<table>
<thead>
<tr>
<th>Bibliography Number</th>
<th>STAR Accession Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA SP-7039(04) SEC 1</td>
<td>N69-20701 - N73-33931</td>
</tr>
<tr>
<td>NASA SP-7039(12) SEC 1</td>
<td>N74-10001 - N77-34042</td>
</tr>
<tr>
<td>NASA SP-7039(13) SEC 1</td>
<td>N78-10001 - N78-22018</td>
</tr>
<tr>
<td>NASA SP-7039(14) SEC 1</td>
<td>N78-22019 - N78-34034</td>
</tr>
<tr>
<td>NASA SP-7039(15) SEC 1</td>
<td>N79-10001 - N79-21993</td>
</tr>
<tr>
<td>NASA SP-7039(16) SEC 1</td>
<td>N79-21994 - N79-34158</td>
</tr>
<tr>
<td>NASA SP-7039(17) SEC 1</td>
<td>N80-10001 - N80-22254</td>
</tr>
<tr>
<td>NASA SP-7039(18) SEC 1</td>
<td>N80-22255 - N80-34339</td>
</tr>
<tr>
<td>NASA SP-7039(19) SEC 1</td>
<td>N81-10001 - N81-21997</td>
</tr>
<tr>
<td>NASA SP-7039(20) SEC 1</td>
<td>N81-21998 - N81-34139</td>
</tr>
<tr>
<td>NASA SP-7039(21) SEC 1</td>
<td>N82-10001 - N82-22140</td>
</tr>
<tr>
<td>NASA SP-7039(22) SEC 1</td>
<td>N82-22141 - N82-34341</td>
</tr>
<tr>
<td>NASA SP-7039(23) SEC 1</td>
<td>N83-10001 - N83-23266</td>
</tr>
<tr>
<td>NASA SP-7039(24) SEC 1</td>
<td>N83-23267 - N83-37053</td>
</tr>
<tr>
<td>NASA SP-7039(25) SEC 1</td>
<td>N84-10001 - N84-22526</td>
</tr>
<tr>
<td>NASA SP-7039(26) SEC 1</td>
<td>N84-22527 - N84-35284</td>
</tr>
<tr>
<td>NASA SP-7039(27) SEC 1</td>
<td>N85-10001 - N85-22341</td>
</tr>
<tr>
<td>NASA SP-7039(28) SEC 1</td>
<td>N85-22342 - N85-36162</td>
</tr>
<tr>
<td>NASA SP-7039(29) SEC 1</td>
<td>N86-10001 - N86-22536</td>
</tr>
<tr>
<td>NASA SP-7039(30) SEC 1</td>
<td>N86-22537 - N86-33262</td>
</tr>
<tr>
<td>NASA SP-7039(31) SEC 1</td>
<td>N87-10001 - N87-20170</td>
</tr>
<tr>
<td>NASA SP-7039(32) SEC 1</td>
<td>N87-20171 - N87-30248</td>
</tr>
<tr>
<td>NASA SP-7039(33) SEC 1</td>
<td>N88-10001 - N88-20253</td>
</tr>
<tr>
<td>NASA SP-7039(34) SEC 1</td>
<td>N88-20254 - N88-30583</td>
</tr>
</tbody>
</table>

This bibliography was prepared by the NASA Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by RMS Associates.
Indexes for the annotated references to NASA-owned inventions covered by U.S. patents and applications for patent that were announced in Scientific and Technical Aerospace Reports (STAR) between May 1969 and December 1988. This issue supersedes all previous Index Sections.
This supplement is available from the National Technical Information Service (NTIS), Springfield, Virginia 22161, price code A22.
INTRODUCTION

Several thousand inventions result each year from the aeronautical and space research supported by the National Aeronautics and Space Administration. The inventions having important use in government programs or significant commercial potential are usually patented by NASA. These inventions cover practically all fields of technology and include many that have useful and valuable commercial application.

NASA inventions best serve the interests of the United States when their benefits are available to the public. In many instances, the granting of nonexclusive or exclusive licenses for the practice of these inventions may assist in the accomplishment of this objective. This bibliography is published as a service to companies, firms, and individuals seeking new, licensable products for the commercial market.

The NASA Patent Abstracts Bibliography (NASA PAB) is a semiannual NASA publication containing comprehensive abstracts and indexes of NASA-owned inventions covered by U.S. patents and applications for patent. The citations included in NASA PAB were originally published in NASA's Scientific and Technical Aerospace Reports (STAR) and cover STAR announcements made since May 1969.

For the convenience of the user, each issue of NASA PAB has a separately bound Abstract Section (Section 1) and Index Section (Section 2). Although each Abstract Section covers only the indicated six-month period, the Index Section is cumulative covering all NASA-owned inventions announced in STAR since 1969. Thus a complete set of NASA PAB would consist of the Abstract Sections of Issue 04 (January 1974) and Issue 12 (January 1978) and the Abstract Section for all subsequent issues and the Index Section for the most recent issue.

The 124 citations published in this issue of the Abstract Section cover the period July 1988 through December 1988. The Index Section references over 4600 citations covering the period May 1969 through December 1988.

ABSTRACT SECTION (SECTION 1)

This PAB issue includes 10 major subject divisions separated into 76 specific categories and one general category/division. (See Table of Contents for the scope note of each category, under which are grouped appropriate NASA inventions.) This scheme was devised in 1975 and revised in 1987 in lieu of the 34 category divisions which were utilized in PAB supplements (01) through (06) covering STAR abstracts from May 1969 through January 1974. Each entry in the Abstract Section consists of a STAR citation accompanied by an abstract and, when appropriate, a key illustration taken from the patent or application for patent. Entries are arranged by subject category in order of the ascending NASA Accession Number originally assigned for STAR to the invention. The range of NASA Accession Numbers within each issue is printed on the inside front cover.

Abstract Citation Data Elements: Each of the abstract citations has several data elements useful for identification and indexing purposes, as follows:

- NASA Accession Number
- NASA Case Number
- Inventor's Name
- Title of Invention
- U.S. Patent Application Serial Number
- U.S. Patent Number (for issued patents only)
- U.S. Patent Office Classification Number(s) (for issued patents only)

These data elements are identified in the Typical Citation and Abstract and in the indexes.
INDEX SECTION (SECTION 2)

The Index Section is divided into five indexes. These indexes are cross-indexed and are used to locate a single invention or groups of inventions.

**Subject Index:** Lists all inventions according to appropriate alphabetized technical term and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Inventor Index:** Lists all inventions according to alphabetized names of inventors and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Source Index:** Lists all inventions according to alphabetized source of invention (i.e., name of contractor or government installation where invention was made) and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Number Index:** Lists inventions in order of ascending (1) NASA Case Number, (2) U.S. Patent Application Serial Number, (3) U.S. Patent Classification Number, and (4) U.S. Patent Number and indicates the related Subject Category Number and the Accession Number.

**Accession Number Index:** Lists all inventions in order of ascending Accession Number and indicates the related Subject Category Number, the NASA Case Number, the U.S. Patent Application Serial Number, the U.S. Patent Classification Number, and the U.S. Patent Number.

HOW TO USE THIS PUBLICATION TO IDENTIFY NASA INVENTIONS

To identify one or more NASA inventions within a specific technical field or subject, several techniques are possible with the flexibility incorporated into the NASA PAB.

1. **Using Subject Category:** To identify all NASA inventions in any one of the subject categories in this issue of NASA PAB, select the desired Subject Category in the Abstract Section (Section 1) and find the inventions abstracted thereunder.

2. **Using Subject Index:** To identify all NASA inventions listed under a desired technical subject index term, (A) turn to the cumulative Subject Index in the Index Section and find the invention(s) listed under the desired technical subject term. (B) Note the indicated Accession Number and the Subject Category Number. (C) Using the indicated Accession Number, turn to the inside front cover of the Index Section to determine which issue of the Abstract Section includes the Accession Number desired. (D) To find the abstract of the particular invention in the issue of the Abstract Section selected, (1) use the Subject Category Number to locate the Subject Category and (2) use the Accession Number to locate the desired invention within the Subject Category listing.

3. **Using Patent Classification Index:** To identify all inventions covered by issued NASA patents (not including applications for patent) within a desired Patent Classification, (A) turn to the Patent Classification Number in the Number Index of Section 2 and find the associated invention(s), and (B) follow the instructions outlined in (2)(B), and (D) above.
The improvement of the helicopter torque control system is discussed. At low to medium forward speeds helicopter performance is limited by the effectiveness of the means for counteracting main rotor torque and controlling sideslip airloads. These problems may be overcome by mounting strakes on the aft fuselage section. For single rotor helicopters whose main rotor rotates counter-clockwise as viewed from above, one of the strakes would be mounted in the upper lefthand quadrant and the second in the lower left hand quadrant. The strakes alter the air flow around the fuselage by separating the flow so as to produce lateral airloads on the tail boom which oppose main-rotor torque. The upper strake operates in a right crosswind to oppose main rotor torque, and the lower strake has effect in left crosswinds. The novelty of this invention resides in the simple and economical manner in which the helicopter tail boom may be modified by the addition of strakes in order to increase torque control, and reduce the need for supplemental mechanical means of torque control.

Official Gazette of the U.S. Patent and Trademark Office
Subject Categories

(1969 – 1973)

01 Aerodynamics
Includes aerodynamics of bodies, combinations, internal flow in ducts and turbomachinery; wings, rotors, and control surfaces. For applications see: 02 Aircraft and 32 Space Vehicles. For related information see also: 12 Fluid Mechanics; and 33 Thermodynamics and Combustion.

02 Aircraft
Includes fixed-wing airplanes, helicopters, gliders, balloons, ornithopters, etc.; and specific types of complete aircraft (e.g., ground effect machines, STOL, and VTOL); flight tests; operating problems (e.g., sonic boom); safety and safety devices; economics; and stability and control. For basic research see: 01 Aerodynamics. For related information see also: 31 Space Vehicles; and 32 Structural Mechanics.

03 Auxiliary Systems
Includes fuel cells, energy conversion cells, and solar cells; auxiliary gas turbines; hydraulic, pneumatic and electrical systems; actuators; and inverters. For related information see also: 09 Electronic Equipment; 22 Nuclear Engineering; and 28 Propulsion Systems.

04 Biosciences
Includes aerospace medicine, exobiology, radiation effects on biological systems; physiological and psychological factors. For related information see also: 05 Biotechnology.

05 Biotechnology
Includes life support systems, human engineering; protective clothing and equipment; crew training and evaluation, and piloting. For related information see also: 04 Biosciences.

06 Chemistry
Includes chemical analysis and identification (e.g., spectroscopy). For applications see: 17 Materials, Metallic; 18 Materials, Nonmetallic; and 27 Propellants.

07 Communications
Includes communications equipment and techniques; noise; radio and communications blackout; modulation telemetry; tracking radar and optical observation; and wave propagation. For basic research see: 23 Physics, General; and 21 Navigation.

08 Computers
Includes computer operation and programming; and data processing. For applications, see specific categories. For related information see also: 19 Mathematics.

09 Electronic Equipment
Includes electronic test equipment and maintainability; component parts, e.g., electron tubes, tunnel diodes, transistors, integrated circuitry; microminiaturization. For basic research see: 10 Electronics. For related information see also: 07 Communications and 21 Navigation.

10 Electronics
Includes circuit theory; and feedback and control theory. For applications see: 09 Electronic Equipment. For related information see specific Physics categories.

11 Facilities, Research and Support
Includes airports; lunar and planetary bases including associated vehicles; ground support systems; related logistics; simulators; test facilities (e.g., rocket engine test stands, shock tubes, and wind tunnels); test ranges; and tracking stations.

12 Fluid Mechanics
Includes boundary-layer flow; compressible flow; gas dynamics; hydrodynamics; and turbulence. For related information see also: 01 Aerodynamics; and 33 Thermodynamics and Combustion.

13 Geophysics
Includes aeronomy; upper and lower atmosphere studies; oceanography; cartography; and geodesy. For related information see also: 20 Meteorology; 29 Space Radiation; and 30 Space Sciences.

14 Instrumentation and Photography
Includes design, installation, and testing of instrumentation systems; gyroscopes; measuring instruments and gages; recorders, transducers; aerial photography; and telescopes and cameras.

15 Machine Elements and Processes
Includes bearings, seals, pumps, and other mechanical equipment; lubrication, friction, and wear; manufacturing processes and quality control; reliability; drafting; and materials fabrication, handling, and inspection.

16 Masers
Includes applications of masers and lasers. For basic research see: 26 Physics, Solid-State.

17 Materials, Metallic
Includes cermets; corrosion; physical and mechanical properties of materials; metallurgy; and applications as structural materials. For basic research see: 06 Chemistry. For related information see also: 18 Materials, Nonmetallic; and 32 Structural Mechanics.

18 Materials, Nonmetallic
Includes corrosion; physical and mechanical properties of materials (e.g., plastics); and elastomers, hydraulic fluids, etc. For basic research see: 06 Chemistry. For related information see also: 17 Materials, Metallic; 27 Propellants; and 32 Structural Mechanics.
19 Mathematics
Includes calculation methods and theory; and numerical analysis. For applications see specific categories. For related information see also: 08 Computers.

20 Meteorology
Includes climatology; weather forecasting; and visibility studies. For related information see also: 13 Geophysics; and 30 Space Sciences.

21 Navigation
Includes guidance; autopilots; star and planet tracking; inertial platforms; and air traffic control. For related information see also: 07 Communications.

22 Nuclear Engineering
Includes nuclear reactors and nuclear heat sources used for propulsion and auxiliary power. For basic research see: 24 Physics, Atomic, Molecular, and Nuclear. For related information see also: 03 Auxiliary Systems; and 28 Propulsion Systems.

23 Physics, General
Includes acoustics, cryogenics, mechanics, and optics. For astrophysics see: 30 Space Sciences. For geophysics and related information see also: 13 Geophysics, 20 Meteorology, and 29 Space Radiation.

24 Physics, Atomic, Molecular, and Nuclear
Includes atomic, molecular and nuclear physics. For applications see: 22 Nuclear Engineering. For related information see also: 29 Space Radiation.

25 Physics, Plasma
Includes magnetohydrodynamics. For applications see: 28 Propulsion Systems.

26 Physics, Solid-State
Includes semiconductor theory; and superconductivity. For applications see: 16 Masers. For related information see also: 10 Electronics.

27 Propellants
Includes fuels; igniters; and oxidizers. For basic research see: 06 Chemistry; and 33 Thermodynamics and Combustion. For related information see also 28 Propulsion Systems.

28 Propulsion Systems
Includes air breathing; electric; liquid; solid; and magnetohydrodynamic propulsion. For nuclear propulsion see: 22 Nuclear Engineering. For basic research see: 23 Physics, General; and 33 Thermodynamics and Combustion. For applications see: 31 Space Vehicles. For related information see also: 27 Propellants.

29 Space Radiation
Includes cosmic radiation; solar flares; solar radiation; and Van Allen radiation belts. For related information see also: 13 Geophysics, and 24 Physics, Atomic, Molecular, and Nuclear.

30 Space Sciences
Includes astronomy and astrophysics; cosmology; lunar and planetary flight and exploration; and theoretical analysis of orbits and trajectories. For related information see also: 11 Facilities, Research and Support; and 31 Space Vehicles.

31 Space Vehicles
Includes launch vehicles; manned space capsules; clustered and multistage rockets; satellites; sounding rockets and probes; and operating problems. For basic research see: 30 Space Sciences. For related information see also: 28 Propulsion Systems; and 32 Structural Mechanics.

32 Structural Mechanics
Includes structural element design and weight analysis; fatigue; thermal stress; impact phenomena; vibration; flutter; inflatable structures; and structural tests. For related information see also: 17 Materials, Metallic; and 18 Materials, Nonmetallic.

33 Thermodynamics and Combustion
Includes ablation, cooling, heating, heat transfer, thermal balance, and other thermal effects; and combustion theory. For related information see also: 12 Fluid Mechanics; and 27 Propellants.

34 General
Includes information of a broad nature related to industrial applications and technology, and to basic research; defense aspects; information retrieval; management; law and related legal matters; and legislative hearings and documents.
TABLE OF CONTENTS
Revised Subject Categories
(Includes 1974 and 1987 revisions)

AERONAUTICS
Includes aeronautics (general); aerodynamics; air
transportation and safety; aircraft communications and
navigation; aircraft design, testing and performance; air-
craft instrumentation; aircraft propulsion and power; air-
craft stability and control; and research and support
facilities (air).
For related information see also Aeronautics.

01 AERONAUTICS (GENERAL)

02 AERODYNAMICS
Includes aerodynamics of bodies, combinations,
wings, rotors, and control surfaces; and internal flow in
ducts and turbomachinery.
For related information see also 34 Fluid Mechanics
and Heat Transfer.

03 AIR TRANSPORTATION AND SAFETY
Includes passenger and cargo air transport operations;
and aircraft accidents.
For related information see also 16 Space Transporta-
tion and 85 Urban Technology and Transportation.

04 AIRCRAFT COMMUNICATIONS AND
NAVIGATION
Includes digital and voice communication with aircraft;
air navigation systems (satellite and ground based); and
air traffic control.
For related information see also 17 Space Communica-
tions, Spacecraft Communications, Command and Track-
ing and 32 Communications and Radar.

05 AIRCRAFT DESIGN, TESTING AND
PERFORMANCE
Includes aircraft simulation technology.
For related information see also 18 Spacecraft Design,

06 AIRCRAFT INSTRUMENTATION
Includes cockpit and cabin display devices; and flight
instruments.
For related information see also 19 Spacecraft In-
strumentation and 35 Instrumentation and Photography.

07 AIRCRAFT PROPULSION AND POWER
Includes prime propulsion systems and systems com-
ponents, e.g., gas turbine engines and compressors; and
onboard auxiliary power plants for aircraft.
For related information see also 20 Spacecraft Propul-
sion and Power, 28 Propellants and Fuels, and 44 Energy
Production and Conversion.

08 AIRCRAFT STABILITY AND CONTROL
Includes aircraft handling qualities; piloting; flight con-
trols; and autopilots.
For related information see also 05 Aircraft Design,
Testing and Performance.

09 RESEARCH AND SUPPORT
FACILITIES (AIR)
Includes airports, hangars and runways; aircraft repair,
and overhaul facilities; wind tunnels; shock tubes; and
aircraft engine test stands.
For related information see also 14 Ground Support
Systems and Facilities (Space).

ASTRONAUTICS
Includes astronautics (general); astrodynamics;
ground support systems and facilities (space); launch ve-
hicles and space vehicles; space transportation; space
communications, spacecraft communications, command
and tracking; spacecraft design, testing and performance;
spacecraft instrumentation; and spacecraft propulsion and
power.
For related information see also Astronautics.

12 ASTRONAUTICS (GENERAL)
For extraterrestrial exploration see 91 Lunar and Plan-
etary Exploration.

13 ASTRODYNAMICS
Includes powered and free-flight trajectories; and oth-
er orbital and launching dynamics.

14 GROUND SUPPORT SYSTEMS AND
FACILITIES (SPACE)
Includes launch complexes, research and production
facilities; ground support equipment, e.g., mobile trans-
porters; and simulators.
For related information see also 09 Research and Sup-
port Facilities (Space).

15 LAUNCH VEHICLES AND SPACE
VEHICLES
Includes boosters; operating problems of launch/spac-
vehicle systems; and reusable vehicles.
For related information see also 20 Spacecraft Propul-
sion and Power.

16 SPACE TRANSPORTATION
Includes passenger and cargo space transportation,
and rescue techniques.
For related information see also 03 Air Transportation
and Safety and 18 Spacecraft Design, Testing and Perfor-
ance. For space suits see 54 Man/System Technology
and Life Support.

17 SPACE COMMUNICATIONS,
SPACECRAFT COMMUNICATIONS,
COMMAND AND TRACKING
Includes telemetry; space communications networks;
and navigation and guidance, and radio blackout.
For related information see also 04 Aircraft Commu-
nications and Navigation and 32 Communications and Radar.
18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE
Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and attitude controls.
For life support systems see 54 Man/System Technology and Life Support. For related information see also 05 Aircraft Design, Testing and Performance, 39 Structural Mechanics, and 16 Space Transportation.

19 SPACECRAFT INSTRUMENTATION
For related information see also 06 Aircraft Instrumentation and 35 Instrumentation and Photography.

20 SPACECRAFT PROPULSION AND POWER
Includes main propulsion systems and components, e.g. rocket engines; and spacecraft auxiliary power sources.
For related information see also 07 Aircraft Propulsion and Power, 28 Propellants and Fuels, 44 Energy Production and Conversion, and 15 Launch Vehicles and Space Vehicles.

CHEMISTRY AND MATERIALS
Includes chemistry and materials (general); composite materials; inorganic and physical chemistry; metallic materials; nonmetallic materials; propellants and fuels; and materials processing.

23 CHEMISTRY AND MATERIALS (GENERAL)

24 COMPOSITE MATERIALS
Includes physical, chemical, and mechanical properties of laminates and other composite materials.
For ceramic materials see 27 Nonmetallic Materials.

25 INORGANIC AND PHYSICAL CHEMISTRY
Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry.
For related information see also 77 Thermodynamics and Statistical Physics.

26 METALLIC MATERIALS
Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

27 NONMETALLIC MATERIALS
Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials.
For composite materials see 24 Composite Materials.

28 PROPELLANTS AND FUELS
Includes rocket propellants, igniters and oxidizers; their storage and handling procedures; and aircraft fuels.
For related information see also 07 Aircraft Propulsion and Power, 20 Spacecraft Propulsion and Power, and 44 Energy Production and Conversion.

29 MATERIALS PROCESSING
Includes space-based development of products and processes for commercial application.
For biological materials see 55 Space Biology.

ENGINEERING
Includes engineering (general); communications and radar; electronics and electrical engineering; fluid mechanics and heat transfer; instrumentation and photography; lasers and masers; mechanical engineering; quality assurance and reliability; and structural mechanics.
For related information see also Physics.

31 ENGINEERING (GENERAL)
Includes vacuum technology; control engineering; display engineering; cryogenics; and fire prevention.

32 COMMUNICATIONS AND RADAR
Includes radar; land and global communications; communications theory; and optical communications.
For related information see also 04 Aircraft Communications and Navigation and 17 Space Communications, Spacecraft Communications, Command and Tracking. For search and rescue see 03 Air Transportation and Safety, and 16 Space Transportation.

33 ELECTRONICS AND ELECTRICAL ENGINEERING
Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry.
For related information see also 60 Computer Operations and Hardware and 76 Solid-State Physics.

34 FLUID MECHANICS AND HEAT TRANSFER
Includes boundary layers; hydrodynamics; fluidics; mass transfer and ablation cooling.
For related information see also 02 Aerodynamics and 77 Thermodynamics and Statistical Physics.

35 INSTRUMENTATION AND PHOTOGRAPHY
Includes remote sensors; measuring instruments and gages; detectors; cameras and photographic supplies; and holography.
For aerial photography see 43 Earth Resources and Remote Sensing. For related information see also 06 Aircraft Instrumentation and 19 Spacecraft Instrumentation.

36 LASERS AND MASERS
Includes parametric amplifiers.
For related information see also 76 Solid-State Physics.

37 MECHANICAL ENGINEERING
Includes auxiliary systems (nonpower); machine elements and processes; and mechanical equipment.

38 QUALITY ASSURANCE AND RELIABILITY
Includes product sampling procedures and techniques; and quality control.

39 STRUCTURAL MECHANICS
Includes structural element design and weight analysis; fatigue; and thermal stress.
GEOSCIENCES
Includes geosciences (general); earth resources and remote sensing; energy production and conversion; environment pollution; geophysics; meteorology and climatology; and oceanography.
For related information see also Space Sciences.

42 GEOSCIENCES (GENERAL)

43 EARTH RESOURCES AND REMOTE SENSING
Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography.
For instrumentation see 35 Instrumentation and Photography.

44 ENERGY PRODUCTION AND CONVERSION
Includes specific energy conversion systems, e.g., fuel cells; global sources of energy; geophysical conversion; and windpower.
For related information see also 07 Aircraft Propulsion and Power, 20 Spacecraft Propulsion and Power, and 28 Propellants and Fuels.

45 ENVIRONMENT POLLUTION
Includes atmospheric, noise, thermal, and water pollution.

46 GEOPHYSICS
Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism.
For space radiation see 93 Space Radiation.

47 METEOROLOGY AND CLIMATOLOGY
Includes weather forecasting and modification.

48 OCEANOGRAPHY
Includes biological, dynamic, and physical oceanography; and marine resources.
For related information see also 43 Earth Resources and Remote Sensing.

LIFE SCIENCES
Includes life sciences (general); aerospace medicine; behavioral sciences; man/system technology and life support; and space biology.

51 LIFE SCIENCES (GENERAL)

52 AEROSPACE MEDICINE
Includes physiological factors; biological effects of radiation; and effects of weightlessness on man and animals.

53 BEHAVIORAL SCIENCES
Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

54 MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT
Includes human engineering; biotechnology; and space suits and protective clothing.
For related information see also 16 Space Transportation.

55 SPACE BIOLOGY
Includes exobiology; planetary biology; and extraterrestrial life.

MATHEMATICAL AND COMPUTER SCIENCES
Includes mathematical and computer sciences (general); computer operations and hardware; computer programming and software; computer systems; cybernetics; numerical analysis; statistics and probability; system analysis; and theoretical mathematics.

59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)

60 COMPUTER OPERATIONS AND HARDWARE
Includes hardware for computer graphics, firmware, and data processing.
For components see 33 Electronics and Electrical Engineering.

61 COMPUTER PROGRAMMING AND SOFTWARE
Includes computer programs, routines, algorithms, and specific applications, e.g., CAD/CAM.

62 COMPUTER SYSTEMS
Includes computer networks and special applications computer systems.

63 CYBERNETICS
Includes feedback and control theory, artificial intelligence, robotics and expert systems.
For related information see also 54 Man/System Technology and Life Support.

64 NUMERICAL ANALYSIS
Includes iteration, difference equations, and numerical approximation.

65 STATISTICS AND PROBABILITY
Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.

66 SYSTEMS ANALYSIS
Includes mathematical modeling; network analysis; and operations research.

67 THEORETICAL MATHEMATICS
Includes topology and number theory.

PHYSICS
Includes physics (general); acoustics; atomic molecular physics; nuclear and high-energy physics; plasma physics; solid-state physics; and thermodynamics and statistical physics.
For related information see also Engineering.

70 PHYSICS (GENERAL)
For precision time and time interval (PTTI) see Instrumentation and Photography; for geophysics, troposphere or solar physics see 46 Geophysics, 90 Geophysics, or 92 Solar Physics.
71 ACOUSTICS
Includes sound generation, transmission, and attenuation.
For noise pollution see 45 Environment Pollution.

72 ATOMIC AND MOLECULAR PHYSICS
Includes atomic structure, electron properties, and molecular spectra.

73 NUCLEAR AND HIGH-ENERGY PHYSICS
Includes elementary and nuclear particles; and reactor theory.
For space radiation see 93 Space Radiation.

74 OPTICS
Includes light phenomena and optical devices.
For lasers see 36 Lasers and Masers.

75 PLASMA PHYSICS
Includes magnetohydrodynamics and plasma fusion.
For ionospheric plasmas see 46 Geophysics. For space plasmas see 90 Astrophysics.

76 SOLID-STATE PHYSICS
Includes superconductivity.
For related information see also 33 Electronics and Electrical Engineering and 36 Lasers and Masers.

77 THERMODYNAMICS AND STATISTICAL PHYSICS
Includes quantum mechanics; theoretical physics; and Bose and Fermi statistics.
For related information see also 25 Inorganic and Physical Chemistry and 34 Fluid Mechanics and Heat Transfer.

SOCIAL SCIENCES
Includes social sciences (general); administration and management; documentation and information science; economics and cost analysis; law, political science, and space policy; and urban technology and transportation.

80 SOCIAL SCIENCES (GENERAL)
Includes educational matters.

81 ADMINISTRATION AND MANAGEMENT
Includes management planning and research.

82 DOCUMENTATION AND INFORMATION SCIENCE
Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography.
For computer documentation see 61 Computer Programming and Software.

83 ECONOMICS AND COST ANALYSIS
Includes cost effectiveness studies.

84 LAW, POLITICAL SCIENCE AND SPACE POLICY
Includes NASA appropriation hearings; aviation law; space law and policy; international law; international cooperation; and patent policy.

85 URBAN TECHNOLOGY AND TRANSPORTATION
Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation.
For related information see 03 Air Transportation and Safety, 16 Space Transportation, and 44 Energy Production and Conversion.

SPACE SCIENCES
Includes space sciences (general); astronomy; astrophysics; lunar and planetary exploration; solar physics; and space radiation.
For related information see also Geosciences.

88 SPACE SCIENCES (GENERAL)

89 ASTRONOMY
Includes radio, gamma-ray, and infrared astronomy; and astrometry.

90 ASTROPHYSICS
Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust.
For related information see also 75 Plasma Physics.

91 LUNAR AND PLANETARY EXPLORATION
Includes planetology; and manned and unmanned flights.
For spacecraft design or space stations see 18 Spacecraft Design, Testing and Performance.

92 SOLAR PHYSICS
Includes solar activity, solar flares, solar radiation and sunspots.
For related information see 93 Space Radiation.

93 SPACE RADIATION
Includes cosmic radiation; and inner and outer earth's radiation belts.
For biological effects of radiation see 52 Aerospace Medicine. For theory see 73 Nuclear and High-Energy Physics.

GENERAL
Includes aeronautical, astronomical, and space science related histories, biographies, and pertinent reports too broad for categorization; histories or broad overviews of NASA programs.

99 GENERAL

Section 2 • Indexes

SUBJECT INDEX ................................................................. A-1
INVENTOR INDEX ............................................................ B-1
SOURCE INDEX ............................................................... C-1
CONTRACT NUMBER INDEX ............................................. D-1
NUMBER INDEX .............................................................. E-1
ACCESSION NUMBER INDEX ......................................... F-1
### SUBJECT INDEX

**NASA PATENT ABSTRACTS BIBLIOGRAPHY**

Section 2

#### Typical Subject Index Listing

<table>
<thead>
<tr>
<th>SUBJECT HEADING</th>
<th>ABSTRACTS</th>
<th>NOC TITLE</th>
<th>NASA CASE NUMBER</th>
<th>SUBJECT CATEGORY NUMBER</th>
<th>NASA ACCESSION NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABLATION</strong></td>
<td>Liquid-gas separator for zero gravity environment Patent</td>
<td>NASA-CASE-XMS-01492</td>
<td>05</td>
<td>N70-41297</td>
<td></td>
</tr>
<tr>
<td><strong>ABSORPTION</strong></td>
<td>Ablative system [NASA-CASE-LEW-10539]</td>
<td>33</td>
<td>N72-25911</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablative system [NASA-CASE-LEW-10539-2]</td>
<td>33</td>
<td>N73-25652</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Absorption and application process [NASA-CASE-LAR-1049-1]</td>
<td>24</td>
<td>N70-24290</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Dual measurement absorption sensor [NASA-CASE-LAR-10105-1]</td>
<td>34</td>
<td>N74-15662</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Intumescent-ablator coatings using endothermic fillers [NASA-CASE-ARC-11043-1]</td>
<td>24</td>
<td>N78-27180</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Cork-resin ablative insulations for complex surfaces and method for applying the same [NASA-CASE-LEW-25306-1]</td>
<td>24</td>
<td>N80-26388</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Coupling for linear shaped charge Patent [NASA-CASE-XLA-00169]</td>
<td>33</td>
<td>N70-36846</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Composite seal for turbomachinery Patent [NASA-CASE-LWR-12131-3]</td>
<td>37</td>
<td>N82-19540</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablation resistance</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Potassium silicate zinc coatings</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Process for producing a well-adhered durable optical coating on an optical plastic substrate — abrasion resistant polymer</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Sandblasting nozzle</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablation sensor Patent [NASA-CASE-XLA-01794]</td>
<td>37</td>
<td>N71-15925</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Hypersonic test facility Patent [NASA-CASE-XLA-01794]</td>
<td>31</td>
<td>N70-42070</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablation sensor Patent [NASA-CASE-XLA-01794]</td>
<td>31</td>
<td>N71-21475</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablation sensor Patent [NASA-CASE-XLA-01794]</td>
<td>33</td>
<td>N71-21586</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablation system [NASA-CASE-LEW-10359]</td>
<td>33</td>
<td>N72-25911</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Method for making holes in composite materials [NASA-CASE-MSF-26044-1]</td>
<td>31</td>
<td>N73-25491</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>ABSORBENTS</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Liquid-gas separator for zero gravity environment Patent [NASA-CASE-XMS-01492]</td>
<td>05</td>
<td>N70-41297</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablative system [NASA-CASE-LEW-10539]</td>
<td>33</td>
<td>N72-25911</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Ablative system [NASA-CASE-LEW-10539-2]</td>
<td>33</td>
<td>N73-25652</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Absorption and application process [NASA-CASE-LAR-1049-1]</td>
<td>24</td>
<td>N70-24290</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Dual measurement absorption sensor [NASA-CASE-LAR-10105-1]</td>
<td>34</td>
<td>N74-15662</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Intumescent-ablator coatings using endothermic fillers [NASA-CASE-ARC-11043-1]</td>
<td>24</td>
<td>N78-27180</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Cork-resin ablative insulations for complex surfaces and method for applying the same [NASA-CASE-LEW-25306-1]</td>
<td>24</td>
<td>N80-26388</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCELERATION</strong></td>
<td>Coupling for linear shaped charge Patent [NASA-CASE-XLA-00169]</td>
<td>33</td>
<td>N70-36846</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The subject heading is a key to the subject content of the document. A brief description of the document, e.g., title, title plus a title extension, or Notation of Content (NOC), is included for each subject entry to indicate the subject heading context; these descriptions are arranged under each subject heading in ascending accession number order. The NASA Case Number serves as the prime access number to the patent documents. The Subject Category Number indicates the category in Section 1 (Abstracts) in which the patent citation and abstract are located. The NASA accession number denotes the number by which the citation is identified within the subject category.
ACCEPABILITY

Apparatus for controlling the velocity of an electromechanical drive for intercomactors and the like

[NASA-CASE-XGS-03532] c 14 N71-17672

Conductional filtering device Patent

[NASA-CASE-HQX-10786] c 14 N71-30265

Sample

Angular velocity and acceleration measuring apparatus

[NASA-CASE-ERG-0096] c 14 N72-25410

Temperature compensated digital inertial sensor -- circuit for maintaining inertial element of gyroscope or accelerometer at constant position

[NASA-CASE-NPO-13044-1] c 35 N74-15094

Accelerometer telemetry system

[NASA-CASE-ARC-10849-1] c 17 N76-23947

ACCEPTABILITY

Cross correlation array detection system

[NSASCASE-ARC-11263-1] c 39 N78-17295

ACCEPTOR MATERIALS

III-v photocathode with nitrogen doping for increased quantum efficiency

[NASA-CASE-NPO-12134-1] c 33 N76-31409

ACCIDENT PREVENTION

Stress avoidance system

[NASA-CASE-NPO-15351-1] c 06 N83-10040

ACCOMMODATION

Visual accommodation trainer-tester

[NASA-CASE-ARC-11426-1] c 09 N84-12193

ACCUMLATORS

Direct radiolysis cooling of the collector of linear beam tubes

[NASA-CASE-XMF-09207-1] c 15 N69-24519

Small signal Patent

[NASA-CASE-XLE-00065] c 28 N70-41992

Small phase probe Patent

[NASA-CASE-XLE-00078] c 25 N71-20747

Electrostatic collector for charged particles

[NASA-CASE-LEW-11192-1] c 07 N73-13028

[NASA-CASE-MFS-15827-1] c 34 N77-30399

Method for fabricating solar cells having integrated collector circuit

[NASA-CASE-LER-12189-2] c 44 N78-19444

[NASA-CASE-MSC-15433-1] c 52 N81-28740

Urane collection device

[NASA-CASE-ARC-11031-1] c 52 N81-29763

Multistage depressed collector for dual mode operation -- for microwave transmitting tubes

[NASA-CASE-LEW-13282-1] c 33 N82-24415

Multistage spent particle collector and a method for making same

[NASA-CASE-LEW-13194-1] c 37 N85-35349

ACETALS

Synthesis of polymeric acetaldehyde by reaction of acetals and acrylic compounds Patent

[NASA-CASE-XNP-20205] c 06 N71-11243

ACETATES

Thermoclastic rubber comprising ethylene-vinyl acetate copolymer, asphalt, and fluxing oil

[NASA-CASE-NPO-08835-1] c 06 N71-11243

ACETYLENE

Diacycloxyethylene polymers Patent

[NASA-CASE-XNP-20520] c 06 N71-23500

Polyphenylkynoxanes containing pendant phenylthiol and ethylene groups -- for thermoplastic resin

[NASA-CASE-LAR-12839-1] c 27 N83-34040

Acetylene (ethylen) terminated polystyrene and process for preparation thereof

[NASA-CASE-LAR-13138-1] c 27 N87-14516

Ethynyl terminated oligomer polymers and polymers thereof

[NASA-CASE-LAR-13112-1] c 27 N87-16907

ACOUSTIC ATTENUATION

Ultrasound calibration device -- for producing changes in acoustical attenuation and phase velocity

[NASA-CASE-LAR-11451-1] c 35 N76-15432

Acoustic guide for noise-transmission testing of aircraft

[NASA-CASE-LAR-13111-CU] c 71 N78-21652

ACOUSTIC DUCTS

Noise suppressor -- for tubegir for brotonating annular acoustical porous elements in exhaust and inlet ducts

[NASA-CASE-LAR-11141-1] c 07 N74-32418

ACOUSTIC EMISSION

Acoustic emission frequency discrimination

[NASA-CASE-MSC-20467-1] c 35 N88-25966

Method and apparatus for background signal reduction in opto-acoustic measurement

[NASA-CASE-NPO-13986-1] c 35 N77-14411

Difference in acoustical displacement

[NASA-CASE-NPO-17395-1] c 74 N78-17867

Stark cell acoustical detection of constituent gasmix in engine


Stark effect spectrophotometer for continuous absorption spectra monitoring -- a technique for gas analysis


Coherently pulsed laser source

[NASA-CASE-NPO-11441-1] c 36 N82-29586

ACRYLATES

Bischromic Patent

[NASA-CASE-KLE-05913] c 33 N71-14032

ACRYLONITRILES

Method for microforming polyacrylonitrile fibers

[NASA-CASE-ARC-11261-1] c 24 N83-35789

ACTIVATED CARBON

Seawage settle additive

[NASA-CASE-NPO-13877-1] c 45 N82-11634

ACTIVATION ENERGY

Heat activated catalyst

[NASA-CASE-LEW-11359] c 03 N71-28579

Method of making emt cell

[NASA-CASE-LEW-11359-2] c 03 N72-20034

ACTUATION

Magnetically actuated compressor

[NASA-CASE-GSC-12789-1] c 31 N85-21404

ACTUATOR DISKS

Cryogenic gyroscopic housing -- with annular disks for gas supply

[NASA-CASE-MFS-21136-1] c 35 N74-18323

ACTUATORS

Electromechanical actuator

[NASA-CASE-XNP-05975] c 15 N69-21815

Bimetallic power controlled actuator patent

[NASA-CASE-NPO-16142-1] c 09 N69-39939

Gas actuated bolt discount Patent

[NASA-CASE-XLA-00326] c 03 N70-34687

Hermatically sealed explosive release mechanism Patent

[NASA-CASE-XGS-00624] c 15 N71-16078

Bursting flow control Patent

[NASA-CASE-MFS-12915] c 11 N71-17600

Controllers Patent

[NASA-CASE-WMS-12487] c 15 N71-23255

Mechanical actuator Patent

[NASA-CASE-XNS-04549] c 15 N71-24045

Vacuum actuator Patent

[NASA-CASE-MSC-11871-1] c 15 N71-29611

Electromechanical control actuator system Patent

[NASA-CASE-ERC-10022] c 15 N71-26055

Energy limiter for hydraulic actuators Patent

[NASA-CASE-ARC-10151] c 15 N71-27754

Telemetry actuated switch Patent

[NASA-CASE-ARC-10105] c 09 N72-11713

Mechanically activated hand

[NASA-CASE-MFS-20413] c 15 N72-21483

Hermetically sealed elbow actuator Patent

[NASA-CASE-MFS-20413] c 09 N72-22195

Ball screw linear actuator

[NASA-CASE-MPO-11222] c 15 N72-25456

Gas operated actuator

[NASA-CASE-MPO-10244] c 15 N72-26371

Gas actuated actuator Patent

[NASA-CASE-MFS-20413] c 15 N72-33477

Redundant hydraulic control system for actuators

[NASA-CASE-MFS-20413] c 15 N73-13466

Mechanical actuator Patent

[NASA-CASE-XNP-11369] c 15 N73-13467

Manual actuator -- for spacecraft exercises mechanics

[NASA-CASE-MFS-21481-1] c 37 N74-18127

Optically actuated two position mechanical mover

[NASA-CASE-NPO-13015-1] c 37 N74-21965

Optically output voltaged tubular actuation system

[NASA-CASE-LEW-12419-1] c 07 N77-14025

Actuator device for artificial leg

[NASA-CASE-MFS-22222] c 52 N77-14733

Cyclical bi-directional rotary actuator

[NASA-CASE-GSC-11863-1] c 37 N77-19467

Actuator mechanism

[NASA-CASE-GSC-11863-1] c 37 N78-31428

Pressure limiting propellant actuating system

[NASA-CASE-ERC-10022] c 37 N78-33710

Phase-angle controller for Stirling engines

[NASA-CASE-NPO-14388-1] c 30 N78-37827

Electrical servo actuator -- full controll on jet engines

[NASA-CASE-FRC-11044-1] c 37 N81-33488

Hydraulic actuator -- for transmission control to aircraft propeller movements through dual input commands

[NASA-CASE-LAR-12412-1] c 08 N82-24243

Tubing and cable Patent

[NASA-CASE-LAR-12796-1] c 37 N84-28803
AIRCRAFT ACCIDENTS

AIRCRAFT ANTIMAGNUS

AIRCRAFT COMPARTMENTS

AIRCRAFT CONFIGURATIONS

AIRCRAFT CONSTRUCTION MATERIALS

AIRCRAFT CONTROL

AIRCRAFT CONTROL SYSTEMS

AIRCRAFT DETECTION

AIRCRAFT ENGINES

AIRCRAFT ENGINEERING

AIRCRAFT EQUIPMENT

AIRCRAFT HAZARDS

AIRCRAFT INTERCEPTION

AIRCRAFT LANDING

AIRCRAFT LAUNCHING DEVICES

AIRCRAFT MAINTENANCE

AIRCRAFT MODIFICATIONS

AIRCRAFT NOISE

AIRCRAFT PILOTS

AIRCRAFT STABILITY

AIRCRAFT STRESS

AIRCRAFT SYSTEMS

AIRCRAFT TAKE-OFF PERFORMANCE

AIRCRAFT TECHNOLOGY

AIRCRAFT TRIM

AIRCRAFT UNITS

AIRCRAFT VIBRATION

AIRCRAFT VISION

AIRCRAFT WEAPONS
SUBJECT INDEX

CATHODE RAY TUBES
Method
of making an ion beam sputter-etched
ventricular catheter for hydrocephalus shunt
[NASA-CASE-LEW-13107-2]
c 52 N84-23095
CATHODE RAY TUBES
Single or joint amplitude distribution
analyzer
Patent
[NASA-CASE-XNP-01383]
c 09 N71-10659
Display for binary characters
Patent
[NASA-CASE-XGS-04987]
c 08 N71-20571
Electron beam tube containing a multiple cathode array
employing
indexing
means for cathode
substitution
Patent
[NASA-CASE-NPO-10625]
c 09 N71-26182
Color television systems using a single gun color cathode
ray tube Patent
[NASA-CASE-ERC-10098]
c 09 N71-28618
High contrast cathode ray tube
[NASA-CASE-ERC-10468]
c 09 N72-20206
Digital video display system using cathode ray tube
[NASA-CASE-NPO-11342]
c 09 N72-25248
CRT blanking and brightness control circuit
[NASA-CASE-KSC-10647-1]
c 10 N72-31273
Display system
[NASA-CASE-ERC-10350]
c 14 N73-20474
Very high intensity light source using a cathode ray tube
--- electron beams
[NASA-CASE-XNP-01296]
CATHODES

c 33

N75-27250

Ion thruster cathode Patent Application
[NASA-CASE-LEW-10814-1]
c 28 N70-35422
Electronic cathode having a brush-like structure and a
relatively thick oxide emissive coating Patent
[NASA-CASE-XLE-04501]
c 09 N71-23190
Heat activated cell with alkali anode and alkali salt
electrolyte Patent
[NASA-CASE-LEW-11358]
c 03 N71-26084
Ion thruster with a combination keeper electrode and
electron baffle
[NASA-CASE-NPO-11880]
c 28 N73-24783
Storage battery comprising negative plates o1 a wedge
shaped configuration --- for preventing shape change
induced malfunctions
[NASA-CASE-NPO-11806-1]
c 44 N74-19693
Method and apparatus for rebalancing a REDOX flow
cell system
[NASA-CASE-LEW-14127-1J
c 33 N86-20680
Apparatus for mounting a field emission cathode
[NASA-CASE-LEW-14108-1]
c 33 N87-28832
CATIONS
Ionene membrane separator
[NASA-CASE-NPO-11091]
c 18 N72-22567
Viscoelastic cationic polymers containing the urethane
linkage
[NASA-CASE-NPO-10830-1]
c 27 N81-15104
Procedure to prepare transparent silica gels
[NASA.CASE-LAR-13476-1-CU]
c 76 N87-29360
CAVITATION
FLOW
Semitoroidal diaphragm cavitating valve Patent
[NASA-CASE-XNP-09704]
c 12 N71-18615
CAVITIES
Black body cavity radiometer
Patent
[NASA-CASE-NPO-10810]
c 14 N71-27323
Method of coating through-holes Patent
[NASA-CASE-XMF-05999]
c 15 N71-29032
Burrowing apparatus
[NASA-CASE-XNP-07169]
c 15 N73-32362
Method of constructing dished ion thruster grids to
provide hole array spacing compensation
[ NASA-CASE*LEW- t 1876-1 ]
c20
N76-21276
Method of making hollow elastomeric bodies
[NASA-CASE-NPO-13535-1]
c 37 N76-31524
Method and apparatus for producing concentric hollow
spheres --- inertial confinement fusion targets
[NASA-CASE-NPO-14596-t
]
c 31 N81-33319
Cavity-backed, micro-strip dipole antenna array
[ NASA-CASE-MSC- 18606-1 ]
c32
N82-11336
High performance channel injection sealant invention
abstract
[NASA-CASE-ARC-t4408-t
J
c 27 N82-33523
Maser cavity servo-tuning system
[NASA-CASE-NPO-15890-1-CUI
c 33 N85-29143
CAVITY RESONATORS
Helical coaxial resonator RF filter
[NASA-CASE-XGS-O2816]
c 07 N69-24323
System for improving signal-to-noise
ratio of a
communication signal Patent Application
[NASA-CASE-MSC-12259-1]
c 07 N70-12616
Temperature-compensating
means for cavity resonator
of amplifier Patent
[NASA-CASE-XNP-00449]
c 14 N70-35220
Holder for crystal resonators Patent
[NASA.CASE-XNP.03637]
c 15 N71-21311
System for improving signal-to-noise
ratio of a
communication signal
[NASA-CASE-MSC-12259-2]
c 07 N72-33146
Infrared tunable laser
[NASA-CASE-ARC-10463-1|

A-20

c 09

N73-32111

Tunable cavity resonator with ramp shaped supports
[NASA-CASE-HQN-10790-1]
c 36 N74-11313
Laser apparatus
[NASA-CASE-GSC-t2237-1]

c 36

N80-t4384

Laser Resonator
[NASA-CASE-GSC-12565-1]

c 36

N84-14509

Off-axis coherently pumped laser
[NASA-CASE-GSC-12592-1]

c 36

N84-28065

Maser cavity servo-tuning system
[NASA-CASE.NPO-t5890-1-CU]

c 33

N85-29143

CELESTIAL BODIES
Device for determining relative angular position between
a spacecraft and a radiation emitting celestial body
[NASA-CASE-GSC-11444-1
]
c 14 N73-28490
Position determination systems --- using orbital antenna
scan of celestial bodies
[NASA-CASE-MSC-12593-1]
c 17 N76-21250
CELESTIAL NAVIGATION
Radiant energy intensity measurement system Patent
[NASA-CASE-XNP-06510J
c 14 N71-23797
CELL ANODES
Heat activated

cell Patent

[NASA-CASE-LEW-11359]
c 03
Method of making emf cell
[NASA-CASE-LEW-11359-2]
c 03
Electrically rechargeable REDOX flow cell
[ NASA-CASE-LEW-12220-1
]
c 44
CELL DIVISION
Process for control of cell division

N71-28579

[NASA-CASE-LAR-tO773-3]
CELLS

N77-25769

c 51

N72-20034
N77-14581

Mixture separation cell Patent
[NASA-CASE-XMS-02952]
c 18 N71-20742
CELLS (BIOLOGY)
System for and method of freezing biological tissue
[NASA-CASE-GSC-12173-1]
c 51 N79-10694
Method for separating biological cells --- suspended in
aqueous polymer systems
[NASA-CASE-MF$-23883-1]
c 51 N80-16715
Electrophoresis device
[ NASA-CASE-MFS-25426t ]
c25
N83-10126
CELLULOSE
Process of treating cellulosic membrane and alkaline
with membrane separator
[NASA-CASE-GSC-10019-1]
c 44 N82-24641
Separator
for alkaline
electric cells and method of
making
[ NASA-CASE-GSC- 10017- t ]
c44
N82-24643
Alkaline electrochemical
cells and method of making
[NASA-CASE-GSC-10349-1]
c 44 N82-24645
Aqueous alkali metal hydroxide insoluble cellulose ether
membrane
[NASA-CASE-XGS-05584-1]
CELLULOSE NITRATE
Oxidation
materials

c 25

resistant slurry coating

for

[NASA-CASE-LEW-13923-1]
CENTERBODIES

N82-29370

carbon-based

c 26

N85-35267

Multi-body aircraft with an all-movable center fuselage
actively controlling fuselage pressure drag
[NASA-CASE-LAR-13511-1]
c 05 N88-23765
CENTRAL PROCESSING
UNITS
Pipelined digital SAR
FFT-transversal filter

azimuth correlator

[NASA-CASE-NPO-15519-t
]
CENTRIFUGAL
COMPRESSORS
Centrifugal-reciprocating
[NASA-CASE-NPO-14597-2]
CENTRIFUGAL
FORCE

using hybrid

c 32

N84-34651

c 37

N84-28081

compressor

Counter pumping debris excluder and separator
turbine shaft seals
[NASA-CASE-LEW-11855-1]
CENTRIFUGES

c 07

--- gas

N78-25090

Unfired-ceramic

flame-resistant

insulation and method

of making the same Patent
[NASA-CASE-XMF-01030]
c 18 N70-41583
Ceramic insulation for radiant heating environments and
method of preparing the same Patent
[NASA-CASE-MFS-t4253]
c 33 N71-24858
Method of making a cermet Patent
[NASA-CASE-LEW-10219-1]
c 18 N71-28729
Two-component
ceramic coating for silica insulation
[NASA-CASE-MSC-14270-1]
c 27 N76-22377
Three-component
ceramic coating for silica insulation
[NASA-CASE-MSC-14270-2]
c 27 N76-23426
Spray coating apparatus having a rotatable workplace
holder
[NASA-CASE.ARC-11110-t]
c 37 N82.24492
Laser surface fusion of plasma sprayed ceramic turbine
seals
[NASA-CASE-LEW-13269-t]
c 18 N83-20996
Thermal
barrier coating system
having improved
adhesion
[NASA-CASE-LEW-1335901]
c 27 N83-31855
Thermal barrier coating system
[NASA-CASE-LEW-13324-2|
c 24 N85-21266
Ceramic-ceramic shell tile thermal protection system and
method thereof
[NASA-CASE-ARC-11641-1|
c 24 N88-18628
CERAMIC HONEYCOMBS
Ceramic
honeycomb
structures
and the method
thereof
[NASA-CASE-ARC-11652-1|
c 27 N87-23737
CERAMIC MATRIX COMPOSITES
Fiber reinforced ceramic material
[NASA-CASE-LEW-14392-2]
c 27 N87-27810
Method of preparing fiber reinforced ceramic matedal
[NASA-CASE-LEW-14392-1]
c 27 N87-28656
CERAMIC NUCLEAR FUELS
Method of making a cermet Patent
[NASA-CASE-LEW-10219-1]
c 18 N71-28729
CERAMICS
Transpiration cooled turbine blade manufactured from
wires Patent
[NASA-CASE-XLE-00020]
c 15 N70-33226
Foamed in place ceramic refractory insulating material
Patent
[NASA-CASE-XGS-02435]
c 18 N71-22998
Method for fibedzing ceramic matadals Patent
[NASA-CASE-XNP-00597]
c 18 N71-23088
Method of coating through-holes Patent
[NASA-CASE-XMF-05999]
c 15 N71-29032
Extrusion can
[NASA-CASE-NPO-t08t2]
c 15 N73-13464
Thermal shock resistant hafnia ceramic matadal
[NASA-CASE-LAR-10894-1]
c 18 N73.14584
Thermal shock and erosion resistant tantalum carbide
ceramic material
[NASA-CASE-LAR-11902-1
]
c27
N78-17206
High temperature
resistant
cermet
and ceramic
compositions --- for thermal
resistant insulators
and
refractory coatings
[NASA-CASE-NPO-13690-1]
c 27 N78-19302
Thermal insulation attaching means --- adhesive bonding
of felt vibration insulators under ceramic tiles
[NASA-CASE-MSC-12619-2]
c 27 N79-12221
High temperature
resistant cermet
and
ceramic
compositions
[NASA-CASE.NPO-13690-2|
c 27 N79-14213
Sandblasting nozzle
[NASA-CASE-NPO-13823-1]
c 37 N81-2537t
Fully plasma-sprayed compliant backed ceramic turbine
seal
[NASA-CASE-LEW-13268-2]
c 37 N82-26674
Fully plasma-sprayed compliant backed ceramic turbine
seal
[NASA-CASE-LEW-13268-1]
c 27 N82-29453

Centrifuge mounted motion simulator Patent
[NASA-CASE-XAC-00399]
c 11 N70-34815
Separator
Patent
[NASA-CASE-XLA-00415]
c 15 N71-16079

Absorbable-susceptor joining of ceramic surfaces
[NASA-CASE-NPO-15640t ]
c27
N84-22748

Centrifugal lyophobic separator
[NASA-CASE-LAR-10194-1]
Fluid control apparatus and method
[NASA-CASE-LAR-t
t 110-1 ]

Shell tile thermal protection system
[NASA-CASE-LAR-12862-1]
Fiber reinforced ceramic matedal

c 27

N84-27886

[NASA-CASE-LEW-14392-2|

c 27

N87-27810

c 34

N74-30608

c 34

N75-26282

Bioeentrifuge system capable of exchanging specimen
cages while in operational mode
[NASA-CASE-MFS-23825-1]
c 51 N81-32829
CERAMIC BONDING
Method of making a diffusion bonded refractory coating
Patent
[NASA-CASE-XLE-01604-2]
c 15 N71.15610
Method of forming ceramic to meta_ seal Patent
[NASA-CASE-XNP-01263-2]
c 15 N71-26312
Composite piston
[NASA-CASE-LAR-t3435-1]
c 37
N88-23981
CERAMIC COATINGS
Evaporant holder
[NASA-CASE-XLA-03105]

c 15

N69-27483

Method of fabricating an abradable
[NASA*CASE-LEW-13269-2]

Boron-containing organosilane
materials thereof
[NASA-CASE-ARC-11649-t-SBJ
CEREBROSPINAL
FLUID
Ion beam
sputter-etchod
hydrocephalus shunt
[NASA-CASE.LEW-13107-1]

gas path seal
c 37 N84-22957

polymers and ceramic
c 27

ventdcular
c 52

N88-29040
catheter

for

N83-21785

Method
of making an ion beam
sputter-etched
ventdcular catheter for hydrocephalus shunt
[NASA-CASE-LEW-13107-2]
c 52 N84-23095
CERMETS
Process of casting heavy slips Patent
[NASA-CASE-XLE-00106]
c 15

N71-16076


CHEMICAL REACTORS

Solar heated fluidized bed gasification system
[NASA-CASE-NPO-15071-1] c 44 N82-16475
Thermal reactor — liquid silicon production from silane gas
[NASA-CASE-NPO-14369-1] c 44 N82-10501
Pressure löttermethod and device for coal conversion systems
[NASA-CASE-NPO-15100-1] c 44 N82-45183
Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials
[NASA-CASE-LAR-15081-1] c 37 N85-26152
Remotely controlled combustion system
[NASA-CASE-MFS-28153-1] c 36 N86-32589

CHEMICAL TESTS
Nondestructive spot test method for titanium and titanium alloys
[NASA-CASE-LAR-10539-1] c 17 N73-12547
Nondestructive spot test method for magnesium and magnesium alloys
[NASA-CASE-LAR-10953-1] c 37 N73-27446
Chemical approach for controlling radium dice cure temperature and rate

CHEMILUMINESCENCE
Method and apparatus for eliminating luminescence interference material
[NASA-CASE-MSC-16260-1] c 51 N80-16714

CHEMISORPTION
Oxygen chemisorption cryogenic refrigerator
[NASA-CASE-NPO-16734-1-CU] c 31 N86-14222

CHEMOTHERAPY
Indomethacin antilastamine combination for gastric ulceration control
[NASA-CASE-ARC-11181-2] c 52 N81-14613
CHIPs (ELECTRONIC)
Head for high speed spinner having a vacuum chuck — holding silicon dice chips for etching
[NASA-CASE-ARC-10221-2] c 37 N81-33482
Liquid immersion apparatus for minute articles
[NASA-CASE-MFS-25363-1] c 37 N82-12441

CHIRP SIGNALS
Method for shaping and aiming narrow beams — sonar mapping and target identification
[NASA-CASE-NPO-14632-1] c 32 N82-18443

CHLORIDES
The 5-(4-Ethynylphenoxy) isophthalic chloride
[NASA-CASE-LAR-13316-2] c 27 N87-14515

CHLORINATION
Specialized halogen generator for purification of water
[NASA-CASE-ARC-XLA-09912] c 14 N71-26933
Coal desulfurization by aqueous chlorination
[NASA-CASE-NPO-14902-1] c 25 N82-29371
Hydrodesulfurization of chlorinated coal

CHLORINE
Fluorinated bed desulfurization

CHLOROPRENE RESINS
Flexible free radical polysoprene modified nitrile foam — for thermal protective devices
[NASA-CASE-ARC-10180-1] c 27 N74-12614

CHOKES
Current dependent ferrite inductor
[NASA-CASE-ERC-10129] c 09 N72-17154

CHOKES (RESTRICTIONS)
Varially positioned guide vanes for aerodynamic choking
[NASA-CASE-LAR-10642-1] c 07 N74-31270

CHOLESTEROL
Reduction of blood serum cholesterol
[NASA-CASE-NPO-11219-1] c 52 N75-15270

CHROMATOGRAPHY
Chromato-fluorographic drug detector — device for detecting and recording fluorescent properties of materials
[NASA-CASE-ARC-10603-1] c 25 N74-29647
Modulated voltage metallization ionization detector
[NASA-CASE-NAR-11503-1] c 35 N85-34374

CHROMIUM
Selective coating for solar panels — using black chrome and black nickel
[NASA-CASE-LEW-12159-1] c 44 N78-19599
Efficient of silicon solar cells containing chromium
[NASA-CASE-NPO-11517-1] c 44 N82-26577
Process for improving moisture resistance of epitaxy rears by silicon oxidation deposition
[NASA-CASE-LAR-13226-1] c 27 N85-34262
Negative electrode catalyst for the iron chromix redox energy storage system
[NASA-CASE-LEW-14029-1] c 44 N86-19721

CHROMIUM ALLOYS
Method of heating age-hardenable alloys
[NASA-CASE-XNP-01311] c 26 N75-29236

Nicalir ternary alloy having improved cylic oxidation resistance
[NASA-CASE-LEW-13339-1] c 26 N82-11505

CHROMIUM COMPOUNDS
Chromium electrophoretic deposition for REDOX cells
[NASA-CASE-LEW-13653-1] c 44 N94-28205

CHROMOSOMES
Automated clinical system for chromosome analysis
[NASA-CASE-NPO-13913-1] c 52 N79-12694

CINEMATOGRAPHY
High speed photographic time recording
[NASA-CASE-KSC-10294] c 14 N72-18411
Holographic motion picture camera with Doppler shift compensation
[NASA-CASE-MFS-22517-1] c 35 N76-18402

CIRCUIT BOARDS
Electric feedthrough connection for printed circuit boards and printed cable
[NASA-CASE-XMF-21483] c 14 N76-27341
Printable cable connector for Patent
[NASA-CASE-XMF-20369] c 19 N70-36494
Printed circuit board with bellows rivet connection Patent
[NASA-CASE-XNP-05082] c 15 N70-41960
Electric spot terminal assembly Patent
[NASA-CASE-NPO-10034] c 15 N71-17665
Polyamide resin-fiberglass cloth laminates for printed circuit boards
[NASA-CASE-MFS-20408] c 18 N73-12604

CIRCUIT BREAKERS
Mercury capillary interrupter Patent
[NASA-CASE-MSC-10291-1] c 12 N71-20896
Diode and protection fuse unit Patent
[NASA-CASE-XKS-03091] c 09 N71-22796
Separation simulator Patent
[NASA-CASE-XKS-04631] c 10 N71-26636
Delaying servomotor Patent
[NASA-CASE-XNP-06096] c 15 N71-24955
Circuit breaker utilizing magnetic latching relays Patent
[NASA-CASE-XSC-11277] c 33 N75-27249
Multiple circuit protector device Patent
[NASA-CASE-XSM-07244] c 33 N75-27249
Solar concentrator protective system Patent
[NASA-CASE-NPO-15662-1] c 44 N84-28204

CIRCUIT DIAGRAMS
Evolution and detection circuitry for a flux responsive magnetic head
[NASA-CASE-XNP-04183] c 09 N69-24329
Signal multiplexer
[NASA-CASE-XGS-01110] c 07 N69-24324
Ring counter
[NASA-CASE-XGS-00395] c 07 N69-24643
Solid state switch
[NASA-CASE-XNP-09228] c 09 N69-27500
Ultra long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent
[NASA-CASE-XGS-00381] c 09 N70-34819
Frequency shift keyed demodulator Patent
[NASA-CASE-XGS-02291] c 10 N71-11282
Difference circuit Patent
[NASA-CASE-XNP-08274] c 10 N71-13557
High voltage transistor circuit Patent
[NASA-CASE-XNP-06937] c 15 N71-19516
Weld control system using hermochromic wave Patent
[NASA-CASE-MFS-06074] c 15 N70-23093
Correlation function apparatus Patent
[NASA-CASE-XNP-00746] c 09 N71-21476
Diode and protection fuse unit Patent
[NASA-CASE-KSC-03381] c 09 N71-22796
Microcircuit multiplier
[NASA-CASE-XLA-09943] c 15 N72-27485
Self-regulating proportionally controlled heating apparatus and method for heating bodies Patent
[NASA-CASE-GSC-11752-1] c 77 N50-2140

SUBJECT INDEX
A-37

**DIFFERENTIAL PRESSURE**

Relief valve

[NASA-CASE-XMS-05894] c 15 N69-21924

Apparatus for ejection of an instrument cover

[NASA-CASE-XMF-04132] c 15 N69-27502

Differential sound level meter

[NASA-CASE-LAR-12106] c 71 N78-14867

Differential optical acetone detector

[NASA-CASE-NPO-13759] c 74 N78-17767

System for use in conducting wake investigation for a wing in flight — differential pressure measurements for drag investigations

[NASA-CASE-FRC-11024] c 02 N80-28300

**DIFFERENTIATORS**

Window comparator

[NASA-CASE-FRC-10090] c 33 N78-18308

**DIFFRACTION**

Optical mirror apparatus Patent

[NASA-CASE-ERC-10001] c 23 N71-24686

**DIFFRACTION PATTERNS**

Fringe counter for interferometers Patent

[NASA-CASE-LAR-10204] c 14 N71-27215

**DIFFRACTOMETERS**

Do not purpose optical instrument capable of simultaneous viewing as spectrometer and diffractometer

[NASA-CASE-XNP-05231] c 14 N78-28491

**DIFFUSE RADIATION**

Transmitting and reflecting diffuser — using ultraviolet grade to silica coatings

[NASA-CASE-LAR-10883] c 74 N78-15879

**DIFFUSERS**

Application of semiconductor diffusants to solar cells by screen printing

[NASA-CASE-LEW-12775] c 44 N79-11468

Diffuser/vacuum system for a very high vacuum environment

[NASA-CASE-MFS-25791] c 09 N84-27749

**DIFFUSION**

A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application

[NASA-CASE-LEW-10077] c 09 N70-11148

Metallic film diffusion for boundary layer Patent

[NASA-CASE-XLE-10037] c 15 N71-24046

Transmitting and reflecting diffuser — for ultraviolet light

[NASA-CASE-LAR-10385] c 70 N74-13436

**DIFFUSION PUMPS**

Trap for preventing diffusion pump backstreaming

[NASA-CASE-GSC-10518] c 15 N72-22489

Programmable physiological injection

[NASA-CASE-ARC-10471] c 52 N74-22771

**DIFFUSION WELDING**

Thermal compression bonding of interconnectors

[NASA-CASE-GSC-10303] c 15 N72-22487

Bonding of reinforced Teflon to metals

[NASA-CASE-LEW-20482] c 15 N72-22492

Enhanced diffusion welding

[NASA-CASE-LEW-11398] c 15 N73-32535

Method of fluxless plating and diffusion bonding of aluminum containing components

[NASA-CASE-MSC-14435] c 37 N76-15455

Superplastically formed diffusion bonded metallic structure

[NASA-CASE-FRC-11026] c 24 N82-24296

**DIGITAL**

Difusely reflecting points including polytetrafluoroethylene and method of manufacture

[NASA-CASE-GSC-12883] c 27 N85-29044

**DIGITAL COMMAND SYSTEMS**

Digitally controlled frequency synthesizer Patent

[NASA-CASE-XGS-02317] c 15 N71-22525

System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent

[NASA-CASE-XMF-08686] c 09 N71-24855

Digital filter for reducing sampling jitter in digital control systems Patent

[NASA-CASE-NPO-11068] c 08 N71-29034

**DIGITAL COMPUTERS**

Disk pack cleaning table Patent Application

[NASA-CASE-LEW-10500] c 15 N70-26819

Binary number sorter Patent

[NASA-CASE-NPO-10121] c 15 N71-26525

Binary sequence detector Patent

[NASA-CASE-XNP-05415] c 08 N71-24505

Electronic checkout system for space vehicles Patent

[NASA-CASE-KXS-02748] c 31 N71-15566

Error correcting method and apparatus Patent

[NASA-CASE-XNP-02748] c 08 N71-22749

Digital integrator Patent

[NASA-CASE-NPO-10150] c 08 N71-24505

Digital memory sense amplifying means Patent

[NASA-CASE-XLE-01010] c 08 N71-28925

Redundant memory organization Patent

[NASA-CASE-GSC-10564] c 10 N71-29315
ENGINE COOLANTS

ENGINE INLETS

ENGINE FAILURE

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE DESIGN

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS

ENGINE DRAWINGS

ENGINE COOLANTS

ENGINE INLETS

ENGINE ENGINEERING

ENGINE NOISE

ENGINE PARTS

ENGINE STARTERS

ENGINE TESTS
Module failure isolation circuit for paralleled inverters — preventing system failure due to power conditioning for spacecraft applications

Faulty actuator system failure detector and correction system

Adaptive control system for motor startup

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Adaptive system for motor startup

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system

Faulty actuator system failure detector corrective action system
FREQUENCY MEASUREMENT

- Phase-locked loop
- Frequency discriminator
- Frequency counter
- Frequency meter

FREQUENCY DIVIDERS

- Binary frequency divider
- Frequency divider
- Frequency modulator

FREQUENCY DISTRIBUTION

- Frequency distribution
- Frequency multiplier
- Frequency modulator

FREQUENCY MEASUREMENT

- Frequency measurement
- Frequency meter
- Frequency counter

FREQUENCY MODULATORS

- Frequency modulator
- Frequency modulator
- Frequency modulator

FREQUENCY MODULATION

- Frequency demodulator
- Frequency modulator
- Frequency modulator

FREQUENCY MULTIPLIERS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MULTIPLING

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUALLY EXCLUSIVE

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSION

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIVE

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSION

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier

FREQUENCY MUTUAL EXCLUSIONS

- Frequency multiplier
- Frequency multiplier
- Frequency multiplier
GASEOUS ROCKET PROPULSANTS
Ion rocket Patent
[NASA-CASE-XLE-00376] c 28 N70-37245
Continued detonation reaction engine Patent
[NASA-CASE-XLE-01286] c 28 N71-22983

GASES
Gas liquefaction and dispensing apparatus Patent
[NASA-CASE-NO-P00107] c 15 N71-27372
Observation window for a gas containing chamber
[NASA-CASE-NPO-10690] c 11 N73-12265
Combustion detector
[NASA-CASE-LAR-10739-1] c 14 N73-16484
Low gravity phase separator
[NASA-CASE-MISC-14173-1] c 35 N78-12390
Water separator
[NASA-CASE-XMS-01259-1] c 37 N79-21345

GASKETS
Cylindrical gasket for vacuum use Patent
[NASA-CASE-XLE-00341] c 15 N70-41626
Reinforced polyquinoxaline gasket and method of preparing the same — preventing to ionzing radiation and light rays Patent
[NASA-CASE-MFS-21364-1] c 37 N74-18126
Process for preparing perfluorocarbons elastomers and precursors thereof
[NASA-CASE-ARC-11402-1] c 27 N84-22744

GATES/CIRCUITS
Flux switching device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent
[NASA-CASE-XLE-01286] c 28 N70-41625
SCR blocking pulse gate amplifier Patent
[NASA-CASE-SWS-01475] c 33 N79-12154
Logic AND gate for fluid circuits Patent
[NASA-CASE-XLE-07391] c 12 N71-17579
Synchrotron trigger Patent
[NASA-CASE-XGS-02440] c 08 N79-19432
Increasing efficiency of switching type regulator circuits Patent
[NASA-CASE-XMS-09352] c 23 N79-23136
Memory device for two-dimensional radiant energy array computers Patent
[NASA-CASE-GSC-11839-2] c 60 N70-10709
Transformer regulated self-stabilizing chopper
[NASA-CASE-XGE-05196] c 33 N78-12725
Controller for computer control of brushless dc motors — automobiles machines
[NASA-CASE-MFS-1350-1] c 33 N80-20552
Combutional logic for generating gate drive signals for phase control rectifiers
[NASA-CASE-XLE-25008-1] c 33 N83-10435
Pulsed phased locked loop strain monitor — voltage controlling oscillators
[NASA-CASE-LAR-12771-1] c 33 N83-16626
FET charge sensor and voltage probe
[NASA-CASE-XPO-16045-1] c 06 N76-13313

GATES/OPENING
Film feed camera having a detent means Patent
[NASA-CASE-LAR-10688] c 14 N74-29355

GAW-APRIL
Areal shape for flight at subsonic speeds — design analysis and aerodynamic characteristics of the GAW-1 airfoil
[NASA-CASE-LAR-10585-1] c 02 N76-22154

GEAR TEETH
Wobble gear drive mechanism — for aerospace environment
[NASA-CASE-W00-00625] c 37 N78-17385
Bell for transmitting power from a cogged drive member to a cogged driven member
[NASA-CASE-GSC-12269-1] c 37 N80-32717

GEARS
Precision stepping drive Patent
[NASA-CASE-MFS-14772] c 15 N71-17692
Bidirectional step torque filter with zero backlash characteristic Patent
[NASA-CASE-XGS-04227] c 15 N71-21744
Self-lubricating gears and other mechanical patents
[NASA-CASE-MFS-14971] c 15 N71-24984
Concentric differential gearing arrangement Patent
[NASA-CASE-ARC-10462-1] c 37 N74-27901
Sequence device utilizing planetary gear set
[NASA-CASE-ARC-1351-1] c 26 N78-22496
Power control for hot gas engines
[NASA-CASE-NPO-1420-1] c 37 N81-14318
Clutchless multiple drive source for output shaft
[NASA-CASE-ARC-11325-1] c 37 N82-22496
Directional gear ratio transmissions
[NASA-CASE-XMS-12644-1] c 37 N84-22084
Linear force device

GELATION
Method of controlling a resin curing process — for fiber reinforced composite
[NASA-CASE-MSC-21169-1] c 27 N87-25473

GELLED ROCKET PROPULSANTS
Process of forming particles in a cryogenic propellant
[NASA-CASE-NPO-10250] c 23 N71-16212

GELS
Intermittent type silica gel adsorption regenerator Patent
[NASA-CASE-XMF-00929] c 15 N71-15906
Cellular thermosetting polymers and processes for making them
[NASA-CASE-GSC-13008-1] c 27 N88-23894
Method of dispensing reagent chemicals in space
[NASA-CASE-LAR-15607-1-CU] c 29 N88-29048

GENERAL AVIATION AIRCRAFT
Exploitation active environment areas
[NASA-CASE-LAR-12624-1] c 01 N83-35992

GENERATORS
Apparatus for establishing flow of a fluid mass having a known velocity
[NASA-CASE-MFS-21244-1] c 34 N74-27730
Continuous linear smoke generator
[NASA-CASE-LAR-13014-1] c 09 N85-21176
A digitally controlled system for effecting and presenting a selected electrical resistance
[NASA-CASE-MFS-21491-1] c 33 N87-29737

GEODESY
Geodetic distance measuring apparatus

GEOSATELLITES
Geodetic distance measuring apparatus
[NASA-CASE-GSC-12609-1] c 36 N83-22344

GEOMETRICS
Geodetic distance measuring apparatus
[NASA-CASE-GSC-12609-1] c 36 N83-22344

GEOLOGICAL ASSESSMENT
Borehole seismic assessment
[NASA-CASE-NPO-14231-1] c 46 N80-10709
Geological assessment probe
[NASA-CASE-GSC-14558-1] c 46 N80-24906

GEOMETRY
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel
[NASA-CASE-ARC-11505-1] c 18 N84-22612
Ice detector
[NASA-CASE-LAR-13776-1] c 35 N88-29149

GERMANIUM
Germanium coated microbridge and method
[NASA-CASE-MFS-23274-1] c 33 N78-13320

GERMANIUM ALLOYS
Improved properties of SiGe/GaAl alloys
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

GIBBALS
Gimballed, partially submerged rocket nozzle Patent
[NASA-CASE-XMF-01544] c 28 N70-34162
Acorn latching system Patent
[NASA-CASE-XMF-01669] c 21 N71-23289
Passive caging mechanism Patent
[NASA-CASE-ARC-1369-1] c 15 N71-24694
Hermetic sealed vibration damper Patent
[NASA-CASE-MSC-10596] c 15 N71-25243
Bearing and gimbal lock mechanism and spiral flex lead module Patent
[NASA-CASE-GSC-10556-1] c 31 N71-26537
Detection and control means for improved drift performance of a gimbaled platform system Patent
[NASA-CASE-MFS-23551-1] c 04 N76-26715

AUTONOMOUS navigation system — gyroscopic pendulum for air navigation
[NASA-CASE-ARC-11257-1] c 04 N81-21047

Aircraft body-axis rotation measurement system Patent
[NASA-CASE-FRC-11043-1] c 06 N83-33885

GLANDS (SEALS)
Spiral groove seal Patent
[NASA-CASE-LAR-13026-2] c 21 N72-29488
Circumferential seal Patent
[NASA-CASE-LEW-12192-1] c 37 N81-26447

GLASS
Method for producing a solar cell having an integral protective coating
[NASA-CASE-MSC-14971-1] c 03 N89-24207
Reduced gravity liquid configuration simulator
[NASA-CASE-XLE-00359] c 12 N89-3996
Silicon solar cell with cover glass bonded to cell by metal pattern Patent
[NASA-CASE-XLE-00569] c 03 N71-23446
Apparatus for applying cover slides
[NASA-CASE-MISC-10576] c 03 N72-25016
Glass-to-metal seals comprising high expansion metals
[NASA-CASE-LEW-10698-1] c 37 N74-2106
HEAT TRANSFER

Method of forming superalloys [NASA-CASE-LEW-10805-1] c 15 N73-13465
Method of making pressure tight seal for super alloy [NASA-CASE-XMP-010170-1] c 15 N73-13465
Method of forming articles of manufacture from superalloy powders [NASA-CASE-LEW-10805-2] c 37 N74-13177
Refactory porcelian amall passive control coating for high temperature alloys [NASA-CASE-LEW-12783-1] c 27 N75-27160
Cermet composition and method of fabrication --- refractory resistant alloys and powders [NASA-CASE-NPO-11311] c 37 N76-15311
Metallic hot wire anemometer --- for high speed wind tunnels [NASA-CASE-ARC-10011] c 29 N77-20400
Method of growing composites of the type exhibiting the Sorot effect --- improved structure of eutectic alloy crystals [NASA-CASE-MFS-22926-1] c 24 N77-27167
Directionally solidified eutectic gamma plus nickel-base superalloys [NASA-CASE-LEW-12780-1] c 26 N77-22820
Directionally solidified eutectic gamma-matrix nickel-base superalloys [NASA-CASE-LEW-12951-1] c 26 N78-18193
Coating with overlay metallic-cermet alloy systems [NASA-CASE-LEW-13639-2] c 28 N84-27655

HEAT SENSING INSTRUMENT

Electroexplosive device [NASA-CASE-LEW-12950-2] c 34 N87-29179
Hypersonic reentry vehicle [NASA-CASE-XMP-0414] c 23 N70-43344
Synthesis of polymeric Schiff bases by reaction of alicates and amine compounds Patent [NASA-CASE-XMS-04065] c 06 N71-11242
Lightweight refractory insulation and method of preparing the same Patent [NASA-CASE-XSM-05792] c 18 N71-16124
Thermal barrier suppression --- shielding junctions between spacecraft control surfaces and structures [NASA-CASE-LEW-13634-2] c 37 N71-31560
Multiwall thermal protection system [NASA-CASE-LAR-12601-1] c 24 N82-32417
High temperature silicon carbide ingregated insulating fabrics [NASA-CASE-LEW-12928-1] c 37 N83-17890
Multivarial thermal protection system [NASA-CASE-LAR-12601-2] c 24 N82-32417
Constant temperature heat sink for calorimeters Patent [NASA-CASE-XMP-02087] c 09 N70-41177
Compact pulsed laser having improved heat conducitance [NASA-CASE-XMP-04068] c 33 N71-29051
Tablet sublimation evaporator heat sink [NASA-CASE-Arc-10912] c 27 N77-19353
Compact pulsed laser having improved heat conducitance [NASA-CASE-XNP-13141] c 36 N77-25502
Ornepsonic airflow heating missile [NASA-CASE-LEW-13631-1] c 15 N82-31260
Electroexplosive device [NASA-CASE-XNP-13856-1] c 28 N79-11231

HEAT SOURCE

Thermal control canister [NASA-CASE-GSC-12923] c 34 N79-31523
Heat pipe thermal switch [NASA-CASE-LAR-13528] c 34 N79-31523

HEAT STORAGE

Solar energy trap [NASA-CASE-MFS-04744] c 44 N76-24966
Thermal energy storage system --- operating on superheating of liquids [NASA-CASE-MFS-12516-1] c 44 N76-31667
Satellite solar pond [NASA-CASE-XNP-05808] c 44 N84-34792
Stable density stratification solar pond [NASA-CASE-NPO-15419] c 44 N85-30474
Thermal storage canister [NASA-CASE-KNP-00463] c 33 N70-36847
Sandwich panel construction Patent [NASA-CASE-XLA-00048] c 33 N70-36847
Apparatus for transferring cryogenic liquids Patent [NASA-CASE-XLE-03045] c 15 N70-28020
Method of improving heat transfer characteristics in a nucleate boiling process Patent [NASA-CASE-XMS-04268] c 33 N71-22467
Temperature control system for spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Heat exchanger [NASA-CASE-MFS-22991-1] c 34 N71-10463
Heat pipe with dual working fluids [NASA-CASE-ARC-10198] c 34 N71-17363
Electrically heated control coating [NASA-CASE-NPO-11192] c 10 N71-17363
Apparatus for sensing temperature [NASA-CASE-XNP-05320] c 14 N71-27410
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
Electroexplosive device [NASA-CASE-XNP-11192] c 33 N73-32065
Thermal control system for a spacecraft modular housing [NASA-CASE-GSC-10118] c 31 N73-30829
METHODS

Image magnification adapter for cameras Patent

Atmospheric autorotating imaging device

Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current

System for producing chroma signals

Image tube --- deriving electron beam replica of image

Rhomboid prism pair for rotating the plane of parallel light beams

Atmospheric imaging system

Method and apparatus for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen

Imaging techniques

Aperture tracking system

System for improving the optical quality of an image

Delta Kappa synthetic aperture radar

High speed multi aperture radar

Aromatic cyclotriphosphazenes

Optical mirror apparatus Patent

Aromatic amino-substituted bicyclic polynitride

Impact energy absorbing system utilizing fuel-air mixture

Airborne spectrometer

Impulse energy absorption in polymeric materials

Impact energy absorbing system utilizing a fuel-air mixture

Impact energy absorbing system utilizing fuel-air mixture

Impact energy absorption system utilizing flammable fuel

Impact energy absorption system utilizing fire sustaining fuel

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeric materials

Impact energy absorption in polymeri...
ION CONCENTRATION
Deposition of alloy films — on irregularly shaped metal object
[NASA-CASE-LEW-11262-1] c 27 N74-13270
ION CURRENTS
System for monitoring the presence of neutrals in a stream of ions Patent
[Is-ION] c 24 N71-20518
ION CYCLOTRON RADIATION
Ion and electron detector for use in an ICR spectrometer
[NASA-CASE-NPO-13479-1] c 35 N77-10492
ION DENSITY (CONCENTRATION)
Method and apparatus for measurement of trap density and energy distribution in dielectric films
[NASA-CASE-LEW-10541-1] c 76 N76-20944
ION ENGINES
Ion thruster cathode
[NASA-CASE-XLE-00708] c 06 N97-39889
High-vacuum condenser tank for ion rocket test Patent
[NASA-CASE-LEW-50018] c 11 N70-33278
Ion thruster cathode Patent Application
[NASA-CASE-LEW-10641-1] c 28 N70-35422
Rocket engine Patent
[NASA-CASE-LEW-00376] c 28 N70-37245
Ion engine Patent
[NASA-CASE-00342] c 28 N70-37980
Thrust dynamometer Patent
[NASA-CASE-XLE-00702] c 14 N70-40203
Double optic system for ion engine Patent
[Is-ION] c 28 N70-41922
Electrostatic ion engine having a permanent magnetic circuit Patent
[NASA-CASE-XLE-00114] c 28 N71-14043
Electrostatic ion rocket engine Patent
[NASA-CASE-LEW-00519] c 28 N70-41576
System for monitoring the presence of neutrals in a stream of ions Patent
[NASA-CASE-LEW-00592] c 29 N70-20518
Construction and method of arranging a plurality of ion engines to form a cluster Patent
[NASA-CASE-LEW-00942] c 28 N71-23293
Ion thruster accelerator system Patent
[NASA-CASE-LEW-10106-1] c 28 N70-26642
Propellant loaded ion thruster Patent
[NASA-CASE-LEW-10210-1] c 28 N70-26781
High efficiency ion engine Patent
[NASA-CASE-LEW-02593] c 28 N70-26843
Feed system for an ion thruster Patent
[NASA-CASE-LEW-00737] c 28 N70-27265
Ion thruster with a provision of keeper electrode and electron baffle Patent
[NASA-CASE-LEW-00266] c 28 N71-23190
ION ACCELERATION
Ion engine casing construction and method of making same Patent
[NASA-CASE-00694] c 28 N71-23293
Ion thruster accelerator system Patent
[NASA-CASE-LEW-10106-1] c 28 N70-26642
Propellant loaded ion thruster Patent
[NASA-CASE-LEW-10210-1] c 28 N70-26781
High efficiency ion engine Patent
[NASA-CASE-LEW-02593] c 28 N70-26843
Feed system for an ion thruster Patent
[NASA-CASE-LEW-00737] c 28 N70-27265
Ion thruster with a provision of keeper electrode and electron baffle Patent
[NASA-CASE-LEW-00266] c 28 N71-23190
Single grid accelerator for an ion thruster Patent
[NASA-CASE-XLE-00860] c 28 N73-24783
Single grid accelerator for an ion thruster Patent
[NASA-CASE-XLE-10453-2] c 28 N73-27699
Transport of making ion thruster Patent
[NASA-CASE-LEW-00686] c 28 N75-18317
Method of constructing dished ion thruster grids to provide hole array spacing compensation Patent
[NASA-CASE-LEW-11876-1] c 20 N76-21762
Precision tunable resonant microwave cavity Patent
[NASA-CASE-LEW-11393-1] c 33 N77-21234
ION EXCHANGE MEMBRANE ELECTROLYTES
Method of making membranes
[NASA-CASE-XNP-04264] c 03 N97-21337
Ion-exchange membrane with platinum electrode assembly Patent
[NASA-CASE-XNP-04063] c 03 N97-20904
Formulated plastic electrodes for solid electrolyte cells — rubber-ion transport membranes
[NASA-CASE-LEW-12358-1] c 33 N77-12313
Insoluble polyethylene and ion-exchange hollow fiber impregnated therewith
Method of making formulated plastic separators for solid electrolyte cells
[NASA-CASE-LEW-12358-2] c 25 N82-21687
Method and apparatus for rebalancing a REDOX flow cell system
[NASA-CASE-LEW-14127-1] c 33 N86-20800
ION EXCHANGE RESINS
Inorganic-organic separators for alkaline batteries
[NASA-CASE-XLE-12649-1] c 44 N77-25630
Dialysis system using ion-exchange resins membranes permeable to urea molecules
[NASA-CASE-NPO-14101-1] c 52 N80-14687
ION SOURCES
Membranes consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer
[NASA-CASE-NPO-14001-1] c 27 N81-14076
ION EXCHANGING
Membranes consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer
[NASA-CASE-NPO-14001-1] c 27 N81-14076
Ion-exchange membrane Patent
[NASA-CASE-NPO-13009-1] c 25 N81-19244
ION EXTRACTION
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field
[NASA-CASE-LEW-12495-1] c 25 N76-25148
Ion beam accelerator system Patent
[NASA-CASE-NPO-15547-1] c 72 N84-16599
Ion generator and ion application system Patent
[NASA-CASE-MFS-28122-1] c 28 N84-24253
ION IMPLANTATION
Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation
[NASA-CASE-G SC-12515-1] c 33 N81-26360
ION INTERACTION
Modification of the electrical and optical properties of polymers — ion irradiation to create texture
[NASA-CASE-LEW-13027-1] c 28 N80-24437
Ion-beam nitrating of steels
[Is-ION] c 28 N80-25818
ION PROPULSION
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent
[NASA-CASE-XMF-00092] c 28 N70-36002
Rocket engine Patent
[NASA-CASE-XLE-00376] c 28 N70-37245
Rocket engine Patent
[NASA-CASE-LEW-00342] c 28 N70-37980
Method of producing porous tungsten ionizers for ion rocket engines Patent
[NASA-CASE-XLE-00455] c 28 N70-38197
Method for improving the efficiency of ion engines Patent
[NASA-CASE-XNP-02839] c 28 N70-41922
Electron bombardment ion engine Patent
[NASA-CASE-XNP-40142] c 28 N71-21822
Ion beam deflector Patent
[NASA-CASE-LEW-10689-1] c 28 N71-26173
Ion thruster accelerator Patent
[NASA-CASE-LEW-10106-1] c 28 N70-26642
Feed system for an ion thruster Patent
[NASA-CASE-LEW-10770-1] c 28 N72-11709
Ion thruster magnetic field control Patent
[NASA-CASE-LEW-10835-1] c 28 N72-22771
Method of making dished ion thruster grids
[NASA-CASE-LEW-11694-1] c 20 N75-18310
Apparatus for forming dished ion thruster grids Patent
[NASA-CASE-LEW-11694-2] c 37 N76-14461
Anode for ion thruster
[NASA-CASE-LEW-12049-1] c 20 N77-20162
Closed loop solar array-ion thruster system with power control circuitry Patent
[NASA-CASE-LEW-12790-1] c 20 N79-20179
A dc to dc converter
[NASA-CASE-MFS-25430-1] c 34 N84-16543
Ring-cusp ion thruster with shell anode
[NASA-CASE-LEW-13881-1] c 20 N85-21256
ION SOURCES
Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump
[NASA-CASE-NPO-13663-1] c 35 N77-14406
ION SOURCES
Focusing system for an ion source having apertured electrodes Patent
[NASA-CASE-NPO-14001-1] c 27 N81-14076
JOINTS (JUNCTIONS)

JOINTS (ANATOMY)

JOINING

Spacecraft joint assembly [NASA-CASE-LAR-13610-1] c 05 N77-32349
Microstructure attached to substrates --- X-ray concentrator [NASA-CASE-MFS-28206-1] c 76 N88-25356
Multilayer porous ionizer [NASA-CASE-ARC-11301-1] c 12 N71-49845
Laminar flow [NASA-CASE-ARC-11301-1] c 12 N71-17631

KALMAN FILTERS

KINETIC ENERGY

KINETIC FRICTION

KNOTTING

LABORATORY EQUIPMENT

LADDER

LAMINAR FLOW

LAMINATES

LANCE

LAGUARDS

LAMINATES

LAMINAR FLOW AIRFOILS

LAMINATES

LAMINATES

LAMINATES

LAMINATES

LAMINATES

LAMINATES

LAMINATES

LAMINATES

LAMINATING
LASER FLUID DENSITY DETECTOR Patent
[NASA-CASE-XAC-10770-1] c 16 N71-24828

LASER CELLS WITH LASER MATERIALS Patent
[NASA-CASE-XA-03410] c 16 N71-25941

LASER AND LASER DETECTORS Patent
[NASA-CASE-GSC-10216-1] c 23 N71-26722

LASER OPTICAL COMPONENTS Patent
[NASA-CASE-MF-10641-2] c 15 N71-27135

LASER OPTICAL WAVEGUIDE Patent
[NASA-CASE-HQ-10641-2] c 16 N71-27183

LASER POWER SPECTROSCOPY Patent
[NASA-CASE-ESC-10216-1] c 23 N71-26722

LASER PUMPING Patent
[NASA-CASE-HQ-10541-2] c 15 N71-27135

LASER PROCESSES Patent
[NASA-CASE-GSC-10216-1] c 23 N71-26722

LASER RANGER TRACKER Patent
[NASA-CASE-XK-10641-2] c 15 N71-27135

LASER SPECTROMETERS Patent
[NASA-CASE-NPO-11661-1] c 36 N74-20009

LASER SPECTROSCOPY Patent
[NASA-CASE-LAR-11711-1] c 74 N78-17666

LASER SPECTROSCOPY Patent
[NASA-CASE-NPO-15012-1] c 16 N71-25159

LASER WINDS Patent
[NASA-CASE-LAR-11711-1] c 74 N78-17666

LASER WINDOWS Patent
[NASA-CASE-LAR-11711-1] c 74 N78-17666

LASERS Patent
[NASA-CASE-MFS-25966-1] c 37 N87-26558

LATERAL CONTROL Patent
[NASA-CASE-XMS-04670] c 54 N78-17678

LATCHES Patent
[NASA-CASE-LEW-12081-1] c 28 N80-23471
A-86
NUMERICAL computing in the planar interactive device with man-made control. [NASA-CASE-NPO-11947] c 08 N73-25206
Solid state controller three axes controller. [NASA-CASE-GSC-12539-1] c 08 N74-10942
Solid state controller three axes controller. [NASA-CASE-ARC-10806-1] c 35 N75-29381
Hydraulic actuator mechanism to control aircraft spoiler movements through dual input command. [NASA-CASE-LAR-12412-1] c 08 NR-24205
Manufacturing
Index key connection Patent [NASA-CASE-XMS-02522] c 15 N70-41808
Method of moving screen by casting. [NASA-CASE-XLE-00953] c 15 N71-15966
Method of making shielded flat cable Patent [NASA-CASE-MFS-13687] c 09 N71-26961
Fabrication of controlled-porosity metals Patent. [NASA-CASE-JNP-04339] c 17 N71-29137
Method of making porous conductive supports for electrodes by electroforming and stacking rocket fins. [NASA-CASE-GSC-11367-1] c 13 N74-19922
Apparatus for forming drive belts [NASA-CASE-ARC-12206] c 31 N74-20917
Bonding method in the manufacture of continuous ring rate sensor devices [NASA-CASE-DND-3037] c 24 N76-30290
Process for fabricating SC semiconductor devices. [NASA-CASE-LEW-12094-1] c 76 N76-25049
Solar hydrogen generator [NASA-CASE-LAR-11361-1] c 44 N77-22607
Method of forming shrink-fit compression seal [NASA-CASE-ARC-11563-1] c 37 N73-23482
Method for making a hot wire anemometer and product thereof. [NASA-CASE-ARC-10900-1] c 37 N75-24454
Aluminum or copper substrate panel for selective absorption of solar energy [NASA-CASE-MFS-25158-1] c 44 N80-16452
Inorganic spark chamber frame and method of making the same [NASA-CASE-GSC-12934-1] c 35 N82-24471
Photoelectric detection system — manufacturing systems. [NASA-CASE-MFS-23776-1] c 33 N82-28545
Glass heating panels and method for preparing them from high purity glass. Patent [NASA-CASE-NPO-15073-1] c 27 N84-33589
The 1-(diorganophosphoryl)methyl]-2,4- and 2,6-diamino-sulfonyl derivatives. [NASA-CASE-LAR-11425-2] c 25 N87-26805
Mapping
Method and apparatus for mapping planets [NASA-CASE-NPO-11001] c 07 N72-21118
Seismic vibration source [NASA-CASE-NPO-14112-1] c 46 N79-22679
Dual aperture multispectral Schmidt objective. [NASA-CASE-GSC-12756-1] c 74 N84-23248
Method and apparatus for contour mapping using synoptic spectrometry. [NASA-CASE-NPO-15939-1] c 43 N86-19771
Maps
Orbital and entry tracking accessory for globes to provide range requirements for reentry vehicles to any landing site. [NASA-CASE-LAR-10626-1] c 19 N74-21015
Optical process for producing classification maps from mass spectrometry. [NASA-CASE-MSC-14472-1] c 43 N79-10564
Masses
Maser
Maser for frequencies in the 7-20 GHz range. [NASA-CASE-LAR-11437-1] c 26 N76-15075
Reflected wave maser — low noise amplifier. [NASA-CASE-NPO-15460-1] c 36 N76-31512
Multistation reformation system [NASA-CASE-NPO-13839-1] c 31 N78-25256
Electro-loaded waveguide circulator for cryogenically cooled and cascaded mass spectrometer waveguide structure. [NASA-CASE-NPO-14225-1] c 36 N80-18372
Precise RF timing signal distribution to remote stations — fiber optics [NASA-CASE-NPO-14748-1] c 31 N81-11486
Maser power metering apparatus. [NASA-CASE-LAR-15021-1] c 36 N83-35530
Maser cavity servo-tuning system [NASA-CASE-MSC-18690-1-CU] c 38 N85-29143
Masking
Masking device Patent [NASA-CASE-XNP-02021] c 15 N70-42002
High resolution developing of photosensitive resists Patent [NASA-CASE-XXXX-04983] c 14 N71-15754
Low defect, high purity crystalline layers grown by selective deposition [NASA-CASE-NPO-15813-1] c 76 N85-30922
Masks
Ion beam sputter etching [NASA-CASE-LEW-13989-1] c 31 N78-21160
Mass
Mass measuring system Patent [NASA-CASE-LAR-10818-1] c 05 N70-42000
Fluid mass sensor for a zero gravity environment [NASA-CASE-MSC-14653-1] c 35 N77-19385
Balance
Apparatus for testing a pressure responsive instrument Patent [NASA-CASE-XMF-01034] c 14 N71-23755
Distribution
Flow
Nuclear mass flowmeter Patent [NASA-CASE-MFS-20485] c 17 N74-11365
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds [NASA-CASE-LAR-10578-1] c 73 N72-25626
Spectrometers
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent [NASA-CASE-LAR-10180-1] c 06 N71-13461
Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent [NASA-CASE-XNP-01056] c 14 N71-23041
Ion microprobe mass spectrometer for analyzing fluid materials Patent [NASA-CASE-ERC-10014] c 14 N71-28863
Orifice gross leak tester Patent [NASA-CASE-ERC-10105] c 14 N71-28692
Method and apparatus for determining the contents of contained gas samples [NASA-CASE-GSC-10156-1] c 14 N73-12444
Quadropole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions [NASA-CASE-XNP-04221] c 14 N73-32255
Fast scan control for detection type mass spectrometers [NASA-CASE-LAR-11426-1] c 35 N74-34857
Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump Patent [NASA-CASE-NPO-13063-1] c 37 N77-14406
Method for fabricating a mass spectrometer inlet leak seal [NASA-CASE-GSC-12077-1] c 35 N77-24455
Dual acting seal control mechanism Patent [NASA-CASE-LAR-11170-1] c 35 N80-26966
Ion mass spectrometer [NASA-CASE-NPO-15423-1] c 35 N84-26016
Spectroscopy
Fluor sampling device [NASA-CASE-GSC-12143-1] c 35 N76-32456
Particle analyzing method and apparatus [NASA-CASE-NPO-15265-1] c 35 N83-27184
Material Absorption
Materials
Low gravity exothermic heating/cooling apparatus [NASA-CASE-MSC-23907-1] c 35 N85-29214
MONOPULSE RADAR

Ratiometric stabilized differential resolution television display
[NASA-CASE-LEW-01432-1] c 32 N85-29117

Optical distance measuring instrument
[NASA-CASE-SGC-12194-2] c 74 N85-32366

Laser schlieren crystal monitor
[NASA-CASE-MFS-28060-1] c 74 N85-25862

Welding monitoring system
[NASA-CASE-MFS-29177-1] c 37 N86-14926

Television monitor field shifter and an opto-electronic method for obtaining a stare image of optical depth resolution and reduced depth distortion on a single screen

Airplane runway performance monitoring system
[NASA-CASE-LAR-13604-1-CU] c 04 N86-24621

Radio Frequency (RF) strain monitor
[NASA-CASE-LAR-13705-1] c 39 N88-25011

MONOCHROMIC RADIATION

Continuous plasma light source

Laser extensorimeter
[NASA-CASE-MFS-10959-1] c 36 N76-14960

Multispectral radiometer
[NASA-CASE-GSC-12606-1] c 74 N83-10990

MONOCHROMATORS

Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent
[NASA-CASE-LAR-10180-1] c 06 N71-13461

Multifunctional monochromator for nuclear spectrum Patent
[NASA-CASE-MSC-11246-1] c 51 N72-17100

MONOMERS

Pressure transmitter --- using a monomeric charge transfer resonant sensor
[NASA-CASE-NPO-11150] c 35 N78-17359

Structural monomers having terminal cation and cyanide or amine groups
[NASA-CASE-ARC-11253-1] c 27 N82-29452

Cross-linked polyvinyl alcohol and method of making same
[NASA-CASE-LEW-13101-2] c 23 N71-29160

Preparation of crosslinked 2,2,4-oxadiazole polymer
[NASA-CASE-NPO-11252-1] c 26 N85-24338

Phosphorus-containing imide resins
[NASA-CASE-NPO-12336-1] c 28 N83-31854

Chemical process for controlling nadiemure cubic temperature and rate
[NASA-CASE-LEW-10770-1] c 28 N84-27686

Process for preparing highly transparent/colorless aromatic polyamide film
[NASA-CASE-LAR-13051-1] c 27 N86-31727

New condensation polymers containing 1,1,1-tris(2,2,2-trifluoroethoxy)urethane structures
[NASA-CASE-LEW-12434-1] c 23 N84-28640

Ethynyl terminated ether oligomers and polymers therefrom
[NASA-CASE-LAR-12165-2] c 27 N87-19607

Polyphenylsulfonates containing allylendioxy groups
[NASA-CASE-LAR-13601-1-CU] c 27 N87-25473

Substituted 1,1,1-Tris(2,2,2-Trifluoroethanes and processes for their synthesis
[NASA-CASE-LEW-14345-1] c 23 N88-26044

MONOPOLE ANTENNA

Arienna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent
[NASA-CASE-XLA-00414] c 07 N88-38200

Flexible blade antenna Patent
[NASA-CASE-MSC-12019] c 09 N71-18720

MONOPROPELLANTS

Ignition system for monopropellant combustion devices Patent
[NASA-CASE-XNP-00249] c 31 N87-24960

Ignition means for monopropellant Patent
[NASA-CASE-XNP-00976] c 30 N87-41311

Low thrust monopropellant engine
[NASA-CASE-GSC-12194-2] c 29 N82-18514

MONOPULSE ANTENNAS

Monopulse system with an electronic scanner
[NASA-CASE-GSC-12194-2] c 09 N85-27460

Low noise single aperture multimode monopulse antenna feed system Patent
[NASA-CASE-XNP-01735] c 07 N71-22750

Electronic scanning of 2-channel monopulse array Patent
[NASA-CASE-GSC-10299-1] c 18 N79-24804

Switchable beamwidth monopulse method and system Patent
[NASA-CASE-GSC-11924-1] c 37 N86-27472

MONOPULSE RADAR

Polarization diversity monopulse tracking receiver Patent
[NASA-CASE-XGP-03501] c 10 N71-21863

Monopulse tracking system Patent
[NASA-CASE-XGS-01155] c 10 N71-21863
OPTICAL FILTERS

A-102

Star tracking reticles and process for the production thereof

[NASA-CASE-GSC-11186-2] c 21 N73-19630
Infrared horizon locator
[NASA-CASE-LAR-10726-1] c 14 N75-20475
Optical pumping and method for optical pumping of the axial angle of a rotating mirror
[NASA-CASE-GSC-11351-1] c 19 N74-21304
Optical interferometer and apparatus for optical interferometer and drive system therefor
[NASA-CASE-Le-11932-1] c 35 N74-23040
Strain gauge ambiguity sensor for segmented mirror thereon
[NASA-CASE-MSC-11253-1] c 36 N81-14849
Multiple pass reimaging optical system
[NASA-CASE-GSC-10890-1] c 21 N73-30640

OPTICAL FILTERS

High temperature laser pump system
[NASA-CASE-GSC-10890-1] c 21 N73-30640
Laser system and apparatus for making an optical element having a dielectric film
[NASA-CASE-ARC-11611-1] c 74 N87-28416

OPTICAL PHOTODETECTORS

Optical gyroscope system
[NASA-CASE-NPO-14256-1] c 35 N81-33448
Laser pulse emission method and apparatus
[NASA-CASE-NPO-16030-1] c 36 N84-25037
Closed loop fiber optic rotation sensor
[NASA-CASE-NPO-16556-1] c 74 N87-23259

OPTICAL HETERODETECTORS

Multispectral imaging system
[NASA-CASE-MSC-12404-1] c 73 N73-13661
Multispectral optical system
[NASA-CASE-LAR-10256-1] c 77 N69-26492
Wideband heterodyne receiver for laser communication system
[NASA-CASE-GSC-11175-1] c 42 N75-13508

OPTICAL MATERIALS

Process for producing a well-adhered durable optical coating on an optical plastic substrate — abrasion resistant polymethyl methacrylate lenses
[NASA-CASE-Arc-11039-1] c 74 N78-32854

OPTICAL MEASUREMENT

Passive optical wave and turbulence detection system
[NASA-CASE-XMF-14022] c 20 N71-16340
Ellipsoidal/mirror reflectometer including means for averaging the radiation reflected from the sample
[NASA-CASE-KGS-05291] c 23 N71-16341
Single sector interference spectrometer and drive system therefor
[NASA-CASE-NPO-11322-1] c 35 N74-23040
Plural output optomic sample cell and analysis system
[NASA-CASE-NPO-12331-1] c 74 N78-33913
Film advance indicator
[NASA-CASE-LAR-12474-1] c 35 N82-29628
Visual optical angle meter
[NASA-CASE-GSC-12641-1] c 74 N83-32577
Optical measuring method and apparatus for producing preselected visual images therefrom
[NASA-CASE-ARC-10976-1] c 74 N77-22950
Opto-mechanical subsystem with temperature compensation through isothermal design
[NASA-CASE-GSC-12059-1] c 35 N77-27366
Method and apparatus for producing an image from a transparent object
[NASA-CASE-GSC-11989-1] c 74 N77-28392
Method of treating the surface of a glass member
[NASA-CASE-GSC-12103-1] c 74 N78-32854
Process for producing a well-adhered durable optical coating on an optical plastic substrate — abrasion resistant polymethyl methacrylate lenses
[NASA-CASE-GSC-11039-1] c 74 N78-32854
Water system detection
[NASA-CASE-GSC-12346-1] c 74 N78-32854
Visual magnet apparatus
[NASA-CASE-MSC-12696-1] c 74 N83-36898
Optical
[NASA-CASE-NPO-15801-1] c 74 N85-23996
High temperature, high-pressure optical cell
[NASA-CASE-LAR-11714-1] c 74 N87-14971

OPTICAL FIBERS

Optical pump and driver system for lasers
[NASA-CASE-FEC-10293-1] c 16 N72-25485
Laser head for simultaneous optical pumping of several dye lasers -- with single flash lamp
[NASA-CASE-LAR-11541-1] c 36 N75-19655
Stabilization of He:Ne (3 sigma + molecules in liquid helium by optical pumping for vacuum UV laser
[NASA-CASE-LAR-11263-1] c 36 N79-13826
Active laser pulse driver circuit — optical pumping of laser media
[NASA-CASE-GSC-12566-1] c 30 N83-31499
Off-axis coherently pumped laser
[NASA-CASE-GSC-12592-1] c 36 N84-28065
Optical pyrometer
Motion picture camera for optical pyrometry Patent
[NASA-CASE-XLA-00092] c 14 N70-33254
Optical pyrometer
Acquisition and tracking system for optical radar
[NASA-CASE-MFS-12012-1] c 16 N72-14377
OPTICAL RANGE FINDERS

Altitude sensing device
[NASA-CASE-XMS-01994-1] c 14 N72-17326
Optical range finder having nonoverlapping complete images
[NASA-CASE-MSC-12105-1] c 14 N72-21409

OPTICAL REFLECTION

Hydrologic hologram system using reflected and transmitted optical beams simultaneously Patent
[NASA-CASE-FMS-20074] c 16 N71-15555
Method for generating ultra-precise angles Patent
[NASA-CASE-XLA-00962] c 19 N70-26674
Illumination system including a virtual light source Patent
[NASA-CASE-HQN-10701] c 23 N71-30292
Diffuse reflecting coating
[NASA-CASE-GSC-11214-1] c 06 N73-13128
Optical optical path difference system Patent
[NASA-CASE-GSC-12505-1] c 77 N69-26492
Lightweight reflector assembly
[NASA-CASE-XLA-12178-1] c 74 N77-28923
Method and apparatus for splitting a beam of energy -- optical communication
[NASA-CASE-GSC-12458-1] c 73 N78-32848
Apparatus for and method of compensating dynamic unbalance
[NASA-CASE-GSC-12550-1] c 36 N78-32447
Phase length optical phase-locked-loop sensor
[NASA-CASE-LAR-12887-1] c 74 N88-25302

OPTICAL RESONANCE

Optically pumped resonance magnetometer for determining vector components in a spatial coordinate system Patent
[NASA-CASE-KGS-04879] c 14 N71-20428
Laser system with an antiresonant optical ring
[NASA-CASE-HQN-10644-1] c 36 N75-19653

OPTICAL SCANNERS

Optical scanner for measuring and apparatus for measuring and optical properties
[NASA-CASE-XLS-01114] c 74 N78-27904
Electro-optical scanning apparatus Patent Application
[NASA-CASE-NPO-11106] c 14 N70-34298
Multi-beam laser scanner Patent
[NASA-CASE-GSC-10809] c 20 N71-35427
Optical biomedical scanner Patent
[NASA-CASE-MSC-14069-1] c 14 N72-23441
Spacecraft attitude sensor
[NASA-CASE-GSC-10890-1] c 73 N70-30640
Optical terrestrial scanner Patent
[NASA-CASE-MSC-14069-1] c 74 N74-15095
Digital video switch
[NASA-CASE-KSC-12327-1] c 35 N73-30431
Traffic survey system -- using optical scanners
[NASA-CASE-MFS-22631-1] c 66 N78-19888
Optical scanner — laser doppler velocimeter
[NASA-CASE-LAR-11711-1] c 74 N78-17986
Device for measuring the contour of a surface
[NASA-CASE-LAR-11869-1] c 74 N78-27904
Velocity sensor for continuous scan Fourier interferometer measurement
[NASA-CASE-XMF-14039] c 35 N80-20563
Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width
[NASA-CASE-GSC-12055-1] c 73 N80-32245
Scanning afocal laser velocimeter projection lens system
[NASA-CASE-LAR-12828-1] c 36 N82-32712
Optical scanner
[NASA-CASE-LAR-12897-1] c 74 N88-21759

OPTICAL TRACKING

Sun tracker with rotatable plate-parallel plane and two photosensitive devices
[NASA-CASE-XGS-01159] c 21 N71-10678
Optical tracking having overlapping reticles on parallel axes Patent
[NASA-CASE-XGS-05715] c 23 N71-16100
Optical tracking mount Patent
[NASA-CASE-MFS-14017] c 14 N71-26627
OVENS

SUBJECTINDEX

OVENS
Heat shield oven

Oxidation protection coatings for polymers
[NASA-CASE-LEW-14072-1]
c 27

[NASA-CASE-XMS-04318]
c 15 N69-27871
Thermocouple, multiple junction reference oven
[NASA-CASE-FRC-10112-1]
c 35 N81-26431
OVERPRESSURE
Method
and apparatus
for suppressing
ignition

Apparatus
for polymers

overpressure in solid rocket propulsion systems
[NASA-CASE-MFS-25843-1]
c 20 N83-17588
OVERVOLTAGE
Protective circuit of the spark gap type
[NASA-CASE-XAC-08981
]
c 09 N69-39897
Power responsive overload sensing circuit Patent
[NASA-CASE-GSC-10667-1
]
c10
N71-33129
Overvoltage protection network
[NASA-CASE-ARC-t
0197-1]
c33
N74-17929
Overload protection system for power inverter
[NASA-CASE-NPO- 13872-1]
c33
N78-10377
OXAZOLE
Preparation
of
heterocyclic
block
copolymer
omega-diamidoximes
(NASA-CASE-ARC-It060-1]
c 27 N79-22300
The 1,2,4-oxadiazole
elastomers
--- heat resistant
polymers
[NASA-CASE-ARC- 11253-1]
c27
N81-17262
Preparation of parfluorinated
1,2,4-oxediazoles
(NASA-CASE-ARC-It267-2]
c 23 N82-28353
OXIDATION
Silicide coatings for refractory metals Patent
[NASA-CASE-XLE-10910]
C 18 N71-29040
Automated analysis of oxidative metaboUtes
[NASA-CASE-ARC-10469-1
]
c25
N75-12086
Hydrogen rich gas generator
[NASA-CASE-NPO-13464-2]
c 44 N76-29704
Process of forming catalytic surfaces for wet oxidation
reactions
[NASA-CASE-MSC-14831-f]
c 25 N78-10225
Compound oxidized styrylphosphine --- flame resistant
vinyl polymers
[NASA-CASE-MSC-14903-2]
c 27 N80-10358
Overlay metallic-cermet alloy coating systems
[NASA-CASE-LEW-13639-t
]
c26
N84-33555
Oxidation protection coatings for polymers
[NASA-CASE-LEW-14072-1]
c 27 N86-19458
Oxidation protection coatings for polymers
[NASA-CASE-LEW-14072-3]
c 27 N87-23736
OXIDATION
RESISTANCE
Nickel-base alloy containing Mo-W-AI-Cr- Ta-Zr-C-Nb-B
Patent
[NASA-CASE-XLE-02082]
c 17 N71-16026
Method of protecting the surface of a substrata --- by
applying aluminide coating
[NASA-CASE-LEW-11696-1]
c 37 N75-13261
Duplex aluminized coatings
[NASA-CASE-LEW-11696-2
]
c26
N75-19408
High
temperature
oxidation
resistant
cermet
compositions
[NASA-CASE-NPO-13666-1]
C 27 N77-13217
High temperature
resistant
cermet
and ceramic
compositions
[NASA-CASE-NPO-13690-2]
c 27 N79-14213
Method of making bearing materials --- self-lubricating,
oxidation resistant
composites
for high temperature
applications
[NASA-CASE-LEW- 11930-4 ]
c24
N79-17916
Nicral ternary alloy having improved cyclic oxidation
resistance
[NASA-CASE-LEW- 13339-1 ]
Thermal barrier coating system
[NASA-CASE-LEW-14057-1]

c26
c 24

N62-31505
N85-35233

High temperature resistant polyimide from tetra ester,
diamine, diester and N-arylnadimide
[ NASA-CASE-LEW- 13864-1 ]
c27
N86-19457
Apparatus for producing oxidation protection coatings
for polymers
[NASA-CASE-LEW-14072-2]
c 27 N86-32569
Nickel base coating alloy
[ NASA-CASE-LEW- 13834-1 ]
c26
N87-14482
Oxygen diffusion berrier coating
[NASA-CASE-LAR-13474-1-SB]
c 26 N87-25455
OXIDATION-REDUCTION
REACTIONS
Electrochemical
cell for rebalancing
REDOX flow
system
( NASA-CASE-LEW- 13150-1]
c44
N79-26474
Catalyst surfaces for the chromous/chromic
redox
couple
[ NASA-CASE.LEW- 13148-t ]
c33
N80-20487
Method of making formulated plastic separators for
soluble electrode cells
[NASA-CASE-LEW-12358-2]
c 25 N82-21268
OXIDE FILMS
Method of forming oxide coatings --- for solar collector
heating panels
[ NASA-CASE-LEWThermal barrier

13132-1]

[NASA-CASE-LEW-14057-t]

A-104

c27

N83-29388

c 24

N85-35233

coating system

P
N86-19458

for producing oxidation protection coatings

[NASA-CASE-LEW-14072-2]

c 27

N86-32569

Oxidation protection coatings for polymers
[NASA-CASE-LEW-14072.3]
c 27
OXIDES

N87-23736

High voltage v-groove solar cell
[NASA-CASE-LEW-13401-2]
P-N JUNCTIONS

Electrolytically
Patent

regenerative

hydrogen-oxygen

]

c03

Injection head for delivering
[NASA-CASE-NPO-10046]

fuel cell

N71-11052

liquid fuel and oxidizers
c 28 N72-t7843

Device and method for frictionally
ignitability
[NASA-CASE-MSC-20622-1]
OXlMETRY

testing materials for
c 25

N86-19413

Method and apparatus for continuously monitoring blood
oxygenation, blood pressure, pulse rate and the pressure
pulse curve utilizing an ear oximeter as transducer
Patent
[NASA.CASE-XAC-05422]
c 04 N71-23185
OXYGEN
Analytical test apparatus and method for determining
oxide content of alkali metal Patent
[NASA-CASE-XLE-01997]
c 06 N71-23527
Method
Patent

for removing oxygen impurities

[NASA-CASE-XNP-04262-2]

from cesium

c 17

Method of detecting oxygen in a gas
[ NASA-CASE-LAR.10668-1
]
c06
Method for obtaining oxygen from
[NASA-CASE-MSC-12408-1]

N71-26773

A system for controlling the oxygen content of a gas
produced by combustion
[NASA-CASE-LAR-13257-f
]
c 25 N84-32447
Technique for measuring gas conversion factors
[NASA-CASE-LAR-13220-1]
c 34 N86-12547
in individual pressure
c 44

vessel

N86-25874

Variable energy, high flux, ground-state atomic oxygen
source
[NASA-CASE-NPO-16640-1-CU]
OXYGEN CONSUMPTION

C 72

N87-21661

Method and system for respiration analysis Patent
[ NASA-CASE-XFR-08403
]
c 05 N71-11202
OXYGEN

FLUORIDES

Utilization
of oxygen
fiuoropolymers
[NASA-CASE-NPO-12061-1]
OXYGEN

difluoride

for

syntheses

c 27

of

N76-16228

ISOTOPES

Isotope exchange in oxide-containing catalyst
[NASA-CASE-LAR-13542-1SB]
c 25 N86-32540
OXYGEN METABOLISM
Metabolic analyzer --- for measuring metabolic rate and
breathing dynamics of human beings
[NASA-CASE-MFS-21415-1]
c 52 N74-20728
OXYGEN PLASMA
Oxygen post-treatment
of plastic surface coated with
plasma polymerized
silicon-containing monomers
(NASA.CASE-ARC-10915-2]
c 27 N79-18052
OXYGEN PRODUCTION
Liquid hydrogen polygeneration
[NASA-CASE-KSC-11304-2
]
OXYGEN RECOMBINATION

N83-32177

[NASA-CASE-XGS.07801]
c 09 N71-12513
Biomedical radiation detecting probe Patent
[NASA-CASE-XMS-01177]
c 05 N71-19440
Method of making electrical contact on silicon solar cell
and resultant product Patent
[NASA-CASE-XLE-04787]
c 03 N71-20492
Method of changing the conductivity of vapor deposited
gallium arsanide by the introduction of water into the vapor
deposition atmosphere Patent
[NASA-CASE-XNP-01961]
c26
N71-29156
Method of making semiconductor p-n junction stress
and strain sensor
[NASA-CASE-XLA-04980-2]
c 14 N72-28438
Semiconductor
surface protection material
[NASA-CASE-ERC-10339-1]
c 18 N73-30532
Method and apparatus for measuring minority carrier
lifetimes and bulk diffusion length in P-N junction solar
cells
[NASA-CASE-NPO-14100-1]
Back wall solar cell
[NASA-CASE-LEW-12236-2]
P-TYPE SEMICONDUCTORS
Semiconductor
Patent

N73-16106

lunar or similar soil
c 46 N74-13011

Nonflammable coating compositions --- for use in high
oxygen environments
[NASA-CASE-MFS-20486-2]
c 27 N74-17283

Oxygen recombination
nickel-hydrogen batteries
[NASA-CASE.LEW.13822-1]
OXYGEN ATOMS

c 44

Thin window, drifted silicon, charged particle detector
[NASA-CASE-XLE-10529]
c 14 N69-23191
Semiconductor
p-n junction stress and strain sensor
[NASA-CASE-XLA-04980]
c 09 N69-27422
Radiation resistant
silicon semiconductor
devices
Patent

Novel polymers and method of preparing same
[NASA-CASE-NPO-10998-1]
c 06 N73-32029
OXIDIZERS

[ NASA-CASE-XLE-04526

P-I-N JUNCTIONS

system and process
c 28 N86-23744

Isotope exchange in oxide-containing catalyst
[NASA-CASE-LAR-13542-tSB]
c 25 N86-32540
OXYGEN REGULATORS
Lead-oxygen dc power supply system having a closed
loop oxygen and water system
[NASA-CASE-MFS-23059-1]
c 44 N76-27664
OXYGEN SUPPLY EQUIPMENT
Self-contained breathing apparatus
[NASA-CASE-MSC-14733-1]
c 54 N76-24900
Slow opening valve --- valve design for shuttle portable
oxygen system
[NASA-CASE-MSC-20112-1]
c 37 N85-20338
OZONE
Thermoluminescent aerosol analysis
[NASA-CASE-LAR-12046-1]
c 25 N78-152t0
Ozonation of cooling tower waters
[NASA-CASE-NPO.14340-1]
c 45 N80-14579
Curable liquid hydrocarbon
prepolymers containing
hydroxyl groups and process for producing same
[NASA-CASE-NPO-13137-1]
c 27 N80-32514

c 44

N79-12541

c 44

N79-14528

material and method of making same

[NASA-CASE-XLE-02798]
c
Integrated P-channel MOS gyrator
[NASA-CASE-MFS-22343-1]
c
Method of Fabricating Schottky Barrier
[NASA-CASE-NPO-13689-4]
c
PACKAGES
Impact testing machine Patent
[NASA-CASE-XNP-04817]
One hand backpack harness
[NASA-CASE-LAR-10102-1]
PACKAGING

26

N71-23654

33 N74-34638
solar cell
44 N82-28780

c 14

N71-23225

c 05

N72-23085

c 15

N70-33180

c 31

N70-37981

Folding apparatus Patent
[NASA-CASE-XLA-00137]
Reflector space satellite Patent
[NASA-CASE-XLA-00138]

Apparatus and method for skin packaging articles
[NASA-CASE-MFS-20855]
c 15 N73-27405
Double-sided solar cell package
[NASA-CASE-NPO-14199-1]
c 44 N79-25482
PACKET TRANSMISSION
Multicomputer communication
[NASA-CASE-NPO-15433-1]
PACKING DENSITY

system
c 32

N85-21428

Micropacked column for a chromatographic system
[NASA-CASE-XNP-04816]
c 06 N69-39936
PACKINGS (SEALS)
Fluid seal for rotating shafts
[NASA-CASE-LEW-11676-1
]
c 37 N76-22541
PAD
Lubricated journal bearing
[NASA-CASE-LEW-11076-3]
PAINTS
Intumescent paints Patent
(NASA-CASE-ARC-10099-1]

c 37

N75-30562

c 18

N71-15469

Alkali metal silicate protective coating Patent
[NASA-CASE-XGS-04799]
c 18 N71-24183
Inorganic thermal control pigment
[NASA-CASE-XNP-02139]

Patent
c 18

N71-24184

Diffusely
reflecting
paints
including
polytetrafluoroethylene
and method of manufacture
[NASA-CASE-GSC-12883-t
]
c 27 N85-29044
PALLADIUM
Electrically
films

conductive

palladium containing

[NASA-CASE-LAR-12705-1]
PALLADIUM
COMPOUNDS
Prevention
Patent

c 25

polyimide
N82-26396

of pressure build-up in electrochemical

[NASA-CASE-XGS-01419]

c 03

cells

N70-41864

Process for separation of dissolved hydrogen from water
by use of palladium and process for coating palladium
with palladium black
[ NASA-CASE-MSC- 13335-1 ]
PANELS
All-directional fastener
Patent
[NASA-CASE-XLA-01807]
Panelised
Patent

high

performance

[NASA-CASE-MFS-14023]

c06

N72-31140

c 15

N71-10799

multilayer
c 33

insulation
N71-25351


PHASE LOCK DEMODULATORS
Subject Index
for binary signal tracking loops
controlled oscillators
with auxiliary
[ NASA-CASE-GSC-11623-1 ] c 33 N74-21564
[ NASA-CASE-NPO-13714-1 ] c 33 N74-21564
Double reference phase locked loop
[ NASA-CASE-LAR-12310-1 ] c 33 N74-18559
Method and apparatus for measuring frequency and phase difference
[ NASA-CASE-ARC-10085-1 ] c 33 N74-19515
PHASE BLOCK
System for stabilizing cable phase delay utilizing a coaxial cable or bypass
[ NASA-CASE-NPO-13138-1 ] c 33 N74-17927
PHASE LOCKED DEMODULATORS
Compensating bandwidth switching transistors in an amplifier circuit Patent
[ NASA-CASE-XLE-11513-1 ] c 32 N83-11519
PHASE LOCKED SYSTEMS
Automatic acquisition system for phase-lock loop
[ NASA-CASE-XGS-04994 ] c 09 N69-21543
Phase locked loop with bandwidth properties Patent
[ NASA-CASE-XNP-03573 ] c 10 N70-23531
Automatic control of automatic oscillators and/or controllers for a phase-lock loop providing frequency preset capabilities Patent
[ NASA-CASE-XMP-09665 ] c 10 N71-19467
Burst synchronization detection system Patent
[ NASA-CASE-XMS-05065-1 ] c 10 N71-19468
Feedback modulation system with two phase locked loops Patent
[ NASA-CASE-XNP-03777 ] c 10 N71-19469
Diversity receiving system with diversity phase lock Patent
[ NASA-CASE-XOS-10322-1 ] c 10 N71-20841
Phase locked loop modulator including a voltage controlled oscillator Patent
[ NASA-CASE-XNP-03582 ] c 10 N71-23544
Voltage feedback synchronizer Patent
[ NASA-CASE-XSC-10002 ] c 10 N71-25865
Transition tracking bit synchronization system
[ NASA-CASE-NPO-13184-1 ] c 07 N72-20140
Data-aided carrier tracking loops
[ NASA-CASE-NPO-13282-1 ] c 10 N73-16206
Filter for third order phase locked loops
[ NASA-CASE-NPO-13194-1 ] c 10 N73-21711
Receiver with an improved phase locked loop in a multichannel telemetry system with suppressed carrier
[ NASA-CASE-NPO-13193-1 ] c 07 N73-29012
Automatic carrier acquisition system
[ NASA-CASE-NPO-13192-1 ] c 07 N73-30113
Digital second-order phase-locked loop
[ NASA-CASE-NPO-13190-1 ] c 33 N74-12867
Phase locked loop -- for synchronizing the rotation of a slip ring assembly
[ NASA-CASE-MFS-22073-1 ] c 33 N75-13139
Low power phase-locked loop speed control system -- for brushless dc motor
[ NASA-CASE-GSC-11127-1 ] c 06 N75-24758
Digital phase locked loop
[ NASA-CASE-GSC-11126-1 ] c 33 N75-25040
Telemetry synchronizer
[ NASA-CASE-GSC-11125-1 ] c 17 N76-22254
Linear phase demodulator including a phase locked loop with auxiliary feedback loop
[ NASA-CASE-GSC-11124-1 ] c 33 N77-14334
Frequency translating phase conjugation circuit for active retrodirective antenna array -- microwave transmission
[ NASA-CASE-NPO-14596-1 ] c 32 N81-11485
PN lock indicator for dithered PN code tracking loop
[ NASA-CASE-XAC-10143-1 ] c 32 N81-32045
Discriminator aided phase lock acquisition for suppressed carrier signals
[ NASA-CASE-XMP-13141-1 ] c 33 N81-32045
Pulsed phase locked loop switch -- voltage controlled oscillator
[ NASA-CASE-LAR-13277-1 ] c 33 N83-16626
Double reference pulsed phase locked loop
[ NASA-CASE-LAR-13210-1 ] c 32 N87-14559
Method and apparatus for processing the outputs of a surface emitting laser diode array
[ NASA-CASE-NPO-16542-1-1 ] c 36 N87-23960
Clock circuit with symmetry corrector and convolutional encoder for digital data
[ NASA-CASE-MSC-20187-1 ] c 33 N87-25031
Phase length optical phase-locked-loop sensor
[ NASA-CASE-LAR-13887-1 ] c 74 N88-25302
Digital phase-lock loop having an estimator and predictor of error
[ NASA-CASE-NPO-11796-1-CU ] c 32 N89-20976
PHASE MODUATION
Phase quadrature channel data transmission system Patent
[ NASA-CASE-XAC-10062-1 ] c 08 N71-19763
Adaptive tracking notch filter system Patent
[ NASA-CASE-XMP-05082 ] c 10 N71-22966
Phase locked loop phase modulator including a voltage controlled oscillator Patent
[ NASA-CASE-NPO-13582 ] c 10 N71-23444
Phase modulating electronic scanning system Patent
[ NASA-CASE-LAR-13010-1 ] c 10 N71-23441
Phase modulator Patent
[ NASA-CASE-MSC-12120-1 ] c 07 N71-28429
Television communication system with single transmitter
[ NASA-CASE-NPO-11548 ] c 07 N73-26118
Decision feedback loop for tracking a polyphase modulated carrier
[ NASA-CASE-XGP-11303-1 ] c 32 N74-20811
Modulator for tone and binary signals -- phase of modulation of tone and binary signals on carrier waves in communication systems
[ NASA-CASE-GSC-11743-1 ] c 32 N75-24981
Phase modulating with odd and even finite power series of a modulating signal
[ NASA-CASE-LAR-15067-1 ] c 32 N77-14252
Swept group delay measurement
[ NASA-CASE-NPO-11090-1 ] c 32 N78-25319
Quadruphase modulation
[ NASA-CASE-GSC-12137-1 ] c 32 N78-33338
Closed Loop solar array-ion thruster system with power control Patent
[ NASA-CASE-LEW-12870-1 ] c 20 N79-20179
Baseband signal combiner for large aperture antenna array
[ NASA-CASE-NPO-14441-1 ] c 32 N81-29306
Doppler radar having phase modulation of two transmitted and reflected reflector signals
[ NASA-CASE-MSC-18675-1 ] c 32 N84-22820
Method and apparatus for receiving and tracking phase modulated signals
[ NASA-CASE-MSC-16170-2 ] c 32 N84-27952
Integrating RF detector imaging systems
[ NASA-CASE-ARC-11232-1 ] c 32 N84-29850
PHASE SHIFT
Bi-linear phase detector and corrector for split phase PCM data signals Patent
[ NASA-CASE-XGS-01590 ] c 07 N71-12392
Electromagnetic polarization systems and methods Patent
[ NASA-CASE-GSC-10021-1 ] c 09 N71-24595
Method and apparatus for frequency-division multiplex communications by digital shift of carrier
[ NASA-CASE-NPO-11338 ] c 08 N72-25208
Time domain phase measuring apparatus
[ NASA-CASE-NPO-12229-1 ] c 33 N79-10338
Phase-angle controller for Stirling engines
[ NASA-CASE-NPO-14389-1 ] c 37 N81-17432
JEF phase modulator
[ NASA-CASE-GSC-12555-1 ] c 33 N86-19515
Double reference pulsed phase locked loop
[ NASA-CASE-LAR-13103-1 ] c 32 N87-14559
Ground plane interference elimination by passive element
[ NASA-CASE-NPO-16632-1-1 ] c 32 N87-15390
PHENOLIC RESINS
Bonding method in the manufacture of continuous reinforcement fabric used in the fabrication of composite materials
[ NASA-CASE-ARC-11373-1 ] c 24 N75-30260
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyklophosphazene polymer
[ NASA-CASE-ARC-11428-2 ] c 27 N75-16909
PHENOLS
Novel polymers and method of preparing same
[ NASA-CASE-XPO-10998-1 ] c 05 N73-32029
Method and device for the detection of phenol and related compounds -- in an electrochemical cell
PHENYL
The 1,1,1-trifluoro-2,2,2-trifluoroethane and process for its synthesis
[ NASA-CASE-NPO-10097-1 ] c 19 N82-24312
PHOSPHACRESCENTS
Phosphonocarboxylic acid Patent
[ NASA-CASE-ARC-11428-1 ] c 05 N73-32029
PHOSPHACYCLIC ACID
Carboranylmetllylene-sultltuteO phospnazenas anO
[ NASA-CASE-ARC-11428-1 ] c 05 N73-32029
Carboranylcyclotriphosphazenes and their polymers -- in vivo and in vitro therapeutic activity
[ NASA-CASE-ARC-11428-1 ] c 05 N73-32029
PHOSPHAZENE
Process for the preparation of polycarbonarylophosphazenes -- thermal insulation
[ NASA-CASE-ARC-11176-1 ] c 27 N81-12721
Carbonylcyklophosphazenes and their polymers -- thermal insulation
[ NASA-CASE-ARC-11176-1 ] c 27 N82-18389
Carbonylmethylene-substituted phosphazenes and polymers thereof
[ NASA-CASE-ARC-11176-1 ] c 27 N82-18389
Maleimido substituted aromatic cyclophosphazenes
[ NASA-CASE-ARC-11428-1 ] c 23 N86-19515
Aromatic cyclophosphazenes
[ NASA-CASE-ARC-11428-1 ] c 23 N86-19515
POLYMERIZATION

POLYMER MATRIX COMPOSITES
Intumescent-adhesive coatings using endothermic fillers
[NASA-CASE-ARC-11043-1] c 24 N77-27180
Process for producing fluorinated polyurethanes or vinyl stibofluorides
[NASA-CASE-ARC-11249-1-CU] c 27 N80-20656

POLYMER FILMS
Processing for producing a stabilized instrument
Patent
[NASA-CASE-XNP-09763] c 14 N71-20641
Hydraulic casting of liquid polymers Patent
Thermosetting microencapsulating polymer film
[NASA-CASE-ARC-11038-1] c 14 N72-24477
Apparatus and method for skin packaging articles
[NASA-CASE-ARC-11251-2] c 27 N73-27405
Covered silicon solar cells and method of manufacturing with polymeric films
[NASA-CASE-ARC-11065-2] c 44 N77-14600
Preparation of dielectric coating of variable dielectric constant by plasma polymerization
[NASA-CASE-ARC-11252-1] c 27 N76-12412
Reversible osmose membrane of high urea rejection properties
[NASA-CASE-ARC-11251-2] c 27 N75-14214
Surface finishing
[NASA-CASE-ARC-11252-1] c 27 N80-23452
Cross-linked polyvinyl alcohol and method of making same
[NASA-CASE-ARC-11261-2] c 27 N81-29160
Separator for alkaline electric cells and method of making
[NASA-CASE-ARC-11251-1] c 27 N73-22710

POLYISOIBUTYLENE

SUBJECT INDEX
[NASA-CASE-LEW-14072-3] c 27 N87-23576
Temperature and rate
Ion-exchange hollow fibers
[NASA-CASE-NPO-10557] c 27 N81-29160
Carboxyl-cyclotriphosphazenes and their polymers -- thermal insulation
[NASA-CASE-ARC-11261-1] c 27 N81-19242
Carbon black/cyclotriphosphazenes and their polymers -- thermal insulation
[NASA-CASE-ARC-11251-1] c 27 N81-19242
Polyimides containing perfluorinated polytriazines containing pendent iododifluormethyl groups
[NASA-CASE-ARC-11241-1] c 27 N81-14016
Vespel® carboncontaining polymers containing the urethane linkage
[NASA-CASE-NPO-10430-1] c 27 N81-15104
Perfluoroalkyl polytriazines containing pendant iododifluormethyl groups
[NASA-CASE-ARC-11241-1] c 27 N81-12599
Water-absorbing capacitor system
[NASA-CASE-ARC-11244-1-CU] c 35 N87-22997
Polyamic acid film
[NASA-CASE-LEW-13109-1] c 34 N87-29337

POLYIMIDES
Preparation of fluorine containing polyimides
[NASA-CASE-ARC-11405-2] c 27 N86-19455
Polyimide containing perfluorovinyl alcohol and battery separators
c 27 N75-29283
Interimization of aromatic nitrides
[NASA-CASE-ARC-11261-2] c 27 N78-15276
Polyimide adhesives
[NASA-CASE-ARC-11281-1] c 27 N78-17305
Infusible silazane polymer and process for producing same -- protective coatings
[NASA-CASE-XMF-02525-1] c 27 N79-21190
Fluoro-containing polymers
[NASA-CASE-XMF-00600-1] c 27 N79-21191
In situ cross-linking of polyvinyl alcohol -- application to battery separator films
[NASA-CASE-ARC-11261-1] c 27 N81-24256
Polyniimide compositions and their method of manufacture -- forming filled polymer systems using oxygen curatures
[NASA-CASE-ARC-11044-1] c 27 N81-24258
Process for the preparation of polyaryletherketones -- thermal insulation
[NASA-CASE-ARC-11176-2] c 27 N81-27271
Phosphorus-containing bisimide resins
[NASA-CASE-ARC-11123-2] c 27 N81-27272
Preparation of crosslinked 1,2,4-oxadiazole polymer
[NASA-CASE-ARC-11252-3] c 27 N82-24358
Preparation of crosslinked 1,2,4-oxadiazoles
[NASA-CASE-ARC-11267-2] c 27 N82-28553
Chemical treatment for controlling n-dimide cure temperature and adhesion
[NASA-CASE-LEW-13770-6] c 27 N82-30039
Amine terminated bisaminophosphate polymer
[NASA-CASE-ARC-11412-1] c 27 N86-31726
New condensation polymers containing 1,1,1-triary-2,2,2-trifluoroethanes structures
[NASA-CASE-ARC-11446-1] c 27 N86-31726
Aminophenoxychloro-phosphazene-cured epoxy resins and the composites, laminates, adhesives and structures thereof
[NASA-CASE-ARC-11458-1] c 27 N87-25489
The 1-(d-glycogon phosphonyl) methyl-2,4- and -2,6-diamino diacids and their derivatives and syntheses
[NASA-CASE-ARC-11425-2] c 27 N86-28605
Substituted 1,1,1-triary-2,2,2-Trifluoroethanes and processes for producing same
[NASA-CASE-ARC-11451-1] c 27 N86-29044
Novel ladder polymers for use at high temperature stable resins or coatings
[NASA-CASE-LEW-14021-3] c 27 N86-29984
**POSITION SENSING**

**SUBJECT**

**Field**

NASA-CASE-MSC-16182-1 c 54 N80-10799

**Receiver**

NASA-CASE-LAR-11999-1 c 24 N80-18552

**Scan of celestial signal**

NASA-CASE-GSC-11829-1 c 35 N75-27331

**Patent**

NASA-CASE-MSC-16182-f c 54 N80-10799

**Dioxide removal using a breathing system of heat exchangers**

NASA-CASE-LAR-13111-1-CU c 71 N87-21652

**Aircraft detection**

NASA-CASE-MSC-20250-1 c 35 N86-19581

**Index**

**Impact**

N86-23550

**Power amplifiers**

Ac power amplifier Patent Application

NASA-CASE-LAR-10218-1 c 09 N70-34559

Power supply Patent

NASA-CASE-XMS-04195 c 10 N71-22691

Inertial stabilizer Patent

NASA-CASE-KX5-00452 c 10 N71-25281

Signal path series biased multividec low high efficiency amplifier

NASA-CASE-GSC-10668-1 c 07 N71-28430

Isolated output system for a class D switching mode amplifier

NASA-CASE-MFS-21616-1 c 33 N75-30429

**Power conditioning**

Module failure isolation circuit for parallel inverters -- preventing system failure during power conditioning for spacecraft applications

NASA-CASE-ERC-10328-1 c 33 N79-24524

Self-reconfiguring solar cell system

NASA-CASE-LAR-12785-1 c 44 N80-14472

Inertial tunnel diodes

NASA-CASE-LAR-13833-1 c 33 N85-21492

Power supply conditioning circuit

NASA-CASE-XMF-01452-1-CU c 33 N88-29005

**Power converters**

Gas-to-hydraulic power converter

NASA-CASE-MSC-18794-1 c 44 N83-14693

**Power efficiency**

Low power drain semiconductor circuit

NASA-CASE-KX5-00452 c 09 N96-24317

Excitation and detection circuitry for a flux responsive magnetic head

NASA-CASE-XNP-01413 c 09 N96-24329

Apparatus for increasing ion engine beam density Patent

NASA-CASE-LAR-00519-1 c 28 N70-41576

Gasous control system for nuclear reactors

NASA-CASE-ERC-10328-1 c 22 N72-20597

Remote platform power conserving system

NASA-CASE-GSC-11829-1 c 15 N75-13007

Family of airfoil shapes for rotating blades -- for increased power output of blade bladed system

NASA-CASE-LAR-12643-1 c 03 N84-11136

Increased voltage photovoltaic cell

NASA-CASE-NP-16151-1 c 44 N85-30475

Wingtip vortex propeller

NASA-CASE-LAR-13019-1 c 07 N85-35194

Linearized traveling wave amplifier with hard limiter characteristics

NASA-CASE-LAR-13981-1 c 33 N86-21742

Low power consumption current transistor

NASA-CASE-NP-16868-1-CU c 33 N88-29397

**Power factor controllers**

Thyristor device controller

NASA-CASE-MFS-25607-1 c 33 N83-34190

System for a control motor with energy recovery

NASA-CASE-MFS-25747-1 c 33 N84-14424

Motor power control circuit for ac induction motors

NASA-CASE-MFS-25829-1 c 33 N84-22886

Solar power actuator with continuously variable auxiliary power control

NASA-CASE-MFS-25637-1 c 44 N85-21769

Power control for ac motor

NASA-CASE-MFS-25661-1 c 33 N85-22877

**Power grid**

Synchronous frequency converter re-entrant amplifier system Patent

NASA-CASE-XGS-10122-1 c 07 N71-16088

CRT blanking and brightness control circuit

NASA-CASE-XGS-10122-1-CU c 10 N72-31273

**Power gain**

Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering

NASA-CASE-LEW-10450-1 c 15 N72-25448

Method of forming superalloys

NASA-CASE-LEW-10805-1 c 15 N72-13465

Method of heat treating a formed powder product material

NASA-CASE-LEW-10805-3 c 27 N74-15521

Method of forming articles of manufacture from superalloy powders

NASA-CASE-LEW-10805-2 c 37 N74-13179

Cermet composition and method of fabrication -- heat resistant alloys and powders

NASA-CASE-NP-13010-1 c 26 N76-35567

Method of coating a substrate with a rapidly solidified metal

NASA-CASE-GSC-12800-1 c 26 N86-35567

**Powdered aluminum**

Aluminum-iron-containing polymece adhesives

NASA-CASE-LAR-12640-1 c 27 N82-11206
QUANTUM THEORY

V-v photocathode with nitrogen doping for increased quantum efficiency

[NASA-CASE-NPO-12134-1] c 33 N76-31409

QUARTZ

Ultrasoft filter

[NASA-CASE-NPO-02340] c 23 N69-24322

Method for attaching a fused-quartz mirror to a conductive metal substrate

[NASA-CASE-MPS-21950] c 26 N77-22906

Quartz ball value

[NASA-CASE-NPO-14743-1] c 27 N80-23654

Amplification apparatus and process for housing a semiconductor growth charge under vacuum

[NASA-CASE-LAR-12847-1] c 33 N83-16633

QUARTZ LAMPS

High intensity heat and light unit

Patent

[NASA-CASE-00141-1] c 09 N70-33312

Light and shielding apparatus and process for high intensity ultraviolet lamp

[NASA-CASE-LAR-10689-1] c 34 N74-23066

QUINOLINES

Polyphenylquinolines containing pendant phenylethyl and ethyl groups -- for thermoplastic resins

[NASA-CASE-LAR-12838-1] c 27 N83-34040

RACKS (FRAMES)

Test stand system for vacuum chambers

[NASA-CASE-MFS-12192-1] c 11 N72-20267

Thrust-isolating mounting -- characteristics of support for loads mounted in spacecraft

[NASA-CASE-MPS-21950] c 18 N74-23797

Automated syringe sampler -- remote sampling of air and water

[NASA-CASE-LAR-12200-1] c 35 N81-23407

Laboratory glassware rack for seismic safety

[NASA-CASE-ARC-11422-1] c 35 N86-20751

Radar antennas

Radar antenna system for acquisition and tracking

Patent

[NASA-CASE-XMS-00610] c 07 N71-24625

Variable beamwidth antenna -- with multiple beam, variable load system

[NASA-CASE-GSC-11862-1] c 32 N76-18296

Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector

[NASA-CASE-NPO-13586-1] c 32 N81-23098

Radar attenuation

FM/CW radar system

[NASA-CASE-MFS-22224-1] c 32 N79-10264

Radar beacons

Video processor for air traffic control beacon system

[NASA-CASE-KSC-11511-5] c 04 N86-19004

Radar beams

Method and apparatus for measuring frequency and phase difference

[NASA-CASE-MSC-20866-1] c 32 N87-18692

Radar cross sections

Almost best body -- for microwave anechoic chambers

[NASA-CASE-LAR-13747-1] c 32 N86-24845

Radar data

Charge-coupled device data processor for an airborne imaging radar system

[NASA-CASE-NPO-13587-1] c 32 N77-33242

Radar detection

Method and apparatus for measuring frequency and phase difference

[NASA-CASE-MSC-20865-1] c 32 N87-18692

Radar echoes

Charge-coupled device data processor for an airborne imaging radar system

[NASA-CASE-NPO-13587-1] c 32 N77-33242

Radar equipment

Method and apparatus for mapping planets

[NASA-CASE-NPO-11001] c 07 N72-21118

FM/CW radar system

[NASA-CASE-MFS-22224-1] c 32 N79-10264

Radar image

Method of locating persons in distress -- by using radar imagery from radar reflectors

[NASA-CASE-LAR-11390-1] c 32 N77-21267

Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths

[NASA-CASE-NPO-14525-1] c 32 N83-31184

Method and apparatus for contour mapping using synthetic aperture radar


Radar measurement

Thick target measurement system

[NASA-TMS-23721-1] c 31 N79-28370

Radar range

Radar ranging receiver Patent

[NASA-CASE-NPO-07498] c 07 N73-36911

Radar receivers

Polarization diversity monopulse tracking receiver

Patent

[NASA-CASE-XGS-03051] c 09 N71-20864

Radar reflector

Radar reflector unit Patent

[NASA-CASE-MFS-12192-1] c 14 N69-39975

Noncontact temperature pattern measuring device

[NASA-CASE-17024-1-CJU] c 35 N88-24943

Radar technique

Disconnect unit

[NASA-CASE-NPO-11300] c 33 N73-26958

Fully automated mechanical release actuator

[NASA-CASE-LAR-13196-1] c 37 N77-23983

Radar thermistor

Method for forming pyrrole powdering powders and products of said method

[NASA-CASE-LAR-10423-1] c 23 N82-29358

Q SWITCHED LASERS

Optically detonated explosive device

[NASA-CASE-NPO-11743-1] c 28 N74-27425

Spatial filter for Q-switched lasers

[NASA-CASE-LAR-12164-1] c 36 N77-32479

Laser resonator

[NASA-CASE-GSC-12565-1] c 36 N84-14509

Q VALUES

Active RC networks

[NASA-CASE-ARC-10042-2] c 10 N72-11256

QUADRATIC PROGRAMMING

Quadrature demodulation

[NASA-CASE-GSC-12127-1] c 33 N78-23338

Quadratures

Automatic quadrature and measuring system -- using optical coupling circuitry

[NASA-CASE-MFS-21660-1] c 35 N74-21017

QUALITATIVE ANALYSIS

Ultrasound atomic emission detector

[NASA-CASE-NPO-10756-1] c 14 N72-25428

Analysis of volatile organic compounds -- trace amounts of organic volatiles in gas samples

[NASA-CASE-MSC-14428-1] c 23 N77-17161

Fluid sample collection and distribution system -- qualitative analysis of aqueous samples from several points

[NASA-CASE-MSC-16641-1] c 34 N79-24285

QUANTITATIVE ANALYSIS

Fluid phase analyzer Patent

[NASA-CASE-NPO-10691-1] c 14 N71-26199

Apparatus for detecting the amount of material in a reservoir container Patent

[NASA-CASE-KNP-02500] c 18 N71-23797

Ultrasound atomic emission detector

[NASA-CASE-ION-10756-1] c 14 N72-25428

Nonvolatile gas analyzing method and apparatus wherein radiation is serially passed through a reference and unirradiated stream

[NASA-CASE-ARC-10308-1] c 06 N72-31141

Analysis of volatile organic compounds -- trace amounts of organic volatiles in gas samples

[NASA-CASE-MSC-14428-1] c 23 N77-17161

Electrophoresis oxidation system for measurement of organic concentration in water

[NASA-CASE-MSC-16641-1] c 25 N82-12166

Method for detecting coliform organisms

[NASA-CASE-ARC-11322-1] c 51 N85-28849
REENTRY VEHICLES

REENTRY SHIELDING

REENTRY COMMUNICATION

REENTRY SYSTEMS

REFRACTIVE MEDIUMS

REFRACTIVE MATERIALS

REFRACTORIC COATINGS

REFRACTORIC COATINGS

REFRACTORIC MATERIALS

REFRACTORIC METALS


REGENERATION AND REUSABILITY

REGULATORY MEASURES

RESISTANCE TO HIGH TEMPERATURES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES

RESISTIVE-HEATING DEVICES
Gravity gradient attitude control system Patent
[NASA-CASE-GSC-10555-1] c 21 N71-27324
Spacecraft attitude control method and apparatus [NASA-CASE-HON-10439-1] c 21 N71-21624
Dual purpose momentum wheels for spacecraft with magnetic recording [NASA-CASE-NPO-11481] c 21 N73-13644
Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control [NASA-CASE-LFR-12021-1] c 37 N75-29462
Attitude control system [NASA-CASE-MFS-22787-1] c 15 N77-10113
Rim inertial measuring system [NASA-CASE-LAR-12021-1] c 18 N81-29152
SATELLITE COMMUNICATION
Satellite communication system Patent [NASA-CASE-XNP-02289] c 07 N77-29800
Ground plane interference elimination by passive element [NASA-CASE-NPO-11683-1-CU] c 32 N87-15390
SATELLITE CONTROL
SATELLITE DESIGN
Infusion system for balloon type satellites Patent [NASA-CASE-XG-S-03351] c 01 N71-16091
SATELLITE INSTRUMENTS
SATELLITE NETWORKS
SATELLITE OBSERVATION
SATELLITE ORBITS
Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent [NASA-CASE-HQN-00596] c 31 N71-29050
SATELLITE ORIENTATION
Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent [NASA-CASE-GSC-00468] c 21 N70-34297
Cartwheel satellite synchronization system Patent [NASA-CASE-GSC-05579] c 31 N71-15756
Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent [NASA-CASE-HQN-00396] c 31 N71-29050
Analog spatial maneuver computer [NASA-CASE-GSC-10860-1] c 08 N72-11172
SATELLITE PERTURBATION
SATELLITE POWER TRANSMISSION (TO EARTH)
Microwave power transmission beam scan system Patent [NASA-CASE-NPO-12534-1] c 35 N80-18287
SATELLITE ROTATION
Optical spin compensator [NASA-CASE-GSC-00901] c 14 N69-27485
Stretch de-spin mechanism Patent [NASA-CASE-XGS-00619] c 30 N70-40016
Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent [NASA-CASE-HQN-00597] c 31 N71-29050
Magnetic spin reduction system for free spinning objects [NASA-CASE-MFS-25966-1] c 16 N86-20522
SATELLITE TELEVISION
SATELLITE TRACKING
Tracking receiver Patent [NASA-CASE-XGS-00679] c 30 N70-21473
Simultaneous acquisition of tracking data from two stations Patent [NASA-CASE-NPO-13229-1] c 32 N75-15854
Switchable beamwith multiprobe method and system [NASA-CASE-GSC-10123-1] c 35 N75-27472
SATELLITE TRANSMISSION
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use [NASA-CASE-NPO-13321-1] c 32 N75-26185
SATELLITE-BORNE INSTRUMENTS
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multiplex receiver [NASA-CASE-NPO-11565-1] c 43 N85-21723
SATELLITE-BORNE PHOTOGRAPHY
Rotary shootingsn shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites [NASA-CASE-GSC-11560-1] c 33 N74-20861
Scanner --- photography from a spin stabilized synchronous satellite [NASA-CASE-GSC-13020-1] c 43 N82-13465
SATURABLE REACTORS
Pulse switching for high energy lasers [NASA-CASE-XNP-04556-1] c 33 N74-24418
Low power consumption current transducer [NASA-CASE-NPO-16888-1-CU] c 33 N86-23937
SATURATION
Method of detecting impending saturation of magnetic cores [NASA-CASE-ERC-10089] c 23 N72-17747
SAWS
Ingot sinking machine and method [NASA-CASE-XNP-15469-1] c 37 N85-21650
SAWTOOTH WAVESFORMS
Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent [NASA-CASE-XMS-03135] c 09 N70-41675
SCANNERS
Monopulse system with an electronic scanner [NASA-CASE-XGS-05582] c 07 N69-27460
Electronic background suppression method and apparatus for a field wheel Scan [NASA-CASE-XGS-05511] c 07 N69-29980
Method and means for an improved electron beam scanning system and method [NASA-CASE-ERC-10552] c 09 N71-12539
Electromechanical scanning of 2-channel monopulse Phased array [NASA-CASE-XNP-11386-1] c 35 N74-20009
Fast scan control for deflection type mass spectrometers [NASA-CASE-LAR-11428-1] c 35 N74-34857
Electronically scanned pressure sensor module with in STU calibration capability [NASA-CASE-LAR-12220-1] c 35 N76-13437
Scannable beam forming interferometer antenna array system [NASA-CASE-GSC-13065-1] c 32 N80-26578
Scanner --- photography from a spin stabilized synchronous satellite [NASA-CASE-GSC-13052-2] c 43 N82-13465
Optical crystal temperature gauge with fiber optic connections [NASA-CASE-MSC-18627-1] c 74 N82-30071
Scanning seismic intrusion detection method and apparatus --- monitoring unintended subterranean entry and departure [NASA-CASE-ARC-11317-1] c 35 N83-34272
Self-correcting electronically scanned pressure sensor [NASA-CASE-LAR-10396-1] c 35 N84-14491
Two-dimensional scanner apparatus --- flow detector in small flat plates [NASA-CASE-MFS-25657-1] c 35 N84-22928
Electronic scanning pressure measurement system and transducer package [NASA-CASE-XNP-11361-1] c 35 N84-22694
Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers [NASA-CASE-NPO-15345-1] c 74 N84-23247
Automatic autoranging imaging device [NASA-CASE-NPO-17900-1-CU] c 35 N85-24944
SCANNING
Television signal scan rate conversion system Patent [NASA-CASE-XMS-07168] c 07 N71-11300
Method of erasing target material of a vidicon tube or the like [Patent] [NASA-CASE-XNP-06028] c 09 N71-23189
Position determination systems --- using orbital antenna scan of celestial bodies [NASA-CASE-MSC-12053-1] c 17 N76-21250
Magnetometer with a miniature transducer and automatic scanning [NASA-CASE-LAR-11617-2] c 35 N78-32397
A-133
SIGNAL GENERATORS

- **SIGNAL MIXING**
- **SIGNAL GENERATORS**
- **Digital servo control of random sound test excitation**
- **Hall effect transducer**
- **Multiple channel telemetry system**
- **Flexible computer accessed telemetry**
- **Variable phase multiplying electronic scanning system**
- **Video sync processor**
- **Remodulator filter**
- **Feedback integrator with grounded capacitor**
- **Sidereal television signal scan rate conversion system**
- **Television signal processing system**
- **Electronic scanning of 2-channel monopulse patterns**
- **Digital modulator and demodulator**
- **Digital pulse width selection circuit**
- **Transmitting and receiving system with diversity phase lock demodulation device**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Apparatus for determining thermophysical properties of test specimens**

**APPENDIX**

- **SIGNAL CONDITIONER TEST SET**
- **Digital pulse width selection circuit**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
- **Nuclear magnetic resonance recording with expanded playback system**
- **Hybrid digital SAR azimuth correlator using hybrid FFT-transversal filter**
- **Doppler radar with multiphase modulation of transmitted and reflected signal**
- **Phased array antenna system**
Method and apparatus for background signal reduction in optic-accousto-absorption measurement

System for silencing silicon wafers

Silicon Carbides

Detectors for the deposition of beta-silicon carbide by soepoxy

Silicon Carbide

A method of producing silicon dioxide gas

Silicon Carbide

Adhesive for the bonding of silicon carbide by soepoxy

Silicon Carbide

Protection for energy conversion systems

Silicon Compounds

Perfected, high porosity graphite

Silicon Dioxide

Apparatus for using ultraviolet light in a silica gel adsorption refrigerator

Silicon Dioxide

Silicon Carbide

Scriber for silicon wafers

Silicon Carbide

Scriber for silicon wafers

Silicon Carbide

Scriber for silicon wafers

Silicon Dioxide

Silicon Carbide

Silicon Carbide...
SOLID SURFACES

SOLID SOLIDS

SOLVENT EXTRACTION

SOLUBILITY

SOLIDS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS

SOLVENTS
SPACE SHUTTLE ORBITERS
Surface containing protective thermal seal --- tail assemblies of space shuttle orbiters

SPACE PLATFORMS

SPACE NAVIGATION

SPACE MISSIONS

SPACE MAINTENANCE

SPACE FLIGHT FEEDING

SUBJECT

NASA-CASE-GSC-12899-1 c 33 N86-20669

Patent

NASA-CASE-MFS-15429-1 c 18 N84-22609

spacecraft

NASA-CASE-MSC-12391 c 05 N71-18773

Patent

NASA-CASE-MSC-12433 c 05 N71-13089

Patent

returning the reusable portion thereof to earth

returning the reusable portion thereof to earth

Patent

Patent


dependent axes of three-two axes systems

Patent

Deep space moon communication satellite system Patent

A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth

NASA-CASE-MSC-12391 c 05 N71-18773

Patent

NASA-CASE-NPO-11491 c 05 N71-13089

Patent

NASA-CASE-GSC-11188-2 c 05 N71-13089

Patent

NASA-CASE-XLS-04946 c 05 N70-34257

Patent

NASA-CASE-XLS-04946 c 05 N70-34257

Patent

NASA-CASE-MFS-15429-1 c 05 N70-34257

Patent

NASA-CASE-GSC-25963-1 c 05 N86-20669

High gradient directional solidification

NASA-CASE-MSC-25963-1 c 15 N86-20669

Patent

NASA-CASE-MSC-25963-1 c 15 N86-20669

Patent

NASA-CASE-GSC-12899-1 c 33 N86-20669

Patent

Space shuttle booster system Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent

Patent
SPACE VEHICLE DOCKING

SPACECRAFT ATTACHMENTS
- Antenna deployment mechanism for use with inflatable structure
- A cryogenic liquid propulsion apparatus and method of operating

SPACECRAFTantennas
- Antenna feed system for receiving circular polarization and transmitting linear polarization
- Common data buffer system — communication with computer equipment utilized in spacecraft operations
- Apparatus and method for determining the position of a radiant energy source
- Measurement apparatus and procedure for the determination of surface emissivities
- A radiant energy source
- A cryogenic liquid propulsion apparatus and method of operating

SPACECRAFT COMPONENTS
- Electrical connector Patent Application
- Docking system for spacecraft Patent
- Redundant attitude mechanism Patent
- Space simulator Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent

SPACECRAFT CONFIGURATIONS
- Inflatable habitat Patent
- Space and atmospheric vehicle Patent
- Spacecraft separation system for spinning vehicles and/or payloads Patent
- Space vehicle and system Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent
- Spacecraft Patent

SPACECRAFT COMMUNICATION
- Time division multiple access system
- Phase-shift data transmission system having a pseudo-noise sync code modulated with the data in a single channel Patent
- Tracking receiver Patent
- Omnidirectional microwave spacecraft antenna Patent
- Omnidirectional microwave spacecraft antenna Patent

SPACECRAFT DOCKING
- Expanding center probe and drogue Patent
- Docking structure for spacecraft Patent
- Latching mechanism Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent

SPACECRAFT DOCKING
- Expanding center probe and drogue Patent
- Docking structure for spacecraft Patent
- Latching mechanism Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent

SPACECRAFT DOCKING
- Expanding center probe and drogue Patent
- Docking structure for spacecraft Patent
- Latching mechanism Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent
- Docking structure for spacecraft Patent
Method and apparatus for mapping planets

[NASA-CASE-NPO-11001] c 07 N72-21118
Spacecraft attitude control method and apparatus

[NASA-CASE-NPO-11147] c 21 N72-21624
Pump for delivering heated fluids

[NASA-CASE-NPO-11147] c 21 N72-21624
Deploystabilized presurized cell structure for a micrometeoroid detector

[NASA-CASE-LAR-10295-1] c 35 N74-21062
Distributed-switch Dickson diode

[NASA-CASE-GSC-12210-1] c 35 N80-18355
Real-time multiple-lens look-up display system for spacecraft

[NASA-CASE-NPO-14045-1] c 32 N82-12237
Stirring cycle cryogenic cooler

[IUS-PATENT-4,258,449] c 44 N83-26574
Vibration isolation and compression apparatus for sensor instrumentation

[NASA-CASE-LAR-12729-1] c 35 N83-30206
Optical system

[NASA-CASE-NPO-15801-1] c 74 N85-23966
Fully redundant mechanical release actuator

[NASA-CASE-LAR-13198-1] c 37 N87-20983

SPACELANDING

Non-reusable kinetic energy absorber Patent

[NASA-CASE-XLE-00810] c 15 N70-34961
Foam generator Patent

[NASA-CASE-XLA-00835] c 20 N70-36778
Discrete local attitude sensing device Patent

[NASA-CASE-XMS-07926] c 14 N70-41812
Spacecraft attitude sensor

[NASA-CASE-GSC-10060-1] c 15 N71-24545
Disconneted unit

[NASA-CASE-NPO-11330] c 33 N73-26958
SPACECRAFT MODELS

Apparatus for measuring electric field strength on the surface of a model vehicle Patent

[NASA-CASE-XLE-02038] c 09 N71-19096

SPACECRAFT MODULES

Radial module space station Patent

[NASA-CASE-XMS-01006] c 31 N70-41373
Multi-mission module Patent

[NASA-CASE-XMF-01543] c 31 N71-17737
Spacecraft Patent

[NASA-CASE-MSC-13047-1] c 21 N71-25434
Thermal control system for a spacecraft modular housing

[NASA-CASE-GSC-11018-1] c 31 N73-30829
SPACECRAFT MOTION

Magnetic suspension and positioning system — on a carrier vehicle

[NASA-CASE-LAR-11889-1] c 35 N79-26372
SPACECRAFT POSITION INDICATORS

Device for determining relative angular position between a spacecraft and a radiation emitting celestial body

[NASA-CASE-GSC-11444-1] c 14 N73-28490
Spacecraft attitude sensor

[NASA-CASE-GSC-10890-1] c 21 N73-28490
SPACECRAFT POWER SUPPLIES

Spacecraft battery system Patent

[NASA-CASE-XGS-03864] c 15 N69-24320
Space vehicle electrical system Patent

[NASA-CASE-XGS-00001] c 30 N70-34231
Ionospheric battery Patent

[NASA-CASE-GSC-01593] c 30 N70-35408
Generator for a space power system Patent

[NASA-CASE-XLE-04250] c 09 N71-20446
Monostabilized multivibrator

[NASA-CASE-GSC-10062-1] c 10 N70-22021
Stacked solar cell arrays

[NASA-CASE-NPO-11171] c 03 N73-20040
Thermoelectric power system — for spacecraft

[NASA-CASE-MSF-22002-1] c 44 N76-16612
Solar energy power system

[NASA-CASE-MSF-21628-1] c 44 N76-23675
Module failure isolation circuit for parallel inverted forers — preventing system failure during power conditioning — for spacecraft applications

[NASA-CASE-NPO-14000-1] c 33 N79-24254
Linear magnetic motor/generator — to generate electric power from a flow of electric current

[NASA-CASE-NPO-14060-1] c 33 N79-24254
Linear magnetic motor/generator — to generate electric power from a flow of electric current

[NASA-CASE-NPO-13573-1] c 33 N79-24254
SPACECRAFT SAIL

Collapsible solar sail Patent

[NASA-CASE-MSF-23964-1] c 33 N79-24254
Self-aligning connector for spacecraft power system Patent

[NASA-CASE-ARC-12253-1] c 33 N79-21523
Thermal control system — removing waste heat from industrial process spacecraft

[NASA-CASE-GSC-12771-1] c 34 N84-14461
Radiation cooler — spacecraft radiators

[NASA-CASE-NPO-15465-1] c 34 N84-22903
Multi-leg heat pipe evaporator

[NASA-CASE-MSC-20862-1] c 34 N86-23793
Space vehicle thermal rejection system

[NASA-CASE-LAR-13798-5] c 18 N87-25956
SPACECRAFT RECOVERY

Assembly for recovering a capsule Patent

[NASA-CASE-XMF-00641] c 31 N70-36410
Apparatus and method of capturing an orbiting space vehicle

[NASA-CASE-GSC-11578-1] c 35 N82-24421
SPACECRAFT REENTRY

Space capsule Patent

[NASA-CASE-XLA-01469] c 31 N70-37936
Event recorder Patent

[NASA-CASE-XLA-01382] c 14 N71-21006
Ceramic-titanium grid shell thermal protection system and method thereof

[NASA-CASE-ARC-11641-1] c 24 N86-18862
SPACECRAFT SHIELDING

Aerodynamic protection for space flight vehicles Patent

[NASA-CASE-XNP-02507] c 31 N71-17679
Isotermal cover with thermostatic savers Patent

[NASA-CASE-MFS-20525] c 33 N71-25535
Stabilized zinc oxide coating compositions Patent

[NASA-CASE-XMF-07770-2] c 18 N71-26772
Electrically conductive thermal control coatings

[NASA-CASE-GSC-12001-1] c 24 N79-14156
Thermal insulation protective materials Patent

[NASA-CASE-MSC-12737-1] c 25 N79-14156
High temperature multilayer thermal control and coating — for application to spacecraft reusable heat shield

[NASA-CASE-LAR-11694-1] c 44 N83-34448
Varoic anodic thermal control coating

[NASA-CASE-LAR-12175-1] c 44 N83-34448
Shell type thermal protection system

[NASA-CASE-LAR-12962-1] c 27 N84-27886
Mechanical thermal shield

[NASA-CASE-LAR-13726-3] c 37 N85-30335
SPACECRAFT STABILITY

Reaction wheel scanner Patent

[NASA-CASE-XGS-02611-1] c 14 N71-21082
Attitude sensor

[NASA-CASE-ARC-12253-1] c 19 N74-15069
Ammunition control and target control device used for stabilization of space vehicles and the like

[NASA-CASE-LAR-11005-1] c 15 N76-14158
Telemetry system for an orbiting satellite

[NASA-CASE-MFS-23564-1] c 25 N76-25119
Attitude and position controller for a satellite

[NASA-CASE-MSC-12737-1] c 35 N80-21751
Method of damping nutation motion with minimum spin axis attitude disturbance

[NASA-CASE-GSC-12551-1] c 18 N83-26064
SPACECRAFT STRUCTURES

Collapsible loop antenna Patent

[NASA-CASE-XLE-00810] c 18 N70-40202
Electro-optical alignment control system Patent

[NASA-CASE-XMF-00908] c 14 N70-40238
Spacecraft radiator cover Patent

[NASA-CASE-MSC-12049-1] c 31 N71-16080
A-145
SURFACE CRACKS
Elastomer coated fiber and composites thereof comprising at least 60% by weight of a hydrated fiber and an elastomer containing an acid substrate

METHODS OF DETECTION

SURFACE DEFECTS

SURFACE CRACKS

SURFACE GEOMETRY

SURFACE LAYERS

SURFACE FINISHING

SURFACE ROUGHNESS

SURFACE ROUGHNESS EFFECTS

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACE WAVES

SURFACE WAVES

SURFACE WAVES

SURFACE WAVES

SURFACE WAVES

SURFACES

SURFACES

SURFACE WAVES

SURFACE WAVES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACE WAVES

SURFACE WAVES

SURFACE WAVES

SURFACE WAVES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES

SURFACES
TANTALUM ALLOYS

TANK GEOMETRY

TANGENTS

TAKEOFF

TAIL ASSEMBLIES

TAPES

TAPERED COLUMNS

TELECOMMUNICATION

TELEMETRY

TELEPHONY
TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELEVISION TRANSMISSION

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

A-156

TELEVISION SYSTEMS

Method and apparatus for aligning a laser beam projector Patent

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELEVISION RECEPTION

Method and apparatus for aligning a laser beam projector Patent

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELEVISION RECEIVERS

Method and apparatus for aligning a laser beam projector Patent

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELEVISION EQUIPMENT

Method and apparatus for aligning a laser beam projector Patent

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device

TELESCOPES

Pneumatic mirror support system

Spiral optical telescope dome control system Patent

Solar optical telescope dome control system Patent

Television transmission tracking system Patent

Method and apparatus for aligning a laser beam projector Patent

Television noise reduction device
Fibrous refractory composite insulation — shielding reusable spacecraft

Thermal insulation protection means

Process for the preparation of polycarboxylic esters & phosphazene — thermal insulation

Pre-stressed thermal protection system

Sheath the thermal protection system

Propulsion apparatus and method using boil-off gas from a cryogen

Bonded liquid coating paint

Method of making a ceramic Patent

Ultraviolet and thermally stable polymer compositions

Cryogenic liquid and highly polymerizable thermoplastics

Sound-suppressing structure with thermal relief

Insoluble silazane polymer and process for producing

Method of making a ceramic Patent

Thermopiez vacuum gage

Portable environmental control system Patent

Power system with heat pipe liquid coolant lines Patent

Uninsulated in-core thermionic diode

Silicone elastomer — combined with thermal relief

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes

Thermionic cathodes
Missile tail brake torque system -- simulating braking influence on canard controlled missiles
[NASA-CASE-LAR-12751-1] c 15 N84-16231
Dwell time pattern for guidance
[NASA-CASE-LAR-12641-1] c 05 N84-33400
Helicopter anti-torque system using strakes
[NASA-CASE-LAR-13323-1] c 05 N84-28048
Dual towline recovery device
[NASA-CASE-LAR-13076-1] c 08 N85-35200
Helicopter anti-torque system using fuselage strakes
[NASA-CASE-LAR-13369-1] c 09 N88-23969
TORQUE MOTORS
Low speed phase lock speed control system -- for brushless dc motors
[NASA-CASE-GSC-11127-1] c 09 N75-24758
Magnetic bearing and motor
[NASA-CASE-LAR-12726-1] c 37 N83-43323
TOURMETERS
Optical torque meter Patent
[NASA-CASE-XLE-00500] c 14 N70-34818
Balance torque meter
[NASA-CASE-XGS-01013] c 14 N71-23725
Pressure suit joint analyzer
[NASA-CASE-ARC-11314-1] c 54 N82-26967
TORST
Restraint torsor for a pressurized suit
[NASA-CASE-LAR-12301-1] c 05 N72-25119
Space suit torsor closure
[NASA-CASE-ARC-11100-1] c 54 N78-27126
Torsor sizing ring for construction of hard space suit
[NASA-CASE-LAR-11618-1] c 54 N86-28918
TOUCH
Mechanically actuated triggered hand
[NASA-CASE-MFS-16947-1] c 15 N72-21463
Method for measuring cutaneous sensory perception
[NASA-CASE-MSC-10609-1] c 05 N72-25122
Tactile sensing means for prosthetic limbs
[NASA-CASE-MFS-16507-1] c 05 N73-32013
TOUGHNESS
Toughening reinforced epoxy composites with brominated polymeric additives
[NASA-CASE-ARC-11427-1] c 24 N86-10680
High performance mixed bisamide resins and composites based thereon
[NASA-CASE-ARC-11508-1] c 24 N86-21590
Toughened reinforced epoxy composites with brominated polymeric additives
[NASA-CASE-ARC-11427-2] c 27 N86-27451
TOWERS
Aerial capsule emergency separation device Patent
[NASA-CASE-XLA-00937] c 31 N71-17691
Aerial capsule emergency separation device
[NASA-CASE-XNP-09768] c 09 N72-22988
Aerial capsule emergency separation device
[NASA-CASE-XNP-09752] c 32 N71-16428
Saturation current protection apparatus
[NASA-CASE-XNP-10055] c 11 N71-19494
Subgravity simulator Patent
[NASA-CASE-XMS-04798] c 11 N71-21474
Kinesthetic control simulator -- for pilot training
[NASA-CASE-LAR-10276-1] c 09 N75-15662
TRAJECTORY ANALYSIS
Means for indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent
[NASA-CASE-XNP-00708] c 14 N70-35394
Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent
[NASA-CASE-XAS-08494] c 30 N71-15990
TRAJECTORY CONTROL
Trajectory-correction propulsion system Patent
[NASA-CASE-XNP-01104] c 28 N70-39531
Trajectory control for free-flight rocket vehicles Patent
[NASA-CASE-XLA-03907] c 31 N71-17691
Apparatus for automatically stabilizing the attitude of a nonguided vehicle
[NASA-CASE-ARC-10134] c 30 N72-17873
TRANSIDUCERS
Pressure variable capacitor
[NASA-CASE-XNP-09752] c 14 N69-21541
Bootstrap unloader Patent
[NASA-CASE-XNP-09768] c 09 N71-12516
Surface vibration and measuring instrument Patent
[NASA-CASE-XLA-03150] c 32 N71-16248
Contour surveying system Patent
[NASA-CASE-XLA-08461] c 14 N70-17566
Rotary bead dropper and selector for testing micromechanical transducers Patent
[NASA-CASE-XGS-03034] c 09 N72-22988
Self-calibrating displacement transducer Patent
[NASA-CASE-XNP-10111] c 09 N72-22999
Self-calibrating strain gage system Patent
[NASA-CASE-XLA-10322] c 15 N72-21472
Split range transducer
[NASA-CASE-LAR-11189] c 10 N72-20222
TRANSMITTERS
Pulsed exaltation voltage circuit for transducers
[NASA-CASE-ARC-10056] c 09 N72-22200
Pulsed exaltation scan phase circuit
[NASA-CASE-LAR-10496-1] c 14 N72-24237
Intruder detection system
[NASA-CASE-ARC-10037-1] c 07 N73-25160
Acoustical transducer calibrating system and apparatus
[NASA-CASE-FRC-10060-1] c 14 N73-27379
Demodulator for carrier transducers
[NASA-CASE-ARC-10107-1] c 07 N74-17930
LC-oscillator using saturated amplifiers and bias current control -- power supply circuit for transducers
[NASA-CASE-MFS-12014] c 33 N74-26732
Auricular pulse wave pressure transducer
[NASA-CASE-GSC-11531-1] c 52 N74-27556
Dual-bridge output transducer for testing
[NASA-CASE-ARC-10064-1] c 33 N75-19525
Subminimetric force-sensing transducer -- including a strain gauge to measure forces in muscles
[NASA-CASE-XNP-13429-1] c 33 N75-31292
Self-supporting strain transducer
[NASA-CASE-LAR-11265-1] c 25 N75-33369
Miniature muscle displacement transducer
[NASA-CASE-XNP-13019-1] c 33 N76-19338
Miniature nonguided vehicle apparatus for nondestructive testing of pressure vessels
[NASA-CASE-LAR-12142-1] c 38 N76-25853
Myocardium wall thickness transducer and measuring method
[NASA-CASE-NPO-13644-1] c 52 N76-29895
Solid angular position transducer
[NASA-CASE-LAR-11999-1] c 44 N80-18552
Simultaneous muscle force and displacement transducer
[NASA-CASE-NPO-14212-1] c 52 N80-27072
Triaxial force transducer
[NASA-CASE-ARC-10364-3] c 33 N82-24864
Photomechanical transducer
[NASA-CASE-ARC-10389-1] c 39 N82-24864
Apparatus for locating laser position
[NASA-CASE-XNP-16147-1] c 71 N85-29683
Adjustable mount for electro-optic transducers in an evacuated cryogenic system
[NASA-CASE-XNP-13100-1] c 37 N87-23982
Low power consumption current transducer
[NASA-CASE-NPO-16888-1] c 33 N88-23397
Monitoring apparatus and method
[NASA-CASE-NPO-16975-1] c 71 N88-24241
Navigation system for land vehicles
[NASA-CASE-LAR-13022-1] c 04 N89-24620
TRANSFER FUNCTIONS
Method and apparatus for transfer function simulator for testing complex systems
[NASA-CASE-NPO-15696-1] c 33 N85-34333
TRANSFORMERS
Saturable transformer
[NASA-CASE-XNP-01110] c 07 N69-24334
Insertion loss measuring apparatus having transducer means connected across a pair of bolometers Patent
[NASA-CASE-XNP-01193] c 10 N71-16057
Saturation current protection apparatus for saturable core transformers Patent
[NASA-CASE-ARC-10057] c 09 N71-24800
Unsaturating saturable core transformer Patent
[NASA-CASE-ERC-10125] c 09 N71-24803
Electronically resettable fuse Patent
[NASA-CASE-XGS-11177] c 09 N71-27001
Voltage regulator Patent
[NASA-CASE-ERC-10113] c 09 N71-27053
Voltage regulator circuit
[NASA-CASE-ARC-10063] c 33 N72-17948
Saturation current protection apparatus for saturable core transformers Patent
[NASA-CASE-ARC-10075-1] c 09 N72-22196
Fail-safe multiple transformer circuit configuration
[NASA-CASE-XNP-11078] c 09 N72-25262
Banded transducers Patent
[NASA-CASE-NPO-11966-1] c 33 N73-17928
Slotted core current transformer
[NASA-CASE-ARC-10063] c 33 N73-17928
Transformer regulated apparatus for locating short circuits in cables
[NASA-CASE-ARC-XGS-10018] c 33 N73-18193
The image contains a page from a document discussing "TRANSISTOR CIRCUITS". It appears to be a technical text related to semiconductor devices, specifically focusing on transient heating in transistors and related circuits. The page includes references to various patents and articles related to the technology, mentioning terms like "ultra-stable oscillator with complementary transistors" and "apparatus for endoscopic examination - analysis of transition temperature". The text is dense with technical jargon and is likely part of a larger technical report or textbook on semiconductor electronics.
VINYL COPOLYMERS

VINYL COPOLYMERS

- [NASA-CASE-MFS-28057-1] c 09 N87-14355

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-MFS-28057-1] c 09 N87-14355

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193

- [NASA-CASE-ARC-11426-1] c 09 N84-12193
Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns

YAW
Three-axis controller Patent
[NASA-CASE-XAC-01404] c 05 N70-41581
Thrust augmented spin recovery device
[NASA-CASE-LAR-11570-2] c 08 N81-19130
Actuated forebody strakes
[NASA-CASE-LAR-13983-1] c 05 N88-24628

YIELD STRENGTH
High toughness-high strength iron alloy
[NASA-CASE-LEW-12542-3] c 26 N80-32484

YAW-TO-DEVICE
Stretch de-spin mechanism Patent
[NASA-CASE-XGS-00619] c 30 N70-40016

YOKES
Preloadable vector sensitive latch
[NASA-CASE-MSC-20910-1] c 37 N87-25582

YTERBIUM
Thermal barrier coating system
[NASA-CASE-LEW-14657-1] c 24 N85-35233

Z

ZEOLITES
Filter system for control of outgas contamination in vacuum Patent
[NASA-CASE-MFS-14711] c 15 N71-26185

ZINC
Potassium silicate zinc coatings
[NASA-CASE-GSC-10351-1] c 18 N72-23581
Rechargeable battery which combats shape change of the zinc anode
[NASA-CASE-ION-10862-1] c 44 N76-29699

ZINC COMPOUNDS
Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent
[NASA-CASE-XNP-01961] c 26 N71-29156
Synthesis of zinc titanate pigment and coatings containing the same
[NASA-CASE-MFS-13532] c 18 N72-17532
Brazing alloy
[NASA-CASE-XNP-03878] c 26 N75-27127
Zinc-halide battery with molten electrolyte
[NASA-CASE-NPO-11961] c 44 N76-18643
Method of preparing zinc orthotitanate pigment
[NASA-CASE-MFS-23345-1] c 27 N77-30237

ZINC OXIDES
Stabilized zinc oxide coating compositions Patent
[NASA-CASE-XMF-07770-2] c 18 N71-26772
Method of forming transparent films of ZnO
[NASA-CASE-PTC-10019] c 15 N73-12487

ZIRCONIUM
Zirconium modified nickel-copper alloy
[NASA-CASE-LEW-12245-1] c 26 N77-20201
Nickel ternary alloy having improved cyclic oxidation resistance
[NASA-CASE-LEW-13339-1] c 26 N82-31505
Thermal barrier coating system
[NASA-CASE-LEW-14057-1] c 24 N85-35233
Nickel base coating alloy
[NASA-CASE-LEW-13834-1] c 26 N87-14482

ZIRCONIUM CARBIDES
Zirconium carbide as an electrocatalyst for the chromous-chromic redox couple
[NASA-CASE-LEW-13246-1] c 44 N83-27344

ZIRCONIUM OXIDES
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide
[NASA-CASE-GSC-11577-1] c 37 N75-15992
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide
[NASA-CASE-GSC-11577-3] c 24 N79-25143
<table>
<thead>
<tr>
<th>TYPICAL INVENTOR INDEX LISTING</th>
</tr>
</thead>
</table>

#### INVENTOR INDEX

**NASA PATENT ABSTRACTS BIBLIOGRAPHY**  
**Section 2**  
**JANUARY 1989**

**ADAMS, G. D.**  
Vacuum deposition apparatus  
[NASA-CASE-XMF-01667]  
Title: Lockheed Martin Astronautics Patent  
INVENTOR INDEX  
[INVENTOR NAME]  
C 15 N71-17647  

<table>
<thead>
<tr>
<th>INVENTOR</th>
<th>TITLE</th>
<th>NASA accession number</th>
<th>NASA numeric access number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEL, L. R.</td>
<td>Optical instruments</td>
<td>NASA-CASE-MSC-14096-1</td>
<td>c 74 N74-15090</td>
</tr>
<tr>
<td>ABERNATHY, W. J.</td>
<td>Insert facing tool</td>
<td>NASA-CASE-MFS-21485-1</td>
<td>c 37 N74-25960</td>
</tr>
<tr>
<td>ADIBYAKAR, K. D.</td>
<td>Interferometer-polarimeter</td>
<td>NASA-CASE-NPO-11239</td>
<td>c 14 N73-12446</td>
</tr>
<tr>
<td>ABSHIRE, J. B.</td>
<td>Polarization compensator for optical communications</td>
<td>NASA-CASE-GSC-11792</td>
<td>c 74 N76-30053</td>
</tr>
<tr>
<td>ACHR, B. N.</td>
<td>Metal phthalocyanine polymers</td>
<td>NASA-CASE-ARC-11405</td>
<td>c 27 N84-27684</td>
</tr>
<tr>
<td>ACHRON, J. D.</td>
<td>Photosensitive device to detect bearing deviation</td>
<td>NASA-CASE-XNP-00438</td>
<td>c 21 N70-35069</td>
</tr>
<tr>
<td>ACHRON, J. D.</td>
<td>Space velocitit control apparatus</td>
<td>NASA-CASE-XNP-00465</td>
<td>c 21 N70-35095</td>
</tr>
<tr>
<td>ACHRON, J. D.</td>
<td>Attitude control for spacecraft</td>
<td>NASA-CASE-XNP-02985</td>
<td>c 31 N70-18555</td>
</tr>
<tr>
<td>ACHRON, J. D.</td>
<td>Anti-backlash circuit for hydraulic drive system</td>
<td>NASA-CASE-XNP-01020</td>
<td>c 03 N71-12260</td>
</tr>
<tr>
<td>ACRES, WILLIAM R.</td>
<td>Prevalence vector sensitive latch</td>
<td>NASA-CASE-MSC-20910-1</td>
<td>c 37 N87-25982</td>
</tr>
<tr>
<td>ACUNA, M. H.</td>
<td>Two axis fluxgate magnetometer</td>
<td>NASA-CASE-ARC-10441</td>
<td>c 14 N71-27325</td>
</tr>
<tr>
<td>ADACHI, R. R.</td>
<td>Programmable physiological infusion</td>
<td>NASA-CASE-ARC-10441-1</td>
<td>c 52 N74-22771</td>
</tr>
<tr>
<td>ADAMS, C. M., JR.</td>
<td>Pretreatment method for anti-wear materials</td>
<td>NASA-CASE-XMF-03377</td>
<td>c 15 N95-21471</td>
</tr>
<tr>
<td>ADAMS, G. D.</td>
<td>Vacuum deposition apparatus</td>
<td>NASA-CASE-XMF-01067</td>
<td>c 37 N71-17647</td>
</tr>
<tr>
<td>ADAMS, R. W.</td>
<td>High stability amplifier</td>
<td>NASA-CASE-GSC-12646</td>
<td>c 33 N83-34191</td>
</tr>
<tr>
<td>ADAMS, A. P.</td>
<td>Impact absorbing blade mounts for variable pitch blades</td>
<td>NASA-CASE-LEW-12313-1</td>
<td>c 37 N78-10468</td>
</tr>
<tr>
<td>ADAMS, M. J.</td>
<td>Ultraviolet and thermally stable polymer compositions</td>
<td>NASA-CASE-ARC-10592-2</td>
<td>c 37 N74-21154</td>
</tr>
<tr>
<td>ADAMS, K.</td>
<td>Computer multiprocessor communication system</td>
<td>NASA-CASE-NPO-15435-1</td>
<td>c 32 N85-21428</td>
</tr>
<tr>
<td>AHW, E. L., JR.</td>
<td>Latching mechanism for deployable/re-stowable components useful in satellite construction</td>
<td>NASA-CASE-LAR-13169-1</td>
<td>c 37 N86-25791</td>
</tr>
<tr>
<td>AIRTH, H. S., JR.</td>
<td>Regulated power supply</td>
<td>NASA-CASE-XMF-01991</td>
<td>c 09 N71-21449</td>
</tr>
<tr>
<td>AIKEN, S.</td>
<td>Doppler processing system</td>
<td>NASA-CASE-HQN-10740-1</td>
<td>c 72 N74-19310</td>
</tr>
<tr>
<td>AJELLO, J. M.</td>
<td>High resolution threshold photoelectron spectroscopy by electron attachment</td>
<td>NASA-CASE-NPO-14078-1</td>
<td>c 72 N80-14877</td>
</tr>
<tr>
<td>AJORN, H. S.</td>
<td>High efficiency multifrequency feedback</td>
<td>NASA-CASE-GSC-11909</td>
<td>c 32 N74-20863</td>
</tr>
<tr>
<td>AKAWIE, R.</td>
<td>Thiophenyl ether disloxanes and trisloxanes useful as lubricant fluids</td>
<td>NASA-CASE-MFC-22411-1</td>
<td>c 37 N74-21058</td>
</tr>
<tr>
<td>AKKERMANN, J. W.</td>
<td>Reacquiring engines</td>
<td>NASA-CASE-MSC-16239-1</td>
<td>c 37 N81-32510</td>
</tr>
<tr>
<td>ALADJAZZADYAN, SAMUEL H.</td>
<td>Generation of intense negative ion beams</td>
<td>NASA-CASE-NPO-16001-1</td>
<td>c 37 N85-21960</td>
</tr>
<tr>
<td>ALARIO, J. P.</td>
<td>Monogroove heat pipe design: Insulated liquid channel with bridging wick</td>
<td>NASA-CASE-MSC-20497-1</td>
<td>c 34 N85-29190</td>
</tr>
<tr>
<td>ALBRIGHT, W. P.</td>
<td>Fifth wheel</td>
<td>NASA-CASE-ARC-11370-1</td>
<td>c 37 N77-14477</td>
</tr>
<tr>
<td>ALBRIGHT, G. F.</td>
<td>Water management system and an electrolytic cell therefor</td>
<td>NASA-CASE-ARC-11069-1</td>
<td>c 03 N71-24718</td>
</tr>
<tr>
<td>ALBRIGHT, W. P.</td>
<td>Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium black with palladium black</td>
<td>NASA-CASE-MSC-13351-1</td>
<td>c 06 N72-31140</td>
</tr>
<tr>
<td>ALBUS, J. S.</td>
<td>Light sensitive digital aspect sensor</td>
<td>NASA-CASE-GSC-20120</td>
<td>c 17 N78-17140</td>
</tr>
<tr>
<td>ALCORN, G. E.</td>
<td>Imaging X-ray spectrometer</td>
<td>NASA-CASE-GSC-12682-1</td>
<td>c 35 N84-33765</td>
</tr>
<tr>
<td>ALDRICH, D. R.</td>
<td>Underwater space suit pressure control regulator</td>
<td>NASA-CASE-ARC-11800-1</td>
<td>c 37 N76-10468</td>
</tr>
<tr>
<td>ALDRICH, B. R.</td>
<td>Underwater space suit pressure control regulator</td>
<td>NASA-CASE-ARC-11900-1</td>
<td>c 37 N75-21512</td>
</tr>
<tr>
<td>ALEGRE, E. G.</td>
<td>Flexible joint for pressurizable garment</td>
<td>NASA-CASE-MSC-11012</td>
<td>c 54 N74-31456</td>
</tr>
<tr>
<td>ALEXANDER, J.</td>
<td>Disconnect unit</td>
<td>NASA-CASE-NPO-11300</td>
<td>c 33 N73-26958</td>
</tr>
<tr>
<td>ALFORD, W. J., JR.</td>
<td>Variable sweep wing configuration</td>
<td>NASA-CASE-XLA-00230</td>
<td>c 02 N70-33253</td>
</tr>
<tr>
<td>ALGER, D. L.</td>
<td>Deuteron pass through target</td>
<td>NASA-CASE-ARC-11166-1</td>
<td>c 72 N76-15860</td>
</tr>
<tr>
<td>ALGREN, F.</td>
<td>Method of forming metal hydride films</td>
<td>NASA-CASE-ARC-11203</td>
<td>c 37 N78-13436</td>
</tr>
<tr>
<td>ALGREN, F.</td>
<td>Closed loop spray cooling apparatus</td>
<td>NASA-CASE-ARC-11981</td>
<td>c 37 N76-17237</td>
</tr>
<tr>
<td>ALGREN, F.</td>
<td>Closed loop spray cooling apparatus</td>
<td>NASA-CASE-ARC-11981-1</td>
<td>c 34 N74-20326</td>
</tr>
<tr>
<td>ALLCOCK, H. R.</td>
<td>Process for the preparation of polycarboranylphosphazenes</td>
<td>NASA-CASE-ARC-11176-2</td>
<td>c 27 N81-22721</td>
</tr>
<tr>
<td>ALLEN, J. D.</td>
<td>TEAMCARBO, LLC for the production of polycarboranylphosphazenes</td>
<td>NASA-CASE-ARC-11176-1</td>
<td>c 27 N82-18389</td>
</tr>
<tr>
<td>ALLEN, E. G.</td>
<td>Electric welding torch</td>
<td>NASA-CASE-XMF-02330</td>
<td>c 15 N71-23798</td>
</tr>
<tr>
<td>ALLEN, H. R.</td>
<td>Apparatus for igniting solid propellants</td>
<td>NASA-CASE-XLE-00207</td>
<td>c 38 N70-33375</td>
</tr>
<tr>
<td>ALLEN, H. R.</td>
<td>Method of igniting solid propellants</td>
<td>NASA-CASE-XLE-01988</td>
<td>c 27 N71-15634</td>
</tr>
</tbody>
</table>
BERNSTEIN, B. Electrical apparatus for detection of thermal decomposition of insulation Patent
[NASA-CASE-XMF-03968] c 14 N71-27186

BERNSTEIN, A. J. Automatic communication signal monitoring system
[NASA-CASE-NPO-13941-1] c 32 N79-10262

BERNIER, B. Trust augmented spin recovery device
[NASA-CASE-LAR-11970-2] c 08 N81-19130

BERRY, E. H. Positive dc to positive dc converter Patent
[NASA-CASE-XMF-14301] c 09 N71-23188

BERRY, E. H. Positive dc to negative dc converter Patent
[NASA-CASE-XMF-08217] c 14 N70-18651

BERRY, MAGGIE L. Method of radiographic inspection of wooden members
[NASA-CASE-LAR-13724-1] c 38 N88-23983

BERRY, R. F. Jr. Ultrasonic angle beam standard reflector
[NASA-CASE-LAR-13153-1] c 71 N86-21276

BERRY, ROBERT F., Jr. Apparatus and procedure to detect a liquid-solid interface during growth in a Bridgman furnace
[NASA-CASE-LAR-13957-1-CU] c 25 N87-23713

BERRY, ROBERT L. Method of radiographic inspection of wooden members
[NASA-CASE-LAR-13724-1] c 38 N86-23983

BERSON, A. Portable 90 degree proof loading device Patent
[NASA-CASE-MSC-02050-1] c 35 N86-19581

BESSETTE, R. J. Space suit
[NASA-CASE-MSC-12606-1] c 05 N73-32012

BEDWICK, A. Q. Lunar penetrometer Patent
[NASA-CASE-XLA-09934] c 14 N71-27285

BEUTYKIAN, C. S. Tube dimpling tool Patent
[NASA-CASE-XMS-00876] c 44 N70-19443

BECKER, R. Direct heating surface combustor
[NASA-CASE-LAR-11877-7] c 34 N78-27357

BEREY, R. T. Method and apparatus for wavelength tuning of liquid lasers
[NASA-CASE-ARC-10599-1] c 27 N74-20516

BERG, G. R. Method and apparatus for precision joining of large diameter tubes Patent
[NASA-CASE-LEW-14318-1] c 20 N78-10174

BERTOLASO, T. Device and method for fractionally testing materials for ignitability Patent
[NASA-CASE-MSC-20662-1] c 25 N86-19413

BERTHELTON, S. Image readout device with electronically variable spatial resolution
[NASA-CASE-LAR-12633-1] c 38 N82-24416

BERDALH, C. M. Selection area control of X-ray film exposure density
[NASA-CASE-NPO-13068-1] c 35 N78-15461

BERG, R. H. Thermal energy transformer
[NASA-CASE-NPO-14059-1] c 44 N70-19443

BERTHOMONDO, G. B. Method of making fiber composites
[NASA-CASE-LEW-14024-2-2] c 18 N72-25539

BERHAD, C. M. Selective image area control of X-ray film exposure density
[NASA-CASE-NPO-13068-1] c 35 N78-15461

BERTHIER, R. D. Fluidic angular velocity sensor
[NASA-CASE-LAR-12633-1] c 38 N82-24416

BERG, R. H. Method and apparatus for precision joining of large diameter tubes Patent
[NASA-CASE-LEW-14318-1] c 20 N78-10174

BERER, T. J. Metal and apparatus for precision joining of large diameter tubes Patent
[NASA-CASE-LEW-14318-1] c 20 N78-10174

BERKOWITZ, R. D. Process for precleaning liquid metal electrical contact device
[NASA-CASE-LEW-11978-9] c 33 N77-26385

BERGIN, P. A. Solar cell grid patterns
[NASA-CASE-NPO-13087-2-7] c 44 N76-31666

BERLINGER, J. D. Measuring device Patent
[NASA-CASE-XMS-01548] c 14 N70-40233

BERNAKOWITZ, D. T. Method of making silicon solar cell array
[NASA-CASE-LEW-11969-1] c 44 N74-14784

BERNSDEN, B. Electrical apparatus for detection of thermal decomposition of insulation Patent
[NASA-CASE-XMF-03968] c 14 N71-27186

A. J. Automatic communication signal monitoring system
[NASA-CASE-NPO-13941-1] c 32 N79-10262

B. Trust augmented spin recovery device
[NASA-CASE-LAR-11970-2] c 08 N81-19130

B. Positive dc to positive dc converter Patent
[NASA-CASE-XMF-14301] c 09 N71-23188

B. Positive dc to negative dc converter Patent
[NASA-CASE-XMF-08217] c 14 N70-18651

L. Method of radiographic inspection of wooden members
[NASA-CASE-LAR-13724-1] c 38 N88-23983

A. Portable 90 degree proof loading device Patent
[NASA-CASE-MSC-02050-1] c 35 N86-19581

R. J. Space suit
[NASA-CASE-MSC-12606-1] c 05 N73-32012

A. Q. Lunar penetrometer Patent
[NASA-CASE-XLA-09934] c 14 N71-27285

C. S. Tube dimpling tool Patent
[NASA-CASE-XMS-00876] c 44 N70-19443

H. Direct heating surface combustor
[NASA-CASE-LAR-11877-7] c 34 N78-27357

G. B. Method of making fiber composites
[NASA-CASE-LEW-14024-2-2] c 18 N72-25539
Flavan coenzyme assay [NASA-CASE-GSC-10565-1] c 06 N72-25149 
[NASA-CASE-GSC-11092-2] c 04 N73-27052 
Measurement of firefly luciferase using reduced pressure and molecular sieves [NASA-CASE-GSC-10225-1] c 06 N73-27086 
[NASA-CASE-GSC-11258-1] c 05 N83-27505 
CHREITZBERG, A. M. 
Electric battery and method for operating same Patent [NASA-CASE-XNP-01674] c 03 N71-29212 
CHRISTENSEN, W. W. 
Chelate-modified polymers for atmospheric gas chromatography 
[NASA-CASE-ARC-11154-1] c 25 N80-23383 
CHRISTMAN, L. M. 
Resuscitation apparatus Patent [NASA-CASE-XMS-01115] c 05 N70-39292 
CHRISTOPHER, P. A. 
Method of fabricating an object with a thin wall having a precisely shaped slit 
[NASA-CASE-LAR-10409-1] c 31 N74-21059 
CHRISTY, C. L. 
Insoluble sialic oligomer and process for producing same 
[NASA-CASE-YMF-02526-1] c 27 N79-21190 
CHU, H. P. 
Method of coating a substrate with a rapidly solidified metal 
[NASA-CASE-GSC-12690-1] c 26 N86-32550 
CHU, T. L. 
Fabrication of polycrystalline solar cells on cost substrates 
[NASA-CASE-GSC-12022-1] c 44 N76-28605 
Process for utilizing low-cost graphite substrates for polycrystalline solar cells 
[NASA-CASE-GSC-12022-2] c 44 N76-24609 
CHUDD, D. L. 
Thermionic photovoltaic energy converter [NASA-CASE-LEW-14077-1] c 44 N85-34441 
CHUMLEY, J. F. 
CHUJITAIN, A. N. 
High resolution threshold photodiode spectroscopy by electron attachment [NASA-CASE-NPO-14708-1] c 72 N80-14877 
CHUJITAIN, A. N. 
Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector 
[NASA-CASE-NPO-16372-1] c 72 N86-33127 
CHUJITAIN, ARA 
Generation of intense negative ion beams 
[NASA-CASE-NPO-16501-1-CU] c 72 N87-21660 
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661 
[NASA-CASE-XNP-09451] c 72 N88-25281 
CIEFLUCH, C. C. 
CISSELL, R. E. 
CISEK, T. P. 
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt 
[NASA-CASE-XNP-13969-1] c 76 N79-25798 
Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width 
[NASA-CASE-NPO-14295-1] c 76 N80-32245 
CLAYING, R. G. 
Joining leads wire to thin platinum alloy films [NASA-CASE-LEW-12934-1] c 35 N83-35338 
CLANCY, JOHN P. 
Linear force device [NASA-CASE-MSC-20549-2] c 35 N88-24927 
CLAPP, W. M. 
CLARK, C. E. 
Helmet weight simulator [NASA-CASE-LAR-12320-1] c 54 N81-27806 
CLARK, F. L. 
CLARK, H. K. 
Thermal pump-compressor for space use Patent [NASA-CASE-XLA-00377] c 33 N71-17610 
CLARK, I. O. 
Amplifier assembly apparatus and process 
[NASA-CASE-LAR-12847-1] c 33 N83-16633 
CLARK, J. R. 
Automated fluid chemical analyzer Patent [NASA-CASE-XNP-09451] c 09 N71-26754
B-14

COLLIER, L. Garments for controlling the temperature of the body Patent [NASA-CASE-XMS-10289] c 05 N71-21417


COOK, T. A. Metering gun for dispensing precisely measured charges of fluid Patent [NASA-MFS-21613-1] c 54 N74-17863


COOPER, C. R. Generator for a space power system Patent [NASA-CASE-MFS-20323-2] c 05 N72-25012


CONIGLIO, G. V. Petreson type objective including field shaping lens Patent [NASA-CASE-GSC-10700] c 23 N71-30027


CORNELLA, J. E., Jr. Absorbent product for absorbable fluids Patent [NASA-CASE-MSC-16223-1] c 24 N82-29362


COUCHANT, J. L. Wind tunnel supplementary Mach number minimum section Patent [NASA-CASE-LAR-12532-1] c 09 N82-11088


COUCHAR, R. H. Apparatus for aiding a pilot in avoiding a midair collision between aircraft Patent [NASA-CASE-LAR-10717-1] c 21 N73-30041


COULT, J. C. Active control system for a turbomachine Patent [NASA-CASE-LEW-12938-1] c 07 N82-32366


COULTER, R. H. Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system Patent [NASA-CASE-NPO-11302-1] c 07 N73-13149

COWK, J. J. Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator Patent [NASA-CASE-NPO-14023-1] c 07 N82-20804


DINER, DANIEL B.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

Dondovan, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.

DINAS, DARIUSH

DOBIES, E. F.

DOMAS,

DOLAND, G. D.

DONELLY, P. C.

DONNING, J. M.

DONHOUE, J. H.

DONOVAN, B. P.

DONOVAN, G.

DINER, DANIEL B.
HASLIM, L. A.
HASLER, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. L.
R. W.
G. A.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE_R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PersoNAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. L.
R. W.
G. A.
W. D.
D. R.
D. R.
W. D.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE_R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.

PERSONAL AUTHOR INDEX

HARVEY, W. D.
D. R.
M. J.
R.
W.
G. A.
D. R.
D. R.
W. D.
D. R.
W. D.
D. R.
W. L.
R.
W.
A.
R. E.

HASLIM, L. A.
HASLE-R, R. A.
HARVEY, G. A.
HARTENSTEIN, R. G.
HART-SMITH, L. J.
HARRISON, F. L.
HARRISON, E. S.
HARRIS, R. P.
HARRIS, R. F.
Method for repair of thin glass coatings
[NASA-CASE-KSC-11079-1] c 27 N82-33520

HOLT, N. L.
Scan converting video tape recorder
[NASA-CASE-NPO-11966-2] c 07 N73-22076
Scan converting video tape recorder
[NASA-CASE-NPO-11166-2] c 35 N76-15391
Electromagnetic recording head having a laminated core section and tapered gap
[NASA-CASE-NPO-11711-1] c 35 N71-23792

HOLLAY, R. F.
Coating process
[NASA-CASE-XNP-06506] c 18 N69-39085

HOLWAY, H. P.
Model launcher for wind tunnels Patent
[NASA-CASE-NPO-13549-1] c 11 N71-23030
Mobile sampler for use in acquiring samples of terrestrial atmospheric gases
[NASA-CASE-NPO-15520-1] c 45 N83-25217

HOMIKES, R. J.
Multiparameter vision testing apparatus
[NASA-CASE-MSC-13061-2] c 54 N75-27759

HONEY, R. W.
Optimum predetection diversity receiving system Patent
[NASA-CASE-XGS-00740] c 07 N71-23098

HONEYCUTT, L., III
Thermal shock and erosion resistant tantalum carbide ceramic material
[NASA-CASE-LAR-11902-1] c 27 N78-17206

HONG, J. P.
Real time analysis of voiced sounds
[NASA-CASE-NPO-13459-1] c 32 N76-11377
System and method for character recognition
[NASA-CASE-NPO-11133-1] c 74 N81-19896

HORN, S. D.
Doublebeam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect
[NASA-CASE-NPO-11137-1] c 74 N81-19878
Broadband optical radiation detector
[U.S.-PATENT-2,462,198] c 74 N83-19597

HORNELL, R. A.
Automatic frequency control for FM transmitter
[NASA-CASE-MFS-21560-1] c 37 N78-17490
Isolated output switch system for a class D switching-mode amplifier
[NASA-CASE-MFS-21616-1] c 33 N75-30429

HORNING, C. D.
Frequency modulated oscillator
[NASA-CASE-MFS-23181-1] c 33 N77-17351

HOOD, R. T.
Half current measuring apparatus having a series resistor for temperature compensation Patent
[NASA-CASE-XAC-10662] c 14 N71-20037

HOOD, W. R.
Detection of the transitional layer between laminar and turbulent flows on a wing surface
[NASA-CASE-LAR-11902-1] c 02 N80-20224

HOOP, J. M.
Method and apparatus for nondestructive testing
[NASA-CASE-MFS-21243-1] c 38 N74-15395
Ultrasoundic densitometer
[NASA-CASE-MFS-20994-1] c 35 N75-12727

HOOPER, C. D.
Extensometer Patent
[NASA-CASE-XMF-04680] c 15 N71-19489

HOOPER, S. L.
Self-charging metering and dispensing device for fluid
[NASA-CASE-MSC-20725-1] c 35 N85-21595

HOOVER, R. B.
Collimator of multiple plates with axially aligned identical random arrays of apertures
[NASA-CASE-MFS-20546-1] c 14 N73-30039
Automatic light detection and photographic system
[NASA-CASE-KSC-10728-1] c 14 N73-23219
Three error-gain adjusting system for X-ray telescope
[NASA-CASE-MFS-21372-1] c 74 N74-27866
Multipurpose focusing collimator
[NASA-CASE-MFS-20932-1] c 35 N75-19616
Method for retaining dye fading during archival storage of developed color photographic film
[NASA-CASE-MFS-22550-1] c 35 N88-11142
Extended range X-ray telescope
[NASA-CASE-MFS-25942-1] c 34 N88-19015
Spectral slicing X-ray telescope with variable magnification
[NASA-CASE-MFS-25941-1] c 74 N86-20124
Multispectral imaging incidence X-ray telescope
[NASA-CASE-MFS-28013-1] c 89 N86-22549

HOWE, R. C.
Extrusion die for refractory metals Patent
[NASA-CASE-XLA-00773] c 15 N71-23817

HOPKINS, P. M.
Differential phase shift keying communication system
[NASA-CASE-MSC-14066-1] c 32 N74-26654
Differential phase shift keying signal modulator
[NASA-CASE-MSC-14066-1] c 33 N74-27050
Apparatus and method for stabilized phase detection for binary signal tracking
[NASA-CASE-MSC-16641-1] c 33 N79-11312

HOPKINS, V.
Inorganic solid film lubricants Patent
[NASA-CASE-XMF-03986] c 15 N71-21402

HOPPER, J. H.
Thermal garment
[NASA-CASE-XSM-03694-1] c 54 N82-29002

HOPPING, R. L.
Landing gear Patent
[NASA-CASE-XMF-01174] c 02 N70-11781

HOPPS, PURNELL, J.
Method of forming a multiplate dielectric and a holographic film sensor thereof
[NASA-CASE-LAR-13676-1] c 76 N88-23559

HORNE, W. B.
Aircraft wheel spray drag alleviator Patent
[NASA-CASE-XLA-01583] c 02 N70-38625

HORN, L. W.
Optical noise suppression device and method
[NASA-CASE-MSC-12840-1] c 74 N76-31996

HORNTON, D. B.
Instrument support with precise lateral adjustment Patent
[NASA-CASE-XSM-00480] c 14 N70-39888

HORTON, J. C.
Method of making impurity-type semiconductor contact Patent
[NASA-CASE-XMF-00106] c 26 N71-17811

HORTTOR, R. L.
Method and apparatus for making maps Patent
[NASA-CASE-NPO-11001] c 07 N72-21110

HOSCENTHEN, H. H.
Adaptive tracking notch filter system Patent
[NASA-CASE-XMF-01892] c 10 N71-21998

HOTZ, G. M.
Soil penetrator Patent
[NASA-CASE-XNP-05530] c 14 N73-3322

HOURD, W. K.
Voltage dropout sensor Patent
[NASA-CASE-KSC-10900] c 10 N71-2739

HOURD, W. C.
Ripple indicator
[NASA-CASE-KSC-10162] c 09 N72-1122

HOURD, W. C.
Signal conditioner test set
[NASA-CASE-KSC-10750-1] c 35 N75-12727

HOUSEMAN, J.
Hydrogen rich gas generator
[NASA-CASE-NPO-13342-1] c 37 N76-1944

HOUSEMAN, J.
Hydrogen-rich gas generator Patent
[NASA-CASE-NPO-14544-1] c 44 N76-1864

HOUSEMAN, J.
Hydrogen rich gas generator Patent
[NASA-CASE-NPO-13426-1] c 44 N76-2970

HOUSEMAN, J.
Hydrogen-rich gas generator Patent
[NASA-CASE-NPO-16860-1] c 44 N76-1576

HOUSEMAN, J.
Combustion engine
[NASA-CASE-NPO-13671-1] c 37 N73-3140

HOUSEMAN, J.
Start up system for hydrogen generator used with a internal combustion engine
[NASA-CASE-NPO-13649-1] c 28 N80-10837

HOWARD, E. A.
Soil penetrator
[NASA-CASE-XNP-05530] c 14 N73-3322

HOWARD, E. A.
Burrowing apparatus Patent
[NASA-CASE-XNP-07169] c 15 N73-3328

HOWARD, F. S.
Zero gravity shadow shield aligner
[NASA-CASE-KSC-10626] c 31 N72-2178

HOWARD, F. S.
Geysing mirror for vertical cryogenic transfer pipe
[NASA-CASE-KSC-10165] c 15 N73-1244

HOWARD, F. S.
Floating baffle to improve efficiency of liquid transfer from tanks Patent
[NASA-CASE-KSC-10639] c 15 N73-364

HOWARD, F. S.
Zero gravity liquid transfer screen Patent
[NASA-CASE-KSC-10626] c 31 N72-2178

HOWARD, J. C.
 zero gravity system for twisting or attaching bending means of elastic bodies Patent
[NASA-CASE-XAC-05632] c 32 N71-2399

HOWARD, J. C.
Glass measuring and indicator apparatus
[NASA-CASE-ARC-10806-1] c 35 N75-2993

HOWARD, P. W.
Apparatus for reducing aerodynamic noise in a wind tunnel
[NASA-CASE-MFS-23099-1] c 09 N76-2232
JOHNSON, R. W.
JOHNSON, R. D.
JOHNSON, JOSEPH L., JR.
JOHNSON, J. L.
JOHNSON, J. E., JR.
JOHNSON, E. G.
JOHNSON, D. L.
JOHNSON, C. E.

B-36

porous matrices within a reciprocating displacer

[15 N71-24045]

Patent

[11 N74-25862]

Johnston, R. L.

Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples

[10 N72-20032]

JOHNSTON, R. P.

Variable area exhaust nozzle

[12 N71-20436]

JOHNSTON, M. F.

Gas path seal

[15 N71-19076]

JOHNSON, J. E.

Microfluidic exchange coupling apparatus

[20 N71-29049]

JOHNSTON, J. D.

Wrist port assembly

[15 N71-24045]

JOHNSTON, J.

Variable air gas turbine engines

[37 N71-17384]

JOHNSTON, J. M.

Preparation of monolithic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown

[26 N80-23419]

JOHNSTON, MARY H.

Laser diode crystalline monitor

[34 N74-27889]

JOLLEY, J.

Lightweight reflector assembly

[74 N71-28933]

JONES, E. W.

Coil-react interface detector

[43 N79-31706]

JONES, H.

Adjustable mount for electro-optic transducers in an evacuated cryogenic system

[37 N87-23982]

JONES, J. F.

Reinforced structural plastics

[27 N74-23125]

JONES, J.

Lightning tracking system

[27 N74-23125]

JONES, J.

Lighting current measuring systems

[23 N76-25715]

JONES, J.

Patent

[12 N70-33035]

JOHNSON, V. E., JR.

Hydrofoil Patent

[31 N71-15909]

JOHNSTON, W. V.

Patent

[18 N79-11108]

JOHNSON, W. C.

Boiler for generating high quality vapor Patent

[10 N71-26285]

JOYNER, U. T.

Patent

[26 N72-27734]

JORDON, W. J.

Inspection gage for boss Patent

[14 N71-17658]

JORDAN, C. S.

Current measuring device using plural logarithmic response heated filamentary types Patent

[10 N71-13530]

JORDAN, C. W.

Boiler Patent

[16 N71-15550]

JUERGENS, K.

Regenerative braking system Patent

[52 N71-14731]

JUHASZ, A. J.

Controlled separation combuster

[20 N71-16039]

JURSIAGA, G. M.

Method of fabricating an article with cavities

[15 N71-13949]

JUVINALL, G. L.

Triaxial-dialtonallant and niobiunm compounds Patent

[06 N71-2880]
Meyers, T. N.  
Method of producing silicon  
[NASA-CASE-NPO-14382-1]  

Meyers, J. F.  
Autocorrelation computer  
[NASA-CASE-LAR-12966-1]  

Meyers, James F.  
Frequency domain laser velocimeter  
[NASA-CASE-LAR-13552-1-CU]  

Micale, F. J.  
Procedure for preparation of large-particle-size  
photosensitive latexes  
[NASA-CASE-MFS-25000-1]  

Michael, E. J.  
Connectic - Electrical  
[NASA-CASE-XLA-01288]  

Micka, E. Z.  
Copolyimides  
[NASA-CASE-ARC-11533-1]  

Middleton, A.  
Unire collection device  
[NASA-CASE-MSC-16433-1]  

Middleton, J. Ho  
Urethane acrylate polymer  
[NASA-CASE-XLA-09711]  

Middleton, J. W.  
Refrigerant and method for making same  
[NASA-CASE-ARC-11649-1]  

Middleton, W. D.  
Supersonic aircraft  
[NASA-CASE-XLA-01618]  

Mierschin, J. L.  
Coating filter device  
[NASA-CASE-XLA-05066]  

Mikryannidis, J. A.  
Polymer of phosphonylmethyl-2,4- and -2,6-diamino  
benzenes  
[NASA-CASE-NPO-13098-2]  

Mikulas, M. J.  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1]  

Mikulas, Martin M., Jr.  
Deployable high-mass truss structure  
[NASA-CASE-LAR-13113-1]  

Mildice, J. F.  
Light radiation direction indicator with a battle of two parallel  
girds  
[NASA-CASE-XNP-03990]  

Miles, P. A.  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1]  

Miles, R. T.  
Oceanic wave measurement system  
[NASA-CASE-MFS-21986-1]  

Milka, V.  
Method for making 4 a hot wire anemometer and product  
derived thereof  
[NASA-CASE-ARC-10900-1]  

Millen, E. W.  
Aircraft trimmer  
[NASA-CASE-LAR-12516-1]  

Miller, A. J.  
Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1]  

Miller, R. A.  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1]  

Miller, R. D.  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1]  

Mikkle, R. E.  
Densimeter Patent  
[NASA-CASE-XLE-00688]  

Ming, G. G.  
Doping targets for ion beam particle generators  
[NASA-CASE-NPO-13121-1]  

Mills, Jr.  
Sampler of gas born particles  
[NASA-CASE-NPO-13996-1]  

Mills, J. C.  
Indicator providing continuous indication of the presence  
of a specific pollutant in air  
[NASA-CASE-NPO-13014-1]  

Mills, M. K.  
Compact, high intensity arc lamp with internal magnetic  
field producing means  
[NASA-CASE-NPO-13459-1]  

Minkin, H. L.  
Patent  

Miller, E. L.  
Electronic system for high power load control  
[NASA-CASE-NPO-15358-1]  

Miller, H. B.  
Emulsification and rice oil  
[NASA-CASE-NPO-15485-1]  

Miller, J. A.  
Apparatus for detecting the amount of material in a  
resonant cavity container  
[NASA-CASE-XNP-02550]  

Miller, J. E.  
Satellite clock synchronization system  
[NASA-CASE-GSC-10590-1]  

Miller, J. G.  
Ultrasonic calibration device  
[NASA-CASE-MFS-21513-1]  

Miller, L. J.  
Boring bar drive mechanism  
[NASA-CASE-XLA-09661]  

Miller, W. E.  
Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786]  

Miller, W. R.  
Corrosion resistant thermal barrier coating  
[NASA-CASE-LEW-12098-1]  

Miller, J. F.  
Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974]  

Mills, C. H.  
Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1]  

Mills, C. H.  
Antenna array at focal plane of reflector with coupling  
network for beam switching Patent  
[NASA-CASE-GSC-10220-1]  

Mills, R. C., Jr.  
Spherical measurement device  
[NASA-CASE-XLA-06683]  

Mills, S. M.  
Satellite despin device Patent  
[NASA-CASE-XMF-08523]  

Minkin, H. L.  
Rapid quantification of an internal property  
[NASA-CASE-LAR-13689-1-NP]  

Minkin, L. H.  
Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02996]  

B-49
PSALTIS, D. R.
Ringing system which compares an object reflected component of a light beam to a reference component of the light beam [NASA-CASE-NPO-15865-1] c 74 N85-34629

PSARRAS, T.
Perfluoroalkyl polyfluorazanes containing pendant
indocyanine groups [NASA-CASE-NAR-11241-1] c 25 N81-14016

PRUCINELLI, A. A.
Three-axis control system [NASA-CASE-XAC-01404] c 05 N70-41581
Transfer valve Patent [NASA-CASE-XAC-01158] c 15 N71-23051

PULLING, R. C.
Integrated thermoelectric generator/space antenna combination [NASA-CASE-XER-09521] c 09 N72-12136

PUSCELL, T. H., JR.
Electric storage battery [NASA-CASE-NPO-11021] c 03 N72-20032

PUTNAM, D. F.
Electrolytic cell structure [NASA-CASE-LAR-11401-2] c 33 N75-27252

Q

GADER, S. A.
Solar heated fluidized bed gasification system [NASA-CASE-NPO-15071-1] c 44 N82-16475

QUATINETZ, M.
Gas purged dry box glove Patent [NASA-CASE-XLE-02531] c 05 N71-23080

QUATTROINE, P. D.
Exposure system for animals Patent [NASA-CASE-XAC-05333] c 11 N72-22875

R

Rains, R. W.
High speed light vehicle control Patent [NASA-CASE-XLA-09897] c 02 N71-27088

Rainwater, L. L.
Collapsible antenna boom and transmission line Patent [NASA-CASE-MFS-20066] c 07 N71-27191

Raney, R. M.
Depositing semiconductor films utilizing a thermal gradient [NASA-CASE-XS-04614] c 15 N69-21460
Active microwave inres and windows Patent [NASA-CASE-LAR-10513-1] c 07 N72-25170
Thin film microwave ins [NASA-CASE-LAR-10511-1] c 09 N72-29172

Ramme, F. B.
Method of removing insulated material from insulated wires Patent [NASA-CASE-FRC-10038] c 15 N72-20444

RamoHAlli, K. R.

Rand, J. D.

Randall, L. A.
Patent

Randy, J. P.

Rao, R. M.
Aerodynamic side-force alleviator means [NASA-CASE-LAR-12526-1] c 02 N81-14068

Rapos, P. L.
Parasitic suppressing circuit [NASA-CASE-XEL-14003-1] c 10 N70-25226

Raposo, E. A.

Rausmussen, N.
Transparent switchboard Patent [NASA-CASE-MSC-13746-1] c 10 N73-32143

Rasquin, J. R.
Angular measurement system Patent [NASA-CASE-XMF-00447] c 14 N70-33179
Electro-optical alignment control system Patent [NASA-CASE-XMF-00008] c 14 N70-40238

Rassweiler, G. G.
Life raft stabilizer Patent [NASA-CASE-MSC-12609-1] c 05 N73-32012
Three-axis controller Patent [NASA-CASE-XER-09521] c 09 N72-12136

Rath, T. J.
Method and apparatus for supercooling and solidifying substances [NASA-CASE-MFS-25242-1] c 35 N85-29650

Rayas, R. J.

Ravenhall, R.

B-58

PERSONAL AUTHOR INDEX
SUPPLEE, F. H., JR.
SUPPLEE, F.
SUMMERS, R. H.
SUMMERFIELD, D. G.
SULLIVAN, T. E.
SULLIVAN, T. E.
SWOROS, B. S.
SWEAT, J. C.
SWANSON, CHARLES P.
SWAIN, R. L.
SWAIM, R. J.
TABACK, I.
TALBOT, M. W.
TABALEK, M. W.
S.
WEBER, G. J.
Multiple circuit protector device
[NASA-CASE-XMS-02744] c 33 N75-27249
Fused switch
[NASA-CASE-XMS-02144-1] c 33 N75-39339
WEBER, L.
Provention of hydrogen embrittlement of high strength steel by hydrazine compositions
[NASA-CASE-NPO-12212-1] c 24 N76-14203
WEBER, R. J.
Verifying vapor apparatus Patent
[NASA-CASE-XLE-00298] c 15 N70-34247
Superconduction-combustion rocket
[NASA-CASE-LEW-11058-1] c 20 N74-15502
WEBTHER, C. R.
Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe gap and discharge axis
[NASA-CASE-NPO-16211-1] c 35 N75-37763
WEBTHER, CHRISTOPHER R.
Method and apparatus for enhancing laser absorption sensitivity
[NASA-CASE-NPO-16567-1-CU] c 36 N78-28006
WEBTHER, J. A.
Perfluoro alkylene dioxy-bis-(allyl) hydrocarbons and oxy-bis-perfluorallylethacyclanediynes
[NASA-CASE-MFS-22556-1] c 23 N75-30256
Polymer of ether-linked aryl tetracarboxylic dihydrides
[NASA-CASE-MFS-22555-1] c 23 N76-15266
WEBTHER, L. D.
Clutchless multiple drive source for output shaft
[NASA-CASE-ARC-11321-1] c 36 N83-34304
WETCHON, R.
Reinforced metal composites Patent
[NASA-CASE-XLE-00231] c 17 N70-33268
Method of making reinforced metal composites Patent
[NASA-CASE-XLE-00231] c 17 N70-33268
WEBTHER, L.
Apparatus for producing composite containing tantalum carbide, hafnium carbide, and hafnium boride
[NASA-CASE-XLE-00969] c 17 N71-22412
WEBTHER, L.
Process for producing dispersion strengthened nickel with aluminum Patent
[NASA-CASE-XLE-00949] c 17 N71-22414
Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent
[NASA-CASE-XLE-00949] c 17 N71-22415
WEBTHER, L.
Method of making fiber reinforced composites
[NASA-CASE-LIB-10424-2-2] c 18 N72-25539
Reinforced metal base alloy composition
[NASA-CASE-XLE-03840-2] c 17 N72-28536
Method for alleviating thermal stress damage in laminates
[NASA-CASE-LIB-12493-1] c 24 N81-17170
Method for alleviating thermal stress damage in laminates
[NASA-CASE-LIB-12493-2] c 24 N81-17179
WEBTHERMANN, J. H.
Isolation coupling arrangement for a torque measuring system
[NASA-CASE-XLE-06487] c 15 N72-22482
WEBTHERMANN, J. D.
High intensity light and heat unit Patent
[NASA-CASE-XLA-00141-1] c 09 N70-33312
WEBTHERMANN, J. P.
Orbiter/launch system
[NASA-CASE-LIB-12250-1] c 14 N81-26161
WEBTHERAND, A. J.
Dust prevent/selector for transfer casting
[NASA-CASE-LIB-13210-1] c 27 N82-28440
WEBTHERMANN, L.
Lithium counterdoped silicon solar cell
[NASA-CASE-LIB-14177-1] c 44 N86-33875
WEBTHERMANN, J.
Stacked solar cell array
[NASA-CASE-NPO-11771] c 03 N73-20040
WEBTHERMANN, L.
Application of laser-beam array for ATP to antimicrobial drug susceptibility
[NASA-CASE-GSC-12009-1] c 51 N77-22794
Determination of antimicrobial susceptibilities on infected tissues without isolation
[NASA-CASE-GSC-12064-1] c 52 N79-14750
WEBTHERMANN, L.
Continuous linear spark detector
[NASA-CASE-LIB-13014-1] c 09 N85-21178
WEINSTEIN, L. M.
Ice detector
[NASA-CASE-LAR-13776-1] c 35 N86-29149
Liquid thickness gauge
[NASA-CASE-LAR-13826-1] c 35 N86-29150
WEINSTEIN, M.
Bonding thermoelectric elements to nonmagnetic refractory metal electrodes
[NASA-CASE-XGS-04554] c 15 N9-39786
Segmenting lead telluride-silicon germanium thermoelements Patent
[NASA-CASE-XGS-05718] c 26 N71-19037
WEB, P. F.
Acquisition and tracking system for optical radar
[NASA-CASE-MFS-20152] c 16 N72-13437
WEB, S.
Method for anti-reflective materials
[NASA-CASE-XMS-00357] c 15 N9-21471
WEITZEL, D. F.
Propellant tank pressurization system Patent
[NASA-CASE-XNP-00860] c 27 N71-28929
WEITZEL, D. H.
Resilience lockheed device Patent
[NASA-CASE-XLA-02854] c 14 N71-26161
WELCH, CHRISTOPHER
Thermal control system for telescopes Patent
[NASA-CASE-LAR-13508-1] c 35 N88-29362
WELCH, W. A.
Gas filter mounting structure Patent
[NASA-CASE-MSC-12397] c 14 N72-23457
WELLING, C. E.
Thermally activated foaming compositions Patent
[NASA-CASE-LAR-10373-1] c 18 N71-26155
WELLMAN, J. B.
Gas flow control device
[NASA-CASE-NPO-11479] c 15 N73-13462
WELLS, A. F.
Widely spaced virus detection
[NASA-CASE-MSC-16098-1] c 51 N79-10693
WELLS, B. R.
Apparatus for elution of an instrument cover
[NASA-CASE-XMF-04132] c 15 N69-27502
WELLS, DENNIS L.
Nozzle fabrication technique
[NASA-CASE-MSC-21293-1] c 20 N86-24868
WELLS, F. E.
Positive displacement flowmeter Patent
[NASA-CASE-XMF-08282] c 14 N70-41994
Remote control manipulator for zero gravity environment
[NASA-CASE-MFS-14405] c 15 N72-28495
WELLS, GEORGE H., JR.
Timing control system
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24853
WELLS, J. D.
Rotable accurate reflector system for telescopes Patent
[NASA-CASE-NPO-10486] c 23 N71-33229
WELLS, W. W.
Rotaile accurate reflector system for telescopes Patent
[NASA-CASE-MSC-12279-1] c 15 N70-35679
WELLS, W. L.
Electric-arc heater Patent
[NASA-CASE-XLA-00320] c 33 N70-24540
WENDT, A. J.
Rotating mandrel for assembly of inflatable devices Patent
[NASA-CASE-XLA-04143] c 15 N71-17687
WENZEL, G. E.
Ampire drift tester
[NASA-CASE-XMS-05562-1] c 09 N69-39986
WEINER, E. A.
Method and apparatus for making curved reflectors Patent
[NASA-CASE-XLE-00917] c 15 N71-15597
Method for making curved reflectors Patent
[NASA-CASE-XLE-00917] c 15 N71-24836
WESSELSKI, C. J.
Energy absorbing structure Patent Application
[NASA-CASE-MSC-12279-1] c 15 N70-35679
Low onset rate energy absorber
[NASA-CASE-MSC-12279-1] c 15 N70-35679
WESSELSKI, CLARENCE J.
Energy absorbing structure Patent
[NASA-CASE-MSC-12279-1] c 15 N70-35679
Locking hinges
[NASA-CASE-MSC-21056-1] c 18 N86-28237
Mobile remote manipulator system for a tetrahedral truss
[NASA-CASE-MSC-21056-1] c 18 N86-28237
Propellant pallet for space station interface attachments
[NASA-CASE-MSC-21117-1] c 18 N88-28958
Tether lock fastener for space station trusses
[NASA-CASE-MSC-21207-1] c 37 N88-29180
Preload brake disc
[NASA-CASE-MSC-21352-1] c 37 N88-29181

WEST, R. L.

WEST, R. L.
Device for handling printed circuit cards Patent
[NASA-CASE-MFS-20453] c 15 N71-29133

WEST, R. W., JR.
Method and apparatus for making a heat insulating and ablative structure Patent
[NASA-CASE-XMS-0209] c 33 N71-20834

WESTBROOK, R. M.
Electrode connection Patent
[NASA-CASE-ARC-10043-1] c 05 N71-11193

WESTER, G. W.
The dc-to-dc converters employing stagger-phase power switches with two-loop control Patent
[NASA-CASE-NPO-13512-1] c 33 N71-10428
Partial substitution of spark convertor for a failed one of parallel phase staggered converters Patent
[NASA-CASE-NPO-13812-1] c 33 N71-30305

WESTFALL, L. J.
Arc spray fabrication of metal matrix composite monotype
[NASA-CASE-LEW-13288-1] c 24 N85-30027

WESTON, K.

WEYLER, G. M., JR.

WESTPHAL, J. A.

WHITE, A. R.

WHITCOMB, R. T.

White, A. R.

WlEBE, E. R.

WlCHEOREK, GREGORY R.

WHITENBERGER, J. D.

WHIITMORE, D. E.

WHITMORE, F. C.

WHITMORE, HENRY

WHITMORE, J. C.

WHITMORE, P. R.

WHITE, A. B.
Method and means for hydrogen/hydrogen ratio measurement by alpha scattering Patent
[NASA-CASE-NPO-14079] c 25 N80-20334

WHITEHEAD, C. W.
Apparatus for inserting and removing specimens from high temperature vacuum furnaces
[NASA-CASE-LAR-10841-1] c 31 N71-27900

WHITFIELD, C. E.
Selecting plated etch circuits without removing previous plating Patent
[NASA-CASE-XGS-0120] c 15 N71-24047

WHITMORE, F. C.
Continuous magnetic flux pump
[NASA-CASE-XNP-01187] c 15 N73-28516
Superconductive magnetic-field-trapping device
[NASA-CASE-XNP-0185] c 26 N78-28710

Magnetic-flux pump
[NASA-CASE-XNP-01188] c 15 N73-32691

WHITMORE, HENRY

WHITMORE, HENRY

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.

WHITMORE, N. T.
REFERENCE INDEX

YANG, C. Y.
Zirconium carbide as an electrocatalyst for the chromic-chromium redox couple
[NASA-CASE-LEW-12346-1] c 44 N83-27344

YANG, L.
Optically active two position mechanical mover
[NASA-CASE-NPO-13105-1] c 37 N74-21060

YANG, M.
Optically detonated explosive device
[NASA-CASE-NPO-11743-1] c 28 N74-27425

YANG, Z.
Compact pulsed laser having improved heat conductance
[NASA-CASE-NPO-13147-1] c 36 N77-25502

YARIV, A.
Liquid-immersion electrostatic ultrasonic transducer
[NASA-CASE-LAR-12456-1] c 33 N82-20672

YASDAM, J. G.
Passive caging mechanism Patent
[NASA-CASE-GSC-10306-1] c 15 N71-24684

ZARETSKY, E. V.
Method of improving the reliability of a rolling element system Patent
[NASA-CASE-XLE-02999] c 15 N71-16052

ZAYADA, E. J.
Frangible tube energy dissipation Patent
[NASA-CASE-XLA-00754] c 15 N70-38450

ZABOLOTEY, R.
Method for coating substrates using a laser
[NASA-CASE-LCEW-15268-1] c 36 N84-22944

ZAVANTSEFF, M.
Apparatus for ionization analysis
[NASA-CASE-ARC-10017-1] c 14 N72-29645

ZEBECK, H. A.
Heat exchanger for electrothermal devices
[NASA-CASE-LEW-14037-1] c 11 N87-16865

ZIMMERMAN, NORMAN B.
Chlorinated trisiloxanes as flame retardants Patent
[NASA-CASE-LEW-10307-1] c 13 N74-32645

ZIMMERMAN, P. A.
Synthetic aperture radar target simulator Patent
[NASA-CASE-NPO-15024-1] c 36 N84-27651

ZIEGLER, R. J.
Concentric differential gearing arrangement
[NASA-CASE-LAR-10462-1] c 15 N74-27901

ZIELINSKI, N.
Gas cooled high temperature thermocouple Patent
[NASA-CASE-XLE-02947-1] c 30 N71-15508

ZIMAN, J. R.
Lamp modulator
[NASA-CASE-MCS-10565-1] c 09 N72-25500

ZIERGER, R. S.
Constant temperature heat sink for calorimeters Patent
[NASA-CASE-XMP-04208] c 33 N71-29051

ZIELLAUT, G. A.
Stabilized zinc oxide composition Patent
[NASA-CASE-XLE-03070] c 31 N74-27966

ZIMMERMAN, B. G.
Sun tracker with rotatable plate-parallel plate and two photocells Patent
[NASA-CASE-XGS-01159] c 21 N71-10678

ZILYNSKI, L.
Gravitational gradient attitude control system Patent
[NASA-CASE-GSC-10555-1] c 15 N71-27271

ZIMMERMAN, P. A.
Chassis unit insert tightening-extract device Patent
[NASA-CASE-XMP-02076] c 14 N72-25515

ZHENG, C.
Laser beam deflection type mass detection device
[NASA-CASE-XNP-06200] c 23 N77-17161

ZIMMERMAN, B. G.
Gravitational gradient attitude control system Patent
[NASA-CASE-XLE-11599] c 21 N71-10678

ZLIEB, J.
System for telemetry and command control Patent
[NASA-CASE-LAR-11642-1] c 35 N74-31795

ZOBAK, W. H.
Hand-held photomicroscope
[NASA-CASE-XMP-12069-1] c 14 N73-38691

ZAHALKA, B. A.
Vacuum probe surface sampler
[NASA-CASE-LAR-10620-1] c 14 N73-30395

ZAPATITZKY, I.
Method and apparatus for coating substrates using a laser
[NASA-CASE-LCEW-15268-1] c 36 N84-22944

ZEMAN, J. K.
Data volume reduction for imaging radar polarimetry
[NASA-CASE-NPO-11784-1-CU] c 27 N85-26561

ZBROWSKI, Z. E.
Stainless steel control system for sounding rockets Patent
[NASA-CASE-XGS-01854] c 15 N71-24725

ZEBUS, P. P.
Adaptive securing base
[NASA-CASE-MSC-19666-1] c 37 N76-17383

ZERLAUT, G. A.
High speed power supply
[NASA-CASE-GSC-12818-1] c 33 N85-29147

ZIMMERMAN, R. L.
Control valve and coaxial variable inductor Patent
[NASA-CASE-XNP-09702] c 15 N71-17654

ZIMMERMAN, B. G.
Electronic control Patent

ZIMMERMAN, F.
Method and apparatus for forming a solar array strip
[NASA-CASE-NPO-13565-2] c 44 N80-14674

ZIMMERMANN, R.
Method of fabricating a solar array strip
[NASA-CASE-NPO-13565-2] c 44 N80-14674

ZIMMERMANN, B. G.
Sun tracker with rotatable plate-parallel plate and two photocells Patent
[NASA-CASE-XGS-01159] c 21 N71-10678

ZELNICKER, G. J.
Passive dual spin misalignment compensators
[NASA-CASE-GSC-11479-1] c 35 N74-28607

ZIMMERMANN, E. F.
Apparatus for applying cover slides
[NASA-CASE-MCS-10565-1] c 09 N72-25500

ZIMMERMANN, J.
Coal-shale interface detection system
[NASA-CASE-ARC-03720] c 14 N80-14423

ZIMMERMANN, NORMAN B.
Ceramic-ceramic seal tile thermal protection system and method thereof
[NASA-CASE-ARC-11641-1] c 24 N88-16826

ZIMMERMANN, P. A.
Chassis unit insert tightening-extract device Patent
[NASA-CASE-XMS-01077-1] c 37 N79-33487

ZIMMERMANN, R. L.
Thermally operated valve Patent
[NASA-CASE-XLE-02999] c 15 N70-38450

ZIOLEKOWSKI, A. J.
Multi-laser scan horizon sensor Patent
[NASA-CASE-XGS-00809] c 21 N70-38450

ZLATKIS, A.
Analysis of volatile organic compounds
[NASA-CASE-MSC-14428-1] c 23 N77-17161

ZMUZA, L. J.
Safety-type locking pin
[NASA-CASE-MFS-13495] c 15 N72-11365
ZMUUDINAS, J. S.

Stabilization of He2(3 Sigma u+) molecules in liquid helium by optical pumping for vacuum UV laser

[NASA-CASE-NPO-13993-1] c 72 N78-13826

ZOHAR, S.

Counting digital filters

[NASA-CASE-NPO-11931-1] c 68 N73-26175

ZOOK, H. A.

Meteoroid capture cell construction

[NASA-CASE-MSC-12453-1] c 91 N76-30131

ZORUMSKI, W. E.

Remote controlled tubular disconnect Patent

[NASA-CASE-XLA-01536] c 03 N71-12259

Noise suppressor

[NASA-CASE-LAR-11141-1] c 07 N74-32418

ZOTTARELLI, L. J.

Magnetic core current steering commutator Patent

[NASA-CASE-XNP-10201] c 09 N71-18694

Drive circuit utilizing two cores Patent

[NASA-CASE-XNP-01318] c 10 N71-23033

Current steering switch Patent

[NASA-CASE-XNP-05567] c 09 N71-26000

Digital memory in which the driving of each word location is controlled by a switch core Patent

[NASA-CASE-XNP-01466] c 10 N71-26434

ZOUTENDYK, J. A.

Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions

[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

ZRUJBEK, W. E.

System for monitoring signal amplitude ranges

[NASA-CASE-XMS-04061-1] c 09 N69-39885

ZUCCARO, J. J.

Electrode construction Patent

[NASA-CASE-ARC-10043-1] c 05 N71-11193

ZUDDERWAR, A. J.

Instrumentation for measurement of aircraft noise and sonic boom

[NASA-CASE-LAR-11173-1] c 35 N75-19614

Instrumentation for measuring aircraft noise and sonic boom

[NASA-CASE-LAR-11476-1] c 07 N76-27232

Differential sound level meter

[NASA-CASE-LAR-12106-1] c 71 N78-14867

High-temperature microphone system

[NASA-CASE-LAR-12375-1] c 32 N79-24203

Flow resistivity instrument

[NASA-CASE-LAR-13002-1] c 43 N83-29793

Acoustic ground impedance meter

[NASA-CASE-LAR-12995-1] c 35 N84-22933

ZURASKY, J. L.

Monitoring deposition of films

[NASA-CASE-MFS-20675] c 26 N73-26751

ZWIENER, J. M.

Real time reflectometer

[NASA-CASE-MFS-23118-1] c 35 N77-31465

ZYGIELBAUM, A. I.

Communications link for computers

[NASA-CASE-NPO-11161] c 08 N72-25207

Digital video display system using cathode ray tube

[NASA-CASE-NPO-11342] c 09 N72-25248

Numerical computer peripheral interactive device with manual controls

[NASA-CASE-NPO-11497] c 08 N73-25200

Digital demodulator-correlator

Fluid containers and releasable septum therefor Patent
[NASA-CASE-NPO-10123] c 15 N71-24835
Temperature telemetric transmitter Patent
[NASA-CASE-NPO-10549] c 07 N71-24840
Tuning arrangement for an electron discharge device of the like Patent
[NASA-CASE-XNP-09771] c 09 N71-24841
Noise limiter Patent
[ NASA-CASE-NPO-10169] c 10 N71-24844
Noninterruptible digital counting system Patent
[NASA-CASE-XNP-09759] c 08 N71-24891
Drive circuit for minimizing power consumption in inductive load Patent
[NASA-CASE-NPO-10176] c 10 N71-24892
Space simulator Patent
[NASA-CASE-NPO-10104] c 11 N71-24964
Process for reducing secondary electron emission Patent
[NASA-CASE-XNP-09649] c 24 N71-25555
Minimal logic block encoder Patent
[NASA-CASE-NPO-10595] c 10 N71-25917
Novel polycarbonylic propyplonic materials and polymers thereof Patent
[NASA-CASE-NPO-10590] c 06 N71-25929
Current steering switch Patent
[NASA-CASE-XNP-06567] c 09 N71-26092
Dual polarity full wave dc motor drive Patent
[NASA-CASE-XNP-06843] c 09 N71-26092
High impact antenna Patent
[NASA-CASE-NPO-10231] c 07 N71-26101
Video communication system and apparatus Patent
[NASA-CASE-XNP-06611] c 07 N71-26102
Parallel generation of the check bits of a PS sequence Patent
[NASA-CASE-XNP-04823] c 10 N71-26103
Phase multiplying electronic scanning system Patent
[NASA-CASE-NPO-10930] c 14 N71-26266
Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent
[NASA-CASE-NPO-10625] c 09 N71-26182
Fluid phase analyzer Patent
[NASA-CASE-XNP-06957] c 10 N71-26231
Variable frequency magnetic resonance spectrometer Patent
[NASA-CASE-NPO-11146] c 14 N71-26236
Time synchronization system utilizing moon reflected coded signals Patent
[NASA-CASE-XNP-06143] c 10 N71-26236
Broadband stable power multiplier Patent
[NASA-CASE-XNP-10854] c 10 N71-26231
Cascaded complementary pair broadband transistor amplifiers Patent
[NASA-CASE-NPO-10003] c 10 N71-26415
Digital memory in which the driving of each word location is controlled by a switch core Patent
[NASA-CASE-XNP-04165] c 10 N71-26434
Conically shaped cavity radiometer with a dual purpose cone winding Patent
[NASA-CASE-XNP-08701] c 10 N71-26475
Analog signal integration and reconstruction system Patent
[NASA-CASE-NPO-10344] c 10 N71-26454
Rapid sync acquisition system Patent
[NASA-CASE-NPO-10214] c 10 N71-26577
Cryogenic cooling system Patent
[NASA-CASE-NPO-10467] c 23 N71-26654
Vacuum evaporator with electromagnetic ion steering Patent
[NASA-CASE-NPO-10031] c 09 N71-26701
Automated fluid chemical analyzer Patent
[NASA-CASE-XNP-06451] c 08 N71-26754
Material handling device Patent
[NASA-CASE-XNP-09770-3] c 11 N71-27036
Pressure sensor Patent
[NASA-CASE-NPO-10796] c 15 N71-27068
Multiducted electromagnetic pump Patent
[NASA-CASE-XNP-07755] c 15 N71-27094
Peak acceleration limiter for vibrational tester Patent
[NASA-CASE-NPO-10556] c 14 N71-27185
Thin film capacitive bolometer and thermometer Patent
[NASA-CASE-NPO-10607] c 09 N71-27232
Black body cavity radiometer Patent
[NASA-CASE-XNP-10810] c 14 N71-27323
Video signal enhancement system with dynamic range compression and modulation index dependent performance Patent
[NASA-CASE-NPO-10343] c 07 N71-27341
Force-balanced, throttle valve Patent
[NASA-CASE-XNP-09809] c 15 N71-27432
Cavity oscillator for thermionic converter Patent
[NASA-CASE-XNP-10412] c 09 N71-28421
Fretter, desensitized and rechargeable Patent
[NASA-CASE-XNP-10546] c 15 N71-28497
Epoxide-azidine polymer product Patent
[NASA-CASE-NPO-10701] c 06 N71-28620
Fluid impervious barrier including liquid metal alloy and method of making same Patent
[NASA-CASE-XNP-08881] c 17 N71-28747
Trialkyl-dithiolanitriol and niobium compounds Patent
[NASA-CASE-XNP-04202] c 08 N71-28688
Digital memory sense amplifying means Patent
[NASA-CASE-XNP-01212] c 08 N71-28925
Digital filter for reducing sampling jitter in digital control systems Patent
[NASA-CASE-NPO-11088] c 08 N71-29034
Encoder/decoder system for a rapidly synchronizable binary code Patent
[NASA-CASE-XNP-10342] c 10 N71-33407
Reference voltage switching divider Patent
[NASA-CASE-NPO-11031] c 07 N71-33606
A dc servosystem including an ac motor Patent
[NASA-CASE-NPO-10700] c 07 N71-33613
Solar cell matrix Patent
[NASA-CASE-NPO-11190] c 03 N71-34044
Manually actuated heat pump Patent
[NASA-CASE-NPO-10677] c 05 N71-33984
Virtual wall slot circularly polarized planar array antenna Patent
[NASA-CASE-NPO-10301] c 07 N71-33984
System for controlling the operation of a variable signal detector Patent
[NASA-CASE-NPO-11064] c 07 N71-11364
Vibration isolation system using compression springs Patent
[NASA-CASE-NPO-11091] c 15 N71-11391
Feed system for an ion thruster Patent
[NASA-CASE-NPO-10737] c 28 N71-11709
Thermostatic actuator Patent
[NASA-CASE-NPO-10637] c 15 N71-12409
High voltage transistor amplifier with constant current load Patent
[NASA-CASE-NPO-11023] c 09 N71-17155
Reference voltage switching unit Patent
[NASA-CASE-NPO-11253] c 09 N71-17157
Valving device for automatic refilling in cryogenic liquid systems Patent
[NASA-CASE-NPO-11177] c 15 N71-17453
Expanse support means Patent
[NASA-CASE-NPO-11302] c 15 N71-17454
Breakaway connector Patent
[NASA-CASE-NPO-11140] c 15 N71-17455
Vacuum tubes for use in an electronic device Patent
[NASA-CASE-NPO-10629] c 07 N71-18184
Transmission band bit synchronization system Patent
[NASA-CASE-NPO-10844] c 07 N71-20140
Data compression system Patent
[NASA-CASE-NPO-11243] c 07 N71-20140
Digital quasi-exponential function generator Patent
[NASA-CASE-NPO-11130] c 08 N71-20140
Method and apparatus for high resolution spectral analysis Patent
[NASA-CASE-NPO-10748] c 08 N71-20140
Flow rate switch Patent
[NASA-CASE-NPO-10722] c 09 N71-20140
Electrical connector Patent
[NASA-CASE-NPO-10694] c 09 N71-20141
Wide band doubler and sine wave quadrature generator Patent
[NASA-CASE-NPO-11133] c 10 N71-20223
Optimal control system for an electric motor driven vehicle Patent
[NASA-CASE-NPO-11203] c 10 N71-20224
Impact energy absorbing system utilizing frangible material Patent
[NASA-CASE-NPO-10671] c 15 N71-20443
Torsional disconnect unit Patent
[NASA-CASE-NPO-10704] c 15 N71-20443
Solid propellant rocket motor Patent
[NASA-CASE-XNP-02826] c 28 N71-20758
Shell side liquid metal boiler Patent
[NASA-CASE-NPO-10831] c 23 N71-20915
Spacecraft, spacecraft for use on mapping planets Patent
[NASA-CASE-NPO-11001] c 07 N71-21188
C-9
Jet Propulsion Lab., California Inst. of Tech., Pasadena.

**C-10**

**CALS**

**C-10**
Jet Propulsion Lab., Calif. Inst. of Tech., Pasadena.

Geological assay probe

163% CASE-NPO-15040-1 c 46 N80-24906

Coiled electrical grading meter

189% CASE-NPO-14127-1 c 35 N80-26653

Simultaneous muscle force and displacement

102% CASE-NPO-14121-1 c 52 N80-27072

Surface resonance interaction source using small permanent magnets

109% CASE-NPO-14034-1 c 28 N80-28536

System for slicing silicon wafers

150% CASE-NPO-14046-1 c 37 N80-29703

Induced ionetc solar cell and method of fabrication

188% CASE-NPO-13976-1 c 44 N80-29835

Interferometric analyzing program

177% CASE-NPO-14175-1 c 04 N80-32599

Curable liquid hydrocarbon prepolymers containing hydrolytically cleavable groups for producing transducers

170% CASE-NPO-13117-1 c 27 N80-32515

Prepolymer diamides

165% CASE-NPO-14191-1 c 27 N80-32515

System for plotting substructure and method therefor

185% CASE-NPO-14191-1 c 31 N80-32584

Support assembly for cryogenically cooled low-noise chokes

167% CASE-NPO-14253-1 c 32 N80-36205

Stark cell optic detection of constituent gases in sample

169% CASE-NPO-14143-1 c 25 N80-14015

Membrane consisting of polyquaternary amino ion exchange polymer network interpenetrating the chains of thermoplastic polymer

185% CASE-NPO-14001-1 c 27 N80-14076

Frequency translating phase conjugation circuit for active retrodirective antenna array

181% CASE-NPO-14536-1 c 32 N80-14195

Precise RF timing signal distribution to remote stations

189% CASE-NPO-14124-1 c 32 N80-14186

Base drive for paralleled inverter systems

179% CASE-NPO-14163-1 c 33 N80-14220

Low cost computer

168% CASE-NPO-14153-1 c 35 N80-14287

Power control for hot gas engines

174% CASE-NPO-14180-1 c 37 N80-14318

Vesicular cationic polymers containing the urethane linkage

168% CASE-NPO-10830-1 c 27 N80-15104

Continuous cooling process method

154% CASE-NPO-13758-2 c 33 N80-27783

Reduced operation of counter modules

134% CASE-NPO-14162-1 c 60 N80-15706

Insoluble polyoleopoly and ion-exchange polymer fiber

166% CASE-NPO-13950-1 c 25 N80-17187

Molten salt pyrolysis of latex

171% CASE-NPO-13951-1 c 27 N80-17261

Phase-antenna controller for Stirling engines

178% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes utilizing the transient thermal lens effect

167% CASE-NPO-14255-1 c 74 N80-18877

Interferometer

168% CASE-NPO-14027-1 c 74 N80-18878

Phase-controllable phase controller for Stirling engines

177% CASE-NPO-14298-1 c 37 N80-17432

Solar energy converter for Stirling engines

163% CASE-NPO-14619-1 c 44 N80-17518

System for forming a quadrifilar image comprising angularly related fields of view of a three dimensional object

157% CASE-NPO-14219-1 c 74 N80-17886
CORPORATE SOURCE

Lockheed Missiles and Space Co., Sunnyvale, Calif.

Device for handling heavy loads
[NASA CASE-MFS-02597] c 15 N9-27466

Apparatus for detecting the amount of material in a resonant cavity containing gas
[NASA CASE-MFS-25300] c 18 N7-27397

Emergency gear orbital escape device
[NASA CASE-MFS-25145] c 33 N7-28865

Variable ratio mixed-mode bistable master-slave control system for shock testing manipulator
[NASA CASE-MFS-25145] c 18 N7-27041

Filter regeneration systems
[NASA CASE-MFS-14273] c 34 N7-33243

Tumbling and fared cone UXF antenna
[NASA CASE-LAR-10970] c 33 N7-14372

Method and apparatus for frightening, separating, and cleaning fibers
[NASA CASE-LAR-11241] c 37 N7-18456

Hearing aid malfunction detection system
[NASA CASE-MSC-14915] c 33 N7-10375

Positive isolation disconnect
[NASA CASE-MSC-14915] c 33 N7-11402

Urine collection device
[NASA CASE-MSC-14915] c 52 N8-24711

Amplifier for measuring chemical signals in the presence of high common mode voltage
[NASA CASE-MFS-25866] c 33 N8-20670

Laser nuclear pulse device
[NASA CASE-MSC-14915] c 52 N8-24711

Amplifier for measuring chemical signals in the presence of high common mode voltage

Laser machine apparatus Patent
[NASA CASE-HON-10541-2] c 15 N7-21715

Optical frequency waveguide Patent
[NASA CASE-HON-10541-4] c 15 N7-21783

Compact spectrometer
[NASA CASE-HON-10683] c 14 N7-34389

Optical frequency waveguide and transmission system Patent

Patent

NASA CASE-HON-10541-14 c 15 N7-21783

Shrink-fit body

Aluminum fantastic air inlets Patent

Ultrasonic scanner optical system

Mechanical multistage heat engine

Vacuum data bus communications

Patent

Method of polymerizing perfluorobutadiene Patent

Method of fabricating semiconductor components Patent

Digital transmitter for high speed aircraft

Landing gear Patent

Cooling system for high speed aircraft

NASA CASE-LAR-12406-1] c 05 N8-21614

McDonnell-Douglas Astronautics Co., Huntington Beach, Calif.

Heat transfer device

[nasa CASE-MFS-22693-8] c 34 N7-18374

McDonnell-Douglas Astronautics Co., Santa Monica, Calif.

New polymers of perfluorobutadiene and method of manufacturing Patent

Method of polymerizing perfluorobutadiene Patent application

McDonnell-Douglas Astronautics Co., Huntington Beach, Calif.

Variable direction force coupler

[nasa CASE-MFS-20317] c 15 N7-13463

Potable water dispenser

[nasa CASE-MFS-20317] c 15 N7-13463

Shockwave train measurement apparatus

[nasa CASE-MFS-20317] c 15 N7-13463

McDonnell-Douglas Astronautics Co., Huntington Beach, Calif.

Landing gear Patent

[nasa CASE-MFS-20317] c 15 N7-13463

Method of manufacturing Patent

[nasa CASE-MFS-20317] c 15 N7-13463

Airlock

[nasa CASE-MFS-20317] c 15 N7-13463

Device for monitoring a change in mass in varying gravimetric environments

[nasa CASE-MFS-20317] c 15 N7-13463

Device for measuring tensile forces

[nasa CASE-MFS-20317] c 15 N7-13463

Flame detector operable in presence of proton radiation

[nasa CASE-MFS-20317] c 15 N7-13463

[iii] Patent

[iii] Patent

[iii] Patent

[iii] Patent

[iii] Patent

[iii] Patent

[iii] Patent
CORPORATE SOURCE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA Ames Research Center, Moffett Field, Calif.

Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent

[ NASA-CASE-ARC-10160-1] c 23 N72-27728

Magnetic position detection method and apparatus for automatic stabilization of the attitude of a non-guided vehicle Patent

[ NASA-CASE-ARC-10159-1] c 20 N72-18732

Method and apparatus for swept-frequency impedance measurements of welds

[ NASA-CASE-ARC-10178-1] c 15 N72-21464

Space suit having improved waist and torso movements Patent

[ NASA-CASE-ARC-10175-1] c 05 N72-22092

RF controlled solid state switch

[ NASA-CASE-ARC-10136-1] c 09 N72-22202

Wide range dynamic pressure sensor Patent

[ NASA-CASE-ARC-10263-1] c 14 N72-22438

Method and apparatus for measuring the damping characteristics of a structure

[ NASA-CASE-ARC-10154-1] c 12 N72-22440

Magnetic position detection method and apparatus wherein radiation is serially passed through a reference and unknown gas

[ NASA-CASE-ARC-10345-1] c 15 N73-12488

Two degree inverted flexure

[ NASA-CASE-ARC-10304-1] c 09 N72-31141

Intumescent paint containing nitrile rubber

[ NASA-CASE-ARC-10345-1] c 15 N73-12488

Temperature compensated light source using a light emitting diode

[ NASA-CASE-ARC-10196-1] c 23 N72-27728

Colorimetric sensor for automotive applications

[ NASA-CASE-ARC-10184-1] c 18 N72-28640

Actuators and apparatus for actuating therewith, and process for making same

[ NASA-CASE-ARC-10467-1] c 09 N73-14214

Electrostatic charged particle analyzer

[ NASA-CASE-ARC-10159-1] c 14 N73-20477

Intruder detection system

[ NASA-CASE-ARC-10467-1] c 09 N73-20477

Interferometric rotation sensor

[ NASA-CASE-ARC-10278-1] c 14 N73-25463

Dual-axleageis flywheel having yawable wing and horizontal stabilizer

[ NASA-CASE-ARC-10278-1] c 14 N73-25463

Temperature controlled fluid for a fluid cooled engine

[ NASA-CASE-ARC-10470-1] c 02 N71-29128

Precision rectifier with FET switching means Patent

[ NASA-CASE-ARC-10410-1] c 14 N73-33236

Hand-held photomicroscope

[ NASA-CASE-ARC-10325-1] c 14 N73-33236

Alignment apparatus using a laser having a gravitationally sensitive cavity reflector

[ NASA-CASE-ARC-10325-1] c 14 N73-33236

Polyisocyanate adhesive

[ NASA-CASE-ARC-10464-1] c 13 N74-29325

Flexible fire retardant polyisocyanate modified neoprene foam

[ NASA-CASE-ARC-10160-1] c 27 N74-12614

C-15
National Aeronautics and Space Administration.

Goddard Space Flight Center, Greenbelt, Md.

Regulator Patent

[NASA-CASE-XGS-00131] c 09 N70-38995

Variable frequency magnetic multivibrator Patent

[NASA-CASE-XGS-00458] c 09 N70-38604

Switching mechanism with energy storage means Patent

[NASA-CASE-XGS-00473] c 03 N70-38713

Variable frequency magnetic multivibrator Patent

[NASA-CASE-XGS-00031] c 09 N70-38995

Stretch drill-sink mechanism Patent

[NASA-CASE-XGS-00619] c 30 N70-40106

Bending folding device Patent

[NASA-CASE-XGS-00398] c 32 N70-41629

Cryogenic contactor for vacuum use Patent

[NASA-CASE-XGS-00938] c 02 N70-41678

Endless tape cartridge Patent

[NASA-CASE-XGS-00799] c 14 N70-41647

Apparatus for recording three-dimensional recordings of fluorescence spectra Patent

[NASA-CASE-XGS-01231] c 14 N70-41676

Method and means for determining electromagnetic characteristics of large surface area passive reflectors Patent

[NASA-CASE-XGS-02608] c 07 N70-41678

Prevention of pressure buildup in electrochemical cells Patent

[NASA-CASE-XGS-01419] c 03 N70-41684

Variable time constant smoothing circuit Patent

[NASA-CASE-XGS-01983] c 10 N70-41964

Endless tape mechanism Patent

[NASA-CASE-XGS-01223] c 07 N70-10696

Reversible ring counter employing cascaded single SFR stages Patent

[NASA-CASE-XGS-01473] c 09 N70-10673

Electronic beam switching commutator Patent

[NASA-CASE-XGS-01451] c 09 N70-10677

Sun tracker with rotatable plane-parallel plate and two photocells Patent

[NASA-CASE-XGS-00119] c 21 N70-10678

Non-magnetic battery case Patent

[NASA-CASE-XGS-00868] c 10 N70-10678

Interconnected flow of silicic acid cells Patent

[NASA-CASE-XGS-01475] c 03 N70-11058

Frequency shift keyed demodulator Patent

[NASA-CASE-XGS-01128] c 07 N70-11282

Bi-ocular phase detector and corrector for split phase PCM data signals Patent

[NASA-CASE-XGS-01590] c 17 N70-12392
Flexible pile thermal barrier insulator

Method for applying photographic resist to otherwise incompatible substrates

NASA CASE MSC-16971-1  c 27 N81-25209
Structural members, method and apparatus

NASA CASE MSC-16212-1  c 31 N81-27323
Optical system for detecting foreign objects

NASA CASE MSC-15745-1  c 33 N81-27397
Urine collection apparatus

NASA CASE MSC-16381-1  c 52 N81-28740
Low temperature latch solenoid

NASA CASE MSC-16329-1  c 37 N81-32510
Cavity-back pulsed dipole antenna

NASA CASE MSC-16060-1  c 32 N81-11336
Low temperature latch solenoid

NASA CASE MSC-15497-1  c 25 N81-12166
Flexible sealable, flame and abrasion resistant coated fabric

NASA CASE MSC-18382-1  c 27 N81-16288
Surface conforming thermal/pressure seal

NASA CASE MSC-18442-1  c 27 N81-16408
Direct current ballast circuit for metal halide lamp

NASA CASE MSC-19401-1  c 37 N81-24491
High temperature generator assembly with bayonet plug and ramp-activated lock

NASA CASE MSC-19526-1  c 37 N81-24494
Method of installing lightweight fragile, high-temperature fiber insulation

NASA CASE MSC-19534-1  c 24 N82-26837
Method of installing lightweight fragile, high-temperature fiber insulation

NASA CASE MSC-19538-1  c 37 N82-26872
Ratable captive blind fastener

NASA CASE MSC-19546-1  c 37 N82-26673
Spiral slotted phased antenna array

NASA CASE MSC-18523-1  c 32 N82-27558
Load leveling
c

NASA CASE MSC-18490-1  c 32 N82-27558
Load leveling
c

NASA CASE MSC-18490-1  c 32 N82-27558
Load leveling
c

NASA CASE MSC-18490-1  c 32 N82-27558
Load leveling
c

NASA CASE MSC-18490-1  c 32 N82-27558
Load leveling
c
NASA Lewis Research Center, Cleveland, Ohio.

Process for preparing liquid metal electrical contact device.

[NASA-CASE-LEW-11978-1] c 03 N77-26385

Blade retainer assembly.

[NASA-CASE-LEW-1201-1] c 07 N77-27116

Hybrid composite laminate structures.

[NASA-CASE-LEW-12118-1] c 24 N77-27188

Bimetallic junction.

[NASA-CASE-LEW-11573-1] c 26 N77-28365

Sustained arc ignition system.

[NASA-CASE-LEW-11578-1] c 53 N77-28385

Hydrostatic bearing support.

[NASA-CASE-LEW-1226-1] c 52 N77-28716

Solar array.

[NASA-CASE-LEW-1285-1] c 44 N77-29316

Platform for a swing rotor turbomachinery blade.

[NASA-CASE-LEW-12270-1] c 26 N77-32290

Thermocouples of tantalum and helenium alloys for more stable vacuum-high temperature performance.

[NASA-CASE-LEW-12050-1] c 35 N77-32454

Spatial filter for Q-switched lasers.

[NASA-CASE-LEW-12164-1] c 36 N77-32578

Deformable bearing seat.

[NASA-CASE-LEW-12527-1] c 37 N77-32550

Beamlet heat unisotropic turbine engine.

[NASA-CASE-LEW-12477-1] c 37 N77-32501

Fuel cell engine.

[NASA-CASE-LEW-12137-1] c 35 N77-32524

Oil cooling system for a gas turbine engine.

[NASA-CASE-LEW-12021-1] c 37 N77-32578

Impact absorbing blade mounts for variable pitch blades.

[NASA-CASE-LEW-12313-1] c 37 N77-38068

Method of forming a metal hydride film.

[NASA-CASE-LEW-12083-1] c 37 N78-13436

In situ laser reforming of oil shale.

[NASA-CASE-LEW-12517-1] c 43 N78-14452

Multi-cell battery protection system.

[NASA-CASE-LEW-12039-1] c 44 N78-14825

Tissue burner protection system.

[NASA-CASE-LEW-12668-1] c 52 N78-14773

Transferable transparent film.

[NASA-CASE-LEW-12553-1] c 27 N78-15276

Variable thrust nozzle for quiet turbofan engine and method of making.

[NASA-CASE-LEW-12197-1] c 27 N78-15276

Soundproofing isolated components.

[NASA-CASE-LEW-12317-1] c 07 N78-17055

Gas turbine engine with convertible accessories.

[NASA-CASE-LEW-12390-1] c 07 N78-17056

Closed loop spray cooling system.

[NASA-CASE-LEW-12090-1] c 07 N78-17056

Partially porous gas cooling system.

[NASA-CASE-LEW-12089-1] c 31 N78-17237

Partially porous gas cooling system.

[NASA-CASE-LEW-12090-1] c 31 N78-17237

Partially porous gas cooling system.

[NASA-CASE-LEW-12090-1] c 31 N78-17237

Partially porous gas cooling system.

[NASA-CASE-LEW-12090-1] c 31 N78-17237

Partially porous gas cooling system.

[NASA-CASE-LEW-12090-1] c 31 N78-17237

Partially porous gas cooling system.

[NASA-CASE-LEW-12090-1] c 31 N78-17237

Partially porous gas cooling system.
Three stage rocket vehicle with parallel staging

NASA-CASE-MFS-25764-1 15 N86-31167

Phase detector for three-phase power factor controller

NASA-CASE-MFS-25764-2 15 N86-31775

Device for detecting fault depth

NASA-CASE-MFS-25764-3 15 N86-32018

Sonic levitation apparatus

NASA-CASE-MFS-25820-1 17 N86-32560

Apparatus for measuring charged particle beam

NASA-CASE-MFS-25820-3 17 N86-32657

Warming up of large volume water tanks

NASA-CASE-MFS-25821-1 19 N86-32938

Coupling an induction motor type generator to ac power

Inter

NASA-CASE-MFS-25823-2 19 N86-33660

Three-phase power factor controller with induced EMF sensing

NASA-CASE-MFS-25852-1 19 N86-41769

Longwave shenser tracking system

NASA-CASE-MFS-25881-1 23 N86-33768

Impacting device for testing insulation

NASA-CASE-MFS-25882-2 23 N86-33807

Insulation bonding test system

NASA-CASE-MFS-25885-1 27 N86-33916

Adjustable indicating device for load position

NASA-CASE-MFS-25885-2 27 N86-33920

Process for producing tris (m-methylsilyl)methanesilane

NASA-CASE-MFS-25721-1 25 N86-31290

Solar powered actuator with continuously variable auxiliary power control

NASA-CASE-MSC-25637-1 25 N86-41769

Power control for ac motor

NASA-CASE-MFS-25881-1 25 N86-33768

Hemispherical lensing apparatus

NASA-CASE-MFS-25837-1 18 N86-39991

Method of and apparatus for generating an interstellar plume in a space ship leaving an event number of data points

NASA-CASE-MFS-25319-1 60 N85-33701

Variable length strut with longitudinal compliance and locking capability

NASA-CASE-MFS-25907-1 37 N85-34401

Device and method for frictionally testing materials for ignitionability

NASA-CASE-MSC-25622-1 25 N86-19413

Portable 90 degree collimated X-ray device

NASA-CASE-MFS-25520-1 35 N85-19581

Apparatus for adapting an end effector device remotely controlled manipulation arm

NASA-CASE-MFS-25847-1 18 N85-20657

Damping seal for turbomachinery

NASA-CASE-MFS-25842-1 74 N85-20124

X-ray determination of parts alignment

NASA-CASE-MSC-25618-1 74 N85-20124

Space probe/satellite ejection apparatus for spacecraft

NASA-CASE-MFS-25429-1 18 N86-20469

Wind dynamic range video camera

NASA-CASE-MFS-25750-1 32 N85-20647

Amplifier for measuring low-level signals in the presence of high common mode voltage

NASA-CASE-MSC-25668-1 33 N85-20670

High gradient dissipation solidification furnace

NASA-CASE-MFS-25963-1 35 N85-20750

Damping seal for turbomachinery

NASA-CASE-MFS-25842-2 74 N86-20776

Self-locking telescoping manipulator arm

NASA-CASE-MFS-25906-1 37 N86-20769

Cryogenic insulation strength and bond tester

NASA-CASE-MFS-25910-1 35 N86-20841

Optical stereo video signal processor

NASA-CASE-MSC-25618-1 74 N86-21348

Containerless high purity pulling process and apparatus for glass fiber

NASA-CASE-MFS-25005-2 31 N86-21718

Automated weld torch guidance control system

NASA-CASE-MFS-25007-1 31 N86-21850

Multispectral gain of incidence X-ray telescope

NASA-CASE-MSC-25013-1 89 N86-22459

Shuttle-launch triangular space station

NASA-CASE-MSC-25013-1 18 N86-24872

Fluid flow meter for measuring the rate of fluid flow in a conduit

NASA-CASE-MFS-25920-1 35 N86-25752

Magnetic spin reduction system for free spinning objects

NASA-CASE-MCS-25965-1 16 N86-26352

Propulsion apparatus and method using back-off gas from a cryogenic liquid

NASA-CASE-MSC-25646-1 20 N86-26368

Solid sorbent air sampler

NASA-CASE-MSC-25653-1 35 N86-26595

Paler oscillatory stirring apparatus

NASA-CASE-MSC-25602-1-UJ 35 N86-26598

NASA-CASE-MFS-23776-1 33 N82-26545

Power generator for sequentially transporting containers

NASA-CASE-MFS-25206-1 37 N82-32731

Method for sequentially processing a multi-level interconnected circuit in a vacuum chamber

NASA-CASE-MFS-25886-1 33 N82-33045

Static discharge prevention device

NASA-CASE-MFS-25306-1 25 N82-13187

Connected beam manifold with the number of output beams mixing at a given output angle

NASA-CASE-MFS-25312-1 25 N82-13187

Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems

NASA-CASE-MFS-25433-1 20 N82-15788

Extended range X-ray telescope

NASA-CASE-MFS-25282-1 34 N83-19015

Automatic weld torch guidance control system

NASA-CASE-MFS-25067-1 37 N9-20154

Electrical rotary joint apparatus for large space structures

NASA-CASE-MFS-23981-1 07 N9-20944

Gas levitating having fixed levitation node for containerless processing

NASA-CASE-MFS-25509-1 35 N9-24828

Electric power generating system

NASA-CASE-MFS-25202-1 33 N9-28319

Satellite retrieval system

NASA-CASE-MFS-25403-1 18 N9-29303

Method and apparatus for supercooling and solidifying substances

NASA-CASE-MFS-25242-1 35 N9-26550

Dual fiber optical system and method for studying fluid flow

NASA-CASE-MFS-25515-1 36 N9-26980

Beam connector apparatus and assembly

NASA-CASE-MFS-25234-1 31 N9-31895

Adaptive reference voltage generator for firing angle control of line-commutated inverters

NASA-CASE-MFS-25215-1 33 N9-31953

Trans diode control

NASA-CASE-MFS-25607-1 33 N9-34190

Adaptive control system for line-commutated inverters

NASA-CASE-MFS-25292-1 33 N9-35327

Apparatus and method for heating a material in a transparent ampoule

NASA-CASE-MFS-25435-1 27 N9-36200

Refractive seal assembly with spring means applying force to wedge member

NASA-CASE-MFS-25067-1 37 N9-11467

Prosthetic reference device for an internal passageway

NASA-CASE-MFS-25750-1 52 N9-11744

Constant-output atomizer

NASA-CASE-MFS-25633-1 34 N9-14206

Heat sealable, flame and abrasion resistant coated fabric

NASA-CASE-MSC-18392-2 34 N9-14206

Elevator control apparatus

NASA-CASE-MFS-25251-1 34 N9-11423

Control system for an induction motor with energy recovery

NASA-CASE-MFS-25477-1 32 N9-11442

A diode to dc converter

NASA-CASE-MFS-25430-1 33 N9-16453

Pulsed thyristor trigger control circuit

NASA-CASE-MFS-25616-1 33 N9-16455

Clamp trigger circuit

NASA-CASE-MFS-25510-1 37 N9-16560

Space probe/satellite ejection apparatus for spacecraft

NASA-CASE-MFS-15429-1 15 N9-26069

Method for sequentially processing a multi-level interconnected circuit in a vacuum chamber

NASA-CASE-MFS-25704-1 33 N9-22884

Three phase power factor controller

NASA-CASE-MFS-25353-2 18 N9-22885

Motor power control circuit for ac induction motors

NASA-CASE-MFS-25687-1 33 N9-22886

Two-dimensional scanner apparatus

NASA-CASE-MFS-25567-1 35 N9-22928

Holographic interferometric apparatus for double-exposure holographic interferometry

NASA-CASE-MFS-25405-1 35 N9-22929

Diffractive/refractive system for a very high vacuum environment

NASA-CASE-MFS-25791-1 09 N9-27479

Space Shuttle with rail system and aft thrust structure securing structure and apparatus for external tank

NASA-CASE-MFS-25853-1 35 N9-27784
Method and technique for installing light-weight, fragile, high-temperature fiber insulation (NASA-CASE-MSC-16934-3) c 48 N78-16282
Directional gain ratio transmissions (NASA-CASE-LAR-12644-1) c 37 N84-28084
Portable 90 degree proof loading device (NASA-CASE-MSC-20550-1) c 35 N6-19581
Rockwell International Corp., Houston, Tex. Reusable capture and fastener (NASA-CASE-MSC-18742-1) c 37 N82-26673
Rockwell International Corp., Los Angeles, Calif. Method of forming shapes from planar sheets of thermosetting materials (NASA-CASE-MSC-19672-1) c 38 N79-14398
San Jose State Univ., Calif. Components in a turbulently flowing fluid (NASA-CASE-MSC-12040-1) c 34 N76-27517
San Jose State Univ., Calif. Precursors thereof (NASA-CASE-MSC-11258-2) c 37 N76-24544
Sheldahl Co., Northfield, Minn. Method and apparatus for preparing monocoordinate flat with candle filters (NASA-CASE-VNS-10964-1) c 31 N79-21226
Silicon Airplane Company, Conn. Edge coating of flat wires (NASA-CASE-XMF-05775-1) c 31 N79-21227
Singer Co., Binghamton, N. Y. Self-contained computing system (NASA-CASE-MSC-10647-1) c 10 N73-31273
Smith Electronics, Inc., Cleveland, Ohio. Phase detector assembly Patent (NASA-CASE-XMF-00701) c 09 N70-40272
Smith (Stephen F.), Knoxville, Tenn. Automatic oscillator frequency control system (NASA-CASE-MSC-15804-1) c 37 N75-20668
Smithsonian Astrophysical Observatory, Cambridge, Mass. Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency (NASA-CASE-HQN-10654-1) c 16 N73-13489
Smunky wave resonator with ramp shaped supports (NASA-CASE-HQN-10790-1) c 05 N71-14940
Southern Methodist Univ., Dallas, Tex. Process for utilizing low-cost graphite substrates for photovoltaic solar cells (NASA-CASE-GSC-12022-2) c 44 N78-24609
Southern Research Inst., Birmingham, Ala. Inflatable sintered polymer and process for producing same (NASA-CASE-XMF-02526-1) c 27 N79-21190
Solar cell mounting, Patent (NASA-CASE-WLP-10055-2) c 35 N85-21598
Space Sciences, Inc., Waltham, Mass. Doppler shift system (NASA-CASE-HQN-10740-1) c 07 N72-19310
Space Technology Labs, Inc., Redondo Beach, Calif. AC flip-flop circuits Patent (NASA-CASE-XNE-00626-1) c 10 N71-15910
Spacecraft, Patent for field strength measurement of a space vehicle Patent (NASA-CASE-XLE-00620) c 14 N71-16014
Heating sealably explosive release mechanism Patent (NASA-CASE-XGS-00824) c 15 N71-16078
Apparatus for measuring electric field strength on the surface of a model vehicle Patent (NASA-CASE-XLE-20380) c 09 N71-16086
Solar cell mounting, Patent (NASA-CASE-XNP-00826) c 03 N70-20695
Pressurized refractory structure Patent (NASA-CASE-XNP-02988) c 18 N71-20168
Linear, accelerated novelty frequency control system Patent (NASA-CASE-XGS-05441) c 10 N71-22962
Fluidic system Patent (NASA-CASE-XRF-03972) c 15 N71-23048
Compensating bandwidth switching transients in an amplifier circuit Patent (NASA-CASE-KNO-01107) c 10 N71-28858
Resonance monitor Patent (NASA-CASE-FRC-10012) c 14 N71-17232
Method and device for detecting voids in low density material Patent (NASA-CASE-MFS-20044) c 14 N71-28993
Spectra-Physics, Inc., Mountain View, Calif. Optical pumped quantum meter for determining vectorial components in a spatial coordinate system Patent (NASA-CASE-XGS-04879) c 14 N71-20428
Central spar and module joint Patent (NASA-CASE-XNP-02341) c 15 N71-21531
Apparatus for multiple slope devices (NASA-CASE-NPO-10575) c 03 N72-25019
Spyrey Gyroscope Co., Great Neck, N. Y. Automatic gain control system (NASA-CASE-XMS-05507) c 09 N9-24330
Collapsible antenna boom and transmission line Patent (NASA-CASE-MFS-20068) c 07 N71-21911
Device for handling printed circuit cards Patent (NASA-CASE-MFS-20453) c 15 N71-21333
Frequency division multiplex technique (NASA-CASE-KSC-10521) c 07 N70-20176
Device for configuring multiple leads (NASA-CASE-MFS-22133-1) c 37 N74-28077
System for enhancing tool-exchange capabilities of a portable tool (NASA-CASE-MFS-23330-1) c 32 N75-63390
Remote operable manipulator (NASA-CASE-MFS-27071) c 07 N76-15457
Photovoltic cell array (NASA-CASE-MFS-22458-1) c 44 N77-10635
Notch filter (NASA-CASE-MFS-23300-1) c 32 N75-18307
FM/CW radar system (NASA-CASE-MFS-22954-1) c 32 N79-10264
Analogisitic three-mirror telescope (NASA-CASE-MFS-23675-1) c 65 N79-10969
Mercury capillary interrupter Patent (NASA-CASE-XNP-02211) c 12 N71-20896
Magnetic power switch Patent (NASA-CASE-NPO-10242) c 09 N71-24803
Procedure and apparatus for determination of water in nitrogen tetroxide (NASA-CASE-NPO-10234) c 06 N72-17094
Standard Units Corp., Active RC networks (NASA-CASE-MSC-10042-2) c 10 N71-11256
Multicircuit RC active filter apparatus having low parameter sensitivity with low amplifier gain (NASA-CASE-AIRC-10912) c 09 N71-21245
Spacecraft attitude control method and apparatus (NASA-CASE-AIRC-10436) c 21 N70-21642
Light system with an anisotropical optical fiber (NASA-CASE-HQN-10844-1) c 36 N75-19653
Remote controlled glass and glass coatings (NASA-CASE-HQN-10966) c 33 N75-27251
Round glass and glass coatings (NASA-CASE-HQN-11051-1) c 27 N78-22260
Fibrous refractory composite insulation (NASA-CASE-HQN-11164-1) c 44 N78-34448
Planar oscillatory string apparatus (NASA-CASE-FSM-20602-1.CU) c 35 N86-26586
Stanford University, Palo Alto, Calif. RC networks and amplifiers employing the same (NASA-CASE-XAC-05462-2) c 10 N72-17171
State Univ., Pueblo, Colo. Mixture separation cell Patent (NASA-CASE-MSC-02952) c 18 N71-20742
Sylvania Electronic Systems-Central, Williamsville, N. Y. Acquisition and tracking system for optical radar (NASA-CASE-MFS-20125) c 16 N72-13437
Attitude sensing device (NASA-CASE-XMS-01994-1) c 14 N72-17326
United Technologies Corp., South Windsor, Conn.

Reactor pressure differential control for fuel cell

[NASA-CASE-MSC-20127-2] c 37 N85-34403

United Technologies Corp., Windsor Locks, Conn.

Cam-operated pitch change apparatus

[NASA-CASE-LEW-13050-1] c 07 N79-14095

United Technology Center, Sunnyvale, Calif.

Solid propellant liner Patent

[NASA-CASE-XNP-09744] c 27 N71-16392

University of Southern Mississippi, Hattiesburg.

Low energy electron magnetometer using a monoenergetic electron beam

[NASA-CASE-LAR-12706-1] c 35 N84-12444

Vanderbilt Univ., Nashville, Tenn.

Solar driven liquid metal MHD power generator

[NASA-CASE-LAR-12495-1] c 44 N83-28573

Vapor Corp., Chicago, Ill.

Method and apparatus for controllably heating fluid Patent

[NASA-CASE-XMF-04257] c 33 N71-16278

Vranck Associates, Palo Alto, Calif.

High power-high voltage water load Patent

[NASA-CASE-XNP-05381] c 09 N71-20842

III-V photocathodes with nitrogen doping for increased quantum efficiency

Virginia Associated Research Center, Newport News.

Personal computer for environmental monitoring and analysis Patent

[NASA-CASE-XNP-02069-1] c 37 N75-20487

Virginia Polytechnic Inst. and State Univ., Blacksburg.

Logarithmic circuit with wide dynamic range

[NASA-CASE-GSC-12145-1] c 33 N78-32339

Polyphenylquinoxalines containing pendant phenylthiazol and ethylamino groups

[NASA-CASE-LAR-12836-1] c 27 N83-34040

Thermistor-thermoplastic aromatic polyamide containing N-propargyl groups

[NASA-CASE-LAR-12723-2] c 24 N84-22746

Ultrasonic transducer with Gaussian radial pressure distribution

[NASA-CASE-LAR-12966-1] c 35 N85-30282

Virginia Univ., Charlottesville.

Deposing semiconductor films utilizing a thermal gradient

[NASA-CASE-XKS-05464] c 15 N86-21460

Active microwave kines and windows

[NASA-CASE-LAR-10513-1] c 07 N72-25170

Thin film microwave iris

[NASA-CASE-LAR-10511-1] c 09 N72-25172

Apparatus for measuring a sorbate dispersed in a fluid stream

[NASA-CASE-ARC-10896-1] c 35 N78-19465

Vivoneq Corp., Mountain View, Calif.

Amino acid analysis

[NASA-CASE-NPO-12130-1] c 25 N75-18434

Wrought Corp., Hampton, Va.

Mechanical end joint system for structural column elements

[NASA-CASE-LAR-12482-1] c 37 N82-32732

Weber Aircraft Corp., Burbank, Calif.

Articulated multiple couch assembly Patent

[NASA-CASE-MSC-11253] c 05 N71-12343

Device for separating occupant from an ejection seat Patent

[NASA-CASE-XKS-04825] c 05 N71-20718

Collapsible Apollo couch

[NASA-CASE-MSC-13140] c 05 N72-11085

Westinghouse Electric Corp., Baltimore, Md.

Broadband chokes for antenna structure

[NASA-CASE-XKS-05303] c 07 N69-27462

Electronic background suppression method and apparatus for a field scanning sensor

[NASA-CASE-XGS-05211] c 07 N69-39980

Solid state current transformer

[NASA-CASE-XMF-22560-1] c 33 N77-14335

Time delay and integration detectors using charge transfer devices

[NASA-CASE-GSC-12324-1] c 33 N81-33403

Westinghouse Electric Corp., Houston, Tex.

Solid state television camera system Patent

[NASA-CASE-XMF-06092] c 07 N71-24812

Phototransistor

[NASA-CASE-MFS-20407] c 09 N73-19235

Westinghouse Electric Corp., Lima, Ohio.

Transistor drive regulator Patent

[NASA-CASE-LEW-10293] c 10 N71-27126


Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitance-timer diode combination feedback Patent

[NASA-CASE-XMS-01315] c 09 N70-41675

Thermal conductive connection and method of making same Patent

[NASA-CASE-XMS-02087] c 09 N70-41717

Gas cooled high temperature thermocouple Patent

[NASA-CASE-XLE-09475-1] c 33 N71-15588

High resolution developing of photosensitive resists Patent

[NASA-CASE-XGS-04893] c 14 N71-17574

Regulated power supply Patent

[NASA-CASE-XMS-01919] c 09 N71-21449

Pulse modulator providing fast rise and fall times Patent

[NASA-CASE-XMS-04919] c 09 N71-23270

Extended area semiconductor radiation detectors and a novel readout arrangement Patent

[NASA-CASE-XGS-03290] c 14 N71-23401

Phase locked phase modulator including a voltage controlled oscillator Patent

[NASA-CASE-XNP-05382] c 10 N71-23454

Bearing and gimbal lock mechanism and spiral flex lead module Patent

[NASA-CASE-GSC-10555-1] c 31 N71-29557

Multiple slope swing generator Patent

[NASA-CASE-XMS-03542] c 09 N71-28926

Self-adjusting multisection, deployable, relative small cell radiations Patent

[NASA-CASE-GSC-11617-1] c 33 N78-29046

Thermally cascaded thermoelectric generator

[NASA-CASE-XGS-03230] c 05 N73-26949

Phototransistor imaging system

[NASA-CASE-MFS-20809] c 23 N75-13660

Demodulator for carrier transducers

[NASA-CASE-NUC-10197-1] c 33 N74-17930

Heat transfer device

[NASA-CASE-NPO-11120-1] c 34 N74-18552

Amplitude modulated array

[NASA-CASE-GSC-11446-1] c 33 N74-20860

Glass-to-metal seals comprising relatively high expansion metals

[NASA-CASE-LEW-10698-1] c 37 N74-21063

Millimeter wave pumped parametric amplifier

[NASA-CASE-XGS-04993] c 37 N75-21575

Magnetic image intensifier

[NASA-CASE-GSC-12010-1] c 74 N76-18905


Sodium storage and injection system

[NASA-CASE-NPO-14364-1] c 37 N80-10494

Method of producing silicon

[NASA-CASE-NPO-14362-1] c 31 N80-18231

Weston Instruments, Inc., Colleage Park, Md.

Electrically resettable fuse Patent

[NASA-CASE-XGS-11117] c 09 N71-27001


Relief container

[NASA-CASE-XMS-06761] c 05 N69-23192

Fluid sample collector Patent

[NASA-CASE-XMS-06767-1] c 14 N71-20435

Whittaker Corp., Los Angeles, Calif.

Polyurethanes containing polycoke carbonates

[NASA-CASE-MFS-10512] c 06 N73-30059

Polyurethanes from fluorinated polypropylene glycol polylthers

[NASA-CASE-MFS-10506] c 06 N73-30100

Fluorohydroxy ethers

[NASA-CASE-MFS-10507] c 06 N73-30101

Highly fluorinated polymers

[NASA-CASE-MFS-11492] c 06 N73-30102

Fluorinated polycarbamates and method of preparing the same

[NASA-CASE-MFS-22164-1] c 37 N74-18126

Polymeric forms from cross-linkable poly-n-arylenebenzimidazoles

[NASA-CASE-ARC-11008-1] c 27 N79-21219

Whittaker Corp., San Diego, Calif.

Reinforced polyimide sheet and method of preparing the same

[NASA-CASE-MFS-21364-1] c 37 N71-25757

Polyester resins from cross-linkable poly-n-arylenebenzimidazoles

[NASA-CASE-ARC-11008-1] c 27 N79-21219

Wisconsin Univ., Madison.

Cylindrical anode wire for gas radiation counters

[NASA-CASE-GSC-11492-1] c 35 N74-26949

Method and system for in vivo measurement of bone tissue using a two level energy source

[NASA-CASE-MSC-14276-1] c 52 N77-14737
### Typical Contract Number Index Listing

<table>
<thead>
<tr>
<th>CONTRACT NUMBER</th>
<th>ACCESSION NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAS2-10334</td>
<td>27</td>
</tr>
</tbody>
</table>

Listings in this index are arranged alpha-numerically by contract number. Under each contract number, the accession numbers denoting documents that have been produced as a result of research done under that contract are arranged in ascending accession number order. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located.
Numerical listing provided in the form of a table with columns for NAS Accession Number, Category, and Microfiche number. The listings are arranged alphabetically by "patent" number. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. An asterisk (*) indicates that the item is an NACA report. A pound sign (#) indicates that the item is available on microfiche.
REPORT NUMBER INDEX
<table>
<thead>
<tr>
<th>US-PATENT</th>
<th>c</th>
<th>REPORT NUMBER INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>US-PATENT-3,537,672</td>
<td>c 15</td>
<td>N71-2494</td>
</tr>
<tr>
<td>US-PATENT-3,538,053</td>
<td>c 27</td>
<td>N71-71214</td>
</tr>
<tr>
<td>US-PATENT-3,538,905</td>
<td>c 10</td>
<td>N71-24800</td>
</tr>
<tr>
<td>US-PATENT-3,540,045</td>
<td>c 09</td>
<td>N71-24955</td>
</tr>
<tr>
<td>US-PATENT-3,541,479</td>
<td>c 07</td>
<td>N71-24813</td>
</tr>
<tr>
<td>US-PATENT-3,542,020</td>
<td>c 11</td>
<td>N71-24854</td>
</tr>
<tr>
<td>US-PATENT-3,542,054</td>
<td>c 07</td>
<td>N71-24825</td>
</tr>
<tr>
<td>US-PATENT-3,543,054</td>
<td>c 09</td>
<td>N71-24811</td>
</tr>
<tr>
<td>US-PATENT-3,543,290</td>
<td>c 15</td>
<td>N71-24865</td>
</tr>
<tr>
<td>US-PATENT-3,544,499</td>
<td>c 15</td>
<td>N71-24823</td>
</tr>
<tr>
<td>US-PATENT-3,545,700</td>
<td>c 16</td>
<td>N71-26154</td>
</tr>
<tr>
<td>US-PATENT-3,546,615</td>
<td>c 23</td>
<td>N71-24951</td>
</tr>
<tr>
<td>US-PATENT-3,547,182</td>
<td>c 09</td>
<td>N71-24956</td>
</tr>
<tr>
<td>US-PATENT-3,547,314</td>
<td>c 07</td>
<td>N71-24949</td>
</tr>
<tr>
<td>US-PATENT-3,547,605</td>
<td>c 10</td>
<td>N71-24861</td>
</tr>
<tr>
<td>US-PATENT-3,548,651</td>
<td>c 08</td>
<td>N71-24928</td>
</tr>
<tr>
<td>US-PATENT-3,549,422</td>
<td>c 03</td>
<td>N71-24840</td>
</tr>
<tr>
<td>US-PATENT-3,549,428</td>
<td>c 09</td>
<td>N71-24843</td>
</tr>
<tr>
<td>US-PATENT-3,549,470</td>
<td>c 07</td>
<td>N71-24840</td>
</tr>
<tr>
<td>US-PATENT-3,549,589</td>
<td>c 16</td>
<td>N71-24840</td>
</tr>
<tr>
<td>US-PATENT-3,550,157</td>
<td>c 07</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,550,167</td>
<td>c 09</td>
<td>N71-24841</td>
</tr>
<tr>
<td>US-PATENT-3,550,486</td>
<td>c 10</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,550,592</td>
<td>c 16</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,550,647</td>
<td>c 07</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,552,376</td>
<td>c 31</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,554,037</td>
<td>c 07</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,554,326</td>
<td>c 07</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,554,485</td>
<td>c 11</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,554,706</td>
<td>c 17</td>
<td>N71-26554</td>
</tr>
<tr>
<td>US-PATENT-3,554,719</td>
<td>c 03</td>
<td>N71-26572</td>
</tr>
<tr>
<td>US-PATENT-3,555,027</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,062</td>
<td>c 10</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,192</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,310</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,453</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,531</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,595</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,555,886</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,556,115</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,556,314</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,556,364</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,027</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,069</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,089</td>
<td>c 10</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,224</td>
<td>c 28</td>
<td>N71-23904</td>
</tr>
<tr>
<td>US-PATENT-3,557,273</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,363</td>
<td>c 07</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,557,397</td>
<td>c 15</td>
<td>N71-27184</td>
</tr>
<tr>
<td>US-PATENT-3,558,081</td>
<td>c 19</td>
<td>N71-27184</td>
</tr>
<tr>
<td>REPORT NUMBER INDEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>--</td>
<td>---</td>
</tr>
<tr>
<td>US-PATENT-4,171,416</td>
<td>N80-18258</td>
<td>c 33</td>
</tr>
<tr>
<td>US-PATENT-4,176,130</td>
<td>N80-18258</td>
<td>c 33</td>
</tr>
<tr>
<td>US-PATENT-4,187,506</td>
<td>N80-18258</td>
<td>c 33</td>
</tr>
<tr>
<td>US-PATENT-4,188,368</td>
<td>N80-18258</td>
<td>c 33</td>
</tr>
<tr>
<td>US-PATENT-4,189,234</td>
<td>N80-18258</td>
<td>c 33</td>
</tr>
<tr>
<td>US-PATENT-4,189,675</td>
<td>N80-20448</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,190,060</td>
<td>N80-29703</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,190,626</td>
<td>N80-29703</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,191,505</td>
<td>N80-21828</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,191,893</td>
<td>N80-29834</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,192,920</td>
<td>N80-20448</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,192,910</td>
<td>N80-29703</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,192,910</td>
<td>N80-29703</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,193,388</td>
<td>N80-20448</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,193,435</td>
<td>N80-23653</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,193,693</td>
<td>N80-20563</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,193,627</td>
<td>N80-20402</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,194,115</td>
<td>N80-21402</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,195,244</td>
<td>N80-20559</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,195,279</td>
<td>N80-20559</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,195,512</td>
<td>N80-23711</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,195,666</td>
<td>N80-23654</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,196,129</td>
<td>N80-23215</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,196,619</td>
<td>N80-24506</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,196,640</td>
<td>N80-23655</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,196,879</td>
<td>N80-23471</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,198,291</td>
<td>N80-23419</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,198,568</td>
<td>N80-23474</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,198,792</td>
<td>N80-23383</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,198,999</td>
<td>N80-20219</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,199,650</td>
<td>N80-24437</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,199,764</td>
<td>N80-23254</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,200,630</td>
<td>N80-23717</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,199,937</td>
<td>N80-24519</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,200,721</td>
<td>N80-24438</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,200,723</td>
<td>N80-26444</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,202,037</td>
<td>N80-27067</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,202,402</td>
<td>N80-26298</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,202,544</td>
<td>N80-27027</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,203,854</td>
<td>N80-26088</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,205,229</td>
<td>N80-26635</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,206,383</td>
<td>N80-27163</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,206,704</td>
<td>N80-27195</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,207,024</td>
<td>N80-26658</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,207,024</td>
<td>N80-26658</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,209,933</td>
<td>N80-26660</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,209,561</td>
<td>N80-26660</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,210,401</td>
<td>N80-26660</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,210,474</td>
<td>N80-26536</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,210,973</td>
<td>N80-26471</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,211,354</td>
<td>N80-17170</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,211,354</td>
<td>N80-26179</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,212,297</td>
<td>N80-14605</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,212,477</td>
<td>N80-28711</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,212,690</td>
<td>N80-28492</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,213,051</td>
<td>N80-28668</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,213,132</td>
<td>N80-15706</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,213,684</td>
<td>N80-28578</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,214,703</td>
<td>N80-17886</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,214,902</td>
<td>N80-18258</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,214,902</td>
<td>N80-18258</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,215,273</td>
<td>N80-32328</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,215,327</td>
<td>N80-32605</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,215,548</td>
<td>N80-31790</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,215,590</td>
<td>N80-32717</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,215,871</td>
<td>N80-32444</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,216,186</td>
<td>N80-15192</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,216,542</td>
<td>N80-32519</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,217,633</td>
<td>N80-32519</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,218,289</td>
<td>N80-32650</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,218,665</td>
<td>N80-32650</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,218,668</td>
<td>N80-32604</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,218,882</td>
<td>N80-14287</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,218,921</td>
<td>N80-15767</td>
<td>c 32</td>
</tr>
<tr>
<td>US-PATENT-4,219,027</td>
<td>N80-14612</td>
<td>c 32</td>
</tr>
<tr>
<td>REPORT NUMBER INDEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N85-28982</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 N85-28205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-28568</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 N84-28205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-28205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-27829</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 N84-34403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 N84-34403</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Typical Accession Number Index Listing

<table>
<thead>
<tr>
<th>NASA SPONSORED</th>
<th>ON MICROFICHE</th>
<th>NASA ACCESSION NUMBER</th>
<th>SUBJECT CATEGORY NUMBER</th>
<th>PATENT NUMBER</th>
<th>NAME</th>
<th>DATE</th>
</tr>
</thead>
</table>

Listings in this index are arranged numerically by NASA accession number. The category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. An asterisk (*) indicates that the item is a NASA report. A round sign (.) indicates that the item is available on microfiche.
<table>
<thead>
<tr>
<th>ACCESSION NUMBER INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>N71-25900* c 10</td>
</tr>
<tr>
<td>N71-25901* c 14</td>
</tr>
<tr>
<td>N71-25903* c 17</td>
</tr>
<tr>
<td>N71-25914* c 16</td>
</tr>
<tr>
<td>N71-25917* c 10</td>
</tr>
<tr>
<td>N71-25929* c 06</td>
</tr>
<tr>
<td>N71-25950* c 10</td>
</tr>
<tr>
<td>N71-25975* c 15</td>
</tr>
<tr>
<td>N71-25999* c 09</td>
</tr>
<tr>
<td>N71-26000* c 09</td>
</tr>
<tr>
<td>N71-26026* c 09</td>
</tr>
<tr>
<td>N71-26084* c 03</td>
</tr>
<tr>
<td>N71-26085* c 10</td>
</tr>
<tr>
<td>N71-26092* c 09</td>
</tr>
<tr>
<td>N71-26100* c 18</td>
</tr>
<tr>
<td>N71-26101* c 07</td>
</tr>
<tr>
<td>N71-26102* c 07</td>
</tr>
<tr>
<td>N71-26103* c 10</td>
</tr>
<tr>
<td>N71-26110* c 02</td>
</tr>
<tr>
<td>N71-26133* c 09</td>
</tr>
<tr>
<td>N71-26134* c 15</td>
</tr>
<tr>
<td>N71-26135* c 14</td>
</tr>
</tbody>
</table>

**US-PATENT-APPL-SN**:

- N71-25900* 026226
- N71-25901* 026226
- N71-25903* 026226
- N71-25914* 026226
- N71-25917* 026226
- N71-25929* 026226
- N71-25950* 026226
- N71-25975* 026226
- N71-25999* 026226
- N71-26000* 026226
- N71-26026* 026226
- N71-26084* 026226
- N71-26085* 026226
- N71-26092* 026226
- N71-26100* 026226
- N71-26101* 026226
- N71-26102* 026226
- N71-26103* 026226
- N71-26110* 026226
- N71-26133* 026226
- N71-26134* 026226
- N71-26135* 026226

**US-PATENT-CLASS**:

- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
- 317-33
| ACCESSION NUMBER INDEX |  |
|------------------------|--|  |
| N71-30292* | c 23 | NASA-CASE-HQN-10761 |  |
| N71-33108* | c 07 | NASA-CASE-KSC-10164 |  |
| N71-33109* | c 09 | NASA-CASE-KSC-10101-1 |  |
| N71-33110* | c 08 | NASA-CASE-GSC-10166 |  |
| N71-33112* | c 10 | NASA-CASE-GSC-10667-1 |  |
| N71-33116* | c 31 | NASA-CASE-XA-04063 |  |
| N71-33229* | c 23 | NASA-CASE-LWE-10327 |  |
| N71-33409* | c 03 | NASA-CASE-ARC-10050 |  |
| N71-33410* | c 16 | NASA-CASE-NPO-10417 |  |
| N71-33518* | c 15 | NASA-CASE-LEW-10266 |  |
| N71-33519* | c 09 | NASA-CASE-LEW-10103 |  |
| N71-33606* | c 07 | NASA-CASE-NPO-11031 |  |
| N72-11058* | c 02 | NASA-CASE-NPO-09180 |  |
| N72-11072* | c 03 | NASA-CASE-NPO-09153 |  |
| N72-11084* | c 05 | NASA-CASE-NPO-09174 |  |
| N72-11114* | c 07 | NASA-CASE-NPO-09186 |  |
| N72-11565* | c 23 | NASA-CASE-GSC-11133-1 |  |
| N72-11711* | c 08 | NASA-CASE-NPO-09174 |  |
| N72-11712* | c 08 | NASA-CASE-NPO-09180 |  |
| N72-11724* | c 09 | NASA-CASE-NPO-09185 |  |
| N72-11725* | c 09 | NASA-CASE-NPO-09186 |  |
| N72-11726* | c 10 | NASA-CASE-NPO-09187 |  |
| N72-11903* | c 15 | NASA-CASE-NPO-09186 |  |
| N72-11904* | c 15 | NASA-CASE-NPO-09187 |  |
| N72-11905* | c 15 | NASA-CASE-NPO-09188 |  |
| N72-12029* | c 07 | NASA-CASE-NPO-09186 |  |
| N72-12030* | c 07 | NASA-CASE-NPO-09187 |  |
F-36
<table>
<thead>
<tr>
<th>Accession Number</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>N77-1315</td>
<td>c 33 N77-1315</td>
</tr>
<tr>
<td>N77-1405S</td>
<td>c 37 N77-1405S</td>
</tr>
<tr>
<td>N77-1420S</td>
<td>c 32 N77-1420S</td>
</tr>
<tr>
<td>N77-1433S</td>
<td>c 33 N77-1433S</td>
</tr>
<tr>
<td>N77-1440S</td>
<td>c 35 N77-1440S</td>
</tr>
<tr>
<td>N77-1440L</td>
<td>c 35 N77-1440L</td>
</tr>
<tr>
<td>N77-1440X</td>
<td>c 35 N77-1440X</td>
</tr>
<tr>
<td>N77-1440X</td>
<td>c 35 N77-1440X</td>
</tr>
<tr>
<td>N77-1440L</td>
<td>c 35 N77-1440L</td>
</tr>
</tbody>
</table>

**Accession Numbers:**
- N77-1315: c 33 NASA-CASE-NPO 11515-1
- N77-1405S: c 37 NASA-CASE-ARC 10905-1
- N77-1420S: c 32 NASA-CASE-LAR 11607-1
- N77-1433S: c 33 NASA-CASE-GSC 12018-1
- N77-1440S: c 35 NASA-CASE-NPO 13663-1
- N77-1440L: c 35 NASA-CASE-LAR 11648-1

**Indexes:**
- N77-1315: c 33 NASA-CASE-NPO
- N77-1405S: c 37 NASA-CASE-ARC
- N77-1420S: c 32 NASA-CASE-LAR
- N77-1433S: c 33 NASA-CASE-GSC
- N77-1440S: c 35 NASA-CASE-NPO
- N77-1440L: c 35 NASA-CASE-LAR

**Special Indexes:**
- N77-1315: c 33 NASA-CASE-NPO
- N77-1405S: c 37 NASA-CASE-ARC
- N77-1420S: c 32 NASA-CASE-LAR
- N77-1433S: c 33 NASA-CASE-GSC
- N77-1440S: c 35 NASA-CASE-NPO
- N77-1440L: c 35 NASA-CASE-LAR
<table>
<thead>
<tr>
<th>Accession Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N79-17288</td>
<td>c, 43, NASA CASE-NPO-12891</td>
</tr>
<tr>
<td>N79-17313</td>
<td>c, 44, NASA CASE-LEW-12358</td>
</tr>
<tr>
<td>N79-17314</td>
<td>c, 44, NASA CASE-NPO-13552</td>
</tr>
<tr>
<td>N79-17747</td>
<td>c, 85, NASA CASE-NPO-13647-2</td>
</tr>
<tr>
<td>N79-17847</td>
<td>c, 05, NASA CASE-ARC-11045-1</td>
</tr>
<tr>
<td>N79-18052</td>
<td>c, 27, NASA CASE-ARC-10195-2</td>
</tr>
<tr>
<td>N79-18190</td>
<td>c, 33, NASA CASE-KSC-10899-1</td>
</tr>
<tr>
<td>N79-18307</td>
<td>c, 95, NASA CASE-LAR-12193-1</td>
</tr>
<tr>
<td>N79-18318</td>
<td>c, 37, NASA CASE-LAR-1231-1</td>
</tr>
<tr>
<td>N79-18443</td>
<td>c, 44, NASA CASE-NPO-14058-1</td>
</tr>
<tr>
<td>N79-18444</td>
<td>c, 44, NASA CASE-LAR-12193-1</td>
</tr>
<tr>
<td>N79-18580</td>
<td>c, 44, NASA CASE-LEW-12358</td>
</tr>
<tr>
<td>N79-19116</td>
<td>c, 24, NASA CASE-LEW-11903-4</td>
</tr>
<tr>
<td>N79-19195</td>
<td>c, 32, NASA CASE-NPO-14235-1</td>
</tr>
<tr>
<td>N79-19447</td>
<td>c, 44, NASA CASE-LER-12231</td>
</tr>
<tr>
<td>N79-20179</td>
<td>c, 20, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-20286</td>
<td>c, 32, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-20314</td>
<td>c, 33, NASA CASE-NPO-14130-1</td>
</tr>
<tr>
<td>N79-20335</td>
<td>c, 34, NASA CASE-NPO-14130-1</td>
</tr>
<tr>
<td>N79-20368</td>
<td>c, 34, NASA CASE-NPO-14130-1</td>
</tr>
<tr>
<td>N79-20547</td>
<td>c, 35, NASA CASE-NPO-14058-1</td>
</tr>
<tr>
<td>N79-20571</td>
<td>c, 41, NASA CASE-NPO-14058-1</td>
</tr>
<tr>
<td>N79-20751</td>
<td>c, 60, NASA CASE-NPO-13676-1</td>
</tr>
<tr>
<td>N79-20827</td>
<td>c, 71, NASA CASE-NPO-14002-1</td>
</tr>
<tr>
<td>N79-20856</td>
<td>c, 74, NASA CASE-NPO-14174-1</td>
</tr>
<tr>
<td>N79-21083</td>
<td>c, 09, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21100</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21101</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21102</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21103</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21104</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21105</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21106</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21107</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21108</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21109</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21110</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21111</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21112</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21113</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21114</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21115</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21116</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21117</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21118</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21119</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21120</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21121</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21122</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21123</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21124</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21125</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21126</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21127</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21128</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21129</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21130</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21131</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21132</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21133</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21134</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21135</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21136</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21137</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21138</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21139</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21140</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
<tr>
<td>N79-21141</td>
<td>c, 27, NASA CASE-LEW-12786-1</td>
</tr>
</tbody>
</table>
PUBLIC AVAILABILITY OF COPIES OF PATENTS AND PATENT APPLICATIONS

Copies of U.S. patents may be purchased directly from the U.S. Patent and Trademark Office, Washington, D.C. 20231 at $1.50 per copy. When ordering patents, the U.S. Patent Number should be used, and payment must be remitted in advance, preferably by money order or check payable to the Commissioner of Patents and Trademarks. Prepaid purchase coupons for ordering are also available from the Patent and Trademark Office.

NASA patent application specifications are sold in paper copy by the National Technical Information Service at price code A02. Microfiche are sold at price code A01. The US-Patent-Appl-SN-number should be used in ordering either paper copy or microfiche from NTIS.

LICENSES FOR COMMERCIAL USE: INQUIRIES AND APPLICATIONS FOR LICENSE

NASA inventions, abstracted in NASA PAB, are available for nonexclusive or exclusive licensing in accordance with the NASA Patent Licensing Regulations. It is significant that all licenses for NASA inventions shall be by express written instruments and that no license will be granted or implied in a NASA invention except as provided in the NASA Patent Licensing Regulations.

Inquiries concerning the NASA Patent Licensing Program or the availability of licenses for the commercial use of NASA-owned inventions covered by U.S. patents or pending applications for patent should be forwarded to the NASA Patent Counsel of the NASA installation having cognizance of the specific invention, or the Associate General Counsel for Intellectual Property, code GP, National Aeronautics and Space Administration, Washington, D.C. 20546. Inquiries should refer to the NASA Case Number, the Title of the Invention, and the U.S. Patent Number or the U.S. Application Serial Number assigned to the invention as shown in NASA PAB.

The NASA Patent Counsel having cognizance of the invention is determined by the first three letters or prefix of the NASA Case Number assigned to the invention. The addresses of NASA Patent Counsels are listed alongside the NASA Case Number prefix letters in the following table.

STANDING ORDER SUBSCRIPTIONS

NASA SP-7039, Section 2 is available from the National Technical Information Service (NTIS) on standing order subscription as PB 89-911100 at the price of $29.00 domestic and $58.00 foreign. Standing order subscriptions do not terminate at the end of a year, as do regular subscriptions, but continue indefinitely unless specifically terminated by the subscriber.
<table>
<thead>
<tr>
<th>NASA Case Number</th>
<th>Prefix Letters</th>
<th>Address of Cognizant NASA Patent Counsel</th>
</tr>
</thead>
</table>
| ARC-xxxxxx | XAR-xxxxxx | Ames Research Center  
Mail Code: 200-11A  
Moffett Field, California 94035  
Telephone: (415) 694-5104 |
| ERC-xxxxxx | XER-xxxxxx | NASA Headquarters  
Mail Code: GP  
Washington, D.C. 20546  
Telephone: (202) 453-2417 |
| HQN-xxxxxx | XHQ-xxxxxx | Goddard Space Flight Center  
Mail Code: 204  
Greenbelt, Maryland 20771  
Telephone: (301) 286-7351 |
| KSC-xxxxxx | XKS-xxxxxx | John F. Kennedy Space Center  
Mail Code: PT-PAT  
Kennedy Space Center, Florida 32899  
Telephone: (305) 867-2544 |
| LAR-xxxxxx | XLA-xxxxxx | Langley Research Center  
Mail Code: 279  
Hampton, Virginia 23365  
Telephone: (804) 865-3725 |
| LEW-xxxxxx | XLE-xxxxxx | Lewis Research Center  
Mail Code: 500-318  
21000 Brookpark Road  
Cleveland, Ohio 44135  
Telephone: (216) 433-5753 |
| MSC-xxxxxx | XMS-xxxxxx | Lyndon B. Johnson Space Center  
Mail Code: AL3  
Houston, Texas 77058  
Telephone: (713) 483-4871 |
| MFS-xxxxxx | XMF-xxxxxx | George C. Marshall Space Flight Center  
Mail Code: CC01  
Huntsville, Alabama 35812  
Telephone: (205) 544-0024 |
| NPO-xxxxxx | XNP-xxxxxx | NASA Resident Legal Office  
Mail Code: 180-801  
4800 Oak Grove Drive  
Pasadena, California 91103  
Telephone: (818) 354-2700 |
PATENT LICENSING REGULATIONS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

14 CFR Part 1245

Licensing of NASA Inventions

AGENCY: National Aeronautics and Space Administration.

ACTION: Interim regulation with comments requested.

SUMMARY: The National Aeronautics and Space Administration (NASA) is revising its patent licensing regulations to conform with Pub. L. 96-517. This interim regulation provides policies and procedures applicable to the licensing of federally owned inventions in the custody of the National Aeronautics and Space Administration, and implements Pub. L. 96-517. The object of this subpart is to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

EFFECTIVE DATE: July 1, 1981. Comments must be received in writing by December 2, 1981. Unless a notice is published in the Federal Register after the comment period indicating changes to be made, this interim regulation shall become a final regulation.


FOR FURTHER INFORMATION CONTACT: Mr. John G. Mannix, (202) 755-3854.

SUPPLEMENTARY INFORMATION:

PART 1245—PATENTS AND OTHER INTELLECTUAL PROPERTY RIGHTS

Subpart 2 of Part 1245 is revised to read as follows

Subpart 2—Licensing of NASA Inventions

Sec.
1245.200 Scope of subpart.
1245.201 Policy and objective.
1245.202 Definitions.
1245.203 Authority to grant licenses.

Restrictions and Conditions
1245.204 All licenses granted under this subpart.

Types of Licenses
1245.205 Nonexclusive licenses.
1245.206 Exclusive and partially exclusive licenses.

Procedures
1245.207 Application for a license.
1245.208 Processing applications.
1245.209 Notice to Attorney General.

1245.210 Modification and termination of licenses.
1245.211 Appeals.
1245.212 Protection and administration of inventions.
1245.213 Transfer of custody.
1245.214 Confidence of information.


Subpart 2—Licensing of NASA Inventions

§ 1245.200 Scope of subpart.
This subpart prescribes the terms, conditions, and procedures upon which a NASA invention may be licensed. It does not affect licenses which were in effect prior to July 1, 1981; (b) may exist at the time of the Government's acquisition of title to the invention, including those resulting from the allocation of rights to inventions made under Government research and development contracts, (c) are the result of an authorized exchange of rights in the settlement of patent disputes; or (d) are otherwise authorized by law or treaty.

§ 1245.201 Policy and objective.
It is the policy and objective of this subpart to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

§ 1245.202 Definitions.
(a) "Federal owned invention" means an invention, plant, or design which is covered by a patent or patent application, a patent, patent application, plant variety protection, or other form of protection, in a foreign country, to which title has been assigned to or otherwise vested in the United States Government.
(b) "Federal agency" means an executive department, military department, Government corporation, or independent establishment, except the Tennessee Valley Authority, which has custody of a Federally owned invention.
(c) "NASA Invention" means a Federally owned invention with respect to which NASA maintains custody and administration, in whole or in part, of the right, title or interest in such invention on behalf of the United States Government.
(d) "Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of these regulations, the size standard for small business concerns involved in Government procurement, contained in 15 CFR 121.9 and in subcontracting, contained in 13 CFR 121.3-12, will be used.
(e) "Practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.
(f) "United States" means the United States of America, its territories and possessions, the District of Columbia, and the Commonwealth of Puerto Rico.

§ 1245.203 Authority to grant licenses.
NASA inventions shall be made available for licensing as deemed appropriate in the public interest. NASA may grant nonexclusive, partially exclusive, or exclusive licenses thereto under this subpart on inventions in its custody.

Restrictions and Conditions

§ 1245.204 All licenses granted under this subpart.

(a) Restrictions. (1) A license may be granted only if the applicant has supplied NASA with a satisfactory plan for development or marketing of the invention, or both, and with information about the applicant's capability to fulfill the plan.

(2) A license granting rights to use or sell under a NASA invention in the United States shall normally be granted only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(b) Conditions. Licenses shall contain such terms and conditions as NASA determines are appropriate for the protection of the interests of the Federal Government and the public and are not in conflict with law or this subpart. The following terms and conditions apply to any license:

(1) The duration of the license shall be for a period specified in the license agreement, unless sooner terminated in accordance with this subpart.

(2) The license may be granted for all or less than all fields of use of the invention or in specified geographical areas, or both.

(3) The license may extend to subsidiaries of the licensee or other parties if provided for in the license but shall be nonassignable without approval of NASA, except to the successor of that part of the licensee's business to which the invention pertains.
(4) The license may provide the
licensee the right to grant sublicenses
under the license, subject to the
approval of NASA. Each sublicense
shall make reference to the license,
including the rights retained by the
Government, and a copy of such
sublicense shall be furnished to NASA.

(5) The license shall require the
licensee to carry out the plan for
development or marketing of the
invention, or both, to bring the invention
to practical application within a period
specified in the license, and to continue
and make the benefits of the invention
reasonably accessible to the public.

(6) The license shall require the
licensee to report periodically on the
utilization or efforts at obtaining
utilization that are being made by the
licensee, with particular reference to the
plan submitted.

(7) All licenses shall normally require
royalties or other consideration.

(8) Where an agreement is obtained
pursuant to § 1245.204(a)(2) that any
products embodying the invention or
produced through use of the invention
will be manufactured substantially in
the United States, the license shall recite
such agreement.

(9) The license shall provide for the
right of NASA to terminate the license,
in whole or in part, if:

(i) NASA determines that the licensee
is not executing the plan submitted with
its request for a license and the licensee
cannot otherwise demonstrate to the
satisfaction of NASA that it has taken or
is expected to take within a reasonable time effective steps to
achieve practical application of the
invention;

(ii) NASA determines that such action
is necessary to meet requirements for
public use specified by Federal
regulations issued after the date of the
license and such requirements are not
reasonably satisfied by the licensee;

(iii) The licensee has willfully made a
false statement of or willfully omitted a
material fact in the license application
or in any report required by the license
agreement; or

(iv) The licensee commits a
substantial breach of a covenant or
agreement contained in the license.

(10) The license may be modified or
terminated, consistent with this subpart,
on mutual agreement of NASA and
the licensee.

(11) Nothing relating to the grant of a
license, nor the grant itself, shall be
construed to confer upon any person
any immunity from or defenses under
the antitrust laws or from a charge of
patent misuse, and the acquisition and
use of rights pursuant to this subpart
shall not be immunized from the
operation of state or Federal law by
reason of the source of the grant.

Types of Licenses

§ 1245.205 Nonexclusive licenses.

(a) Availability of licenses.

Nonexclusive licenses may be granted
under NASA inventions without
publication of availability or notice of a
prospective license.

(b) Conditions. In addition to the
provisions of § 1245.204, the
nonexclusive license may also provide
that, after termination of a period
specified in the license agreement,
NASA may restrict the license to the
fields of use or geographic areas, or
both, in which the licensee has brought
the invention to practical application
and continues to make the benefits of
the invention reasonably accessible to
the public. However, such restriction
shall be made only in order to grant an
exclusive or partially exclusive license
in accordance with this subpart.

§ 1245.206 Exclusive and partially exclusive licenses.

(a) Domestic licenses.

(1) Availability of licenses. Exclusive
or partially exclusive licenses may be
granted on NASA inventions:

(i) 3 months after notice of the invention's
availability has been announced in the
Federal Register; or

(ii) Without such notice where NASA determines that
expeditious granting of such a license
will best serve the interests of
the Federal Government and the public; and

(iii) In either situation, specified in
§ 1245.204(a)(1)(i) or (ii) of this section only if:

(A) Notice of a prospective license,
identifying the invention and the
prospective licensee, has been published in
the Federal Register, providing
opportunity for filing written objections
within a 60-day period;

(B) After expiration of the period in
§ 1245.206(a)(1)(iii)(A) and
consideration of any written objections
received during the period, NASA has determined that:

(1) The interests of the Federal
Government and the public will be
served by the proposed license, in view of
the applicant's intentions, plans, and
ability to bring the invention to practical
application or otherwise promote the
invention's utilization by the public;

(2) The desired practical application
has not been achieved, or is not likely
extensively to be achieved, under any
nonexclusive license which has been
granted, or which may be granted, on
the invention;

(3) Exclusive or partially exclusive
licensing is a reasonable and necessary
incentive to call forth the investment of
risk capital and expenditures to bring
the invention to practical application or
otherwise promote the invention's
utilization by the public; and

(4) The proposed terms and scope of
exclusivity are not greater than
reasonably necessary to provide the
incentive for bringing the invention to
practical application or otherwise
promote the invention's utilization by the
public.

(C) NASA has not determined that the
grant of such license will tend
substantially to lessen competition or
result in undue concentration in any
section of the country in any line of
commerce to which the technology to be
licensed relates, or to create or maintain
other situations inconsistent with the
antitrust laws; and

(D) NASA has given first preference
to small business firms submitting
plans that are determined by the agency
to be within the capabilities of the firms
and as equally likely, if executed, to
bring the invention to practical
application as any plans submitted by
applicants that are not small business
firms.

(2) Conditions. In addition to the
provisions of § 1245.204, the following
terms and conditions apply to domestic exclusive and partially exclusive
licenses:

(i) The license shall be subject to the
irrevocable, royalty-free right of the
Government of the United States to
practice and have practiced the
invention on behalf of the United States
and on behalf of any foreign government
or international organization pursuant to
any existing or future treaty or
agreement with the United States.

(ii) The license shall reserve to NASA
the right to require the licensee to grant
sublicenses to responsible applicants,
on reasonable terms, when necessary to
fulfill health or safety needs.

(iii) The license shall be subject to any
licenses in force at the time of the grant of
the exclusive or partially exclusive
license.

(iv) The license may grant the
licensee the right of enforcement of the licensed
patent pursuant to the provisions of
Chapter 29 of Title 35, United States
Code, or other statutes, as determined
appropriate in the public interest.

(b) Foreign licenses.

(1) Availability of licenses. Exclusive
or partially exclusive licenses may be
granted on a NASA invention covered
by a foreign patent, patent application,
or other form of protection, provided
that:

(i) Notice of a prospective license,
identifying the invention and prospective licensee, has been published in the Federal Register, providing opportunity for filing written objections within a 60-day period and following consideration of such objections:

(ii) NASA has considered whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced; and

(iii) NASA has not determined that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or result in undue concentration in the commerce will be enhanced; and

interests of such objections;

in the identifying company, or organization applying for patent number, title, and date, if

Procedures

§ 1245.207 Application for a license.

An application for a license should be addressed to the Patent Counsel at the NASA installation having responsibility for the invention and shall normally include:

(a) Identification of the invention for which the license is desired, including the patent application serial number or patent number, title, and date, if known;

(b) Identification of the type of license for which the application is submitted;

(c) Name and address of the person, company, or organization applying for the license and the citizenship or place of incorporation of the applicant;

(d) Name, address, and telephone number of representative of applicant to whom correspondence should be sent;

(e) Nature and type of applicant's business, identifying products or services which the applicant has successfully commercialized, and approximate number of applicant's employees;

(f) Source of information concerning the availability of a license on the invention;

(g) A statement indicating whether applicant is a small business firm as defined in § 1245.202(c);

(h) A detailed description of applicant's plan for development or marketing of the invention, or both, which should include:

(1) A statement of the time, nature and amount of anticipated investment of capital and other resources which applicant believes will be required to bring the invention to practical application;

(2) A statement as to applicant's capability and intention to fulfill the plan, including information regarding manufacturing, marketing, financial, and technical resources;

(3) A statement of the fields of use for which applicant intends to practice the invention; and

(4) A statement of the geographic areas in which applicant intends to manufacture any products embodying the invention and geographic areas where applicant intends to use or sell the invention, or both;

(i) Identification of licenses previously granted to applicant under Federally owned inventions;

(j) A statement containing applicant's best knowledge of the extent to which the invention is being practiced by private industry or Government, or both, or is otherwise available commercially; and

(k) Any other information which applicant believes will support a determination to grant the license to applicant.

§ 1245.208 Processing applications.

(a) Applications for licenses will be initially reviewed by the Patent Counsel of the NASA installation having responsibility for the invention. The Patent Counsel shall make a preliminary recommendation to the Director of Licensing, NASA Headquarters, whether to: (1) grant the license as requested, (2) grant the license with modification after negotiation with the licensee, or (3) deny the license. The Director of Licensing shall review the preliminary recommendation of the Patent Counsel and make a final recommendation to the NASA Assistant General Counsel for Patent Matters. Such review and final recommendation may include, and be based on, any additional information obtained from applicant and other sources that the Patent Counsel and the Director of Licensing deem relevant to the license requested. The determination to grant or deny the license shall be made by the Assistant General Counsel for Patent Matters based on the final recommendation of the Director of Licensing.

(b) When notice of a prospective exclusive or partially exclusive license is published in the Federal Register in accordance with § 1245.206(a)(1)(ii)(A) or § 1245.206(b)(1)(i), any written objections received in response thereto will be considered by the Director of Licensing in making the final recommendation to the Assistant General Counsel for Patent Matters.

(c) If the requested license, including any negotiated modifications, is denied by the Assistant General Counsel for Patent Matters, the applicant may request reconsideration by filing a written request for reconsideration within 30 days after receiving notice of denial. This 30-day period may be extended for good cause.

(d) In addition to, or in lieu of requesting reconsideration, the applicant may also appeal the denial of the license in accordance with § 1245.211.

§ 1245.209 Notice to Attorney General.

A copy of the notice provided for in §§ 1245.206(a)(1)(ii)(A) and 1245.206(b)(1)(i) will be sent to the Attorney General.

§ 1245.210 Modification and termination of licenses.

Before modifying or terminating a license, other than by mutual agreement, NASA shall furnish the licensee and any sublicensee of record a written notice of intention to modify or terminate the license, and the licensee and any sublicensee shall be allowed 30 days after such notice to remedy any breach of the license or show cause why the license should not be modified or terminated.

§ 1245.211 Appeals.

(a) The following parties may appeal to the NASA Administrator or designee any decision or determination concerning the grant, denial, interpretation, modification, or termination of a license:

(1) A person whose application for a license has been denied;

(2) A licensee whose license has been modified or terminated, in whole or in part; or

(3) A person who timely filed a written objection in response to the notice required by §§ 1245.206(a)(1)(ii)(A) or
1245.206(b)(1)(i) and who can demonstrate to the satisfaction of NASA that such person may be damaged by the Agency action.

(b) Written notice of appeal must be filed within 30 days (or such other time as may be authorized for good cause shown) after receiving notice of the adverse decision or determination; including, an adverse decision following the request for reconsideration under § 1245.208(c). The notice of appeal, along with all supporting documentation should be addressed to the Administrator, National Aeronautics and Space Administration, Washington, DC 20546. Should the appeal raise a genuine dispute over material facts, fact-finding will be conducted by the NASA Inventions and Contributions Board. The person filing the appeal shall be afforded an opportunity to be heard and to offer evidence in support of the appeal. The Chairperson of the Inventions and Contributions Board shall prepare written findings of fact and transmit them to the Administrator or designee. The decision on the appeal shall be made by the NASA Administrator or designee. There is no further right of administrative appeal from the decision of the Administrator or designee.

§ 1245.212 Protection and administration of inventions.

NASA may take any suitable and necessary steps to protect and administer rights to NASA inventions, either directly or through contract.

§ 1245.213 Transfer of custody.

NASA having custody of certain Federally owned inventions may transfer custody and administration in whole or in part, to another Federal agency, of the right, title, or interest in any such invention.

§ 1245.214 Confidentiality of information.

Title 35, United States Code, section 209, provides that any plan submitted pursuant to § 1245.207(h) and any report required by § 1245.204(b)(6) may be treated by NASA as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of Title 5 of the United States Code.

James M. Beggs,
Administrator.
October 15, 1981.

[F.R. Doc. 81-31063 Filed 10-30-81; 8:45 am]
BILLING CODE 7810-01-M
**Title and Subtitle**
NASA Patent Abstracts Bibliography
A Continuing Bibliography
Section 2: Indexes (Supplement 34)

**Abstract**
A subject index is provided for over 4600 patents and patent applications for the period May 1969 through December 1988. Additional indexes list personal authors, corporate authors, contract numbers, NASA case numbers, U.S. patent class numbers, U.S. patent numbers, and NASA accession numbers.

**Key Words (Suggested by Authors(s))**
- Bibliographies
- Patent Policy
- NASA Programs

**Distribution Statement**
Unclassified - Unlimited

**Price**
A22/HC

*For sale by the National Technical Information Service, Springfield, Virginia 22161*