NASA Technical Memorandum 81950

Scientific and Technical Information
Output of the Langley Research Center for Calendar Year 1980

Compiled by
Report and Manuscript Control Office,
Scientific and Technical Information Programs Division
Langley Research Center
Hampton, Virginia
FOREWORD

This report contains the research output of the Center for calendar year 1980. This report is published annually in an attempt to effect greater awareness and distribution of the Center's research output.

The 1980 report displays several new features designed to enhance its usefulness. Emphasis has been placed on archival or documented research. Particular care has been taken to provide complete citations, including source of availability.


Comments regarding the usefulness of the report are welcomed as are suggestions for improving its usefulness. Comments/suggestions should be addressed to the Report and Manuscript Control Office (RAMCO), Mail Stop 180A, NASA Langley Research Center, Hampton, Virginia 23665, (804) 827-3251 or 827-2301.

Donald P. Hearth
Director
INTRODUCTION

The Langley Research Center is one of the leading national laboratories for research and development in the sciences of aeronautics and space technology. For more than 60 years, Langley engineers and scientists have conducted basic and applied research in fluid and flight mechanics, flight systems, structures and materials, acoustics and noise reduction, measurements and instrumentation systems, data systems, and space and Earth sciences. The results of this research are disseminated through NASA scientific and technical publications as well as through a variety of non-NASA media. The Center's research output is processed through Langley's Scientific and Technical Information (STI) Program, which is an integral part of the NASA Scientific and Technical Information System. The Center's STI program is managed by the Scientific and Technical Information Programs Division (STIPD).

The new features that have been added to the report this year include author, NASA subject category, RTOP, and Tech Brief subject indexes. The categories have been expanded to include Computer Programs, Tech Briefs, and Patents. Each of these new categories is described below.

The computer programs listed in this document have been announced in recent issues of "Computer Program Abstracts," which were released in calendar year 1980. "Computer Program Abstracts," is an indexed journal containing abstracts of documented computer programs developed by NASA, NASA contractors, and other Federal Agencies. These computer programs are offered for sale through the NASA-sponsored Computer Software Management and Information Center (COSMIC) located at the University of Georgia.

The Tech Briefs listed in this document have been published in recent issues of "NASA Tech Briefs," which were released in 1980. "NASA Tech Briefs," a quarterly publication, is distributed free to engineers in U.S. industry and to other domestic technology transfer agents. It is both a current awareness document and a problem solving tool. For information on subscription to NASA Tech Briefs and other publications and services available through the NASA Technology Utilization Program, write to the Director, Technology Transfer Division, NASA Scientific and Technical Information Facility, P. O. Box 8757, Baltimore/Washington International Airport, Maryland 21240.

Patents owned in whole or part by Langley research personnel and listed in this document have been published in recent issues of "Scientific and Technical Aerospace Reports" (STAR). STAR, the NASA announcement journal for report literature, is available on a subscription basis from the U.S. Government Printing Office (GPO) or to qualified recipients from the NASA Scientific and Technical Information Facility. NASA Patent Application Specifications are sold by the National Technical Information Service (NTIS). Printed (paper) copies of patents are available for purchase from the Commissioner of Patents.

The citations are listed first by Division or Office and then under the following headings: Formal Reports, Quick-Release Technical Memorandums, Contractor Reports, Journal Articles, Meeting/Conference Papers, Computer Programs, Tech Briefs, Patents, and Unpublished Research. Under each heading, the citations are listed by author in alphabetical order. If a report has more than one author and those authors are from different Divisions or Offices, the citation is listed only once, under the senior author's name. Tech Briefs are listed under the main innovator's name. This is not necessarily the order in which the innovators' names appear on the Tech Brief.
A publication of this magnitude requires the efforts of many individuals. Special recognition is given to the Scientific and Technical Information Coordinators who were responsible for ensuring the accuracy of their respective Division or Office submittals, the Office of Technology Utilization and Applications Programs for providing the Tech Brief and Computer Program listings, and the Office of Patent Counsel for providing the Patent listings. Finally, a note of thanks and appreciation to those individuals in the Technical Editing Branch of STIPD, who typed, proofread, and indexed the report.
AVAILABILITY

Availability sources of the different output categories are given below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA Report Literature:</td>
<td></td>
</tr>
<tr>
<td>Formal Reports</td>
<td>National Technical Information Service (NTIS)</td>
</tr>
<tr>
<td>Quick-Release Technical Memorandums</td>
<td>5285 Port Royal Road Springfield, VA 22161</td>
</tr>
<tr>
<td>Contractor Reports</td>
<td>NASA Scientific and Technical Information Facility (STIF)</td>
</tr>
<tr>
<td></td>
<td>P. O. Box 8757</td>
</tr>
<tr>
<td></td>
<td>Baltimore/Washington International Airport, MD 21240</td>
</tr>
<tr>
<td></td>
<td>NASA Industrial Applications Centers (IAC)</td>
</tr>
<tr>
<td></td>
<td>(See Appendix for addresses of IAC's)</td>
</tr>
<tr>
<td>Journal Articles</td>
<td></td>
</tr>
<tr>
<td>Conference/Meeting Papers</td>
<td>Consult citation for source of availability</td>
</tr>
<tr>
<td>Computer Programs</td>
<td>Computer Software Management and Information Center (COSMIC)</td>
</tr>
<tr>
<td></td>
<td>112 Barrow Hall</td>
</tr>
<tr>
<td></td>
<td>University of Georgia</td>
</tr>
<tr>
<td></td>
<td>Athens, GA 30601</td>
</tr>
<tr>
<td>Tech Briefs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office of Technology Utilization and Applications Programs</td>
</tr>
<tr>
<td></td>
<td>Mail Stop 139A</td>
</tr>
<tr>
<td></td>
<td>NASA Langley Research Center</td>
</tr>
<tr>
<td></td>
<td>Hampton, VA 23665</td>
</tr>
<tr>
<td>Patents:</td>
<td></td>
</tr>
<tr>
<td>Patent Application Specifications</td>
<td>National Technical Information Service (NTIS)</td>
</tr>
<tr>
<td>Printed Copies</td>
<td>Commissioner of Patents and Trademarks</td>
</tr>
<tr>
<td></td>
<td>U.S. Patent and Trademark Office</td>
</tr>
<tr>
<td></td>
<td>Washington, DC 20231</td>
</tr>
<tr>
<td>Unpublished Research</td>
<td>Consult the Author</td>
</tr>
</tbody>
</table>
## CONTENTS

**FOREWORD** iii

**INTRODUCTION** v

**AVAILABILITY** vii

**OFFICE OF THE DIRECTOR** 1

**OFFICE OF DIRECTOR FOR PROJECTS** 3  
- PROJECTS MANAGEMENT SYSTEMS DIVISION (No Publications) 4
- SCOUT PROJECT OFFICE 6
- LONG DURATION EXPOSURE FACILITY PROJECT OFFICE (No Publications) 7
- AIRCRAFT ENERGY EFFICIENCY PROJECT OFFICE 7
- LARGE SPACE SYSTEMS TECHNOLOGY PROGRAM OFFICE 11
- ERBE/SAGE II/HALOE PROJECT OFFICE (No Publications) 11

**OFFICE OF DIRECTOR FOR ELECTRONICS** (No Publications) 13  
- ANALYSIS AND COMPUTATION DIVISION 13
- FLIGHT DYNAMICS AND CONTROL DIVISION 17
- FLIGHT ELECTRONICS DIVISION 25
- INSTRUMENT RESEARCH DIVISION 39
- TERMINAL CONFIGURED VEHICLE PROGRAM OFFICE 52

**OFFICE OF DIRECTOR FOR STRUCTURES** 54  
- MATERIALS DIVISION 55
- ACOUSTICS AND NOISE REDUCTION DIVISION 71
- STRUCTURES AND DYNAMICS DIVISION 80
- LOADS AND AEROELASTICITY DIVISION 90

**OFFICE OF DIRECTOR FOR AERONAUTICS** (No Publications) 100  
- AERONAUTICAL SYSTEMS DIVISION 100
- FLIGHT MECHANICS DIVISION 107
- HIGH-SPEED AERODYNAMICS DIVISION 115
- SUBSONIC-TRANSonic AERODYNAMICS DIVISION 128

**OFFICE OF DIRECTOR FOR SPACE** (No Publications) 139  
- ATMOSPHERIC ENVIRONMENTAL SCIENCES DIVISION 139
- SPACE SYSTEMS DIVISION 147
- MARINE AND APPLICATIONS TECHNOLOGY DIVISION 157

**OFFICE OF DIRECTOR FOR SYSTEMS ENGINEERING AND OPERATIONS** 164  
- FABRICATION DIVISION 166
- SYSTEMS ENGINEERING DIVISION 168
- RESEARCH FACILITIES ENGINEERING DIVISION 171
- OPERATIONS SUPPORT DIVISION 173
- PLANT ENGINEERING DIVISION 175
OFFICE OF DIRECTOR FOR MANAGEMENT OPERATIONS 177
ARMY STRUCTURES LABORATORY (AVRADCOM) 179
APPENDIX 181
AUTHOR INDEX 183
SUBJECT CATEGORY INDEX 215
RTOP LISTING INDEX 223
TECH BRIEF CATEGORY INDEX 237
NASA LANGLEY RESEARCH CENTER
Hampton, Virginia

CALENDAR YEAR 1980

PUBLICATIONS FOR OFFICE OF THE DIRECTOR

Formal Reports
(Avail: NTIS Subject Category 01 RTOP 023-10-01)

Quick-Release Technical Memorandums
(Avail: NTIS Subject Category 99 RTOP 023-10-01)
(Avail: NTIS Subject Category 34 RTOP 505-31-83)

Contractor Reports
(Avail: NTIS Subject Category 80 RTOP 340-00-00)

Journal Articles
(Avail: JGRL Subject Category 91 RTOP 889-52-03)

Meeting/Conference Papers
(Avail: AIAA Subject Category 01 RTOP 530-04-13)

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.

Unpublished Research


Formal Reports

(Avail: NTIS Subject Category 18 RTOP 815-00-00)

(Avail: NTIS Subject Category 18 RTOP 815-00-00)

(Avail: NTIS Subject Category 18 RTOP 815-00-00)

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

(Avail: NTIS Subject Category 61 RTOP 992-16-04)

Journal Articles

No journal articles.

Meeting/Conference Papers

(Avail: ISPA Subject Category 81 RTOP 619-12-01)


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
Unpublished Research


**PUBLICATIONS FOR SCOUT PROJECT OFFICE**

**Formal Reports**

No formal reports.

**Quick-Release Technical Memorandums**

No quick-release technical memorandums.

**Contractor Reports**


**Journal Articles**

No journal articles.

**Meeting/Conference Papers**

No meeting/conference papers.

**Computer Programs**

No computer programs.

**Tech Briefs**

No tech briefs.

**Patents**


**Unpublished Research**

No unpublished research.
PUBLICATIONS FOR AIRCRAFT ENERGY EFFICIENCY PROJECT OFFICE

Formal Reports


Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports


(Avail: IAC Subject Category 71 RTOP 514-55-03)

Journal Articles

No journal articles.

Meeting/Conference Papers

(Avail: Pergamon Press, Advances in Composite Materials Subject Category 24 RTOP 534-03-13)

(Avail: NTIS Subject Category 05 RTOP 534-03-13)

44. Maiden, Donald L.: Aircraft Surface Coatings for Erosion/Corrosion Protection and Excrucency Drag Reduction. Presented at the International Aircraft Maintenance Engineering Exhibition and Conference (AIRMEC '80 USA), April 8-10, 1980, Dallas, Texas.  
(Avail: AE&M Subject Category 05 RTOP 534-02-13)

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.

Unpublished Research

Formal Reports


Quick-Release Technical Memorandums


Contractor Reports


Journal Articles

No journal articles.

Meeting/Conference Papers


No computer programs.

No tech briefs.

No patents.

No unpublished research.
OFFICE OF DIRECTOR FOR ELECTRONICS
PUBLICATIONS FOR ANALYSIS AND COMPUTATION DIVISION

Formal Reports

(Avail: NTIS Subject Category 18 RTOP 506-63-13)

(Avail: NTIS Subject Category 61 RTOP 506-61-13)

(Avail: NTIS Subject Category 06 RTOP 534-04-13)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 05 RTOP 505-43-33)

(Avail: NTIS Subject Category 61 RTOP 992-16-05)

Contractor Reports

(Avail: NTIS Subject Category 05 RTOP 505-09-43)

(Avail: NTIS Subject Category 61 RTOP 534-04-13)


Journal Articles


Meeting/Conference Papers


Computer Programs

No computer programs.

Tech Briefs


Patents


Unpublished Research


Formal Reports

   (Avail: NTIS Subject Category 06 RTOP 505-41-73)

   (Avail: NTIS Subject Category 66 RTOP 506-54-13)

   (Avail: NTIS Subject Category 03 RTOP 505-41-73)

   (Avail: NTIS Subject Category 63 RTOP 505-34-33)

   (Avail: NTIS Subject Category 39 RTOP 505-34-33)

   (Avail: NTIS Subject Category 08 RTOP 505-34-33)

   (Avail: NTIS Subject Category 18 RTOP 506-54-23)

   (Avail: NTIS Subject Category 08 RTOP 505-34-33)

   (Avail: NTIS Subject Category 39 RTOP 506-53-63)

   (Avail: NTIS Subject Category 08 RTOP 505-34-33)

   (Avail: NTIS Subject Category 66 RTOP 506-53-43)
(Avail: NTIS Subject Category 08 RTOP 505-41-13)

(Avail: STIF Subject Category 05 RTOP 505-43-33)

(Avail: IAC Subject Category 05 RTOP 505-34-33)

(Avail: NTIS Subject Category 05 RTOP 505-06-63)

(Avail: NTIS Subject Category 08 RTOP 505-34-33)

(Avail: NTIS Subject Category 05 RTOP 505-34-33)

(Avail: NTIS Subject Category 08 RTOP 505-41-13)

(Avail: NTIS Subject Category 08 RTOP 505-41-13)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 18 RTOP 506-54-23)

(Avail: NTIS Subject Category 06 RTOP 505-41-73)


Contractor Reports


114. Hamilton, Brian J.: Laboratory Evaluation of the Pointing Stability of the
ASPS Vernier System. (NAS1-15008 Sperry Flight Systems.) NASA CR-159307,
June 1980, 60 p.
(Avail: NTIS Subject Category 31 RTOP 506-61-73)

Old Dominion University Research Foundation.) NASA CR-159270, May 1980,
27 p.
(Avail: NTIS Subject Category 19 RTOP 506-54-23)

116. Levison, William H.: A Model-Based Technique for Predicting Pilot Opinion Ratings
for Large Commercial Transports. (NAS1-15529 Bolt Beranek and Newman
(Avail: NTIS Subject Category 08 RTOP 505-07-33)

Task Scenarios for General Aviation and Metering and Spacing Studies.
(NAS1-13741 Boeing Commercial Airplane Company.) NASA CR-3199, March 1980,
36 p.
(Avail: NTIS Subject Category 53 RTOP 513-52-13)

118. Sundstrom, James L.: NASA TLA Workload Analysis Support - Volume II: Metering
and Spacing Studies Validation Data. (NAS1-13741 Boeing Commercial Airplane Company.)
(Avail: NTIS Subject Category 53 RTOP 513-52-13)

Autopilot Scenario Validation Data. (NAS1-13741 Boeing Commercial Airplane
(Avail: NTIS Subject Category 53 RTOP 513-52-13)

120. Tiffany, Sherwood H.: Segmentation, Dynamic Storage, and Variable Loading
on CDC Equipment. (NAS1-16000 Kentron International, Inc.) NASA CR-3315,
(Avail: NTIS Subject Category 61 RTOP 505-34-33)

Journal Articles

121. Joshi, Suresh M.; and Groom, Nelson J.: Optimal Member Damper Controller
Design for Large Space Structures. AIAA Journal of Guidance and Control,
(Avail: AIAA Subject Category 63 RTOP 506-19-13)

122. Joshi, Suresh M.; and Groom, Nelson J.: Modal Damping Enhancement in Large
Space Structures Using AMCD's. AIAA Journal of Guidance and Control,
(Avail: AIAA Subject Category 31 RTOP 506-53-43)
(Avail: Taylor & Francis Ltd. Subject Category 08 RTOP 505-06-63)

Meeting/Conference Papers

(Avail: AIAA Subject Category 08 RTOP 505-41-73)

(Avail: NTIS, NASA CP-2170 Subject Category 08 RTOP 505-41-73)

(Avail: AIAA Subject Category 31 RTOP 506-61-73)

(Avail: HFS Subject Category 53 RTOP 505-35-53)

(Avail: ASME Subject Category 18 RTOP 506-53-43)

(Avail: AIAA Subject Category 31 RTOP 506-61-73)

(Avail: NTIS, NASA CP-2168 Subject Category 66 RTOP 506-53-63)

(Avail: AIAA Subject Category 18 RTOP 506-53-43)


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.

Unpublished Research


PUBLICATIONS FOR FLIGHT ELECTRONICS DIVISION

Formal Reports


(Avail: NTIS Subject Category 59 RTOP 505-34-43)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 32 RTOP 505-34-13)

(Avail: NTIS Subject Category 32 RTOP 505-34-13)

(Avail: NTIS Subject Category 33 RTOP 506-61-63)

(Avail: NTIS Subject Category 04 RTOP 505-34-13)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 47 RTOP 505-44-13)

Contractor Reports

(Avail: NTIS Subject Category 43 RTOP 146-40-14)

(Avail: NTIS Subject Category 43 RTOP 146-40-14)

(Avail: NTIS Subject Category 06 RTOP 505-10-23)


(Avail: IAC Subject Category 05 RTOP 534-02-13)

(Avail: NTIS Subject Category 33 RTOP 506-61-63)

(Avail: NTIS Subject Category 33 RTOP 506-61-63)

(Avail: NTIS Subject Category 61 RTOP 534-02-13)

(Avail: NTIS Subject Category 33 RTOP 506-54-63)

(Avail: STIF Subject Category 18 RTOP 524-72-03)

(Avail: NTIS Pending Subject Category 35 RTOP 506-54-63)

(Avail: NTIS Subject Category 33 RTOP 506-54-63)

Journal Articles

(Avail: IEEE Subject Category 48 RTOP 655-75-01)

(Avail: Sport Aviation Magazine Subject Category 08 RTOP 505-41-63)
(Avail: *Applied Optics* Subject Category 74 RTOP 619-12-30)

(Avail: IEEE Subject Category 48 RTOP 655-75-01)

(Avail: AMS Subject Category 74 RTOP 619-12-30)

Meeting/Conference Papers

(Avail: NTIS, NASA CP-2168 Subject Category 33 RTOP 506-62-43)

(Avail: IEEE Subject Category 33 RTOP 506-54-63)

(Avail: AIAA Subject Category 60 RTOP 541-01-13)

(Avail: IEEE Subject Category 76 RTOP 146-40-13)

(Avail: Marine Science Series, Plenum Publishing Corp. Subject Category 43 RTOP 146-40-13)
(Avail: IEEE Subject Category 33 RTOP 506-54-63)

(Avail: AIAA Subject Category 33 RTOP 506-61-53)

(Avail: NTIS, NASA CP-2168 Subject Category 17 RTOP 506-62-43)

(Avail: NTIS, NASA CP-2168 Subject Category 17 RTOP 506-62-43)

213. Creedon, J. F.; and Ostroff, Aaron J.: Figure Control of Flexible Structures: Optical Surfaces of Thin Deformable Primary Mirrors. Presented at the 19th IEEE Conference on Decision and Control, December 10-12, 1980, Albuquerque, New Mexico.
(Avail: IEEE Subject Category 08 RTOP 505-34-33)

(Avail: AIAA Subject Category 35 RTOP 146-10-06)

(Avail: NTIS, NASA CP-2138 Subject Category 74 RTOP 506-61-43)

(Avail: Marine Science Series, Plenum Publishing Corp. Subject Category 48 RTOP 146-40-13)

(Avail: Marine Science Series, Plenum Publishing Corp. Subject Category 48 RTOP 146-40-05)


(Avail: NTIS, NASA CP-2170 Subject Category 47 RTOP 505-44-13)

(Avail: NTIS, NASA CP-2168 Subject Category 18 RTOP 506-62-43)

(Avail: AIAA Subject Category 19 RTOP 619-12-20)

(Avail: ION Subject Category 05 RTOP 505-34-23)

(Avail: AIAA Subject Category 33 RTOP 506-54-63)

(Avail: IEEE Subject Category 33 RTOP 506-54-63)

(Avail: McGregor & Werner Subject Category 48 RTOP 146-40-13)

(Avail: NTIS, NASA CP-2128 Subject Category 62 RTOP 505-44-13)

(Avail: NTIS, NASA CP-2128 Subject Category 35 RTOP 505-44-13)
Computer Programs

No computer programs.

Tech Briefs


Patents


272. This citation deleted because of duplication.


Formal Reports


Quick-Release Technical Memorandums


Contractor Reports

(Avail: NTIS Subject Category 46 RTOP 146-20-01)

(Avail: NTIS Subject Category 35 RTOP 506-16-21)

(Avail: NTIS Subject Category 72 RTOP 340-00-00)

(Avail: NTIS Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 36 RTOP 506-54-63)

(Avail: NTIS Subject Category 36 RTOP 506-54-63)

(Avail: STIF Subject Category 36 RTOP 506-61-53)

(Avail: NTIS Subject Category 36 RTOP 506-61-53)

(Avail: NTIS Pending Subject Category 35 RTOP 505-06-43)

(Avail: NTIS Subject Category 35 RTOP 505-06-43)

Journal Articles


(Avail: Kline Geology Lab., Yale University Subject Category 42 RTOP 992-15-20)

(Avail: Pergamon Press Subject Category 27 RTOP 146-20-10)

(Avail: American Assoc. for the Advancement of Science Subject Category 25 RTOP 146-20-10)

(Avail: Academic Press Subject Category 45 RTOP 146-20-10)

(Avail: AIP Subject Category 76 RTOP 179-80-10)

(Avail: Academic Press Subject Category 45 RTOP 141-95-01)

(Avail: ACS Subject Category 24 RTOP 505-02-33)

(Avail: AIP Subject Category 72 RTOP 506-26-20)

(Avail: AIP Subject Category 76 RTOP 506-18-13)

(Avail: ACS Subject Category 72 RTOP 506-61-53)


Meeting/Conference Papers


Computer Programs

No computer programs.

Tech Briefs


Patents


Unpublished Research


376. Harward, C. N.; Bair, C.; Hoell, J.; Williams, B. S.; and Williams, J. A.: High Resolution Absorption Coefficients for Dichlorodifluoromethane and the Temperature Dependence of the 6 Q-Branch at 1161 cm⁻¹. Presented at the Ohio State Spectroscopic Conference, June 16-20, 1980, Columbus, Ohio.


PUBLICATIONS FOR TERMINAL CONFIGURED VEHICLE PROGRAM OFFICE

Formal Reports


Quick-Release Technical Memorandums


Contractor Reports


Journal Articles

No journal articles.
Meeting/Conference Papers

(Avail: Wansbrough-White & Company, Ltd. Subject Category 03 RTOP 534-04-13)

(Avail: NTIS, NASA CP-2170 Subject Category 04 RTOP 534-04-13)

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.

Unpublished Research

PUBLICATIONS FOR OFFICE OF DIRECTOR FOR STRUCTURES

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers


Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents


Unpublished Research

No unpublished research.
Formal Reports

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: STIF Subject Category 26 RTOP 533-01-13)

(Avail: STIF Subject Category 24 RTOP 533-01-13)

(Avail: STIF Subject Category 24 RTOP 533-01-13)

(Avail: NTIS Subject Category 24 RTOP 506-53-23)

(Avail: NTIS Subject Category 24 RTOP 533-01-13)

(Avail: NTIS Subject Category 39 RTOP 506-53-53)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: STIF Subject Category 24 RTOP 533-01-13)

(Avail: NTIS Subject Category 24 RTOP 506-53-33)
Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 16 RTOP 506-53-23)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)

(Avail: NTIS Subject Category 24 RTOP 505-33-43)

(Avail: NTIS Subject Category 39 RTOP 506-53-53)

(Avail: NTIS Subject Category 24 RTOP 505-33-43)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 61 RTOP 505-33-43)

*Army Structures Laboratory, USARTL (AVRADCOM)
(Avail: NTIS Subject Category 39 RTOP 506-53-53)

(Avail: NTIS Subject Category 24 RTOP 506-53-23)

(Avail: NTIS Subject Category 39 RTOP 506-89-01)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 506-53-53)

(Avail: NTIS Subject Category 24 RTOP 506-53-53)

(Avail: NTIS Subject Category 27 RTOP 506-89-01)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)
   (Avail: NTIS Subject Category 27 RTOP 505-33-33)

   (Avail: NTIS Subject Category 18 RTOP 506-89-01)

   (Avail: NTIS Subject Category 16 RTOP 506-89-01)

Contractor Reports

   (Avail: NTIS Subject Category 24 RTOP 534-03-23)

   (Avail: NTIS Subject Category 24 RTOP 534-03-23)

   (Avail: NTIS Subject Category 24 RTOP 505-33-33)

   (Avail: NTIS Subject Category 24 RTOP 534-03-23)

   (Avail: NTIS Subject Category 24 RTOP 534-03-23)

   (Avail: NTIS Subject Category 39 RTOP 506-53-23)

   (Avail: NTIS Subject Category 24 RTOP 534-03-23)

58
(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-03)

(Avail: NTIS Subject Category 24 RTOP 506-53-53)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-03)
(Avail: STIF Subject Category 24 RTOP 505-01-33)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 524-71-13)

(Avail: NTIS Subject Category 24 RTOP 505-33-23)

(Avail: NTIS Subject Category 24 RTOP 505-33-43)

(Avail: NTIS Subject Category 24 RTOP 505-33-43)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 533-01-13)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: STIF Pending Subject Category 24 RTOP 505-42-13)


(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 506-53-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Subject Category 24 RTOP 534-03-23)

(Avail: NTIS Pending Subject Category 24 RTOP 506-53-23)


Journal Articles


Meeting/Conference Papers


*Army Structures Laboratory, USARTL (AVRADCOM)


*Army Structures Laboratory, USARTL (AVRADC0M)


*Army Structures Laboratory, USARTL (AVRADCOM)


*Army Structures Laboratory, USARTL (AVRADCOM)
Computer Programs


Tech Briefs


*Army Structures Laboratory, USARTL (AVRADCOM)
Patents

(Avail: U.S. Patent & Trademark Office Subject Category 24)

(Avail: U. S. Patent & Trademark Office Subject Category 27)

Unpublished Research


*Army Structures Laboratory, USARTL (AVRADC)


PUBLICATIONS FOR ACOUSTICS AND NOISE REDUCTION DIVISION

Formal Reports


Quick-Release Technical Memorandums


(Avail: NTIS Subject Category 45 RTOP 505-35-13)

(Avail: NTIS Subject Category 45 RTOP 505-35-13)

(Avail: NTIS Subject Category 71 RTOP 505-32-03)

(Avail: NTIS Subject Category 71 RTOP 505-32-03)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: NTIS Subject Category 71 RTOP 505-32-03)

(Avail: NTIS Subject Category 51 RTOP 141-20-20)

(Avail: NTIS Subject Category 71 RTOP 505-32-03)

Contractor Reports

(Avail: NTIS Pending Subject Category 71 RTOP 505-32-03)

(Avail: NTIS Subject Category 02 RTOP 505-32-03)


Journal Articles


599. Lansing, Donald L.: Some Effects of Motion and Plane Reflecting Surfaces on
the Radiation From Acoustic Sources. Noise Control Engineering, Volume 14,
Number 2, March/April 1980, p. 54-65.
(Avail: NCE Subject Category 71 RTOP 505-32-03)

600. Leatherwood, Jack D.; Dempsey, Thomas K.; and Clevenson, Sherman A.: A Design
Tool for Estimating Passenger Ride Quality Within Complex Ride Environments.
Journal of the Human Factors Society, Volume 22, Number 3, June 1980,
p. 291-312.
(Avail: HFS Subject Category 71 RTOP 505-09-13)

601. Lester, Harold C.; and Parrott, Tony L.: Comparison of Measured and Predicted
Impedance at Grazing Incidence. AIAA Journal, Volume 18, Number 5, May 1980,
p. 504-508.
(Avail: AIAA Subject Category 71 RTOP 505-03-13)

602. Maglieri, Domenic J.; Hubbard, Harvey H.; and Carlson, Harry W.: Status of
Knowledge of Sonic Boom. Noise Control Engineering, Volume 15, Number 2,
September/October 1980, p. 57-64.
(Avail: NCE Subject Category 71 RTOP 505-32-03)

603. Preisser, John S.: Airframe Noise Measurements on a Supersonic Small-Scale
Model. AIAA Journal of Aircraft, Volume 17, Number 11, November 1980,
p. 795-801.
(Avail: AIAA Subject Category 02 RTOP 505-03-13)

604. Yen, J.; Maestrello, L.; and Padula, S.: Response of a Panel to a Supersonic
Turbulent Flow. Journal of Sound and Vibration, Volume 17, Number 2, July 1980,
p. 271-282.
(Avail: Academic Press Subject Category 71 RTOP 505-32-03)

605. Yu, J. C.; and Dixon, N. R.: An Experimental Study of Sound Radiation From a
Subsonic Jet in Simulated Motion. AIAA Journal, Volume 18, Number 4,
(Avail: AIAA Subject Category 71 RTOP 505-03-13)

Meeting/Conference Papers

606. Baker, A. J.; Yu, J. C.; Orzechowski, J. A.; and Gatski, T. B.: Prediction and
Measurement of Turbulent Aerodynamic Trailing Edge Flows. Presented at the
AIAA 13th Fluid and Plasma Dynamics Conference, July 14-16, 1980, Snowmass,
Colorado. AIAA Paper No. 80-1395.
(Avail: AIAA Subject Category 02 RTOP 505-32-03)

607. Barton, C. Kearney; and Mixson, John S.: Noise Transmission and Control for
a Light, Twin-Engine Aircraft. Presented at the AIAA 6th Aeroacoustics
(Avail: AIAA Subject Category 71 RTOP 505-33-53)


Computer Programs
No computer programs.

Tech Briefs


Patents
No patents.

Unpublished Research


PUBLICATIONS FOR STRUCTURES AND DYNAMICS DIVISION

Formal Reports


Quick-Release Technical Memorandums


Contractor Reports

(Avail: NTIS Subject Category 39 RTOP 506-53-53)

(Avail: IAC Pending Subject Category 24 RTOP 505-33-43)

(Avail: NTIS Subject Category 39 RTOP 505-33-63)

(Avail: NTIS Subject Category 39 RTOP 506-53-63)

(Avail: NTIS Subject Category 39 RTOP 506-53-53)

(Avail: NTIS Subject Category 37 RTOP 506-53-43)

(Avail: NTIS Subject Category 39 RTOP 505-41-33)

(Avail: NTIS Subject Category 39 RTOP 505-41-33)

(Avail: NTIS Subject Category 39 RTOP 505-33-63)

(Avail: NTIS Subject Category 39 RTOP 506-17-13)
(Avail: NTIS Subject Category 05 RTOP 505-44-33)

(Avail: NTIS Subject Category 24 RTOP 524-71-13)

(Avail: NTIS Subject Category 24 RTOP 505-33-33)

Journal Articles

(Avail: ASTM Subject Category 39 RTOP 505-33-63)

(Avail: SAE Subject Category 39 RTOP 505-02-73)

(Avail: AIAA Subject Category 62 RTOP 510-54-13)

(Avail: SESA Subject Category 24 RTOP 524-71-03)

(Avail: SAE Subject Category 39 RTOP 505-02-73)

(Avail: Pergamon Press Subject Category 39 RTOP 505-02-73)

(Avail: DTIC Subject Category 39 RTOP 505-33-43)
   (Avail: AIAA Subject Category 05 RTOP 505-02-33)

   (Avail: Plenum Publishing Subject Category 39 RTOP 505-33-63)

Meeting/Conference Papers

   (Avail: AIAA Subject Category 39 RTOP 506-53-43)

   (Avail: NTIS, NASA CP-2168 Subject Category 39 RTOP 506-53-43)

   (Avail: IAC, NASA CP-2143 Subject Category 61 RTOP 510-54-13)

   (Avail: SAWE Subject Category 15 RTOP 506-53-43)

   (Avail: NTIS, NASA TM-81905, IAF Proceedings Pending, Pergamon Press Subject Category 15 RTOP 506-53-43)

   (Avail: NTIS, NASA CP-2118, 1980 Subject Category 39 RTOP 506-53-43)
691. Card, Michael F.: Base Technology Overview. Presented at the Second Annual
Hampton, Virginia.
(Avail: NTIS, NASA CP-2168 Subject Category 39 RTOP 506-53-43)

692. Card, Michael F.; and Boyer, William J.: Large Space Structures - Fantasies and
Baltimore, Maryland. AIAA Paper No. 80-0861.
(Avail: AIAA Subject Category 39 RTOP 506-53-43)

693. Card, Michael F.; and Boyer, William J.: Large Space Structures - Fantasies and
Facts. Presented at the AIAA/ASME/ASCE/ASHS 21st Structures, Structural
AIAA Paper No. 80-0674-CP.
(Avail: AIAA Subject Category 39 RTOP 506-53-43)

694. Card, Michael F.; and Rhodes, Marvin D.: Graphite-Epoxy Panel Compression
Strength Reduction Due to Local Impact. Presented at the AGARD Specialists
Meeting on the Effects of Service Environments on Composites, April 13-18, 1980,
(Avail: NTIS, Proceedings Subject Category 39 RTOP 505-33-43)

695. Fulton, Robert E.: IPAD Program Overview. Presented at the IPAD National
(Avail: IAC, NASA CP-2143 Subject Category 62 RTOP 510-54-13)

Considerations for Large Space Structures. Presented at the Second Annual
Hampton, Virginia.
(Avail: NTIS, NASA CP-2168 Subject Category 39 RTOP 506-53-43)

697. Heard, Walter L., Jr.; Bush, Harold G.; Walz, Joseph E.; and Rehder, John: Structural
Sizing Considerations for Large Space Platforms. Presented at the AIAA/ASME/
ASCE/AHS 21st Structures, Structural Dynamics and Materials Conference,
(Avail: AIAA Subject Category 15 RTOP 506-53-43)

Truss Module. Presented at the Second Annual Technical Review, Large Space
(Avail: NTIS, NASA CP-2168 Subject Category 39 RTOP 506-53-43)

at the Second Annual Technical Review, Large Space Systems Technology -
(Avail: NTIS, NASA CP-2168 Subject Category 39 RTOP 506-53-43)


*Army Structures Laboratory, USARTL (AVRADCOM)
709. Storaasli, Olaf; Blackburn, Charles; Stephens, Maria; and Cockrell, Charles:
IPAD Hardware/Software Configurations at the NASA Langley Research Center.
Presented at the IPAD National Symposium, September 17-19, 1980, Denver,
Colorado.
(Avail: IAC, NASA CP-2143  Subject Category 62  RTOP 510-54-13)

710. Stubbs, Sandy M.; and Tanner, John A.: Review of Antiskid and Brake Dynamics
Research. Presented at the 1980 Aircraft Safety and Operating Problems
(Avail: NTIS, NASA CP-2170  Subject Category 03  RTOP 505-44-33)

Tire Design. Presented at the 1980 Aircraft Safety and Operating Problems
(Avail: NTIS, NASA CP-2170  Subject Category 03  RTOP 505-44-33)

712. Thurston, Gaylen A.: Newton's Method: A Link Between Continuous and Discrete
Solutions of Nonlinear Problems. Presented at the Symposium on Computational
Methods in Nonlinear Structural and Solid Mechanics, October 6-8, 1980,
Washington, D.C.
(Avail: NTIS, NASA CP-2147  Subject Category 39  RTOP 506-53-53)

713. Walz, Joseph E.; Bush, Harold G.; Heard, Walter L., Jr.; and Rehder, John J.:
Effect of Orbital Transfer Loads on Large Platforms. Presented at the Large
Space Systems/Low Truss Propulsion Technology Conference, NASA Lewis
(Avail: NTIS  Subject Category 39  RTOP 506-53-43)

714. Yager, Thomas J.; and White, Ellis J.: Recent Progress Towards Predicting Aircraft
Ground Handling Performance. Presented at the 1980 Aircraft Safety and Oper-
(Avail: NTIS, NASA CP-2170  Subject Category 03  RTOP 505-44-33)

Computer Programs

715. Schmit, L. A.; and Fleury, C. (University of California, Los Angeles): ACCESS3:
Approximation Concepts Code for Efficient Structural Synthesis. Program
(Avail: COSMIC  Subject Category 39)

Tech Briefs

716. Bush, Harold G. (Langley Research Center); and Wallsom, Richard E. (Vought Corp.):
Released 1980.
(Avail: NASA Langley Technology Utilization Office  Category: Machinery)


Patents

No patents.

Unpublished Research


*Army Structures Laboratory, USARTL (AVRADCOM)
   Presented at the Symposium on Computational Methods in Nonlinear Structural 
   and Solid Mechanics, October 6-8, 1980, Washington, DC.

727. Miserentino, Robert; Pinson, Larry D.; and Leadbetter, Sumner A.: Vibration 
   Characteristics of Space Shuttle Tile/Strain-Isolator-Pad. Presented at the 
   1980 SAE Aerospace Congress and Exposition, October 13-16, 1980, Los Angeles, 
   California.

   Time Domain (ITD) Modal Identification Algorithm. Presented at the 51st Shock 
   and Vibration Symposium, October 21-13, 1980, San Diego, California.

   Analysis. Presented at the Symposium on Computational Methods in Nonlinear 
   Structural and Solid Mechanics, October 6-8, 1980, Washington, DC.

   at the Symposium on the Unification of Finite Element, Finite Differences, 

   Presented at the U.S. Navy Review of Advanced Composite Fuselage and Composite 

732. Starnes, James H., Jr.; and Rouse, Marshall: Postbuckling Strength of Stiffened 
   Flat 24-Ply Graphite-Epoxy Panels Loaded in Compression. Presented at the 

733. Williams, Jerry G.: Composite Structures Research and Component Experiences 
   Applicable to General Aviation Aircraft. Presented at the 1980 SAE Turbine 
   Powered Executive Aircraft Meeting, April 9-11, 1980, Scottsdale, Arizona.
PUBLICATIONS FOR LOADS AND AEROELASTICITY DIVISION

Formal Reports


Quick-Release Technical Memorandums


(Avail: NTIS Subject Category 24 RTOP 533-01-13)

(Avail: NTIS Subject Category 02 RTOP 505-33-53)

(Avail: NTIS Subject Category 08 RTOP 505-33-53)

(Avail: NTIS Subject Category 05 RTOP 505-33-53)

(Avail: NTIS Subject Category 39 RTOP 506-89-01)

(Avail: NTIS Subject Category 39 RTOP 505-33-63)

(Avail: NTIS Subject Category 09 RTOP 505-33-53)

(Avail: NTIS Subject Category 02 RTOP 534-02-13)

(Avail: NTIS Subject Category 39 RTOP 506-89-01)

Contractor Reports

(Avail: IAC Pending Subject Category 39 RTOP 505-43-13)


Journal Articles

(Avail: AIAA Subject Category 02 RTOP 505-33-53)

(Avail: AIAA Subject Category 02 RTOP 505-02-23)

(Avail: AIAA Subject Category 02 RTOP 505-02-33)

(Avail: AIAA Subject Category 39 RTOP 506-53-53)

(Avail: Hemisphere Publishing Corp. Subject Category 34 RTOP 505-02-13)

Meeting/Conference Papers

(Avail: NTIS, NASA CP-2172 Subject Category 01 RTOP 505-33-63)

(Avail: STIF, NASA CP-2162, Vol. I Subject Category 08 RTOP 505-33-53)

(Avail: AIAA, NTIS, NASA TM-81789 Subject Category 08 RTOP 505-33-53)

95


*Army Structures Laboratory, USARTL (AVRADCOM)

801. Reed, Wilmer H., III; Cazier, Frank W., Jr.; and Foughner, Jerome, T., Jr.: Passive Control of Wing/Store Flutter. Presented at the Fifth JTCG Aircraft/Stores Compatibility Symposium, September 9-11, 1980, St. Louis, Missouri. (Avail: AVRADCOM/DRDAV (DS) Subject Category 01 RTOP 505-33-53)


Computer Programs

No computer programs.

Tech Briefs


Patents


Unpublished Research


819. Walton, William C., Jr.: The Dynamicist as a Professional. Presented at Meeting of the ASME Student Chapter – Old Dominion University, February 14, 1980, Norfolk, Virginia.
OFFICE OF DIRECTOR FOR AERONAUTICS
PUBLICATIONS FOR AERONAUTICAL SYSTEMS DIVISION

Formal Reports


Quick-Release Technical Memorandums


(Avail: NTIS Subject Category 02 RTOP 530-01-13)

(Avail: NTIS Subject Category 05 RTOP 530-04-13)

(Avail: NTIS Subject Category 03 RTOP 530-04-13)

(Avail: NTIS Subject Category 01 RTOP 530-03-13)

(Avail: NTIS Subject Category 83 RTOP 790-40-13)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 07 RTOP 533-01-43)

(Avail: NTIS Subject Category 01 RTOP 533-01-43)

(Avail: NTIS Subject Category 03 RTOP 530-04-13)

*Army Structures Laboratory, USARTL (AVRADCOM)
Contractor Reports

(Avail: STIF Subject Category 02 RTOP 533-01-43)

(Avail: STIF Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 03 RTOP 530-04-13)

(Avail: NTIS Subject Category 03 RTOP 791-40-13)

(Avail: STIF Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 28 RTOP 530-04-13)

(Avail: STIF Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 02 RTOP 530-04-13)

(Avail: STIF Subject Category 02 RTOP 533-01-43)


(Avail: NTIS Subject Category 02 RTOP 530-04-13)

(Avail: NTIS Subject Category 05 RTOP 516-50-23)

Journal Articles

(Avail: Exxon International Co. Subject Category 01 RTOP 530-04-13)

(Avail: AIAA Subject Category 01 RTOP 533-01-43)

(Avail: AIAA Subject Category 01 RTOP 791-40-13)

Meeting/Conference Papers

(Avail: SAE Subject Category 01 RTOP 530-04-13)

(Avail: AIAA Subject Category 01 RTOP 530-04-13)

(Avail: STIF, NASA CP-2162, Vol. I Subject Category 01 RTOP 530-03-13)

(Avail: AIAA Subject Category 01 RTOP 533-01-43)
Heyson, Harry H.: Operational Implications of Some NACA/NASA Rotary-Wing
Induced-Velocity Studies. Presented at the Third Annual Midwest Helicopter
(Avail: NTIS, NASA TM-80232 Subject Category 01 RTOP 530-04-10)

Spearman, M. Leroy: Effects of Wing and Tail Location on the Aerodynamic Charac-
teristics of an Airplane for Mach Numbers From 0.25 to 4.63. Presented at
the AIAA 7th Atmospheric Flight Mechanics Conference, August 11-13, 1980,
Danvers, Massachusetts. AIAA Paper No. 80-1623.
(Avail: AIAA Subject Category 02 RTOP 533-01-43)

Winston, Matthew M.; and Conner, D. William: Air Cargo Market Outlook and
Impacts Via the NASA CLASS Project. Presented at the 10th International
Forum for Air Cargo, September 30 - October 2, 1980, Amsterdam, The Netherlands.
(Avail: SAE Subject Category 03 RTOP 530-04-13)

Presented at the 1980 SAE Aerospace Congress and Exposition, October 13-16,
1980, Los Angeles, California.
(Avail: SAE Subject Category 05 RTOP 505-31-70)

Computer Programs

Ferguson, D. R.; and Keith, James S. (General Electric Company): The Steamtube
Curvature Analysis Program. Program No. LAR-11535. NASA Accession
(Avail: COSMIC Subject Category 34)

Miranda, Luis R.; Elliott, Robert D.; and Baker, William M. (Lockheed Aircraft Corp.):
VORLAX: A Generalized Vortex Lattice Method for Subsonic and Supersonic
Released 1980.
(Avail: COSMIC Subject Category 02)

Tech Briefs

Keith, J. S.; and Ferguson, D. R. (General Electric Company): Stream-Tube Curvature
(Avail: NASA Langley Technology Utilization Office Category: Mechanics)

Miranda, Luis R.; Elliott, Robert D.; and Baker, William M. (Lockheed Aircraft
Released 1980.
(Avail: NASA Langley Technology Utilization Office Category: Mechanics)

Patents

No patents.
Unpublished Research


PUBLICATIONS FOR FLIGHT MECHANICS DIVISION

Formal Reports


*Army Structures Laboratory, USARTL (AVRADCOM)


Quick-Release Technical Memorandums


*Army Structures Laboratory, USARTL (AVRADCOM)
(Avail: NTIS Subject Category 04 RTOP 534-04-13)

(Avail: NTIS Subject Category 08 RTOP 505-41-83)

Contractor Reports

(Avail: STIF Subject Category 08 RTOP 533-01-43)

(Avail: NTIS Subject Category 02 RTOP 505-41-83)

(Avail: IAC Subject Category 02 RTOP 505-41-13)

(Avail: IAC Subject Category 02 RTOP 505-41-13)

(Avail: NTIS Subject Category 02 RTOP 505-41-13)

(Avail: NTIS Subject Category 02 RTOP 505-41-13)

(Avail: NTIS Subject Category 05 RTOP 530-01-13)


Journal Articles

(Avail: AIAA Subject Category 02 RTOP 505-43-13)

(Avail: NTIS, NASA CP-2170 Subject Category 03 RTOP 505-44-23)

(Avail: AIAA Subject Category 08 RTOP 505-41-13)

(Avail: NTIS, NASA CP-2170 Subject Category 03 RTOP 505-44-13)

(Avail: STIF, NASA CP-2162, Vol. I Subject Category 02 RTOP 505-43-13)

(Avail: SAE Subject Category 08 RTOP 505-44-23)

(Avail: AIAA Subject Category 05 RTOP 505-41-83)

(Avail: AIAA Subject Category 02 RTOP 505-43-23)


933. Van Dam, Cornelis P.; Holmes, Bruce, J.; and Pitts, Calvin U.: Effect of Winglets on Performance and Handling Qualities of General Aviation Aircraft. Presented at the AIAA Aircraft Systems and Technology Meeting, August 4-6, 1980, Anaheim, California. AIAA Paper No. 80-1870.
(Avail: AIAA Subject Category 02 RTOP 505-41-83)

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.

Unpublished Research


*Army Structures Laboratory, USARTL (AVRADC0M)


PUBLICATIONS FOR HIGH-SPEED AERODYNAMICS DIVISION

Formal Reports

(Avail: NTIS Subject Category 02 RTOP 505-32-13)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-31-43)

(Avail: NTIS Subject Category 34 RTOP 505-31-23)

(Avail: NTIS Subject Category 34 RTOP 505-31-23)
959. Huber, Paul W.: Conceptual Model of Turbulent Flameholding for Scramjet Com-
(Avail: NTIS Subject Category 07 RTOP 505-32-93)

960. Lamb, Milton; and Trescott, Charles D., Jr.: A Study of Panel Loads and Centers 
of Pressure of Three Different Cruciform Aft-Tail Control Surfaces of a Wingless 
(Avail: NTIS Subject Category 02 RTOP 505-43-23)

961. Mason, Mary L.; Putnam, Lawrence E.; and Re, Richard J.: The Effect of Throat 
Contouring on Two-Dimensional Converging-Diverging Nozzles at Static 
(Avail: NTIS Subject Category 02 RTOP 505-32-13)

962. McClinton, C. R.; and Anderson, G. Y.: Evaluation of a Bulk Calorimeter and 
Heat Balance for Determination of Supersonic Combustor Efficiency. NASA 
(Avail: NTIS Subject Category 07 RTOP 505-32-03)

963. Monta, William J.: Effect of Conventional and Square Stores on the Longitudinal 
Aerodynamic Characteristics of a Fighter Aircraft Model at Supersonic Speeds. 
(Avail: NTIS Subject Category 02 RTOP 505-43-23)

964. Nichols, Mark R.: Bibliography on Aerodynamics of Airframe/Engine Integration 
of High-Speed Turbine-Powered Aircraft - Volume I. NASA TM-81814, 
(Avail: NTIS Subject Category 05 RTOP 505-43-23)

965. Nichols, Mark R.: Bibliography on Aerodynamics of Airframe/Engine Integration 
of High-Speed Turbine-Powered Aircraft - Volume II. NASA TM-81815, 
November 1980, 12 p.
(Avail: STIF Subject Category 05 RTOP 505-43-23)

966. Pittman, Jimmy L.; and Riebe, Gregory D.: Experimental and Theoretical Aero-
dynamic Characteristics of Two Hypersonic Cruise Aircraft Concepts at Mach 
(Avail: NTIS Subject Category 02 RTOP 505-31-73)

967. Robins, A. Warner; Carlson, Harry W.; and Mack, Robert J.: Supersonic Wings 
With Significant Leading-Edge Thrust at Cruise. NASA TP-1632, April 1980, 
25 p.
(Avail: NTIS Subject Category 02 RTOP 505-31-43)

968. Stallings, Robert L., Jr.; Lamb, Milton; and Watson, Carolyn B.: Effect of Reynolds 
Number on Stability Characteristics of a Cruciform Wing-Body at Supersonic 
(Avail: NTIS Subject Category 02 RTOP 505-43-23)
(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-32-13)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 07 RTOP 505-31-73)

(Avail: NTIS Subject Category 02 RTOP 505-32-13)

(Avail: NTIS Subject Category 02 RTOP 530-03-13)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 16 RTOP 505-31-73)

Contractor Reports

(Avail: STIF Subject Category 07 RTOP 505-43-23)

(Avail: NTIS Subject Category 34 RTOP 505-06-25)

(Avail: NTIS Subject Category 34 RTOP 505-06-23)
<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
<th>Authors</th>
<th>Publisher/Institution</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>985</td>
<td>Canard Configured Aircraft Two-Dimensional Application, Design, and Analysis</td>
<td>Karger, William J.; Gingrich, Philip; Goebel, Tom; and Berndt, Dave</td>
<td>Rockwell International Corporation</td>
<td>1980</td>
<td></td>
</tr>
<tr>
<td>987</td>
<td>Documentation of Program COORDC to Generate Coordinate System for 3-D Corners With or Without Fillet Using Body-Fitted Curvilinear Coordinates - Part II.</td>
<td>Kumar, Dilip</td>
<td>Systems and Applied Sciences Corporation</td>
<td>1980</td>
<td>57 p.</td>
</tr>
</tbody>
</table>


998. Orszag, Steven A.: Stability Analysis for Laminar Flow Control - Part II.  
(NAS1-14907 Cambridge Hydrodynamics, Inc.) NASA CR-3249, April 1980,  
20 p.  
(Avail: NTIS Subject Category 34 RTOP 514-55-01)

(NAS1-15395 Grumman Aerospace Corporation.) NASA CR-3242, January 1980,  
24 p.  
(Avail: NTIS Subject Category 07 RTOP 505-05-43)

(L-75242 The Johns Hopkins University.) NASA CR-3325, September 1980,  
39 p.  
(Avail: NTIS Subject Category 02 RTOP 505-31-43)

an Improved Wall Jet System. (NSG-1548 Southern Methodist University.) NASA  
(Avail: NTIS Subject Category 34 RTOP 505-15-13)

1002. Shirley, John A.; Hall, Robert J.; and Eckbreth, Alan C.: Investigation of the  
Feasibility of CARS Measurements in Scramjet Combustion. (NAS1-15491  
(Avail: NTIS Subject Category 35 RTOP 505-32-93)

1003. Spradley, L. W.; Stalnaker, J. F.; and Ratiiff, A. W.: Hyperbolic/Parabolic Develop- 
ment for the GIM-STAR Code. (NAS1-15783 and NAS1-15795 Lockheed Missiles  
(Avail: NTIS Subject Category 34 RTOP 505-32-73)

1004. Thomas, P. D.: Numerical Method for Predicting Flow Characteristics and Perfor- 
mance of Nonaxisymmetric Nozzles, Part 2 - Applications. (NAS1-15084 Lockheed  
(Avail: NTIS Subject Category 02 RTOP 505-32-13)

and NOZLIC Computer Programs. (NAS1-15084 Lockheed Missiles & Space  
(Avail: IAC Subject Category 02 RTOP 505-32-13)

Journal Articles

(Avail: AIAA Subject Category 02 RTOP 505-43-23)

1007. Allen, Jerry M.; and Dillenius, Marnix F. E.: Vortex Development on Slender  
Missiles at Supersonic Speeds. AIAA Journal of Spacecraft and Rockets,  
Volume 17, Number 4, July/August 1980, p. 377-378.  
(Avail: AIAA Subject Category 02 RTOP 505-43-23)


Meeting/Conference Papers


(Avail: AIAA Subject Category 02 RTOP 505-43-23)

(Avail: AIAA Subject Category 02 RTOP 505-31-23)

(Avail: NTIS, NASA CP - Pending RTOP 505-32-93 Subject Category 07)

(Avail: CPIA Subject Category 07 RTOP 505-32-93)

(Avail: CPIA Subject Category 02 RTOP 505-31-73)

(Avail: AIAA Subject Category 02 RTOP 505-43-23)

(Avail: Avionics Laboratory, AFWAL, WP-AFB, OH, Symposium Digest Pending Subject Category 02 RTOP 505-43-23)

(Avail: AIAA Subject Category 02 RTOP 505-31-43)

(Avail: AIAA Subject Category 02 RTOP 505-43-23)


Computer Programs


Tech Briefs


Patents


Unpublished Research


Formal Reports

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 02 RTOP 505-42-23)

(Avail: NTIS Subject Category 34 RTOP 505-31-53)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 34 RTOP 505-31-13)

(Avail: NTIS Subject Category 02 RTOP 505-31-33)

(Avail: NTIS Subject Category 02 RTOP 505-42-23)

(Avail: NTIS Subject Category 02 RTOP 505-06-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-13)

*Army Structures Laboratory, USARTL (AVRADCOM)
1081. Harris, Charles D.; McGhee, Robert J.; and Allison, Dennis O.: Low-Speed Aerodynamic Characteristics of a 14-Percent-Thick NASA Phase 2 Supercritical Airfoil Designed for a Lift Coefficient of 0.7. NASA TM-81912, December 1980, 101 p. (Avail: IAC Subject Category 02 RTOP 505-31-33)


1085. Lawing, Pierce L.; Adcock, Jerry B.; and Ladson, Charles L.: A Fan Pressure Ratio Correlation in Terms of Mach Number and Reynolds Number for the Langley 0.3-Meter Transonic Cryogenic Tunnel. NASA TP-1752, November 1980, 18 p. (Avail: NTIS Subject Category 02 RTOP 505-31-53)


1087. *Noonan, Kevin W.; and *Bingham, Gene J.: Aerodynamic Characteristics of Three Helicopter Rotor Airfoil Sections at Reynolds Numbers From Model Scale to Full Scale at Mach Numbers From 0.35 to 0.90. NASA TP-1701, September 1980, 82 p. (Avail: NTIS Subject Category 02 RTOP 505-31-33)


*Army Structures Laboratory, USARTL (AVRADCOM)
(Avail: NTIS Subject Category 09 RTOP 505-31-53)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 02 RTOP 505-31-33)

(Avail: NTIS Subject Category 09 RTOP 505-31-13)

(Avail: NTIS Subject Category 02 RTOP 533-01-43)

(Avail: NTIS Subject Category 05 RTOP 505-43-23)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-31-53)

(Avail: NTIS Subject Category 18 RTOP 505-31-53)

(Avail: NTIS Subject Category 39 RTOP 505-31-53)
Contractor Reports


Journal Articles


*Army Structures Laboratory, USARTL (AVRADCOM)


*Army Structures Laboratory, USARL (AVRADCOM)
(Avail: AIAA Subject Category 09 RTOP 505-13-63)

(Avail: AIAA Subject Category 09 RTOP 505-31-63)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS, NASA CP-2172 Subject Category 02 RTOP 534-02-13)

(Avail: AIAA Subject Category 34 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: STIF, NASA CP-2162, Vol. I Subject Category 02 RTOP 505-31-43)

1146. Paulson, John W., Jr.: An Analysis of Thrust-Induced Effects on the Longitudinal Aerodynamics of STOL Fighter Configurations. Presented at the AIAA Aircraft Systems and Technology Meeting, August 4-6, 1980, Anaheim, California. AIAA Paper No. 80-1879. (Avail: AIAA Subject Category 02 RTOP 505-43-23)


Computer Programs


Tech Briefs


Patents

Unpublished Research


OFFICE OF DIRECTOR FOR SPACE
PUBLICATIONS FOR ATMOSPHERIC ENVIRONMENTAL SCIENCES DIVISION

Formal Reports


Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports


Meeting/Conference Papers


(Avail: NCAR Subject Category 47 RTOP 147-30-01)

(Avail: OSA Subject Category 36 RTOP 146-20-01)

(Avail: AMS, Proceedings Pending Subject Category 46 RTOP 146-20-10)

(Avail: NCAR, Proceedings Subject Category 46 RTOP 146-20-10)

(Avail: Colorado State University Subject Category 47 RTOP 619-12-20)

(Avail: Solar Physics Special issue dedicated to this Symposium - Publication pending Subject Category 46 RTOP 146-40-01)

(Avail: NCAR Subject Category 46 RTOP 146-60-01)

(Avail: NCAR Subject Category 47 RTOP 146-60-01)


1212. Rinsland, Curtis P.; Baldacci, Agostino; Smith, Mary Ann H.; and Rao, K. Narahari: Spectrum of $^{13}$CO$_2$ at 3420-3680 cm$^{-1}$ (2.8 μm). Presented in the Topical Meeting of Spectroscopy in Support of Atmospheric Measurements, November 10-12, 1980, Sarasota, Florida. (Avail: OSA Technical Digest Subject Category 46 RTOP 620-14-00)
(Avail: Colorado State University Subject Category 46 RTOP 620-14-00)

(Avail: Pergamon Press Ltd., Publication in Space Research Pending Subject Category 46 RTOP 642-14-03)

(Avail: NCAR Subject Category 46 RTOP 665-10-40)

(Avail: Colorado State University Subject Category 47 RTOP 619-12-20)

(Avail: Colorado State University Subject Category 46 RTOP 620-14-00)

(Avail: OSA Technical Digest Subject Category 46 RTOP 620-14-00)

(Avail: Colorado State University Subject Category 47 RTOP 619-12-20)

(Avail: Colorado State University Subject Category 47 RTOP 619-12-20)

(Avail: NCAR Subject Category 47 RTOP 146-60-01)
Computer Programs

No computer programs.

Tech Briefs

   (Avail: NASA Langley Technology Utilization Office       Category: Life Sciences)

Patents

No patents.

Unpublished Research


Quick-Release Technical Memorandums


Journal Articles


(Avail: AIAA Subject Category 34 RTOP 506-51-23)

(Avail: AIAA Subject Category 15 RTOP 506-51-13)

(Avail: SPIE Subject Category 43 RTOP 542-03-14)

(Avail: AIAA Subject Category 20 RTOP 540-03-13)

(Avail: AIP Subject Category 36 RTOP 506-25-33)

(Avail: AIP Subject Category 36 RTOP 506-55-13)

(Avail: College of William & Mary Subject Category 36 RTOP 506-55-13)

(Avail: AIAA Subject Category 15 RTOP 506-51-13)

(Avail: AIAA Subject Category 34 RTOP 506-51-23)

Meeting/Conference Papers

(Avail: AIAA Subject Category 34 RTOP 506-51-23)


Computer Programs

No computer programs.

Tech Briefs


Patents


Unpublished Research


PUBLICATIONS FOR MARINE AND APPLICATIONS TECHNOLOGY DIVISION

Formal Reports

   (Avail: NTIS Subject Category 13 RTOP 146-60-02)

   (Avail: NTIS Subject Category 48 RTOP 146-40-01)

   (Avail: NTIS Subject Category 45 RTOP 146-20-10)

   (Avail: NTIS Subject Category 25 RTOP 506-52-33)

   (Avail: NTIS Subject Category 25 RTOP 506-52-33)

   (Avail: NTIS Subject Category 47 RTOP 619-12-01)

Quick-Release Technical Memorandums

   (Avail: NTIS Subject Category 48 RTOP 146-40-01)

   (Avail: NTIS Subject Category 48 RTOP 146-20-14)

   (Avail: NTIS Subject Category 45 RTOP 146-20-10)


Contractor Reports


Journal Articles


1351. Wakelyn, N. T.; and Gregory, Gerald L.: Comparison of Measured Ozone in Southeastern Virginia With Computer Predictions From a Photochemical Model. Environmental Science and Technology, Volume 14, Number 8, August 1980, p. 1006-1008. (Avail: Subject Category 45 RTOP 146-20-10)


Meeting/Conference Papers


1358. Gregory, Gerald L.; McDougal, David S.; and Wagner, H. Scott: An Air Quality Program Designed to Evaluate Remote Sensors. Presented at the 73rd Annual Meeting of the Air Pollution Control Association, June 22-27, 1980, Montreal, Quebec, Canada. Paper No. 80-44.5 (Avail: APCA Subject Category 45 RTOP 146-20-10)


Computer Programs

No computer programs.

Tech Briefs


Patents


Unpublished Research


1380. Harriss, Robert C.; and Sebacher, Daniel I.: Reassessing the Importance of Wetlands as a Global Source of Tropospheric Methane. Presented at the American Geophysical Union Spring Meeting, May 22-27, 1980, Toronto, Canada.


PUBLICATIONS FOR OFFICE OF DIRECTOR FOR SYSTEMS
ENGINEERING AND OPERATIONS

Formal Reports


Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers

No meeting/conference papers.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
Unpublished Research


PUBLICATIONS FOR FABRICATION DIVISION

Formal Reports


Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers

No meeting/conference papers.

Computer Programs

No computer programs.

Tech Briefs


(Avail: NASA Langley Technology Utilization Office Category: Fabrication Technology)

(Avail: NASA Langley Technology Utilization Office Category: Life Sciences)

(Avail: NASA Langley Technology Utilization Office Category: Fabrication Technology)

Patents

(Avail: U.S. Patent & Trademark Office Subject Category 51)

Unpublished Research

No unpublished research.
PUBLICATIONS FOR SYSTEMS ENGINEERING DIVISION

Formal Reports

(Avail: NTIS Subject Category 31)

(Avail: NTIS Subject Category 03 RTOP 505-41-13)

(Avail: NTIS Subject Category 03 RTOP 505-41-13)

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

(Avail: STIF Subject Category 19 RTOP 147-40-01)

(Avail: NTIS Subject Category 31 RTOP 146-10-06)

(Avail: STIF Subject Category 05 RTOP 505-32-03)

Journal Articles

(Avail: AIAA Subject Category 16 RTOP 506-26-13)

(Avail: AIAA Subject Category 18 RTOP 506-26-13)
Meeting/Conference Papers


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
PUBLICATIONS FOR RESEARCH FACILITIES ENGINEERING DIVISION

Formal Reports

No formal reports.

Quick-Release Technical Memorandums


Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers


Computer Programs

No computer programs.

*Army Structures Laboratory, USARTL (AVRADCOM)
(Avail: NASA Langley Technology Utilization Office Category: Mathematics and Information Sciences)

Patents

No patents.

Unpublished Research

No unpublished research.
PUBLICATIONS FOR OPERATIONS SUPPORT DIVISION

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers

No meeting/conference papers.

Computer Programs

No computer programs.

Tech Briefs


Patents


PUBLICATIONS FOR PLANT ENGINEERING DIVISION

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles

No journal articles.

Meeting/Conference Papers


Computer Programs

No computer programs.

Tech Briefs


Patents

PUBLICATIONS FOR OFFICE OF DIRECTOR FOR MANAGEMENT OPERATIONS

Formal Reports

No formal reports.

Quick-Release Technical Memorandums


Contractor Reports


Journal Articles


Meeting/Conference Papers

No meeting/conference papers.

Computer Programs

No computer programs.

Tech Briefs

Patents

No patents.

Unpublished Research

PUBLICATIONS FOR ARMY STRUCTURES LABORATORY (AVRADCOM)

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports


Journal Articles

No journal articles.

Meeting/Conference Papers

No meeting/conference papers.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.
APPENDIX

INDUSTRIAL APPLICATIONS CENTERS

Aerospace Research Applications Center
1201 East 38th Street
Indianapolis, IN 46205
(317) 264-4644

Kerr Industrial Applications Center
Southeastern Oklahoma State University
Station A, Box 2584
Durant, OK 74701
(405) 924-6822

NASA Industrial Applications Center
701 LIS Building
University of Pittsburgh
Pittsburgh, PA 15260
(412) 624-5211

NASA Industrial Applications Center
University of Southern California
Denny Research Building
University Park
Los Angeles, CA 90007
(213) 743-6132

New England Research Applications Center
Mansfield Professional Park
Storrs, CT 06268
(203) 486-4533

North Carolina Science and Technology
Research Center
Post Office Box 12235
Research Triangle Park, NC 27709
(919) 549-0671

Technology Applications Center
University of New Mexico
2500 Central Avenue, SE
Albuquerque, NM 87131
(505) 277-3622
AUTHOR INDEX

Aanstoos, J. V.: 189
Abarbanel, S.: 1100
Abbott, T. S.: 881, 893
Abel, l.: 745, 788, 798, 812
Abeyounis, W. K.: 949
Abrahamson, A.L.: 577
Adams, J. J.: 83, 146
Adams, W. M., Jr.: 143
Adamson, T. C., Jr.: 1101
Adcock, J. B.: 1072, 1085, 1121, 1168
Adelman, H. M.: 752, 753
Adler, S. L.: 209
Agrawal, P. K.: 649
Akgerman, N.: 1386
Alexander, J. G.: 445
Alfaro-Bou, E.: 677
Alford, W. J., Jr.: 866
Allan, R. D.: 841
Allario, F.: 1180, 1193, 1223, 1224
Allen, J. M.: 1006, 1007, 1021
Allen, R. J.: 1198, 1230
Allison, D. O.: 1081
Almgren, D. W.: 1257, 1316
Alvarado, U. R.: 168, 169
Alvarez, J. M.: 1174, 1279
Amiet, R. K.: 591
Anderson, D. A.: 1027
Anderson, E. C.: 1170, 1286
Anderson, G. Y.: 962, 1056
Anderson, S. G.: 1371
Anderson, W. W.: 102
Anglin, E. L.: 1122
Anon: 2, 25, 150, 151, 152, 409, 446, 643, 820, 821, 842, 1384, 1385, 1397
Apt, J.: 1192
Araujo, S. M.: 489
Arbocz, J.: 663
Arbuckle, P. D.: 108
Arduini, R. F.: 234
Armaly, B. F.: 1295
Armistead, M. F.: 1412
Arrott, A. S.: 322
Ashby, G. C., Jr.: 1237
Ashworth, B. R.: 67, 68
Augustsson, T. R.: 1187, 1206, 1225, 1226, 1235
Ausrotas, R. A.: 843
Avis, L. M.: 102

NOTE: Number beside author's name refers to citation entry number.
Awerbuch, J.: 447
Aydinoglu, M. N.: 455

Babcock, C. D., Jr.: 663, 671
Babinsky, T. C.: 448
Bahn, G. S.: 1381, 1382
Bailey, D. A.: 581
Bailey, J. P.: 1404
Bailey, M. C.: 162, 163, 204
Bailey, P. L.: 1183, 1210, 1211, 1215
Bainum, P. M.: 136
Bair, C. H.: 280, 323, 324, 376
Baker, A. A.: 976
Baker, A. J.: 578, 606
Baker, D. J.: 429, 505
Baker, W. M.: 873, 875
Balakrishna, S.: 1089, 1102, 1103, 1104, 1105, 1153
Balasubramanian, R.: 977, 978
Baldacci, A.: 1212
Balena, F. J.: 590
Bales, T. T.: 410, 411, 412, 417, 555
Ball, W. B.: 1389
Bangert, L. H.: 847
Barbour, J. G.: 1390
Barger, R. L.: 950, 951, 952
Barker, L. K.: 84, 106
Barkstrom, B. R.: 1194, 1220
Barna, P. S.: 170, 1106
Barnwell, R. W.: 1123
Baron, S.: 60
Barrick, J. D.: 440, 526
Bartlett, D. W.: 1139
Bartman, F. L.: 1175
Barton, C. K.: 607
Basta, T.: 331
Batista, R. I.: 18
Batten, C. E.: 1373
Bauer, F.: 1159
Bayliss, A.: 608, 638
Beach, H. L., Jr.: 1022
Beadles, R. L.: 1423
Beall, H. C.: 1423
Beasley, W. D.: 1086
Beck, F. B.: 202
Becker, F. J.: 171, 205
Beckwith, I. E.: 957
Beggs, W. C.: 449
Beissner, F. L., Jr.: 109
Bell, V. L.: 419, 420, 506
Bement, L. J.: 1398, 1405, 1406
Bendura, R. J.: 1350, 1367
Bennett, R. M.: 812
Benz, H. F.: 206, 226
Bergeron, H. P.: 85, 103, 124, 125
Bergren, O.: 474
Berliner, J. E.: 61
Berman, A.: 763
Berndt, D.: 985
Berrier, B. L.: 953, 955, 1055
Berry, J. D.: 1073
Berry, J. V.: 850
Berry, R. F.: 1391
Berrykian, C. S.: 1313
Bess, T. D.: 1173
Beuykian, C. S.: 1313
Biggers, J. C.: 627
Biggers, S. B.: 665
Bihrle, W. Jr.: 915
Billhardt, C. F.: 1386
Bingham, G. J.: 1087
Biringen, S. H.: 979, 980
Black, P. G.: 223
Blackburn, C.: 687, 709
Blackshear, W. T.: 1232
Blair, A. B., Jr.: 954, 1023
Blair, W.: 764, 765
Blanchard, R. C.: 1238, 1296
Bland, S. R.: 783
Bloom, K. A.: 49
Bluck, R. M.: 668
Blume, H.-J. C.: 207, 208
Bobbitt, P. J.: 1128
Boduroglu, H.: 456
Boggs, D. H.: 199, 279
Bohn, J. G.: 1428
Bohning, O. D.: 171, 205, 209, 218
Bohon, H. L.: 42, 45
Boland, D. E.: 1267
Bonner, E.: 849, 1154, 1258
Boppe, C. W.: 1107
Borsky, P. N.: 579
Booshart, P. W.: 172
Boughner, R. E.: 1181, 1182, 1188, 1205, 1206
Bowen, D. G.: 1386
Bowles, D. E.: 507
Bowman, J. S., Jr.: 915
Boyden, R. P.: 1090
Boyer, W. J.: 692, 693
Bracalente, E. M.: 199, 202, 266
Braden, J. A.: 1108, 1109
Bradshaw, C. F.: 1399, 1407
Brandon, H. J.: 1272
Brannan, W. I.: 476, 477
Breazeale, M. A.: 355
Breckenridge, R. A.: 210, 246
Breitback, E. J.: 734
Brenkle, J. P.: 5
Bressette, W. E.: 1376
Brewer, D. A.: 300, 1195
Brewer, W. D.: 257, 421, 443
Bridges, P. D.: 902
Bridgman, M. S.: 180
Brion, E. P.: 1403
Bright, J. T.: 230
Brinkley, K. L.: 443
Bristow, D. R.: 1110
Britt, A. H.: 1272
Brockman, P.: 280, 323, 324
Brooke, D.: 981
Brooks, C. W., Jr.: 735, 1129
Brooks, D. R.: 1325
Brooks, J. D.: 1129, 1150
Brooks, T. F.: 609
Browell, E. V.: 1196, 1198, 1222, 1227, 1228, 1229, 1230, 1236
Brown, J. N.: 1423
Brown, E. L.: 451
Brown, P. W.: 886, 898, 900
Browne, J. C.: 701, 725
Brownlee, J. A.: 902
Bruckman, F. A.: 847
Brummer, E. A.: 239
Brune, G. W.: 1156
Bryant, L. E.: 364
Buckingham, R.: 315
Buckley, J. D.: 1388, 1392
Buiocchi, C. J.: 347
Bundick, W. T.: 220, 264
Burby, R. J.: 844
Burde, D.: 1037
Burdges, K. P.: 1108, 1109
Burner, A. W., Jr.: 281, 301
Burns, R.: 173
Bursik, J. W.: 1074
Bushnell, D. M.: 958, 1057, 1058, 1059, 1060
Buss, D. D.: 172
Buteau, J. D.: 1049
Butler, C. J.: 1198, 1230
Butler, J. M.: 422, 536
Byers, B. A.: 664
Byrdsong, T. A.: 735
Byvik, C. E.: 1315, 1316, 1323
Cadle, R. D.: 309
Caldwell, E. W.: 855
Caldwell, J. D.: 174

186
Callis, L. B.: 1197, 1207
Calloway, R. L.: 1239
Caluori, V. A.: 1259, 1260, 1261
Camarda, C. J.: 736, 754
Campbell, F. J.: 440, 526
Campbell, G. G.: 1179
Campbell, J. F.: 1144, 1151, 1164
Campbell, T. G.: 48, 53, 211, 212
Campbell, W. J.: 216
Cannon, D. G.: 888
Cantrell, J. H., Jr.: 302, 303, 304, 325, 326, 327, 328, 345, 355, 367, 368, 369, 371, 379, 395
Capone, F. J.: 955, 1008, 1024, 1033
Card, M. F.: 649, 691, 692, 693, 694, 721
Carden, H. D.: 722
Carichner, G. E.: 845, 847
Carlson, C. H.: 1025
Carlson, F. J.: 258
Carlson, H. W.: 602, 956, 967, 1009, 1013, 1026, 1050
Carlson, L. A.: 1111, 1112, 1157
Carson, L. K.: 846
Carter, A. F.: 1196, 1198, 1227, 1228, 1229, 1230
Carter, F. L.: 481
Carver, V. C.: 502, 530
Cassarino, S. J.: 1427
Cassidy, J. E.: 850
Caughey, D. A.: 1158
Cazier, F. W., Jr.: 746, 750, 761, 789, 801, 803
Cebeci, T.: 1053
Chai, H.: 671
Chakravarthy, S. R.: 1027
Chalk, C. R.: 901
Chambers, J. R.: 916, 934, 935
Chameides, W. L.: 1199
Chapman, A. J.: 508, 513
Chapman, C. M.: 198
Chase, S. C.: 299
Chatterjee, J. S.: 262
Chaussee, D. S.: 982, 983
Chen, C. C.: 175, 254, 255, 256
Chern, J.-S.: 110
Cheo, P. K.: 342
Cherdak, A.: 1341
Chern, E. J.: 327, 335
Chern, J.: 380
Chinitz, W.: 1022
Chovil, D. V.: 26
Chovit, A. R.: 449
Christensen, E.: 279
Christhilf, D. M.: 127
Chu, J.: 905, 908
Chuan, R. L.: 309, 370, 397
Cires, A.: 1412
Civelek, M. B.: 450
Clark, B. C.: 1413
Clark, I. O.: 257, 258
Clark, L. R.: 640, 641
Clark, L. V.: 399, 400, 405
Clark, P. P.: 1400
Clark, R. K.: 423, 443, 543
Clark, S. K.: 711
Clarke, C. A.: 451
Clary, J. B.: 153, 161
Claus, R. O.: 328, 371
Clauss, J. S., Jr.: 847
Clemmons, J. L., Jr.: 348, 349
Clendenin, C. G.: 346
Clevenson, S. A.: 559, 600
Clever, W.: 1154, 1258
Cliff, E. M.: 1265
Cline, J. H.: 795
Clingman, W. H.: 1423
Cockrell, C.: 687, 709
Cockrell, C. R.: 278
Coe, P. L., Jr.: 1075, 1093
Cofer, W. R., III: 311, 312, 1339
Coleman, R. G.: 991, 992
Collins, W. R.: 75
Compton, E. C.: 358
Conner, D. W.: 825, 826, 827, 840, 864, 865, 870, 876
Conrad, R. T.: 1259, 1260, 1261
Conway, E. J.: 1300, 1305, 1306, 1316
Cooper, J. E.: 1340, 1355
Cooper, P. A.: 656, 657, 704
Corlett, W. A.: 1028
Cornell, M.: 482
Cornette, E. S.: 1148
Couch, R. H.: 245
Counselmann, C. C., III: 1192
Courtney, M. W.: 1423
Covell, P. F.: 1028
Covey, C.: 1192
Crabill, N. L.: 917, 919, 928, 931
Credeur, K. R.: 1415, 1419
Creedon, J. F.: 213, 220, 230
Creel, T. R.: 957
Crews, J. H., Jr.: 424, 436, 437, 497, 509
Crocker, M. J.: 573, 620
Cross, E. J., Jr.: 902
Cross, E. M.: 1422
Croswell, W. F.: 254, 255, 256
Crouch, R. K.: 257, 258, 313
Csigi, K. I.: 1257
Cubbage, J. M.: 1032
Culotta, P. W.: 206
Culotta, R. F.: 1417
Cunningham, A. M., Jr.: 717
Cunningham, D.: 111
Cunningham, H. J.: 761, 803
Cunnington, G. R., Jr.: 846
Cupschak, S. G.: 553
Curfman, H. J., Jr.: 1331
Culotta, P. W.: 206
Culotta, R. F.: 1417
Cunningham, A. M., Jr.: 717
Cunningham, D.: 111
Cunningham, H. J.: 761, 803
Cunnington, G. R., Jr.: 846
Cupschak, S. G.: 553
Curfman, H. J., Jr.: 1331

Dahlin, J. A.: 37
Daluge, D. R.: 189
Daniels, E. J.: 846
Daniledes, J.: 452
Darden, C. M.: 1012
Darden, G. C.: 4
Darnell, W. L.: 1332, 1377
Dash, S. M.: 984, 1045
David-Malig, M. A.: 24
Davis, C. M.: 176
Davis, D. D.: 478
Davis, G. W.: 846
Davis, J. G., Jr.: 510, 516
Davis, R. C.: 644, 676
Davis, R. E.: 203, 234
Davis, S. J.: 580
Deal, P. L.: 884, 886, 891, 894, 928
Deaux, T. N.: 145
Debnam, W. J., Jr.: 257, 258
DeChaumphai, P.: 805
Delale, F.: 453, 454, 455, 456
Delmore, V. E.: 216, 259, 267
Dempsey, T. K.: 566, 567, 600, 611, 622, 632, 633, 642
Denn, F. M.: 1363
Deruiugin, V.: 766
DeRyder, L. J.: 1297
Desmarais, R. N.: 755, 756, 790
Desper, O. E.: 26
Dexter, H. B.: 425, 511, 512, 513
DeYoung, J.: 848
DeYoung, R. J.: 1273, 1274, 1275, 1301, 1310, 1317, 1318, 1319, 1321
DiCarlo, D. J.: 914, 918, 1387
Dick, A. O.: 112
Dickens, W. I.: 905
Dickson, J. N.: 665
Dillenius, M. F. E.: 1007
Dillon, J. L.: 1029
Dimmock, P. B. A.: 174
Divan, P.: 1154, 1262
Dixon, N. R.: 605
Dixon, S. C.: 975
Dodgen, J. A.: 214

189
Doggett, R. V., Jr.: 737, 738, 748, 749
Dollyhigh, S. M.: 866
Donelson, J. E.: 28, 29
Donnellan, G. E.: 1400
Dovi, A. R.: 767
Dowell, E. H.: 739
Downing, D. R.: 148, 260
Drayson, S. R.: 1213
Dreher, R. C.: 700, 751
Drewry, J. W.: 1356
Driver, C.: 828, 861, 862, 867, 877
Drozewski, R. W.: 1400
Drummond, J. P.: 1030, 1031, 1061
Dryer, C.: 1343
Dumbauld, R. K.: 457
Dunavant, J. C.: 1272
Dunn, H. J.: 86, 87, 126, 745
Dunn, K.: 1154, 1258
Dunn, K. M.: 850
Durling, B. J.: 650, 809
Dvorak, F. A.: 1116
Dvorak, G. J.: 514, 544, 548
Dwoyer, D. L.: 1076, 1165

Earl, T. D.: 863
Eaton, W. C.: 1338
Eckbreth, A. C.: 1002
Eckstrom, C. V.: 757, 806, 813
Edelman, R.: 458
Edighoffer, H. H.: 654, 666
Edmonds, W. L.: 177
Edwards, H. B.: 305
Edwards, J. W.: 812
Edwards, R. H.: 178
Egolf, T. A.: 580
Ehlers, F. E.: 782
Eide, D. G.: 1240
Elber, W.: 408, 426, 427, 428, 541
Eldred, C. H.: 1293, 1298
El-Hady, N. M.: 1113
Elliott, R. D.: 873, 875
Ellis, A. B.: 1312
Elson, L. S.: 1192
Enevoldson, E. K.: 932, 942
Engel, C. D.: 1263
Enright, T. P.: 178
Eppler, R.: 1077, 1091
Epton, M. A.: 1114
Erdogan, F.: 450, 453, 454, 455, 456, 472, 473
Esaia, W. E.: 1357
Evans, J. S.: 1010, 1037
Everett, R. A., Jr.: 515

190
Fulton, R. E.: 645, 678, 695, 723
Furtsch, T. A.: 502, 530

Galanter, E.: 113
Galasso, F. S.: 461
Gandelman, J.: 62
Ganz, U. W.: 582, 586
Garabedian, P.: 1159
Garber, D. P.: 515
Garbuny, M.: 1176
Garcia, R.: 679, 762
Garner, H. D.: 200, 261
Garrard, W. L.: 126
Garren, J. F., Jr.: 881, 893, 936
Gartrell, L. R.: 282
Gatski, T. B.: 606, 635
Gault, J. W.: 153
Gedge, M. R.: 583, 586
Genio, A. D.: 1192
Gentry, G. L., Jr.: 1093
Gera, J.: 88, 932, 942
Giasante, N.: 763
Gibson, G. G.: 1359, 1360
Giesy, D. P.: 137
Gilbert, J. L.: 1409
Gilbert, W. P.: 883, 890, 920, 932, 942, 943
Giles, G. L.: 758, 814
Gille, J. C.: 1183, 1210, 1211, 1214, 1215
Gilreath, M. C.: 262
Gingrich, P.: 985
Gismondi, T.: 111
Glassman, M.: 1422
Gloss, B. B.: 1080, 1094, 1166
Gnoffo, P. A.: 1248, 1277
Goad, J. H., Jr.: 372, 374
Goad, W. K.: 281, 301
Goble, R. G.: 770, 771
Goebel, T.: 985
Goebel, T. P.: 849
Goetz, R. C.: 683, 785
Goldberg, E. D.: 1326
Goldman, A.: 283
Goode, M. W.: 94
Gordley, L. L.: 1210, 1211, 1214, 1215, 1218
Goree, J. G.: 415, 523
Goslee, J. W.: 1250, 1299
Gosnell, R. B.: 462
Gottlieb, D.: 1100
Gowadia, N. S.: 1008
Gracey, W.: 882
Grafton, S. B.: 883, 923, 943
Grams, G. W.: 389
Grana, D. C.: 1354, 1374
Grandle, R. E.: 615
Grant, W. D.: 26
Grantham, C.: 105
Grantham, D. D.: 203
Grantham, W. D.: 884
Grantham, W. L.: 199, 202, 267
Graves, E. B.: 1011
Graves, R. A., Jr.: 1244, 1245, 1249, 1251, 1252, 1280, 1294, 1302, 1307
Gray, C. E., Jr.: 1412
Gray, D. L.: 811
Gray, R. B.: 772
Greco, R. V.: 289
Green, K. E.: 1400
Green, R. N.: 1173, 1184, 1201, 1330, 1352
Greene, G. C.: 568, 572, 616, 622
Greene, H. L.: 1414
Gregory, F. D.: 94
Gregory, G. L.: 1237, 1333, 1342, 1345, 1351, 1358, 1364, 1365
Gregory, R. A.: 749
Groom, N. J.: 107, 121, 122, 128
Grose, W. L.: 1204, 1232
Gross, C.: 331, 337
Gross, D.: 463
Gross, D. W.: 792
Grotbeck, G. H.: 668
Grunwald, A. J.: 154, 1425
Guerra, M.: 296
Guess, M. K., Jr.: 847
Guillebeau, W. M.: 63
Gupta, N. K.: 1428
Gustafson, A. J.: 505
Hackett, J. E.: 1108, 1109
Hafez, M. M.: 1127, 1132
Haftka, R. T.: 706, 752, 753
Hafzy, M. S.: 672
Haggard, K. V.: 1204
Hagopian, J.: 468
Hair, L. M.: 1283
Hall, R. J.: 1002
Hall, R. M.: 1074, 1133, 1134, 1167
Hall, W. E.: 1428
Halsey, N. D.: 1160
Halverson, J. R.: 187
Halyo, N.: 156, 179, 201, 238, 265
Hamer, H. A.: 89, 136
Hamill, P.: 332, 338, 375
Hamilton, B. J.: 111, 114
Hamilton, H. H., II: 1243, 1244, 1249
Hammer, J. M.: 293
Hammer, M., L.: 772
Hammond, C. E.: 793, 794, 795
Hancock, J. P.: 1108, 1109
Hankey, W. L.: 69
Hankins, W. W.: 106
Hansen, R. S.: 1428
Hanson, P. W.: 760
Hardin, J. C.: 575, 596, 617, 618, 639
Harman, T. C.: 534
Harris, C. D.: 1081
Harris, R. L.: Sr.: 104, 127, 140
Harris, W. L.: 807
Harrison, E. F.: 1359, 1360, 1378
Harriss, R. C.: 1343, 1344, 1347, 1349, 1368, 1377, 1379, 1380
Hartman, N. F.: 197, 198
Hartsell, G. V.: 5
Harvey, S. T.: 26
Harvey, W. D.: 1082
Harward, C. N.: 284, 307, 333, 334, 336, 376, 381, 382
Hasel, L. E.: 1062
Haskins, J. F.: 469
Hassell, J. L., Jr.: 885
Hastings, E. C., Jr.: 895, 921
Hatfield, J. J.: 154
Hawley, K. E.: 907
Hawrylo, F. Z.: 294, 350, 351, 352, 353, 354
Hayduk, R. J.: 648, 680, 681
Hayes, P. J.: 218
Haynie, A. T.: 103
Haynie, C. C.: 1313
Hays, A. P.: 847
Heard, W. L., Jr.: 651, 652, 688, 689, 690, 696, 697, 713
Hearn, C. P.: 245
Hearth, D. P.: 6, 7
Hefner, J. N.: 958, 1063, 1064
Heier, W. C.: 1393
Heimbold, R. L.: 401
Heinbockel, J. H.: 1300, 1305, 1306
Heinrich, B.: 322
Heisman, R. K.: 1313
Heldenfels, R. R.: 407
Hendricks, H. D.: 269, 377, 386
Henne, P. A.: 37
Hennessy, W. K.: 650
Henningsen, T.: 1176
Herakovich, C. T.: 516
Herbert, H. E.: 13
Hergenrother, P. M.: 498, 546
Herr, R. W.: 646, 698
Hess, J. L.: 1160
Hess, R. V.: 280, 323, 324
Huck, F. O.: 156, 201, 234, 238
Huckins, E. K., III: 51
Hudson, R. D.: 1224
Hueschen, R. M.: 220
Huffman, J. K.: 1075, 1151, 1164
Hughes, D. B.: 396
Hull, R. A.: 1409
Hulstrom, R. L.: 247
Hultberg, R. S.: 905, 906
Humes, D. H.: 1278, 1279
Hunt, J. L.: 1025, 1029, 1032
Hunt, L. R.: 741, 742
Hunt, R. L.: 1425
Husson, C.: 206
Huston, R. J.: 517, 518, 796
Hutchinson, R. A.: 1024, 1033
Hwang, C.: 797
Ibrahim, S. R.: 728
Igoe, W. B.: 1138
Iliff, K. W.: 942
Ilig, W.: 391
Ioup, G. E.: 385
Ioup, J. W.: 291, 384, 385
Irick, S. C.: 1410
Jachimowski, C. J.: 1328
Jackson, A. C.: 718
Jackson, C. B.: 181
Jackson, C. M., Jr.: 1034
Jackson, L. R.: 975, 1041
Jacobs, K. L.: 102
Jacobs, P. F.: 1139
Jacquemin, G. G.: 668, 719
Jalufka, N. W.: 1301, 1320
James, A. M.: 42
James, R. L., Jr.: 52
Jameson, A.: 1158
Jamison, E. S.: 26
Janakiram, D. S.: 584
Javan, A.: 296
Jea, L.-C.: 459
Jenkins, J. C.: 1259, 1260, 1261
Jenkins, R. V.: 1047, 1051, 1161
Jensen, C. L.: 770, 771
Jensen, R. N.: 1420, 1421
Jernell, L. S.: 831
Jobson, D. J.: 221
Johannessen, O. M.: 216
Johnson, C. B.: 1072, 1083, 1124, 1140, 1168
Johnson, E. H.: 797

196
Johnson, F. T.: 1114, 1117
Johnson, J. C.: 464
Johnson, J. L., Jr.: 923, 924, 941
Johnson, J. W.: 202, 222
Johnson, K. G.: 89, 101, 137, 142
Johnson, R. R.: 668
Johnson, R. W.: 1346, 1347, 1361, 1381, 1382
Johnson, T. D.: 1164
Johnson, W. S.: 430, 431, 514, 519, 544, 548
Johnston, N. J.: 498
Johnston, P. J.: 1029, 1032
Jones, S.: 346
Jones, W. L.: 216, 222, 223, 224, 259, 266, 267
Jones, W. R.: 239
Joplin, S. D.: 1137
Jordan, F. L., Jr.: 897, 925, 926
Joshi, M. C.: 597
Joshi, S. M.: 107, 115, 121, 122, 128
Judson, C. M.: 356
Jurey, L.: 847
Kahlbaum, W. M., Jr.: 74
Kahng, S. K.: 292, 337
Kaiser, S. W.: 1312
Kalelkar, A. S.: 468, 487
Kamat, M. P.: 669, 670, 680, 681
Kamel, L. L.: 447
Kamin, M.: 195, 241
Kang, Y.: 1362
Kantsios, A. G.: 357
Kaplan, L.: 482
Kaplan, M.: 1177
Kapp, J. A.: 499
Karger, W. J.: 985
Karns, J. R.: 802
Kassell, P. C., Jr.: 358
Katinsky, E. A.: 773
Katzberg, S. J.: 210, 225, 1180, 1193
Kaufman, L. G., II: 1124
Kaups, K.: 1053
Kay, B. F.: 471, 534
Keating, G. M.: 1185, 1192, 1202, 1203, 1233
Keckler, C. R.: 129
Keith, J. S.: 872, 874
Keller, J. D.: 1127, 1152, 1155, 1169
Kelley, H. J.: 1265
Kelley, W. W.: 898
Keiller, W. C.: 1413
Kelly, G. M.: 9, 1296
Kelly, J. R.: 887, 899
Kelly, R.: 850
Kelly, T. C.: 1084
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladany, I.</td>
<td>293, 294, 359</td>
</tr>
<tr>
<td>Ladson, C. L.</td>
<td>1085, 1097</td>
</tr>
<tr>
<td>Lake, L. R.</td>
<td>1185, 1203, 1233</td>
</tr>
<tr>
<td>Lallman, F. J.</td>
<td>91</td>
</tr>
<tr>
<td>Lamar, J. E.</td>
<td>1079, 1125, 1132, 1144, 1145</td>
</tr>
<tr>
<td>Lamb, M.</td>
<td>960, 968, 969</td>
</tr>
<tr>
<td>Lambiotte, J. J., Jr.</td>
<td>78</td>
</tr>
<tr>
<td>Lambregts, A. A.</td>
<td>230</td>
</tr>
<tr>
<td>Lan, C. E.</td>
<td>1162</td>
</tr>
<tr>
<td>Lancon, C. J.</td>
<td>850</td>
</tr>
<tr>
<td>Landrum, E. J.</td>
<td>1020, 1035</td>
</tr>
<tr>
<td>Langan, J. D.</td>
<td>299</td>
</tr>
<tr>
<td>Langer, G.</td>
<td>1345</td>
</tr>
<tr>
<td>Lankford, W. K.</td>
<td>322</td>
</tr>
<tr>
<td>Lansing, D. L.</td>
<td>598, 599</td>
</tr>
<tr>
<td>Larocque, G. R.</td>
<td>470</td>
</tr>
<tr>
<td>Larsen, J. C.</td>
<td>295, 1180, 1182, 1193, 1205</td>
</tr>
<tr>
<td>Lash, T. J.</td>
<td>1416</td>
</tr>
<tr>
<td>Laufer, J. B.</td>
<td>813</td>
</tr>
<tr>
<td>Lawing, P. L.</td>
<td>1085, 1098</td>
</tr>
<tr>
<td>Lawrence, G. F.</td>
<td>1363</td>
</tr>
<tr>
<td>Lawrence, J. L., Jr.</td>
<td>356</td>
</tr>
<tr>
<td>Lawrence, R. W.</td>
<td>231</td>
</tr>
<tr>
<td>Lawson, A. G.</td>
<td>1394</td>
</tr>
<tr>
<td>Leadbetter, S. A.</td>
<td>655, 727</td>
</tr>
<tr>
<td>Leatherwood, J. D.</td>
<td>600</td>
</tr>
<tr>
<td>Leavitt, L. D.</td>
<td>974</td>
</tr>
<tr>
<td>Lee, H. P.</td>
<td>401</td>
</tr>
<tr>
<td>Lee, J. H.</td>
<td>1281, 1292, 1303, 1321, 1322</td>
</tr>
<tr>
<td>Lee, P. S.</td>
<td>93</td>
</tr>
<tr>
<td>Lee, R. B., III</td>
<td>1335, 1348</td>
</tr>
<tr>
<td>Lee, R. W.</td>
<td>1396</td>
</tr>
<tr>
<td>Lee, T.</td>
<td>1267</td>
</tr>
<tr>
<td>LeFever, A. E.</td>
<td>50</td>
</tr>
<tr>
<td>Leffler, M. F.</td>
<td>401</td>
</tr>
<tr>
<td>Lefton, L.</td>
<td>1265</td>
</tr>
<tr>
<td>Leighty, B.</td>
<td>346</td>
</tr>
<tr>
<td>Leland, T. J. W.</td>
<td>700</td>
</tr>
<tr>
<td>LeMessurier, R. W.</td>
<td>1404</td>
</tr>
<tr>
<td>Leng, J.</td>
<td>995</td>
</tr>
<tr>
<td>Leonard, R. W.</td>
<td>43, 46</td>
</tr>
<tr>
<td>Leonidis, A. F.</td>
<td>1268, 1269, 1270</td>
</tr>
<tr>
<td>Lester, H. C.</td>
<td>601, 625</td>
</tr>
<tr>
<td>Levin, E. R.</td>
<td>294</td>
</tr>
<tr>
<td>Levine, J. S.</td>
<td>296, 1186, 1187, 1188, 1199, 1206, 1225, 1226, 1234, 1235</td>
</tr>
<tr>
<td>Levison, W. H.</td>
<td>116</td>
</tr>
<tr>
<td>Levy, D.</td>
<td>190</td>
</tr>
<tr>
<td>Lieberman, P.</td>
<td>449</td>
</tr>
<tr>
<td>Lillenas, A. N.</td>
<td>49</td>
</tr>
<tr>
<td>Limaye, S. S.</td>
<td>1192</td>
</tr>
<tr>
<td>Lindal, G. F.</td>
<td>5</td>
</tr>
<tr>
<td>Lindberg, S. E.</td>
<td>1349</td>
</tr>
</tbody>
</table>
Lindenbaum, S. P.: 852
Liou, M. S.: 1101
Lisagor, W. B.: 423
Liu, E. W.: 843
Livingston, J. M.: 392
Livingston, W. W.: 902
Lockerby, S.: 474
Loendorf, D. D.: 701, 724, 725
Loftin, L. K., Jr.: 1
Long, E. R., Jr.: 545
Long, R. L.: 63
Long, W. C.: 248
Lovell, W. A.: 859
Lowry, D. W.: 471
Lu, M.-C.: 472, 473
Lu, P.: 1114, 1117
Lund, I. A.: 203
Lunde, B. K.: 1287
Lundr, J. L.: 989, 990, 991, 992
Luther, M. R.: 1340
Lyman, V.: 1109
Maahs, H. G.: 1329
MacConochie, I. O.: 1403, 1404, 1408
Mack, R. J.: 956, 967, 1009, 1012, 1026, 1050
Mackley, E. A.: 1022
Maddalon, D. V.: 824, 833, 834
Maestrello, L.: 604, 608, 631, 637, 638
Magann, N. G.: 496
Magee, C. J.: 386
Maglieri, D. J.: 602, 867
Mahesh, J. K.: 126
Maiden, D. L.: 44
Malik, M. R.: 988
Mall, G. H.: 343
Mallory, R.: 360
Manke, J. W.: 1156
Mann, M. J.: 1088
Marcum, D. C., Jr.: 1029, 1032
Margason, R. J.: 1126
Markos, A. T.: 66
Marsh, A. H.: 589
Martin, D. J., Jr.: 67
Martin, G. L.: 851, 859
Martin, J. A.: 1282, 1283, 1304
Martin, R. M.: 568
Maskew, B.: 1115, 1116
Mason, M. L.: 961
Mason, W. H.: 1036
Masson, G. M.: 182
Mathis, J. J., Jr.: 1327, 1333, 1335
Matsuyama, G. T.: 907
<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew, J. R.</td>
<td>774</td>
</tr>
<tr>
<td>Maximovich, M. G.</td>
<td>474</td>
</tr>
<tr>
<td>Mayer, D. J.</td>
<td>172</td>
</tr>
<tr>
<td>Mayes, W. H.</td>
<td>642</td>
</tr>
<tr>
<td>Mayo, M. H.</td>
<td>94</td>
</tr>
<tr>
<td>Mayo, M. N.</td>
<td>1198, 1230</td>
</tr>
<tr>
<td>Mazur, J. T.</td>
<td>253</td>
</tr>
<tr>
<td>McCartney, M.</td>
<td>1423</td>
</tr>
<tr>
<td>McCarty, J. E.</td>
<td>26</td>
</tr>
<tr>
<td>McCarty, J. L.</td>
<td>711</td>
</tr>
<tr>
<td>McClenny, W. A.</td>
<td>336, 382</td>
</tr>
<tr>
<td>McClint, C. R.</td>
<td>962, 1039</td>
</tr>
<tr>
<td>McColgan, C. J.</td>
<td>585</td>
</tr>
<tr>
<td>McComb, H. G., Jr.</td>
<td>647</td>
</tr>
<tr>
<td>McCormick, R.</td>
<td>308</td>
</tr>
<tr>
<td>McCoy, D. E.</td>
<td>1414</td>
</tr>
<tr>
<td>McCullough, R. W.</td>
<td>1037</td>
</tr>
<tr>
<td>McDede, J. B.</td>
<td>103</td>
</tr>
<tr>
<td>McDougall, D. S.</td>
<td>1333, 1358, 1364, 1365</td>
</tr>
<tr>
<td>McFarland, D. R.</td>
<td>1281, 1321, 1322</td>
</tr>
<tr>
<td>McGary, M. C.</td>
<td>573, 620</td>
</tr>
<tr>
<td>McGehee, J. R.</td>
<td>700</td>
</tr>
<tr>
<td>McGehee, R. J.</td>
<td>1081, 1086</td>
</tr>
<tr>
<td>McHatton, A. D.</td>
<td>435, 1411</td>
</tr>
<tr>
<td>McKissick, B. T.</td>
<td>67</td>
</tr>
<tr>
<td>McLoughlin, D. K.</td>
<td>621</td>
</tr>
<tr>
<td>McLemore, H. C.</td>
<td>889</td>
</tr>
<tr>
<td>McMahon, H. M.</td>
<td>772</td>
</tr>
<tr>
<td>McMaster, L. R.</td>
<td>392</td>
</tr>
<tr>
<td>McMillan, O. J.</td>
<td>979, 980, 982, 983</td>
</tr>
<tr>
<td>McWithey, R. R.</td>
<td>412, 417, 679, 743, 744</td>
</tr>
<tr>
<td>Meador, W. E.</td>
<td>1284</td>
</tr>
<tr>
<td>Meaney, J. E., Jr.</td>
<td>764, 765</td>
</tr>
<tr>
<td>Mehrotra, S. C.</td>
<td>1162</td>
</tr>
<tr>
<td>Meintel, A. J., Jr.</td>
<td>95, 135</td>
</tr>
<tr>
<td>Meirovitch, L.</td>
<td>134</td>
</tr>
<tr>
<td>Menthe, R. W.</td>
<td>585</td>
</tr>
<tr>
<td>Meredith, B. D.</td>
<td>157, 219, 226, 227, 268</td>
</tr>
<tr>
<td>Meredith, P. T.</td>
<td>907</td>
</tr>
<tr>
<td>Messiter, A. F.</td>
<td>1101</td>
</tr>
<tr>
<td>Metzger, F. B.</td>
<td>585</td>
</tr>
<tr>
<td>Meyers, J. A.</td>
<td>475</td>
</tr>
<tr>
<td>Miao, W.</td>
<td>1429</td>
</tr>
<tr>
<td>Michael, W. H., Jr.</td>
<td>5, 8, 9</td>
</tr>
<tr>
<td>Michols, C. D.</td>
<td>209</td>
</tr>
<tr>
<td>Micol, J. R.</td>
<td>1065</td>
</tr>
<tr>
<td>Middlecoff, J. F.</td>
<td>1005</td>
</tr>
<tr>
<td>Middleton, W. D.</td>
<td>989, 990, 991, 992</td>
</tr>
<tr>
<td>Migneault, G. E.</td>
<td>232</td>
</tr>
<tr>
<td>Mikulas, M. M., Jr.</td>
<td>702, 726</td>
</tr>
<tr>
<td>Millavec, W. A.</td>
<td>449</td>
</tr>
</tbody>
</table>
Miller, D. R.: 463
Miller, D. S.: 1035, 1036, 1038
Miller, G. K., Jr.: 92, 97
Miller, I. M.: 1329
Miller, J. G.: 391
Miller, R. D.: 785
Miller, W. E.: 313, 317, 361, 362
Mills, G. R.: 797
Mills, J. S.: 516
Mineck, R. E.: 720, 1073
Minnis, P.: 1360, 1378
Miranda, L. R.: 873, 875
Miserentino, R. R.: 655, 727
Mitchell, J. L.: 266
Mixson, J. S.: 607, 622
Mock, W., Jr.: 285, 343
Moen, G. C.: 881, 893, 936
Molloy, J. K.: 834
Monta, W. J.: 963
Monteith, J. H.: 306
Montgomery, R. C.: 93, 130, 131, 134, 141
Montoya, R. J.: 176, 183, 184
Moore, F. L.: 14
Morello, S. A.: 930
Morgan, H. G.: 619
Moriarty, J. A.: 313, 317
Morino, L.: 775, 780
Morkovin, M. V.: 993
Morley, B. M.: 389
Morrell, F. R.: 233
Morris, C. E. K., Jr.: 835, 836, 837
Morris, D. H.: 515
Morris, G. J.: 917, 931
Morris, S. J., Jr.: 838, 839, 866, 1046
Morris, W. D.: 1334, 1366
Morrison, R. B.: 994
Morrissey, J. A.: 476, 477, 490
Mosharrafa, M.: 384
Moss, J. N.: 1285, 1286, 1294, 1309
Moss, M. J.: 403
Moul, M. T.: 132
Moul, T. M.: 133
Mouzakis, T.: 1427, 1429
Muehlbauer, J. C.: 852
Mueller, A. W.: 574
Mukhopadhyay, V.: 798
Mulcahy, W. J.: 906, 908, 909, 910
Mulville, D.: 43
Muralidharan, R.: 60
Murcray, D. G.: 1174
Murphy, A. C.: 776
Murray, G. W.: 205

202
Murrow, H. N.: 799, 800
Musselman, K. A.: 435

Nanevicz, J. E.: 185
NASA Evaluation Team: 159
Natarajan, M.: 1182, 1197, 1206, 1207, 1233
Nayfeh, A. H.: 672
Nealy, J. E.: 1208
Neier, K. L.: 1005
Neiswander, R. S.: 186
Neubauer, M. J., Jr.: 834, 839
Newcomb, A. L., Jr.: 166, 1411
Newman, J. C., Jr.: 432, 499, 503, 520
Newman, P. A.: 1170
Newsom, J. R.: 745, 788, 798
Newsom, W. A.: 885, 924, 941
Nguyen, L. T.: 890, 920, 932, 942, 943
Nichols, C. D.: 249
Nichols, M. R.: 964, 965
Nicholson, J. Y., III: 1185, 1203, 1233
Niessen, F. R.: 887, 891
Noll, T. E.: 797
Noneaker, D. O.: 402
Noonan, K. W.: 1087
Noonan, R. E.: 75
Noor, A. K.: 647
Northam, G. B.: 1037, 1039
Norum, T. D.: 623, 629
Nystrom, D. M.: 1098
Nystrom, P. A.: 561, 615

Oberholtzer, J. D.: 1331
O'Brien, T. K.: 521, 522, 524, 549, 550
O'Bryan, T. C.: 94
Odencrantz, F. K.: 1345
O'Donnell, M.: 391
Ogburn, M. E.: 890, 900
Oliver, W. R.: 27
Olsen, G. C.: 413, 551
Olsen, G. H.: 347
Olsen, J.: 808
Oman, R. A.: 995
O'Neal, R. L.: 1279
O'Neill, E. J.: 187
Orr, K. K.: 489
Orszag, S. A.: 978, 996, 997, 998, 1053
Orzechowski, J. A.: 578, 606
Ostroff, A. J.: 213
Outlaw, R. A.: 1287
Ovadia, F.: 194

203
Owen, F. K.: 1082
Oz, H.: 134
Padula, S. L.: 604, 624, 628
Paglia, M.: 1211
Pappa, R. S.: 728
Park, J. H.: 1189, 1209, 1213, 1217
Park, K. C.: 654, 729
Park, S. K.: 156, 201, 234, 238, 265
Parrish, R. V.: 58, 67, 68
Parrish, W. J.: 299
Parrott, T. L.: 601, 625
Paszek, J. J.: 478
Patel, S. P.: 28, 29
Patrick, J. H.: 476, 477, 478
Patterson, B. D.: 322
Patterson, J. C., Jr.: 1130
Patterson, J. L., Jr.: 575, 618, 639
Patton, J. M., Jr.: 891, 914, 918, 944, 945, 946, 947
Paul, J. T., Jr.: 479
Paulin, P. A.: 393, 396
Paulson, J. W., Jr.: 1096, 1146, 1147
Payne, L.: 411
Pellett, G. L.: 1362, 1367
Pengra, J. J.: 480
Pennington, J. E.: 95, 106, 135
Pegg, R. J.: 889
Peracchio, A. A.: 586
Pergament, H. S.: 984
Perkinson, H. E.: 447
Perry, B., III: 785
Person, L. H., Jr.: 881, 893, 929, 948
Peterson, J. B., Jr.: 1088
Peterson, W. A.: 481, 496
Petit, J. E.: 1024, 1033
Petrarca, J. R.: 778
Phillips, D. H.: 300
Phillips, W. H.: 96
Phillips, W. P.: 1296
Pichler, G.: 318, 329
Pickett, F. P.: 356
Piersol, A. G.: 587
Pinelli, T. E.: 1422, 1424, 1426
Pinson, L. D.: 655, 727
Pittman, C. M.: 421, 443, 444
Pittman, J. L.: 966
Pitts, C. U.: 933
Pitts, F. L.: 167, 235, 236, 894
Pizzeck, D. E.: 1395
Platt, R. J., Jr.: 535
Pocinki, L.: 482
Poe, C. C., Jr.: 414, 552
204
Renfroe, P. G.: 1201
Rennison, D. C.: 588, 589
Reubush, D. E.: 1024
Revell, J. D.: 590
Revercomb, H. E.: 1192
Rhodes, D. B.: 282
Rhodes, M. D.: 684, 694, 703
Rhyne, R. H.: 747
Ribelin, B. W.: 1343
Ricard, G. L.: 68
Rich, M. J.: 471
Richardson, D. L.: 468
Ricketts, R. H.: 737, 738, 748, 750, 761, 803, 815
Riebe, G. D.: 966, 1040
Riedel, F. W.: 1000
Riley, D. R.: 97
Ringermacher, H. I.: 340
Rinsland, C. P.: 1212
Risk Analysis Program Office: 416
Rivera, J. M.: 853
Robbins, J. L.: 1337
Robbins, K.: 586
Robelen, D. R.: 1387
Robertson, J. B.: 154, 246
Robins, A. W.: 967, 1011, 1013
Robinson, A. C.: 180
Robinson, D. A.: 850
Robinson, J. C.: 802
Rockhold, F. W.: 79
Roderick, G. L.: 500, 524, 532, 554
Rodin, B. H.: 485
Rogers, J. L., Jr.: 814, 816
Rogers, R. C.: 1014, 1022
Rogowski, R. S.: 311, 312, 1339
Roman, W. C.: 1271
Rose, O. J.: 64
Rose, R. A.: 909, 910
Rose, W. I.: 309
Rosen, J. M.: 375, 392
Rosenfield, D. B.: 468, 486, 487
Rosenthal, H. A.: 764, 765
Ross, I.: 673
Rouse, B. R.: 373, 383
Rouse, D. J.: 1423
Rouse, M.: 732
Rowe, W. S.: 778
Rowell, L. F.: 54
Royster, D. M.: 412, 417, 555, 743, 744
Rudman, S.: 995
Rudy, D. H.: 1015, 1019
Ruedger, W. H.: 189

206
Ruhlin, C. L.: 749
Rummler, D. R.: 418, 438, 537, 658
Runyan, H. L., Jr.: 779, 784
Ruppe, E. P.: 1313
Russell, J. G.: 233
Russell, J. M., III: 1183, 1189, 1191, 1209, 1210, 1211, 1213, 1214, 1215, 1217, 1218
Russell, P. B.: 375, 389, 392
Russell, R. A.: 48, 53
Russo, S. C.: 1401

Sachse, G. W.: 341, 342, 390
Sacks, L. J.: 1206
Seager, M. L.: 1338
Sakata, I. F.: 847
Salas, M. D.: 1016, 1017, 1027, 1149
Salmirs, S.: 475
Sandefur, P. G., Jr.: 1388
Sanford, M. C.: 750, 761, 803, 811
Santos, B.: 528
Saripalli, K. R.: 1001
Satran, D. R.: 924, 941, 1122
Sawyer, J. W.: 657, 658, 704
Sawyer, P. L.: 705, 730
Sawyer, W. C.: 1067, 1088
See, M. J.: 190
Seeley, R. R.: 503
Segura, R.: 218
Seiff, A.: 1192
Seiler, W.: 1231
<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, R. T.</td>
<td>294</td>
</tr>
<tr>
<td>Smolka, S. A.</td>
<td>780</td>
</tr>
<tr>
<td>Snow, W. L.</td>
<td>288, 316, 318, 1254</td>
</tr>
<tr>
<td>Snyder, R. E.</td>
<td>1412</td>
</tr>
<tr>
<td>Snyder, W. E.</td>
<td>206</td>
</tr>
<tr>
<td>Sobiesczanski-Sobieski, J.</td>
<td>759, 791, 792, 804, 817, 818</td>
</tr>
<tr>
<td>Soland, R. M.</td>
<td>463</td>
</tr>
<tr>
<td>Somers, D. M.</td>
<td>1077, 1091</td>
</tr>
<tr>
<td>Sorensen, J. A.</td>
<td>912</td>
</tr>
<tr>
<td>Sorrells, R. B., III.</td>
<td>1088</td>
</tr>
<tr>
<td>South, J. C., Jr.</td>
<td>1127, 1152, 1155, 1171, 1172</td>
</tr>
<tr>
<td>Sova, J. A.</td>
<td>414</td>
</tr>
<tr>
<td>Spady, A. A., Jr.</td>
<td>140</td>
</tr>
<tr>
<td>Spear, R. T.</td>
<td>5</td>
</tr>
<tr>
<td>Spearman, M. L.</td>
<td>862, 869, 878, 879</td>
</tr>
<tr>
<td>Spencer, B., Jr.</td>
<td>1242</td>
</tr>
<tr>
<td>Spencer, J. L.</td>
<td>270, 271</td>
</tr>
<tr>
<td>Spiers, R. B., Jr.</td>
<td>237, 238</td>
</tr>
<tr>
<td>Spitzer, C. R.</td>
<td>239, 273, 274, 275, 276, 277</td>
</tr>
<tr>
<td>Spradley, L. W.</td>
<td>1003</td>
</tr>
<tr>
<td>Srokowski, A. J.</td>
<td>1053</td>
</tr>
<tr>
<td>Sromovsky, L. A.</td>
<td>1192</td>
</tr>
<tr>
<td>Stacey, A. B., Jr.</td>
<td>444</td>
</tr>
<tr>
<td>Stadmore, H. A.</td>
<td>1034</td>
</tr>
<tr>
<td>Staff of the Acoustics and Noise Reduction Division:</td>
<td>571</td>
</tr>
<tr>
<td>Staff of Boeing Commercial Airplane Company:</td>
<td>30, 31, 32, 33, 34, 35, 36, 191, 398, 674, 675, 856, 857</td>
</tr>
<tr>
<td>Staff of the Flight Dynamics Branch:</td>
<td>100</td>
</tr>
<tr>
<td>Staff of the Langley Research Center:</td>
<td>3, 398</td>
</tr>
<tr>
<td>Staff of Pratt and Whitney Aircraft Group:</td>
<td>858</td>
</tr>
<tr>
<td>Staff of Rockwell International Corporation:</td>
<td>491</td>
</tr>
<tr>
<td>Stainback, P. C.</td>
<td>1082, 1129</td>
</tr>
<tr>
<td>Stallings, R. L., Jr.</td>
<td>968, 969, 1018, 1068</td>
</tr>
<tr>
<td>Stallman, S. T.</td>
<td>156, 179</td>
</tr>
<tr>
<td>Stalnaker, J. F.</td>
<td>1003</td>
</tr>
<tr>
<td>Stanley, W. D.</td>
<td>192, 193, 231</td>
</tr>
<tr>
<td>Starner, J. H., Jr.</td>
<td>682, 684, 706, 707, 731, 732</td>
</tr>
<tr>
<td>Staton, L. D.</td>
<td>278, 280, 323, 324</td>
</tr>
<tr>
<td>Staton, W.</td>
<td>1383</td>
</tr>
<tr>
<td>Staylor, W. F.</td>
<td>238</td>
</tr>
<tr>
<td>St. Clair, A. K.</td>
<td>439, 440, 441, 501, 502, 525, 526, 530</td>
</tr>
<tr>
<td>St. Clair, T. L.</td>
<td>422, 440, 441, 442, 525, 526, 527, 536, 542</td>
</tr>
<tr>
<td>Steckel, D. K.</td>
<td>37</td>
</tr>
<tr>
<td>Steele, H.</td>
<td>332, 339</td>
</tr>
<tr>
<td>Steinmetz, G. G.</td>
<td>56</td>
</tr>
<tr>
<td>Stephens, D. G.</td>
<td>567, 633</td>
</tr>
<tr>
<td>Stephens, G. L.</td>
<td>1179</td>
</tr>
<tr>
<td>Stephens, M.</td>
<td>709</td>
</tr>
<tr>
<td>Stephens, D. M.</td>
<td>1219</td>
</tr>
<tr>
<td>Stermer, R. L., Jr.</td>
<td>205, 218, 240, 241, 249</td>
</tr>
<tr>
<td>Stevens, D. D.</td>
<td>835, 836, 837</td>
</tr>
<tr>
<td>Stewart, W.</td>
<td>308</td>
</tr>
</tbody>
</table>
Stoakley, D. M.: 529
Stockwell, G. G.: 773
Stoecklin, R. L.: 467
Stohrer, F. F.: 1424
Stone, C. R.: 126
Stone, F. R.: Jr.: 852
Stone, H. W., Jr.: 54, 1246
Stone, R. H.: 492
Stone, R. W., Jr.: 593, 594
Stoner, G. E.: 1375
Storaasli, O., O.: 687, 708, 709
Storey, R. W.: 346
Storey, W. W.: 23
Stough, H. P., III: 914, 918
Strikwerda, J. C.: 1015, 1019
Stroh, R. W. L.: 183, 184
Stronach, C. E.: 322
Strong, R. B.: 1338
Stroud, C. W.: 418, 537
Stroud, W. J.: 650, 659, 660, 684
Struthoff, G.: 366
Stubbs, S. M.: 710
Stumpfel, C. R.: 493
Sturgeon, R. F.: 38, 39
Su, P.: 317
Sundstrom, J. L.: 117, 118, 119
Suomi, V. E.: 1192
Susskind, B.: 494
Sutter, J. R.: 1176
Suttles, J. T.: 1220
Sutton, G. L.: 496
Sutton, K.: 1295
Svensen, E.: 216
Swaim, R. J.: 1392
Swanson, E. E.: 859
Swanson, R. C., Jr.: 970
Sweet, J. L.: 199, 266
Sweetnam, D. N.: 5
Syder, H.: 26
Sykes, G. F.: 504, 529, 531
Tanner, J. A.: 710, 711
Tapia, M. A.: 65
Tate, J. L.: 403
Taylor, A. B.: 40
Taylor, A. H.: 1040, 1041
Taylor, C.: 476
Taylor, F.: 1192
Taylor, G. R.: 1355
Taylor, H. F.: 1414

210
Taylor, J. T.: 1412
Taylor, L. T.: 502, 530
Taylor, L. W., Jr.: 133
Taylor, N. L.: 59
Tellinghuisen, J. P.: 318, 329
Tenney, D. R.: 507, 533, 538, 539, 556, 557
Tepper, S.: 773
Texeira, P. D.: 297, 298
Thacker, J.: 194
Thau, F. E.: 131, 141
Thibodeaux, J. J.: 1089, 1153
Thom, R. D.: 299
Thomas, H. M.: 251
Thomas, J. P.: 1381, 1382
Thomas, M. E.: 167, 236, 894
Thomas, P. D.: 1004, 1005
Thomas, R. M., Jr.: 243
Thompson, E. R.: 483
Thomson, R. G.: 680, 683
Thornton, E. A.: 781, 786, 787, 805
Thornton, H. F.: 242
Thorpe, R. D.: 984
Thurston, G. A.: 712
Tibbetts, J. G.: 41
Tietz, J. C.: 247
Tiffany, S. H.: 120
Tinoco, E. N.: 1114, 1117
Tiwari, S. N.: 1225, 1226, 1302
Toll, T. A.: 823
Tolman, C. H.: 195, 241
Tolson, R. H.: 1221
Tomaine, R. L.: 835, 836, 837
Tommerdahl, J. B.: 1338
Tompkins, S. S.: 421, 443, 444, 538
Toni, R. A.: 806
Torbett, M. A.: 355
Torbett, E. J.: 195, 241
Totah, R. S.: 196
Townsend, J. C.: 971, 1069
Trescot, C. D., Jr.: 960
Trethewey, J. D.: 495
Trexler, C. A.: 1039, 1042
Trible, W., Jr.: 618
Trimi, R. L.: 1043, 1070
Trivedi, K. S.: 153, 161
Troost, T. F.: 244
Tsach, U.: 753
Tseng, K.: 780
Tsuo, Y. H.: 313, 317, 362
Tucker, J. H.: 65, 80
Tulppo, J. S.: 73
Turco, R. P.: 332

211
Turner, R. E.: 1232
Turriziani, R. V.: 859
Tuttle, M. H.: 824, 1090, 1099
Tyson, R. M.: 850

Underwood, J. H.: 499, 503
Unham, J.: 533, 538, 539, 556, 557
Upchurch, B. T.: 385, 393, 396

Vahey, D. W.: 197, 252
Vahl, W. A.: 972
Vance, E. F.: 185
Van Dam, C. P.: 886, 933
Van Hamersveld, J. A.: 718
Vaughan, J. C., III: 827, 863, 865
Vaughan, V. L., Jr.: 648
Veltri, R. D.: 461
Verber, C. M.: 198, 252
Versaw, E. F.: 846
Ville, J. M.: 563, 630
Vinh, N. X.: 110
Voigt, S.: 81, 82
Vonder Haar, T. H.: 1179
Vondrasek, D. V.: 981
Von Zahn, U.: 1192
Vroman, A.: 111
Vuigner, A. A.: 773

Wagner, H. S.: 1358
Wakelyn, N. T.: 1351, 1371
Walberg, G. D.: 1238
Walker, G. H.: 1300, 1305, 1306, 1316
Walkley, K. B.: 851
Wall, R. L.: 403
Wallson, R. E.: 716
Walsh, M. J.: 1054
Walsh, T. M.: 404
Walthour, L.: 402
Walton, W. C., Jr.: 819
Walz, J. E.: 652, 690, 696, 697, 713
Ward, J. C., Jr.: 47
Warnock, W. E.: 855
Washburn, G. F.: 859
Watkins, R. H.: 174
Watson, C. B.: 968
Watts, J. T.: 540
Weatherill, W. H.: 782
Weaver, C. E.: 493
Weaver, W. L.: 1330, 1352, 1369
Weaver, W. R.: 1275, 1284, 1303
Weidner, E. H.: 1031, 1071
Weidner, J. P.: 972, 1044

212.
Weigel, B. L.: 71
Weilmuenster, K. J.: 1245, 1280, 1302, 1307
Weisshaar, T. A.: 679
Weissman, D. E.: 222
Weldy, W. E.: 479
Weller, W. H.: 720
Wells, M. D.: 68
Wells, W. L.: 288, 316, 1254
Wentz, F. J.: 224, 279
Whipple, R. D.: 913
Whitecomb, J. D.: 326, 415, 523, 524, 558
White, E. J.: 714
White, J. H.: 1338
White, N. H.: 1239
White, W. F.: 399, 400, 405
White, W. L.: 892
Whiting, J. H.: 481, 495, 496
Whitlock, C. H.: 1334, 1353, 1366
Whitlow, W., Jr.: 807
Whittaker, R. W.: 1033
Wieting, A. R.: 786, 787, 805
Wightman, J. P.: 1362
Wilbert, R. E.: 298
Wilby, E. G.: 587, 588, 589
Wilby, J. F.: 587, 589
Wilcox, F. J., Jr.: 1255
Wildner, E. L.: 393, 396
Wilem, R. T.: 1374
Wilhite, A. W.: 1283, 1289
Wilkerson, J. C.: 223
Wilkerson, T. D.: 1228, 1229
Wilkins, J. R.: 1354, 1372, 1375
Williams, B. S.: 307, 376
Williams, J. A.: 376
Williams, J. B.: 245
Williams, J. G.: 661, 684, 733
Williams, L. A., Jr.: 202
Williams, L. H.: 14
Williams, M. D.: 1274, 1318, 1319
Williams, M. L.: 248
Willshire, W. L., Jr.: 564
Wilmoth, R. G.: 973, 1045
Wilson, B. S.: 1423
Wilson, C. H.: 1328
Wilson, G.: 111
Wilson, J. C.: 1131
Wilson, J. M., Jr.: 855
Wilson, J. W.: 1256, 1290, 1291, 1292
Wilson, R. G.: 1288
Wilson, V. E.: 860
Winfre, W. P.: 304, 326, 327, 345, 369, 379, 394, 395
Winston, M. M.: 840, 870
Winter, O. A.: 1118
Witcofski, R. D.: 871, 880
Witte, W. G., Jr.: 1334, 1366
Wittlin, G.: 680
Woerner, M. A.: 1369
Wolf, S. W. D.: 1119
Wolfe, N. M.: 477
Wolfert, L. G.: 1413
Wong, W. C.: 255, 256
Woo, R.: 1192
Wood, G. M.: 319, 384, 385, 393, 396
Woodall, J. M.: 1264, 1311
Woodward, F. A.: 1020, 1120
Wooten, W. H.: 1008
Worley, C. A.: 393
Wornom, D. E.: 1327, 1350, 1367
Wright, C. C.: 773
Wright, H. T.: 15, 16, 21, 22
Wright, R. L.: 1324
Wrighton, M. S.: 1312
Wurster, K. E.: 1293, 1308

Yager, T. J.: 662, 714
Yates, E. C., Jr.: 808
Yates, J. E.: 595
Yeager, P. R.: 319
Yen, J.: 604
Yenni, K. R.: 145, 881, 893, 948
Yetter, J. A.: 974
Yip, E. L.: 782
Yip, L. P.: 885, 923
Yost, W. T.: 355
Young, J. C.: 220
Young, J. W.: 101, 142
Young, P. R.: 504, 531
Young, R. E.: 1192
Youngbluth, O., Jr.: 346
Yu, J. C.: 597, 605, 606, 618
Yue, G. K.: 286, 344

Zack, J.: 1177
Zaepfel, K. P.: 244
Zamerowski, T. J.: 347
Zeiders, G. W.: 995
Zoby, E. V.: 1294, 1309
Zorumski, W. E.: 628
SUBJECT CATEGORY INDEX

AERONAUTICS

Category 01: Aeronautics (General)

1, 6, 142, 407, 788, 801, 820, 821, 827, 833, 839, 861, 862, 863, 864, 865, 866, 867, 868, 886, 889, 890, 896, 897, 925, 926, 929, 1101, 1103, 1237, 1238

Category 02: Aerodynamics


Category 03: Air Transportation and Safety

85, 159, 398, 404, 710, 711, 714, 751, 825, 832, 840, 843, 844, 852, 853, 870, 884, 894, 895, 912, 917, 919, 927, 928, 930, 931, 1398, 1399, 1405, 1406

Category 04: Aircraft Communications and Navigation

165, 174, 183, 184, 188, 399, 400, 405, 899

Category 05: Aircraft Design, Testing and Performance


Category 06: Aircraft Instrumentation

56, 83, 103, 154, 170, 881, 888, 891, 893

Category 07: Aircraft Propulsion and Power

773, 838, 959, 962, 972, 976, 994, 999, 1022, 1025, 1030, 1031, 1044

215
Category 08: Aircraft Stability and Control
7, 88, 90, 92, 94, 98, 100, 101, 116, 123, 124, 125, 132, 139, 190, 200, 213, 220, 230, 233, 734, 735, 756, 789, 790, 798, 887, 898, 900, 901, 918, 921, 1055, 1241, 1242, 1407

Category 09: Research and Support Facilities (Air)
62, 176, 760, 854, 1072, 1080, 1089, 1090, 1092, 1095, 1102, 1104, 1105, 1106, 1129, 1133, 1134, 1136, 1137, 1138, 1141, 1142, 1143, 1148, 1150, 1153, 1412

ASTRONAUTICS

Category 13: Astrodynamics
110, 1325, 1363

Category 14: Ground Support Systems and Facilities (Space)
662, 1254

Category 15: Launch Vehicles and Space Vehicles
23, 47, 51, 688, 689, 697, 740, 1084, 1276, 1287, 1293, 1297, 1298, 1299, 1308

Category 16: Space Transportation
421, 444, 661, 806, 975, 1259, 1260, 1261, 1403, 1408

Category 17: Spacecraft Communications, Command and Tracking
211, 212

Category 18: Spacecraft Design, Testing and Performance
10, 11, 12, 48, 49, 50, 52, 53, 54, 89, 102, 107, 128, 131, 136, 141, 196, 237, 443, 764, 1098, 1246, 1268, 1269, 1270, 1404

Category 19: Spacecraft Instrumentation
111, 115, 157, 171, 189, 238, 1336, 1348, 1400

Category 20: Spacecraft Propulsion and Power
1282, 1283, 1289
CHEMISTRY AND MATERIALS

Category 24: Composite Materials


Category 25: Inorganic and Physical Chemistry

288, 311, 1047, 1328, 1329

Category 26: Metallic Materials

410, 533, 1313, 1388

Category 27: Nonmetallic Materials

310, 422, 438, 439, 440, 441, 442, 498, 501, 504, 525, 526, 527, 530, 531, 542

Category 28: Propellants and Fuels

846, 1039

ENGINEERING

Category 31: Engineering (General)

24, 114, 122, 126, 129, 1384, 1385, 1397, 1401

Category 32: Communications

162, 163, 175, 234, 738

Category 33: Electronics and Electrical Engineering


Category 34: Fluid Mechanics and Heat Transfer

3, 69, 70, 71, 221, 741, 742, 752, 766, 781, 787, 872, 957, 958, 977, 978, 984, 986, 987, 988, 993, 996, 997, 998, 1001, 1003, 1010, 1014, 1015, 1019, 1074, 1076, 1082, 1083, 1100, 1113, 1115, 1121, 1124, 1140, 1239, 1243, 1248, 1249, 1251, 1252, 1253, 1263, 1272, 1277, 1280, 1285, 1286, 1294, 1295, 1302, 1304, 1309
Category 35: Instrumentation and Photography

156, 179, 197, 214, 227, 244, 280, 282, 287, 290, 292, 297, 298, 299, 306, 308, 319, 323, 324, 331, 365, 366, 1002, 1037, 1042, 1340, 1341, 1373, 1413, 1417

Category 36: Lasers and Masers

151, 152, 293, 294, 295, 296, 333, 334, 341, 342, 995, 1176, 1198, 1256, 1273, 1274, 1281, 1290, 1291, 1292, 1301, 1303

Category 37: Mechanical Engineering

253, 668

Category 38: Quality Assurance and Reliability

187

Category 39: Structural Mechanics


GEOSCIENCES

Category 42: Geosciences (General)

309

Category 43: Earth Resources

168, 169, 208, 223, 225, 228, 1174, 1288, 1314, 1359

Category 44: Energy Production and Conversion

811, 1257, 1264, 1300, 1305, 1306, 1374, 1414, 1421

Category 45: Environment Pollution

286, 307, 312, 314, 320, 336, 344, 560, 562, 565, 566, 567, 569, 570, 579, 611, 613, 626, 1180, 1193, 1195, 1327, 1333, 1334, 1335, 1338, 1339, 1342, 1344, 1349, 1350, 1351, 1353, 1354, 1356, 1358, 1362, 1364, 1365, 1367, 1368

Category 46: Geophysics

284, 289, 332, 338, 339, 346, 1181, 1182, 1183, 1186, 1187, 1188, 1189, 1190, 1191, 1196, 1199, 1200, 1202, 1203, 1205, 1206, 1208, 1209, 1210, 1212, 1213, 1214, 1215, 1217, 1218
Category 47: Meteorology and Climatology
150, 167, 185, 235, 236, 747, 1173, 1175, 1177, 1179, 1184, 1194, 1197, 1201, 1204, 1207, 1211, 1216, 1219, 1220, 1221, 1267, 1330, 1343, 1352, 1355, 1360, 1369

Category 48: Oceanography
181, 199, 202, 216, 217, 222, 224, 242, 1326, 1331, 1332, 1345, 1346, 1347, 1357, 1366

LIFE SCIENCES
Category 51: Life Sciences (General)
575, 618, 1375, 1396

Category 52: Aerospace Medicine
104, 1423

Category 53: Behavioral Sciences
66, 112, 113, 117, 118, 119, 127, 140, 401, 593, 594, 826

MATHEMATICAL AND COMPUTER SCIENCES
Category 59: Mathematical and Computer Sciences (General)
65, 153, 161

Category 60: Computer Operations and Hardware
206, 615, 1419

Category 61: Computer Programming and Software
13, 55, 59, 61, 63, 105, 120, 177, 194, 232, 429, 687, 767, 770, 771, 1178, 1245, 1255, 1265

Category 62: Computer Systems
243, 643, 645, 678, 695, 701, 705, 708, 709

Category 63: Cybernetics
86, 106, 121, 137

Category 64: Numerical Analysis
1046, 1284
Category 65: Statistics and Probability

1337

Category 66: Systems Analysis

84, 93, 130, 180, 182, 1428

PHYSICS

Category 71: Acoustics


Category 72: Atomic and Molecular Physics

283, 291, 300, 316, 318, 329

Category 73: Nuclear and High-Energy Physics

1266, 1271, 1275

Category 74: Optics

74, 160, 173, 201, 203, 215, 229, 281, 301, 305, 321, 364

Category 76: Solid-State Physics

207, 302, 304, 313, 317, 322, 325, 337, 345

SOCIAL SCIENCES

Category 80: Social Sciences (General)

4

Category 81: Administration and Management

14

Category 82: Documentation and Information Science

1422, 1424

Category 83: Economics and Cost Analysis

834, 1240

220
Category 85: Urban Technology and Transportation
330

SPACE SCIENCES

Category 91: Lunar and Planetary Exploration
5, 1185, 1192, 1278, 1279

GENERAL

Category 99: General
2
RTOP INDEX

RTOP 023-10-01
   1, 2

RTOP 023-25-00
   1412

RTOP 141-20-10
   1414

RTOP 141-20-20
   575

RTOP 141-20-21
   1423

RTOP 141-95-01
   314, 319, 1413

RTOP 146-10-03
   305

RTOP 146-10-04
   321

RTOP 146-10-06
   214, 1173, 1184, 1336, 1343, 1360, 1401

RTOP 146-20-01
   289, 1198

RTOP 146-20-10
   307, 310, 311, 312, 323, 336, 346, 1176, 1178, 1187, 1195, 1199, 1200, 1327, 1333, 1338,
   1339, 1342, 1349, 1351, 1358, 1364, 1365, 1368

RTOP 146-20-14
   1332, 1359, 1363

RTOP 146-20-19
   1344

RTOP 146-30-03
   1196

RTOP 146-40-01
   1202, 1326, 1331

RTOP 146-40-05
   217, 222, 223, 224
RTOP 146-40-13
   207, 208, 216, 242

RTOP 146-40-14
   168, 169

RTOP 146-40-15
   1353, 1357, 1366

RTOP 146-50-02
   1177

RTOP 146-60-02
   1325, 1337, 1356

RTOP 146-60-01
   1203, 1204, 1205, 1221

RTOP 147-30-01
   300, 1174, 1197, 1207, 1208

RTOP 147-40-01
   160, 1400

RTOP 175-40-30
   179, 1179, 1352

RTOP 176-10-32
   177

RTOP 179-80-10
   313

RTOP 198-30-02
   1181, 1186, 1188, 1189, 1190, 1206

RTOP 198-30-04
   1180

RTOP 304-91-00
   344

RTOP 307-91-00
   286

RTOP 340-00-00
   4, 291

RTOP 490-02-02
   23
RTOP 505-01-13
1406

RTOP 505-01-33
462, 501, 502, 504

RTOP 505-02-13
511, 787

RTOP 505-02-21
775

RTOP 505-02-23
782, 784

RTOP 505-02-33
303, 315, 683, 785

RTOP 505-02-73
677, 680, 681

RTOP 505-03-13
306, 591, 601, 603, 605

RTOP 505-03-53
780

RTOP 505-05-43
994, 999

RTOP 505-06-13
986, 987, 988, 1015

RTOP 505-06-23
595, 596, 597, 978, 993

RTOP 505-06-25
977

RTOP 505-06-33
1101, 1116, 1123

RTOP 505-06-43
297, 298, 1121, 1129, 1148

RTOP 505-06-53
1079, 1114, 1117

RTOP 505-06-63
97, 123
RTOP 505-07-31
185

RTOP 505-07-33
110, 116

RTOP 505-09-13
600

RTOP 505-09-33
113

RTOP 505-09-43
60, 67

RTOP 505-10-13
1405, 1407

RTOP 505-10-23
170, 772

RTOP 505-10-39
1427, 1428, 1429

RTOP 505-11-13
1088, 1150

RTOP 505-11-23
979, 980, 982, 983

RTOP 505-13-63
1136

RTOP 505-15-13
1001

RTOP 505-15-33
71

RTOP 505-31-13
1076, 1080, 1092, 1127, 1152

RTOP 505-31-23
282, 581, 609, 618, 957, 958, 1019, 1029

RTOP 505-31-33
1077, 1081, 1086, 1087, 1091, 1111, 1112

RTOP 505-31-43
956, 967, 989, 990, 991, 992, 1000, 1009, 1017, 1020, 1026, 1027, 1035, 1106, 1110, 1115, 1118, 1120, 1122, 1125, 1128, 1132, 1144, 1145

226
RTOP 505-31-53
292, 337, 1072, 1085, 1089, 1090, 1097, 1098, 1099, 1102, 1104, 1105, 1119, 1124, 1133, 1134, 1138, 1140, 1141, 1142, 1143, 1153, 1384, 1385

RTOP 505-31-63
287, 1137

RTOP 505-31-70
871

RTOP 505-31-73
966, 972, 975, 981, 1025, 1032, 1040, 1041, 1043, 1044

RTOP 505-31-83
3, 57, 69, 70, 1100

RTOP 505-32-03
563, 564, 571, 572, 574, 576, 577, 578, 582, 583, 586, 592, 598, 599, 602, 604, 606, 608, 615, 617, 619, 621, 623, 624, 625, 628, 629, 630, 962, 1402

RTOP 505-32-13
949, 953, 961, 970, 973, 984, 1004, 1005, 1045

RTOP 505-32-52
1103

RTOP 505-32-73
1003

RTOP 505-32-93
959, 1002, 1010, 1014, 1022, 1030, 1031, 1037, 1039, 1042

RTOP 505-33-08
285

RTOP 505-33-23
465, 500, 520

RTOP 505-33-33
422, 439, 440, 441, 442, 447, 498, 525, 526, 527, 529, 530, 531, 675

RTOP 505-33-43
302, 304, 322, 325, 326, 327, 328, 335, 340, 343, 345, 423, 425, 429, 466, 467, 480, 492, 508, 664, 682, 694

RTOP 505-33-53
573, 587, 588, 590, 607, 620, 622, 734, 739, 740, 746, 748, 755, 756, 757, 760, 774, 776, 778, 779, 783, 789, 790, 799, 800, 801, 806, 807, 808

RTOP 505-33-63
650, 659, 660, 665, 671, 676, 684, 702, 703, 705, 706, 707, 708, 745, 759, 767, 768, 769, 788, 791, 792, 798, 804

227
<table>
<thead>
<tr>
<th>Document Code</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTOP 505-33-73</td>
<td>773</td>
</tr>
<tr>
<td>RTOP 505-34-13</td>
<td>159, 162, 163, 165, 175, 188, 228</td>
</tr>
<tr>
<td>RTOP 505-34-23</td>
<td>68, 154, 239</td>
</tr>
<tr>
<td>RTOP 505-34-43</td>
<td>161, 173, 182, 187, 233</td>
</tr>
<tr>
<td>RTOP 505-35-13</td>
<td>559, 560, 562, 565, 566, 567, 569, 570, 579, 593, 594, 610, 611, 613, 614, 626</td>
</tr>
<tr>
<td>RTOP 505-35-23</td>
<td>104, 140</td>
</tr>
<tr>
<td>RTOP 505-35-53</td>
<td>127</td>
</tr>
<tr>
<td>RTOP 505-41-13</td>
<td>94, 100, 101, 133, 882, 885, 889, 896, 903, 904, 905, 906, 908, 909, 910, 914, 915, 918, 924, 1398, 1399</td>
</tr>
<tr>
<td>RTOP 505-41-33</td>
<td>648, 669, 670</td>
</tr>
<tr>
<td>RTOP 505-41-43</td>
<td>568, 585, 612</td>
</tr>
<tr>
<td>RTOP 505-41-63</td>
<td>190, 200</td>
</tr>
<tr>
<td>RTOP 505-41-73</td>
<td>83, 85, 103, 124, 125</td>
</tr>
<tr>
<td>RTOP 505-41-83</td>
<td>897, 900, 902, 911, 922, 925, 926, 933</td>
</tr>
<tr>
<td>RTOP 505-42-13</td>
<td>471, 505, 561, 580, 584, 616, 627, 777, 793, 794, 795, 796, 1131, 1135</td>
</tr>
<tr>
<td>RTOP 505-42-23</td>
<td>1073, 1078</td>
</tr>
<tr>
<td>RTOP 505-43-13</td>
<td>763, 890, 898, 913, 916, 920, 932</td>
</tr>
</tbody>
</table>
RTOP 505-43-23
883, 923, 951, 952, 954, 955, 960, 963, 964, 965, 968, 969, 971, 976, 1006, 1007, 1008,
1011, 1013, 1016, 1018, 1021, 1023, 1024, 1028, 1033, 1034, 1036, 1038, 1084, 1094, 1096,
1126, 1146, 1147, 1149, 1151

RTOP 505-43-33
58, 95, 109, 135, 513, 737, 797, 892

RTOP 505-44-03
928

RTOP 505-44-13
150, 167, 235, 236, 243, 244, 894, 919

RTOP 505-44-23
895, 917, 921, 931

RTOP 505-44-33
662, 673, 700, 710, 711, 714, 751

RTOP 506-16-21
290

RTOP 506-17-13
672

RTOP 506-17-23
644

RTOP 506-18-13
317

RTOP 506-18-21
299

RTOP 506-19-13
121

RTOP 506-20-23
172

RTOP 506-24-13
1266, 1271

RTOP 506-25-33
1290

RTOP 506-26-13
1403, 1404

RTOP 506-26-20
316
RTOP 506-51-13
1237, 1239, 1241, 1243, 1244, 1245, 1247, 1248, 1249, 1251, 1258, 1262, 1265, 1272, 1276, 1277, 1280, 1282, 1283, 1287, 1293, 1302, 1304, 1307, 1308, 1408

RTOP 506-51-23
281, 288, 301, 1252, 1253, 1254, 1263, 1285, 1286, 1294, 1295, 1309

RTOP 506-51-33
1238, 1242, 1267, 1296

RTOP 506-51-43
1300, 1306

RTOP 506-52-33
1328, 1329, 1335, 1362, 1367

RTOP 506-53-23
413, 421, 431, 450, 454, 455, 456, 483, 489, 507, 528

RTOP 506-53-33
418, 764

RTOP 506-53-43

RTOP 506-53-53
415, 424, 430, 436, 437, 453, 459, 472, 473, 497, 499, 503, 509, 514, 515, 519, 521, 522, 523, 524, 646, 647, 663, 667, 712, 752, 753, 770, 771, 781, 786, 805

RTOP 506-53-63
91, 130, 655, 666, 736

RTOP 506-53-73
741, 742, 765, 766, 802

RTOP 506-54-13
84, 106

RTOP 506-54-23
89, 102, 115, 136

RTOP 506-54-63
171, 195, 197, 198, 205, 209, 218, 240, 241, 293, 294

RTOP 506-54-93
107

RTOP 506-55-13
1273, 1274, 1275, 1279, 1281, 1284, 1291, 1292, 1301, 1303

230
RTOP 506-55-43
1257, 1264, 1305

RTOP 506-56-13
1256

RTOP 506-61-13
55, 105

RTOP 506-61-33
221

RTOP 506-61-43
215, 225

RTOP 506-61-53
151, 152, 158, 189, 210, 229, 280, 283, 284, 295, 296, 318, 324, 329, 331, 333, 334,
341, 342, 1193

RTOP 506-61-63
164, 192, 193, 231

RTOP 506-61-73
111, 114, 126, 129

RTOP 506-62-43
48, 204, 211, 212, 237, 1297, 1299

RTOP 506-63-13
54, 1246

RTOP 506-89-01
432, 438, 443, 444, 653, 654, 656, 657, 658, 661, 758, 762

RTOP 510-54-13
643, 645, 678, 687, 695, 701, 709

RTOP 511-57-02
589

RTOP 513-52-13
117, 118, 119, 183, 184, 912

RTOP 514-55-01
998

RTOP 514-55-03
41, 996

RTOP 516-50-23
855, 860, 1108, 1109

231
RTOP 516-56-01
  995

RTOP 524-71-03
  679

RTOP 524-71-13
  464, 474, 491, 510, 516, 674, 704

RTOP 524-72-03
  50, 196

RTOP 525-72-03
  49

RTOP 530-01-13
  830, 886, 907

RTOP 530-03-13
  824, 833, 866, 974

RTOP 530-04-10
  868

RTOP 530-04-12
  852

RTOP 530-04-13
  6, 407, 823, 825, 826, 827, 828, 829, 831, 832, 840, 843, 846, 848, 853, 854, 857, 859,
  861, 864, 865, 870

RTOP 532-06-13
  512

RTOP 533-01-13
  410, 411, 412, 414, 417, 469, 738, 743, 744, 747, 749, 754

RTOP 533-01-43
  820, 821, 822, 835, 836, 837, 838, 839, 841, 842, 845, 847, 849, 850, 851, 856, 858, 862,
  867, 869, 884, 901, 950, 1075, 1093

RTOP 533-03-13
  985

RTOP 534-01-13
  38, 39, 997, 1082, 1113

RTOP 534-02-13
  15, 16, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 40, 44, 153, 178, 180, 191, 194, 232, 735,
  750, 761, 803, 1107, 1130, 1139

  232
RTOP 534-03-03
458, 461

RTOP 534-03-13
25, 26, 42, 43

RTOP 534-03-23
166, 409, 416, 419, 420, 426, 427, 428, 433, 434, 435, 445, 446, 448, 449, 451, 452, 457, 460,
463, 468, 470, 475, 476, 477, 478, 481, 482, 484, 485, 486, 487, 488, 490, 493, 494, 495, 496,
506, 517, 518

RTOP 534-04-13
56, 61, 62, 66, 112, 176, 220, 230, 398, 399, 400, 401, 402, 403, 404, 405, 881; 887, 888,
891, 893, 899, 927, 929, 930

RTOP 540-02-13
1255

RTOP 540-03-13
1240, 1261, 1289, 1298

RTOP 541-01-13
157, 206, 219, 226, 227

RTOP 542-01-13
47, 51, 52, 53, 1250, 1268, 1269, 1270

RTOP 542-01-14
186

RTOP 542-03-14
1288

RTOP 619-12-01
14, 156, 1330, 1340, 1341, 1355

RTOP 619-12-20
234, 238, 1194, 1201, 1216, 1219, 1220, 1369

RTOP 619-12-30
201, 203

RTOP 620-14-00
1209, 1212, 1213, 1217, 1218

RTOP 637-01-04
1354

RTOP 638-10-00
1191

233
RTOP 642-14-03
  1210, 1214

RTOP 642-14-83
  1348

RTOP 655-75-01
  199, 202

RTOP 665-10-40
  332, 338, 339, 1183, 1211, 1215

RTOP 675-01-00
  181

RTOP 677-20-24
  1346

RTOP 677-22-24
  1347, 1361

RTOP 683-76-36
  1175

RTOP 691-09-02
  1334

RTOP 734-01-03
  479

RTOP 743-04-13
  1012

RTOP 750-03-03
  1182

RTOP 790-40-13
  834

RTOP 790-40-33
  1259, 1260

RTOP 791-40-13
  844, 863

RTOP 791-40-53
  174

RTOP 815-00-00
  10, 11, 12

234
RTOP 889-50-48
1185, 1192

RTOP 889-52-03
5

RTOP 989-15-20
320, 1345, 1350

RTOP 992-15-20
309

RTOP 992-16-04
13, 63, 64

RTOP 992-16-05
59

RTOP 992-18-00
1388

RTOP 992-19-00
308
TECH BRIEF CATEGORY INDEX

Category: Electronic Components and Circuits
  249, 251, 348, 349, 361, 362

Category: Electronic Systems
  19, 20, 1425

Category: Fabrication Technology
  17, 18, 246, 354, 534, 540, 718, 1311, 1390, 1392, 1393, 1395

Category: Life Sciences
  245, 1222, 1372, 1394

Category: Machinery
  716, 719, 1049, 1410, 1411

Category: Materials
  72, 356, 536, 538, 539, 1161, 1370

Category: Mathematics and Information Sciences
  73, 252, 537, 1409, 1415

Category: Mechanics
  143, 144, 145, 248, 250, 355, 357, 360, 535, 631, 717, 720, 809, 810, 874, 875, 1050, 1051, 1052, 1053, 1054, 1156, 1157, 1158, 1159, 1160, 1162, 1371

Category: Physical Sciences
  247, 347, 350, 351, 352, 353, 358, 359, 363, 1310, 1312, 1389, 1391, 1416, 1420
<table>
<thead>
<tr>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Report No</td>
</tr>
<tr>
<td>4</td>
<td>Title and Subtitle</td>
</tr>
<tr>
<td>7</td>
<td>Author(s)</td>
</tr>
<tr>
<td>9</td>
<td>Performing Organization Name and Address</td>
</tr>
<tr>
<td>12</td>
<td>Sponsoring Agency Name and Address</td>
</tr>
<tr>
<td>15</td>
<td>Supplementary Notes</td>
</tr>
<tr>
<td>16</td>
<td>Abstract</td>
</tr>
<tr>
<td>17</td>
<td>Key Words (Suggested by Author(s))</td>
</tr>
<tr>
<td>18</td>
<td>Distribution Statement</td>
</tr>
<tr>
<td>19</td>
<td>Security Classif (of this report)</td>
</tr>
<tr>
<td>20</td>
<td>Security Classif (of this page)</td>
</tr>
<tr>
<td>21</td>
<td>No of Pages</td>
</tr>
<tr>
<td>22</td>
<td>Price</td>
</tr>
</tbody>
</table>