

Contract/Grant/Transfer Number: DA-36-039-AMC-02233(E) ( *DA36039AMC02233E* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; NOV 1963. Other requests shall be referred to British Embassy, 3100 Massachusetts Avenue, NW, Washington, DC 20008.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) LOW-VOLTAGE NEUTRON GENERATORS

PDF URL: (pdf) - 1 MB -

Accession Number: AD0434838

Personal Author(s): Aleksandrovich, E G ; Sokovishin, V A

Corporate Author: ADMIRALTY CENTRE FOR SCIENTIFIC INFORMATION AND LIAISON LONDON (UNITED KINGDOM)

Report Date: Nov 1963

Pages: 35 Page(s)

Report Number: ACSIL-TRANS-1475 ( *ACSILTRANS1475* ) , X5 - ACSIL ( *X5* )

Monitor Series: ACSIL

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FOIA UL Display  
Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; NOV 1963. Other requests shall be referred to Air Force Weapons Laboratory, Kirtland AFB, NM 87117.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) DESIGN ANALYSIS OF STAR-R NUCLEAR THERMIONIC POWER SYSTEM

PDF URL: (pdf) - 8 MB -

Accession Number: AD0345179

Corporate Author: GENERAL ELECTRIC CO PLEASANTON CA SPECIAL PURPOSE  
NUCLEAR SYSTEMS OPERATION

Report Date: Nov 1963

Descriptive Note: Technical documentary rept. Feb-Aug 1963

Pages:332 Page(s)

Report Number: RTD - TDR-63-3069 RTD ( *RTDTDR633069* ) , XC - TDR-63-3069 RTD ( *XCTDR633069* )

Monitor Series: TDR-63-3069 ( *TDR633069* ) , RTD

Contract/Grant/Transfer Number: AF 29(601)-5853 ( *AF296015853* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 07 OCT 1963. Other requests shall be referred to Interagency  
Data Exchange Program, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) SELECTION OF RADIATION-QUALIFIED SEMICONDUCTOR ELECTRONICS  
FOR SPACE SYSTEM DESIGN

PDF URL: (pdf) - 710 KB -

Accession Number: AD0439147

Personal Author(s): Brown, R R

Corporate Author: BOEING CO SEATTLE WA

Report Date: 07 Oct 1963

Pages:32 Page(s)

Report Number: D290466 ( *D290466* ) , IDEP - 741-00-00-00C6-05 IDEP ( *IDEP741000000C605* ) , XD - 741-00-00-00C6-05 IDEP ( *XD741000000C605* )

Monitor Series: 741-00-00-00C6-05 ( *741000000C605* ) , IDEP

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 01 OCT 1963. Other requests shall be referred to Air Force  
Office of Scientific Research, Bolling AFB, DC. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Polarization Conductivity in P-Type Germanium

PDF URL: (pdf) - 884 KB -

Accession Number: AD0436282

Personal Author(s): Golin, Stuart

Corporate Author: CHICAGO UNIV IL INST FOR STUDY OF METALS

Report Date: 01 Oct 1963

Descriptive Note: Journal article

Pages:14 Page(s)

Report Number: XC - AFOSR ( *XC* )

Monitor Series: AFOSR

Contract/Grant/Transfer Number: AFOSR-62-178 ( *AFOSR62178* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; AUG 1963. Other requests shall be referred to Directorate of Armament Development, Det 4, Aeronautical Systems Division, Eglin AFB, FL 32542.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION EFFECTS ON EXPLOSIVES

PDF URL: (pdf) - 2 MB -

Accession Number: AD0340240

Corporate Author: GENERAL ELECTRIC CO SANTA BARBARA CA TECHNICAL MILITARY PLANNING OPERATION

Report Date: Aug 1963

Descriptive Note: Quarterly technical rept. no. 1, 28 Feb 1963

Pages:62 Page(s)

Report Number: ASD - TDR-63-33 AFSC/DAD ( *ASDTDR6333 AFSCDAD* ) , XC - TDR-63-33 AFSC/DAD ( *XCTDR6333 AFSCDAD* )

Monitor Series: TDR-63-33 ( *TDR6333* ) , AFSC/DAD ( *AFSCDAD* )

Contract/Grant/Transfer Number: AF 08(635)-3192 ( *AF086353192* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS



Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 15 JUL 1963. Other requests shall be referred to Air Force Avionics Laboratory, Wright-Patterson, AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PRECISION ALTIMETER TECHNIQUES STUDY (PATS)

PDF URL: (pdf) - 5 MB -

Accession Number: AD0345833

Corporate Author: RADIO CORP OF AMERICA BURLINGTON MA DEFENSE ELECTRONIC PRODUCTS

Report Date: 15 Jul 1963

Descriptive Note: Final rept., Jun 1962-Jun 1963

Pages: 182 Page(s)

Report Number: ASD - TDR-63-790 ASD ( ASDTDR63790 ) , XC - TDR-63-790 ASD ( XCTDR63790 )

Monitor Series: TDR-63-790 ( TDR63790 ) , ASD

Contract/Grant/Transfer Number: AF 33(657)-8768 ( AF336578768 )

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FOIA UL Display  
Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 05 MAY 1963. Other requests shall be referred to Air Force Research and Development Command, Washington, DC 20330.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PROCEEDINGS OF THE LUNAR AND PLANETARY EXPLORATION  
COLLOQUIUM. VOLUME 3. NUMBER 2

PDF URL: (pdf) - 10 MB -

Accession Number: AD0404726

Personal Author(s): Miller, S L ; Oro, J ; Oyama, V I ; Heim, A H ; Soffen, G A ; Hobby, G L  
; Jonah, F C ; Pearce, L S ; Singer, S F ; Hibbs, A R ; Bierman, A

Corporate Author: NORTH AMERICAN AVIATION INC DOWNEY CA

Report Date: 05 May 1963

Pages:177 Page(s)

Report Number: XC - AFRDC ( XC )

Monitor Series: AFRDC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 19 APR 1963. Other requests shall be referred to Air Force  
Aeronautic Systems Division, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE EFFECT OF NUCLEAR RADIATION ON TRANSDUCERS

PDF URL: (pdf) - 6 MB -

Accession Number: AD0405431

Personal Author(s): Chapin, W E ; Hamman, D J ; Wyler, E N

Corporate Author: ARKANSAS UNIV AT LITTLE ROCK MEDICAL CENTER

Report Date: 19 Apr 1963

Pages:143 Page(s)

Report Number: REIC-RN-25 ( *REICRN25* ) , XC - ASD ( *XC* )

Monitor Series: ASD

Contract/Grant/Transfer Number: AF 33(657)-10085 ( *AF3365710085* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; APR 1963. Other requests shall be referred to Department of Defense, ATTN: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Bridging the Gap between an Understanding of the Physics and the Engineering Applications. Proceedings of Institute of Environmental Sciences Annual Technical Meeting, held in Los Angeles, California on April 17, 18 and 19, 1963 at Statler Hilton Hotel, Los Angeles, California

PDF URL: (pdf) - 54 MB -

Accession Number: ADB193965

Corporate Author: INSTITUTE OF ENVIRONMENTAL SCIENCES MOUNT PROSPECT IL

Report Date: Apr 1963

Descriptive Note: Conference proceedings

Pages:689 Page(s)

Report Number: XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAR 1963. Other requests shall be referred to Army Materiel Command, Alexandria, VA.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) DISPLACEMENT RADIATION EFFECTS

PDF URL: (pdf) - 3 MB -

Accession Number: AD0402181

Personal Author(s): Wikner, E G ; Harrity, J W ; Horiye, H ; van Lint, V A

Corporate Author: GENERAL DYNAMICS SAN DIEGO CA GENERAL ATOMIC DIV

Report Date: 28 Mar 1963

Pages:111 Page(s)

Report Number: GA-4073 ( GA4073 ) , XA - AMC ( XA )

Monitor Series: AMC

Contract/Grant/Transfer Number: DA-49-186-ORD-984 ( DA49186ORD984 )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1963. Other requests shall be referred to Bureau of Naval Weapons, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) MANUAL OF BAROMETRY (WBAN) VOLUME 1

PDF URL: (pdf) - 57 MB -

Accession Number: AD0438839

Corporate Author: WEATHER BUREAU SILVER SPRING MD

Report Date: Jan 1963

Pages: 980 Page(s)

Report Number: NAVWEPS - 50-1D-510-VOL-1 NAVWEPS ( *NAVWEPS501D510VOL1* ) , XB - 50-1D-510-VOL-1 NAVWEPS ( *XB501D510VOL1* )

Monitor Series: 50-1D-510-VOL-1 ( *501D510VOL1* ) , NAVWEPS

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FOIA UL Display  
Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 31 DEC 1962. Other requests shall be referred to Army Electronics Research and Development Lab., Fort Belvoir, VA.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) EFFECTS OF NUCLEAR RADIATION ON FREQUENCY CONTROL DEVICES

PDF URL: (pdf) - 1 MB -

Accession Number: AD0408427

Personal Author(s): Gerstein, B ; Schlueter, A ; Fueyo, A

Corporate Author: ADMIRAL CORP CHICAGO IL

Report Date: 31 Dec 1962

Descriptive Note: Quarterly progress rept. no. 1, 1 Sep-30 Nov 1962

Pages:45 Page(s)

Report Number: XA - ASCIA ( XA )

Monitor Series: ASCIA

Contract/Grant/Transfer Number: DA-36-039-AMC-00002-E ( DA36039AMC00002E )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; DEC 1962. Other requests shall be referred to Department of  
Defense, ATTN: Public Affairs Office, Washington, DC 20301. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION EFFECTS ON SPACECRAFT ELECTRONICS SYSTEMS,  
COMPONENTS AND MATERIALS: AN ANNOTATED BIBLIOGRAPHY

PDF URL: (pdf) - 8 MB -

Accession Number: AD0296358

Personal Author(s): MCCORMICK, HELEN B

Corporate Author: LOCKHEED MISSILES AND SPACE CO INC SUNNYVALE CA

Report Date: Dec 1962

Descriptive Note: Special bibliography

Pages:175 Page(s)

Report Number: 5-10-62-35/SB-62-46 ( *5106235SB6246* ) , XD - DOD ( *XD* )

Monitor Series: DOD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; Dec 1962. Other requests shall be referred to Bureau of Naval  
Weapons, Washington, DC, Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CHEMISTRY RESEARCH

PDF URL: (pdf) - 6 MB -

Accession Number: AD0335051

Corporate Author: NAVAL PROPELLANT PLANT INDIAN HEAD MD

Report Date: Dec 1962

Descriptive Note: Quarterly progress rept. Jul-Sep 1962

Pages:171 Page(s)

Report Number: NPP-TR-124 ( *NPPTR124* ) , NAVWEPS - 8024 NAVWEPS ( *NAVWEPS*  
) , XB - 8024 NAVWEPS ( *XB* )

Monitor Series: 8024 , NAVWEPS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 01 OCT 1962. Other requests shall be referred to Naval  
Research Laboratory, Washing, DC 20375. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) NRL QUARTERLY ON NUCLEAR SCIENCE AND TECHNOLOGY

PDF URL: (pdf) - 4 MB -

Accession Number: AD0452783

Corporate Author: NAVAL RESEARCH LAB WASHINGTON DC

Report Date: 01 Oct 1962

Descriptive Note: Progress rept. Jul-Sep 1962

Pages:93 Page(s)

Report Number: XB - NRL ( XB )

Monitor Series: NRL

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) MECHANISMS OF RADIATION DAMAGE IN MATERIALS

Accession Number: AD0282733

Personal Author(s): COYLE,L M

Corporate Author: AVCO CORP WILMINGTON MASS RESEARCH AND ADVANCED DEVELOPMENT DIV

Report Date: 28 Jul 1962

Pages:1 Page(s)

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 13 MAR 1962. Other requests shall be referred to Air Force Office of Scientific Research, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) STUDIES OF THE PECULIAR A STARS. 1. THE OXYGEN-ABUNDANCE ANOMALY

PDF URL: (pdf) - 985 KB -

Accession Number: AD0295859

Personal Author(s): Sargent, Wallace L ; Searle, Leonard

Corporate Author: MOUNT WILSON AND PALOMAR OBSERVATORIES PASADENA CA

Report Date: 13 Mar 1962

Pages:18 Page(s)

Report Number: AFOSR - 2446 AFOSR ( AFOSR ) , XC - 2446 AFOSR ( XC )

Monitor Series: 2446 , AFOSR

Contract/Grant/Transfer Number: AF 49(638)-21 ( *AF4963821* )

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FOIA UL Display

Distribution/Classification

Distribution Code:03 - U.S. GOVT. ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to U.S. Gov't. agencies only; Administrative/Operational Use; 1962. Other requests shall be referred to National Academy of Sciences, Attn: Printing and Publishing Office, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) TROPICAL HEALTH. A REPORT ON A STUDY OF NEEDS AND RESOURCES

PDF URL: (pdf) - 41 MB -

Accession Number: AD0403297

Corporate Author: NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL WASHINGTON DC

Report Date: Jan 1962

Pages:569 Page(s)

Report Number: NAS-P-996 ( *NASP996* ) , XJ - NAS-NRC ( *XJNASNRC* )

Monitor Series: NAS-NRC ( *NASNRC* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 15 SEP 1961. Other requests shall be referred to Department of the Air Force, attn: Public Affairs Office, Washington, DC 20330.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Dosimetry: An Annotated Bibliography

PDF URL: (pdf) - 6 MB -

Accession Number: ADB193331

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: 15 Sep 1961

Pages:65 Page(s)

Report Number: REIC-MEMO-23 ( *REICMEMO23* ) , XC - USAF ( *XC* )

Monitor Series: USAF

Contract/Grant/Transfer Number: AF 33(616)-7373 ( *AF336167373* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 30 JUN 1961. Other requests shall be referred to Air Force Ballistic Missile Division, Norton AFB, CA.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) WEAPON SYSTEM 107 A-2. A STUDY OF SEVERAL NUCLEAR-THERMIONIC SPACE VEHICLE POWERPLANT SYSTEMS

PDF URL: (pdf) - 14 MB -

Accession Number: AD0445485

Personal Author(s): Cocozella, Robert A

Corporate Author: AVCO CORP WILMINGTON MA RESEARCH AND ADVANCED DEVELOPMENT DIV

Report Date: 01 Aug 1961

Descriptive Note: Technical operating rept.

Pages:213 Page(s)

Report Number: RAD-SR-61-83 ( *RADSR6183* ) , XC - AFBMD ( *XC* )

Monitor Series: AFBMD

Contract/Grant/Transfer Number: AF 04(647)-305 ( *AF04647305* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 01 JUN 1961. Other requests shall be referred to Air Force Systems Command, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of Nuclear Radiation on Electronic Components

PDF URL: (pdf) - 7 MB -

Accession Number: ADB185088

Personal Author(s): Hamman, D J ; Chapin, W E ; Hanks, C L ; Wyler, E N

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: 01 Jun 1961

Pages:165 Page(s)

Report Number: REIC-18 ( *REIC18* ) , XC - AFSC ( *XC* )

Monitor Series: AFSC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; JUN 1961. Other requests shall be referred to Department of Defense, Attn: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Ramjet Control System Design, Performance, Environmental Requirements

PDF URL: (pdf) - 1 MB -

Accession Number: ADB191116

Personal Author(s): Weintraub, Milton M

Corporate Author: MARQUARDT CORP VAN NUYS CA NUCLEAR SYSTEMS DIV

Report Date: Jun 1961

Pages:18 Page(s)

Report Number: 338D ( *338D* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAY 1961. Other requests shall be referred to Department of Defense, ATTN: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Frontiers of Astrophysics

PDF URL: (pdf) - 476 KB -

Accession Number: ADB193261

Personal Author(s): Stroemgren, Bengt

Corporate Author: INSTITUTE FOR ADVANCED STUDY PRINCETON NJ

Report Date: May 1961

Descriptive Note: Conference paper

Pages:12 Page(s)

Report Number: 1733-61 ( 173361 ) , XD - XD ( XD )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiation Effects on Materials and Equipment,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB210790

Personal Author(s): Oestmann, Mary Jane ; Kircher, J F

Corporate Author: SOCIETY OF AUTOMOTIVE ENGINEERS INC WARRENDALE PA

Report Date: Jan 1961

Pages:15 Page(s)

Report Number: X5 - XD ( X5 )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; DEC 1960. Other requests shall be referred to Department of  
Energy, Washington, DC. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fifty-Ninth Quarterly Report to Sponsors of The Institute for the Study of Metals

PDF URL: (pdf) - 9 MB -

Accession Number: ADB185294

Corporate Author: CHICAGO UNIV IL INST FOR STUDY OF METALS

Report Date: Dec 1960

Pages:216 Page(s)

Report Number: XF - DOE ( *XF* )

Monitor Series: DOE

Contract/Grant/Transfer Number: AT(11-1)-357 ( *AT111357* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; Nov 1960. Other requests shall be referred to Aeronautical Systems Division,  
Aerospace Medical Lab., Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) MEDICAL AND INDUSTRIAL HYGIENE PROCEDURES FOR NUCLEAR  
OPERATIONS

PDF URL: (pdf) - 19 MB -

Accession Number: AD0247724

Personal Author(s): ARMSTRONG, R C

Corporate Author: GENERAL DYNAMICS SAN DIEGO CA CONVAIR DIV

Report Date: Nov 1960

Pages:468 Page(s)

Report Number: WADD - TR-60-813 ASD ( *WADDTR60813* ) , XC - TR-60-813 ASD ( *XCTR60813* )

Monitor Series: TR-60-813 ( *TR60813* ) , ASD

Contract/Grant/Transfer Number: AF 33(616)-5967 ( *AF336165967* )

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FOIA UL Display



Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; SEP 1960. Other requests shall be referred to Office of Naval Research, Washington DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fifty-Eighth Quarterly Report to Sponsors of The Institute for the Study of Metals

PDF URL: (pdf) - 9 MB -

Accession Number: ADB185827

Corporate Author: CHICAGO UNIV IL

Report Date: Sep 1960

Pages:184 Page(s)

Report Number: XB - ONR ( XB )

Monitor Series: ONR

Contract/Grant/Transfer Number: NONR-2121(03) ( *NONR212103* ) , NONR-2121(13) ( *NONR212113* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; JUN 1960. Other requests shall be referred to Department of Defense, Attn: Public Affairs Office, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fifty-Seventh Quarterly Report to Sponsors of The Institute for the Study of Metals

PDF URL: (pdf) - 9 MB -

Accession Number: ADB185926

Corporate Author: CHICAGO UNIV IL

Report Date: Jun 1960

Pages:193 Page(s)

Report Number: XD - DOD ( XD )

Monitor Series: DOD

Contract/Grant/Transfer Number: AT(11-1)-357 ( AT111357 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAY 1960. Other requests shall be referred to Flight Accessories Laboratory, Wright Air Development Division, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) REGENERATIVE FUEL CELL SYSTEM INVESTIGATION

PDF URL: (pdf) - 7 MB -

Accession Number: AD0249256

Personal Author(s): FUSCOE, J M ; CARLTON, S S ; LAVERTY, D P

Corporate Author: TRW INC CLEVELAND OH

Report Date: May 1960

Pages:203 Page(s)

Report Number: TRW-ER-4069 ( *TRWER4069* ) , WADD - TR-60-442 WADD ( *WADDTR60442* ) , XC - TR-60-442 WADD ( *XCTR60442* )

Monitor Series: TR-60-442 ( *TR60442* ) , WADD

Contract/Grant/Transfer Number: AF 33(600)-39573 ( *AF3360039573* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 30 APR 1960. Other requests shall be referred to Wright Air Development Division, Attn: WWFEVC, Wright-Patterson AFB, OH 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of Nuclear Radiation on Electronic Components

PDF URL: (pdf) - 4 MB -

Accession Number: ADB188483

Personal Author(s): Hamman, D J ; Chapin, W E ; Hansen, J F ; Wyler, E N

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: 30 Apr 1960

Pages:76 Page(s)

Report Number: REIC-12 ( *REIC12* ) , XC - WADD ( *XC* )

Monitor Series: WADD

Contract/Grant/Transfer Number: AF 33(616)-6564 ( *AF336166564* ) , AF 33(616)-5171 ( *AF336165171* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1960. Other requests shall be referred to Department of Defense, Washington DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Manned Scientific Orbital Laboratory

PDF URL: (pdf) - 2 MB -

Accession Number: ADB189809

Personal Author(s): Stoiko, M ; Kayten, G G ; Dorsey, J W

Corporate Author: MARTIN CO BALTIMORE MD

Report Date: Jan 1960

Pages:28 Page(s)

Report Number: XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1960. Other requests shall be referred to National Academy of Sciences, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Galactic and Extragalactic Astronomy. Chapter 8 of a Report in Progress by the Space Science Board

PDF URL: (pdf) - 2 MB -

Accession Number: ADB190376

Corporate Author: NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL WASHINGTON DC

Report Date: Jan 1960

Pages:56 Page(s)

Report Number: XJ - NSF ( *XJ* )

Monitor Series: NSF

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1960. Other requests shall be referred to the National Academy of Sciences-National Research Council, Washington, DC. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Science in Space. Chapter 8. Galactic and Extragalactic Astronomy

PDF URL: (pdf) - 2 MB -

Accession Number: ADB183360

Corporate Author: NATIONAL ACADEMY OF SCIENCES WASHINGTON DC SPACE  
SCIENCE BOARD

Report Date: Jan 1960

Pages:56 Page(s)

Report Number: XJ - NAS-NRC ( *XJNASNRC* )

Monitor Series: NAS-NRC ( *NASNRC* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 1960. Other requests shall be referred to Wright Air  
Development Center, Wright-Patterson AFB, OH.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Radiation, Theory, Biological Hazards, Safety Measures, Treatment of Injury

PDF URL: (pdf) - 7 MB -

Accession Number: ADB189111

Corporate Author: RCA COMMUNICATIONS SYSTEMS DIV CAMDEN NJ

Report Date: Jan 1960

Pages:120 Page(s)

Report Number: XC - WADC ( *XC* )

Monitor Series: WADC

Contract/Grant/Transfer Number: AF 33(616)-3665 ( *AF336163665* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1959. Other requests shall be referred to Air Research and Development Command, Washington, DC 20330.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) FOURTH RADIATION EFFECTS SYMPOSIUM 15-16 SEPTEMBER, 1959,  
SPONSORED BY AIR RESEARCH AND DEVELOPMENT COMMAND, U.S. AIR FORCE.  
VOLUME 2. GENERAL SESSION PAPERS

PDF URL: (pdf) - 6 MB -

Accession Number: AD0490318

Personal Author(s): Donnert, Hermann J ; Gamble, R L ; Grant, J K ; Nicols, H H ; Thornton, R M ; Wilson, J H ; Mooney, E E ; Semegen, S T ; Miller, E W ; MacCullen, A

Corporate Author: GENERAL ELECTRIC CO SCHENECTADY NY

Report Date: Sep 1959

Pages:192 Page(s)

Report Number: XC - ARDC ( XC )

Monitor Series: ARDC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; SEP 1959. Other requests shall be referred to Air Force Air University, Research Studies Institute, Maxwell AFB, AL.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Aerospace Glossary

PDF URL: (pdf) - 10 MB -

Accession Number: ADB183075

Personal Author(s): Heflin, Woodford A

Corporate Author: AIR UNIV MAXWELL AFB AL RESEARCH STUDIES INST

Report Date: Sep 1959

Pages:119 Page(s)

Report Number: AU-282-58-RSI ( *AU28258RSI* ) , XC - AU ( *XC* )

Monitor Series: AU

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; AUG 1959. Other requests shall be referred to Assistant Chief of Staff (Army), Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PROJECT ACSI-MATIC. MAN-MACHINE COLLATION: GROUND-FORCES SYSTEM PROCESSING. VOLUME 1, ANALYSIS

PDF URL: (pdf) - 10 MB -

Accession Number: AD0311569



Corporate Author: RADIO CORP OF AMERICA PRINCETON NJ DEFENSE ELECTRONIC PRODUCTS

Report Date: Aug 1959

Pages:164 Page(s)

Report Number: 1R-59-6-VOL-1 ( *1R596VOL1* ) , XA - ACSI ( *XA* )

Monitor Series: ACSI

Contract/Grant/Transfer Number: DA-49-083-OSA-1183 ( *DA49083OSA1183* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 12 NOV 1958. Other requests shall be referred to Defense Public Affairs Office, Attn: DFOISR (Information Security Management), Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Metallurgy Reports Volume 10 Number 2, February 1959

PDF URL: (pdf) - 5 MB -

Accession Number: ADB188669

Personal Author(s): Langenberg, Frederick C ; Hahn, G T ; Backofen, Walter A ; Houska, C R ; Krauss, Jr, G

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE DEPT OF METALLURGY AND MATERIALS SCIENCE

Report Date: Feb 1959

Pages:190 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1959. Other requests shall be referred to National Aeronautics and Space Administration, Code AO, 300 E Street, SW, Washington, DC 20546-0001.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Space Guide: A Basic Guide to NASA

PDF URL: (pdf) - 9 MB -

Accession Number: ADB182757

Personal Author(s): Callahan, Jr, Vincent F

Corporate Author: NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
WASHINGTON DC

Report Date: Jan 1959

Pages:184 Page(s)

Report Number: XG - NASA ( XG )

Monitor Series: NASA

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the Army-ORO Conference on Basic and Applied Research and Component Development. Volume XI: Panel Reports of Committees,

PDF URL: (pdf) - 6 MB -

Accession Number: ADB223776

Personal Author(s): Green, Jerome B

Corporate Author: JOHNS HOPKINS UNIV CHEVY CHASE MD OPERATIONS  
RESEARCH OFFICE

Report Date: Oct 1958

Descriptive Note: Staff paper,

Pages:112 Page(s)

Report Number: ORO-SP-68 ( *OROSP68* ) , XA - DA ( *XA* )

Monitor Series: DA

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Effect of Nuclear Radiation On Elastomeric and Plastic Materials.

PDF URL: (pdf) - 6 MB -

Accession Number: ADB208071

Personal Author(s): Broadway, N J ; Youtz, M A ; Zaring, M L ; Palinchak, S

Corporate Author: BATTELLE MEMORIAL INST COLUMBUS OH RADIATION EFFECTS INFORMATION CENTER

Report Date: 31 May 1958

Pages:172 Page(s)

Report Number: REIC-3 ( *REIC3* ) , XC - USAF ( *XC* )

Monitor Series: USAF

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 1958. Other requests shall be referred to Bureau of Naval Personnel, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Basic Nuclear Physics

PDF URL: (pdf) - 8 MB -

Accession Number: ADB186789

Corporate Author: BUREAU OF NAVAL PERSONNEL WASHINGTON DC

Report Date: Jan 1958

Pages:271 Page(s)

Report Number: NAVPERS-10786 ( *NAVPERS10786* ) , XB - NAVPERS ( *XB* )

Monitor Series: NAVPERS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;Administrative/Operational use; 3 Apr 2000. Other requests shall be referred to Naval Ordnance Lab., Corona, CA.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PERFORMANCE OF SOLID STATE MATERIALS AND DEVICES SUBJECT TO A NUCLEAR RADIATION FLUX

PDF URL: (pdf) - 960 KB -

Accession Number: AD0143467

Personal Author(s): WIEDER, H H

Corporate Author: NAVAL ORDNANCE LAB CORONA CA

Report Date: 06 Aug 1957

Pages:33 Page(s)

Report Number: NOLC-374 ( *NOLC374* ) , NAVWEPS - 4621 NAVWEPS ( *NAVWEPS* ) , XB - 4621 NAVWEPS ( *XB* )

Monitor Series: 4621 , NAVWEPS

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational use; 3 Apr 2000. Other requests shall be referred to Army Signal Corps Eng. Lab. Ft. Monmouth, NJ.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THEORY OF ELECTROCHEMICAL CELL REACTIONS. VOLUME V. PART III. ELECTROCHEMICAL CELLS WITH ALKALINE ELECTROLYTES (CONTINUED)

PDF URL: (pdf) - 3 MB -

Accession Number: AD0147110

Personal Author(s): CRISPINO, PHILIP A P ; OSIPOW, LLOYD ; GREGOR, HARRY P

Corporate Author: SNELL (FOSTER D) INC NEW YORK

Report Date: 30 Apr 1957

Pages:147 Page(s)

Report Number: XA - SCEL ( XA )

Monitor Series: SCEL

Contract/Grant/Transfer Number: DA-36-039-SC-64595 ( DA36039SC64595 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; NOV 1956. Other requests shall be referred to Advanced Research Laboratory, Geophysics Research Directorate, Air Force Cambridge Research Center, Andrews AFB, MD.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Bibliography of the Electrically Exploded Wire Phenomenon

PDF URL: (pdf) - 1 MB -

Accession Number: ADB193752

Personal Author(s): Chace, William G

Corporate Author: AIR RESEARCH AND DEVELOPMENT COMMAND WASHINGTON DC

Report Date: Nov 1956

Descriptive Note: Technical memo.

Pages:53 Page(s)

Report Number: ARDC-GRD-TM-57-5 ( *ARDCGRDTM575* ) , XC - ARDC ( *XC* )

Monitor Series: ARDC

Contract/Grant/Transfer Number: AF19(604)-1747 ( *AF196041747* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; Sep 1956. Other requests shall be referred to Atomic Energy Commission, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ESTIMATED RADIATION STABILITY OF AIRCRAFT COMPONENTS

PDF URL: (pdf) - 4 MB -

Accession Number: AD0337911

Personal Author(s): Collins, C G ; Stapp, W J ; Fries, R C ; Calkins, V P

Corporate Author: GENERAL ELECTRIC CO CINCINNATI OH

Report Date: Sep 1956

Pages:129 Page(s)

Report Number: APEX-357 ( *APEX357* ) , XF - AEC ( *XF* )

Monitor Series: AEC

Contract/Grant/Transfer Number: AF-33-038-21102 ( *AF3303821102* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Studies on Nutrition in the Far East: Collective Reprints.

PDF URL: (pdf) - 93 MB -

Accession Number: ADB205441

Corporate Author: ARMY MEDICAL NUTRITION LAB CHICAGO IL

Report Date: May 1956

Pages:1371 Page(s)

Report Number: XA - DA ( *XA* )

Monitor Series: DA

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FOIA UL Display

Distribution/Classification



Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 04 NOV 1955. Other requests shall be referred to the  
Department of Defense (DoD), Attn: Public Affairs Office, Washington, DC 20310. Document  
partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactive Liquid Wastes

PDF URL: (pdf) - 4 MB -

Accession Number: ADB184300

Corporate Author: MICHIGAN UNIV ANN ARBOR SCHOOL OF PUBLIC HEALTH

Report Date: 04 Nov 1955

Pages:93 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 1955. Other requests shall be referred to Chief, Office of Naval  
Research, Arlington, VA 22217.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) CONFERENCE ON EFFECTS OF RADIATION ON DIELECTRIC MATERIALS  
HELD AT THE NAVAL RESEARCH LABORATORY, WASHINGTON, DC, ON  
DECEMBER 14-15, 1954

PDF URL: (pdf) - 10 MB -

Accession Number: AD0095310

Corporate Author: OFFICE OF NAVAL RESEARCH ARLINGTON VA

Report Date: Jan 1955

Pages:171 Page(s)

Report Number: XB - NRL AFOSR ( XB ) , XC - NRL AFOSR ( XC )

Monitor Series: NRL , AFOSR

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 22 OCT 1954. Other requests shall be referred to the National  
Aeronautics and Space Administration, Washington, DC. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) NACA-University Conference on Aerodynamics, Construction, and Propulsion Held  
in Cleveland, Ohio on October 20, 21 and 22, 1954. Volume 1. Aircraft Structures and Materials

PDF URL: (pdf) - 6 MB -

Accession Number: ADB184015

Corporate Author: NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
WASHINGTON DC

Report Date: 22 Oct 1954

Pages:115 Page(s)

Report Number: XG - NASA ( XG )

Monitor Series: NASA

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A List of References for Impulsive Loading Behavior and Related Fields.

PDF URL: (pdf) - 2 MB -

Accession Number: ADB204797

Personal Author(s): Pearson, John

Corporate Author: NAVAL ORDNANCE TEST STATION CHINA LAKE CA

Report Date: 12 Feb 1954

Descriptive Note: Technical memo.,

Pages:37 Page(s)

Report Number: NOTS-TM-1605 ( NOTSTM1605 ) , XB - NOTS ( XB )

Monitor Series: NOTS

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 01 SEP 1953. Other requests shall be referred to Atomic Energy Commission, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A REVIEW OF THE PROPERTIES OF DEUTERIUM COMPOUNDS:  
BIBLIOGRAPHY OF UNCLASSIFIED GOVERNMENT REPTS. 1947-1952

PDF URL: (pdf) - 7 MB -

Accession Number: AD0017856

Personal Author(s): Brown, L M ; Friedman, A S

Corporate Author: NATIONAL BUREAU OF STANDARDS GAITHERSBURG MD

Report Date: 01 Sep 1953

Pages: 164 Page(s)

Report Number: NBS-2492 ( NBS2492 ) , XF - AEC ( XF )

Monitor Series: AEC

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FOIA UL Display  
Distribution/Classification

Distribution Code: 02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 01 AUG 1953. Other requests shall be referred to Atomic Energy Commission, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A REVIEW OF THE PROPERTIES OF DEUTERIUM COMPOUNDS: ANNUAL BIBLIOGRAPHY - 1951

PDF URL: (pdf) - 4 MB -

Accession Number: AD0017857

Personal Author(s): Brown, L M ; Friedman, A S

Corporate Author: NATIONAL BUREAU OF STANDARDS BOULDER CO

Report Date: 01 Aug 1953

Pages:111 Page(s)

Report Number: NBS-2529 ( NBS2529 ) , XF - AEC ( XF )

Monitor Series: AEC

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 31 AUG 1953. Other requests shall be referred to Army Signal Corps, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) PHOTOVOLTAIC DOSE RATE INDICATOR

PDF URL: (pdf) - 2 MB -

Accession Number: AD0019863

Personal Author(s): Seed, Richard G

Corporate Author: SCIENTIFIC SPECIALTIES CORP BOSTON MA

Report Date: Aug 1953

Pages:80 Page(s)

Report Number: XA - ASCIA ( XA )

Monitor Series: ASCIA

Contract/Grant/Transfer Number: DA-36-039-SC-42727 ( DA36039SC42727 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; AUG 1953. Other requests shall be referred to Army Research Office, Research Triangle Park, NC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE TRANSISTOR IN 1953

PDF URL: (pdf) - 1 MB -

Accession Number: AD0020223

Personal Author(s): Githens, Jr, Sherwood

Corporate Author: ARMY RESEARCH OFFICE RESEARCH TRIANGLE PARK NC

Report Date: Aug 1953

Descriptive Note: Technical memo.

Pages:21 Page(s)

Report Number: OORTM-53-1 ( OORTM531 ) , XA - AROD ( XA )

Monitor Series: AROD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 31 JUL 1953. Other requests shall be referred to Air Technical Intelligence Center, Wright-Patterson Air Force Base, OH.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) AN ESTIMATE OF SOVIET TECHNICAL CAPABILITIES IN SOLID-STATE RESEARCH BASED UPON SOVIET PUBLICATIONS IN THE SOLID-STATE ELECTRICAL-DEVICE FIELD

PDF URL: (pdf) - 13 MB -

Accession Number: AD0028567

Personal Author(s): Middleton, A E ; Cochran, E E ; Davis, J E

Corporate Author: FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH

Report Date: 31 Jul 1953

Pages:344 Page(s)

Report Number: TR-EL-5 ( *TREL5* ) , XC - ATIC/WP ( *XCATICWP* )

Monitor Series: ATIC/WP ( *ATICWP* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 01 JUL 1953. Other requests shall be referred to Air Force Wright Air Development Center, Wright-Patterson AFB, OH 45433. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) THE PULSE HEIGHT ANALYZER IN THE OBSERVATION OF CERTAIN  
NUCLEAR TRANSMUTATIONS; AND THE USE OF MONOCHROMATIC  
TRANSMUTATIONS GAMMA RAYS FOR PHOTO DISINTEGRATION STUDIES

PDF URL: (pdf) - 174 KB -

Accession Number: AD0017274

Personal Author(s): Otting, Jr, W J

Corporate Author: PENNSYLVANIA UNIV PHILADELPHIA

Report Date: 01 Jul 1953

Descriptive Note: Quarterly rept., 1 Jul 1953

Pages:7 Page(s)

Report Number: XC - WADC ( XC )

Monitor Series: WADC

Contract/Grant/Transfer Number: AF-33(038)-20381 ( AF3303820381 )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; DEC 1952. Other requests shall be referred to Defense Public  
Affairs Office, Attn: DFOISR, Washington, DC 20301.

Report Classification: Unclassified

Collection: Technical Reports



Title: ( U ) M.I.T. Metallurgy Reports Dec 1952

PDF URL: (pdf) - 12 MB -

Accession Number: ADB183542

Personal Author(s): Backofen, Walter A ; Shaler, Amos J ; Hundy, B B ; Gregory, Eric ; Beyer, Michael B ; Inouye, Henry ; Kingery, W D ; Gaudin, A M ; Schuhmann, Jr , R

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE DEPT OF METALLURGY AND MATERIALS SCIENCE

Report Date: 31 Dec 1952

Descriptive Note: Quarterly Rept. Vol. 3, No. 4, 1 Oct-31 Dec 1952

Pages:399 Page(s)

Report Number: XD - DOD ( XD )

Monitor Series: DOD

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use;  
Dec 1952. Other requests shall be referred to Adjutant General's Office (Army), Washington, DC  
20310., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RESEARCH AND DEVELOPMENT

PDF URL: (pdf) - 7 MB -

Accession Number: AD0003333

Corporate Author: ADJUTANT GENERAL'S OFFICE (ARMY) WASHINGTON DC

Report Date: 31 Dec 1952

Pages:140 Page(s)

Report Number: XA - AGO ( XA )

Monitor Series: AGO

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Operational and Administrative Use; Dec 1952. Other requests shall be referred to Wright Air Development Center (WADC), Wright-Patterson AFB, OH, 45433.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A REVIEW OF THE PROBLEM OF ADHESION

PDF URL: (pdf) - 1 MB -

Accession Number: AD0020797

Personal Author(s): SCHOFIELD, WILLIAM M ; CZYZAK, STANLEY J

Corporate Author: AEROSPACE RESEARCH LABS WRIGHT-PATTERSON AFB OH

Report Date: Dec 1952

Pages:51 Page(s)

Report Number: WADC - TR-52-69 WADC ( WADCTR5269 ) , XC - TR-52-69 WADC ( XCTR5269 )

Monitor Series: TR-52-69 ( TR5269 ) , WADC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; SEP 1948. Other requests shall be referred to National Bureau of Standards, Research Library, Stop 2500, 100 Bureau Drive, Gaithersburg, MD 20899-2500.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A REVIEW OF PROPERTIES OF DEUTERIUM COMPOUNDS; ANNUAL BIBLIOGRAPHY - 1948

PDF URL: (pdf) - 2 MB -

Accession Number: AD0006832

Personal Author(s): BROWN, LAWRENCE M ; BECKETT, CHARLES W

Corporate Author: NATIONAL BUREAU OF STANDARDS BOULDER CO

Report Date: 21 Jul 1952

Descriptive Note: Annul rept. ending 30 Sep 1948

Pages:85 Page(s)

Report Number: NBS-1685 ( *NBS1685* ) , XF - AEC ( *XF* )

Monitor Series: AEC

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; JUL 1952. Other requests shall be referred to Field Command, Armed Forces Special Weapons Project, Sandia Base, Albuquerque, NM 87185. Pre-dates formal DoD distribution statements. Treat as DoD only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nucleonics Fundamentals

PDF URL: (pdf) - 82 MB -

Accession Number: ADB365777

Corporate Author: DEFENSE ATOMIC SUPPORT AGENCY ALBUQUERQUE NM

Report Date: Jul 1952

Descriptive Note: Pamphlet no. 2

Pages:348 Page(s)

Report Number: XD - AFSWP/NM ( *XDAFSWPNM* )

Monitor Series: AFSWP/NM ( *AFSWPNM* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Problems Associated with the Transportation of Radioactive Substances.

PDF URL: (pdf) - 6 MB -

Accession Number: ADB200916

Personal Author(s): Evans, Robley D

Corporate Author: NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH  
COUNCIL WASHINGTON DC

Report Date: 05 May 1952

Descriptive Note: Preliminary rept. no. 11,

Pages:78 Page(s)

Report Number: XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; MAY 1952. Other requests shall be referred to Atomic Energy Commission, Washington, DC.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Laboratory Design for Handling Radioactive Materials

PDF URL: (pdf) - 12 MB -

Accession Number: ADB183182

Corporate Author: NATIONAL RESEARCH COUNCIL WASHINGTON DC BUILDING  
RESEARCH ADVISORY BOARD

Report Date: May 1952

Descriptive Note: Research conference rept. no. 3

Pages:145 Page(s)

Report Number: BRAB-3 ( *BRAB3* ) , XF - AEC ( *XF* )

Monitor Series: AEC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Specific Authority; May 1952. Other requests shall be referred to WADC, Wright-Patterson AFB  
OH.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) RADIATION HAZARDS IN HIGH ALTITUDE AVIATION

PDF URL: (pdf) - 2 MB -

Accession Number: AD0000005

Personal Author(s): TOBIAS, CORNELIUS A ; AYERS, S

Corporate Author: CALIFORNIA UNIV BERKELEY DONNER LAB

Report Date: May 1952

Descriptive Note: Technical rept.

Pages:45 Page(s)

Report Number: 52-119 ( 52119 ) , WADC - TR52-119 WADC ( WADCTR52119 ) , XC -  
TR52-119 WADC ( XCTR52119 )

Monitor Series: TR52-119 ( TR52119 ) , WADC

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FOIA UL Display  
Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; 1952. Other requests shall be referred to Defense Technical  
Information Center, 8725 John J. Kingman Rd., Suite 0944, Fort Belvoir, VA 22060-6218.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) ASTIA CADO Information 1949-1952

PDF URL: (pdf) - 95 MB -

Accession Number: ADB230216

Corporate Author: DEFENSE TECHNICAL INFORMATION CENTER FORT BELVOIR VA

Report Date: Jan 1952

Pages:773 Page(s)

Report Number: XD - DTIC/FB ( *XDDTICFB* )

Monitor Series: DTIC/FB ( *DTICFB* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Fundamentals of Radiological Defense.

PDF URL: (pdf) - 6 MB -

Accession Number: ADB217521

Corporate Author: NAVAL ACADEMY ANNAPOLIS MD

Report Date: Jan 1952

Pages:85 Page(s)

Report Number: NAVPERS - 10870 NAVPERS ( *NAVPERSNAVPERS* ) , XB - 10870 NAVPERS ( *XBNAVPERS* )

Monitor Series: 10870 , NAVPERS ( *NAVPERS* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nonferrous Mineral Resources,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB201817

Personal Author(s): Lasky, Samuel G

Corporate Author: INDUSTRIAL COLL OF THE ARMED FORCES WASHINGTON DC

Report Date: 31 Oct 1951

Pages:21 Page(s)

Report Number: ICAF-L52-46 ( *ICAFL5246* ) , XA - ICAF ( *XA* )

Monitor Series: ICAF

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS



Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Warfare Defense.

PDF URL: (pdf) - 2 MB -

Accession Number: ADB200635

Corporate Author: BUREAU OF YARDS AND DOCKS WASHINGTON DC

Report Date: 01 Aug 1951

Pages:55 Page(s)

Report Number: NAVDOCKS-TP-PL-2 ( *NAVDOCKSTPPL2* ) , XB - NAVDOCKS ( *XB* )

Monitor Series: NAVDOCKS

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Transmutations Using Accelerated Carbon Ions,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB214094

Personal Author(s): Hollander, Jack M

Corporate Author: CALIFORNIA UNIV BERKELEY LAWRENCE RADIATION LAB

Report Date: Jul 1951

Pages:67 Page(s)

Report Number: UCRL-1396 ( *UCRL1396* ) , XD - XD ( *XD* )

Monitor Series: XD

Contract/Grant/Transfer Number: W-7405-ENG-48 ( *W7405ENG48* )

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 26 - NOT AVAILABLE IN MICROFICHE , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; 3 Feb 99. Other requests shall be referred through Defense Technical Information Center, DTIC-BCS, 8725 John J. Kingman Rd., Ft. Belvoir, VA 22060-6218., Availability: Hard copy only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Photo Disintegration of Copper.

PDF URL: (pdf) - 1 MB -

Accession Number: ADB812592

Personal Author(s): Byerly, P R , Jr ; Stephens, W E

Corporate Author: PENNSYLVANIA UNIV PHILADELPHIA RANDAL MORGAN LAB OF PHYSICS

Report Date: 16 Mar 1951

Pages:0 Page(s)

Report Number: TR-2 ( *TR2* ) , XB - NAVEXOS ( *XB* )

Monitor Series: NAVEXOS

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Health Physics Insurance Seminar,

PDF URL: (pdf) - 11 MB -

Accession Number: ADB217857

Personal Author(s): Morgan, K Z ; Pollard, E ; Cowan, F P ; Kuper, J B ; Balber, D

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 12 Mar 1951

Pages:164 Page(s)

Report Number: TID-388 ( *TID388* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Final Report of the Fast Neutron Data Project,

PDF URL: (pdf) - 15 MB -

Accession Number: ADB221286

Personal Author(s): Feld, B T ; Feshbach, H ; Goldberger, M L ; Goldstein, H ; Weisskopf, V F

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 31 Jan 1951

Pages:244 Page(s)

Report Number: AEC-NYO-636 ( *AECNYO636* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 26 - NOT AVAILABLE IN MICROFICHE , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; 3 Feb 99. Other requests shall be referred through Defense Technical Information Center, DTIC-BCS, 8725 John J. Kingman Rd., Ft. Belvoir, VA 22060-6218., Availability: Hard copy only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Thresholds of Photo-Neutron Reactions.

PDF URL: (pdf) - 2 MB -

Accession Number: ADB812593

Personal Author(s): Sher, R ; Halpern, J ; Stephens, W E

Corporate Author: PENNSYLVANIA UNIV PHILADELPHIA RANDAL MORGAN LAB OF PHYSICS

Report Date: 10 Jan 1951

Descriptive Note: Technical rept. no. 1,

Pages:0 Page(s)

Report Number: XB - NAVEXOS ( XB )

Monitor Series: NAVEXOS

Contract/Grant/Transfer Number: N6-ONR-249 ( N6ONR249 )

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 26 - NOT AVAILABLE IN MICROFICHE , 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only. Administrative/Operational Use; 4 Mar 99. Other requests shall be referred through Defense Technical Information Center, DTIC-BCS, 8725 John J. Kingman Rd., Ft. Belvoir, VA 22060-6218., Availability: Hard copy only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The National Research Council Review 1951.

PDF URL: (pdf) - 22 MB -

Accession Number: ADB813291

Personal Author(s): Howe, C D

Corporate Author: NATIONAL RESEARCH COUNCIL OF CANADA OTTAWA (ONTARIO)

Report Date: Jan 1951

Pages:304 Page(s)

Report Number: NRC-2560 ( *NRC2560* ) , X5 - X5 ( *X5* )

Monitor Series: X5

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors;  
Administrative/Operational Use; Jan 1951. Other requests shall be referred to Department of  
Engery, Washington, DC 20585., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Division of Biological and Medical Research Quarterly Report, November,  
December 1950 and January 1951 (Biological Effects of Radiation)

PDF URL: (pdf) - 8 MB -

Accession Number: ADB181457

Personal Author(s): Brues, Austin M

Corporate Author: ARGONNE NATIONAL LAB IL DIV OF BIOLOGICAL AND MEDICAL  
RESEARCH

Report Date: Jan 1951

Pages:159 Page(s)

Report Number: ANL-4571 ( *ANL4571* ) , XF - DOE ( *XF* )

Monitor Series: DOE

Contract/Grant/Transfer Number: W-31-109-ENG-38 ( *W31109ENG38* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Servomechanism Synthesis Through Pole-Zero Configurations.

PDF URL: (pdf) - 4 MB -

Accession Number: ADB212732

Personal Author(s): Truxal, John G

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE RESEARCH LAB OF  
ELECTRONICS

Report Date: 25 Aug 1950

Descriptive Note: Technical rept.,

Pages:105 Page(s)

Report Number: TR-162 ( *TR162* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Brookhaven National Laboratory, Annual Report, July 1, 1950.

PDF URL: (pdf) - 10 MB -

Accession Number: ADB215684

Corporate Author: BROOKHAVEN NATIONAL LAB UPTON NY

Report Date: 01 Jul 1950

Pages:149 Page(s)

Report Number: BNL-74(AS-4) ( *BNL74AS4* ) , XF - XD ( *XF* )

Monitor Series: XD

Contract/Grant/Transfer Number: AT-30-2-GEN-16 ( *AT302GEN16* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Carrier-Free Radioisotopes from Cyclotron Targets. 11. Preparation and Isolation of Os(185) and Re(183, 184) from Tungsten,

PDF URL: (pdf) - 265 KB -

Accession Number: ADB202487

Personal Author(s): Gile, Jeanne D ; Garrison, Warren K ; Hamilton, Joseph G

Corporate Author: CALIFORNIA UNIV BERKELEY LAWRENCE RADIATION LAB

Report Date: 26 May 1950

Pages:6 Page(s)



Report Number: XD - XD ( XD )

Monitor Series: XD

Contract/Grant/Transfer Number: W-7405-ENG-48 ( W7405ENG48 )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Energy and the Physical Sciences.

PDF URL: (pdf) - 13 MB -

Accession Number: ADB219822

Corporate Author: ATOMIC ENERGY COMMISSION WASHINGTON DC

Report Date: Jan 1950

Pages:232 Page(s)

Report Number: XF - XD ( XF )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Cytogenetic Effect of Slow Neutrons,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB221851

Personal Author(s): Conger, Alan D ; Giles, Norman H , Jr

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1950

Pages:28 Page(s)

Report Number: ORNL-409 ( *ORNL409* ) , XJ - XD ( *XJ* )

Monitor Series: XD

Contract/Grant/Transfer Number: W-7405-ENG-26 ( *W7405ENG26* )

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FOIA UL Display

Distribution/Classification

Distribution Code:02 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 01 AUG 1952. Other requests shall be referred to National Institute of Standards, 100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899-1070.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A REVIEW OF THE PROPERTIES OF DEUTERIUM COMPOUNDS; ANNUAL BIBLIOGRAPHY - 1949

PDF URL: (pdf) - 2 MB -

Accession Number: AD0006831

Personal Author(s): BROWN, L M ; GOLDSTEIN, J M ; BECKETT, C W

Corporate Author: NATIONAL BUREAU OF STANDARDS BOULDER CO

Report Date: 30 Sep 1949

Pages:84 Page(s)

Report Number: NBSR 1721 ( *NBSR1721* ) , XJ - NBS ( *XJ* )

Monitor Series: NBS

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Proceedings of the International Conference on the Physics of Very Low Temperatures.

PDF URL: (pdf) - 7 MB -

Accession Number: ADB220934

Corporate Author: CHALMERS UNIV OF TECHNOLOGY GOETEBORG (SWEDEN)  
RESEARCH LAB OF ELECTRONICS

Report Date: Sep 1949

Pages:146 Page(s)

Report Number: XB - ONR ( *XB* )

Monitor Series: ONR

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Properties of Atomic Nuclei. III. Nuclear Energy Levels  $Z = 11 - 20$ ,

PDF URL: (pdf) - 630 KB -

Accession Number: ADB220476

Personal Author(s): Alburger, D E ; Hafner, E M

Corporate Author: BROOKHAVEN NATIONAL LAB UPTON NY

Report Date: 01 Jul 1949

Pages:23 Page(s)

Report Number: BNL-T-9 ( *BNLT9* ) , XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE , 26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; 28 OCT 2005. Other requests shall be referred to Department of Defense, Attn: Public Affairs Office, Washington, DC 20301. Document partially illegible. This document is not available from DTIC in microfiche.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Summary of German Electronics Reports from BHF Library. Volumes 1 and 2

PDF URL: (pdf) - 93 MB -

Accession Number: ADB815855

Corporate Author: ATI COLLECTION FORT BELVOIR VA

Report Date: Jun 1949

Pages:1095 Page(s)

Report Number: XD - DOD ( XD )

Monitor Series: DOD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Multiplicative Systems in Several Variables, III,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB198658

Personal Author(s): Everett, C ; Ulam, S

Corporate Author: LOS ALAMOS SCIENTIFIC LAB ALBUQUERQUE NM

Report Date: 28 Oct 1948

Pages:37 Page(s)

Report Number: AEC - D-2532 XD ( *AECD2532 XD* ) , XF - D-2532 XD ( *XFD2532 XD* )

Monitor Series: D-2532 ( *D2532* ) , XD ( *XD* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Bombardment of U(233) with 44 MEV Helium Ions and the Formation of Pu(234),

PDF URL: (pdf) - 279 KB -

Accession Number: ADB219071

Personal Author(s): Perlman, I ; O'Connor, P R ; Morgan, L O

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 10 Sep 1948

Pages:5 Page(s)

Report Number: AECD-2289 ( *AECD2289* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Radiological use of High Energy Deuteron Beams,

PDF URL: (pdf) - 684 KB -

Accession Number: ADB218058

Personal Author(s): Tobias, C A ; Anger, Hal ; Weymouth, P P ; Dobson, R L

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 28 May 1948

Pages:14 Page(s)

Report Number: AECD-2099-A ( AECD2099A ) , XJ - XD ( XJ )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Characterization of Tc Activities Produced by Deuteron Bombardment of Separated Mo Isotopes.

PDF URL: (pdf) - 173 KB -

Accession Number: ADB199855

Personal Author(s): Motta, E E ; Boyd, G E

Corporate Author: OAK RIDGE NATIONAL LAB TN

Report Date: 18 May 1948

Pages:8 Page(s)

Report Number: AEC - 2073 XD ( *AECXD* ) , XF - 2073 XD ( *AFXD* )

Monitor Series: 2073 , XD ( *XD* )

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Photogenic Mesons.

PDF URL: (pdf) - 2 MB -

Accession Number: ADB214197

Personal Author(s): Feld, Bernard T

Corporate Author: MASSACHUSETTS INST OF TECH CAMBRIDGE LAB FOR NUCLEAR SCIENCE

Report Date: 26 Mar 1948

Descriptive Note: Technical rept.,

Pages:52 Page(s)

Report Number: TR-8-ONR ( *TR8ONR* ) , XB - ONR ( *XB* )

Monitor Series: ONR

Contract/Grant/Transfer Number: N5ORI-78 ( *N5ORI78* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Preparation and Isolation of Curium,

PDF URL: (pdf) - 499 KB -

Accession Number: ADB221582

Personal Author(s): Werner, L B ; Perlman, I

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Mar 1948

Pages:7 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; MAR 1948. Other requests shall be referred to Bureau of Medicine and Surgery, Department of the Navy, Washington, DC 20372-5300. Pre-dates formal DoD distribution statements. Treat as DoD only. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Manual of Radiological Safety. Revision

PDF URL: (pdf) - 10 MB -

Accession Number: ADB180956

Corporate Author: BUREAU OF MEDICINE AND SURGERY WASHINGTON DC

Report Date: Mar 1948

Pages:185 Page(s)

Report Number: NAVMED-P-1283-REV ( *NAVMEDP1283REV* ) , XB - BUMED ( *XB* )

Monitor Series: BUMED

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Isolation of Actinium (Ac(227)),

PDF URL: (pdf) - 171 KB -

Accession Number: ADB215103

Personal Author(s): Hagemann, French

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Feb 1948

Pages:5 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radiological Defense, Vol. 1.

PDF URL: (pdf) - 11 MB -

Accession Number: ADB214681

Corporate Author: ARMED FORCES SPECIAL WEAPONS PROJECT WASHINGTON DC  
JOINT CROSSROADS COMMITTEE

Report Date: 22 Jan 1948

Pages:166 Page(s)

Report Number: XD - XD ( *XD* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Metabolism of Curium in the Rat,

PDF URL: (pdf) - 522 KB -

Accession Number: ADB221153

Personal Author(s): Scott, K G ; Axelrod, D ; Hamilton, J G

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 15 Jan 1948

Pages:11 Page(s)

Report Number: AECD-1805 ( *AECD1805* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactive Isotopes As Sources in Industrial Radiography,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB220550

Personal Author(s): Tenney, Gerold H

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1948

Pages:24 Page(s)

Report Number: AEC-MDDC-1690 ( *AECMDDC1690* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution: DTIC users only., Availability: Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Energy Development, 1947-1948.

PDF URL: (pdf) - 15 MB -

Accession Number: ADB213302

Corporate Author: ATOMIC ENERGY COMMISSION WASHINGTON DC

Report Date: Jan 1948

Pages:222 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Nuclear Engineering Course, 1947 - 1948. Nuclear Physics IV,

PDF URL: (pdf) - 610 KB -

Accession Number: ADB218387

Personal Author(s): Van der Grinten, W

Corporate Author: KNOLLS ATOMIC POWER LAB SCHENECTADY NY

Report Date: 13 Nov 1947

Pages:14 Page(s)

Report Number: KAPL-PC-155 ( *KAPLPC155* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A New Radioactive Series - The Protactinium Series,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB214576

Personal Author(s): Studier, Martin H ; Hyde, Earl K

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 06 Oct 1947

Pages:31 Page(s)

Report Number: AEC-MDDC-1567 ( *AECMDDC1567* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Some Biological Effects Due to Nuclear Fission,

PDF URL: (pdf) - 622 KB -

Accession Number: ADB212746

Personal Author(s): Tobias, C A ; Weymouth, P P ; Wasserman, L R

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 05 Sep 1947

Pages:14 Page(s)

Report Number: AEC-MDDC-1239 ( *AECMDDC1239* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Course in Nuclear Physics for Engineers.

PDF URL: (pdf) - 5 MB -

Accession Number: ADB218174

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jun 1947

Pages:151 Page(s)

Report Number: MDDC-1014 ( *MDDC1014* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The War Against Japanese Transportation 1941-1945 - and Appendices A-G.

PDF URL: (pdf) - 42 MB -

Accession Number: ADB222327



Corporate Author: STRATEGIC BOMBING SURVEY

Report Date: May 1947

Pages:209 Page(s)

Report Number: XC - USSBS ( XC )

Monitor Series: USSBS

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use;  
FEB 1947. Other requests shall be referred to Air Force Materiel Command, Wright-Patterson  
AFB, OH 45433-6503. Pre-dates formal DoD distribution statements. Treat as DoD only.  
Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Atomic Energy

PDF URL: (pdf) - 30 MB -

Accession Number: ADB814999

Corporate Author: AIR MATERIEL COMMAND WRIGHT-PATTERSON AFB OH

Report Date: Feb 1947

Pages:91 Page(s)

Report Number: AMC-AF-F-IR-135-RE ( *AMCAFFIR135RE* ) , XC - AMC-AF ( *XCAMCAF* )

Monitor Series: AMC-AF ( *AMCAF* )

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Radioactive Isotope Tracer Techniques,

PDF URL: (pdf) - 564 KB -

Accession Number: ADB218713

Personal Author(s): Boyd, G E

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1947

Pages:8 Page(s)

Report Number: AEC-MDDC-840 ( *AECMDDC840* ) , XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Nature and Production of Radioactivity,

PDF URL: (pdf) - 2 MB -

Accession Number: ADB214470

Personal Author(s): Cohn, Waldo E

Corporate Author: OAK RIDGE NATIONAL LAB TN

Report Date: Jan 1947

Pages:35 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) A Review of Analytical Methods for Beryllium,

PDF URL: (pdf) - 272 KB -

Accession Number: ADB202813

Personal Author(s): Neuman, William F

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1947

Pages:6 Page(s)

Report Number: MDDC-1235 ( *MDDC1235* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Medical Applications of Radioactive Tracers,

PDF URL: (pdf) - 1 MB -

Accession Number: ADB216212

Personal Author(s): Hamilton, Jos G

Corporate Author: CALIFORNIA UNIV BERKELEY LAWRENCE RADIATION LAB

Report Date: Jan 1947

Pages:36 Page(s)

Report Number: XD - XD ( XD )

Monitor Series: XD

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FOIA UL Display  
Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Metabolism of Carrier-Free Fission Products in the Rat,

PDF URL: (pdf) - 8 MB -

Accession Number: ADB202621

Personal Author(s): Scott, K G ; Overstreet, R ; Jacobson, L ; Hamilton, J G ; Fisher, H

Corporate Author: ATOMIC ENERGY COMMISSION WASHINGTON DC

Report Date: Jan 1947

Pages:211 Page(s)

Report Number: XF - XD ( *XF* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Transuranium Elements,

PDF URL: (pdf) - 320 KB -

Accession Number: ADB220902

Personal Author(s): Seaborg, Glenn T ; Segre, Emilio

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Dec 1946

Pages:5 Page(s)

Report Number: AEC-MDDC-1609 ( *AECMDDC1609* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:04 - DOD ONLY; DOD CONTROLLED , 23 - AVAILABILITY:  
DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:Distribution authorized to DoD only; Administrative/Operational Use; 15 NOV 1946. Other requests shall be referred to Department of the Air Force, ATTN: Public Affairs Office, Washington, DC 20330. Pre-dates formal DoD distribution statements. Treat as DoD only. Document partially illegible.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Japanese Naval Shipbuilding

PDF URL: (pdf) - 8 MB -

Accession Number: ADB816560

Corporate Author: STRATEGIC BOMBING SURVEY

Report Date: 15 Nov 1946

Pages:37 Page(s)

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) Ca45: Production from Scandium in the Pile, Radiation Characteristics, and Preparation in Carrier-Free Form,

PDF URL: (pdf) - 363 KB -

Accession Number: ADB219116

Personal Author(s): Khym, J X ; Tompkins, P C ; Cohn, W E

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: 16 Feb 1946

Pages:13 Page(s)

Report Number: MDDC-1214 ( *MDDC1214* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) The Cyclotron in the Atomic Energy Developments,

PDF URL: (pdf) - 583 KB -

Accession Number: ADB218243

Personal Author(s): Perlman, I

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1946

Pages:12 Page(s)

Report Number: MDDC-402 ( *MDDC402* ) , XJ - XD ( *XJ* )

Monitor Series: XD

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FOIA UL Display

Distribution/Classification

Distribution Code:12 - U.S. GOVT. AND THEIR CONTRACTORS

Distribution Statement:Distribution: DTIC users only.

Report Classification: Unclassified

Collection: Technical Reports

Title: ( U ) An Introduction to Nuclear Chemistry Lecture Series,

PDF URL: (pdf) - 2 MB -

Accession Number: ADB218088

Personal Author(s): Seaborg, G T ; English, S G ; Wilson, V C ; Coryell, C D

Corporate Author: TECHNICAL INFORMATION SERVICE (AEC) OAK RIDGE TN

Report Date: Jan 1942

Pages:49 Page(s)

Report Number: AEC-MDDC-763 ( *AECMDDC763* ) , XF - XD ( *XF* )

Monitor Series: XD

Highest Classification: Unclassified