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**A CUMULATIVE INDEX
TO
A CONTINUING BIBLIOGRAPHY ON

AEROSPACE MEDICINE
AND BIOLOGY**

This Cumulative Index supersedes the indexes contained in supplements [SP-7011(333) through SP-7011(344)] published by NASA during 1990.



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INTRODUCTION

WHAT THIS CUMULATIVE INDEX IS

This publication is a cumulative index to the abstracts contained in NASA SP-7011(333) through NASA SP-7011(344) of *Aerospace Medicine and Biology: A Continuing Bibliography*, NASA SP-7011, and by means of supplements, serves as a current abstracting and announcement journal for references on bioscience and biotechnology. It has been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA), and the National Aeronautics and Space Administration (NASA). Entries prepared by the two contributing organizations are identified as follows:

1. NASA entries by their *STAR* accession numbers (N90-10000).
2. AIAA entries by their *IAA* accession numbers (A90-10000 series).

HOW THIS CUMULATIVE INDEX IS ORGANIZED

This Cumulative Index includes a subject, personal author, corporate source, foreign technology, contract number, report number, and accession number index.

HOW TO USE THE SUBJECT INDEX

Two types of cross-references appear in the subject index:

1. Use (U) references indicate that the subject term is not "postable," i.e., not a valid term, and that the following term or terms are used instead. For example:

DOSE

U DOSAGE

AIRLINERS

U COMMERCIAL AIRCRAFT

U PASSENGER AIRCRAFT

2. Narrower Term (NT) references refer the user to more specific headings in the same subject area, under which additional material on the subject may be found. For example:

FATIGUE (BIOLOGY)

NT AUDITORY FATIGUE

NT FLIGHT FATIGUE

NT MUSCULAR FATIGUE

In addition, a searcher may use the title or title and title extension in the index to narrow further his quest for particular items; this is because subject terms may include documents on different aspects of the same subject term. For example:

BIOLOGICAL EFFECT

Vibratory force effect upon biological systems, particularly human organism.

Biological effect of cosmic and solar radiations on human body at high altitudes.

HOW TO USE THE PERSONAL AUTHOR INDEX

All personal authors used in the abstract-section citations in the individual Supplements appear in the index. Differences in translation schemes may require multiple searching on the index for variants of an author's name. For example:

EMELIANOV, M. D.

and

YEMEL'YANOV, M. D.

HOW TO USE THE CORPORATE SOURCE INDEX

The corporate source index entries are abridged versions of the corporate sources used in the abstract-section citations in the individual Supplements. The corporate source supplementary (organizational component) does not appear in the index. For example:

BOEING CO., SEATTLE, WASH. MILITARY AIRCRAFT SYSTEMS DIV. (Source citation entry)

BOEING CO., SEATTLE, WASH. (Source index entry)

HOW TO USE THE FOREIGN TECHNOLOGY INDEX

The foreign technology index identifies research performed outside of the United States. Listings in this index are arranged alphabetically by country of intellectual origin. For example:

CHINA, PEOPLE'S REPUBLIC OF

HOW TO USE THE CONTRACT NUMBER INDEX

All contract numbers that are identified in the abstract-section citations in the individual Supplements appear in this index. Changes by agencies in the style in which contract numbers are presented may require multiple searching for variants. For example:

AF 33(615)-71-C-1758

F33615-71-C-1758

HOW TO USE THE REPORT/ACCESSION NUMBER INDEX

All report numbers that have been assigned by the corporate source, monitoring agency or cataloging activity appear in this index. Variations in cataloging may result in different report number series. For example:

TP-924

ONERA-TP-924

IDENTIFICATION OF DESIRED SUPPLEMENT

The abstract and descriptive cataloging for any accession number selected from the indexes may be found in the appropriate Supplement. The page-number range of each Supplement appears on the inside front cover of this index. Once the range of page numbers containing the selected accession number is located in the second column, the desired supplement number will be found in the first column. For example:

Page 138 will be found in Supplement 337

AVAILABILITY OF DOCUMENTS

Information concerning the availability of documents announced in *Aerospace Medicine & Biology* is found in the Introduction to the most currently issued *Supplement*.

PUBLIC COLLECTIONS OF NASA DOCUMENTS

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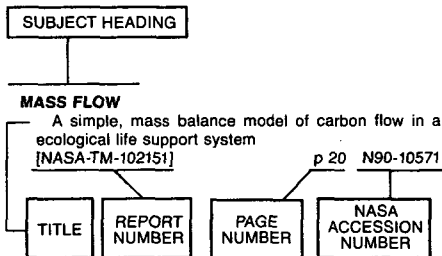
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Typical Subject Index Listing



The subject heading is a key to the subject content of the document. The title is used to provide a description of the subject matter. When the title is insufficiently descriptive of document content, a title extension is added, separated from the title by three hyphens. The (NASA or AIAA) accession number and the page number are included in each entry to assist the user in locating the abstract in the abstract section. If applicable, a report number is also included as an aid in identifying the document. Under any one subject heading, the accession numbers are arranged in sequence with the AIAA accession numbers appearing first.

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- Life sciences and space research XXIII(3): Natural and artificial ecosystems; Proceedings of the Topical Meetings of the 27th COSPAR Plenary Meeting, Espoo, Finland, July 18-29, 1988
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- International Union of Physiological Sciences Commission on Gravitational Physiology, Annual Meeting, 10th, Montreal, Canada, Oct. 9-14, 1988, Proceedings
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- Annual SAFE Symposium, 26th, Las Vegas, NV, Dec. 5-8, 1988, Proceedings
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- International Symposium on Aviation Psychology, 5th, Columbus, OH, Apr. 17-20, 1989, Proceedings. Volumes 1 & 2
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- Human Factors Society, Annual Meeting, 33rd, Denver, CO, Oct. 16-20, 1989, Proceedings. Volumes 1 & 2
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- American Society for Gravitational and Space Biology, Annual Meeting, 5th, Cocoa Beach, FL, Oct. 25-28, 1989, Abstracts
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- American Society for Gravitational and Space Biology, Annual Meeting, 4th, Washington, DC, Oct. 20-23, 1988, Proceedings
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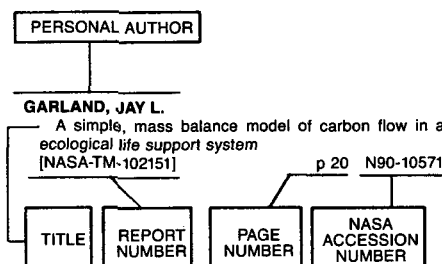
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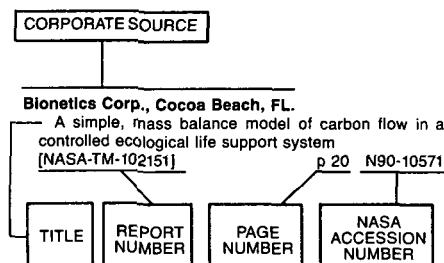
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Decision Science Consortium, Inc., Reston, VA.

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Defence and Civil Inst. of Environmental Medicine, Downsview (Ontario).

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Defence and Civil Inst. of Environmental Medicine, Toronto (Ontario).

- Effects of short-term weightlessness on roll circularvection
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Defence Research Establishment Atlantic, Dartmouth (Nova Scotia).

- Human factors in the naval environment: A review of motion sickness and biodynamic problems
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Defence Research Establishment, Ottawa (Ontario).

- Measurement of respiratory air temperatures and calculation of respiratory heat loss when working at various ambient temperatures
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Department of Energy, Washington, DC.

- DOE/CEC Workshop on Critical Evaluation of Radiobiological Data to Biophysical Modeling
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- Understanding our genetic inheritance. The US Human genome project: The first five years, FY 1991-1995
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Department of the Navy, Washington, DC.

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- Garment pressurizing apparatus
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Deutsche Forschungs- und Versuchsanstalt fuer Luft- und Raumfahrt, Cologne (Germany, F.R.).

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Deutsche Forschungsanstalt fuer Luft- und Raumfahrt, Cologne (Germany, F.R.).

- Biochemical and physiological changes in glider pilots during multi-hour flights
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- Effects of a time zone shift of nine hours on the circadian rhythms in cockpit aircrew members on longhaul flights
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- Exogenous and endogenous control of activity behavior and the fitness of fish
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Deutsche Forschungsanstalt fuer Luft- und Raumfahrt, Hamburg (Germany, F.R.).

- The prediction of professional success of licenced pilots: The validity of flight experience in comparison with standardized psychological aptitude tests
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- Study of the application of a stress reactivity test in personnel selection
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Deutsche Forschungsanstalt fuer Luft- und Raumfahrt, Oberpfaffenhofen (Germany, F.R.).

- Test and training simulator for ground-based teleoperated in-orbit servicing
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Domier System G.m.b.H., Friedrichshafen (Germany, F.R.).

- DNSS: German/Norwegian work team Space Subsea. Environmental control and life support subsystems (technical matters), phase 2
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Dortmund Univ. (Germany, F.R.).

- Control of intelligent robots in space
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Douglas Aircraft Co., Inc., Long Beach, CA.

- Assessment of crew workload measurement methods, techniques and procedures. Volume 2: Guidelines for the use of workload assessment techniques in aircraft certification
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- Assessment of crew workload measurement methods, techniques and procedures. Volume 1: Process, methods and results
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Drexel Univ., Philadelphia, PA.

- Coordination in a hierarchical multi-actuator controller
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Duke Univ., Durham, NC.

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- Conference on The Perception of Structure Program and Abstracts
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Dynamics Research Corp., Wilmington, MA.

- MANPRINT methods monograph: Aiding the development of manned system performance criteria
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E**Eagle Technology, Inc., Winter Park, FL.**

- Development of a meta-analytic technique to assess stress effects
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Ecole Nationale Supérieure des Telecommunications, Paris (France).

- State of the art of human/machine dialog tool prototypes
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Edgerton, Germeshausen and Grier, Inc., Idaho Falls, ID.

- Human factors evaluation of electroluminescent display Number 1
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Embry-Riddle Aeronautical Univ., Daytona Beach, FL.

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Environmental Protection Agency, Research Triangle Park, NC.

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- Neurobehavioral effects of carbon monoxide (CO) exposure in humans: Elevated carboxyhemoglobin (COHb) and cerebrovascular responses
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Environmental Research Inst. of Michigan, Ann Arbor.

- Survey of ERIM approaches applicable to semi-automatic target detection and cueing for multispectral and multisensor exploitation
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Erasmus Univ., Rotterdam (Netherlands).

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Essex Corp., Orlando, FL.

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- Issues in development, evaluation, and use of the NASA Preflight Adaptation Trainer (PAT)
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European Office of Aerospace Research and Development, London (England).

- Accurate determination of the complex permittivity of biological tissue at 90 GHz, 70 GHz, and over a broad band around 35 GHz
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European Space Agency, Paris (France).

- Life science research in space
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- Biochemical and physiological changes in glider pilots during multi-hour flights
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European Space Agency. European Space Research and Technology Center, ESTEC, Noordwijk (Netherlands).

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F**Fairchild Space Co., Germantown, MD.**

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The 1989 Gordon Research Conference on Chronobiology [AD-A221972] p 309 N90-28322
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Naval Submarine Medical Research Lab., Groton, CT.

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Naval Surface Warfare Center, Dahlgren, VA.

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Naval Weapons Center, China Lake, CA.

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Navy Experimental Diving Unit, Panama City, FL.

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Navy Personnel Research and Development Center, San Diego, CA.

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Non-ejection neck injuries in high performance aircraft
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Netherlands Aerospace Medical Centre, Soesterberg.

Spatial disorientation incidents in the RNLAF F16 and F5 aircraft and suggestions for prevention
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New Mexico State Univ., Las Cruces.

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New South Wales Univ., Kensington (Australia).

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New South Wales Univ., Sydney (Australia).

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New York Inst. of Tech., Dania, FL.

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New York Univ., New York.

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New York Univ. Medical Center.

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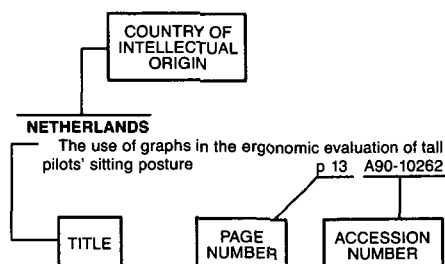
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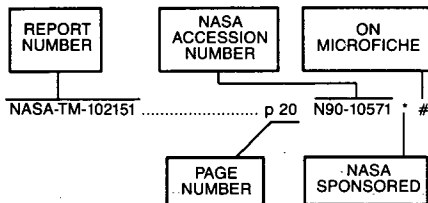
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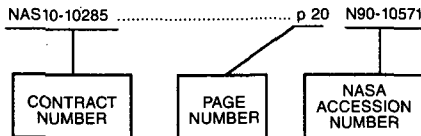
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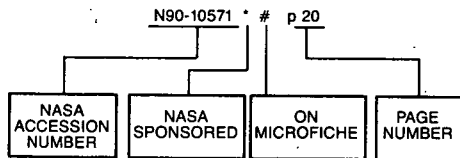
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