

DTIC FILE COPY

AD A118215

COMPARISON OF DTIC COSATI CATALOGING  
AND AACR-II CATALOGING IN THE  
MARC COMMUNICATIONS FORMAT

SUBMITTED TO THE RESOURCE  
SHARING ADVISORY GROUP

BY

THE COMMITTEE ON CATALOGING

AUGUST 1982

DTIC  
ELECTRIC  
S AUG 13 1982  
A

This document has been approved  
for public release and sale; its  
distribution is unlimited.

82 08 13 012

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       | READ INSTRUCTIONS<br>BEFORE COMPLETING FORM                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------|
| 1. REPORT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER                               |
| 4. TITLE (and Subtitle)<br>Comparison of DTIC COSATI Cataloging and AACR-II Cataloging in the MARC Communications Format.                                                                                                                                                                                                                                                                                                                                                        |                       | 5. TYPE OF REPORT & PERIOD COVERED                          |
| 7. AUTHOR(s)<br>Elaine Burress, Sarah Mikel, Bettie Pringle, Asta Kane, Bernice Black, Doris Folen, Bobbie Everidge and Betty Fox                                                                                                                                                                                                                                                                                                                                                |                       | 6. PERFORMING ORG. REPORT NUMBER<br>RSAG/CRC-82/01          |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Committee on Cataloging Rules<br>Resource Sharing Advisory Group to DTIC<br>Alexandria, VA 22314                                                                                                                                                                                                                                                                                                                                  |                       | 8. CONTRACT OR GRANT NUMBER(s)                              |
| 11. CONTROLLING OFFICE NAME AND ADDRESS                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)                                                                                                                                                                                                                                                                                                                                                                                                      |                       | 12. REPORT DATE<br>August 1982                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       | 13. NUMBER OF PAGES<br>40                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       | 15. SECURITY CLASS. (of this report)<br>Unclassified        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE                  |
| 16. DISTRIBUTION STATEMENT (of this Report)<br>Unclassified/Unlimited                                                                                                                                                                                                                                                                                                                                                                                                            |                       |                                                             |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                                             |
| 18. SUPPLEMENTARY NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                                                             |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)<br>Anglo-American Cataloging Rules      Cataloging<br>Technical Reports                      COSATI<br>MARC<br>Networks                                                                                                                                                                                                                                                                       |                       |                                                             |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>The report compares technical report cataloging records in the MARC format using AACR-II cataloging rules and in the COSATI format using COSATI rules. Differences in the records discussed include treatment of corporate bodies, report and funding numbers, physical description and differences between monographs and reports. Actual cataloging records in both formats are included. |                       |                                                             |

DD FORM 1473 1 JAN 73

EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

## FOREWORD

At its mid-year meeting, the Resource Sharing Advisory Group (RSAG) to the Defense Technical Information Center asked the Cataloging Committee to compare cataloging using the Anglo American Cataloging Rules (2nd Edition) AACR-II in the MARC communication format for technical reports with the DoD implementation of the COSATI technical reports format used at DTIC and by the Shared Bibliographic Input Network.

The request was prompted by growing interest by RSAG libraries in the Integrated Library System (ILS) developed by the Lister Hill National Center for Biomedical Communications and first implemented at the Army Library at the Pentagon. The mini computer based system automated a variety of libraries including cataloging and is based on the MARC format for bibliographic records. As more DoD libraries acquire ILS systems, the possibility of controlling technical reports on this system must be explored. The purpose of this study is to see whether the MARC format for technical reports and the AACR-II cataloging rules for books can be used to catalog technical reports and how the resulting records differ from DTIC records.

This study does not address the notion of taking COSATI cataloging and putting the data into hospitable MARC fields. This work is being pursued by the ILS Users' Group under the direction of Mr. Peter Irhoff, NRL.

FOREWORD (Cont'd)

The report is arranged as follows:

. n executive summary of results; a general discussion of the comparison; a description of study methodology with a detailed analysis of bibliographic records; and copies of the MARC and COSATI records compared in the study.



|           |           |           |
|-----------|-----------|-----------|
| DTIC      | DTIC      | DTIC      |
| COPY      | COPY      | COPY      |
| INSPECTED | INSPECTED | INSPECTED |
| 2         | 2         | 2         |

A

### SUMMARY AND CONCLUSION

The MARC format for technical reports is a communications format established by the Library of Congress. The aim of the format was to add fields to the MARC format for monographs so that the unique requirements of technical reports could be accommodated. The cataloging rules guiding the use of the MARC format are the Anglo American Cataloging Rules (2nd Edition). Rules for monographs are to be applied to technical reports.

The MARC format for technical reports and the AACR-II rules for cataloging monographs can be used to catalog technical reports. The resulting records are not that much different looking to the user of the cataloging data and the reports.

It cannot be denied, however, that when used to catalog technical reports the AACR-II rules for monographs must be stretched and data forced fit into some fields. The concept of publisher does not apply well and neither does the notion of a "chief source of cataloging information". The notes describing where cataloging data was taken from (e.g., "cover title") are cumbersome.

In addition, it should be pointed out that the concept of corporate author (the corporate body intellectually or contractually responsible for the work) is not handled well using AACR-II rules. The corporate body that COSATI would consider the corporate source is generally carried in the MARC record, but it is labeled "author affiliation", "publisher", or "funder". It is also true that few organizations (and GPO is NOT one of these) are implementing the full MARC format for technical reports. This

means that few records exist carrying author affiliation or funding data. The format of corporate organizations is different in the two cataloging systems. This means that the organization name is slightly different in each record even though the same entity is being referred to. The Library of Congress has the responsibility to establish the authority file for names. DTIC establishes sources for its implementation of COSATI.

A clear advantage of the MARC format is its ability to capture more than one organization name. This means that the monitoring organization, while not labeled as such, is often carried in MARC records.

The MARC format does not permit classification of the bibliographic record, the title, index terms or the abstract.

AACR-II, of course, does not provide guidance for capturing project, task, work unit and program element numbers which are difficult to indicate properly.

AACR-II requires the entry of information superfluous to technical reports, for example, two dates and the year only, collation, size, place of publication, the main entry twice (if a personal author is the main entry) and Library of Congress call number.

In the opinion of the committee, it is more difficult to create MARC records for technical reports due to repetition, the requirement to add superfluous data and the failure to use abbreviations. The AACR-II rules are quite complex, for example main entries are required and can be either personal author, title or corporate body depending upon the document. In COSATI, titles, authors and sources are always entered in the same fields.

Report numbers are a problem in MARC records. Of course, they are problems in COSATI records but the problems are different. AACR-II employs the concept of "monographic series" to link all documents from the same organization which are numbered into one series, for example the Time-Life Series on home repair. This concept does not translate to technical reports where the existence of a common issuing agency and numbering format does not indicate that the documents carry a common theme. Examples of documents cataloged as monographic series. In addition, the wisdom of differentiating between standard technical report numbers (STRN) and other report numbers is questioned because it is difficult to tell the two apart and it doesn't matter anyway.

For reasons outlined above, cataloging using AACR-II in the MARC format is not the best way to control a large technical report collection. The COSATI rules are superior to the AACR-II rules for technical reports cataloging. In fact, for collections with an insignificant number of monographs, COSATI can also be used to control books.

We recommend that ILS users pursue the notion of using COSATI rules and the MARC format. Perhaps COSATI-like fields could be added onto the MARC format.

The Local Automation Model must be developed to permit real-time sharing of network cataloging as well as control of sensitive information.

Finally, management decisions concerning cataloging formats should be made keeping in mind the possibility of future cooperation and data exchange.

## GENERAL DISCUSSION

The analysis of seven cataloging records shows that while the records are different, in general, the information captured in each system is the same. Differences stem from the fact that the AACR-II rules are designed for monographs and while books and technical reports are similar there are some important differences between them.

A primary difference between a monograph and a technical report is the care with which a published book is compiled and the existence of a title page in a book. AACR-II depends upon the title page as the "chief source of information" from which cataloging information must be taken. This means that all books are cataloged consistently, because the information from the title page, not the cover or report documentation page, is always used. If there is inconsistency between the book cover and the title page, the information on the title page will prevail. There are provisions for using information from other places in the document, however, when this is done, the source of the information is noted in the cataloging. Technical reports may have title pages, often they do not. The cover and report documentation page carry information used for cataloging. GPO, who is the government authority for cataloging government reports, has announced that the report documentation page is not to be used in lieu of a title page.

This means that following AACR-II, a note such as "cover title" is inserted when the title is not from a title page. These notes are superfluous and ridiculous in the technical reports environment.

In one of the reports in the sample, the title on the cover, differed from that on the title page. COSATI, recognizing the fact that technical reports do not have title pages, allows the cataloger to choose the most descriptive title. In the example we found, AD-2064 294, the titles in the cataloging records differ because the title on the cover which DTIC chose is different from that on the title page which is how AACR-II formatted up the title.

Books have publishers. Technical reports have corporate authors and monitors but the concept of publisher does not transfer easily from monographs to technical reports. Consequently, information entered into the 260 field for "place, publisher date" is forced. Sometimes the organization used is the corporate source, other times the monitor. The information can be superfluous if the organization used for publisher is also the author affiliation since that is given earlier in the record.

Corporate source is a concept very important to technical reports and it is handled incorrectly with this MARC implementation. The corporate author is the corporate body intellectually or contractually responsible for the report. MARC permits entry of author affiliation, publisher and the use of any corporate body in the title statement or 536 funding note. In most cases in our sample the corporate author was picked up either as the author affiliation or the publisher. Since the corporate author is so often used to describe or identify the report, it should be consistently entered in the same place.

In one instance, there were three organizations affiliated with a report (AD-A114 156). DTIC picked up the contractor only; AACR-II picked up the subcontractor as author affiliation and the monitor as the publisher and did not pick up the contractor.

Because the monitor is often used as the publisher or is mentioned in a funding note, AACR-II does permit the cataloging to carry the monitor (labeled in the added entry as "funder") which DTIC cannot do. COSATI permits entering monitors, however, DTIC's computer system does not yet permit it. This is a clear advantage of the MARC TR format.

To summarize, AACR-II rules permit entry of corporate bodies but rather than labeling them "corporate source" and "monitoring agency" which are vital concepts to technical reports' description, they are entered in fields labeled "author affiliation" "funder" and "publisher". The MARC format for technical reports has an advantage over the DTIC implementation of COSATI, however, in that there is room for entry of more than one corporate body.

Library of Congress call numbers were assigned to the documents in the sample. Identification numbers containing subject information are very cumbersome and apply poorly to both specialized monograph and technical report collections.

In the present implementation of MARC, there is provision for entering project, task, program element and work unit numbers. However, they all go into the same field which is repeatable. Because we need to manipulate information by these numbers it is important to differentiate among these numbers. Therefore, this system is somewhat inadequate. The DTIC system,

of course, is inadequate as well since there are no fields for entering work unit and program element numbers.

The failure of the MARC format to accommodate classified data is an obvious deficiency, however, it should be mentioned. In its present form, the format does not permit entry of title classification, abstract classification, subject term classification or classification of the bibliographic record. There is a note field designed to contain information about limitations on documents' availability. This field could, presumably, carry the document classification, classification authority and downgrade data as well as any distribution or availability limitations.

A general criticism of the AACR-II rules for monographs as applied to technical reports is that they require adding superfluous information to the records. Examples include "place, publisher, date" statements; 300 field physical description; indication of the source of cataloging information (if other than title page); the requirement to mention individuals and corporate bodies in the body of the cataloging if they are to be cited as add entries in the 700 fields; call numbers; most of the fixed field information; and the entry of a personal author's name both as main entry and in the statement of responsibility.

A limitation of AACR-II is the so-called "rule of three" which states "If responsibility is shared between more than three persons ... and principal responsibility is not attributed to any one two or three, enter under title (for main entry). Make an added entry under the heading for the first person ... named". This means that if three or more people authored a report, only one is mentioned in the cataloging entry.

There are additional difficulties with corporate sources. Format for corporate bodies is prescribed in Chapter 24 of AACR-II. The Library of Congress is the chief interpreter of the rule and institutions cataloging in the MARC format use the LC authority list for the proper format for names. If an institution doing a large amount of cataloging, such as DTIC, were to catalog technical reports in this way DTIC would have to look at LC to establish proper entry formats or LC would have to give some rule interpretation authority to DTIC.

The basic rule for corporate bodies is to "Enter a corporate body directly under the name by which it is predominantly identified, except when the rules that follow provide for entering it under the name of a higher or related body or under the name of a government". In practice this means that corporate bodies are formatted differently in AACR-II MARC records and COSATI records. For example, BEERS (ROLAND F) INC ALEXANDRIA VA and Beers Associates, Inc.; CIVIL ENGINEERING LAB (NAVY) PORT HUENEME CA and United States Naval Engineering Laboratory (Port Hueneme, CA.).

A final note that can be made is that there are problems with report numbers. DTIC will format them - AACR-II does not permit this. However, sometimes a report number is forced into a monographic series note which is inappropriate for most technical reports. Also, there is confusion in the AACR-II cataloging community about the 088 report number and 027 report number.

### STUDY METHODOLOGY

Seven documents which DTIC cataloged in May 1982 were cataloged in the MARC format using AACR-II rules. Sara Mikel of the Corps of Engineers Headquarters Library and Elaine Burress did most of the AACR-II cataloging and the records were entered into OCLC. One MARC record was created and input to OCLC by the Waterways Experiment Station Library and the record for the limited document was never entered into the OCLC system. Six unclassified, unlimited and one unclassified, limited documents were used.

## INDIVIDUAL ANALYSES

### AD-A114 376

- In the sample, AD numbers can be accommodated in field 037.
- There is no AACR-II equivalent of field and group.
- Beers Associates is formatted differently in each record.
- The descriptive note is the same in both records although there are no abbreviations in the MARC record.
- Only one author is entered in the MARC record - the "rule of three" applies.
- The records have the same title and date.
- The project and task numbers are not labeled.
- The monitor report number is not specifically attributed to the monitor but is entered as a STRN in 027.
- Document classification is not explicit.
- The abstract field is smaller on the MARC record.
- The MARC record permits the monitor to be entered as "publisher". It is not explicitly mentioned in DTIC cataloging.
- In the MARC record no entry is made for classification, inventory, source series location, geopolitical code, type code.
- The MARC record carries document language, federal origin, country of publication, size, publisher, call number, "cover title" note and bibliography indication.

```

--          <<ENTER NEXT COMMAND>>

--      1  OF      1
-- 1 - AD NUMBER: A114376
--48 - SBI SITE HOLDING SYMBOL:      NRL
--                                     TRAL
--                                     AWS/TECH
-- 2 - FIELDS AND GROUPS: 20/8, 4/1
-- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED
-- 5 - CORPORATE AUTHOR: BEERS (ROLAND F) INC ALEXANDRIA VA
-- 6 - UNCLASSIFIED TITLE: ELECTRON BEAM TRANSPORT IN THE IONOSPHERE -
--     ENERGY DEPOSITION AND OPTICAL EMISSIONS BASED UPON THE COMBINED
--     EFFECTS OF PLASMA TURBULENCE AND PARTICLE-PARTICLE INTERACTIONS.
-- 8 - TITLE CLASSIFICATION: UNCLASSIFIED
-- 9 - DESCRIPTIVE NOTE: FINAL REPT. JAN-DEC 84.
--10 - PERSONAL AUTHORS: STRICKLAND, D. J. ; LIN, D. L. ; PINE, V. W. ; SCHMIDT,
--     M. J. ;
--11 - REPORT DATE: FEB , 1982
--12 - PAGINATION: 71P
--15 - CONTRACT NUMBER: F19628-84-C-0048
--16 - PROJECT NUMBER: 7601
--17 - TASK NUMBER: 15
--18 - MONITOR ACRONYM: AFGL
--19 - MONITOR SERIES: TR-82-0083
--20 - REPORT CLASSIFICATION: UNCLASSIFIED

--23 - DESCRIPTORS: *ELECTRON BEAMS, *DISPERSING, *E REGION,
--     PLASMAS(PHYSICS), TURBULENCE, IONOSPHERIC DISTURBANCES, MONTE CARLO
--     METHOD, MATHEMATICAL MODELS, TRANSPORT PROPERTIES, MACHINE CODING
--24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED
--25 - IDENTIFIERS: MULTIPLE SCATTERING, RANDOM WALK, PE62101F,
--     WUAFGL760115BA
--26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED
--27 - ABSTRACT: THE PROBLEM OF ELECTRON BEAM PROPAGATION IN THE E-
--     REGION IS EXAMINED. A MODEL IS DEVELOPED TO DESCRIBE THAT PART OF
--     BEAM SPREADING DUE TO PLASMA TURBULENCE. THE BASIS OF THE MODEL IS
--     THAT THE GIVEN TURBULENCE CAN CAUSE A SERIES OF EFFECTIVE
--     DISPLACEMENTS  $\Delta R(GC)$  OF THE BEAM ELECTRON GUIDING CENTERS
--     THROUGH A CORRESPONDING SERIES OF BRIEFLY EXPERIENCED PERPENDICULAR
--     COMPONENTS OF THE TURBULENT ELECTRIC FIELD. WEAK TURBULENCE THEORY
--     IS CONSIDERED AND APPLIED TO CASES OF WARM AND COLD BEAMS. A MONTE

```

-- CARLO CODE HAS BEEN DEVELOPED TO FOLLOW THE SPREADING OF THE BEAM  
 -- ELECTRON GUIDING CENTERS WHERE DELTA R(GC) IS GIVEN ALTITUDE  
 -- DEPENDENCE. AN ANALYTIC EXPRESSION IS USED WHEN DELTA R(GC) IS  
 -- CONSTANT WITH ALTITUDE. THE TURBULENCE MODEL IS USED TO EXAMINE  
 -- BEAM SPREADING AS OBSERVED BY DAVIS ET AL. (1974) AND HALLINAN ET  
 -- AL. (1978). WE CAN GENERALLY ACCOUNT FOR THE OBSERVED AMOUNT OF  
 -- SPREADING BY ADDING IN THE CONTRIBUTION DUE TO PARTICLE-PARTICLE  
 -- INTERACTIONS. OPTICAL PROPERTIES ASSOCIATED WITH BEAM ENERGY

-- DEPOSITION ARE ALSO MODELED. MOST FEATURES IN THE UV AND VISIBLE  
 -- PORTION OF THE OPTICAL SPECTRUM ARE CONSIDERED ALONG WITH THEIR  
 -- EMISSION EFFICIENCIES.

--28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED  
 --29 - INITIAL INVENTORY: 42  
 --33 - LIMITATION CODES: 4

Screen 1 of 3

NO HOLDINGS IN AFM - FOR HOLDINGS ENTER dh DEPRESS DISPLAY RECD SEND

OCLC: 8472263 Rec stat: n Entrd: 820528 Used: 820528

Type: a Bib lvl: m Govt pub: f Lang: eng Source: d Illus: a

Repr: r Enc lvl: I Conf pub: 0 Ctry: mau Dat tp: d M/F/B: 00

Indx: 0 Mod rec: Festschr: 0 Cont: t

Desc: a Int lvl: Dates: 1982.02

1 010

2 040 DTI c DTI

3 027 AFGL-TR-82-0083

4 037 AD-A114376 b Defense Technical Information Center

5 090 QC809.P5 b E4

6 090 b

7 049 AFMA

8 245 10 Electron beam transport in the ionosphere-energy disposition and optical emissions based upon the combined effects of plasma turbulence and particle-particle interactions / c D.J. Strickland ... [et. al.] .

9 260 0 Hanscom AFB, Mass. : b Air Force Geophysics Laboratory, Air Force Systems Command, United States Air Force, c 1982.

10 300 iii, 66 p. : b ill. : c 28 cm. 302 71 p.

11 500 Cover title.

Screen 2 of 3

12 500 "February 1982"

13 500 "AFGL-TR-82-0083"

14 504 Bibliography: p. 46.

15 513 Final report. b January-December 1981.

16 520 The problem of electron beam propagation in the E-region is examined. A model is developed to describe that part of beam spreading due to plasma turbulence. The basis of the model is that the given turbulence can cause a series of effective displacements  $\delta r(gc)$  of the beam electron guiding centers through a corresponding series of briefly experienced perpendicular components of the turbulent electric field. Weak turbulence theory is considered and applied to cases of warm and cold beams. T Monte Carlo code has been developed to follow the spreading of the beam electron guiding centers where  $\delta r(gc)$  is given altitude dependence. Optical properties associated with beam energy disposition are also modeled. Turbulence and particle-particle interactions are modeled in the calculations.

Screen 3 of 3

17 536 b F19628-81-C-0048 d 62101F, 7401, 18DA  
18 690 Electron beams.  
19 690 E region.  
20 690 Plasmas(physics).  
21 690 Turbulence.  
22 690 Dispersing.  
23 690 Ionospheric disturbances.  
24 690 Monte Carlo method.  
25 690 Mathematical models.  
26 690 Transport properties.  
27 690 Machine coding.  
28 690 Multiple scattering.  
29 690 Random walk.  
30 700 10 Strickland, D. J. u Beers Associates, Inc. 4 org.  
31 710 20 U.S. Air Force Geophysics Laboratory. u Hanscom AFB, Mass. 4  
fnd.  
32 710 20 Beers Associates. u Reston, Va. 4 org.

## INDIVIDUAL ANALYSES

### AD-A114 156

- In addition to observations similar to those made about AD-A114 376:
- The AACR-II record makes it clear that the author's full first name was found on other than the chief source of information.
- For the report number, AACR-II picked it up as it appears on the document in a legitimate report number field; DTIC formatted it and put it in a note field.
- The project number was entered plainly on the MARC record, it is prefixed by "LEN" in the DTIC record.
- The author affiliation (a subcontractor) and the monitor (as "publisher") appear in the MARC record. A third organization, the contractor, was entered as the corporate source by DTIC.

Screen 1 of 3

NO HOLDINGS IN AFM - FOR HOLDINGS ENTER dh'DEPRESS DISPLAY RECD SEND

OCLC: 8501190 Rec stat: n Entrd: 820608 Used: 820608

Type: a Bib lvl: m Govt pub: Lang: eng Source: d illus: a

Repr: r Enc lvl: I Conf pub: 0 Ctry: tnu Dat tp: d M/F/B: 00

Indx: 0 Mod rec: Festschr: 0 Cont: t

Desc: a Int lvl: Dates: 1982,0400

1 010

2 040 DTI c DTI

3 027 AEDC-TR-81-29

4 088 149100-1-T

5 090 TA348 b .P4

6 090 b

7 049 AFMA

8 100 10 Peterson, L. M. q (Lauren M.) u Environmental Research Institute of Michigan. 4 org.

9 245 00 High-resolution spectral absorption in the short wavelength wing of the 2.7-millimeter water band at 1,000K / c L. M. Peterson.

10 260 0 Arnold Air Force Station, Tenn. : b Arnold Engineering Development Center, c 1982.

11 300 73 p. : b ill. ; c 28 cm.

12 302 76 p.

13 500 Cover title.

14 500 "April 1982"

15 500 "AEDC-TR-81-29"

Screen 2 of 3

- 16 504 Bibliography: p. 21.
- 17 513 Final report for period March 4 - September 15, 1981
- 18 520 High temperature water vapor absorption measurements taken by environmental research institute of Michigan in 1978 have been reduced and compared with computer-generated spectra based upon the Air Force Geophysics Laboratory line tabulation. The latter tabulation failed to predict numerous spectral lines, or, in many cases, did not predict them accurately. Although the scope of this particular effort allowed only a brief analysis of a few lines in a selected spectral interval, the analysis did show the data to be useful in providing values of line strength, line width (self-broadened), and lower state energy.
- 19 536 d PE65807F, ARD-P32M-12
- 20 690 Computer applications.
- 21 690 Measurement.
- 22 690 \* Absorption spectra.
- 23 690 High resolution.
- 24 690 Water vapor.
- 25 690 Spectral lines.
- 26 690 Hydrogen fluoride.

Screen 3 of 3

- 27 690 Spectrometers.
- 28 690 Frequency bands.
- 29 690 High temperature.
- 30 690 Predictions.
- 31 690 Spectrum analysis.
- 32 690 Short wavelengths.
- 33 690 Wavelengths.
- 34 710 20 Arnold Engineering Development Center. u fnd.
- 35 710 20 Environmental Research Institute of Michigan. u org.

1 OF 1  
 -- 1 - AD NUMBER: A114156  
 --48 - SBT SITE HOLDING SYMBOL: NRL  
 -- 2 - FIELDS AND GROUPS: 9/2, 14/2, 7/4  
 -- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED  
 -- 5 - CORPORATE AUTHOR: SVERDRUP TECHNOLOGY INC ARNOLD AFS TN  
 -- 6 - UNCLASSIFIED TITLE: HIGH RESOLUTION SPECTRAL ABSORPTION IN THE  
 SHORT WAVELENGTH WING OF THE 2.7-MICROMETER WATER BAND AT 1,000K.  
 -- 8 - TITLE CLASSIFICATION: UNCLASSIFIED  
 -- 9 - DESCRIPTIVE NOTE: FINAL REPT. 4 MAR-15 SEP 80.  
 --10 - PERSONAL AUTHORS: PETERSON, LAUREN M. ;  
 --11 - REPORT DATE: APR , 1982  
 --12 - PAGINATION: 77P  
 --18 - MONITOR ACRONYM: AEDC  
 --19 - MONITOR SERIES: TR-81-29  
 --20 - REPORT CLASSIFICATION: UNCLASSIFIED  
 --21 - SUPPLEMENTARY NOTE: PREPARED IN COOPERATION WITH ENVIRONMENTAL  
 RESEARCH INST. OF MICHIGAN, ANN ARBOR, REPT. NO. ERIM-149100-1-T.  
 --23 - DESCRIPTORS: \*COMPUTER APPLICATIONS, \*MEASUREMENT, \*ABSORPTION

-- SPECTRA, \*HIGH RESOLUTION, \*WATER VAPOR, SPECTRAL LINES, HYDROGEN  
 -- FLUORIDE, SPECTROMETERS, FREQUENCY BANDS, HIGH TEMPERATURE,  
 -- PREDICTIONS, SPECTRUM ANALYSIS  
 --24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED  
 --25 - IDENTIFIERS: SHORT WAVELENGTHS, WAVELENGTHS, LFN-ARO-P32M-12,  
 PE65B07F  
 --26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED  
 --27 - ABSTRACT: HIGH-TEMPERATURE WATER VAPOR ABSORPTION MEASUREMENTS  
 TAKEN BY ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN IN 1978 HAVE  
 BEEN REDUCED AND COMPARED WITH COMPUTER-GENERATED SPECTRA BASED  
 UPON THE AIR FORCE GEOPHYSICS LABORATORY LINE TABULATION. THE  
 LATTER TABULATION FAILED TO PREDICT NUMEROUS SPECTRAL LINES, OR, IN  
 MANY CASES, DID NOT PREDICT THEM ACCURATELY. ALTHOUGH THE SCOPE OF  
 THIS PARTICULAR EFFORT ALLOWED ONLY A BRIEF ANALYSIS OF A FEW LINES  
 IN A SELECTED SPECTRAL INTERVAL, THE ANALYSIS DID SHOW THE DATA TO  
 BE USEFUL IN PROVIDING VALUES OF LINE STRENGTH, LINE WIDTH (SELF-  
 BROADENED), AND LOWER STATE ENERGY. (AUTHOR)  
 --28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED  
 --29 - INITIAL INVENTORY: 12  
 --33 - LIMITATION CODES: 1  
 --34 - SOURCE SERIES: F  
 --35 - SOURCE CODE: 412637  
 --36 - DOCUMENT LOCATION: NTIS  
 --40 - GEOPOLITICAL CODE: 4704  
 --41 - TYPE CODE: 4

-- END

<<ENTER NEXT COMMAND>>

END

## INDIVIDUAL ANALYSES

### AD-A114 331

- The corporate source is picked up as publisher and author affiliation in the MARC record and is formatted differently.
- MARC also entered the affiliation of the second author. This organization is not mentioned in DTIC's record.
- The descriptive notes are similar.
- The dates and title are the same.
- The report number is standardized in the DTIC entry - the MARC record carries the number without an acronym as a series note with tracing.
- MARC has a field for program element number entry.

Screen 1 of 4

NO HOLDINGS IN AFM - FOR HOLDINGS ENTER ON DEPRESS DISPLAY RECD SEND

OCLC: 8500965 Rec stat: n Entrd: 820408 Used: 820408

Type: a Bib lvl: n Govt pub: Lang: eng Source: d Illus: a

Repr: r Enc lvl: I Conf pub: 0 Ctry: cau Dat tp: n M/F/B: 00

Indx: 0 Mod rec: Festschr: 0 Cont: t

Desc: a Int lvl: Dates: 1982.03

- 1 010
- 2 040 DTI c DTI
- 3 037 AD-A114331 b Defense Technical Information Center
- 4 090 TA658.44 b .03
- 5 090 b
- 6 049 AFMA
- 7 100 10 Gaberson, H.A. u Naval Civil Engineering Laboratory. 4 org.
- 8 245 10 Simplified shock design for installation of equipment / b H.A. Gaberson and R.A. Eubanks.
- 9 260 0 Port Hueneme, Ca. : b Naval Civil Engineering Laboratory. c 1982.
- 10 300 vii, 166 p. : b ill. ; c 28 cm.
- 11 302 170 p.
- 12 490 1 Technical note/ Naval Civil Engineering Laboratory ; v N-1622.
- 13 300 Cover title.
- 14 500 "March 1982"

Screen 2 of 4

15 504 Includes bibliographical references.

16 520 A simplified shock design method has been developed and is set forth. The method employs the shock spectrum as the fundamental measure of both the "severity" of a shock environment and the "hardness" of a particular piece of equipment (the "hardness" is the equipment's ability to survive a shock environment). Both the severity and the hardness are given as shock spectrum plots on "four coordinate" paper and are thus directly comparable. The method uses a tracing method of recording the fact that the hardness exceeds the severity and thus equipment is assured. The report collects the extensive set of equipment hardnesses measured during the Safeguard Program and presents them in catalog form. References to other catalogs' hardnesses are given.

- 17 513 Final report. b July 1975-September 1977.
- 18 536 d YF53.534.006.01.017, 62760N
- 19 690 Shock spectra.
- 20 690 Hardened structures.

Screen 3 of 4

21 690 Intensity.  
22 690 Vibration.  
23 690 Damping.  
24 690 Plotting.  
25 690 Naval equipment.  
26 690 Installation.  
27 690 Resonant frequency.  
28 690 Failure(Mechanics).  
29 690 Deformation.  
30 690 Displacement.  
31 690 Amplitude.  
32 690 Explosion effects.  
33 690 Earthquake resistant structures.  
34 690 Shock resistance.  
35 690 Nuclear explosion damage.  
36 690 Shock(Mechanics).  
37 690 Bases(Structures).  
38 690 Dynamic loads.  
39 690 Isolation.  
40 690 Shock tests.  
41 690 Survival(General).  
42 690 Shock design.  
43 690 Four coordinate paper.  
44 690 Base excited shock.

Screen 4 of 4

45 690 Shock isolators.  
46 700 10 Eubanks, R.A. u University of Illinois (Urbana-Champaign campus)  
4 org.  
47 710 20 United States b Naval Engineering Laboratory (Port Hueme, Ca.)  
48 710 20 University of Illinois b (Urbana-Champaign Campus)  
49 830 0 Technical note (United States. Naval Civil Engineering  
Laboratory, Port Hueme, Ca.); v N-1422)

-- 1 - OF 1

-- 1 - AD NUMBER: A114331

--48 - SBI SITE HOLDING SYMBOL: NRL  
TRAL

-- 2 - FIELDS AND GROUPS: 20/11, 13/13

-- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED

-- 5 - CORPORATE AUTHOR: CIVIL ENGINEERING LAB (NAVY) PORT HUENEME CA

-- 6 - UNCLASSIFIED TITLE: SIMPLIFIED SHOCK DESIGN FOR INSTALLATION OF EQUIPMENT.

-- 8 - TITLE CLASSIFICATION: UNCLASSIFIED

-- 9 - DESCRIPTIVE NOTE: FINAL REPT. JUL 75-SEP 77.

--10 - PERSONAL AUTHORS: GABERSON, H. A. ; EUBANKS, R. A. ;

--11 - REPORT DATE: MAR , 1982

--12 - PAGINATION: 170P

--14 - REPORT NUMBER: CEL-TN-1622

--16 - PROJECT NUMBER: F53534

--17 - TASK NUMBER: YF53534006

--20 - REPORT CLASSIFICATION: UNCLASSIFIED

--23 - DESCRIPTORS: \*SHOCK SPECTRA, \*HARDENED STRUCTURES, INTENSITY, VIBRATION, DAMPING, PLOTTING, NAVAL EQUIPMENT, INSTALLATION, RESONANT FREQUENCY, FAILURE(MECHANICS), DEFORMATION, DISPLACEMENT, AMPLITUDE, EXPLOSION EFFECTS, EARTHQUAKE RESISTANT STRUCTURES, SHOCK RESISTANCE, NUCLEAR EXPLOSION DAMAGE, SHOCK(MECHANICS),

-- DYNAMIC LOADS, BASES(STRUCTURES), ISOLATION, SHOCK TESTS, SURVIVAL(GENERAL)

--24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED

--25 - IDENTIFIERS: SHOCK DESIGN, FOUR COORDINATE PAPER, BASE EXCITED SHOCK, SHOCK ISOLATORS, WUKYF5353400601017, PE62760N

--26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED

--27 - ABSTRACT: A SIMPLIFIED SHOCK DESIGN METHOD HAS BEEN DEVELOPED AND IS SET FORTH. THE METHOD EMPLOYS THE SHOCK SPECTRUM AS THE FUNDAMENTAL MEASURE OF BOTH THE SEVERITY OF A SHOCK ENVIRONMENT AND THE HARDNESS OF A PARTICULAR PIECE OF EQUIPMENT (THE HARDNESS IS THE EQUIPMENT'S CAPACITY TO SURVIVE A SHOCK ENVIRONMENT . BOTH THE SEVERITY AND THE HARDNESS ARE GIVEN AS SHOCK SPECTRUM PLOTS ON FOUR-COORDINATE PAPER AND ARE THUS DIRECTLY COMPARABLE. THE METHOD USES A TRACING METHOD OF RECORDING THE FACT THAT THE HARDNESS EXCEEDS THE SEVERITY AND THUS EQUIPMENT SURVIVAL IS ASSURED. THE REPORT COLLECTS THE EXTENSIVE SET OF EQUIPMENT HARDNESSES MEASURED DURING THE SAFEGUARD PROGRAM AND PRESENTS THEM IN CATALOG FORM. REFERENCES TO OTHER CATALOGS' HARDNESSES ARE GIVEN. (AUTHOR)

--28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED

--29 - INITIAL INVENTORY: 12

--33 - LIMITATION CODES: 1

--34 - SOURCE SERIES: F

--35 - SOURCE CODE: 391111

--36 - DOCUMENT LOCATION: NTIS

--40 - GEOPOLITICAL CODE: 0627

--41 - TYPE CODE: N

## INDIVIDUAL ANALYSES

### AD-A114 283

This MARC record was created by the Army Engineer Waterways Experiment Station Library. This record is interesting since it does not use all the fields available for technical reports cataloging. Note the differences between it and the other MARC records in fields 037, 100, 245, 260, 500, 513, 700 and 710. This brings up an interesting point which is that even the Government Printing Office is not implementing the complete MARC technical reports format (see enclosure 8) and variations among MARC records following AACR-II rules do exist.

Also note that DTIC formatted the report number while MARC carries it as a monographic series note and tracing.

Screen 1 of 2

AFM - FOR OTHER HOLDINGS, ENTER dh DEPRESS DISPLAY RECD SEND

OCLC: 8413533 Rec stat: n Entrd: 820510 Used: 820611

Type: a Bib lvl: m Govt pub: f Lang: eng Source: d Illus: of

Repr: Enc lvl: I Conf pub: 0 Ctry: msu Dat tp: d M/F/B: 10

Indx: 0 Mod rec: Festschr: 0 Cont:

Desc: a Int lvl: Dates: 1982,02

1 010

2 040

AFM c AFM/

3 020

b pbk.

4 043

n-us-va a n-us-md

5 090

TA7 b W34 no.HL-82-5

6 090

b

7 049

AFMA

8 100 10 Granat, Mitchell A.

9 245 10 Baltimore Harbor and channels deepening study : b Chesapeake Bay

Hydraulic Model Investigation / c by Mitchell A. Granat, Leif F. Gulbrandsen  
(Hydraulics Laboratory, U.S. Army Engineer Waterways Experiment Station).

10 260 0 Vicksburg, Miss. : b The Station ; a Springfield, Va. : b  
available from NTIS, c 1982.

11 300 51, [117] p., 6 folded leaves of plates : b ill. ; c 27 cm.

12 490 1 Technical report ; v HL-82-5

Screen 2 of 2

13 500

Cover title.

14 500

"February 1982."

15 500

"Prepared for U.S. Army Engineer District, Baltimore."

16 650 0

Hydraulic models.

17 651 0

Baltimore Harbor (Md.)

18 651 0

Chesapeake Bay.

19 650 0

Channels (Hydraulic engineering).

20 700 10

Gulbrandsen, Leif F.

21 710 10

United States. b Army. b Corps of Engineers. b Baltimore

District.

22 710 20 U.S. Army Engineer Waterways Experiment Station. b Hydraulics  
Laboratory.

23 830 0 Technical report (U.S. Army Engineer Waterways Ex

23 830 0 Technical report (U.S. Army Engineer Waterways Experiment Station)

23 830 0 Technical report (U.S. Army Engineer Waterways Experiment Station)

; v HL-82-5

-- 1 OF 1

-- 1 - AD NUMBER: A114283

--48 - SBI SITE HOLDING SYMBOL: NRL

-- 2 - FIELDS AND GROUPS: 8/3, 13/2, 8/8

-- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED

-- 5 - CORPORATE AUTHOR: ARMY ENGINEER WATERWAYS EXPERIMENT STATION  
VICKSBURG MS HYDRAULICS LAB

-- 6 - UNCLASSIFIED TITLE: BALTIMORE HARBOR AND CHANNELS DEEPENING  
STUDY; CHESAPEAKE BAY HYDRAULIC MODEL INVESTIGATION.

-- 8 - TITLE CLASSIFICATION: UNCLASSIFIED

-- 9 - DESCRIPTIVE NOTE: FINAL REPT.,

--10 - PERSONAL AUTHORS: GRANAT, MITCHELL A. ; GULBRANDSEN, LEIF P.

--11 - REPORT DATE: FEB , 1982

--12 - PAGINATION: 193P

--14 - REPORT NUMBER: WES-TR-HL-82-5

--20 - REPORT CLASSIFICATION: UNCLASSIFIED

--23 - DESCRIPTORS: \*CHESAPEAKE BAY, ESTUARIES, HARBORS,  
CHANNELS(WATERWAYS), MODIFICATION, OCEAN TIDES, ELEVATION, WATER  
FLOW, VELOCITY, SALINITY, MODEL TESTS, HYDRAULIC MODELS

--24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED

--25 - IDENTIFIERS: BALTIMORE(MARYLAND)

--26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED

--27 - ABSTRACT: PUBLIC LAW 91-611, THROUGH SECTION 101 OF THE 1970  
RIVERS AND HARBORS ACT, AUTHORIZED A PLAN OF IMPROVEMENT TO DEEPEN  
THE EXISTING NAVIGATION CHANNELS TO THE PORT OF BALTIMORE FROM 42  
FT TO 50 FT AND TO EXTEND THE CHANNELS TO THE NATURAL 50-FT-DEPTH  
CURVES. TESTS ON THE CHESAPEAKE BAY HYDRAULIC MODEL WERE CONDUCTED

-- TO SPECIFICALLY INVESTIGATE POSSIBLE CHANGES IN THE HYDRODYNAMIC  
CHARACTERISTICS OF VELOCITY, SALINITY, AND TIDAL ELEVATIONS  
ASSOCIATED WITH THE PROPOSED CHANNEL ENLARGEMENTS. CHANGES IN THESE  
PARAMETERS CAN RESULT IN CHANGES TO ESTUARINE CIRCULATION AND  
DYNAMICS, SEDIMENTATION RATES AND PATTERNS; CAN EFFECT BIOLOGICAL  
COMMUNITIES AND DISTRIBUTIONS; AND CAN AFFECT DISPERSION OF  
POLLUTANTS AND NUTRIENTS.

--28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED

--29 - INITIAL INVENTORY: 12

--33 - LIMITATION CODES: 1

--34 - SOURCE SERIES: F

--35 - SOURCE CODE: 411389

--36 - DOCUMENT LOCATION: NTIS

--40 - GEOPOLITICAL CODE: 2803

--41 - TYPE CODE: A

--\*\*\*\*\*

## INDIVIDUAL ANALYSES

### AD-A114 149

- In addition to observations similar to those made about AD-A114 376 it can be noted that

- the monitor is named in the MARC record
- a second date (actual and issued) are mentioned on the MARC record
- program element and work unit numbers have fields
- formats of corporate names differ slightly.

NO HOLDINGS IN AFM - FOR HOLDINGS ENTER dh DEPRESS DISPLAY RECD SEND

OCCLC: 8515513 Rec stat: n Entrd: 820614 Used: 820614

Type: a Bib lvl: m Govt pub: f Lang: eng Source: d Illus: a  
Repr: r Enc lvl: I Conf pub: 0 Ctry: mau Dat tp: d M/F/B: 00  
Indx: 0 Mod rec: Festschr: 0 Cont: t  
Desc: a Int lvl: Dates: 1982.3103

1 010  
2 040 DTI c DTI  
3 027 ESD-TR-82-008  
4 037 AD-A114149 b Defense Technical Information Center  
5 090 TK7868.89 b F6  
6 090 b  
7 049 AFMA  
8 100 10 Foyt, Arthur G. u Lincoln Laboratory, Massachusetts Institute of Technology 4 org.  
9 245 10 Acoustooptic time-integrating correlators and optoelectronic mixers / c Arthur G. Foyt and Richard C. Williamson, coprinciple investigators; b annual report to the Air Force Office of Scientific Research Electronics and Solid State Sciences Division.

Screen 2 of 4

10 260 0 Lexington, Mass. : b Massachusetts Institute of Technology.  
Lincoln Laboratory, c 1982.  
11 300 vi. 28 p. : b ill. c 28 cm.  
12 302 38  
13 500 "31 January 1982"  
14 500 "Issued 11 March 82"  
15 513 Annual report: b 1 February 1981 - 31 January 1982

Screen 3 of 4

16 520 Research during the past year has been concentrated on the development of the InP optoelectronic switch and on the evaluation of this switch as an electronic mixer. This type of mixer appears well suited for use in a time-integrating correlator which employs a heterodyne detector array. In such an array, a small high quality mixer is crucial. InP optoelectronic switches have been fabricated using interdigitated-finger electrode structures with finger and space lengths varying from 6 micrometers for the most widely spaced device to 1.25 micrometers for the most closely spaced device and active areas of 48 by 48 micrometers. The performance of these devices in both the conventional mode and the bilinear mode of mixing has been evaluated.

**Screen 4 of 4**

**17 536** The work in this document was performed at Lincoln Laboratory, a center for research operated by Massachusetts Institute of Technology. This work was sponsored by the Air Force Office of Scientific Research, Electronics and Solid State Sciences Division, under Air Force Contract b F19628-80-C-0002 d 2300, 61102F

**18 690** Correlators.

**19 690** Mixers(electronics).

**20 690** Electronic switches.

**21 690** Optical switching.

**22 690** Electrooptics.

**23 690** Acoustooptics.

**24 690** Indium phosphides.

**25 690** Heterodyning.

**26 690** Microelectronics.

**27 690** Electrodes.

**28 690** Laser pumping.

**29 700 10** Williamson, Richard C. u Massachusetts Institute of Technology. Lincoln Laboratory, Lexington Group 85. 4 org.

**30 710 20** Massachusetts Institute of Technology. b Lincoln Laboratory, Lexington b Group 85. 4 org.

**31 710 20** United States. b Air Force b Office of Scientific Research. 4 fnd.

-- 1 - AD NUMBER: A114149  
--48 - SBI SITE HOLDING SYMBOL: NRL  
-- 2 - FIELDS AND GROUPS: 9/5  
-- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED  
-- 5 - CORPORATE AUTHOR: MASSACHUSETTS INST OF TECH LEXINGTON LINCOLN LAB  
-- 6 - UNCLASSIFIED TITLE: ACOUSTOOPTIC TIME-INTEGRATING CORRELATORS  
AND OPTOELECTRONIC MIXERS.  
-- 8 - TITLE CLASSIFICATION: UNCLASSIFIED  
-- 9 - DESCRIPTIVE NOTE: ANNUAL REPT. 1 FEB 81-31 JAN 82,  
--10 - PERSONAL AUTHORS: FOYT, ARTHUR G. ; WILLIAMSON, RICHARD C. ;  
--11 - REPORT DATE: JAN 31, 1982  
--12 - PAGINATION: 37P  
--15 - CONTRACT NUMBER: F49628-80-C-0002  
--16 - PROJECT NUMBER: 2300  
--18 - MONITOR ACRONYM: ESD  
--19 - MONITOR SERIES: TR-82-008  
--20 - REPORT CLASSIFICATION: UNCLASSIFIED  
--23 - DESCRIPTORS: \*CORRELATORS, \*MIXERS(ELECTRONICS), \*ELECTRONIC  
SWITCHES, \*OPTICAL SWITCHING, ELECTROOPTICS, ACOUSTOOPTICS, INDIUM  
PHOSPHIDES, HETERODYNING, MICROELECTRONICS, ELECTRODES, LASER  
PUMPING  
--24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED  
--25 - IDENTIFIERS: PE61102F  
--26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED  
--27 - ABSTRACT: RESEARCH DURING THE PAST YEAR HAS BEEN CONCENTRATED ON  
THE DEVELOPEMENT OF THE INP OPTOELECTRONIC SWITCH AND ON THE  
EVALUATION OF THIS SWITCH AS AN ELECTRONIC MIXER. THIS TYPE OF  
MIXER APPEARS WELL SUITED FOR USE IN A TIME-INTEGRATING CORRELATOR  
WHICH EMPLOYS A HETERODYNE DETECTOR ARRAY. IN SUCH AN ARRAY, A  
SMALL HIGH-QUALITY MIXER IS CRUCIAL. INP OPTOELECTRONIC SWITCHES  
HAVE BEEN FABRICATED USING INTERDIGITATED-FINGER ELECTRODE  
STRUCTURES WITH FINGER AND SPACE LENGTHS VARYING FROM 6 MICROMETERS  
FOR THE MOST WIDELY SPACED DEVICE TO 1.25 MICROMETERS FOR THE MOST  
CLOSELY SPACED DEVICE AND ACTIVE AREAS OF 48 X 48 MICROMETERS. THE  
PERFORMANCE OF THESE DEVICES IN BOTH THE CONVENTIONAL (SWITCH) MODE  
AND THE BILINEAR MODE OF MIXING HAS BEEN EVALUATED.  
--28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED  
--29 - INITIAL INVENTORY: 42  
--33 - LIMITATION CODES: 1  
--34 - SOURCE SERIES: A  
--35 - SOURCE CODE: 207650  
--36 - DOCUMENT LOCATION: NTIS  
--40 - GEOPOLITICAL CODE: 2505  
--41 - TYPE CODE: 2  
-- END (ENTER NEXT COMMAND)) END

### INDIVIDUAL ANALYSES

#### AD-A114 170

- DTIC chose for corporate author the umbrella organization of the two departments that worked on the report. AACR-II chose one of them.
- The AACR-II record carries information about the Office of Naval Research who paid for the research. The DTIC record does not mention this.

Screen 1 of 3

NO HOLDINGS IN AFM - FOR HOLDINGS ENTER dh DEPRESS DISPLAY RECD SEND

OCLC: 8472675 Rec stat: n Entrd: 820528 Used: 820528

Type: a Bib lvl: m Govt pub: f Lang: eng Source: d Illus: a

Repr: r Enc lvl: I Conf pub: 0 Ctry: nyu Dat tp: d M/F/B: 00

Indx: 0 Mod rec: Festschr: 0 Cont:

Desc: a Int lvl: Dates: 1981.09

- 1 010
- 2 040 DTI c DTI
- 3 037 AD-A114170 b Defense Technical Information Center
- 4 090 QA276.3 b .C6
- 5 090 b
- 6 049 AFMA
- 7 100 10 Cox, Christopher u Department of Statistics and Division of Biostatistics University of Rochester. 4 org.
- 8 245 10 Some comparisons of biplot display and pencil-and-paper E.D.A. methods / c Christopher Cox and K. Ruben Gabriel.
- 9 260 0 Rochester, N.Y. b University of Rochester. Division of Biostatistics, c 1981.
- 10 300 37 p. : b ill. ; c 28 cm.
- 11 302 39 p.
- 12 490 1 Technical report ; v 91/22.
- 13 500 Cover title.

Screen 2 of 3

14 500 "September 1981"

15 500 Presented at ARD Workshop on Modern-Data Analysis at Raleigh, North Carolina June 2-4, 1980.

16 504 Bibliography: p. 38.

17 520 Multivariate data may be explored by a variety of methods. This paper considers some examples of alternative analyses by biplot display and by Tukey's pencil-and-paper EDA methods. It suggests that in using the biplot, a few displays usually suffice to reveal patterns in a pretty striking manner. When using EDA, on the other hand, one may require several stages of median polish, inspection of residuals, modelling, and re-expression. The biplot is more immediate: It allows one to see things at a glance.

18 536 Research supported in part by ONR contract b N00014-80-C-0387 on Biplot Multivariate Graphics.

19 690 Graphs.

20 690 Multivariate analysis.

21 690 Plotters.

22 690 Manual operation.

23 690 Data displays.

24 690 Data reduction.

Screen 3 of 3

25 690 Biostatistics.  
26 690 Riplot graphical displays.  
27 690 Tukey method.  
28 700 10 Gabriel, K. Ruben u University of Rochester. Division of  
Biostatistics. 4 org.  
29 710 20 United States b Office of Naval Research u Arlington, Va. 4  
fnd.  
30 710 20 University of Rochester b Division of Biostatistics u Rochester,  
N.Y. 4 org.  
31 830 0 Technical report (University of Rochester. Division of  
Biostatistics.) ; v 81/22.

1 OF 1

-- 1 - AD NUMBER: A114170

-- 48 - SBI SITE HOLDING SYMBOL: NRL

-- 2 - FIELDS AND GROUPS: 12/1

-- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED

-- 5 - CORPORATE AUTHOR: ROCHESTER UNIV NY

-- 6 - UNCLASSIFIED TITLE: SOME COMPARISONS OF BILOT DISPLAY AND  
PENCIL-AND-PAPER E.D.A. METHODS. REVISION.

-- 8 - TITLE CLASSIFICATION: UNCLASSIFIED

-- 9 - DESCRIPTIVE NOTE: TECHNICAL REPT.,

-- 10 - PERSONAL AUTHORS: COX, CHRISTOPHER ; GABRIEL, K. RUBEN ;

-- 11 - REPORT DATE: SEP , 1984

-- 12 - PAGINATION: 41P

-- 14 - REPORT NUMBER: TR-81/22

-- 15 - CONTRACT NUMBER: N00014-80-C-0387

-- 20 - REPORT CLASSIFICATION: UNCLASSIFIED

-- 21 - SUPPLEMENTARY NOTE: PRESENTED AT ARO WORKSHOP ON MODERN-DATA

-- ANALYSIS AT RALEIGH, NC, 2-4 JUN 80. REVISION OF REPORT DATED JUN  
80.

-- 23 - DESCRIPTORS: \*GRAPHS, \*MULTIVARIATE ANALYSIS, PLOTTERS, MANUAL  
OPERATION, DATA DISPLAYS, DATA REDUCTION, BIOSTATISTICS

-- 24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED

-- 25 - IDENTIFIERS: BILOT GRAPHICAL DISPLAYS, TUKEY METHOD

-- 26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED

-- 27 - ABSTRACT: MULTIVARIATE DATA MAY BE EXPLORED BY A VARIETY OF  
METHODS. THIS PAPER CONSIDERS SOME EXAMPLES OF ALTERNATIVE ANALYSES  
BY BILOT DISPLAY AND BY TUKEY'S PENCIL-AND-PAPER EDA METHODS. IT  
SUGGESTS THAT IN USING THE BILOT, A FEW DISPLAYS USUALLY SUFFICE  
TO REVEAL PATTERNS IN A PRETTY STRIKING MANNER. WHEN USING EDA, ON  
THE OTHER HAND, ONE MAY REQUIRE SEVERAL STAGES OF MEDIAN POLISH,  
INSPECTION OF RESIDUALS, MODELLING, AND RE-EXPRESSION. THE BILOT  
IS MORE IMMEDIATE: IT ALLOWS ONE TO SEE THINGS AT A GLANCE. (AUTHOR)

-- 28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED

-- 29 - INITIAL INVENTORY: 12

-- 33 - LIMITATION CODES: 1

-- 35 - SOURCE CODE: 307200

-- 36 - DOCUMENT LOCATION: NTIS

-- 40 - GEOPOLITICAL CODE: 3634

-- 41 - TYPE CODE: 1

### INDIVIDUAL ANALYSES

#### AD-3064 294L

- The titles differ.
- The corporate body is entered under two different names.
- The DTIC cataloger was able to supply a report number.

Screen 1 of 2

DTIC: NEW

Rec stat: n Entrd: 820614

Used: 820614

Type: a Bib lvl: m Govt pub: f Lang: eng Source: d illus:

Repr: r Enc lvl: 1 Conf pub: 0 Ctry: cau Dat tp: d M/F/B: 00

Indx: 0 Mod rec: Festschr: 0 Cont: t

Desc: a Int lvl: Dates: 1982,0100

1 010

2 040

DTI c DTI

3 037

AD-B064294L b Defense Technical Information Center

4 090

TK7871.3 b .P7

5 049

DTIC

6 245 0

Prime item development specification for the Raman laser system.

7 260 0

Culver City, Calif. : b Hughes Aircraft Company, Electrooptical

Engineering Division, c 1982

8 300

15 leaves c 28 cm.

9 302

20

10 500

"January 1982"

11 506

Distribution limited to U.S. Gov't Agencies Only; Test and Evaluation; Jan 82. Other requests for this document must be referred to U.S. Army Night Vision and Electrooptics Lab., Ft. Belvoir, VA 22060.

Screen 2 of 2

12 520 This report defines the requirements and characteristics for the laser illuminator developed under this contract.

13 536

b DAAK70-80-C-0128 d 1L162709DH95, M0, 62709A, H95, 061

14 690

Raman spectroscopy.

15 690

Spin flip lasers.

16 690

Illumination.

17 690

Requirements.

18 690

Neodymium lasers.

19 690

Yag lasers.

20 690

Simulation.

21 690

Methane.

22 690

Nonlinear systems.

23 710 20 Hughes Aircraft Company. b Electro-Optical and Data Systems Group. u org.

-- 1 - OF 1  
 -- 4 - AD NUMBER: B064294L  
 -- 48 - SBI SITE HOLDING SYMBOL: ADD  
 -- 1 - NRL  
 -- 1 - NWC  
 -- 2 - FIELDS AND GROUPS: 7/4, 20/5  
 -- 3 - ENTRY CLASSIFICATION: UNCLASSIFIED  
 -- 5 - CORPORATE AUTHOR: HUGHES AIRCRAFT CO CULVER CITY CA ELECTRO-  
 -- OPTICAL ENGINEERING DIV  
 -- 6 - UNCLASSIFIED TITLE: RAMAN LASER SYSTEM. PRIME ITEM DEVELOPMENT  
 -- SPECIFICATION.  
 -- 8 - TITLE CLASSIFICATION: UNCLASSIFIED  
 -- 9 - DESCRIPTIVE NOTE: INTERIM REPT.,  
 -- 10 - PERSONAL AUTHORS: BURNS, D. G. ; BRUESSELBACH, H. W. ; ROCKWELL, D. A. ;  
 -- 11 - REPORT DATE: JAN , 1982  
 -- 12 - PAGINATION: 20P  
 -- 14 - REPORT NUMBER: HAC-FR-81-72-896  
 -- 15 - CONTRACT NUMBER: DAAK70-80-C-0128  
 -- 16 - PROJECT NUMBER: 4L162709DH95  
 -- 17 - TASK NUMBER: NO  
 -- 20 - REPORT CLASSIFICATION: UNCLASSIFIED  
 -- 22 - LIMITATIONS (ALPHA): DISTRIBUTION LIMITED TO U.S. GOV'T.  
 -- AGENCIES ONLY; TEST AND EVALUATION: JAN 82. OTHER REQUESTS FOR THIS  
 -- DOCUMENT MUST BE REFERRED TO U.S. ARMY NIGHT VISION AND ELECTRO-  
 -- OPTICS LAB., FT. BELVOIR, VA 22060.  
 -- 23 - DESCRIPTORS: \*RAMAN SPECTROSCOPY, \*SPIN FLIP LASERS,  
 -- \*ILLUMINATION, REQUIREMENTS, NEODYMIUM LASERS, YAG LASERS,  
 -- SIMULATION, METHANE, NONLINEAR SYSTEMS  
 -- 24 - DESCRIPTOR CLASSIFICATION: UNCLASSIFIED  
 -- 25 - IDENTIFIERS: NEODYMIUM YAG LASERS, RAMAN LASERS, LASER  
 -- ILLUMINATORS, PE62709A, ASH95, WU061  
 -- 26 - IDENTIFIER CLASSIFICATION: UNCLASSIFIED  
 -- 27 - ABSTRACT: THIS REPORT DEFINES THE REQUIREMENTS AND  
 -- CHARACTERISTICS FOR THE LASER ILLUMINATOR DEVELOPED UNDER THIS  
 -- CONTRACT.  
 -- 28 - ABSTRACT CLASSIFICATION: UNCLASSIFIED  
 -- 29 - INITIAL INVENTORY: 6  
 -- 33 - LIMITATION CODES: 3  
 -- 35 - SOURCE CODE: 406003  
 -- 36 - DOCUMENT LOCATION: DTIC  
 -- 40 - GEOPOLITICAL CODE: 0628  
 -- 41 - TYPE CODE: 4

-- END

<<ENTER NEXT COMMAND>>

END