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Description of document:	Defense Technical Information Center (DTIC) (computer generated) bibliography of Technical Reports where personal author = Bull, G.V. (Gerald) – [Gerald V. Bull, controversial ballistics engineer]
Requested date:	20-January-2010
Released date:	10-March-2010
Posted date:	01-August-2011
Title of documents:	DTIC Bibliography, Technical Reports Collection
Source of document:	Defense Technical Information Center (DTIC-R) ATTN: FOIA Requester Service Center 8725 John J. Kingman Road, Suite 0944 Ft. Belvoir, VA 22060-6218 Email: foia@dtic.mil FAX: (703) 767-9201
Note:	Two bibliographic listings included – see release letter Gerald V. Bull, a Canadian engineer known for projects
	involving "superguns," designed to ultimately launch Earth satellites. He designed the Project Babylon supergun for Iraq.

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IN REPLY DTIC-R (FOIA 2010-23)

MAR 8 2010

This is in response to your letter of January 20, 2010 (enclosure 1), requesting information under the Freedom of Information Act (FOIA). Under Department of Defense rules implementing the FOIA, published at 32 CFR 286, your request was categorized as "other."

Enclosed are computer-generated bibliographies prepared by weighting/matching the subject terms or keywords listed in your request against our database (i.e., *personal author BULL, G.V. (Gerald)*). The bibliographies may contain some documents that do not apply to the specific subject area(s) in which you are interested; however, to eliminate any of the key search terms would also eliminate documents that do apply to your subject area(s) of interest.

The documents listed on enclosure 2 have been approved for public release and may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. NTIS sells such documents to the general public and, if you wish, you can order the documents by telephone at (703) 605-6000. Be sure to include the AD numbers when requesting the documents. NOTE: Some of the documents listed on the bibliography on enclosure 2 can be viewed and/or downloaded in full text through the Defense Technical Information Center (DTIC) Online Public Technical Reports website at http://www.dtic.mil/dtic/search/tr/index.html. Once at the site, type the full document number as its written (ex: AD0654370) in the "Search for" box, then click the "Search" button; in the Accession Number field, click on the link "View Full Text (pdf)".

Enclosure 3 consists of a bibliography that contains unclassified descriptions of classified and/or unclassified/limited distribution documents related to your request. These documents may only be released by the controlling activity. Requests for these documents should be forwarded to the controlling activity, usually identified in the Distribution Statement field of the citation. This office upon request can research documents with no controlling activity

identified. NOTE: Although some of the citations listed on the bibliography at enclosure 3

may indicate that the document can be viewed and/or downloaded in full text, be advised that these citations/documents are not available to the general public through the DTIC Online Public Technical Reports.

Please understand that other members of the public may submit a FOIA request for copies of FOIA requests received by this office or the names of those who have submitted requests. Should such occur, your name and, if asked for, a copy of your request will be released; however, your home address and home telephone number will not be released. Other private citizens who have obtained your name by using such a request may contact you. However, correspondence from the Defense Department 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,

MICHAEL A. HAMILTON Acting FOIA Program Manager

3 Enclosures

Highest Classification: UNCLASSIFIED

DTIC Bibliography

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number: AD0654370 Full Text (pdf) Availability: View Full Text (pdf) File: /U2/654370.pdf Size: 938 KB Handle / proxy Url: http://handle.dtic.mil/100.2/AD654370 **Corporate Author:** ARMY BALLISTIC RESEARCH LAB ABERDEEN PROVING GROUND MD **Unclassified Title:** (U) MULTIPLE POINT IGNITION IN HARP GUNS **Descriptive Note:** Memorandum rept. **Personal Author(s):** Bull, G V Murphy, C H Lyster, D **Report Date:** Mar 1967 Media Count: 31 Page(s) **Report Number(s): BRL-MR-1832** XA-BRL **Monitor Series:** BRL **Report Classification:** Unclassified **Distribution Limitation(s):** 01 - APPROVED FOR PUBLIC RELEASE **Distribution Statement:** Approved for public release; distribution is unlimited. Abstract:

(U) The usual powder charge in the 16-inch HARP gun can be as long as 12 feet in an even longer chamber. If the charge length is more than 2 feet shorter than the available chamber, the pressure time curve can be significantly improved by dividing this interval into 2 to 4 sub-intervals by use of wooden spacers. An even more dramatic improvement

can be achieved by igniting this column of powder at several points. Recently, five point ignition with two squibs in each location was used in the 119-foot long 16-inch gun with very good results. The service charge for a 16-inch gun is 660 pounds of standard 16-inch gun propellant. This charge will launch a 3000-pound projectile at 2800 feet per second, but is too slow burning to launch the standard HARP projectile plus sabot weight of 410 pounds at this velocity. With multiple point ignition, 1275 pounds of this old propellant accelerated the HARP projectile to 5900 feet per second, and an apogee of 414,000 feet was achieved. Even better performance can be achieved with multiple point ignition. A WM/M propellant with 0.220 web, 920 pounds, allows the HARP projectile to reach 6800 feet per second and an altitude of 540,000 feet while a 0.225 M8M propellant yields a muzzle velocity of 7000 feet per second and 590,000 feet apogee.

Abstract Classification:

Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number: AD0654123 Full Text (pdf) Availability: View Full Text (pdf) File: /U2/654123.pdf Size: 1 MB Handle / proxy Url: http://handle.dtic.mil/100.2/AD654123 **Corporate Author:** ARMY BALLISTIC RESEARCH LAB ABERDEEN PROVING GROUND MD **Unclassified Title:** (U) HARP 5-INCH AND 16-INCH GUNS AT YUMA PROVING GROUND, ARIZONA **Descriptive Note:** Memorandum rept., **Personal Author(s):** Murphy, C H Bull, G V **Report Date:** Feb 1967 Media Count: 48 Page(s) **Report Number(s): BRL-MR-1825 XA-BRL Monitor Series:** BRL **Report Classification:**

Unclassified

Distribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

Distribution Statement:

Approved for public release; distribution is unlimited.

Abstract:

(U) The 5- and 16-inch guns at Yuma Proving Ground and their associated instrumentation and flight results for 1966 are described in detail. The introduction of multi-point ignition for the 16-inch gun produced a record altitude of 111 miles using special propellants and the moderate altitude of 77 miles with surplus Naval propellant. Twenty-four ionospheric wind profiles have been obtained from 16-inch gun firings and 15 stratospheric profiles from the 5- inch firings. Telemetry performance and ground recovery capability have been demonstrated.

Abstract Classification:

Unclassified

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Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number: AD0645284 Full Text (pdf) Availability: View Full Text (pdf) File: /U2/645284.pdf Size: 1 MB Handle / proxy Url: http://handle.dtic.mil/100.2/AD645284 **Corporate Author:** ARMY BALLISTIC RESEARCH LAB ABERDEEN PROVING GROUND MD **Unclassified Title:** (U) REVIEW OF THE HIGH ALTITUDE RESEARCH PROGRAM (HARP) **Personal Author(s):** Murphy, C H Bull, G V **Report Date:** Jul 1966 Media Count: 37 Page(s) **Report Number(s): BRL-1327** XA-BRL **Monitor Series:** BRL **Report Classification:** Unclassified

Distribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE

Distribution Statement:

Approved for public release; distribution is unlimited. Document partially illegible. **Abstract:**

(U) Project High Altitude Research Program (HARP) is directed toward the use of guns for scientific probing of the upper atmosphere. The attractive features of guns for this purpose are the basic economy of such a system and the high inherent accuracy of guns for placement at altitude as well as accuracy in ground impact. The basic liability for such an approach lies in the very high accelerations experienced by gun-launched payloads. The guns used in Project HARP vary in size from 5-inch and 7-inch extended guns on mobile mounts to transportable fixed 16-inch guns. Altitude performance varies from 20 pound, 5- inch projectiles reaching 240,000 feet to 185-pound, 16-inch projectiles reaching 470,000 feet. Single and multiple stage rockets launched from the 16- inch gun have very promising predicted performance and are under development. Scientific results to date are primarily wind profiles measured by radar chaff, aluminized balloons and parachutes, and tri-methyl-aluminum trails, although a number of successful 250 MHz and 1750 MHz telemetry flights were made. Sun sensors, magnetometers, and temperature sensors were flown and an electron density sensor was fired in early June. **Abstract Classification:**

Unclassified

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Technical Reports Collection

Citation Format: FOIA(U2)

Unclassified **Distribution Limitation(s):** 01 - APPROVED FOR PUBLIC RELEASE 23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE **Distribution Statement:** Availability: Document partially illegible.

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Highest Classification: UNCLASSIFIED

Highest Classification: UNCLASSIFIED

DTIC Bibliography

Technical Reports Collection

Citation Format: FOIA(UL)

Accession Number: AD0807731 Full Text (pdf) Availability: View Full Text (pdf) File: /UL/807731.pdf Size: 2 MB **Corporate Author:** MCGILL UNIV MONTREAL (QUEBEC) SPACE RESEARCH INST **Unclassified Title:** (U) ORBITAL AND HIGH ALTITUDE PROBING POTENTIAL OF GUN LAUNCHED ROCKETS **Personal Author(s):** Bull, G V Lyster, D Parkinson, G V **Report Date:** Oct 1966 Media Count: 64 Page(s) **Report Number(s):** R-SRI-H-R-13 **XD-DOD Monitor Series:** DOD **Report Classification:** Unclassified **Distribution Limitation(s):** 02 - U.S. GOVT. AND THEIR CONTRACTORS **Distribution Statement:** Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; OCT 1966. Other requests shall be referred to Department of Defense(DoD), Attn: Public Affairs Office, Washington, DC 20301.

Technical Reports Collection

Citation Format: FOIA(UL)

Accession Number: AD0104378 **Corporate Author:** CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT VALCARTIER (QUEBEC) **Unclassified Title:** (U) SOME AERODYNAMIC STUDIES IN THE C.A.R.D.E. AEROBALLISTICS RANGE **Personal Author(s):** BULL,G V **Report Date:** 20 Mar 1956 Media Count: 1 Page(s) **Report Classification:** Unclassified **Distribution Limitation(s):** 02 - U.S. GOVT. AND THEIR CONTRACTORS e Sandrins is hundrichen ander Sandrichen werden aber eine eine Sandersteil seine sich eine Sandersteilen eine Sa

Technical Reports Collection

Citation Format: FOIA(UL)

Accession Number: AD0101982 Full Text (pdf) Availability: View Full Text (pdf) File: /UL/101982.pdf Size: 3 MB **Corporate Author:** CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT (OUEBEC) **Unclassified Title:** (U) SOME AERODYNAMIC STUDIES IN THE CARDE AEROBALLISTICS RANGE **Descriptive Note:** Miscellaneous rept. **Personal Author(s):** Bull, G V **Report Date:** May 1955

Media Count: 45 Page(s) Report Number(s): CARDE-MR-53/55 X5-CARDE Monitor Series: CARDE Report Classification: Unclassified Distribution Limitation(s): 02 - U.S. GOVT. AND THEIR CONTRACTORS Distribution Statement: Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; MAY 1955. Other requests shall be referred to Canadian Embassy, 501 Pennsylvania Avenue, NW, Washington, DC 20001.

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Citation Format: FOIA(UL)

Accession Number: AD0049587 **Corporate Author:** CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT VALCARTIER (QUEBEC) AERO/PHYSICS WING **Unclassified Title:** (U) THE AEROBALLISTIC RANGE AS AN AERODYNAMIC TOOL THEORY AND **EXPERIMENT. ARMAMENT AND EXPLOSIVES PAPER 5 Personal Author(s):** BULL, G V **Report Date:** Dec 1953 **Media Count:** 39 Page(s) **Report Number(s):** X5-DRB **Monitor Series:** DRB **Report Classification:** SECRET **Distribution Limitation(s):** 09 - CLASSIFIED **Distribution Statement:** Controlling Organization: Canadian Embassy, 501 Pennsylvania Ave., NW, Washington, DC 20001.

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Citation Format: FOIA(UL)

Accession Number: AD0365992 **Corporate Author:** CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT (QUEBEC) **Descriptive Note:** Technical letter, **Personal Author(s):** Bull, G V **Report Date:** 23 Mar 1953 Media Count: 56 Page(s) **Report Number(s):** CARDE-286/52 TL-N-44-131 **Report Classification:** SECRET **Distribution Limitation(s):** 09 - CLASSIFIED the state to an address of the state of the

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Citation Format: FOIA(UL)

Accession Number: AD0302324 Corporate Author: CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT VALCARTIER (QUEBEC) Unclassified Title: (U) AIR TO AIR GUIDED MISSILE. REPORT ON VISIT TO UNITED KINGDOM NOV-DEC 1952 Descriptive Note: Technical letter. Personal Author(s): WATSON,G D BULL,G V TIDY,G H Report Date: 06 Mar 1953 Media Count: 18 Page(s) Report Number(s): CARDE-N-44-123 Report Classification: SECRET Distribution Limitation(s): 02 - U.S. GOVT. AND THEIR CONTRACTORS

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Citation Format: FOIA(UL)

Accession Number: AD0008150 Full Text (pdf) Availability: View Full Text (pdf) File: /UL/008150.pdf Size: 1 MB **Corporate Author:** TORONTO UNIV DOWNSVIEW (ONTARIO) INST FOR AEROSPACE STUDIES **Unclassified Title:** (U) THE INTERACTION OF TWO SIMILARLY FACING SHOCK WAVES **Personal Author(s):** BULL, G V FOWELL, L R HENSHAW, DH **Report Date:** Jan 1953 Media Count: 39 Page(s) **Report Number(s):** UTIAS-25 **X5-UTIAS Monitor Series:** UTIAS **Report Classification:** Unclassified **Distribution Limitation(s):** 02 - U.S. GOVT. AND THEIR CONTRACTORS **Distribution Statement:**

Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; JAN 1953. Other requests shall be referred to Canadian Embassy, 501 Pennsylvania Avenue, NW, Washington, DC 20001.

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Citation Format: FOIA(UL)

Accession Number: AD0010889 Full Text (pdf) Availability: View Full Text (pdf) File: /UL/010889.pdf Size: 2 MB **Corporate Author:** TORONTO UNIV DOWNSVIEW (ONTARIO) INST FOR AEROSPACE STUDIES **Unclassified Title:** (U) COMMENTS ON THE AERODYNAMICS OF LOW ASPECT RATIO WING-BODY-TAIL COMBINATIONS IN STEADY SUPERSONIC FLOW **Personal Author(s):** Bull, G V **Report Date:** 11 Dec 1952 **Media Count:** 58 Page(s) **Report Number(s): UTIAS-REVIEW-6** X5-DRB **Monitor Series:** DRB **Report Classification:** Unclassified **Distribution Limitation(s):** 02 - U.S. GOVT. AND THEIR CONTRACTORS **Distribution Statement:** Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign Government Information; 11 DEC 1952. Other requests shall be referred to Canadian Embassy, 501 Pennsylvania Ave, NW, Washington, DC 20001.

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Citation Format: FOIA(UL)

Accession Number:

AD0003058 **Corporate Author:** CANADIAN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT (QUEBEC) **Personal Author(s):** BULL, G V **Report Date:** Dec 1952 **Media Count:** 97 Page(s) **Report Number(s):** CARDE-287/52 X5-X5 **Monitor Series:** X5 **Report Classification:** SECRET **Distribution Limitation(s):** 09 - CLASSIFIED **Distribution Statement:** Controlling organization: Chief, Canadian Defence Research Staff, 501 Pennsylvania Ave., NW (4th Fl), Washington, DC 20001-2114

Technical Reports Collection

Citation Format: FOIA(UL)

Accession Number: AD0007596 Full Text (pdf) Availability: View Full Text (pdf) File: /UL/007596.pdf Size: 607 KB **Corporate Author:** TORONTO UNIV DOWNSVIEW (ONTARIO) INST FOR AEROSPACE STUDIES **Unclassified Title:** (U) INVESTIGATION INTO THE OPERATING CYCLE OF A TWO-DIMENSIONAL SUPERSONIC WIND TUNNEL **Descriptive Note:** Journal article **Personal Author(s):** BULL, G V **Report Date:** Sep 1952 **Media Count:**

8 Page(s)
Report Number(s):
X5-UTIAS
Monitor Series:
UTIAS
Report Classification:
Unclassified
Distribution Limitation(s):
02 - U.S. GOVT. AND THEIR CONTRACTORS
Distribution Statement:
Distribution authorized to U.S. Gov't. agencies and their contractors; Foreign
Government Information; SEP 1952. Other requests shall be referred to Canadian
Embassy, 501 Pennsylvania Avenue, NW, Washington, DC 20001.

Technical Reports Collection

Citation Format: FOIA(UL)

Accession Number: ADB800389 **Corporate Author:** TORONTO UNIV (ONTARIO) **Unclassified Title:** (U) Organization and Activities of the Institute of Aerophysics (Official Opening September 26, 1950), **Personal Author(s):** Patterson, G N Bull, G V Glass, I I **Report Date:** 26 Sep 1950 **Media Count:** 9 Page(s) **Report Number(s):** X5-XD **Monitor Series:** XD **Report Classification:** Unclassified **Distribution Limitation(s):** 04 - DOD ONLY; DOD CONTROLLED **Distribution Statement:** DISTRIBUTION AUTHORIZED TO DOD ONLY; ADMINISTRATIVE/OPERATIONAL USE; 24 FEB 1999. OTHER **REQUESTS SHALL BE REFERRED THROUGH DEFENSE TECHNICAL**

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Highest Classification: UNCLASSIFIED