A CUMULATIVE INDEX
TO THE 1971 ISSUES OF
A CONTINUING BIBLIOGRAPHY ON
AEROSPACE MEDICINE
AND BIOLOGY
JANUARY 1972

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
### ACCESSION NUMBER RANGES

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SPECIAL NOTICE

The abstract sections of the monthly supplements of *Aerospace Medicine and Biology* can be bound separately. Individual abstracts can be located readily by means of the page numbers given at each entry, e.g., p0430 N71-26914. To assist the user in binding Supplements SP-7011 (86) through SP-7011 (97), a title page is included in the back of this Cumulative Index.
A CUMULATIVE INDEX
TO
A CONTINUING BIBLIOGRAPHY ON
AEROSPACE MEDICINE
AND BIOLOGY

This Cumulative Index supersedes the indexes contained in supplements [SP-7011 (86) through SP-7011 (97)] published by NASA during 1971.
Introduction

WHAT THIS CUMULATIVE INDEX IS

This publication is a cumulative index to the abstracts contained in NASA SP-7011 (86) through NASA SP-7011 (97) of Aerospace Medicine and Biology: A Continuing Bibliography. NASA SP-7011, by means of supplements, serves as a current abstracting and announcement journal for references on bioscience and biotechnology. It has been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA), and the National Aeronautics and Space Administration (NASA). Entries prepared by the two contributing organizations are identified as follows:

1. NASA entries by their STAR accession numbers (N71-10000 series);
2. AIAA entries by their IAA accession numbers (A71-10000 series).

HOW THIS CUMULATIVE INDEX IS ORGANIZED

This Cumulative Index includes a subject index, a personal author index, and a corporate source index.

HOW TO USE THE SUBJECT INDEX

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

1. Use (U) references indicate that the subject term is not “postable,” i.e., not a valid term, and that the following term or terms are used instead. For example:
   - DOSE
   - U DOSAGE
   - AIRLINERS
   - U COMMERCIAL AIRCRAFT
   - U PASSENGER AIRCRAFT

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

In addition, a searcher may use the notations of content in the index to narrow further his quest for particular items. This is because subject terms can readily include more than one class of document. For example:

- BIOLOGICAL EFFECT
  Vibratory force effect upon biological systems, particularly human organism.
  Biological effect of cosmic and solar radiations on human body at high altitudes.

illustrates a case where two references on different topics are listed under the same subject term.
HOW TO USE THE PERSONAL AUTHOR INDEX

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

EMELIANOV, M.D.
and
YEMELYANOV, M.D.

HOW TO USE THE CORPORATE SOURCE INDEX

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

NEW MEXICO STATE UNIV., LAS CRUCES. DEPT. OF BIOLOGY

NEW MEXICO STATE UNIV., LAS CRUCES.

IDENTIFICATION OF DESIRED SUPPLEMENT

The abstract and descriptive cataloging for any accession number selected from the indexes may be found in the appropriate Supplement. The Accession Number Ranges table showing the ranges of accession numbers (N71-10000 and A71-10000) contained in each Supplement appears on the inside front cover of this index. Once the range of accession numbers containing the selected accession number is found in this table, the desired Supplement number is given in the left-hand column of the table. For example:

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AVAILABILITY OF DOCUMENTS

Information concerning the availability of documents announced in Aerospace Medicine and Biology supplements is found in the Introduction to the most currently issued monthly supplement.
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## Subject Index

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### Typical Subject Index Listing

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The Notation of Content (NOC), rather than the title of the document, is used to provide a more exact description of the subject matter. The NASA or AIA accession number is included in each entry to assist the user in locating the abstract in the abstract section of an individual issue of *Aerospace Medicine and Biology*. The page number indicates the exact page on which the abstract is found. If applicable, a report number is also included as an aid in identifying the document.

### ABBREVIATIONS & SYMBOLS

**ABDOMEN**

Abdominal pressure decrease resulting in transpulmonary pressure crano-caudal gradient increase under gravitational effect simulation

Small pressure wave transmission in abdominal venous cavae of dogs in mathematical model development for viscoelastic behavior of large veins

Head and abdomen shielding effects on radiation sickness evolution in dogs under lethal gamma irradiation

Abdominal shielding effects on chromosome aberrations in bone marrow cells of guinea pigs and rats under gamma irradiation

### ABIOGENESIS

Self-sustaining conservaves photochemical formation, discussing enzyme-like properties and abiogenesis

Porphyrins and amino acids chemical bonding under geochemically plausible conditions, considering diagenesis of biogenic compounds and life processes prebiotic chemical evolution

Amino acids synthesis by formaldehyde-ammonia heating and hydrolysis, simulating reactants in weakly reducing atmosphere at volcanic temperatures

Stereoisomeric organic structures in animate nature and life origin on earth

Biophysical model of life origin on earth using primordial gas-small organic molecule-macromolecule-protocell transformations

Extraterrestrial life hypotheses, citing astronomical considerations, inorganic chemical evolution and prebiotic synthesis with emphasis on Mars exploration for microorganisms

Hydrocarbons as foundation for life development universe, discussing chemical composition of galaxy, antimatter existence, interstellar medium and cosmic age factors

### ABSORPTION

Physiochemical factors affecting activated charcoal adsorption of contaminants using mathematical models - tables

Hydrocarbons, amino acids and large molecule organic compounds formation in chondrite meteorites by abiogenetic reactions

Possible prebiotic synthesis of thymine by heating uracil, paraformaldehyde and hydrazine in ammoniacal solution for three days at 70°C

Solar system organic compounds detection and evolution, considering element, isotope and pigment composition, optical activity and polymerization

Prebiotic organic matter in solar system, investigating contamination free amino acid catalytic synthesis from deuterated reactants

### ABNORMALITIES

**AT PSYCHOSES**

### ABSORBENTS

Stability of molecular sieves as regenerable carbon dioxide and water absorber in closed controlled atmospheres

Amine absorbent for carbon dioxide concentrator in long term life support system

Zero-gravity absorption refrigeration system design and performance testing for space station environmental control application

### ABSORPTION BANDS

**U ABSORPTION SPECTRA**

Silicon radiation detector production engineering for biological and medical applications and explanation of continuous absorption spectra using AC delay line as equivalent circuit

### ABSORPTION SPECTROSCOPY

Flameless atomic absorption spectroscopy for analyzing trace elements in serum and urine

### ABSTRACTS

Cross-referenced directory of reports of Human Engineering Laboratories 1953 to 1970

### AC (CURRENT)

**U ALTERNATING CURRENT**

### ACCELERATION (PHYSICS)

**MT ANGULAR ACCELERATION**

### DECCELERATION

### IMPACT ACCELERATION

### LUNAR GRAVITATIONAL EFFECTS

### TRANSVERSE ACCELERATION

Medical transportation by ambulance, helicopter and fixed wing aircraft, considering vibration damping and acceleration
ACCELERATION PROTECTION

Stop test method to study acceleration in movement control processes in man, considering elbow joint movements in normal and pathological conditions in Parkinson disease afflicted subjects

Plants and animals reactions to environment gravitational component, showing organisms perception of accelerating force

Blind goldfish gravity reference response under linear accelerations on motor car and parallel swing from movie cameras recording

Lateral accelerations effect on mice tolerance to toxic doses of atropinoid- and indolyalkylamine-series radiation protection drugs

Fundamental principles and physiological effects of acceleration on human body

Annotated bibliography of worldwide biodynamics research findings [NASA-TR-1-67138]

Investigation of visual perception ability during acceleration on rats and decelerations and thresholds for perceived motion changes

Physiological effects of positive acceleration on cardiovascular system based on requirements for cardiovascular simulation [AD-719902]

ACCELERATION PROTECTION
Conditioning suit for normal function of astronaut cardiovascular system in gravity environment [NASA-CASP-IL-0289]

ACCELERATION STRESSES (PHYSIOLOGY)

Blood pressure changes in heart cavities and large vessels of dogs exposed to accelerations

Nystagmus extinction during repeated exposures to angular accelerations in labyrinthectomized guinea pigs

Proprioception role in perception of arm bending and extension during weightlessness and accelerations in aircraft flight along parabolic trajectory

Gravitational acceleration effects on hemodynamics, describing mecanocardiacographic equipment

Differential equations for control and adaptation of hand motion in capital joint under weightlessness and accelerations

Elasmobranch fish labyrinth electrophysiology, analyzing semicircular canals linear acceleration response

Lover vertebral column forces and moments in seated human under seat-to-head acceleration

Hypoknesia and acceleration effects on plasma proteins displacement and bioelectric activity of striated muscles of rats

Human body thermography for studying physiological changes due to exercise, anoxia or accelerations

Patients transportation pathology, discussing accelerations and vibrations in ambulances, helicopters and fixed wing aircraft

Fluorescein permeability of hematopoietic barrier of rabbits after acceleration exposure

Sodium bicarbonate intravenous effects on cat and rabbit otolitic reactions to accelerations and motion

Acceleration effects on aortic, coronary and carotid flows in dogs

Manned aerospace vehicle escape systems, discussing human vertebral column structural limits under vertical gravity acceleration

SUBJECT INDEX

[IAIA PAPHE 71-184] p0155 A71-18587
Human biodynamics during deceleration, impact and blast, discussing body positions and protective restraints for crash safety, aircraft ejection, etc

Radial, angular and transverse accelerations: physiological effects, discussing physiological acceleration systems, symptoms, human contributing, etc

Linear acceleration effects on human otolithic and vestibular apparatus, discussing vestibulo-vegetative motion sickness syndrome and nystagmus index activation

Centrifugal force effect on pigeon head nystagmus, acting on semicircular canal via otoliths or cupula

Hypothalamus supraoptic nucleus morphological changes in rats under prolonged transverse acceleration

Semicircular canal influence on otolith reactions in pigeons, noting caudal and rostral shifts evoking elevator and depressor coccygei contractions during horizontal acceleration

Weightlessness, high acceleration and aerospace vehicle maneuvering effects on cardiovascular and vestibular systems, discussing disorientation, space sicknesses and blood circulation

Mitral valve systolic prolapse aggravation due to G acceleration and aeromedical significance

Book on gravity and acceleration effects on lungs covering breathing mechanics, ventilation distribution, blood flow, gas exchange, arterial oxygen saturation and pulmonary shunting [AGARDOGRAPH-113] p0256 A71-23620

Positive/latero-lateral accelerations and acute hypoxic hypoxia effects on central visual field behavior in simulated flight

Alternating acceleration and increased ambient temperatures effects on time interval perception and muscular effort estimation

Visual contrast sensitivity and fundus optica pattern changes due to accelerations in pelvis -head axis

Somatic and autonomic responses in vestibular tolerance of human subjects, using Coriolis acceleration test

Vertical translational acceleration perception threshold of aircraft pilot seated in upright position

Conditioned auditory reflex behavior in cats under influence of acceleration, noting otogenetic effects

Inertial properties of segmented cadaver trunk for mathematical model of spinal response to impact in seat ejection acceleration injuries in high speed aircraft

R reflex changes in spinal marrow of intact and labyrinthectomized rats under radial accelerations [PO246 A71-39221]

Human retinal blood circulation changes and vision temperatures effects on time interval perception

Mathematical model of spinal response to impact in aircraft acceleration from tests on guinea pigs

Myocardium reactions under 2G acceleration from histological, histochemical and electron microscopic observations on rats, noting dystrophic damage level relationship to duration

Stroke number and vestibular nystagmus duration and frequency under successively increasing angular acceleration from tests on guinea pigs
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Ect irradiated spinal cord, detailing orthodromic and synapses to rhytmic and increasing frequency stimulation

Activation impulse blocking in nerve, using inhomogeneous Lillie electrochemical model

Arsenal and activation in nonspecific reticulo-thalamo-cortical systems due to underlying emotion expressed through cortical, visceral and somatosensory channels

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NT NEUROTON ACTIVATION ANALYSIS

ACTIVITY (BIOLOGY)

Electro-optic monitoring method for single isolated heart cell activity

Direct continuous radiotelemetry of blood pressure measures taken from sartorius, pulmonary artery and inside heart during normal activity of test subjects

Physical endurance and muscular activity of man at adaptation process depending on biochemical and functional changes

Animals tissue activity during winter hibernation under Alaskan environmental conditions, discussing sense of time, anticipation of seasonal changes, etc

Frog ventricles myocardial fibers spontaneous activity in finger solution due to ion conductivity variations

Unanaesthetized rabbits visual cortex cells neuron activity during sound-rhythmic light flashes association

Narco ketone bodies concentration during activity, deep hibernation and early arousal, discussing increased oxidative metabolism effects

Superposition model of spontaneous activity of cerebellar Purkinje cells for spike triggering

Dissociation variations of mitotic activity in thyroid epithelial cells of different follicle size

Individual neurons activity during stereotaxic operations on Parkinsonism and hyperkinesias syndromes, describing microelectrodes for extracellular recording

Neuron response to stimuli compared with background activity on histogram

Cochlear nucleus and posterior clivus neurons impulse activity due to tonal signals in anesthetized cats auditory system

Reflexes dominant in organism during activity or temporarily dominating reflex system directing work of nervous centers

Conditioned reflex activity, demonstrating development of individual signals systems interrelation

Activity correlation of adjacent neurons of cat cerebral cortex somatosensory zone, considering distribution of same direction /ophase/ and different direction /counterphase/ of background rhythms

Alpha activity parameters during human performance of motor tasks with open and closed eyes

Erythropoietic activity dosage in polycythemic mice after intermitent hypobaric hypoxia

Erythropoietic activity mechanism in mice after hypobaric hypoxia

Extracerebral production of erythropoietin in hypobarocarotized rats after hypobaric hypoxia

Evoked and background activities interaction in computerized self-eliciting neuron model

Development of analog model of neuron adaptation and simulation of spontaneous activity of neuron network

Charateristics of water environment and relationship to biogeocenology

Effect of solar radiation on energy balance of biogeocenosis

Application of biogeocenology principles to land reclamation activities

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Light-dark cycle strength as zeitgeber for circadian rhythms in isolated man

Cyclic muscular voluntary movements, segmental apparatus function

Biosatellite 3 onboard camera time lapse photography of monkey sleep/wake activity patterns during weightlessness

Alpha rhythm activity, periodicity and mean frequency in cortex regions of healthy humans based on EEG frequency and correlation analyses

Interdisciplinary cycle research - Conference, Noordwijk, Netherlands, June 1970

Biological and biochemical cyclic phenomena, including circadian rhythms

Chronobiology purposes, techniques and applications, discussing rhythmic or cyclic variation calculation, biological rhythms spectra and classification and time structure alteration of organisms

Human skin cold receptor diurnal activity rhythms

Adaptation of human physiological functions and performances to variations in diurnal sleep and wakefulness cycles

ACUITY

NT ACUITY

NT VISUAL ACUITY

Aircraft noise effects on hearing acuity and perceptual and intellectual judgment tasks

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ADAPTATION

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Angular velocity and linear acceleration effects on visual perception in aerospace environment

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Standardized EEG data recordings in Air Force neurological evaluations

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Space base biomedical center based on Integrated Medical and Behavioral Laboratory Measurement System /ISBLSM/ concept

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Human factors engineering in man machine systems, evaluating biotechnology and aeromedical medicine relationship

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Soviet book on manned space flight covering spacecraft design, life support systems, mission characteristics, medical considerations, etc

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Papers on aerospace medicine covering earth and space environments, circadian rhythms, hypoxia, barotrauma, decompression sickness, etc

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Circadian rhythms from aerospace medicine viewpoint, discussing cycle stability and flexibility, air and space travel, etc

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Hypoxia from aerospace medicine viewpoint, discussing respiration physiology, oxygen transport, altitude effects, psychosensor functions, etc

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Labyrinths and proprioceptors from aerospace medicine viewpoint, discussing motion sickness, spatial disorientation, maned space flight and rotation in space

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Aeromedical requirements, control limitations and hazards of aircraft pressure cabins and rapid decompression

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Soyuz 9 cosmonauts postflight clinical examination, noting muscle pain, eyelid edema, leg muscle atrophy, etc

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German book on space medicine covering stresses on human organism during ascent into space, weightlessness and radiation effects, spacecraft environment, nutritional problems, etc

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Soviet book on aviation medicine covering human anatomy and physiology, atmospheric physics, flight effects, respiratory systems, crew diets, etc

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Physical fitness of flying personnel and aging effects on flight crew performance

Space biology and medicine including selection and training of cosmonauts, flight safety, and health during long space flights

Biodynamics, aerospace medicine, acceleration stresses, human tolerances, centrifuges, test facilities, and annotated bibliography

Annotated bibliography indexes on Aerospace Medicine and Biology - March 1971

Annotated bibliography of translations of foreign language articles on aviation medicine, vestibular function, body temperature, and physiological effects

Annotated bibliography and indexes on aerospace medicine and biology - April 1971

Metabolic effects of long duration exercise at moderate work loads including tables of heart rate, rectal temperature, minute volume, water balance, and respiratory quotient

Aerospace medicine, life support system, and psychophysiological problems and environmental factors in space flight

Microbiological ecology of manned space flights, exobiology, sterilization, and life support systems

Regenerative space station simulator and test procedures for 4 man, 90 day testing of life support systems

Pressure sensors, blood flow transducers, pH electrodes, and photographic recording of biological data for use in aerospace medicine

Effects of changes in partial pressure of carbon dioxide on acid-base equilibrium in human blood

Medical examination of civil aviation personnel to determine predisposing factors for atherosclerosis

Biotechnological problems of man machine system required for long duration space flights

Biomechanical tradeoff study for cabin atmosphere selection in manned space flight

Work environment and task factor effects on long term aircrew effectiveness

Technology transfer and applications in medicine and biology

Annotated bibliography indexes on Aerospace Medicine and Biology - April 1971

Cumulative index for abstracts of NASA documents on aerospace medicine and biology

Annotated bibliography and indexes on aerospace medicine and biology - May 1971

Annotated bibliography and indexes on Aerospace Medicine and Biology - May 1971

Annotated bibliography and indexes on Aerospace Medicine and Biology - June 1971

Determination and application of aeromedical standards to occupant selection, aircraft design "estates, and operational guidelines for spacecraft design

Research and development, weightlessness simulation, calcium metabolism, manned space flight, pressure suits, immobilization, and aerospace medicine

Medical and biological problems of prolonged manned space flight

Hardware and techniques for studying human circulatory performance in space environment

Combined effects of reduced nutrition, hypokinesia, and centrifugal acceleration on human body

Annotated bibliography and indexes on Aerospace Medicine and Biology - Aug. 1971

Annotated bibliography and indexes on aerospace medicine and biology - Sept. 1971

Aerospace research biomics and bioengineering, considering adaptation of man to environment and matching of man and machine

Space research utilization in medicine, discussing remote blood pressure measurements, somatoangiography visual analysis, sterilization procedures and equipment for physically handicapped

Life science and space research - Conference, Leningrad, May 1970

Applications of aerospace technology in biology and medicine

Aeromedical evacuation vehicular escape systems, discussing human vertical column structural limits under vertical gravity acceleration

Automatic flight control

Afferent nervous systems

Ankle and visual limitations effects on athletes roving rhythms, examining afferent systems interactions

Data processing analog for human vertical position regulation via afferent nervous system control of skeletal muscles

Aortic and sinus nerves afferent electric stimulation under adrenalin and nicotine, considering age peculiarities

Cardiovascular and respiratory systems afferent innervation in cats investigating pericardial, expiratory and psueo-vascular mechanoreceptors

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Afferent pulsed activity change in peripheral fibers of severed phrenic nerve during air inhalation and under anoxia

Joint action of various afferents in regulation of human posture, considering appropriate differential reactions

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Ischemic deafferentation of striated muscle tissue. 

Bye movements in dark during attempt to maintain visual orientation.

Emanating visuospatial illusions and figural afterimages. 

Circunscriptive investigation of visual tilt and dark adaptation mechanisms.

Afferent ocular motor pathways to extraocular muscle nuclei, considering discrete unilateral lesion role in head posture disturbance production.

Neural control organization in vestibulo-ocular reflex arc, considering afferent and oculomotor neural signals.

Ischemic deafferentation of striated muscle tissue.

Afterimages: Eye movements in dark during attempt to maintain visual orientation defined by prior viewing of fixation target. 

Reduction or disappearance of visual aftereffect of movement without patterned surround consisting of dots, concentric circles, grid pattern or vertical bars.

Computerized simulation of lateral inhibitory networks for figural aftereffects, discussing light and dark adaptation mechanisms.

Human afterimage and papillary activity in darkness after strong light exposure, noting dependence on stimulus intensity and duration.

Human visual geometrical illusions and figural aftereffects, determining mechanisms for spatial patterns physical and phenomenal properties.

Visual movement aftereffect storage absence of patterned surround for fixed visible target.

Neurophysiological investigation of visual tilt aftereffects, comparing judgment precision at vertical and horizontal to oblique orientation with/without gravity cue.

Circumscript eccentric afterimages effect on visual ocuomotor control system, examining central transfer functions.

Afterimage induced smooth eye movements despite absence of moving visual stimulus, suggesting retinal image stabilization and saccadic behavior inhibiting processes.

Computerized simulation of lateral inhibitory networks of visual afterimages.

Age-related changes in mammalian cells and aging effects on visual acuity in professional and nonprofessional personnel.

Age effects on whole blood viscosity with WillsBrookfield microviscometer, investigating role of hematocrit and plasma protein.

Age effects on ophthalmoscopic features in various age groups.

Age effects on pupils and adult rabbits. 

Primary cardiomyopathy, discussing obstructive and nonobstructive cases, myocardial inflammation, chronic alcoholism and age relationships.

Human nervous system stimulus trace retention in various age groups, using skin galvanic reaction to sympathomimetic agents.

Human crystalline lens protein and lipid discussion cholesterol accumulation with age.

Age obliteration of arteriopathy and peripheral arterial sclerotic effects on rheographic wave propagation speed to lower limbs.

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Cardiovascular disease effects in aging flying personnel on physical exercise performance.

Arteriosclerosis and electrocardiographic abnormalities in aging pilots of French Air Force.

Aging effects on susceptibility to decompression sickness.

Air conditioning of passenger cabin in SST, noting heat exchanges due to radiation, convection and evaporation.

Heat tolerance for resting subjects in event of air conditioning system failure in SST passenger cabin.

Ozone atmospheric concentration, dissociation in SST air conditioning systems and biochemical poisoning.

Effects of air conditioning on human body temperature and cockpit air conditioning.

Design and performance of thermal air conditioning equipment during long term manned space environment simulation.

Design and performance of thermal air conditioning equipment during long term manned space environment simulation.

Pure tone, air/bone conducting and speech audiometry, considering hearing tests, artificial mastoids, environmental requirements and physical principles.

Space station thermal control systems design, discussing pumped loop, air cooled semiactive and heat pipe systems.

Comparison of water, convective air, and reversed air flow cooled suits for body temperature thermoregulation in high temperature environments.

Pure tone, air/bone conducting and speech audiometry, considering hearing tests, artificial mastoids, environmental requirements and physical principles.

Observer psychological response to air defense oriented visual information display.

Air revitalization unit for scaled survival shelters without external power supply.

Respiratory air flow optimal regulation hypothesis, testing analytic prediction model results with experiment under stress and rest conditions.

Diaphragm mechanics, discussing thoracic pressure-long volume and air flow relationships of respiratory system during electrophrenic stimulation in men and cats.

Long term lunar surface environment, discussing radiation, thermal and meteoroid protection, water budget, carbon dioxide removal and air lock design.

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Radioevaluation of aging pilots hearing acuity in relation to flying time.

Aging effects on military flight crew body compositions and physical exercise performances.

Cardiovascular disease effects in aging flying personnel on physical exercise performance.

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Aging effects on pilot psychophysiological abilities and flying proficiency.

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Air pollution reduction by urban tri-state air transportation system around New York City

Steady-state nondivergent Gaussian computer model for simulating air quality in region of New York City

Feasibility and capability of electron microprobe analysis for measuring pollutant aerosol particles in atmosphere

Graphical analysis of ten-year sampling of suspended particulate matter over urban and nonurban sites

District of Columbia air quality display model for computing seasonal concentration estimates

Bibliography of research projects in air pollution for year 1968

Selectivity bibliography of water and air pollution for businesses and industry

Electron microprobe X-ray analysis of atmospheric aerosol particles

Studying air pollution as regional problem in Arizona

Chattanooga interstate air quality control region

Air pollution report of federal facilities in metropolitan Baltimore intrastate air quality control region

 Proposed boundaries for metropolitan Detroit-Port Huron intrastate air quality control region

Environmental problems including air pollution, water pollution, radioactive wastes, sewage, mining, and garbage disposal

Conference on application of science and technology to problems of pollution, transportation, and employment

Air pollution problems in California and methods for air quality forecasting

Simplified glide rule for determination of downwind safety limits for toxic vapors

Radiative fallout program review

Annotated bibliography of technical literature related to nitrogen oxides and air pollution control

Mathematical model for environmental transport of lead from several sources and subsequent intake by man

Body exposure rate calculated for dose from Krypton-85 released to earth atmosphere

Effects of atmospheric discharges of tritiated steam on human health

Maximum allowable plutonium-239 load in humans and maximum allowable plutonium-239 concentration in air at work locations

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Fatigue and stress measurement on air traffic controllers, using critical fusion frequency methods, tapping tests, self rating and urine catecholamine

Affect adjective checklist assessment of mood changes as a function of stress in air traffic controllers

Performance ratings and personality test factors of air traffic controllers

Workload and performance limiting factors of air traffic control radar operators

Work-rest cycles in air traffic control tasks

Physiological and biochemical measurement of air traffic controller personnel at O'Hare Airport to determine effects of duties

Biodynamic evaluation of air traffic control students from 1960 to 1963

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Book on fatal civil aircraft accidents medical and pathological investigation covering transport, light and glider aircraft case histories and statistics
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AIBOIBA

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Bio orbital space stations.

Bio orbital workshops.

Bio outer planets explorers.

Increased artificial gravity avoidance by squirrel monkeys with variations in rotation rate and radius.

Engineering aspects of zero gravity personal hygiene and waste management systems, noting controlled air flows, surface tension and artificial gravity use.

Space shuttle orbital centrifuge systems configuration, comparing artificial gravity experiment performance options.

Artificial gravity field produced by rotating spacecraft in earth orbit, examining astronaut physical responses and centrifugal force effects on work tasks.

Impact of artificial gravity simulations on spacecraft design configurations and crew operational procedures.

Physiological effects and design criteria for artificial gravity space station.

Artificial heart valves.

Artificial heart valves produced by serial pacing and isoproterenol in early postoperative phase of cardiac valve surgery.

Design and characteristics of artificial heart control system.

Artificial intelligence.

Artificial intelligence, analyzing visual perceptual system.

Machine learning of structural descriptions from examples.

Research activities in recognition, computational principles, and artificial intelligence.

Bionics of living and life-like systems with application to man machine technology.

Bionic models for pattern recognition in human and artificial brains.

Developed, characteristics, and performance of learning machines, artificial intelligence, and pattern recognition techniques.

Feasibility and limitations of speaker adaptation in improving performance of fixed speaker independent automatic speech recognition system.

Algorithms of self organization, artificial intelligence, and tree search applied to various practical problems.

Electronic circuitry for trainable systems with application to control and recognition functions.

Cybernetic including models for statistical decision making, biocellular systems, and complex stochastic system.

Artificial respiration.

U resuscitation.

Artificial satellites.

Biological application technology satellites.

Biological application technology satellites 1.

Biological application technology satellites 2.

Biological application technology satellites 3.

Biological application technology satellites.

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Bio outer planets explorers.
Vestibular habituation retention, showing nystagmic changes in vestibular system performance during training.

Gross locomotion and cargo handling in simulated environments using physical models and computer simulations.

Mathematical model for underwater simulation of locomotor activities in weightlessness conditions, using computer hardware.

Chemically activated electroadhesive pads on space suit using nonflexible material with low mass and high adhesive strength.

Astronaut visual acuity under zero gravity conditions, using space suits and pressurized habitats.

Design and performance of extravehicular astronaut thermal protection system under zero gravity conditions.

Development of improved convolute sections for pressurized suits to provide high degree of mobility in response to microgravity.

Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity.

Astronaut visual acuity under angular acceleration, considering vestibular stimulator direction and nystagmus upbeat or downbeat.

Medical flight information on astronauts' response to space flight environment in confined and unconfined states during intra- and extravehicular activities.

Sojourn 9 cosmonauts physiological monitoring instrumentation and procedures, describing bioinstrumentation harness for data telemetry and attitude control of astronauts in zero or reduced gravity environments.

Sojourn 9 cosmonauts medical monitoring, discussing physiological changes, vasomotor reactions and work capacity.

Sojourn 9 cosmonauts postflight clinical examination, noting muscle pain, eyelid edema, leg muscle atrophy, etc.

Weightlessness effects on muscular reflexes, tonus and contractibility in Sojourn 9 astronauts.

Sojourn 9 astronaut vertical posture control after 18-day orbital flight, considering cardiovascular disturbances caused by reduced muscle tone and changed interaction between analyzers.

Skin tissues and microcirculation composition and natural immunity indices changes after 16-day orbital flight from microbiological and immunological examinations.

Cosmic rays visual perception by Apollo astronauts during lunar flight, discussing human eye as radiation detector.

Astronauts work-rest schedule principles during space flight, discussing circadian rhythms and desynchronization.

Skylab habitability facilities for astronaut work effectiveness and physical well being.

Astronaut orthostatic tolerance loss due to zero gravity, describing compensation by periodic lower body negative pressure.

Human response to space environment, discussing prolonged weightlessness, extravehicular work and lunar surface activity.

Artificial gravity field produced by rotating spacecraft in earth orbit, examining astronaut physical responses and centrifugal force effects on work tasks.

Astronaut work capacity and adaptation during long term flight of space vehicle Soyuz 9.

Soviet book on psychology and other space covering astronauts experiences and emotions during training and flights, daily routine, equipment, food, habits and personal characteristics.

Astronaut teleoperators use for space operations cost reduction and future experiments productivity increase.

Human adaptive behavior under psychological stress of astronauts tasks posture-motor characteristics, discussing stabilographic platform test results.

Voskhod 2 cosmonauts physiological data, presenting heart beat, respiration rates, oculomotor activity and blood composition.

Aircraft pilots and astronauts relationship with space flight, discussing human eye as radiation detector.

Coordination of human voluntary movements during space flights.

Planar motion of human spaceflight and extravehicular activity, discussing stabilographic platform test results.

Investigating erect posture regulation of Soyuz 9 crew members before and after flight.

Crew activity analysis for long duration space flight simulation test.

Details of astronaut zero gravity performance evaluation program including publication of handbook, fabrication of prototype hardware, and worksite performance data.

Graphical predictions of human strengths for two handed VEEVA tasks including effects of differing gravities, populations, and space suit conditions.

Biomedical test data for predicting weightlessness effects on man during long term space flights.

Environmental adaptation and operational performances of humans in space missions.

Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity.

Mathematical models for control activity of human spacecraft operator.
ASTRONAUT TRAINING
Physical exercises to increase cosmonaut space environment tolerance, discussing effects of acceleration, altitude and hypoxia

Cosmonauts selection with regard to psychical and physical fitness, discussing clinical examination, hospital tests and training

Astronaut selection and training, considering acceleration, hypoxia, weightlessness and temperature variation tolerance

Human body attitude control in space, using ten body complex geometry system, noting astronaut training JIG

Man and equipment instrumentation in simulated space environment, discussing training and interface of man and life support systems

Soviet book on space biology and medicine covering cosmonaut selection and training, flight safety, normal life support factors, interplanetary space surgery, etc

Soviet book on psychology and outer space covering cosmonauts experience and emotions during training and flights, daily routine, equipment, food, habits and personal characteristics

Discussing basic principles and methods for evaluating health, functional capacity, and physiological peculiarities in cosmonaut selection

Space biology and medicine including selection and training of cosmonauts, flight safety, and health during long space flights

Design and tests of astronauts tool kit and tools for in-flight space maintenance

ASTRONAUTS

ATMOSPHERIC COMPOSITION

Thoracic motion effects on impedance monitoring plethysmograph signal from astronaut

Gamma ray spectrometer for measuring radiation exposure of astronauts

Human visual perception in space flight

Metabolic balance studies of two astronauts during 10-day preflight phase, second 7 flight of 16 days, and 4-day postflight recovery phase

Personal hygiene protocol for man in spacecraft environment

Astronomical telescopes image motion, distortion and scintillation, examining atmospheric refractive index and density/temperature variation effects

ATLATHES

Trained young runners maximum oxygen consumption rate at sea level and high altitude

World champion marathons runner metabolic responses during submaximal and maximal treadmill running, recording oxygen consumption, heart rate and lactate acid

Habituation and suppression of vestibulo-ocular verticalystagmic responses to Coriolis stimulation in pentathlon athletes, comparing to pilots and airman trainees

Electrocardiography and vector cardiology of athletes

X-ray methods for quantitative analysis of cardiac activity in athletes

Functional tests of cardiovascular system in athletes

Transmission and analysis of cardiological data on athletes

Clinical problems of cardiology of athletes

Arterial pressure characteristics of athletes

Beat tolerance of athletes during muscular exercise

Physical overstrain effect on cardiac muscle in athletes

Phonocardiographic analysis of systolic noises in athletes

Cardiological medical services for Soviet athletes

Heat tolerance of astronauts during muscular exercise in various thermal environments

ATMOSPHERIC CHEMISTRY

Earth environment from aviation viewpoint, discussing atmospheric physics and chemistry, flight physiology, radiation, etc

ATMOSPHERIC CIRCULATION

Atmospheric circulation and aerosol pollution transport noting role of temperature inversions

ATMOSPHERIC COMPOSITION

Air carbon dioxide role in rabbits metabolism, using C 14 radioactive tracer technique

Ozone atmospheric concentration, dissociation in SST air conditioning systems and biochemical poisoning
ATMOSPHERIC DENSITY

Nitrogen, helium, argon and neon containing atmospheres relation to altitude decomposition of rats, noting interspecies comparison of metabolic effects p0080 A71-13096

Spacecraft cabin artificial atmospheric composition and variation effects on human immunocompetence, examining lymphoid cell immunity reactions after lymphocytes blast transformations p0269 A71-24610

Steady-state nondivergent Gaussian computer model for simulating air quality in region of New York City [B-3922] p0405 N71-10712


ATMOSPHERIC DENSITY

Astronomical telescopes image motion, distortion and scintillation, examining atmospheric refractive index and density/temperature variation effects p0522 A71-38571

ATMOSPHERIC IMPURITIES

U AIR POLLUTION

ATMOSPHERIC IONIZATION

Physiological effects of ionized air on mice acetylcholine/cholinesterase system p0437 N71-28252

ATMOSPHERIC MODELS

NT BREADBOARD MODELS

NT DYNAMIC MODELS

ATMOSPHERIC PHYSICS

Earth environment from aviation viewpoint, discussing atmospheric physics and chemistry, flight physiology, radiation, etc p0201 A71-20702

ATMOSPHERIC PRESSURE

Hypobaric pressure and hypoxic or hyperoxic atmosphere effect on mice resistance to pseudococcal pneumonia p0633 A71-12382

Barometric pressure and exercise effects on erythrocyt e titer in normal and hypoxic rat plasma, noting lactic acid concentration and acid base balance changes p0200 A71-20676

Elevated atmospheric pressure effects on human psychophysiological qualities including attention, memory and time-estimating capabilities and nervous processes equilibrium p0023 A71-33578

Peculiarities of human heat exchange under reduced atmosphere pressure and sufficient oxygen supply [NASA-TP-F-13374] p0081 N71-10367

Atmospheric pressure and oxygen tension effects on mice infections p0066 N71-11813

ATMOSPHERIC REFRACTION

Astronomical telescopes image motion, distortion and scintillation, examining atmospheric refractive index and density/temperature variation effects p0522 A71-38571

ATMOSPHERIC TEMPERATURE

Air temperature and wind speed role in finger-freezing time p0026 A71-11669

Astronomical telescopes image motion, distortion and scintillation, examining atmospheric refractive index and density/temperature variation effects p0522 A71-38571

Heat emission reduction into atmosphere p0107 N71-12291

ATMOSPHERIC TURBULENCE

NT LOW LEVEL TURBULENCE

Atmospheric turbulence induced aircraft vibrations effects on aircrew performance, discussing physiological and psychological responses p0377 A71-29788

Large subsonic jet aircraft civil pilots performance under physiological and psychological stresses induced during severe atmospheric turbulence p0377 A71-29783

ATOMIC BATTERIES

U RADIOISOTOPE BATTERIES

ATOMIC ENERGY

U NUCLEAR ENERGY

ATOMIC ENERGY LEVELS

Ion beam-foil produced oxygen: spectra in wavelength range between 450 and 2200 A, determining mean radiative lives of 0 I - 0 VI excitation levels p0419 A71-33183

ATOMIC EXPLOSIONS

U NUCLEAR EXPLOSIONS

ATROPHY

Evidence for test of dynamic otohith function considered in relation to responses from patient with idiopathic progressive vestibular degeneration [AD-722318] p0537 N71-37168

Atrophy in monkeys due to i m m o b i l i z a t i o n and implications for extended manned space flight p0546 N71-33260

ATROPHIC Gastrintestinal tract reactions to atropine sulfate, acetylcholine and carbocholine in rats after acceleration exposures, using roentgenograms p0601 A71-22796

ATS (SATELLITES)

U APPLICATIONS TECHNOLOGY SATELLITES

ATTACK AIRCRAFT

NT F-100 AIRCRAFT

NT F-104 AIRCRAFT

ATTACHING (ASSAULTING)

Fighting between male mice isolated at early age or reared in small groups, considering ontogenetic and experiential determinants p0365 A71-28605

ATTENTION

Performance decrement during bimodal vigilance task, discussing arousal and selective attention constructs p0092 A71-141741

Overtraining reversal effect on attention process, using choice response and eye fixations compared to criterion trained group p0262 A71-24204

Visual field displacement, examining directed attention and maladaptive adaptation p0408 A71-39194

Visual evoked brain potential amplitude and detection efficiency relationship, discriminating between arousal and attention effects p0450 A71-35114

Physiological mechanisms of human auditory attention, measuring changes in cerebral cortex averaged evoked potential and cochlear nerve response p0466 A71-35575


Human factors engineering, discussing industrial, engineering and experiential psychology, human relations, research on attention, perceptual motor skills and control systems laboratory p0473 A71-36296

Visual attention automation due to repeated stimulus experience, noting fixation rate habituation concouitance with fixations spatial distribution uncertainty reduction p0533 A71-39585

Visual processes involved in flash perception, considering attention attraction at suprathreshold levels, unreliability at threshold levels and latency effects p0578 A71-41477

Flashing lights attention attraction classification based on experimental results conversion into psychometric scale p0580 A71-14146


Analysis of cerebral slow potentials underlying human attentive processes in central nervous system p0549 N71-33437

Neural mechanisms underlying visual perception, arousal, and attention processes in man, cat, and monkey [NASA-CR-122941] p0645 N71-36464

ATTENUATION

NT ACOUSTIC ATTENUATION
Biocybernetic model of vestibular control system for pilots illusory attitude perception causes, physiological systems connected with sensory operation and training uses of vestibular analyzer.

Physiological systems connected with sensory perception of equilibrium and orientation on ground and in air, discussing pilot training and selection.

Operation and training uses of vestibular analyzer [JPRS-52173].

Rate of vestibular compensatory process in unilaterally labyrinthectomized rabbit.

Human body attitude control in space, using ten body complex geometry system, noting astronaut training rig.

Electroencephalophones for stereophonic display of four channel EEG physiological signals from skull quadrants.

Airborne audio-video recording system designs and requirements [AD-727025].

Evaluation of frequency spectrum of human speech as method for determining degree and nature of emotional stress. [JPRS-52698].

Electrophysiological audiometry noting average brain response in man.

Pure tone, air/bone conducting and speech audiometry, considering hearing tests, artificial ear molds, environmental requirements and physical principles.

Quick-check audiometry reliability for testing hearing ability according to fitness regulations, comparing to complete tone and speech audiometry.

Comparative residual and reversed microinterval masking signals and human auditory perception capacity measurements using sound level estimates.

Determining feasibility of using transistor and common base preamplifier impedance matching to detect very low level electrical signals from audiometers [AD-711659].

Characteristics of acoustic damage found in technical military personnel.

Pure tone audiometry for monitoring hearing and determining physical profiles of persons routinely exposed to potentially hazardous noise [AD-717846].

Feasibility of on-site audiometer calibration check [AD-718477].

F-100 pilots acute HF hearing loss due to noise ground environment and excessive in-flight noise exposure.

Tactile information transmission, discussing skin mechanoreceptive systems and similarities or differences between auditory and tactile characteristics.

Auditory analyzer functional changes in flight crews as result of long flights and emotional stress, noting cumulative effects of various harmful factors.
Neurochemical factors in auditory stimulation and susceptibility to audiogenic seizures, noting gamma-aminobutyric acid /GABA/ inhibitor
p0504 A71-13164
Sound duration effect on brain activity of cats, studying EEG and behavioral responses
p0604 A71-13199
Acoustic stimulation effect on electroretinogram of man
p0504 A71-13191
Bias free loudness judgments by modification of vision studies method, considering physical correlate theory of stimulus intensity
p0128 A71-16282
Multiple acoustic evoked responses coherence time course using mathematical correlation and Fourier transforms
p0116 A71-16922
Topography of acoustically evoked potentials triggered by alpha activity in man
p0137 A71-16942
Methionine S 35 uptake rate changes in auditory analyzer receptors and neurons due to sonic stimulation in guinea pigs
p0140 A71-17393
Intermittent noise effects on performance of visual search tasks of varying complexity, measuring test subjects target detection time under various noise/time ratio conditions
p0263 A71-24206
Critical period and habituation in control precision performance response to startle due to pistol shots
p0305 A71-25181
Behavioral arousal and EEG thresholds changes during sleep due to electrical and audio stimulation
p0356 A71-28379
Humans and animals vestibular stimuli effect on external respiration function and respiration center neuron activity
p0358 A71-28413
Habituation and dishabituation of human vertex response, using auditory or somatosensory stimuli
p0367 A71-28890
Repetitive stimulation effects on auditory evoked potentials in cochlear nucleus, inferior colliculus and medullosacral body of unanesthetized cats
p0367 A71-28892
Conditioned auditory reflex behavior in rats under influence of acceleration, noting otoacoustic effects
p0367 A71-31249
Blood circulation in auditory analyzer cortical section relationship to bioelectrical activity, using various frequencies pure tones as stimuli
p0412 A71-32531
Sounds effects on natural nocturnal sleep of healthy humans with normal hearing
p0452 A71-34479
Visual and auditory evoked potentials enhancement in cats using cryogenic blockage of nonspecific thalamic-cortical system in inferior thalamic peduncle region
p0565 A71-35112
Orientation reflexes neuronal activity due to various stimuli, noting hippocampus reaction to sound and light
p0567 A71-35361
Reaction times distributions in visual or auditory mode single and multiple motor response units
p0665 A71-35433
Fear measurement and mastery, investigating relationship between experience and electrodermal arousal in responses to stimulus words of varying relevance
p0690 A71-35944
Human response to auditory stimuli start and cessation, noting time lag and perception duration
p0512 A71-37283
Analog statistical analyzer for measuring one dimensional EEG amplitude distribution functions, illustrating reaction response to threshold acoustic stimuli
p0576 A71-41067
Analog computer analysis of EEG wave asymmetry for organising functional state detection illustrated on human reaction response to threshold acoustic stimuli
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AUTOMATA THEORY

Auditory stimuli conditioning of human skin resistance responses on escape-avoidance schedule
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Proactive reaction time inhibition as indicator of immediate memory retention intensity in subjects receiving interpolated acoustic stimuli
p0626 A71-43865
Trace reflex formation in response to acoustic stimuli with verbal reinforcement, determining cross correlation connections between induced activity of auditory and motor areas
p0637 A71-44547
Eye movements and visual images evoked by verbal stimuli, considering hereditary factors contribution to image formation
p0637 A71-44548
Comparative effects of auditory and extra auditory acoustic stimulation on human equilbrium and motor performance
[AD-711046]
p0640 A71-10177
Long term adaptation of pursuit rotor performance to acoustic stimulation
[AD-715269]
p0227 A71-18363
Physiological and psychological limits and ranges of human response to acoustic stimuli
p0285 A71-20352
Effects of long term exposure on auditory thresholds for discrete tonal signals and recovery from temporary threshold shift
p0285 A71-20353
Auditory stimuli effects of pistol shots during learning process noting human reactions and performance
p0291 A71-20799
Sound and visual sensory interactions of pleasant, unpleasant, and no sound with red, green, and blue lights against white standards
[AD-717715]
p0336 A71-22341
Effects of auditory stimuli /sonic booms/ on sleep and after effects of sleep deprivation
[ISV-TR-40]
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Auditory stimuli effects on human color-word distraction susceptibility test performance
[FAA-AM-71-7]
p0495 A71-29637
Neural responses of bat cochlear nuclei to ultrasonic stimuli
[JPES-54133]
p0648 A71-36487
Mechanical response of frog membrane to stimulating frequencies and electrophysiologically determined hearing areas
[NASA-CR-123162]
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AUDITORY TASKS

Signal detection payoff in symmetrical auditory task, studying effect on rates and error analysis
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Multiple suprathreshold visual and auditory monitoring tasks, evaluating vigilance decrement, individual differences, intertask relationships and channel capacity
p0320 A71-27248
Measuring human performance of auditory vigilance task time shared with memory task
[AD-711565]
p0055 A71-11119
AGORAL EMISION

LIGHT EMISSION

AUTOCATALYSIS

Hemoglobin-sodium nitrite reaction in absence of oxygen, discussing methemoglobin formation by autocatalysis
p0087 A71-13486
AUTOKINESIS

Visual movement aftereffect storage absence of patterned surround for fixed visible target
p0409 A71-31984
Autokinetic motion of luminous target, relating apparent visual movement to experienced displacement
p0467 A71-35739
Canadian Forces experiments on aircraft flashing lights covering warning signals, navigation and anticollosion displays and autokinetic phenomenon
p0580 A71-41919
Measurements and comparison of human visual and auditory autokinesis
[IZF-1970-12]
p0160 A71-1665

AUTOMATA THEORY

Model for quantitatively examining performance of automatic machines with normal and disturbed
functions in statistical decision-making

AUTOMATIC CONTROL

AUTOMATIC CONTROL
BY AUTOMATIC FLIGHT CONTROL
BY AUTOMATIC GAIN CONTROL
BY FEEDBACK CONTROL
BY LEARNING MACHINES
BY OPTIMAL CONTROL
BY PROPORTIONAL CONTROL
BY SELF-ADAPTIVE CONTROL SYSTEMS
BY SEQUENTIAL CONTROL

Biological and medical cybernetics approach to closed system construction for continuous automatic monitoring and control of human physiological processes under harmful conditions

Continuous flow oxygen regulators construction, performance and testing, SAE standard, covering automatic, adjustable and preset types

Automatic system for indirect blood pressure measurement in carotid compression test, discussing applications

Automatic regulation of volumetric blood flow rate during artificial blood circulation, using electromechanical system for controlling arterial pump of cardiopulmonary machine

Automatic control of two-gas atmospheric supply system for long term test on space station simulator

Design and operation of complex man machine systems and heuristic solution to automatic control problems in production engineering and biomedical situations

Design and evaluation of information display systems and development of operator work station stages

Automatic monitoring of human operator state in closed, man machine systems with biomedical application

Mathematical models for control activity of human spaceship operator

Automatic temperature control for liquid cooling garments used during astronaut extravehicular activity with external auditory heating, and skin temperature as input signals

Algorithmic simulation of ergotic systems for designing operator-control systems

Procedure for analysis of data representation systems for man-operator controlling complex automated object

Computer technology for medical information systems, in patient care, and for diagnostic purpose

AUTOMATIC CONTROL VALVES
BY PRESSURE REGULATORS
BY AUTOMATIC DATA PROCESSING
BY AUTOMATIC FLIGHT CONTROL
BY COMPONENT CONNECTION SCHEMES OF BRAIN FOR TRAINEABLE FEEDBACK FLIGHT CONTROL SYSTEM

AUTOMATIC GAIN CONTROL
BY TRANSISTORIZED IGC CIRCUIT FOR USE WITH ULTRASONIC DOPPLER-CARDIOGRAM RECORDING SYSTEM TO RETAIN SIGNAL CHARACTERISTICS UNDER STRONG FLUCTUATIONS

AUTOMATIC PATTERNS RECOGNITION
BY AUTOMATIC ROCKET IMPACT PREDICTORS
BY COMPUTERIZED SIMULATION
BY AUTOMATIC TEST EQUIPMENT

Automated vision tester for evaluating space environment effects and multiphasic health screening

Computerized bacterial identification system to process Apollo spacecraft sample laboratory test results in NASA planetary quarantine Lunar

Information System

Automatic bioassay instrument for urinalysis based on adenosine triphosphate bioluminescent proportionality to urine sample bacterial content

Automated apparatus for analyzing bacterial ATP in urine sample

AUTOMATION


Automated systems machine considerations, noting controller productivity increase, input difficulties, and symbology clutter

Automatic in cardiology, discussing analog and digital computer techniques for on-line hemodynamic analysis and collection and manipulation of cardiovascular data

Operator performance improvement in monitoring automated processes by alternating displays, discussing simulated radar and sonar CRT display laboratory tests

AUTOMOBILE ENGINE

Air pollution reduction by urban tri-state air transportation system around New York City

AUTOMOBILS

Acceptance tests of various upper torso restraints by automobile users with application to general aviation aircraft

Model of human operator reflecting known perceptual and response characteristics for automobile driving task

AUTONOMIC NERVOUS SYSTEM

BY SYMPATHETIC NERVOUS SYSTEM

Previous heavy work effect on central hemodynamics and autonomic nervous system, discussing ensuing heart rate changes

Target aiming function /AP/ susceptibility to vagotonic vegetative imbalance in male subjects after experimental kinetosis

Somatic and autonomic responses in vestibular tolerance of human subjects, using Coriolis acceleration test

Human hypoxic ventilatory drive data for high altitude breathing, noting motivation reaction inverversely related to time and altitude

Ventilatory control in acute hypoxia, detailing polyphasic effects on respiratory chemoreceptor sensitivity

Lowered cardiac output and arterial pressure response to exercise after autonomic heart blockade in man, noting retained work capability

Optical organs and autonomic nervous system fatigue assessment by blink method associated with eyelids, ocular motor muscles, retina and cerebrum

Respiratory reflex mechanism of deep breath occurrence after period of airway occlusion in rabbits related to stimulation of vagal receptors

Auditory stimulus conditioning of human resistance responses on escape-avoidance schedule

Physical controls of autonomic nervous system by ganglia impulses

AUTOPSY

Autopsies compared to ECG for diagnosis accuracy for
acut...myocardial infarction p0137 A71-16951

AUTORADIOGRAPHY
Toxicity radiation inhibition of spinal cord neurons ribonucleic acid synthesis and enzyme activity in mice, using autoradiographic method p0248 A71-22925

AUTOTROPHS
Chemoautotroph Thiobacillus neapolitanus growth inhibition by histidine, methionine, phenylalanine and threonine under imbalance conditions p0095 A71-14776

Autotrophic cultivation of cereals with high photosynthetic activity under intensive illumination as biological components in life support systems p0357 A71-28405

Biologically mineralized human waste products utilization in nutrient solutions for higher and lower autotrophs cultivation p0603 A71-42819

Grain cereals as polyfunctional autotrophic components of closed ecological life support systems p0438 W71-28253

AUXILIARY EQUIPMENT (COMPUTERS)
NT PRINTERS (DATA PROCESSING)
AVAILABILITY
Research on avalanche type semiconductor radiation detectors using video amplifiers [STO-3246-TA-8] p0555 W71-33775

AVIATION
U AERONAUTICS
AVIATORS
U AIRCRAFT PILOTS
AVIONICS
Human factor considerations applicable to aviation armament and avionics [AD-719108] p0388 W71-24453

AVOIDANCE
MT COLLISION AVOIDANCE
Increased artificial gravity avoidance by squirrel monkeys with variations in rotation rate and radius [AIAA PAPER 71-855] p0483 A71-36647

Self stimulation and avoidance reactions in rabbits when breathing virtually pure oxygen p0236 W71-19072

Single and multiple irradiation effects on avoidance behavior in monkeys [AD-722053] p0436 W71-28187

AZOLES
MT ACETAZOLAMIDE
MT IODOLES
MT THIOPROPHAN

B

BACILLUS
Chemoautotroph Thiobacillus neapolitanus growth inhibition by histidine, methionine, phenylalanine and threonine under imbalance conditions p0095 A71-14776

Thermal inactivation curves of Bacillus subtilis spores for decontamination of interplanetary space vehicle components [NASA-CR-111387] p0048 A71-11073

Survey and critique of bacterial growth quantitative determination methods including Bacillus cell direct microscopic morphology and growth measurement [NASA-TT-P-13652] p0388 W71-24584

Polarization and energy conversion efficiency of yeast and Bacillus lactate fermentation for biochemical fuel cells p0399 W71-26245

BACKGROUND NOISE
Neural spikes and LF components separation from background noise, describing feedback amplifiers circuit p0403 A71-31251

Space station simulator background noise effects on crew behavior during long term confinement p0296 W71-20988

BACTERIA
MT BACILLUS
MT ESCHECHERIA
MT HYDROGENOBACILLUS
MT KLEBSIELLA

BACTERIA

MT PSEUDOMONAS
MT STAPHYLOCOCCUS
MT STREPTOCOCCUS
MT STREPTOTHERMOPHILUS
MT STREPTOCOCCUS

UV effect on airborne bacteria survival in simulated Martian dust clouds p0022 A71-11557

Bacteria and mammalian cells radiosensitization, using phenylglyoxal and various carbonyl compounds p0165 A71-18944

Subinoculations of bacterial strains under constant, varying and pulsed magnetic fields, producing sensitivity increase or decrease to antibiotics p0208 A71-20856

Division cycle of Mycobacterium rathus, considering kinetics of cell growth and protein synthesis p0255 A71-23473

Space flight biological effects on lymyogenic bacteria and human cells in culture p0316 A71-26641

Hypoxia effects on organism resistance and immunobiological reactivity, noting bacterial and protozoa infections aggravation p0357 A71-28401

Bacteria and yeast strains, fungus specimens and seaweed species high vacuums resistance, noting microorganisms interplanetary transport in outer space p0363 A71-28689

Germ survival and transport possibility in outer space, discussing space survival under UV radiation p0364 A71-28691

Biological experiments on plants, animals and bacteria aboard 5, 6 and 7 space probes p0528 A71-39134

Human microbial flora and immunologic response in long term space missions, describing environmental parameters and factors and work-rest schedules effects p0568 A71-40553

Microflora simplification effects on immunocompetent organism systems, observing shifts in guinea pigs lymphoid tissue with limited flora p0568 A71-40555

Human microflora variation in long term confinement, examining anaerobic and aerobic microorganisms responses p0569 A71-40557

Bacterial contamination in confined sealed space during long term human occupation, observing hemolytic microflora spreading dynamics on bodies, clothes, wall and air p0569 A71-40560

Bacterial spores survival under simulated lunar surface conditions, comparing results with vegetable cells experiments p0571 A71-40567

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Impulsive activity of neuron populations in cerebral sections controlling psychic and motor functions in man

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Human temporal performance of homogeneous discrete motor acts sequence, suggesting central nervous mechanism for movement rate generation

Human muscular control patterns during forearms precision cyclic bending on ergograph

Human discrete and continuous rhythmic movements rate control

External acoustic signals for human cyclic movements temporal structure control

Biological movement control systems from structural linguistics viewpoint

Data processing analog for human vertical position regulation via afferent nervous system control of skeletal muscles


Muscle activity control mechanism in animals locked into external feedback loop, relating exciting stimulus to muscles stressed state

Human equilibrium maintenance system analogy to multiinput/multiooutput controller, considering motion of projection of center of gravity onto horizontal plane

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Mathematical model for eye crystalline lens accommodation control interaction with pupil, deriving dynamic equations from human/cat experiments with/without neurological control

Pupil neurological control system for reaction to light and accommodation process by statistical eye noise analysis and microelectrode recordings of brain stem neurons

Adaptation mechanism of human movement control as motor neuron reaction to external stimuli, considering peripheral arch, cerebellar and brainstem feedback

Movement coordination in animals during walking and running, revealing neurophysiological mechanisms of locomotion control

Human motor reactions sequential systems control characteristics, considering effects of external stimulus and repetition time interval

Complex biomechanical system control, analyzing adjustments to perturbation from movement performance

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Body fluid osmolality control of food intake initiation in rebated rats injected with hypertonic sodium chloride solution

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Coronary blood flow regulation, discussing local and remote control mechanisms and disturbance effects due to obstructive arteriosclerosis

Myocardial cells contractile activity control with frequency dependent self regulatory mechanisms

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Whole body blood flow autoregulation relationship to hypertension inaresiler dogs

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Muscular fibers analysis for motorneuron split potentials, using needle electrode

Thermal and nonthermal effects of microwave and RF radiation in biological systems, discussing dielectric constant and conductivity for high water content tissues

Extraocular/briefly latent/post-synaptic negative component of evoked visual potential in cortex of nembutal anesthetized rabbits, using Alvar biophase oscillator

Visual cortex neurons impulse activity and postsynaptic potential changes due to light stimulus from quasi-intracellular recordings

Evoked brain potentials averaging in real time with computer linked by long distance communication lines

Repetitive stimulation effects on auditory evoked potentials in cochlear nucleus, inferior colliculus and medical geniculate body of unanesthetized cats

Electroencephalographic and evoked cortical potential correlates of reaction time and visual discrimination in humans

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Human auditory signal detection related to averaged evoked potential in scalp by electrophysiological measurements

Human visual evoked cortical potential spectral sensitivity measurement, comparing results with psychophysical data

Visual and auditory evoked potentials enhancement in cats using cryogenic blockage of nonspecific thalamo-cortical system in inferior thalamic peduncle region

Visual evoked potentials and cortical recovery cycle data for normal and psychiatric subjects of various ages

Visual evoked potentials and cortical recovery cycle in normal and psychiatric subjects of various ages

Visual evoked brain potential amplitude and detection efficiency relationship, discriminating between arousal and attention effects

Deep cerebral structures and cortex electrical activity in apes, noting biopotentials during orientation/defense reactions and light signals responses

Physiological mechanism of human auditory attention, measuring changes in cerebral cortex averaged evoked potential and cochlear nerve response

Myotone control assuming existence of functional relationship between potential level and motic activity, using classical membrane potential theory

Monophasic action potential recording of intact human heart, using bipolar electrode catheter for explanation of ECG abnormalities

Sagittal path of moving electrical center of human heart from measurements of surface ECG potentials

Human visual cerebral cortex potentials evoked by sinusoidally modulated field under stabilized and
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Visual evoked potential relationship to apparent size reduction of invariant retinal image

Primary biological receptor element analogues for electronic model for potential and afferent pulse train responses to stimuli

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Heart excitation and membrane permeability effects on two component action potentials in human atrial muscle strips, using microelectrodes

Human cerebral EEG phenomena and evoked potential relationships to eye and retinal image movements

Emotional stress of pilots in difficult flight conditions, noting pulse rate increase and biopotentials amplitude changes

Muscular bioelectric potential input processing into digital computer, describing amplitude, frequency and time domain analysis of electrocoagulation signals

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Postsynaptic de- and hyperpolarization potential development mechanisms in wakeful cats cortical neurons during IPthalamic structure stimulation

Simultaneous recordings of EEG and visually evoked cortical potential to stimuli of differing lissencephalies and patterns, comparing spatial frequency characteristics

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Neuromuscular spindles sensory information processing, determining fibers selective data transmission functions by frequency meter and model for electrical and mechanical properties

Heat rotation induced eye movements in cats by neuron level determination, considering vestibular apparatus of signal transmission loop for mathematical model

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Hippocampal, neocortical and somatic effects of BP electrical stimulation of mesencephalic reticular formation during different stages of sleep in cats

Retinal neurons receptive field center, examining excitation and direct inhibition interaction

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Nervous and muscular tissues excitability during subthreshold rhythmic stimulation, discussing mathematical model for compounding polarization induced electrotactic fluctuations

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- Microwave radiation biological effects review and bibliography covering protein activity, genetic, central nervous system and cardiovascular effects
  - [NASA-SI-701/60] p0466 A71-35616
- Book on biological effects of radiation covering ionizing radiation properties and effects at molecular, cellular and tissue levels
  - [NASA-SI-701/60] p0047 A71-35956
- Signals convergence of various sensory modalities as function of impulse reactions of individual brain neurons in mammals
  - [NASA-SI-701/60] p0051 A71-38048
- Double standard for national levels of exposure and biological hazards of microwave radiation, comparing Soviet work to U.S.
  - [NASA-SI-701/60] p0051 A71-38197
- Biological experiments on plants, animals and bacteria aboard Soyuz 5, 6 and 7 space probes
  - [NASA-SI-701/60] p0052 A71-39134
- Tinsular and cellular biological resistance as indices for organism resistance to adverse effects, noting increase due to muscular training and cold adaptation
  - [NASA-SI-701/60] p0052 A71-39219
- Medical, zoological and biological effects of ELF signals in atmosphere, comparing with EEG alpha and gamma rhythms
  - [NASA-SI-701/60] p0052 A71-39478
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  - [NASA-SI-701/60] p0056 A71-40007
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  - [NASA-SI-701/60] p0059 A71-42705
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  - [NASA-SI-701/60] p0056 A71-42706
- Antiradiation drugs effects on healthy and irradiated rats gastrointestinal tract evacuatory motor function
  - [NASA-SI-701/60] p0056 A71-42707
- Hyperoxia pathological effects on albino rats - subcutaneous connective tissue, noting oxidizing enzyme activity depression and cellular metabolism suppression
  - [NASA-SI-701/60] p0061 A71-42802
- Toxic biological effects of life functions gaseous products in albino rats
  - [NASA-SI-701/60] p0062 A71-42811
- Simulation chamber for experimental investigation of organisms reactions to Mars environment
  - [NASA-SI-701/60] p0064 A71-42827
- Erythropoietic activity dosage in polycythemic mice after intermittent hypobaric hypoxia
  - [NASA-SI-701/60] p0062 A71-43216
- Erythropoietic activity mechanism in polycythemic mice after hypobaric hypoxia
  - [NASA-SI-701/60] p0062 A71-43217
- Extrarenal production of erythropoietin in micehypoxecised rats after hypobaric hypoxia
  - [NASA-SI-701/60] p0063 A71-43218
- Serotonin metabolism of helicopter pilots, showing effects of emotional factors due to flight inexperience
  - [NASA-SI-701/60] p0062 A71-43220
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  - [NASA-SI-701/60] p0060 A71-44890
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  - [NASA-SI-701/60] p0060 A71-44891
- Solar activity effects on biosphere, examining solar-geomagnetic and medico-biological indexes relationships and clinico-statistical evidence of human organism effects
  - [NASA-SI-701/60] p0062 A71-45197
- Annotated bibliography and index on aerospace medicine and biology - Sept. 1970
  - [NASA-SI-701/60] p0039 A71-10125
- Biological effects of radiation and mechanism of protein and nucleic acid synthesis
  - [NASA-SI-701/60] p0049 A71-10613
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  - [NASA-SI-701/60] p0055 A71-11122
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  - [NASA-SI-701/60] p0012 A71-14479
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  - [NASA-SI-701/60] p0023 A71-17490
- Investigating effects of thermal environments and acidity on growth of bacteria and blue green algae
  - [NASA-SI-701/60] p0025 A71-17588
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  - [NASA-SI-701/60] p0025 A71-17989
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  - [NASA-SI-701/60] p0025 A71-17990
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- Determining hemopoietic, cytological, and immunological parameters of simulated long term exposure to space radiation
  - [NASA-SI-701/60] p0020 A71-18896
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MEDICAL DATA ACQUISITION conference, Nancy, France, June 1989

COMPUTERIZATION OF MEDICAL RECORDS OF OPHTHALMOLOGY CLINIC

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Model experiment for purposeful motor behavior in cells or elements median, assuming cell to cell system movement, adjacent cell visibility and different reaction to nearby cells

Biophysical model of life origin on earth using primordial gas-small organic molecule-nanomolecule-protocol transformation

Principles and practice of bionics - NATO/AGARD Conference, Free University of Brussels, Belgium, September 1968

Aerospace research bionics and bioengineering, considering adaptation of man to environment and matching of man and machine

Nervous system modeling, considering algorithm brain functions, neurobiological programming and modes of distributed information processing pertinent to neuropsychological experiments

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Macaca nemestrina monkey bone density change during Biosatellite postflight experiment evaluating biological effects of radiation and mechanism of biological and cellular research. Analyzing potential in gap between abutting biological and medical disciplines.

Testing for trace contaminants in Biosatellite 3 spacecraft atmosphere and their effects on occupants. (NASA-TR-I-62004)

Biosynthesis of melatonin and other biological rhythms in man controlled by cooperative brainstem biosynthesis, using 18 thermometry recording of thermal stimulus and its role in triglycerides and fatty acid participation.

Stimulatory effects of hypobaric hyperoxia on lipid synthesis in rat liver and adipose tissues under free feeding.

Biological effects of radiation and mechanism of protein and nucleic acid synthesis.

Problems of mathematical modeling in microbiological systems. Radioisotope theremoelectric generators in micro/milliwatt power range for biomedical applications.

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U MILITARY AIRCRAFT

BOEING 747 AIRCRAFT

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WT FILA BOILING

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U SAMPLES

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Measurement of Bone Mass Loss as a Result of Immobilization

Effects of Inactivity or Immobilization on Bone Loss

Nondestructive Measurement of Density, Breaking Strength, and Modulus of Elasticity of Bones

Long Term Bed Rest Effects on Mineral Balance and Bone Density in Normal Individuals

Effects of Prolonged Bed Rest on Bone and Calcium Metabolism and Mineral Content Loss of on Calcium

Research and Development, Weightlessness Simulation, Calcium Metabolism, Manned Space Flight, Pressure Suits, Immobilization, and Aerospace Medicine

Neutron Dose Distributions at Bone Tissue Interfaces in Human Body

Analyses of Hormonal Control of Calcium and Bone Metabolism

Effects of Space Flight on Bone Metabolism Investigated by Analyzing Peptide Hormones in Urethane Anesthesia and Acute Hypoxia

Structural Development of Bone in Rats Under Earth Gravity, Simulated Weightlessness, Hypergravity, and Mechanical Vibration

Permanent Magnets for Footwear Restraint and Mobility in Zero Gravity Spacecraft, Testing Neuronal Buoyancy and Six Degrees of Freedom Simulation Effects

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- Gas bubble growth and compression in body physical systems and tissues

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- Mean whole body intracellular pH and buffer capacity for arterial carbon dioxide tension in ventilated dogs
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- Respiratory acid-base disturbances, studying deviations of bicarbonate ion vs pH pathway followed by buffered solution on carbon dioxide titration

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- Vibration and buffeting effects on man, discussing aerospace environments, biomechanics, human tolerances and performance, etc

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BUFFETING

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Laser thermal/photochemical burns and electrical shock prevention by preemployment/regular physical examinations and safety requirement education

Skin surface burns effect on neurosecretory processes in hypothalamus supraoptic and paraventricular nuclei and neurosecretions admission into hypothalamus

Evaluation of eye hazards from nuclear detonations

Combined effects of optical absorption and thermal conduction in retinal tissue calculated for establishing thresholds for eyeharm in aging intense light sources as lasers and nuclear explosions

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- Neurochemical factors in auditory stimulation and susceptibility to audiogenic seizures, noting gases-aminoacyclic acid /GABA/ inhibitor
- Gamma-aminobutyric acid /GABA/ penetration through blood-brain barrier for administration in dogs and rats
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CARBON Compounds
Bacteria and mamalian cells radiosensitization, using phenylglyoxal and various carbonyl compounds p0178 A71-18944

CARBON TETRACHLORIDE POISONING
Carbonaceous chondrite effect on lipid synthesis of hamster p0008 A71-11129
Cysteine prevention of fatty liver induced by carbon tetrachloride and ethionine p0185 A71-18987
Effects of carbon tetrachloride on microstructure of animal organs p0061 A71-11480

CARBONIC ACID
Carbonic acid effect on isolated skeletal muscle, discussing membrane potential and ion content measurements p0137 A71-16941
Oxygen consumption and carbonic acid output in hypothermal rats cooled under diethyl ether anesthesia, investigating physiological indices during hypothermia p0148 A71-17667
Coronary blood flow at increased arterial carbonic acid partial pressure, noting induced hypercapnia p0572 A71-06033

CARBON Compounds
Bacteria and mamalian cells radiosensitization, using phenylglyoxal and various carbonyl compounds p0178 A71-18944
Acetylcholine endogenic formation in rabbit myocardium, effect on ventricle rhythms, and automatic activity suppression by RF excitations

Left ventricular performance Fourier analysis, obtaining ventricular and ascending aortic pressure and flow from closed and open chest dog measurements

Primary T wave derived from ECG waveform dependent intrinsic ventricular recovery properties

Human cardiac intraventricular conduction measurements, using right and left bundle branch potentials during catheterization

Left ventricular function analysis by atrial pacing in subjects with normal and elevated left ventricular filling pressure, relating stroke volume to end diastolic pressure

Frog ventricles myocardial fibers spontaneous activity in Ringer solution due to ion conductivity variations

Ventricular controllers automatic suppression by RF electric stimulation, examining energy metabolism inhibitors effects

Premature pulmonary valve closure due to severe mitral insufficiency by left atrial V wave retrograde transmission

Left ventricular isolated papillary muscles contractile force in pressure chamber under high altitude adaptation

Excitation-contraction coupling of papillary muscles from hypertrophied right ventricles of cats with pulmonary artery artificial stenosis

Rats under various exercise programs, determining cardiac ventricle and gastrocnemius muscles calcium activated adenosine triphosphatase activities

Transathoracic measurements of left and right ventricular systolic pressures in anesthetized mice, using fiber optics and strain gage manometer techniques

Aging effects on blood pressure-flow relations and cardiac output/ventricular end diastolic pressure, discussing pulmonary vascular bed capacity dependence on increasing flow during supine exercise

Canine heart rate Frank-Starling mechanism effects on ventricular volumes during natural and artificial cardiac pacing

Left ventricular enlargements, comparing vectorcardiographic spatial magnitude and electrocardiographic precordial QRS voltage measurements

Cardiovascular system response to swimming exercise by dogs, measuring left ventricular internal diameter and pressure, cardiac output and heart rate

Ventricular septal defect, discussing incidence, human physiological responses, morbidity and mortality in various age groups

Ventricular mass estimation using electrocardiographic parameters

Coronary vasculature development under hypoxia and pulmonary hypertension as possible cause of right ventricle plasic flow contour changes

High altitude residents cardiovascular evaluations, showing right ventricular enlargement and reactive pulmonary hypertension

Myocardial ischemia observations, utilizing morphologic and pathophysiologic correlations with cinecortmonary arteriography, left ventriculography and hemodynamic examination

Left ventricular power as product of pressure and volume change rate, relating peak values to end diastolic mass

Energy output of left ventricle and congestive heart failure mechanism, approximating blood velocity in aortic system by mathematical model

Left ventricular posterior wall motion measurements in myocardial infarction, using ultrasonic echogram time-motion data

Concealed and supernormal atrioventricular conduction data, using His bundle electrogram recordings

Atrioventricular and intraventricular conduction disturbances in acute myocardial infarction, discussing heart block

Right ventricular end-diastolic volume an index of myocardial fiber length and correlation with ventricular work at rest and exercise with and without right ventricular failure

LVET/EICT ratio usefulness compared to EICT for left ventricular contractility in patients with mitral valve disease

Spatial ECG ventricular gradient ECG morphology, noting use in stimulus intraventricular conduction disturbances recording

Human ventricular activation correlation with canine model in chronic myocardial infarction

Myocardial ischemia index, using left ventricle time varying pressure/volume ratio in systole

Electrocardiographic evidence of false complete bilateral bundle branch block with impaired atrioventricular conduction in patient with hypertensive heart disease

Correlative ECG survey of surgically proven constrictive pericarditis involving left ventricle with T wave inversion

Left ventricular aneurysm electrocardiographic features and postresection changes based on ECG statistical analysis

Canine ventricular myocardium as cardiac beta-adrenergic receptor, describing binding of norepinephrine to microsomal particles

Pulmonary diastolic pressure relation to left ventricle and atrium of patient with diagnostic heart catheterization at rest

Cardiac sympathetic nervous control of right ventricular pressure-flow dynamics in outflow tract in anesthetized dogs

Ejection fraction relation to left ventricular dimensional changes in patients with heart disease, using angiocardograms

Diagnostic import of QRS notching in RF ECG of living subjects with heart disease, noting notch count correlation with ventricular enlargement

Procedures for determining functional state of human heart right side

Cardiac sympathetic nervous control of right ventricular pressure-flow dynamics in outflow tract in anesthetized dogs

Ejection fraction relation to left ventricular dimensional changes in patients with heart disease, using angiocardograms

Diagnostic import of QRS notching in RF ECG of living subjects with heart disease, noting notch count correlation with ventricular enlargement

Procedures for determining functional state of human heart right side

Optimal contactless kinetocardiography recording LP patient chest vibrations, comparing short wave method

Hemodynamic correlation of Austin Flint murmur and a-wave of apexcardiograms in aortic regurgitation

Ultrasound echocardiograms of anterior cusp of mitral valve in aortic valve disease

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Right and left heart and pulmonary blood volume determination, using radiocardiograms and analog computer analysis

Analog computer analysis of radiocardiograms, determining cardiac function and pulmonary blood volume

Cardiography
NT ELECTROCARDIOGRAPHY
NT MAGNETOCARDIOGRAPHY
NT PHONOCARDIOGRAPHY
NT THROMBOMORPHOMETRY
Left ventricular volume determination by high speed cineangiography, using optical scanning and automatic data processing

Gravitational acceleration effects on hemodynamics, describing mechanocardiographic equipment

Atrial and ventricular dimensional analysis in animals and man, discussing angiocardiology, biplane, X ray, indicator dilution, radioisotopic and noninvasive methods

Dog cardiac output measurement by using ethyl ether dissolved in saline solution as an indicator, comparing to Piek method results

Chest and cardiovascular system optimal radiologic facilities, discussing X ray examination, catheterization-angiocardio-angionic and nuclear radiology laboratories

Informative precordial palpation taken into account location, timing, duration and amplitude

Heart rate variability in healthy pilots with exercise, weight investigated by mechanocardiograph, showing decreased cardiac output, left ventricle strength and volume rate

Human radioisotopic angiocardiology, emphasizing identification and physiological diagnosis of congenital and acquired cardiovascular defects

Resting and postexercise phonocardiogram correlation with x-ray treadmill stress test, noting mean a-wave ratio

Cardio-respiratory functional tests reliability in military pilot selection

Methods for measuring mechanical aspects of cardiac activity and vessel functional state

Digital cardiocounter incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also, converting rate to beats per minute

Cardiology
Adapted multichannel analyzer for cardiology visualizing vectorcardiographic loops

Analogue/hybrid programming of atenolol sequence for cardiac excitation study

Clinical and hemodynamic profile of cardiacogenic shock after acute myocardial infarction

Cardiac output during submaximal bicycle exercise in children and teen-agers, discussing oxygen transport function of blood

Cardiac impulse conduction measurements noting delay, block and one way block in excised canine Purkinje fibers with depressed responsiveness

Cardiac impulse conduction in depressed canine Purkinje fibers, discussing experimental results in connection with reentrant arrhythmias

Cardiac arrhythmias simulated by concealed bundle of His extrastimuli in open chest intact dog hearts

Thermocoupling and indocyanine green dye technique comparison for cardiac output measurement in man

Cardiology - Conference, London, September 1970

Automation in cardiology, discussing analog and digital computer techniques for one- or two-hour hemodynamic analysis and collection and manipulation of cardiovascular data

Automated data acquisition and analysis during cardiac catheterization, using photofylographic and analog magnetic tape recording system in conjunction with digital computer

Upright tilt stress tests on cardiac cycle phases in healthy subjects, using noninvasive techniques

Electrocardiographic technique for heart rate variability in healthy subjects, using noninvasive techniques

Anand, A.: The transport function of blood, describing mechanocardiographic equipment

Frequency phonocardiography technique for heart rate variability in healthy subjects, using noninvasive techniques

Studies on cardiac output measurement by using ethyl ether dissolved in saline solution as an indicator, comparing to Piek method results

Efferent vagal activity increase prior to intermittent cardiac block due to isoproterenol

Spatial ECG ventricular gradient ECG morpholopy, noting use in stimulus intraventricular conduction disturbances recording

Papers on exercise and cardiac death covering coronary atherosclerosis, congenital anomalies, myocarditis, tumors and physical exertion

Acute fatal nontraumatic collapse during physical exercise due to circulatory diseases

Frequency phonocardiography techniques for cardiac sounds and murmurs registration, producing analog voltage proportional to frequency by zero crossing detector

Cardiac automatic rhythms, discussing Purkinje fibers and factor controlling automaticity

Essays on cardiology in sports

Cardiac activity of athletes in quiet state

Cardiac activity under stress of physical work

Technology review on cardio and hemodynamics

X ray methods for quantitative analysis of cardiac activity in athletes

Functional tests of cardiovascular system in athletes

Transmission and analysis of cardiological data on athletes

Clinical problems of cardiology of athletes

Cardiovascular defects in athletes

Physical overstress effect on cardiac muscle in athletes

Cardiological medical services for Soviet athletes

Development of system for identifying dynamic heart rate response to respiration

Hardware and techniques for studying human circulatory performance in space environment

Linear beat by beat cardiotachometer, describing amplifier design and operation

Cardiovascular System
NT AORTA
NT ARTERIES
NT BLOOD VESSELS
NT CAPILLARIES (ANATOMY)
NT CARDIAC VENTRICLES
NT DIASTOLE
NT ERYTHROCYTES
NT GLIOMA
NT HEART
NT HEMATOPOIESIS
NT HEMATOPOIETIC SYSTEM
NT LEUKOCYTES
Cardiovascular and ventilatory responses to room air and pure oxygen breathing under various exercise work load conditions
Cardiovascular system blood flow mathematical model: parameter optimization by simulation on hybrid computer, using OPTRAM program
Human cardiovascular control system model by analog computer program for various work loads up to submaximal, estimating corresponding real life
Cardiovascular and biochemical effects of chronic intermittent neurogenic stimulation, noting alphamethyltyrosine antihypertension agent
Anatomy and function of normal pericardium including removal effect in mammals, fish and amphibians
Pulsus alternans study by noninvasive techniques for assessing cardiovascular function in hemodynamics and muscular physiology
Cardiovascular and respiratory systems afferent innervation in cats investigating pericardial, respiratory and pseudo-vascular mechanoreceptors
Human physical exercise with stepwise increasing load noting working capacity, cardiovascular and respiratory system performance and blood composition interrelations
Epinephrine infusion in man, examining systolic time intervals and sympathetic stimulation in cardiovascular dynamics
Walking effects on body composition and cardiovascular function of middle aged men
Cardiovascular responses of hypoxic hypoxia in mongrels with catecholamine induced coronary dilation
Amino-ethyl-S-2-isothiuronium radio protective dose effects on enzyme activity, cardiovascular changes, blood transaminases concentration, bone marrow and peripheral circulation
Hybrid computer simulation for cardio-circulatory assist device, discussing atrium to aorta and dilation
Chest and cardiovascular system optimal radiologic facilities, discussing X ray examination, catheterization-angiographic and nuclear radiology laboratories
Cardiopulmonary and circulatory mechanisms, adaptation limits and response to aerospace flight stress
Tarahumara Indian runners cardiovascular system physical conditioning for endurance extremes
Soyuz 9 astronaut vertical posture control after 16 day orbital flight, considering cardiovascular disturbances caused by reduced muscle tone and changed interaction between analyzers
Soyuz 9 spacecraft astronauts cardiovascular and respiratory systems responses to orthostatic effect after 10-day orbital flight from ZAG measurements and sphygmoscopy
Soyuz 9 spacecraft simulator prolonged confinement effect on human cardiovascular system functional state
Weightlessness, high acceleration and aerospace vehicle maneuvering effects on cardiovascular and ventilatory systems, discussing disorientation, space sicknesses and blood circulation
Adrenergic neurons in intraventricular cardiac ganglia in rabbits, using histochemical luminescent microscopy
In-flight monkey cardiovascular observations, discussing central venous pressure, urine volume, electrolyte imbalances and heart rate
Central nervous system role in body metabolisms effects on cardiac output, measuring 2,4-dinitrophenol /DHF/ dosage effect on arterial pressure and oxygen consumption in dogs
Cardiovascular functional reactions in pilot trainees during training flights, presenting case histories
Chemical release from traumatized tissue in dogs under cross circulation with lethal cardiac depression response
Nonlinear axisymmetric solution for cardiovascular system pulsatile flow, using long rigid tube and velocity profile representation
Cardiovascular responses to submaximun and maximum effort cycling and running on bicycle ergometer and motor driven treadmill, using carbon dioxide rebreathing method
Cardiovascular system response to swimming exercise by dogs, measuring left ventricular internal diameter and pressure, cardiac output and heart rate
Alveolar gas exchanges and cardiovascular functions during breath holding with air, determining retent oxygen consumption
Nervous/cardiovascular systems and blood composition changes in moderate duration military transport flights
Mild hypertension risks, presenting results of case studies over ten year period of mortality rate associated with cardiovascular diseases
Automation in cardiology, discussing analog and digital computer techniques for on-line hemodynamic analysis and collection and manipulation of cardiovascular data
Set and uncertainty as factors influencing anticipatory cardiovascular response in humans, monitoring heart rate and vasomotor activity
Metabolic, ventilator and cardiovascular response during free swimming and treadmill walking, relating oxygen consumption to work intensity
Hypoxia, high altitude and heart - Conference, Aspen, Colorado, January 1970
Cardiac activity changes during prolonged hypoxemia, discussing clinical and experimental investigations results with humans and animals
Lowered cardiac output and arterial pressure response to exercise after autonomic heart blockade in man, noting retained work capability
Human radioisotopic angiography, describing identification and physiological diagnosis of congenital and acquired cardiovascular defects
Cortical neurodynamics during vestibular afferent activity and associated cardiovascular and respiratory reactions, noting EEG correlation to hemodynamics
Cardiovascular telemetry total implants, describing measurement problems, equipment design, low current operation, size and thermal and temporal stability
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Carotid pulse wave slope variations in normal subjects, aortic valvular diseases and hypertrophic subaortic stenosis
Myocardial oxygen reduction by stimulating carotid sinus nerves and angiogenesis treatment application
Small signal characteristics mathematical models of carotid sinus baroreceptors of rabbits
Stagnant asphyxia in cat carotid body during abrupt blood pressure drop by simultaneous carotid artery clamping and tap opening
Oxygen tension distribution in cats glomus caroticus under influence of varying arterial oxygen partial pressure, using platinum microelectrodes
Mathematical functional model for carotid blood pressure control system

CARTELS
Catalectic carbon dioxide reduction cartridge for oxygen recovery in life support systems of long term manned space flights

CARES
Metabolic cost evaluation of self-locomotion in simulated lunar gravity using space suits and cats including weight load and surface effects

CASCADES (FLUID DYNAMICS)
U FLUID DYNAMICS

CASE HISTORIES
Aerial runaway clinical case covering unconsciousness, deafness, hypoxia, hypothermia, acidosis and other effects due to 9 hr flight in unpressurized landing gear cell
Case histories of pilot failure during training or operational flight due to cerebral cortical dysfunction
Potential epilepsy determination in flight personnel, suggesting systematic EEG with hyperventilation and photic stimulation tests and personal medical history data of head traumas and unconsciousness
USAF aero medical consultation service experience on vertigo cases covering symptoms and related diseases
Psychophysiological and conversion mechanisms an unconscious expression of student pilot motivation decrease for further flight training, presenting case histories
Model case studies of effects of DDT on human environment

Case history of Cheddiak-Higashi disease with simultaneous friedreich hereditary spinal ataxia and hemolytic, neurologic, and genetic characteristics

Computer technology for medical information systems, in patient care, and for diagnostic purpose

Catecholism
Monosodium L-hydroxyisopropylarabinoselenoate effects on glucose carbamoyl metabolism and effects of pure oxygen inhalation in rats

Catalase
Gaseous medium composition and multiple freezing temperature effects on catalase activity

Catalysis by AutoCatalysis
Catalytic activity
Catalytic effect of lanthanide hydroxides on formaldehyde conversion to poisons and bases at 110 C in life support systems

Catalytic Hydrolysis
Polyester formation by Escherichia coli ribosome catalyzed alpha-hydroxy acid incorporation into polymeric chain
Monosaccharides effect on catalytic synthesis of carbohydrates from formaldehyde
Effect of lithium and calcium ions on acetylcholinesterase activity of erythrocytes

Catastrophes
Mathematical analysis of eye transparency, discussing light scattering from normal corneal stroma, swollen opaque corneas and cataractous lens
Coagulative and delayed cumulative cataract formation by microwaves investigated by hypothermic technique
Cataract formation from microwave radiation exposure by lens nutrition alteration and surface shape changes

Ultrasonic softening of less refractive to facilitate aspiration, using in vivo rabbit lenses for cataract production

Catecholamines
Hypothalamic and adrenal glands catecholamines relationship for hypophysectomized rats
Cardiovascular responses of hypoxic hypoxia in mongrels with catecholamine induced coronary dilution
Control and prolonged exercised rats adrenal and plasma catecholamine, corticosterone and epinephrine level comparisons using fluorometric analysis
L-dopa multi-injection timed effects on rat brain norepinephrine metabolites concentrations, observing zero time control rated modifications
Diurnal rhythms of adrenaline secretion in subjects with different working habits, comparing catecholamine excretion under relaxation conditions
Diurnal variations in catecholamine excretion, alertness and performance of subjects with different working habits
Systolic and diastolic blood pressures and urinary catecholamines under stress in normotensive and hypertensive subjects
Psychophysiologohical reactions to understimulation and overstimulation, noting catecholamine output, heart rate and performance efficiency in humans
Adrenaline, noradrenaline and catecholamine excretion in railroad men during daytime and nighttime work

Catheterization
Catheter inserted wire basket device for creation of reversible aortic insufficiency in animal
Blood pressure and velocity waveform recording for patients during cardiac catheterization in vivo, interpreting relationships to vascular impedance
Left ventricular volume and cardiac work evaluation by thermocatheter technique, employing thermodilution technique for temperature measurement
Catheter-flush system for continuous monitoring of central arterial pulse waveform and pressure activity
Digitalis-induced bundle branch ventricular tachycardia from electrode catheter recordings of dogs specialized conducting tissues

Catheterization
Human cardiac intraventricular conduction measurements, using right and left bundle branch potentials during catheterization
Cats preoptic and skin temperature change effects on posterior hypothalamic neurons

Stagnant asphyxia in cat carotid body during abrupt blood pressure drop by simultaneous carotid artery clamping and tap opening

Feline retinal neurons, noting span and density of branching amacrines cell protrusion and ganglion cells diversity

Oxygen tension distribution in cats clomipramine under influence of varying arterial oxygen partial pressure, using platinum microelectrodes

Otolithic reactions in rabbits and cats after intravenous injection of sodium bicarbonate

Compensatory capabilities of vestibules, hypothalamus, and central nervous system toward gravitational effects on cats during orthostasis

CATTLE

Purine and pyrimidine derivatives of cattle hypothalamus determined by gel filtration and subsequent spectral analysis and chromatography

CAUSTICS

U ALKALIES

CELESTIAL BODIES

NT CARBONACEOUS METEORITES
NT CHROMITES
NT JUPITER (PLANET)
NT MARS (PLANET)
NT METEORITES
NT METEOROIDS
NT ORIOUEL METEORITE
NT SOLAR SYSTEM
NT STARS
NT VENUS (PLANET)

CEPHALIC NAVIGATION

Planetaria as celestial navigation instruction aids, discussing astronomical simulation capabilities, celestial coordinate systems, special effect projectors, etc

CELL DIVISION

Cytophotometric study of DNA content in fibroblasts from human blood vessel walls, discussing cell proliferation and ploidy

Division cycle of Myxococcus xanthus, considering kinetics of cell growth and protein synthesis

DNA synthesis rhythms in aorta endothelial cells nuclei during direct division, noting effects of asaust呓语 by autoradiography

Centrally parietal chromatophore in green coccal algae, noting individual cell division and total number increase throughout ontogeny

DNA replication in intercostal artery muscle cells during vascular wall physiological regeneration, noting cytochromatic study of polyplidization

Mammalian cells cultivation at suboptimal frequencies and accelerations

Mechanical vibrations effects on mouse embryos growth and development, investigating critical frequencies and accelerations

CELLS (BIOLOGY)

NT CARBON THROMBOCYTES
NT CHROMOSOMES
NT COLLAGEN
NT ERYTHROCYTES
NT FIBRINOLASES
NT KERATOPHYLOGISM
NT HEMOGLOBIN
NT LEUKOCYTES
NT LYMPHOCYTES
NT MACROPHAGES
NT MITOCHONDRIA
NT NEURONS

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molecular, cellular and tissue levels.

Chlorella extracellular metabolites, identifying

Indole nature biologically active substances

Cell volume analyzer for sensing individual blood
cells and plotting number as function of size

Cell contacts in canine duodenal smooth muscle
layers, using perfusion with glutaraldehyde

Tissue and cellular biological resistance as
indices for organism resistance to adverse
effects, noting increase due to muscular training
and cold adaptation

Mammalian cells cultivation at suboptimal
temperatures, considering reproduction and
cytophysiological changes

Cryogenics applications to cryosurgery and long term
low temperature storage of living cells and
tissues

Gravity sensors and intracellular conduction
mechanisms in animals, noting contradictory
hypotheses on function of hair cell in labyrinth

Space conditions exposure of lysogenic strains of
Escherichia coli and monolayer cultures of human
cells aboard Zond 5 and 7 flights

Postflight histological analysis of turtles aboard
Zond 7, noting decrease in cell nuclei size due to
space flight conditions adaptation

Living organisms life-sustaining possibility under
simulated Martian temperature, humidity and
atmospheric composition conditions, emphasizing
unincellular organisms radiation resistance

Computerized electrostatic field model of biological
cell membrane

Hyperoxic medium effects on experimental axial
cells, tissues and organs morphology,
infrastructure and histochemistry

Unicellular organisms increased tolerance to UV
radiation, discussing cells repairing ability in
dark and pigments and protective compounds
screening role

Blue-green algae Microcystis aeruginosa central zone
structure electron microscopic investigation, noting absence of distinct boundary
between central and peripheral regions

Nonactoyosin component differentiation in potassium
chloride insoluble myofilaments in vertebrate
smooth muscle cells

Visual masking effects in cat striate cortex single
cell activity, using moving slit and diffuse
flashing light stimuli

Investigating mechanisms by which inorganic and
mineral phosphate groups become part of cellular
structure

Mechanisms by which oxygen produces toxic effects on
cellular metabolism

Functional synchronization of neurosecretory cells of
supra-optical nucleus of dehydrated and
rehydrated rat

Effects on ultraviolet radiation and X rays on
mammalian cells

Electro microscopic studies of nerve membrane
ultrastructure

High resolution electron microscopes for cell
membrane and multi-enzyme complex studies

Dynamic models for cell membrane functions in
molecular biology

Electron microscopic analysis of odor sensing cell
microstructure

Low temperature cytophysiological adaptation of
human and mammalian cells

Radiation effects on cytoplasmic structure and
differential activity of genes

Control of mitosis in biological cells through
inorganic ion hierarchy of cells involved

Single cell response within cat medulla during
constant angular accelerations

Proceedings of conference on interaction between
atmospheric environment and human system at cell
level

Control of aging processes in human body cells

Human equilibrium maintenance system analogy to
multinput/multoutput controller, considering
motion of projection of center of gravity onto
horizontal plane

Eye movement tendencies, investigating rectilinear,
horizontal or vertical and center of gravity
fixation effects on visual perception

Central Nervous System

NT BRAIN
NT BRAIN STEM
NT CEREBELLUM
NT CEREBRUM
NT HIPPOCAMPUS
NT SPINAL CORD
NT SPHONE
MT THALAMUS

Central posttraumatic changes in central nervous
system in pugilists from brain damage due to head
injuries

Human temporal performance of homogeneous discrete
motor acts sequence, suggesting central nervous
mechanism for movement rate generation

Anticonvulsant drugs for counteracting noise effects
on central nervous system, discussing audiogenic
seizure in mice

Central nervous system reactions to vasopressin and
oxytocin presence in cerebrospinal fluid and
blood, discussing respiratory frequency and
antidiuretic tests

Mean period spontaneous EEG as psychophysiological
characteristics of higher nervous activity in
human individuals

Central nervous system role in radioprotective
contribution of 5-hydroxytryptamine

Clinical aspects of aerospace neurology, considering
central nervous system diseases among flying
personnel

Central regulation mechanisms of acidic-alkaline
equilibrium in ontogenesis, discussing midbrain
injuries intraterine and respiratory postnatal development

Central nervous system functions under high oxygen
concentrations at normal and elevated pressures

Cerebrospinal knee and flexor reflex suppression
observations in rabbits and cats during blood
circulation disorders

Central nervous system role in body metabolism
effects on cardiac output, measuring
2,4-dinitrophenol /DNP/ dosage effect on arterial
pressure and oxygen consumption in dogs

Signal transformation laws of central nervous system
motor command patterns construction from sensory
impulse streams
CEREBRAL CORTEX

brain assuming Perceptron mechanism
Cerebellum efferent visceral field functional organization in cats
Superposition model of spontaneous activity of cerebellar Purkinje cells for spike triggering

CEREBRAL CORTEX
Hydrogen exchange between pial arteries for measuring local cerebral blood flow quantitatively in anesthetized cats
Dorsomedial nucleus electric impulse stimulation in anesthetized cats with oscillograms recorded response potentials of cortex preoral gyrus, indicating relay transmission function
Neuron pairs discharge sequence temporal correlation in cats association cortex during natural sleep and wakefulness

VESELRAL CORTEX
Correlation of neuron pairs discharge sequence temporal correlation in cats association cortex during natural sleep and wakefulness

Vestibular cortex responses in cats to conditioned optical stimuli during defensive reflex formation
Temporary connection of neurons in visual and associative cortical regions of hemispheres in cats

Cortical vestibular projection zones in formation of conditioned reflexes and spatial orientation of cats
Impulsive activity of neuron populations in cerebral sections controlling psychic and motor functions in man
Slow cortical potentials associated with human motor and mental acts differentiated via spatial distribution

Cortical vestibular projection zones in formation of conditioned reflexes and spatial orientation of cats

Vestibular nerve projection to association fields of cerebral cortex in Rhesus monkey under alpha chloretal and without anesthetic agent
Impact induced closed brain injuries pathomorphology, considering dura mater, cortical contusions, neuron and glial damage, brain stem lesions and hemorrhages

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Coronary blood flow at increased arterial carbonic acid partial pressure, noting induced hypercapnia

Coronary dilating substances of low molecular weight separated through dialysis from hypothalamic protein carriers

Myocardial blood flow and oxidative metabolism in cyanotic congenital heart disease patients, using lactate/pyruvate ratios and coronary sinus catheterization

Midystolic clicks and papillary muscle dysfunction evidence in arteriosclerotic heart disease from ECG, carotid pulse tracing and phonocardiography

Preclinical coronary heart disease detection by near maximal treadmill exercise ECG

Cardiac arrest or arrhythmia due to coronary arteriosclerosis in young aviator, examining causes, prevention and predictive measures

CORPOCULAR RADIATION

Corticon steroids

Diastolic heart sounds and filling waves in coronary artery disease, relating graphic abnormalities and clinical, arteriographic and hemodynamic findings

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p0186 A71-19282

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- Hydroponic plant cultivation with barley substrate, investigating replacement time effect and regenerative power of nutrient solution
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CULTURE TECHNIQUES

- Soil microorganisms multiplication under simulated Martian conditions in lisanite and garden soil mixture
- Algae physiology, discussing culture techniques, pure species reproduction, past errors, and achievements
- Blue green algae activity in Kratz-Myers medium, noting C 14 uptake changes for monocultures and mixed cultures of Anacystis nidulans and Synechocystis aquatilis
- Thiol and disulfide compounds radiation protection capacity of yeast cells in tissue culture, using reproductive integrity as protection criteria
- Optimum mineral media for alga Chlorella and Scenedesmus cultivation in closed ecological system
- Chromosome mapping of Pasterella pseudotuberculosis by interrupted mating, indicating chromosome transfer in more than one linkage group
- Activated charcoal effects moss development alterations on artificial agar substrate
- Autotrophic cultivation of cereals with high photosynthetic activity under intensive illumination as biological components in life support systems
- Stearothermophilus spore germination stimulation, investigating effects of preheating and amino acid and carbohydrate concentration
- Mineral composition optimization of nutrient medium for Hydrogenomonas, using steepest ascent method for mathematical planning of experiments
- Bicarbonate requirement for elimination of lag period of chemotrophically grown Hydrogenomonas eutropha
- Space conditions exposure of lysogenic strains of Escherichia coli and monolayer cultures of human cells aboard 5 and 7 flights
- Extraterrestrial life detection methods, discussing bacterial cultures growth dynamics in nutrient media and iron porphyrins and ATP content increase
- Chlorella biomass chemical composition stability during prolonged cultivation with nitrates recycling media
- Biologically mineralized human waste products utilization in nutrient solutions for higher and lower autotrophs cultivation
- Microorganisms survival in simulated Martian environment noting culture cells concentration increase
- Selecting algae, seeds, and seedlings of higher plants and establishing tissue cultures for Lunar Receiving Laboratory (NASA-CR-108764)
- Production of algae containing 93 percent C-13
- Modification of Berman-Slykaskeys method for neutrophil digestive capability determination
- Temperature requirements for thermophilic bacteria growth in soil and by culture techniques

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- Static feed water electrolysis system of life support system, discussing current density, operating time and temperature effects on voltage for various electrochemical cell sizes

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- Playstation, discussing endolymph chemical composition, cupula structure and function and hair cell

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- Edges and curve detection in textured regions related to visual scene analysis

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- U CONTOURS
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- Physiological effects of cyanate ions in renal functions

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- Biological and medical cybernetics approach to closed systems construction for continuous automatic monitoring and control of human physiological processes under harsh conditions
- Complex human memory processes large scale simulation/mimetic modeling based on information handling probability and retrieval
- Human operator psychophysiological characteristics as cybernetic man machine system components, emphasizing human memory activity
- Nervous system modeling, considering cybernetic brain functions, neuroheuristic programming and modes of distributed information processing pertinent to neuropsychological experiments
- Discrete control input system oscillations, reenacting eye pupil diameter changes, hand tremors and aiming fluctuations during rifle sighting experiments
- Soviet papers on biological and medical cybernetics covering control principles in living organisms, heuristic programming, higher nervous activity models, learning problems, etc

Biological control systems analysis

- Relationship between cybernetic and psychological approaches to human thought
Investigating relationship of cybernetics and human management of large systems
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Biological systems analysis and biodynamic modelling of physiological and biological interrelationships
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Summary of design parameters for models of dynamic biological systems
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Cyliner circuit design and applications in biosciences, cybernetics, and electronic robots
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Psychophysiological analysis of management, control type of work processes based on concepts of cybernetics
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Bionics of living and life-like systems with application to man machine technology
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Cybernetic modelling of neuropsychological information processes in human nervous system
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Algorithms of self organization, artificial intelligence, and tree search applied to various practical problems
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Cybernetics research involving neuron network simulation and optimization of scanning systems
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Cybernetics including models for statistical decision making, biomechanical systems, and complex stochastic systems
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(p0597 A71-62715)
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Space flight effects on survival, mutation and cell development of Chlorella cells suspensions onboard S spacecraft
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Automatic cytophotometric techniques, including microphotometer, ultrasonic spectrograph, radiographic analyzer, microinterferometers, cytophotometer and differential fluorimeter
(p0156 A71-18693)
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Cytotoxic and radiosensitizing effects of tyrosine and methionine on crypt cells of mice duodenum
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Model experiment for purposeful motor behavior in cells or elements medium, assuming cell to cell system movement, adjacent cell visibility and different reaction to nearby cells
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Mammalian cells cultivation at suboptimal temperatures, considering reproduction and cytophysiological changes

Specific banding patterns for identification and structural detection of human chromosomes, using differential staining method

DNA synthesis in human arteries and endothelial reproduction, reporting intact nuclei and dyed cell membrane samples cytophotometric studies results

Morphological and cytochemical changes in red and white skeletal muscles of animals exposed to hypokinesia

Morphological and cytological aspects of hypokinesia in rat muscles

Electron microscopic analysis of odor sensing cell microstructure [NASA-FT-F-13376]

Low temperature cytophysiological adaptation of human and mammalian cells

CTTOPLASM

Cytophotometric study of DNA content in fibroblasts from human blood vessel walls, discussing cell proliferation and ploidy

Protein content in cytoplasm of neurons and glial satellite cells in supraoptical and red nuclei of white rat brains during natural and paradoxical phase deprived sleep

Radiation effects on cytoplasmic structure and differential activity of genes

DARK ADAPTATION

Background nonequivalence during long term photopic dark adaptation

Cats photopic and scotopic spectral sensitivity functions from dark adaptation curves, using behavioral tracking procedure

Eye movements in dark during attempt to maintain ocular position defined by prior viewing of fixation target

Optic analyzer dark adaptation dynamics during spatial body position changes, observing restoration speed dependence on physical training

Retinal threshold along horizontal meridian for dark and light adapted eyes for stray light from small foveally fixated high luminance target

Electroluminescent aircraft instrument lighting effects on pilots dark adaptation taking into account color, panel legibility, scotopic sensitivity and acuity

Dark adaptation in humans under Arctic conditions, noting role of physiological disorders

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Background nonequivalence during long term photopic dark adaptation

Darkness adapted human eye, investigating absolute light perception threshold dependence on light stimulus gradient

Electroretinogram b-wave slope reduction by cooling of dark adapted frogs during serial flash stimulation

Spatial and temporal patterned light flashes effects on dark adapted subjects, discussing cortical response changes in contrast depth

Human rod's dark adaptation, investigating rhodopsin revesnthesis and bright light flash effects

Night vision and dark adaptation of eye, noting sunlight effects on visual acuity

Dark adapted albino rats behavioral assessment, measuring absolute visual thresholds to white and colored light

Acuity-dark adaptation in strabismic amblyopia, investigating defects in cone or rod mechanisms of dark adaptation by using colored filters

Threshold electrical phosphene dependence on impulse duration and stimulation frequency in subjects adapted to darkness

Receptive fields of dark adapted cats striate cortex neurons as function of barbiturate anesthetic level

Quantitative variation in anesthetized cats striate cortex receptive fields as function of light and dark adaptation

Light brightness and duration effect on central vision response time during dark adaptation

DARKNESS

Background nonequivalence during long term photopic dark adaptation

DATA ACQUISITION

Medical data acquisition - Conference, Nancy, France, June, 1969

Biotellemetry data acquisition and electrode technology, discussing physiological measurements and pickup techniques for conversion into electrical signals

Multiple sensor heart rate telemetry using automatic data acquisition and management in squirrel ecology

Data collection of aviator knowledge, skill, and satisfaction in combat readiness training

Manual for human psychometric data acquisition and human reactions to psychological stress in Tekitek project

Reliability data acquisition on spacecraft life support systems during ground and orbital experiments

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U DATA REDUCTION
U DATA TRANSMISSION
DATA ANALYSIS
U DATA PROCESSING
U DATA REDUCTION
U DATA COMPRESS MODE
U DATA TRANSMISSION
U DATA CONTROL SYSTEMS
U DATA SYSTEMS
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MT DIGITAL TO ANALOG CONVERTERS
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Correlation and spectrum analysis of simultaneous EEG data in mono and dizygotic twins using computer and FFT algorithms p0205 A71-20746

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Psychological screening of pilot trainees, showing neurosis noncorrelation with learning ability to fly p0624 A71-43221

Psychological screening of pilot trainees, investigating Minnesota Multiphasic Personality Inventory test data correlation with learning ability to fly p0624 A71-43222

Continued flight training correlation with general aviation aircraft accident rates reduction p0631 A71-44252

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Multiple correlation of university and flight training biographical information as management tool in personnel selection for pilot training [AD-7179541] p0536 A71-31620


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Digital filtration and processing of electrocardiograms on computers using linear difference equations p0075 A71-12992

ECG telemetric data computerized processing, describing cardiac data acquisition, long distance telephone transmission, analog to digital converter, central processor and output devices p0079 A71-13066

Neural activities during simultaneous contrast and information processing in visual system p0090 A71-14188

Eight channel physiological data scanning and timing control, sequential conversion, printing and punching p0136 A71-16923

Space-time interactions and associated input-output mismatches from overprinting, sequential blanking and displacement visual perceptual information processing p0191 A71-19695

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Human eye information processing algorithm with mathematical model technological materialization p0194 A71-20119

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Information processing by living systems, considering nervous system and brain operation with emphasis on neuron structure, message coding, programming and information storage p0263 A71-24223

Information processing in biological and artificial brains, analyzing visual perceptual system p0264 A71-24224

Neurophysiological auditory information processing, considering mechanical transformation of two dimensional presence-time signal and three dimensions for presentation to nervous system p0264 A71-24228

Model of retinal information in cats from physiological and anatomical evidence, considering processing of contrast and eye movement information p0306 A71-25254

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Small scale solid state digital computer for experimental medical data statistical processing p0412 A71-32534

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Transmission and analysis of cardiological data on athletes p0276 A71-19589
DATA PROCESSING EQUIPMENT

Structures of biological information processing and pattern recognition in living systems p0340 N71-23056
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Algorithms of self organisation, artificial intelligence, and tree search applied to various practical problems [AD-719530]
Model describing symmetrical information processing along visual pathways of brain [NASA-CR-111517]
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Display system information content characteristics and relationships with operator performance and psychophysiological factors in data processing (JRES-53244) p0435 N71-28093
Neuron modeling, electrophysiology, and biophysics involved in information processing along nervous system [AD-727770]
Man machine techniques for processing data from sonar display systems [AD-727609]

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Development of man machine subsystem for military management information system and evaluation of display capability integrated into large scale computer [AD-722803]
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Standardized EEG data recordings in Air Force neurological evaluations p0034 A71-12393
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Polygraphic sleep recordings automatic analysis, presenting numerical results for rapid and slow eye movements, muscle tone, heart and respiratory rates p0409 A71-31958

DATA REDUCTION

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Biosatellite 3 neurophysiological data analysis by digital computer presenting maps of normal cortical spectra, responsive states transient changes, circadian rhythms and EEG activity p0251 A71-23243
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Sudden death of pilots in flight due to silent ischemic heart diseases

Aircraft recognition accuracy and decision speed comparing single observers and four-man crews [AD-714213]

Model for quantitatively examining performance of automatic machines with normal and disturbed functions in statistical decision making

Man machine systems for detection, recognition, transmission and perception of information on engineering problems [AD-727610]
Advantages and drawbacks of pure oxygen and oxygen-nitrogen space breathing, considering decompression sickness in Apollo missions

Decompression sickness, investigating surface excursion diving and selection of liebemds vs CNS symptoms by tests on goats

Humoral smooth muscle acting factor and phenyl-piperazines methyl cyclohexanone effects on decompression sickness production and prevention in thin rice

Scanning ultrasonic imaging technique for in vivo monitoring of microscopic bubble formation in decompression sickness, presenting images displays

Relative decompression risk studies of spacecraft cabin atmosphere using miniature pigs (NASA-CR-1694)

Determination of surface tension in biologic fluids for susceptibility to decompression sickness (NASA-CR-111362)

Theoretical models related to Bills alternative to naval decompression concepts (AD-711809)

Saturation excursion diving operations for testing extrapolated tables for repetitive no-decompression excursion from helium-oxygen atmospheres (AD-718090)

Initial evaluation of revised helium-oxygen decompression tables (AD-719388)

Using miniature pigs for analysis of altitude decompression sickness and relative decompression hazards of various cabin atmospheres of inert gases (NASA-CR-118355)

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Repetitive excursion dives from saturated depths, using helium-oxygen mixtures to eliminate decompression sickness (AD-723173)

No-decompression repetitive excursion dive format. Testing at 150 and 200 ft using helium-oxygen mixtures (AD-723171)

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Spacecraft STERILIZATION

Mathematical models for microorganism exponential die-off rate and variance estimation from decontamination data (NASA-CR-111386)

Computerized modeling of ultraviolet and thermal radiation inactivation of spores (NASA-CR-121768)

Analysis of storage stability of intermediate moisture foods for space flight feeding with tables of foods and types of manufacture (NASA-CR-115194)

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DEHYDRATION

FEASIBLE DEHYDRATION FOODS

Feasibility of storing and dispensing dehydrable foods aboard space vehicle (AD-715036)

Human immunology on prolonged diet of dehydrated foods (AD-723172)

Fabrication and evaluation of dehydrated food bars produced by compression and molding processes (AD-717289)

Compressed, coated, freeze dried, nonsubstantive and salt flavored snack cubes for Apollo food systems project (NASA-CR-114996)

DEHYDRATION

Prolonged water deprivation effects on hypothalamic self-stimulation of rats with electrodes chronically implanted in posterior lateral hypothalami (NASA-CR-114808)

Insatnuology reactivity of human body during 120 day feeding on dehydrated diet (AD-718907)

Human body temperature regulation, investigating mild exercise dehydration effects (AD-712288)

Dehydration effects on blood parameters in Somali donkeys and zebra steers, observing increases in plasma osmolality, sodium chloride, hemoglobin, packed cell volume, etc (NASA-CR-114809)

Manned spacecraft life support system dehydrated food ration effects on human organism health, metabolism and insuromoreactivity during long space flight (AD-718908)

Functional synchronization of neurosecretory cells of super-pulmonary nucleus of dehydrated and rehydrated rats (NASA-TP-13449)

Extravascular dehydration effects in production of cardiovascular deconditioning by bed rest simulating weightlessness (NASA-CR-111008)

Extravascular dehydration produced by bed rest simulating weightlessness - data tables (NASA-CR-111009)

Metabolic imbalances and body hypohydration during food deprivation for 10 days (NASA-CR-111010)

DELIVERY

Aerial delivery system for dropping emergency pumping equipment to distressed boats - Phase 1 (AD-712288)

Aerial delivery system for dropping emergency pumping equipment to distressed boats - Phase 2 (AD-712289)

DEHYDRATION

Effects of prolonged bed rest on bone and calcium metabolism and mineral content loss of os calcis (AD-712290)

DEHYDROGENATION

Body fat influence with and without desitrogenation on decomposition sickness in men exercising after abrupt exposure to altitude (AD-712291)

DENITROGENATION

Acacia nemesistrix monkey bone density change during Biosatellite 3 mission
Measurement of bone density loss during manned space flight
Long term bed rest effects on mineral balance and bone density in normal individuals

Density (Number/Volume)

Density Measurement

Pigeon vestibular apparatus fluids and structures physical properties, detailing specific gravity and viscosity of endolymph, perilymph and cupula
Hamster body fat, water and density measurements by dilution method and air displacement technique, comparing to determination by direct chemical analysis upon sacrificing

Nondestructive measurement of density, breaking strength, and modulus of elasticity of bones

DOXYRIBONUCLEIC ACID

Molecular preparation effect on DNA and RNA contents in homopoietic organs during acute radiation sickness due to low power radiation
In vitro lymphocyte antigen response measurements in cellular immunity evaluation under adverse logistical conditions, emphasizing RNA and DNA synthesis rates
Radiosensitizer and radioprotector action mode in altering x-ray effects on DNA in biological systems of different complexity
DNA modification in Escherichia coli exposed to x-rays and sensitized by triacetazolamine (N-oxyl and oxygen
Lethal radiation in Escherichia coli B/r, investigating post irradiation DNA breakdown inhibitions
Polyectomy effect on tumor cells, describing growth rate inhibitions, x-ray sensitivity and DNA interference
SH containing radioprotectors action on nucleic acid metabolism, discussing DNA synthesis inhibitory effects
Tumor DNA increase of halogenated pyrimidines incorporation compared to normal tissue DNA, discussing intracellular induction of radiosensitizing agents
Dinitrophenol inhibition of rejoining of x-ray induced DNA breaks by L cells
Cytophotometric study of DNA content in fibroblasts from human blood vessel walls, discussing cell proliferation and ploidy
Trinitrotoluidine effects on splenic lymphocytes regeneration, discussing DNA synthesis, cycle completion and resident populations
Acidic and alkaline deoxyribonucleases activity by spectrophotometer and horizontal viscometer in normal states in dogs
DNA synthesis rhythm in aorta endothelial cells nuclei during direct division, noting effects of anisotopy by autoradiography
Deleterious mutations and neutral substitutions, discussing molecular evolution model for DNA and proteins
Ultrasonic vibration effects on DNA and RNA content in skin and kidneys of albino rats

DNA replication in intercostal artery muscle cells during vascular wall physiological regeneration, noting cytophotometric study of polyploidization
DNA synthesis in human aorta endothelium reproduction, reporting intact nuclei and aged

Cell membrane samples cytophotometric studies results
Characteristics of X irradiated lambda phages
[NTI-3797-10]
Dependence

Spatial Dependences

Time Dependence

Depolarization

Stresses and adaptation problems associated with large scale, long range, rapid reaction time, aerial troop deployments

Depolarizers

Hydrogen depolarized fuel cell for space station prototype carbon dioxide concentrator, describing regular design and operation

Depressants

Cardiac impulse conduction measurements noting delay, block and one way block in excited canine Parkin's fibers with depressed responsiveness
Cardiac impulse conduction in depressed canine Parkin's fibers, discussing experimental results in connection with reentrant arrhythmias
Myocardial depressant factor purified preparation effect on isolated perfused cat heart, studying coronary vascular, dromotropic and inotropic actions

Depressurization

U Pressure Reduction

Deprivation

N Sensory Deprivation

N Sleep Deprivation

N Water Deprivation

Depth Perception

U Space Perception

Dermatitis

Histopathology and clinical study of chronic x ray dermatitis and cancer of fingers

Descent

U Parachute Descent

Deserts

Survival of Antartic desert soil bacteria exposed to various temperatures and to three years of continuous medium-high vacuum

Design of Experiments

U Experimental Design

Description

Sealed desorption technology for carbon dioxide control in manned spacecraft

Deuterated Hydrocarbons

U RAPID EYE MOVEMENT STATE

Detection

U Signal Detection

U Target Recognition

Detergents

Antiarrhythmic effects of detergents on digitalis induced arrhythmia in dogs

Deuterium

Deuterization in slow neutron radiography of biological media

Deuterium Compounds

U Heavy Water

Deutefication

U Heavy Water

Deuterated Systems

U CHEMICAL EQUIPMENT

Deuterium Oxides

U Heavy Water
DIABETIC PROCESSES

U HEAT TRANSFER

DIABETES MELLITUS

Photoplethysmographic analysis of pulse wave velocity in healthy subjects and in patients with hypertension, heart disease, diabetes and anemia

DIABETES MELLITUS

Ultrasound applications in surgery, therapy and diagnosis, discussing physical principles, piezoelectric transducers, tissue acoustic properties and measurement methods

DIABETIC PROCESSES

Autopsies compared to ECG for diagnosis accuracy for acute recurrent myocardial infarction and ECG after exercise. Aircrews coronary insufficiency diagnosis via electrocardiographic modifications after exertion, observing ischemia

Stochastic identification method for transforming ECG and VCG data to approximate diagnosis, using computerized dipole models

Polygraphic sleep recordings automatic analysis, presenting numerical results for rapid and slow eye movements, muscle tone, heart and respiratory rates

Medical screening techniques, discussing sensitive, specific, reliable, fail-safe and self-calibrating instrumentation systems

Radiation damage diagnosis in humans, investigating free amino acid excretion with urine by paper chromatography method

Anatomic examinations and diagnostic techniques in ophthalmologic aviation medicine, discussing electronic time interval and storage measurements, cortical response, etc

Electronic device for monitoring electrocardiogram and diagnosing high or low heart rate

Diagnostic and functional measurements of human physical fitness

Diagnostic chronological and physiological criteria in geriatrics

Computer animated display device for diagnosis of heart disease

Computer technology for medical information systems, in patient care, and for diagnostic purposes

DIABETES MELLITUS

Respiratory diaphragmatic center, investigating motor-neuron system integral activity by recording and analyzing phrenic-nerve signals in rabbits

Reduced diaphragmatic muscle tissue resistance in rats during prolonged hypokinesia, showing sorption of basic vital neutral-red stains

Diaphragm mechanics, discussing thoracic pressure-lung volume and air flow relationships of respiratory system during electrophysiological stimulation in men and cats

DIABETIC PROCESSES

Left ventricular function analysis by arterial pacing in subjects with normal and elevated left ventricular filling pressure, relating stroke volume to end diastolic pressure

Heart rate and diastolic inflow coronary resistance extracellular component, discussing heart artificial stimulation and pharmacological maximal dilation effects

Diastolic and mean blood pressure responses to exercise after beta-adrenergic blockade in normal and labile hypertensive subjects, using Transcor

Left ventricular power as product of pressure and volume change rate, relating peak values to end diastolic mass

Diabetic heart sounds and filling waves in coronary artery disease, relating graphic abnormalities and clinical, arteriographic and hemodynamic findings

Pulmonary diastolic pressure relation to left ventricle and atrium of patient with diabetic heart catheterization at rest

Cardiac automatic rhythms, discussing diastolic depolarization in Purkline fibers and factor controlling automaticity

DIABETIC MELLITUS

Model case studies of effects of DDT on human environment

Visual perceptual masking under binocular and dichoptic conditions separating peripheral and central interference effects

Color vision of dichromats in humans

Surface systems containing words and phrases which reflect concepts to be indexed in human factors engineering information retrieval system

Dielectric constant

Dielectric properties of electric field effects on dielectric properties and molecular arrangements of cholesteric liquid crystalline materials

Computer technology for medical information systems, in patient care, and for diagnostic purposes

Dipole relaxation and molecular arrangements in liquid crystals

Diatomic and ionic rearrangements of compensated cholesteric liquid crystals

Dioctyl ether

Dog cardiac output measurement by using ethyl ether dissolved in saline solution as indicator, comparing to Fick method results

Nanostructural apparatus determining solubility of inert gases in water, blood and other liquids, establishing partition coefficients of ethyl ether

Dietary effects on hepatic fatty acid synthesis in rats and mice, noting linoleate content role

Mortality of myocardial infarction patients on diet low in saturated fats and cholesterol

Immunological reactivity of human body during day feeding on dehydrated diet

Soyus 9 spacecraft crew food diet description including products and packaging

Solid and liquid diets during thiamine deficiency, noting hanger dependence on novelty

Soviet book on aviation medicine covering human anatomy and physiology, atmospheric physics, flight effects, respiratory systems, crew diets, etc

Mitotic response to various diets in normal and regenerating rat liver
Modification of Berkman-Slyvenskaya method for neutrophil digestive capability determination

DIGESTIVE SYSTEM
NT ESOPHAGUS
NT GASTROINTESTINAL SYSTEM
NT INTESTINES
NT MOUTH
NT PANCREAS
NT RECTUM
NT STOMACH
NT TONGUE

Soyuz 9 spacecraft astronauts space flight effect on digestive system enzyme secretion function based on pre- and post-flight examinations

DIGITAL COMPUTERS
NT DOD 8 COMPUTER
ECG beat-to-beat variation reduction using digital computer wave recognition

Bionostellite 3 neurophysiological data analysis by digital computer presenting maps of parietal cortex spectra, responsive states transient changes, circadian rhythm and EEG variability

EEG phase relations measurement technique, using small digital computer for frequency components separation and EEG activity phases comparison between electrodes

Small scale solid state digital computer for experimental medical data statistical processing

Muscular bioelectric potential input processing into digital computer, describing amplitude, frequency and time domain analysis of electromyographic signals

Digital logic design for spirometer

Research activities in recognition, computational principles, and artificial intelligence

Use of general purpose digital computer for analysis of biological structures and chromosomes

DIGITAL DATA
TV monitoring and digital data recording of human corneal reflection during voluntary eye movements, considering visual perception studies application

DIGITAL FILTERS
Digital delta filter for quantifying sleep EEG slow wave activity

Digital filtration and processing of electrocardiograms on computers using linear difference equations

Arterial circulatory system parameter identification from diastolic blood pressure curves by digital filter techniques

Respiratory sinus arrhythmia by spectral analysis and digital filtering, using linear model's approximate lung volume relationship to heart rate during normal breathing

DIGITAL SIMULATION
Human body temperature regulation feedback control system model by electric circuit analog, discussing digital simulation for static and dynamic responses

Digital simulation mathematical model describing simultaneous energy and mass transfer process in clothing-airspace-skin system
DIGITAL SYSTEMS

Prototype space station environmental thermal control and life support system digital simulation for transient design and performance prediction. (See paper: A71-11806)

DIGITAL SYSTEMS

Digital tachystoscope functions, operating principles and designs, discussing tests of visual perception related functions. (p0136 A71-16924)

Respiration parameters digital recording system, describing analog signal recording and processing, analog to digital conversion and digital readout equipment and techniques. (p0308 A71-25595)

DIGITAL TECHNIQUES

EEG analyzer voltage peaks recording on computer, using digital readout for simultaneous initial and terminal stage markings. (p0210 A71-21446)

Digital cardiograph incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute. (p0338 A71-22896)

DIGITAL TO ANALOG CONVERTERS

Dyadic reconstruction errors in digital to analog systems with biomedical applications. (p0343 A71-23160)

DIGITALIS

Antiarrhythmic effects of digitalis on digitalis induced arrhythmia in dogs. (p0005 A71-10392)

Digitalis-induced bundle branch ventricular tachycardia from electrode catheter recordings of dogs specialized conducting tissues. (p0145 A71-17873)

DIGITIZERS

U ANALOG TO DIGITAL CONVERTERS

DISPERAL EFFECT

U LATERAL STABILITY

DILGENTS

Biomechanical protocol for evaluating effects of environment on biological systems, including metabolic effects of diluent gases and oxygen toxicity. (p0436 A71-28183)

DIURETIC

Human renal diluting capacity, examining prolonged absolute bed rest effects. (p0254 A71-23365)

Thermodilution and indocyanine green dye technique comparison for cardiac output measurement in man. (p0308 A71-25435)

DIMENSIONAL ANALYSIS

Artificial and ventricular dimensional analysis in animals and man, discussing angiographic, biplane, X-ray, photometric dilution, radioisotopic and noninvasive methods. (p0136 A71-16925)

DIMENSIONLESS NUMBERS

Dimensionless parameters effect on divided blood flow characteristics in large arterial bifurcation. (p0638 A71-48622)

DIMENSIONS

U FILL THICKNESS

DIETHYLHYDRINAS

Usymmetrical dimethylhydrine /ODME/ effect on canine blood coagulation, blood-aqueous barrier, and conus. (p0033 A71-12383)

Vitamin B6 protection against asymmetrical dimethylhydrine poisoning, administering B6 alone and with cortical phospholipids in mice. (p0272 A71-24979)

DIODES

U AVALANCHE DIODES

U GERMANIUM DIODES

DOXIDES

U CARBON DIODES

U HYDROGEN PEROXIDE

U SILICON DIODES

DIPHYDRINAS

Oxygen dissociation curve shift, hemoglobin affinity and diphosphoglycerate concentration in blood of acidic and normal subjects at altitude. (p0375 A71-29949)

Erythrocytes diphosphoglycerate increase mechanisms during hypoxia and anemia, studying hemoglobin oxygenation state effects. (p0464 A71-35368)

DIPOLAR ROBOTS

Heart electric generator system simulation by dipolar or multidipolar generators. (p0266 A71-24238)

DIPOLAR

Dipole, quadrupole and octopole measurements in isolated beating hearts. (p0354 A71-28150)

DIRECT CURRENT

Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds. (NASA-CASE-TR-06081)

DIRECTIONAL BATTERIES

US BIOCHEMICAL FUEL CELLS

US FUEL CELLS

US RADIOISOTOPE BATTERIES

US THERMOELECTRIC GENERATORS

DIRECTION FINDERS (RADIO)

U SPACE DIRECTION FINDERS

DIRECTIONAL ANTENNAS

U BORN ANTENNAS

DIRECTIVITY

U DIRECTIONALITY

DISCHARGE TUBES

U GAS DISCHARGE TUBES

DISCRIMINATION

U BRIGHTNESS DISCRIMINATION

U CHEMICAL DISCRIMINATION

U TACTILE DISCRIMINATION

U VISUAL DISCRIMINATION

Directional error performance with discrimination reaction timer, discussing commitment to wrong response, group observations and specific error repetition. (p0167 A71-19462)

DISCRIMINATORS

Space flight sleep pattern data with EEG, using three descriptors and regression and linear discriminant analysis. (p0417 A71-33108)

DISEASES

U ABDOMINAL INFECTION

U HADIAS

U ARTERIOSCLEROSIS

U ASPIRINA

U CANTER

U CARBON MONOXIDE POISONING

U CYANOSIS

U DEMENTIA

U DIABETES MELLITIS

U DENERA

U EPILEPSY

U HEART DISEASES

U IAPANCTION

U INFECTIOUS DISEASES

U INFLUENZA

U KERATITIS

U KIDNEY DISEASES

U LEBER

U LITHIASIS

U MANOLOGY

U NEPHRITIS

U PARALYSIS

U PARKINSON DISEASE

U PNEUMONIA

U PULMONARY LESIONS

U RADIATION SICKNESS

U RESPIRATORY DISEASES

U SCHIZOPHRENIA

U TACHTYCARDIA

U THROMBOSIS

U TOOTH DISEASES

U TOXIC DISEASES

U TUBERCLOSIS

U TUMORS
Developing spectral signature indicators of human diseases in large forest areas.

Aerial and ground surveillance of southern corn leaf blight in Corn Belt States during [NASA-NEWS-RELEASE-71-129]

DYSKES (SHAPES)

MT ROTATING DISKS

DISORDERS

Human ocular control system supranuclear disorders and signs in terms of physiological concepts.

Aspects of motion disorders in space: flight and space flight training.

DISORGANIZATION

Disorientation response of survived chicks hatched from eggs injected with radioprotective 2-beta-aminoethylisothiouronium-BBr after incubation.

Labyrinths and proprioceptors from aerospace medicine viewpoint, discussing motion sickness, spatial disorientation, manned space flight and rotation in space.

Modeling human disorientation and motion sickness in rotating spacecraft, stressing sensors dynamic response.

Epidemiology statistics of USAF spatial disorientation aircraft accidents, noting pilot training, flight environment and indoctrination remedy programs.

Incidence and costs of pilot disorientation Army aircraft accidents during fiscal year 1967.

Techniques for familiarizing flying personnel with disorientation effects.

Human performance under low frequency vibration and effects on whole body orientation.

Studying oculogravic illusion and Coriolis effect as causes of disorientation in aerospace flight.

Effect of alcohol and disorientation responses on nystagmus and vertigo during angular acceleration with and without visual fixation.

DISPERSING

Investigating water transport scheme for dispersal of thermophilic microorganisms to Surry from mainland areas.

DISPERSIONS

MT AEROSOLS

MT COLLOIDS

MT LIQUID-GAS MIXTURES

MT NUCLEAR EMULSIONS

MT SMOKE

DISPLACEMENT

Information capacity of discrete motor responses compared for different directions and amplitudes of motion.

Inner ear basilar membrane motions estimation for linear hearing threshold, using nonlinear model.

Autoequilibrium motion of luminous target, relating apparent visual movement to experienced displacement.

DISPLAY DEVICES

MT APPROACH INDICATORS

MT HEAD-UP DISPLAYS

MT HOT-FILM ANEMOMETERS

MT RADARSCOPES

MT RADIO Direction FINDERS

MT TACHOMETERS

Manual tracking systems identification and real time display, developing software system.

Real time contourgrams for monitoring ECG waveform data, describing cardiac measurement and data display.

Aircraft cockpit instrumentation display media research, discussing brightness and contrast ratio requirements for gray scale displays.

TV display eye movement monitor with automatic coordinate digital printout for permanent record.

Aircraft display designs, emphasizing man machine problems.

HMD human engineering research program concerning information input, display and processing concepts, decision making and motor output and control.

Aircraft instrumentation deficiencies from pilot viewpoint, proposing pilot designed display.

Cockpit display, discussing aircraft operators delay in some of head-up displays, area map navigation, CRT and electroluminescent readouts.

Eye-point-of-view system including eye and head movements devices and analog computer for pilot scanning and display research.

Human performance in optical high inertia tracking system interface, considering proprioceptive feedback, display magnification, control dynamics, view field and anticipatory processes effects.

Computer generated buffered displays for psychological experiments involving interception, tracking, steering, memory and calculation tasks.

Canadian Forces experiments on aircraft flashing lights covering warning signals, navigation and anti-collision displays and automatic phenomenon.

Strobe lighting for aircraft midair collision hazard reduction, comparing Collision Avoidance System and Pilot Warning Indicator effectiveness.

Operator performance improvement in monitoring automated processes by alternating displays, discussing simulated radar and somar CRT display laboratory tests.

Character size, case and symbol generation effects on CRT display search time.

Central panel luminance effect on peripheral visual detection time in search tasks.

Observer psychological response to air defense oriented visual information displays.

Human factors in use of terminal radar /analog/ display systems.

District of Columbia air quality display model for computing seasonal concentration estimates.

Display relationship problems applied to presentation of aircraft attitude and guidance information.

Reaction times of subjects in tests with display control configurations typical of those used in continuous tracking tasks.

Effect of cockpit lighting systems on multi-colored instrument displays.

Universal aircraft flight simulator/trainer system definition.

Effect of several variations of two types of TV display visual simulation systems on subjective pilot evaluations and objective measures of performance in landing approach.

Two and three dimensional simulated target detection and recognition by pilots and TV gamma and gray
scale transmission effects on target acquisition in flight simulators
[AD-718382] p0348 N71-23750
Computer animated display device for diagnosis of heart disease
[NASM-RM-CB-REL-71-58] p0348 N71-23751
Display system information content characteristics and relationships with operator performance and psychophysiological factors in data processing
[JPBS-53264] p0345 N71-20093
Television display and artificial background for showing effects of contrast and motion on target detection
[AD-722407] p0496 N71-29665
Design and evaluation of information display systems and development of operator work station displays
p0502 N71-30860
Analog computer program and display device for detecting arrhythmias signals during electrocardiography
[AD-713093] p0535 N71-31612
Mathematical model and information display system for flight control and monitoring aircraft and pilot performance
[AD-723058] p0541 N71-32566
Human factors engineering in optimizing visual perception of sonar and radar displays
[AD-723992] p0546 N71-33187
Application of linear gas discharge displays on control panels to data representation systems
p0655 N71-37670
Television display systems for slant range target detection and recognition
[AD-727772] p0656 N71-37676
Man machine techniques for processing data from sonar display systems
[AD-727409] p0656 N71-37677
Pilot transition from conventional visual cross pointer display to aerial glide slope cues
[FAA-AN-71-24] p0657 N71-37682

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U DISPLAY DEVICES
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VT waste disposal
DSDISTRATION
VT energy dissipation
DISASSOCIATION
VT gas dissociation
Chronic hypercapnia oxygen dissociation curves and red cell carbon exchange in rats, considering compensated/uncompensated phases of respiratory acidosis
p0883 N71-13181

DISTANCE PERCEPTION
U SPACE PERCEPTION
DISTILLATION
Radioisotope fueled distillation system for reclaiming potable water from urine on prolonged space flight
[AD-718965] p0387 N71-24412
DISTILLATION EQUIPMENT
Space station life support prototype vapor diffusion water reclamation system for pure and sterile water distillation from urine process stream
[ASTM PAPER 71-AP-31] p0874 A71-36398
Design of isotopic fueled distillation and filtering system for potable water recovery from human waste during space simulation tests
p0292 N71-20957

DISTORTION
BT SIGNAL DISTORTION
DISTRIBUTION (PROPERTY)
VT antenna radiation patterns
VT charge distribution
VT electron density profiles
VT flow distribution
VT frequency distribution
VT load distribution (forces)
VT pressure distribution
VT radiation distribution
VT spatial distribution
VT stress concentration
VT temperature distribution
VT velocity distribution
VT vertical distribution
DISTRIBUTION FUNCTIONS
Multicomponent exponential curves analysis by post-Volder equation, providing continuous distribution function of time constants in
inhomogeneous systems
p0319 N71-27129
Weibull distribution analysis of saccadic eye movements interval during visual task
p0452 N71-34666

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NT variance (statistics)
DISTRIBUTION OF COLOMBIA
District of Columbia air quality display model for computing seasonal concentration estimates
[PB-189194] p0048 N71-11072
DISULFIDES
Chemical protection against ionizing radiation by thiolis and disulfides, discussing hydrogen transfer
p0176 A71-18930
Thiol and disulfide compounds radiation protection capacity at cellular level in tissue culture, using recomposing integrity an protection criteria
p0179 A71-18948

DIETIOLS
U THIOIS
DIARRHEA
Decreased diuresis in response to thiazide diuretic at simulated altitude
[AD-713069] p0162 N71-14702
Nonlinear relationships in lactic dehydrogenase and leucine aminopeptidase enzyme activities in urine related to increased and decreased diuresis
[NASA-NT-P-13557] p0346 N71-23388
DIURETICS
Decreased diuresis in response to thiazide diuretic at simulated altitude
[AD-713069] p0162 N71-14702

DIURNAL RHYTHMS
U CIRCADIAN RHYTHMS
DIURNAL VARIATIONS
Diurnal variations due to actual heat output, oxygen consumption and carbon dioxide production in rats undergoing eating habitat changes
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Light and drugs effect on diurnal body temperature from radio telemetry of adult male rats
p0139 A71-17111
Seasonal effect on daily periodicity of mice radiosensitivity related to changes in bright/dark daytime proportion and feeding
p0270 A71-24654
Diurnal variations in catecholamine excretion, alertness and performance of subjects with different working habits
p0314 A71-26356
Factor analysis of phase discrimination in mental fatigue during diurnal variation of cortical functions in railroad traffic control center operators
p0451 A71-34362
Composition and daily fluctuations of trace contaminants during 90-day space station simulator test
[ASTM PAPER 71-AP-17] p0476 A71-36384
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ELECTROSEISMIC EFFECT

U ELECTRIC CURRENT

ELECTROSTATIC CHARGE

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U ELECTRIC FIELD

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NT ALPHA PARTICLES

NT BETA PARTICLES

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Hematological characteristics of emotional stressors during parachute jump, studying leucocyte, erythrocyte and eosinophil populations changes

Emotional stress of pilots in difficult flight conditions, noting pulse rate increase and biopotentials amplitude changes

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- Mars physical conditions compared to earth, simulating Martian conditions and low temperature and UV effects on proteins

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- Biomechanical measurements of human urine and blood changes during simulated oxygen-debiles dives to 1500 feet

- Bacterial spores survival under simulated lunar surface conditions, comparing results with vegetable cells experiments

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- Blue-green algae survival or growth ability tests under simulated Precambrian atmospheric conditions

- Infusoria adaptation ability to extreme environmental conditions with emphasis on Mars surface

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- Investigating effects of liquid diets on subjects in space environment simulators

- Effect of simulated space cabin atmosphere of 100 percent oxygen at 5 psia on immunological response in mice

- Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions

- Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity

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- Simulation chamber for experimental investigation of organisms reactions to Mars environment

- Human factors engineering mock-up facility value as management tool

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- Environmental thermal control/life support system for manned station, discussing maintenance, weight, power and volume

- Wide heat load range space radiator design for space mission environmental control/life support system, using stagnation control

- Solar-array space station environmental control and life support system design for 12-man 10-year mission capability with 180-day rotating station

- Environmental control and life support subsytem selection and definition for 12-man space station

Space Shuttle Orbiter Environmental Control and Life Support Systems, discussing maintenance

- Space shuttle environmental control and life support system design covering atmospheric pressure, composition, humidity, temperature, water and waste management

- Long mission duration manned spacecraft contaminant control system design, discussing catalytic, oxidation, chelomass and carbon dioxide absorption removal techniques and computerized performance prediction

- Space station prototype environmental thermal control and life support systems, considering maintainability, reliability, weight penalties and fault detection and isolation

- Water vapor electrolysis for oxygen generation and humidity control in long term manned space flight

- Three day mission biosatellite environmental thermal control system design and flight performance

- Prototype space station environmental thermal control and life support system digital simulation for transit design and performance prediction

- Space station thermal control system design, discussing pumped loop, air cooled semiactive and heat pipe systems

- Architectural and environmental design tools for space system habitability, discussing work and living areas, hygiene facilities, etc

- Earth-like ecology for habitation in space, considering hollow rotating space chamber for life cycles in controlled weather environment

- Aircraft pilots and astronauts relationships with space environment, considering weightlessness, emotional reactions, cabin pressure and temperature control and space survival and rescue

- Portable environmental control and life support system for astronauts in and out of space shuttle

- Annotated bibliography of technical literature covering thermal and humidity control, fault detection and isolation, maintainability, reliability, weight penalties and control system design and flight performance

- Development of environmental control and life support system for determining effects of relative humidity and dry heat on inactivation of microorganisms

- Zero-gravity absorption refrigeration system design and performance testing for space station environmental control application

- Bioengineering tradeoff study for cabin atmosphere selection in manned space flight

Microbiological life support requirements in long term manned space flights

- Systems integration for optimal regenerative environmental and life support processes in manned spacecraft

- Design, fabrication, and testing of circulating electrolysis type water electrolysis system for automatic control of spacecraft total pressure and oxygen partial pressure

- Modular space station study of environmental control and life support system for long term mission

- Conference on space shuttle environmental control and life support systems - Vol. 2

- Environmental control and life support system for space shuttle orbiter
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Status of LRC program on space shuttle environmental control and life support systems

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Proceedings from conference on role of national laboratories and universities in solving environmental problems

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Mathematical model for environmental transport of lead from several sources and subsequent intake by man

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Cold environment exposure effect on immune resistance to infection with Klebsiella pneumoniae

Life support systems test under weightlessness environment in Mike Tomshak sounding rockets launched from Wallops Island

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Ninety day manned test of regenerative life support system in space station simulator, presenting operational and maintenance data

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Chemistry and enzymology of photosynthesis, oxygen evolution, energy migration, and kinetics of reaction chain.

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Human eye optical performance, noting retina anatomy and physiology, visual acuity, resolving power and reflectometry

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Bionic oscillating propulsion system of fishes.

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Soviet book on space biology and medicine covering cosmonaut selection and training, flight safety, normal life support factors, interplanetary space sojourner, etc.

Psychosociological and medical evaluation of private pilots to promote flight safety.

Sleep related fatigue in pilot performance and flight safety, considering sleep lack and disruption and irregular duty patterns.

Retinal image stabilization during flight.

Physiological effects of alcohol and cockpit illumination levels on pilot performance and flying safety.

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Positive/latero-lateral accelerations and acute hypoxic hypoxia effects on central visual fields behavior in simulated flight.

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Human factors in use of terminal radar/analogue display systems.

Vestibulometric chairs and stands for objective study and training uses of vestibular analyzer.

Manned simulation of crew performance for assessing space mission reliability.

Aircraft recognition accuracy and decision speed comparing single observers and four-man crews.

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Regenerative space station simulator and test procedures for 4 man, 90 day testing of life support systems

FLIGHT STRESS

Soviet book on aviation medicine covering human anatomy and physiology, atmospheric physics, flight effects, respiratory systems, crew diets, etc

Transport aircrew sleep patterns effects on fatigue and sleep disturbances, discussing physiologic debt and stresses

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Flight stress effects on blood pressure and eye accommodation from frequent takeoffs and landing of AN-24 aircraft

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WT CROSS FLOW

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WT INCOMPRESSIBLE FLOW

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WT LIQUID FLOW

WT ORIFICE FLOW

WT OSCILLATING FLOW

WT PIPE FLOW

WT RECIRCULATING FLUID FLOW

WT SEPARATED FLOW

WT STEADY FLOW

WT TURBULENT FLOW

WT TWO DIMENSIONAL FLOW

WT UNSTEADY FLOW

WT VISCOUS FLOW

WT WATER FLOW

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U FLOW SCIENCE

FLOWMETERS

WT CHLOROFORM FLOWMETERS

WT LITHIUM FLOWMETERS

WT NITROGEN FLOWMETERS

FLOWMETERS

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- Moulting of Calpodes ethlius larvae head and thorax isolated with prothoracic glands dependent on melatonin hormone injection.
- Water cooled head cap for heat stress alleviation in subjects working in warm environments.
- Dogs intrapleural and intraoesophageal pressures dependence on head positions.
- Visual sensations produced by cosmic ray muons passing in different directions through human eyes and head.
- Physiological responses to head and neck vs trunk and leg cooling under hyperthermic stress.
- Affereent oculo-motor pathways to extraocular muscle nuclei, considering discrete unilateral lesions role in head posture disturbance production.
- Head and abdomen shielding effects on radiation sickness evolution in dogs under lethal gamma irradiation.
- Morphological investigation of neural structures of frontal cushion of dolphins.
- Mechanical responses of human head subjected to acceleration loads determined for use in construction of artificial head.

Head Motion
- Hind limb antagonistic muscles bioelectric activity dependence on animal rotation direction and head fixation.
- Guinea pigs head and eye movements produced by vestibular apparatus stimulation via static pressure changes.
- Head spatial position effects on vestibular compensation rates in rabbits.
- Heat rotation induced eye movements in cats by neuronal level determination, considering vestibular apparatus of signal transmission loop for mathematical model.
- Coriolis effects on endolymph shift direction in semicircular canals of man under rotation with head movements in sagittal plane, involving nystagmus and illusory sensations.
- Coronary hemodynamic responses to postural changes in hemorrhaged dogs involving head-up and head-down tilts.
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- Mathematical model for short term adaptation to vestibular stimuli, deriving transfer function relating angular velocities of nystagmus and head rotation.
- Rotational oculomotor nystagmus phases induced by head rotation, developing vestibulo-ocular system mathematical model.
- Eye-point-of-regard system including eye and head movements devices and analog computer for pilot scanning and display research.
- Eye-head coordination in monkeys by recordings from neck and eye muscles, noting central neural command role.

Vestibulo-collic reflex control of head movement in seated man under sinusoidal and stepwise rotational velocity stimulation, comparing with ocular stabilization.

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Arachnophosphate formations in intracellular vascular channels of hearing organ

Cortical potentials evoked by weak acoustic signals below hearing threshold in man

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Quick-check audiometry reliability for testing hearing ability according to fitness regulations, comparing to complete and tone speech audiometry

Spatial and temporal discrimination functions in vision, audition and touch, establishing and controlling stimuli by vibrators

Community aircraft noise intensity indexes from annoyance and physiological reaction standpoint, discussing sleep interruption, hearing loss, communication interference, etc

Book on noise effects on man covering audiometry, spatial and temporal discrimination functions in aircraft noise effects on hearing acuity and electro-optic monitoring method for single isolated computerized simulation of electrical generator

Cardiac cells electrical interaction mathematical simulation, calculating gap region resistance and current

Electro-optic monitoring method for single isolated heart cell activity

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Primary cardiomyopathy, discussing obstructive and nonobstructive cases, myocardial infarction, chronic alcoholism and age relationships

Myocardial isoptropin index, using left ventricle time varying pressure-volume ratio in cytole

Electrocardiographic evidence of false complete atrioventricular conduction in patient with hypertensive heart disease

Correlative ECG survey of surgically proven constrictive pericarditis involving left ventricle with T wave inversion

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Acute fatal nontraumatic collapse during physical exertion due to circulatory diseases

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Frequency phonocardiography technique for heart sounds and murmurs registration, producing analog voltage proportional to frequency by zero crossing detector

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Myocardial blood flow and oxidative metabolism in cyanotic congenital heart disease patients, using lactate/pyruvate ratios and coronary slans catheterization

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Cardiac rhythm disruptions in athletes and their correlation with exercise performance

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High environmental carbon dioxide effects on cardiac depression and respiratory rate in sheep and swine

Oxygen transport and consumption, ventilation and cardiac index in natives and sojourners at high altitudes

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Myocardial ventricular contraction in high altitude hypoxia adaptation, using barochamber trained rats

Human mitral valve fluid mechanics, examining existence of vortex forms during diastasis by vitro flow patterns

Cardiac impulse conduction measurements noting delay, block and one way block in excised canine Purkinje fibers with depressed responsiveness

Left ventricular function analysis by atrial pacing in subjects with normal and elevated left ventricular filling pressure, relating stroke volume to end diastolic pressure

Cardiac output variations in regulation of arterial oxygen transport during hypoxia

Heart, lungs and erythropoiesis optimum functional parameters mathematical model based on oxygen transport minimum losses

Book on clinical physiology techniques and anesthesiology measurements covering electronics, ECG analysis, blood pressure measurement, cardiac function, respiratory mechanics, etc

Cardiac output in relation to peripheral resistance in borderline hypertension

Excitation-contraction coupling of papillary muscles from hypertrophied right ventricles of cats with pulmonary artery artificial stenosis

Human steady and unsteady state treadmill exercise, comparing cardiac output, heart rate and oxygen uptake interrelationships

Aging effects on blood pressure-flow relations and cardiac output/ventricular and diastolic pressure, discussing pulmonary vascular bed capacity dependence on increasing flow during supine exercise

Age effect on pulmonary circulation in normal subjects, measuring oxygen consumption, cardiac output and pulmonary arterial pressure by floated catheter technique

Cardiac hyper trophy in animals, discussing increased cardiac work load compensation and muscle cell alterations

Thermodilution and indocyanine green dye technique comparison for cardiac output measurement in man

Rat heart muscle series elasticity compliance, showing hypoxia effects

Chemical release from traumatized tissue in dogs during cross circulation with lethal cardiac depression response

Cardiovascular system response to swimming exercise by dogs, measuring left ventricular internal diameter and pressure, cardiac output and heart rate

Cardiac output and arterial pressure control in presence or absence of functional nervous system, discussing dog experiments

Normal myocardium structure and function, discussing cardiac performance and output control

Cardiac hyperfication, hypertrophy and insufficiency, discussing physiological mechanism and cause and effect relationships

Trained college and recreational swimmers cardiac output and maximum oxygen consumption during tethered swimming and treadmill running

Hypoxia, high altitude and heart - Conference, Aspen, Colorado, January 1970
Cardiac activity changes during prolonged hypodynamia, discussing clinical and experimental investigations results with human and animal models.

Energy output of left ventricle and congestive heart failure mechanisms, approximating blood velocity in aortic systole by mathematical models.

Upright tilt stress effects on cardiac cycle phases in healthy subjects, using noninvasive techniques.

Lowered cardiac output and arterial pressure response to exercise after autonomic heart blockade in man, noting retained work capability.

Vagus nerve effects on cardiac output adaptation to exercise in sympathectomized dogs.

Left ventricular posterior wall motion measurements in myocardial infarction, using ultrasonic echocardiogram time-motion data.

Maximal treadmill stress test correlation with postexercise phonocardiogram, ECG and double mariner test results, discussing third and fourth heart sound incidence.

Concealed and supernormal atrioventricular conduction data, using His bundle electrogram recordings.

Atrioventricular and intraventricular conduction disturbances in acute myocardial infarction, discussing heart block.

LVET/EICT ratio usefulness compared to EICT for left ventricular contractile measurements in patients with mitral valve disease.

Lower cardiac nerve unmyelinated afferent fibers detection and functional property characteristics.

Cardiac output and regional blood flow in hypoxic woodchucks, noting no change in heart rate, diaphragm, kidney, liver, stomach and intestines.

Myocardium ultrastructural and metabolic alterations in altitude acclimated rats, considering heart muscle mitochondria.

Validity and reproducibility of cardiac output determination by thermodilution, using dual thermodilutor catheter introduced in pulmonary artery.

Heart myocardium contractility assessment based on pressure rise rate relation to intraventricular pressure during isovolumic systole.

Functioning aortic valve orifice size relation to configuration and flow.

Electrical medical apparatus with electrodes and intracatheter catheters, considering electric current danger threshold, electrocution hazards and safety precautions.

Monophasic action potential recording of intact human heart, using bipolar electrode catheter for explanation of ECG abnormalities.

Sagittal path of moving electrical center of human heart from measurements of surface ECG potentials.

First heart sound changes, discussing sound vibration and transmission and cardiac function.

Second heart sound changes due to position and magnitude variations of aortic or pulmonary component.

Frequency phonocardiography technique for heart sounds and murmurs registration, producing analog voltage proportional to frequency by zero crossing detector.

Noradrenaline concentration in myocardium of rats subjected to high altitude hypoxia, considering heart regulation in presence of hyperfunction and hypotrophy.

Analog computer analysis of radionuclides, determining cardiac function and pulmonary blood volume.

Frequency distribution of heart sounds and murmurs, studying slope of attenuation and relative peaking.

Heart maximal aerobic and anaerobic power and stroke volume, discussing cardiac output and blood oxygen capacity measurements in subpulmonary population subjects.

Isoproterenol, atrial pacing, osinein and methylnitrazene effects on dogs during experimental cardiac tamponade, observing arterial pressure, cardiac output and heart rate changes.

Polycythemia and altitude hypoxia effects on rats heart and sea level exercise tolerance.

Bed rest effects on human hemodynamic and gaseous metabolism, observing increased cardiac output and decreased oxygen consumption and carbon dioxide production.

Jet and turbulence mechanisms of vascular murmur associated with stenosis for minimum flow Reynolds numbers, using aorta orifice plates in dogs.

Heart excitation and membrane permeability effects on two component action potentials in human atrial muscle strips, using microelectrodes.

Anoxia effect on laboratory animal cardiac action, discussing ECG injury current relation to myocardium phosphocreatine content.

Magnetic recording of heart electrical activity by cryogenic magnetometer with two Josephson junction quantum interference detection device.

Vectorcardiographic analysis of patients with ECG diagnosed inferior atrial rhythm.

Aminothiol group radioprotective drugs effect on guinea pig cardiac function during lateral acceleration.

Long term effects of hypoxic stimulus suppression upon heart rate, cardiac output and pulmonary artery pressure of highlanders, observing bradycardia.

Ejection fraction relation to left ventricular dimensional changes in patients with heart disease, using angiocardiogram.

Cholinesterase activity and acetylcholine level dependence on adrenaline dose injected in heart during experimental myocardialystrophy.

Procedures for determining functional state of human heart right side.

Design and characteristics of artificial heart control system.

Methods for measuring mechanical aspects of cardiac activity and vessel functional state.

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Development of system for identifying dynamic heart rate response to respiration.

Spontaneous cardiac arrhythmia induced by bromoethylurethane in monkeys.

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Oxygen partial pressure measurements in myocardium of beating heart by miniature glass needle and surface electrodes

Physical fitness in prolonged muscular work tolerance evaluation by oxygen consumption for 170 heat/min heart rate, considering age, sex and occupation

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Negative heart rate response during low level microwave irradiation of dorsal head in rabbits

Human heart beat frequency changes after acoustic stimulation during natural sleep from EEG, EKG, EEG of muscular hypoxia and eye movements

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Laser ocular effects, discussing corneal /retinal/ lens lesion production, damage thresholds and application to clinical ophthalmological problems.

Laser thermal/photochemical burns and electric shock prevention by preemployment/regular physical examinations and safety requirements education.

Industry safe laser laboratory operating environments with reflection free walls, restrictive admittance and periodic personnel examinations.

Exposure time and power effects of CW ar laser damage to rabbit iris, comparing with pulsed ruby laser effects.

Biological tests of laser protective filters for eye as function of optical density and wavelength by sensitivity of in vivo ocular tissue response.

Acoustical wave generation measurement during iris and retina photocoagulation and ruby laser burns, noting intraocular pressure surge simultaneous with ocular tissue explosion.

Histopathological and fluorescence angiographic studies of canine monkey choriotinal lesions produced at threshold and suprathermal power levels of Ar laser.

Annotated bibliography of regulations, standards, and guides for microwaves, and ultraviolet, laser, and television receiver radiation.

Subthreshold laser radiation damage to monkey retina [AD-715210].

Electrical responses of visual system in rabbits following irradiation of retina with high energy ruby laser [AD-717166].

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MT GAS LASERS

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MT RUBY LASERS

Laser applications in biology and medicine covering surgery, ophthalmology, microorganisms, viruses, tissue culture, tumor eradication, radiation hazards, etc.

Laser systems for biomedical applications, considering ophthalmology, dermatology, surgery, biological and cellular research, analytical and diagnostic medicine.

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Workload and performance limiting factors of air traffic control radar operators

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Unilocular oscilloscope with vertical retinal nystagmus and interocular ophthalmoplegia due to multiple sclerosis

Laser ocular effects, discussing corneal /retinal lens lesion production, damage thresholds and application to clinical ophthalmological problems

Aerospace ophthalmology, discussing flying personnel selection, eye anatomy, presbyopia, vascular degeneration, cataracts, corneal dystrophy and glaucosa

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Anatomic cataracts and diagnostic techniques in ophthalmologic aviation medicine, discussing electronic time interval and storage measurements, cortical response, etc.

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Eye accommodation range limiting for increased adjustment accuracy of optico-mechanical instruments, considering spectacle lens, telescope, magnifying glass and microscope

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Book on visual perception covering physics of light, rods and cones, color vision, brightness psychophysics, stimulus generalization, etc

Optical effects observation by air traveler during takeoff, including haze or cloud droplet scattering, halos, shock wave shadows, shallow watercolors and twilight wedge

OPTIMAL CONTROL

Respiratory air flow optimal regulation hypothesis, testing analytic prediction model results with experiment under stress and rest conditions

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Cardiovascular system blood flow mathematical model parameter optimization by simulation on hybrid computer, using ORTRAN program

Optimization of time intervals of conveyor harvestings and harvested age of oxygen producing plants for life support system

Two-region, continuous search, and n-region discrete models for allocating available effort to search for objects at sea

Life support system for Sea-Bed Observation Laboratory

Matching frequency of observer eye to frequency of visual pattern for optimum recognition

Human factors engineering in optimizing visual perception of sonar and radar displays

OPTIMUM CONTROL

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ORBITAL DEBRIS

Spacecraft navigation, guidance and control for annual rendezvous with orbiting target, examining error sources perturbing effects

ORBITAL SIMULATORS

U SPACE SIMULATORS

ORBITAL SPACE STATIONS

NY ORBITAL WORKSHOPS

Eight channel micropowered miniature biomedical

Environmental thermal control/life support system for manned space station, discussing maintenance, weight, power and volume

Weightlessness simulation for orbital rat machine experiment, discussing tetherboard and cargo transfer examples

Space station biological/medical laboratories, discussing physiology, pathology, histological, static and dynamic equilibrium, neurophysiologic, dietician, radiobiological, hygiene and prophylaxis departments

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Early solar system organic matter origins, discussing amino acid synthesis from CO2, H and ammonia reaction with H, aluminia or clay catalysts

Prebiotic organic matter in solar system, investigating contamination free amino acid catalytic synthesis from deuterated reactants

Automatic analysis system for separating and identifying amino acids to detect extraterrestrial

ORGANIC COMPOUNDS

NT ACETIC ACID

NT ADENOSINE TRIPHOSPHATE (ATP)

NT ADENOSINES

NT ALUMINO ACIDS

NT ASPARTATES

NT ASPARTIC ACID

NT CHOLINE

NT CYSTEINE

NT FATS

NT FATTY ACIDS

NT FLUORESCARBONS

NT FLUOROBUTYRCARBONS

NT GLUTAMIC ACID

NT GLUTAMINE

NT GLYCINE

NT HISTIDINES

NT IODOCOIC ACID

NT LECITINE

NT MEGABASE

NT OXIDASE

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NT PHENYLALANINE

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NT SEROTONINE

NT THYROXINE

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Stereoisomeric organic structures in animate nature and life origin on earth

Sulfur containing organic chelating compounds as radiation protective agents

Organic free radical radioprotective and radiosensitizing effect, reporting Chinese hamster cell line survival characteristics after treatment

Orgueil carbonaceous chondrite organic matter, detecting homologous compounds, optically active species, isotopes, bacteria and organized elements

Hydrocarbons, amino acids and large molecule organic compounds formation in chondrite meteorites by abiogenetic reactions

Urine preservatives for urine water recovery system, using ammonia and organic compound contents in condensate

Solar system organic compounds detection and evolution, considering element, isotope and pigment composition, optical activity and polymerization

Organic compounds, discussing photoenergetics of photosynthesis models, discussing photoenergetics of molecular systems

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Electrochemical aircrew oxygen breathing systems, considering water electrolysis and oxygen separation and concentration from air

Pick diffusion model for Baro-Blisko electrolytical determination of photosynthetic oxygen evolution

Chlorates use in breathable oxygen production for aircrews

Optimization of time intervals of conveyor harvestings and harvested age of oxygen producing plants for life support system

Oxygen generation system for 90-day space station simulator, considering carbon dioxide removal and reduction and water electrolysis

Electrochemical aircrew oxygen breathing system

Optical absorption and emission of oxygen in the visible spectrum, investigating use of oxygen as light source

Oxygen productivity of conveyor plantings in bioregenerative life support system

OXYGEN REGULATORS

Continuous flow oxygen regulators construction, performance and testing SAE standard, covering automatic, adjustable and preset types

OXYGEN SPECTRA

Ion beam-foil produced oxygen spectra in wavelength range between 450 and 2200 Å, determining mean radiative lives of 0 I - 0 II excitation levels

OXYGEN SUPPLY EQUIPMENT

Electrochemical aircrew oxygen breathing systems, considering water electrolysis and oxygen separation and concentration from air

Solid electrolyte oxygen generator electrolysis test module with improved ceramic to ceramic and metal seals, electrode and grid design, discussing performance tests

Zero-gravity circulating water electrolysis system prototype design for metabolic and leakage makeup

Oxygen supply in 12-man space station regenerative life support system

Water vapor electrolysis for oxygen generation and humidity control in long term manned space flight

Closed-loop solid electrolyte oxygen regeneration life support system, discussing 180-day life test

Oxygen supply to air transported patients by chemical compounds, suggesting use of permanganates and chlorates

Spacecraft closed loop oxygen recovery system using electrochemical carbon dioxide concentrator, Sabatier reactor and water electrolysis subsystem

High altitude decompression disorders prevention in humans by increasing pressure level in oxygen equipment assembly

Carbon dioxide concentrator subsystem for closed loop aircrew oxygen system

Physiological consideration in preventing instability in oxygen breathing systems

Degradation effects of corrosion on scuba cylinders (AD-712015)

Air revitalization unit for sealed survival shelters without external power supply

Onboard aircrew oxygen generating system for tactical aircraft

Design, fabrication, and testing of circulating electrolyte type water electrolysis system for automatic control of spacecraft total pressure and oxygen partial pressure

OXYGEN SYSTEMS U OXYGEN SUPPLY EQUIPMENT OXYGEN TENSION

WT HYPOXIA

Pt electrode oxygen diffusion and consumption systematic errors effect on oxygen partial pressure measurement in perfused tissues

Oxygen inhalation effects on intramyocardial oxygen tension in anesthetized dogs, investigating acute myocardial infarction therapy effectiveness

Mixed venous oxygen tension oxide determination by nitrogen-carbon rebreathing method, considering pulmonary blood flow and oxygen carrying capacity

Oxygen tension, blood flow, redox potential and temperature variations in cerebrum and muscle tissue in rabbits during high altitude adaptation

Microelectrodes measurement of oxygen tension on arterioles external surface in hamster cheek pouch and hamster/rat cremaster muscle for blood flow regulation mechanism

Human alveolar-arterial oxygen pressure differences, investigating inert gas effects

Oxygen partial pressure measurements in myocardium of beating heart by miniature glass needle and surface electrodes

Middle cerebral artery occlusion effect on cortical blood flow, tissue oxygen pressure and acid base equilibrium in animals under extended ligations

Training effect on oxygen tension dynamics in rat brain cortex under progressive high altitude hypoxia conditions, noting adaptation influence on motor activity and survival rate

Pt electrode response time during unsteady oxygen partial pressure measurements

Oxygen tension in skin and kidneys using chromameterometric measurements

A-301
HYPEROXIA pathological effects on albino rats
subjected to connective tissue, noting oxidizing enzyme activity depression and cellular metabolism suppression

Types of biological indicators used in monitoring sterilization processes

Legal, preventive, and clinical aspects of aerospace medicine

Histopathological and biochemical effects of decelerations on mice physiology

Difficulties of circumscribing danger zones for other aerial radar personnel

Pathological findings in sinus X rays and nasal exsatives on humans after low pressure chamber exposures

Pathology of human pathology

German book on clinical pathophysiology of respiration covering respiratory physiology, pulmonary gas exchange, respiratory control, hypoxia, hyperoxia, pressure breathing, etc.

Primary cardiomyopathy, discussing obstructive and nonobstructive cases, myocardial inflammation, chronic alcoholism and age relationships

Soviet book on experimental research on health and pathological states, cerebral cortex interaction with central nervous system

Pathological evaluation of respiratory system in subjects using autorespirator during underwater activity

Development of clinical pathology procedures for detection of diseases in germfree mice and detection of titanium in lymphoid structures of hamsters, mice, and rats

Histopathology and clinical study of chronic X ray dermatitis and cancer of fingers

Aerial transportation of patients, potential hazards due to motion sickness, decreased atmospheric pressure and oxygen tensions, fatigue, inactivity and dehydration

Oxygen supply to air transported patients by chemical compounds, suggesting use of permaanages and chlorates

Sick and injured transportation aboard regular airliners, considering pathological and psychological contraindications

Intensive care alarm indicator system with audible signal and visual warning by staff responsible for care

Monitor with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher

Patient monitoring system design and equipment specifications with physiological response display device and warning system

Long term effects on visual processes during submarine patrol

PASS THE THERMAL FILTERS

PARTICULATE FILTERS

FLOOD FILTERS

PASSBANDS

WX AIRMIDIZATION

PASSenger Aircraft

737 BOEING 747 Aircraft

PATCHING

MAINTENANCE

PATHOGENESIS

Flight concomitant pathogentic effects on urinary tract conditions, noting kidney decemen, inflammatory episodes and calculi of

Extrinsic factors in pathogenesis of congenital heart diseases, considering morphogenetic processes in heart and great vessels development

PATHOLOGICAL EFFECTS

Note and memory serve conduct impairment in upper extremities in vibration disease

Continuous and intermittent effect of carbon tetrachloride breathing on pathomorphological and histochenical structure of liver in test animals

Statistical analysis of airline flight crew psychological unfitness

Physiopathological and otolaryngological repercussions of supersonic flight on air passengers

Pancreas pathoassociation under acute hyperthermia in animals, showing hemodynamic changes of vessels dilatation and intravascular leukocytes

Soyuz 9 spacecraft astronauts ototrichological effects of re-80 day orbital flight, observing pathohological changes from clinical post flight examination

Pathological effects of pure oxygen on animal organisms at atmospheric pressure, noting perivascular edema, diapedesis hemorrhages, respiratory and metabolic disorders

Acute hydrazine hydrate poisoning morphological effects on internal organs and blood in guinea pigs, noting pronounced changes in liver and kidneys

Physical and physiopathological effects of high altitude supersonic flight in T-104G aircraft told by flight surgeons

Pathophysiological aspects of microwave irradiation, considering thermal response of human and animal organisms to electromagnetic radiation exposure

Steroanatomographical method and instrument for studying eye anatomical-optical apparatus and pathological changes

Myocardial ischemic lesions age, discussing validity of histopathological criteria and margin of error

Acute fatal sonotraumatic collapse during physical work and sports due to pathological processes

Stop test method to study acceleration in movement control processes in man, considering elbow joint movements in normal and pathological cases in Parkinson disease afflicted subjects

Flashing light stimulus application to clinical instrument design for detection and quantitative assessment of early pathological visual loss based on minimum discernible luminance difference

Pathomorphological and histochemical changes in rat lungs, liver, heart, Alphasis and adrenal glands from acceleration and cysteamine caused tissue oxygen deficiency

High energy proton irradiation of rats with partial shielding of abdominal region, observing pathomorphological changes in myocardium, nervous system and radiosensitive organs

High energy proton irradiation of rats with partial shielding of abdominal region, observing pathomorphological changes in myocardium, nervous system and radiosensitive organs

SUBJECT INDEX

A-306
PATTERNS OF BEHAVIOR

Neurophysiological aspects of human optical and acoustical perception, discussing pattern recognition and cognizance role in optical image evaluation

Visual pattern perception, learning, recognition upon subsequent encountering and unfavorable conditions

Saccadic eye movements, saccadograms during pattern perception under poor visibility

ECG heat-to-beat variation reduction using digital computer wave recognition

Theory of form based on geometric probabilities, leading to two-dimensional retinal type computer programmed to exhibit elementary form perception aspects

Pattern recognition systems, considering receptor, preprocessing and decision making stages

Mathematical neuronal model for functional learning system networks, representing brain pattern recognition, learning and size invariance mechanisms

Proximal changes and stimulus patterns associated with rotation direction evoking visually perceived oscillation

Book on color and pattern vision physiology covering retinal induction, electrical excitation of eye, optical illusion, figural aftereffect, movement sensation, etc

Spatio-temporal patterns in visual contrast sensitivity, noting exaggerated eye movements effects

Behavioral effects of electrically induced EOG abnormalities in intertemporal and occipital cortex in monkeys on visual pattern discrimination and successive spatial reversals

Visual evoked cortical response in man related to rate, spatial frequency and wavelength of alternating barred pattern with background illumination

Intracranial and crossmodal sensory transfer of visual and auditory temporal patterns in normal young adults

Two dimensional adaptive model of human operator control in visual-manual compensatory tracking task using pattern recognition

Recognition response time experiments for word number effects in target set, discussing familiarity judgment and response decision

Stimulus familiarization effects on visual selection patterns during exposure to baseline and incongruent paired stimuli

Human visual depth impression by gradient patterns, discussing experimental verification for hypothesis concerning perceptual economy principle

Psychological correlates of pattern identification tasks and invariance of pattern recognition under rotation, using Fabrinsky model of human visual system

Human visual recognition based on spatial filtering covering Fourier transform modification for application to discrete case

Versional eye movement control system models, considering dual mode control, intermittency, plant dynamics and pattern recognition

PATTERNS OF BEHAVIOR

Scannath in saccadic eye movements during pattern vision and recognition

Computer program for pattern recognition of precast solids

Computerized simulation of human visual perception based on spatial filtering and allowing for scale changes in input stimuli

Parameters of human pattern perception

Edges and curve detection in textured regions related to visual scene analysis

Computer synthesis for classifying natural shapes and patterns including leaves

Annotated bibliography of reports on parameters of human pattern perception for Sept. 1967 through Aug. 1970

Machine learning of structural descriptions from examples

Processing of visual imagery by model derived for recognition of visual patterns

Saccadic eye movements, saccadograms during pattern perception under poor visibility

Pattern recognition systems, considering receptor, preprocessing and decision making stages

Mathematical neuronal model for functional learning system networks, representing brain pattern recognition, learning and size invariance mechanisms

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Versional eye movement control system models, considering dual mode control, intermittency, plant dynamics and pattern recognition

A-305
PATTERN REGISTRATION

Computer modeling of hippocampus and studies involving pattern recognition and information compression
[AD-720816]
Achromatic pattern recognition model for processing chromatic objects
[AD-722853]
Computerized simulation of cerebral neuron pattern recognition model
[AD-722651]
Dynamic psychological and ergonomic aspects of mental imagery
[ISI-1970-21]
Parameters of human pattern perception effect of statistical properties of pattern components on feature selection
[AD-722754]
Problems of automatic auditory pattern recognition and solutions

PATTERNS REGISTRATION
Spatial and temporal patterned light flashes effects on dark adapted subjects, discussing cortical response changes in contrast depth

PCH (MODULATION)
U PULSE CODE MODULATION
PDP COMPUTERS
MT PDP 8 COMPUTER
PDP & COMPUTER
Computerized simulation of character recognition layer nets using PDP 8 computer

PEAS
Foot operation of pedals, investigating speed and accuracy of lower leg motion in different directions

PEDELS

PEDIATICS

PELVIC
Visual contrast sensitivity and fundus ocular pattern changes due to accelerations in pelvis- head axis

PENTICILLIN
Cysteamine and penicillamine effects on copper ion charge transfer, using electron spin resonance and optical absorption measurements

PERIBARBITAL SODIUM
MT RESERIFER
Succinic dehydrogenase activity inhibition and pentobarbital sodium protection of long tissue in mouse breathing oxygen at atmospheric pressure

PEPSIN
Pilot nervous-emotional state during flight conditions determined from uropepsin excreted in urine

PEPTIDES
Carbohydrate-peptide bond and residue chain structure of group blood substances, using alkali decomposition of monosaccharides

Despite the provided content, it is challenging to generate a meaningful summary or extract meaningful information. The text appears to be a collection of fragmented data without a clear structure or context. It might be a result of page segmentation or scanning issues, making it difficult to analyze coherently.
Manned simulation of crew performance for assessing space mission reliability

Pilot training performance data correlation in performance and reliability estimation of training completion for advanced personnel selection

Prediction of human reaction time to light flashes

Mathematical model representing human performance reliability for laboratory vigilance and manual control tasks

Human time estimation tests, describing methods of reproduction, verbal estimation and production in randomized blocks of trials

Gundofender earplug evaluation tests, using temporary threshold shift reduction and modified rhyme techniques for speech intelligibility measurement in noise

Life support water management subsystem 4-man 90-day test in space station simulator with closed water and oxygen loops and no resupply

Solid electrolyte oxygen generator electrolyte test module with improved ceramic to ceramic and metal seals, electrode and grid design, discussing performance tests

Design and performance testing of arterial wick circular heat pipes for OAO-C spacecraft

Closed-loop solid electrolyte oxygen regeneration life support system, discussing 180-day life test

Space station regenerative life support system 90-day manned test in simulator, discussing objectives, facilities and procedures

Closed-cycle respirator development program

Effects of input power spectra on human operator compensatory tracking

Validation criteria and performance evaluation of human movement computerized simulations used in cockpit geometry optimization for flight crew physical compatibility with crew stations

General aircraft flight simulator/trainer system definition

Management and results of long term manned test on regenerative life support system in space simulator

Performance of carbon dioxide concentrator in long duration spaceflight cabin atmosphere simulation

Assessment of biodynamic aspects and protection provided by lap belts, lap belt plus air bag, and air bag only restraint systems using baboon subjects

Zero gravity clothes washer utilizing principles of fluidics to provide washing action and reduction in number of components scale model

Spatial processing characteristics in perception of brief visual arrays

Zero-gravity absorption refrigerator system design and performance testing for space station environmental control application

Manned 90-day performance test of regenerative life support systems in space station simulator including crew biomedical tests

Polyvinyl chloride membrane vapor diffusion urine water reclamation system design and performance tests for flight systems

PERFUSION

U DIFFUSION

PERIODIC OSCILLATIONS

PERIODIC VARIATIONS

PULMONARY CONSIDERATIONS

PERIODIC VARIATIONS

PERIODICITY (BIOLOGY)

PERIODICITY (BIOLG)

PERIPHERAL CIRCULATION

Cytosine effects on lymphocytes chromosomal aberrations in human peripheral blood during local fractionated gamma irradiation

Vascular effector structure in orientation reaction of peripheral vessels to sound, using plethysmogram and neuroencephalogram indications

Cardiac output in relation to peripheral resistance in borderline hypertension

Closed steady streamline creeping flow in cylindrical cavity applied to bubble or plug train in pulmow and peripheral capillaries

Age, obliterating arteriopathy and peripheral arterial sclerosis effects on rheographic wave propagation speed to lower limbs

Dogs peripheral blood reaction to complex action of transverse accelerations and gamma irradiation

Vibration influence on peripheral blood reaction to gamma radiation in dogs, using clinico-hematological indices

Radiation effects on rats peripheral blood state in low pressure environment with sea level value oxygen tension

Arterial blood pressure spontaneous fluctuations due to cutaneous circulation adjustments by thermoregulatory system
PERIPHERAL NERVOUS SYSTEM

Adaptation mechanisms of human movement control as motor neuron reaction to external stimuli, considering peripheral arch, cerebrospinal canal, and feedback

Hypertension effects on conduction velocity of nerve fibers and peripheral motor neuron-muscular activity in man

Organic thermoregulator control signal generation as function of body peripheral to central temperature ratio, using skin temperature rise measurements

Cochlear/vestibular apparatus, ganglion cells, spinal roots and nerve trunk damage from ionizing radiation based on neural elements transirradiation in neoplasms

Peroxides

Hypertensive effects and tissue metal levels due to Cd, Mg and Zn intraperitoneal injection in rats

Peritoneal macrophagic immune capacity decrease in mice under hypobaric hypoxia, indicating infection susceptibility in altitude environments

PERMAHABIT

Oxygen supply to air transported patients by chemical compounds, suggesting use of permacabrates and chlorates

PERMABILITIES

Hypoxic skeletal muscle capillaries restricted diffusion, obtaining permeability data for chromosome 51 labeled DNA and RNA in exercising human forearms

Tissue resistance changes in immobilized rats

PERNOXIDES

NT HYDROGEN PEROXIDE

NT INORGANIC PEROXIDES

Peroxidase and catalase activity and hyperoxia changes in mice and erythrocytes in normoxic and hypoxic conditions

PERSONALITY

Soviet book on psychology and space covering astronauts experiences and emotions during training and flights, daily routine, equipment, food, habits and personal characteristics

PERSONALITY TESTS

Psychometric measurements approaches for pilot training questionnaires, considering personality traits standard model

Human vigilance performance and personality traits characterization by EEG alpha frequencies, correlating rest and task period recordings

Three phase code transformation task reliability and correlation, representing general/factor analytic intellectual abilities and personality characteristics

Performance ratings and personality test factors of air traffic controllers

PERSONNEL

NT AIRCRAFT PILOTS

NT ASTRONAUTS

NT COSMONAUTS

NT CREWS

NT FLIGHT CREWS

NT FLIGHT SURGEONS

NT FLIGHT PERSONNEL

NT GROUND CREWS

NT MEDICAL PERSONNEL

NT NAVIGATORS

NT OPERATORS (PERSONNEL)

NT ORBITAL WORKERS

NT PHYSICIANS

NT PILOTS (PERSONNEL)

NT SCIENTISTS

NT SPACECREWS

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Statistical analysis on accidental injuries sustained by military airforce personnel

Difficulties of circumscribing danger zones for other aerial radar personnel

Accidents of nuclear workers caused by human factors

Survey of personnel monitoring dosimeters for estimating external exposure doses

PERSONNEL DEVELOPMENT

Personal training in airline operations technology at Friedrich List Transportation Institute for aircraft pilots, flight safety engineers and systems engineers

Psychological training for personality development of aircraft stewards for conscious passenger relation establishment

Methods and techniques for training personnel for operation and test of aviation equipment, subsystems, and related accessories

PERSONNEL MANAGEMENT

Computerized techniques incorporating adaptive pilot training concepts and means of predicting student training success

Multiple correlation of university and flight training biographical information as management tool in personnel selection for pilot training

Psychotechnical analysis of creativeness in research personnel based on personal interviews for personnel management applications

PERSONNEL PROPULSION SYSTEMS

U.S. SEAFARING UNITS

SELF-HARDERING UNITS

PERSONNEL SELECTION

NT PILOT SELECTION

PERSONnel selection for emotionally and physically taking situations by studying physiological responses to anticipated stressors and stress recovery

Psychological aspects influencing aircrewman capacity to perform useful work, detailing selection, training, operational environment and global factors

Astronaut selection and training, considering acceleration, hypoxia, weightlessness and temperature variation tolerance

Psychological tests for aerial photograph interpreter selection and performance prediction

Soviet book on space biology and medicine covering cosmonaut selection and training, flight safety, medical life support factors, interplanetary space sojourns, etc

Tekitie II program of underwater research as future manned space flight operations model, discussing mission structure, crew selection and communications

Test equipment for evaluating human higher nervous activity, noting use for radiotelegraphist selection

Crew selection procedures for long duration manned space station simulation test

Psychological criteria in crew selection for long duration space station simulation test

Psychological test of human reaction to simulated stress

Multiple correlation of university and flight training biographical information as management tool in personnel selection for pilot training

Pilot training performance data correlation in performance and probability estimation of training completion for advanced trained personnel
Proton release association with whole blood oxygenation at constant plasma pH and carbon dioxide partial pressure, using alkaline titration

Respiratory acid-base disturbances, studying deviations of bicarbonate ion vs pH pathway followed by buffered solution on carbon dioxide titration

Oxygen dissociation curve shift, hemoglobin affinity and diphosphoglycerate concentration in blood of acidic and normal subjects at altitude

Human erythrocyte 2,3-diphosphoglycerate concentration elevation effects on glycolytic metabolism and intracellular pH

Ventilatory acclimatization to chronic hypoxia in high altitude natives by cerebrospinal fluid pH decrease

Organic phosphate compounds effects on oxygen affinity and intracellular pH of human erythrocytes

Inspired oxygen concentrations effects on arterial and mixed venous pH, carbon dioxide uptake and oxygen partial pressure in normal subjects

Intracellular pH and carbon dioxide combining curve of muscle tissue in dogs, using DMO method

Electron transport chain of extremely halophilic bacteria, investigating cytochrome oxidase activity dependence on pH

PH FACTOR

Chronic hypoxia effects on blood oxygen and carbon dioxide tensions and pH changes in unanaesthetized chickens at high altitude compared to sea level control

Human blood pH and gas composition regulation mechanism under response to carbon dioxide partial pressure changes in inhaled air

Investigating effects of thermal environments and acidity on growth of bacteria and blue green algae

Investigating biological effects of acid thermal waters on growth of organisms in Iceland

Pressure sensors, blood flow transducers, pH electrodes, and photographic recording of biological data for use in aerospace medicine

PHANTOM AIRCRAFT

WTH-4 AIRCRAFT

PHARMACOLOGY

Natural or endogenous fibrinolysis and its pharmacological enhancement as possible approach to prophylaxis of vascular occlusions

Telemetric techniques for pharmacological effects of body temperature, motor activity and food and fluid intake on rat brain, describing recording and monitoring equipment

Laboratory and clinical investigations of radioiodination of cells and viruses by halogenated pyrimidine analogs

Radioresistant effect of iodine compounds in dilute solution on Ehrlich ascites tumor cells and SH enzymes

Aminoethylisothiuronium and methoxy-tryptamine radiosensitizing effect of iodine compounds in Ehrlich ascites and spontaneous mammary carcinomas growth and transplantability

Chlorophenoxyisobutyric acid action on human cholesterol metabolism, suggesting cholesterol synthesis inhibition
Eistapine Purosemide effect on physical brain norepinephrine synthesis pharmacological Caffeine.

Extraocular muscle pharmacology, discussing eye isoproterenol, atrial pacing, ouabain and cardiovascular system, noting pulmonary function role

Isoproterenol, atrial pacing, ouabain and methoxamine effects on dogs during experimental cardiac tamponade, observing arterial pressure, cardiac output and heart rate changes

Extracellular muscle pharmacology, discussing eye twitch and tonic neurovascular systems structure and function in frogs

Medical preparations use and avoidance by spacecraft and aircraft crew members, discussing aftereffects, allergies and health requirements

Caffeine, euphyllin, cordaini, morphine, calcium chloride, adrenaline and norepinephrine effects on organism physiology during hyperthermia

Prophylactic medication for radiation damage treatment, covering toxicity, pharmacological properties, metabolism, dosage and physiological action

Reactivity changes to pharmacologically preparations under total proton and gamma ray irradiation of abdomen and head shielded rats

Effects of education and pharmacodynamics on adaptability of human beings to degraded sensorial environments

Streptococcal flora in pharynx of men during prolonged enclosure noting concomitant besulotic microbes

Pharyngeal streptococcal flora of men confined in sealed chamber, observing microbial transfer

High resolution phase contrast microscope adaptation for gastight glove box use with stage and focusing knobs in box for Apollo sample microbiological examination

Phase control interaural phase angle control, using equal masker/signal narrow noise bands and phase shifting network between channels

Phase fading

Phase shift Phase lag in periodic Coriolis star nystagmus between Coriolis input and corresponding ocular component in cats

EEG phase relations measurement technique, using small digital computer for frequency components separation and EEG activity phases comparison between electrodes

Human eye-tracking phase lags representation by time delays depending on target sotion class

Phase transformations

Fluid boiling

Subject index

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Brain norepinephrine synthesis pharmacological inhibition, discussing effects of overactivity to decrease sensitivity

Utterance effects on physical work capacity, studying recovery pulse response, oxygen extraction during exercise and altitude acclimatized subjects oxygen uptake

Norepinephrine importance in nervous system activity, discussing synaptic mediation, reception processes and pharmacological action

Pulmonary blood volume changes in cat due to neurogenic, pharmacological and mechanical effects on cardiovascular system, noting pulmonary function role

Isoproterenol, atrial pacing, ouabain and methoxamine effects on dogs during experimental cardiac tamponade, observing arterial pressure, cardiac output and heart rate changes

Extracellular muscle pharmacology, discussing eye twitch and tonic neurovascular systems structure and function in frogs

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Phase transformations

Fluid boiling

Subject index

Heat freezing

Heat melting

Heat sublimation

Photosresponse of liquid crystals at room temperature and dark conductivity changes at phase transitions

Electric field strength and helix pitch relationship in induced cholesteric-nematic phase transitions [A69-1986A]

Alternating current field induced cholesteric and nematic liquid crystal phase transitions [A70-20053]

Pheomol

Diminophenol inhibition of rejoining of X ray induced DNA breaks by L cells

Preservative phenol derivative effects on toxic gas evolution from stored urine in sealed vessels

Phenylalanine

Sexual behavior of male cats after para-chlorophenylalanine injections, noting unchanged or diminished performance and serotonin lowering in brain

Chemoautotroph Thiobacillus neapolitanus growth inhibition by histidine, methionine, phenylalanine and threonine under imbalance conditions

Brain polysomes disaggregation and tryptophan elevation in immature rats and adult animals after L-dopa administration

Probus nuclear reactor radiological monitoring and environmental samling data for Phoebus 2a reactor tests [SWHEL-72-R]

Phonemes

Auditory illusions, investigating phonemic restorations, verbal transformations and perceptual organization

Phonetics

Healthy subject speech speed effect on phonation phase length, noting relation to normal articulator phase

Phonocardiograms

U phonocardiography

Phonocardiography

Maximal treadmill stress test correlation with postexercise phonocardiograms, RCG and double master test in normal subjects, discussing third and fourth heart sound incidence

Heart sounds duration, intervals and Q-T lengths, studying displacement, velocity, acceleration tracings and filtration

Phonocardiograph design and calibration for accurate measuring and recording of cardiac vibration displacements, velocities and accelerations

First heart sound changes, discussing sound vibration and transmission and cardiac function

Second heart sound changes due to position and magnitude variations of aortic or pulmonary component

Frequency phonocardiography technique for heart sounds and murmurs registration, producing analog voltage proportional to frequency by zero crossing detector

Diatolic heart sounds and filling waves in coronary artery disease, relating graphic absormalities and clinical, arteriographic and hemodynamic findings

Frequency distribution of heart sounds in precordium, studying slope of attenuation and relative peaking

Jet and turbulence mechanism of vascular murmur associated with stenosis for minius flow Reynolds numbers, using aorta orifice plates in dogs

Fetal systolic clicks and papillary muscle dysfunction evidence in arteriosclerotic heart disease from
pathological changes
Stereophotogrammetric measurement of body and limb
volume changes after prolonged space mission

PHOTOGRAPH INTERPRETATION
O PHOTOGRAPH INTERPRETATION
PHOTOGRAPHIC EMULSIONS
NT NUCLEAR EMBLUSTIONS
PHOTOGRAPHIC EQUIPMENT
NT TELEVISION CAMERAS
PHOTOGRAPHIC MEASUREMENT
NT PHOTOGRAPHY
PHOTOGRAPHIC RECORDING
Automated data acquisition and analysis during
cardiac catheterization, using photopyrographic
and analog magnetic tape recording system in
combination with digital computer
Pressure sensors, blood flow transducers, pH
elipsometer, and photographic recording of
biological data for use in aerospace medicine
[NASA-CR-119026]

PHOTOGRAPH RECORDING INSTRUMENTS
O OPTICAL MEASURING INSTRUMENTS
O PHOTOGRAPHIC RECORDING
O RECORDING INSTRUMENTS
PHOTOGRAPHS
NT MOTION PICTURES
PHOTOGRAPH
NT AERIAL PHOTOGRAPH
NT AUTORADIOGRAPHY
NT CHROMOPHOTOGRAPHY
NT CYTOMATROGRAPHY
NT COLOR PHOTOGRAPH
NT HOLOGRAMS
NT SATELLITE-BORNE PHOTOGRAPHY
NT STEREOGRAPHY
NT ULTRAVIOLET PHOTOMETRY
NT UNDERWATER PHOTOGRAPHY
PHOTOINTERPRETATION
Psychological tests for aerial photograph
interpreter selection and performance prediction
[AD-7113159]
Edges and curve detection in textured regions
related to visual scene analysis
[AD-7113159]

PROPHYLAXIS
Rhodopsin kinetics mathematical analysis by cyclic
fire-component model, applying to flash and
extended photopsin in rat retina
Photolysis of metarhodopsin I, discussing rate and
extent of conversion to rhodopsin
Human cone visual pigments kinetic equation testing
by comparing photolysis rate at equilibrium to
regeneration rates

PHOTOMETERS
Photometric continuous recording of fibrinolysis and
fibrilolysis
[NASA-TT-P-13405]
Photometry
NT SPECTROPHOTOMETRY
NT ULTRAVIOLET PHOTOGRAPHY
NT VISUAL PHOTOGRAPHY
Automatic cytometric photographic technique including
microphotometer, ultramicrospectroscope,
radiographic analyser, microinterferometers,
cytometer, and differential microintermeter
Cytophotometric method using digital computer
program and scanning microscope
Flashing civil aviation lights history, progress and
photometric characteristics, discussing navigation
and landing aids
Flashing lights radiation characteristics
photometric measurement, discussing measuring
apparatus sensitivity and errors analysis
Photometric measurement of euglobulin lysis time by
direct printer
[NASA-TT-P-13899]
Photoproduction
Long wavelength UV photoproduction of amino acids on
primitive earth, using hydrogen sulfide as photon
acceptor

PHOTORECEPTORS
Vitamin A initial uptake site and intracellular
transport pathway in snails photoreceptors
Visual cells outer segments structure and retinal
photoreception characteristics, describing open
photoreceptor system
Furanic lungfish retina electron microscopy for
Landolt club location, microtubular content, and
microtubule containing, considering relation to
receptors and possible functions
Color matching discrepancies, considering rod blue
qualities under photopic conditions, luminance
level and trichromatic stimulus unsuitability for
large field additive colorimetry
Optic analyzer dark adaptation dynamics during
spatial body position changes, observing
restoration speed dependence on physical training
Sensitivity, size and receptive fields position in
cat retina ganglion cells
Retinal neurons receptive field center, examining
excitation and direct inhibition interaction
Retinal electronic model with about 700
photoreceptors and output cells and new
interconnections technique
Simple nerve system receptor field organization in
visual analyzer simulated by TV circuit with
scanning beam controlled focusing
Vertebrate retina receptive field structure,
suggesting interaction between receptor,
horizontal and bipolar cells
Human visual analyzer excitability shifts due to
short duration point light stimuli
Carotenoid depleted Drosophila circadian rhythm and
visual receptors photosensitivity, discussing
photopigment effects

PHOTOEDUCATION
O PHOTOCHEMICAL REACTIONS
O REDUCTION (CHEMISTRY)
PHOTOSENSITIVITY
O PHOTOCOUCIDIVITY
PHOTOPRODUCTION
O LIGHT ADAPTATION
O PHOTOTROPHISM
Cats photopic and scotopic spectral sensitivity
functions from dark adaptation curves, using
behavioral tracking procedure
Budd vision mechanism, considering daylength effect
on spectral sensitivity and visual pigment retinal
extract proportions
Bill reaction of disintegrating chloroplasts in
vitro, investigating transient color sensitivity
/red-blue effect/
Photoperiodic effects on insect brain circadian
clock control, investigating eclosion cycle
initiation, stimulant hormone release and
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NT BIOELECTRIC POTENTIAL
NT ELECTRIC POTENTIAL
NT SPKE POTENTIALS

POTENTIAL FIELDS

Distinctive visual evoked response potential field patterns resulting from human retina stimulation, using electrode array on occipital scalp

Full title: "Distinctive visual evoked response potential field patterns resulting from human retina stimulation, using electrode array on occipital scalp [NASA-TG-P-13996]"

POTENTIAL FLOW

NT EQUIPOTENTIALS
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[AD-732298]

PRESSURE CABINS

U PRESSURE GAGES

PRESSURE CHAMBERS

U PRESSURE GAGES

NT HYPERBARIC CHAMBERS

U PRESSURE GAGES

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PRESSURE GAGES

PRESSURE GAGES

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U ELASTIC WAVES
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Soviet army medical appraisal of chronic microwave field induced affections, noting evaluation procedures inadequacy.

Cosmic and telluric radiation biological effects on paramecia, discussing relationship between dosage and growth rate.

Microwave radiation biological effects of radiation and bibliography covering protein activity, genetic, central nervous system and cardiovascular effects.

Apollo astronauts light flashes observation during lunar flight, discussing interpretation as scintillations in eye lens by multiply charged cosmic rays focusing on retina.

Book on biological effects of radiation covering ionizing radiation properties and effects at molecular, cellular and tissue levels.

Combined action of vibration and gamma irradiation on sporulation dynamics, survival rate and mutability of chlorella.

Medical, zoological and biological effects of ELF signals in atmosphere, comparing with EGG alpha and gamma rhythm.

Bioisatellite 2 onboard experiments studying influences of ambient radiation on biological processes and interaction with radiation from Sr 85 gamma ray source.

Gangliosides and cerebrosides content in rat brain under normal conditions, during hypoxia and under small X ray doses action.

Soviet book on animals morphophysiological changes in cardiovascular and nervous systems and various internal organs under RF wave exposure.

Gamma emission effect on cysteamine toxicity elimination in rats organism.

Reactivity changes to pharmacological preparations under total proton and gamma ray irradiation of abdomen and head shielded rats.

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Bibliography on effects of gamma rays, fission fragments, and neutrons on organisms, food, tissues, and nervous system

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Cysteine protection of hydroxyurea sensitized Chinese hamster lung cells during X-ray exposure.

Thiol and disulfide compounds radiation protection capacity at cellular level in tissue culture, using reproductive integrity as protection criteria.

Organic free radical radioprotective and radiosensitizing effect, reporting Chinese hamster cell line survival characteristics after treatment.

Radioprotective drugs relationship to modification of glycolysis in Ehrlich ascites tumor cells.

Para-aminobiphenyl and propylene glycol radioprotective effect on hematopoietic stem cells of mice.

Betasophrayryl chloride radioprotective effects on mice, removing, weighing, and fixing spleens for hematopoietic colonies count.

Chemical radioprotective effectiveness modification by open skin wounds, discussing results with whole body X-ray irradiated mice.

Toxicity reduction of aminothiosterilin compounds through n-substitution with amino acids, noting slight decrease in radioprotective effectiveness.

Hypoxia protection against ionizing irradiation by anaerobic glycolysis stimulation, lactic acid increase and blood glucose level elevation.

Sodium fluoroacetate as radiation protective agent, noting dependence on selective blockade of enzyme aconitase.

Temperature effect in sodium fluoroacetate protective action mechanism for acne irradiation.

Cysteine ATP, serotonin and melamine antiradiation drugs, investigating protective effect against fractionated lethal gamma irradiation.

Short and long term radiation effects reduction by chemical radioprotectors mixtures, noting improved survival and decrease in leukemia and cancer incidence in X-ray irradiated mice.

Rat bone marrow chromosomal radiation protection, using 5-hydroxytryptamine.

Irradiation protection in mice, dogs and sheep by bacterial endotoxin injection, discussing hematopoietic system stimulation and leukocyte counts.

Rice protection against irradiation damage by adrenochrome monoquasynaldehyde 

Biocatalytic mechanism of radioprotective action of aminothiols in mammals.

Rate and mice blood redox potentials injected with cysteamine, investigating increased radioprotection.

Radioprotective mercaptoethylamine /BEA/ effect on aerobic resynthesis of ATP in thymus nuclei and oxidative phosphorylation in rat liver mitochondria.

Amino-ethyl-S-2-isothiuronin radio protective dose effects on enzyme activity, cardiovascular changes, blood transaminases concentration, bone marrow and peripheral circulation.

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Book on electromagnetic fields and life environment covering biological effects of radio waves, protection, radiation sources, permissible intensities, working conditions.

Antireexposure suits physiological evaluation for subjective comfortableness, oral and skin temperatures and pulse rate, determining optimum environmental temperature.

Radiation protection drugs effects on albino rats hypoxia resistance, discussing hypoxic hypoxia response to intraperitoneally and orally administered cysteamine and aminothiosterilin.

Radiation sickness prophylaxis chemical compounds, discussing protection mechanisms, radical inactivation and afflicted cell recovery.

Prophylactic medication for radiation damage treatment, covering toxicity, pharmacological properties, metabolism, dosage and physiological action.

Death rates, median life span and weight in mice exposed to gamma radiation after intra-abdominal injections of cysteamine.

Chemical agents protective properties on albino mice under gamma-neutron radiation, noting dose and composition effects.

Cysteamine elimination rates in rats, extending radiation protective action by radiometrically eliminated portions.

Cysteamine hydrochloride or vitamin B complex with vitamin C for radiation sickness prevention and therapy.

Mice acceleration before and after gamma irradiation, determining protective effect of cysteamine in adrenalin and amphetamine mixture.

Radioprotective effectiveness of cysteamine and beta-aminothiosterilin in mice under combined gamma irradiation and transverse acceleration loads.

Radiation protection biological aspects - Conference, Kyoto, October 1969.

Radiation protection of Soyuz-9 crew, using solar activity forecasts.

Manned spacecraft radiation protection against cosmic rays, considering proton attenuation in shielding materials and dose formation in body tissues.

Radiation protection effects of hypoxia and para-aminobiphenyl [COO-1223-15].

Occurrence of radiation exposure to personnel of nuclear research facility.

Chemical and biological antiradiation drug for space flight.

Space flight radiation protection using antiradiation drugs.

Proton irradiation of dogs to determine value of shielding body organs.
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facilities

(RAD-3066)

p0649 A71-36499

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RADIATION SHIELDING

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Comparative abdomen and head shield effect during gamma irradiation of dogs on protein fractions in blood serum, noting increased globulins and glutamate aspartate transferase

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Partial body shielding effects on rats radiation sickness survival rates under gamma-neutron radiation, comparing head and belly shielding effectiveness at different intensities

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Radiation shielding effectiveness of different body portions during repeated proton and gamma ray irradiation of abdomen and head shielded rats

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Head and abdomen shielding effects on radiation sickness evolution in dogs under lethal gamma irradiation

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Abdomen shielding effects on chromosome aberrations in bone marrow cells of guinea pigs and rats under gamma irradiation

p0597 A71-42719

Glutamicoaspartic and glutamicoalanine aminotransferases activity in blood serum of dogs under gamma irradiation with shielded abdomen or head, observing hyperfermentemia

p0597 A71-42720

High energy proton irradiation of rats with partial shielding of abdominal region, observing pathomorphological changes in myocardium, nervous system and radiosensitive organs

p0598 A71-42721

Rat organs pathomorphological changes under gamma neutron irradiation with head and abdomen shielding, noting intestines early damage

p0598 A71-42722

Manned spacecraft radiation protection against cosmic rays, considering proton attenuation in shielding materials and dose formation in body tissues

p0640 A71-44889

Proton irradiation of dogs to determine value of shielding body organs

p0234 A71-19056

Abdominal and head shielding effects on blood serum protein metabolism of gamma irradiated dogs

p0550 A71-33457

RADIATION SICKNESS

Primary preparation effect on DNA and RNA contents in hemopoietic organs during acute radiation sickness due to low power radiation

p0011 A71-11118

Antihistamine treatment of hypotension and early transient incapacitation in monkeys under suprarectal mixed gamma-neutron radiation

p0311 A71-26118

Radiation sickness prophylaxis chemical compounds, discussing protection mechanism, radical inactivation and afflicted cells recovery

p0596 A71-42710

Roller body shielding effects on rats radiation sickness survival rates under gamma-neutron radiation, comparing head and belly shielding effectiveness at different intensities

p0597 A71-42716

Head and abdomen shielding effects on radiation sickness evolution in dogs under lethal gamma irradiation

p0597 A71-42718

White rats resistance to acute anoxia, asemic and histotoxic hypoxia during various phases of I radiation sickness, studying adrenal cortex histophysiological state

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p0433 A71-27732

Simulation of radiation exposure from galactic cosmic radiation and solar flare radiation by gamma radiation from cobalt 60 sources

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NT ABSORPTION SPECTRA

RADIATION THERAPY

More preparation effect on DNA and RNA contents in hemopoietic organs during acute radiation sickness due to low power radiation

p0011 A71-11118

L-erythro-alpha, beta-dihydroxybutyrylaldehyde radiosensitizing effect on adenocarcinomas Ehrlich ascites tumor cells

p0180 A71-18952

Tumor DNA increase of halogenated pyrimidines incorporation compared to normal tissue DNA, discussing infraarterial infusion of radiosensitizing agents

p0185 A71-18989

Bromosulfone as radiosensitizing agent improving effectiveness of radiation therapy of malignant brain tumor cells

p0186 A71-18990

Taurine restorative effect in patients with marked leukopenia induced by radiotherapy

p0186 A71-18991

Cystamine hydrochloride or vitamin B complex with vitamin C for radiation sickness prevention and therapy

p0598 A71-42723

Measurement of oxygen effect and biological effectiveness of 910 mev helium ion beam using cultured human kidney cells of interest in radiotherapeutic treatment of hypoxic tumors

p0393 A71-25241

Ion-corpascular radiation therapy and application of proton accelerators in cancer therapy

p0493 A71-29249

In vitro studies using boron-labeled antibodies and elemental boron as neutron target in therapy for tumors and cancer

p0645 A71-36465

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Primary immune response chemical radioprotection in white mice during gamma irradiation, using serotamine as chemical protective and sheep red blood cells as immunizing agents

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Radiation protection and sensitization - Conference, Rome, May 1969

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Molecular mechanisms of bacterial cell radiosensitization and protection, discussing radiation produced free radicals interactions

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Laboratory and clinical investigations of radiosensitization of cells and viruses by halogenated pyrimidine analogs

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Sulphuryl cytosine and dimufide cytosine effect on bacteriophage survival rate at high anaerobic doses

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DNA modification in Escherichia coli exposed to X-rays and sensitized by triacetoneamine-o-xyryl and oxygen

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Cysteine incorporation in Escherichia coil B, noting X-ray sensitivity and radioprotection

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Radiosensitive yeast strain Saccharomyces cerevisiae, discussing cyclobexizide and gamma irradiation treatment influence on growth

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Bacteria and mammalian cells radiosensitization, using phenylgloyal and various carbon dial compounds

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Age dependent changes in mammalian cell radiosensitivity, emphasizing endogenous nonprotein sulphydryl effects

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Drug-radiation damage interaction relationship to radiosensitization in mammalian cells

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Organic free radical radioprotective and radiosensitizing effect, reporting Chinese hamster cell line survival characteristics after treatment

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Mouse Ehrlich ascites tumor cells, examining Co-60 gamma ray influence in presence of radiosensitizing 5,6-dihydroxypropenon

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Mitoxyrin C radiosensitizing effect on hematopoietic colony forming cells, using technique based on bone marrow cells spleens colonies forming ability

Anoxic form spores I X-ray sensitization, observing diacetyl and inulin effects

Embryo chemical sensitization to low radiation doses damage by radiosensitizer iodoacetamide

Cytotoxic and radiosensitizing effect of thiol binding agents iodoacetamide/iAA, N-ethylmaleimide/NEM/ and iodoacetic acid/IAA/ on crypt cells of mice duodenum

"o-benzenacetic and methyl-o-benzenacrylic acids" radiosensitivity to fast neutrons and gamma rays

Q switched and continuous laser collimated radiation exposure limits for eye cornea and skin, discussing environmental contamination

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Radioprotectants effect on mice against ionizing radiation and tolerance to back-to-chest accelerations in space flight

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Gamma radiosensitivity of female Swiss-Chu and mouse as function of growth rate

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Biotelemetry objectives, principles, implementation and applications, discussing wire and wireless systems, radio frequency selection, transmitting power and modulation methods

Multichannel EEG radio telemetry for remote recording of biological activity from subjects in motion and within human body

Bioelectrical activity of cerebral cortex in man under emotional stress, using multicanal radioelectroencephalography

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Dark adapted albino rats behavioral assessment, measuring absolute visual thresholds to white and colored light

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Myocardium reactions under 2G acceleration from histological, histochemical and electron microscopic observations on rats, noting dystrophic damage level relationship to duration

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Cycocel induced changes in internal structure of cotton leaves to reflectance, transmittance, and absorption of near infrared radiation.

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Cortical vestibular projection zones in formation of conditioned reflexes and spatial orientation of cats.

Orientation reflex in healthy and nervous human subjects from peripheral vessels blood pressure fluctuations in response to acoustic signals.

Vasoconstrictor reflexes latency in postganglionic cardiac and renal nerves in intact and spinalized cats, determining spinal mediation by electrophysiological methods.

Reflex excitability of neuromuscular systems of Soyuz crew members during physical loads.

Human operator psychophysiological analysis by memory-activity interdependence simulation, noting buffer memory, reflex system and habit acquisition.

Muscle reflex action role in contralateral remote marking at high auditory signal sound pressure levels.

Human spinal reflex effects during static work, suggesting cord segmental chiasmatic connections interaction with spinobulbar spinal tract.

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Biophysical nature of human memory, investigating electromosibility phase modulators and variations by supraintensive light stimulus to eye and adjustable reflex.

Globus pallidus damage in cats, investigating effects on conditioned motor reflexes, learning and memory.

Baroreflex regulation of pulse interval during bicycling exercise, using systolic pressure-pulse relation to express reflex sensitivity.

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Sense organs conditioned reflex and physiology, investigating mechanisms and functional localization of discrimination function and differentiating inhibition.

Articular baroreceptor reflex action in rabbits, noting central noradrenergic neuron participation.

Hypothermia effects on cat and dog vascular tonus vasomotor reflex regulation, suggesting role of inhibition due to changed afference from cooled tissues.

Soviet papers on higher nervous activity physiology, Part I, Basic laws and mechanisms of conditioned reflex activity covering inhibition, and bioelectrical effects, with bibliography.

Brain locking activity structural organization, discussing cerebral processes and control contact mechanisms activating conditioned reflexes.

Orientation reflexes neural activity due to various stimuli, noting hippocampus reaction to sound and light.

Bioelectrical aspects of conditioned reflex activity, discussing changes in cortex background, cortical and cerebral biopotentials and alpha rhythm depression reactions.

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Neural control organization in vestibulo-ocular reflex arc, considering afferent and oculomotor neural signals

Oculo-motor reflex neural organization models, considering vestibular ocular reflex, saccadic eye movements and smooth pursuit systems

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Zero-gravity circulating water electrolysis system prototype design for metabolic and leakage makeup oxygen supply in 12-man space station regenerative life support system

Close-loop solid electrolyte oxygen regeneration life support system, discussing 180-day life test

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Extraocular activity protection systems, discussing resource regeneration, technology, methodology and space station, lunar base and Martian missions schematic configurations

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Utilization of potassium superoxide in regenerating expired gas

Carbon dioxide concentration control in pressure chamber during atmospheric regeneration by Chlorella

Regeneration of spacecraft cabin atmosphere utilizing photosynthesis of unicellular algae

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Regenerable life support systems concepts for EVA use in 1980 and technology assessment

Regenerative space station simulator and test procedures for 4 man, 90 day testing of life support systems

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Respiratory mechanics and ventilatory response to carbon dioxide during positive pressure breathing in conscious man

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Electronic compensation of water vapor effects in respiratory mass spectrometry

Hypoxia from aerospace medicine viewpoint, discussing respiration physiology, oxygen transport, altitude effects, psychomotor functions, etc

Germ book on clinical pathophysiology of respiration covering respiratory physiology, pulmonary gas exchange, respiratory control, hypoxia, hyperoxia, pressure breathing, etc

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Respiratory air flow optimal regulation hypothesis, testing analytic prediction model results with experiment under stress and rest conditions

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A respiratory muscles electrical activity, Variable tidal volume effects on lung test gas Respiratory chemoreceptors and acid-base alterations Eear without significant long-term effects on peripheral chemoreceptors and central physiology

Dynamic characteristics of human respiratory and water involvement in ventilation physiology

Investigating effects of oxygen, nitrogen, and rare gases at increased pressures on narcosis

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Jet pilots flight stresses assessment via biotelemetric transmission of pulse rate, respiratory rate, electrocardiographic data, flight altitude and velocity

Alveolar gas exchanges and cardiovascular functions during breath holding with air, determining resting oxygen consumption

Pulse wave velocity measurements in human veins by transcutaneous ultrasonic flow detectors, noting respiration and body movements

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U THERMISTORS JUNCTIONS
U VOLTAGE JUNCTIONS
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SOUND ORGANS
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VESTIBULAR ORGANS PROPERISTORS
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U SENSORY PERCEPTION
SENSIBILITY
U SENSITIVITY
NT LIGHT ADAPTATION
NT PAIN SENSITIVITY
NT PHOTORECEPTIVITY
NT PSYCHOMOTOR PERFORMANCE
NT RADIATION TOLERANCE

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SLIPPERS
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Visual slant averaging mechanism evidence from
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SLOW MONITORS
o THERMAL MONITORS
A-388
Environmental problems including air pollution, water pollution, radioactive wastes, smoke, sewage, and garbage disposal have led to the development of new technologies to improve air quality. For example, cylindrical transparent plastic antismoke hoods with diaphragm elasticity and area, orifice area, volume, respiratory rate, body temperature and glycolytic parameters have been developed to improve efficiency for smoothing personal respirable dust sampler flows. \[BM-RI-75453\]

Rats were used in experiments to test the effect of olfactory perception on social behavior. The rats were exposed to various air pollutants and their behavior was observed. The results showed that exposure to air pollutants can affect social behavior in rats.

A study was conducted to examine the effects of noise, disturbance, and aircraft noise on the behavior of rats. The results showed that exposure to noise and disturbance can affect social behavior in rats.

Epidemiological studies have been conducted to examine the effects of air pollution on human health. The results showed that exposure to air pollution can affect respiratory and cardiovascular health.

A study was conducted to examine the effects of air pollution on human behavior. The results showed that exposure to air pollution can affect social behavior in humans.

Several studies have been conducted to examine the effects of air pollution on human health. The results showed that exposure to air pollution can affect respiratory and cardiovascular health.

Several studies have been conducted to examine the effects of air pollution on human behavior. The results showed that exposure to air pollution can affect social behavior in humans.

Several studies have been conducted to examine the effects of air pollution on human health. The results showed that exposure to air pollution can affect respiratory and cardiovascular health.

Several studies have been conducted to examine the effects of air pollution on human behavior. The results showed that exposure to air pollution can affect social behavior in humans.
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Sodium fluoroacetate as radiation protective agent, noting dependence on selective blockade of enzyme aconitase

Temperature effect in sodium fluoroacetate protective action mechanism for mice irradiation

SOFT LANDING SPACECRAFT

BT APOLLO SPACECRAFT

BT VOSTOK 3 LUNAR PROBE

BT VOSTOK 2 SPACECRAFT

SOFTWARE (COMPUTERS) COMPUTER PROGRAMS

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SOIL SCIENCE

Soil microorganisms multiplication under simulated Martian conditions in lisanite and garden soil mixture

Application of microbial cesones to problems of soil fertility

Microbiological characterization of soil types

SOILS

MT CLAYS

MT LUNAR SOIL

Xerophyte soil microorganisms reproductive stability in artificial Mars environment chamber at maximum hygroscopic moisture

Biocorrolgy, molecular biology, radiocorhinochemistry, meteorology, soil science, and water pollution research and development and environmental engineering

Biological and geological aspects of soil science

Analysis of natural zones and space ecosystems noting relationships of living animals and biosphere

SOIL RADIATION OBSERVATION

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Effect of solar radiation on energy balance of biocorrolgy

SOILS

MT LUNAR SOIL

Xerophyte soil microorganisms reproductive stability in artificial Mars environment chamber at maximum hygroscopic moisture

Biocorrolgy, molecular biology, radiocorhinochemistry, meteorology, soil science, and water pollution research and development and environmental engineering

Biological and geological aspects of soil science

Analysis of natural zones and space ecosystems noting relationships of living animals and biosphere

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BT SUBSOIL CYCLE

SOIL ECLIPSES

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SOIL FLARES

Probable solar flare doses on interplanetary mission calculated by McFlare computer program using Monte Carlo methods

Psychological factors in visual observation of solar flares and application of visual perceptions in predicting flares

SOIL RADIATION

Chlorioroetal temperature increases from naked solar eclipse observations for various observation angles and pupil diameters, considering solar irradiance and atmospheric transmission spectra

Chlorioroetal temperature increases from naked solar eclipse observations for various observation angles and pupil diameters, considering solar irradiance and atmospheric transmission spectra
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Soyuz 4 and 5 self contained cosmonaut life support system for extravehicular activity, discussing principal components block diagram

Soyuz 9 prolonged space flight biomedical effects on human organism, emphasizing weightlessness

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Soyuz 9 spacecraft crew medical support and postflight examination, discussing earth environment readaptation

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Spirometer loop measurements of human pulmonary functions during long duration manned space environment simulation

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Aspects of motion disorders in space flight and space flight training [JPRS-53894]

Water-salt metabolism during space flight and microcirculation of actively circulating blood volume [NASA-7T-F-14028]

Equations of motion for describing weightlessness phenomena during space flight [NASA-CR-123161]

Regenerated nutrients as foods for long duration space missions, discussing physicochemical methods for metabolic waste products conversion into safe synthetic nutrient compounds

Biological rhythms and space nutrition - COSPAR Conference, Prague, May 1969, Life sciences and space research

Astronaut space nutrition, discussing Apollo mission short range nonreproductive node, long range closed loop regenerative cycles and waste recycling

Space diets for maximum energy consisting of fats and proteins from biological systems and carbohydrates from chemical systems

Space shuttle life support, protective and crew system interfaces, discussing food and waste management and accident procedures

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Soyuz 9 spacecraft astronauts cardiovascular and respiratory systems responses to orthostatic effect after 16-day orbital flight from EKG measurements and sphygmonography.

Soyuz 9 spacecraft simulator prolonged confinement effects on human cardiovascular system functional state.

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Orbital space flight effects on dry barley seeds, noting increased intracellular rearrangements.

Biosatellite 3 monkey sleep and wake states based on visual and computer analysis of telemetered data from earth orbital flight.

In-flight monkey cardiovascular observations, discussing central venous pressure, venous volume, electrolyte imbalances and heart rate.

German book on space medicine covering stresses on spaceflight effects on dry barley seeds and onion bulbs germinating capacity, growth and weightlessness effects.

Postflight metabolism and renal function of Soyuz 6, 7 and 8 crewsmembers, assigning weight loss during flight with water and salt discharges.

Calcium, potassium and iron loss by astronauts during Apollo space missions using instrumental neutron activation analysis.

Pyrroline and serotonin metabolism changes and vestibular disorders observation in space flight.

Turtles organs and tissues responses during Zond 5 and 7 lunar probes circulatual flight.

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Astronaut chromosome aberrations, presenting peripheral blood leukocytes cytogenetic tests for pre and post space flight.

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Astronaut work capacity and adaptation during long term flight of space vehicle Soyuz 9.

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Soviet papers on radiobiological aspects of reactivity of organisms in space flight covering radiation protection drugs, hypoxia, flight conditions, radiation pathology, circulation, astronaut work capacity and adaptation during long term flight of space vehicle Soyuz 9.

Human orthostatic and vestibular stability responses to weightlessness during extended space flight noting acceleration tolerance, physical efficiency, infection resistance and medication sensitivity.

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Spacecraft Cabin

Focusing on the subject of spacecraft cabin systems, this section outlines a variety of research topics. It covers crew performance as an information input factor based on spacecraft simulation. Integrated life support systems for long-duration missions, mass balance and crew nutrition, hygiene, maintenance, and leisure activities are also discussed. The chapter delves into waste management systems, specifically urine conservation in spacecraft cabin sanitation. Design and performance of mass spectrometers and regenerative life support systems are further explored. The text also addresses germination and growth of selected higher plants in a spacecraft environment. Design concepts for crew accommodations, personal equipment, and facilities are outlined, emphasizing the importance of space station components.

Spacecraft Contamination

The chapter on spacecraft contamination delves into planetary quarantine including background, contamination sources, and sterilization technology. The text discusses planetary quarantine analysis for manned orbiters, considering accidental spacecraft impact. It also covers long mission duration manned spacecraft contaminant control system design, discussing catalytic oxidation, chemisorption and chemical adsorption removal techniques and computerized performance prediction. The effects of spacecraft external contamination and approaches for counteracting contamination are highlighted. Causes of spacecraft external contamination and methods to reduce them are also discussed. The text also examines contamination of spacecraft components during entry of Jupiter atmosphere to determine probability of biological contamination. Descriptions of spacecraft microbial contamination and techniques for reducing the probability of contamination, including planetary quarantine systems analysis for biological contamination of Mariner Mars 1971 spacecraft, are provided. Long mission duration manned spacecraft contamination control system design, discussing catalytic oxidation, chemisorption and chemical adsorption removal techniques and computerized performance prediction are covered. Planetary quarantine, decontamination, microbial release probabilities, and contamination logs for Venus and Mars are discussed. The text also examines microbiological contamination of Apollo spacecraft components and waste management systems design and performance testing of arterial wick systems.

Spacecraft Design

The section on spacecraft design highlights Soviet book on manned space flight covering spacecraft design, life support systems, mission characteristics, medical considerations, etc. The text explores toxicology in aerospace vehicles discussing health and safety factors, respiratory and cardiovascular systems, and operational hazards. Microbiological contamination of Apollo spacecraft components and waste management systems design and performance testing of arterial wick systems are also discussed. Spacecraft navigation, guidance and control for manned vehicles with orbital target, examining error sources perturbing effects, and spacecraft control investigation, using linear operator models described by linear transfer function with variable coefficients are covered.

Spacecraft Control

The chapter on spacecraft control covers spacecraft navigation, guidance and control for manned vehicles with orbital target, examining error sources perturbing effects, and spacecraft control investigation, using linear operator models described by linear transfer function with variable coefficients. It also examines wide load range space radiator design for space station environmental control/life support system, using stagnation control, life support systems design and performance covering thermal and humidity control, atmospheric supply, carbon dioxide removal, water and waste management, and space shuttle environmental control and life support system design covering atmospheric pressure, composition, humidity, temperature, water and waste management.
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Chlorella viability and mutability aboard Soyuz and Zond spacecraft, noting trend toward growth of anomalies in autosporelation.

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Oxidation of water in regeneration under spacecraft conditions, measuring organic impurities degree of oxidation in inhabited cabin atmospheric vapor condensates.

Portable environmental control and life support systems for astronaut in and out of spacecraft. [NASA-CR-114821]

Effects of spacecraft environment on oxidative drug metabolism. [NASA-CR-114821]

Aerospace medicine, life support system, and psychophysiological problems and environmental factors in space flight.

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Summary of conference papers on life support systems in space.

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Subject: Preliminary report of biologic testing of laser protective materials

Abstract:

The preliminary report of biologic testing of laser protective materials is presented. The report discusses the effects of low-grade hypoxia on performance in a vigilance situation. The study involved private pilots and was conducted to investigate the impact of hypoxia on human performance in a simulated environment.

Key Findings:

1. The performance of pilots was significantly affected by low-grade hypoxia.
2. There was a decrease in vigilance and an increase in error rates.
3. Cognitive tasks such as tracking and pattern recognition were impaired.

Conclusion:

The study highlights the importance of understanding the effects of hypoxia on human performance, particularly in aviation contexts. Further research is recommended to develop strategies for mitigating these effects.
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Probable response of Kansas streams to various patterns of rainfall augmentation (PB-196510)  

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Kentucky Univ., Lexington. Structural development of bone in rats under earth gravity, simulated weightlessness, hypergravity, and mechanical vibration. 

Laboratoire de Physiologie Acoustique, Jouvren-Josas (France). 

Electrocommunication as bionic communication systems for bats and dolphins. 


S. P. Systems, Inc., Cleveland, Ohio. 

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Design, fabrication, and testing of circulating electrolyte type water electrolysis system for automatic control of spacecraft total pressure and oxygen partial pressure. 

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Comparative tests of finested masks. 

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Efficiency as function of particle size and velocity for commercial filter media. 

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Mechanical response of frog membrane to stimulating frequencies and electrophysiologically determined hearing areas. 

Louisville Univ., Ky. 

Coding related to speed and accuracy of recall. 

Fifty four hour continuous work-sleep loss effects on human performance - Thesis project. 

Human factors engineering in optimizing visual perception of sonar and radar displays. 

Relationship between air blast injury and impairment of pulmonary function in dogs and sheep. 

Biomechanical tradeoff study for cabin atmosphere selection in manned space flight. 

Maccon-Bust Co., Lexington, Ky. 

Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher. 

Human factors engineering manual including mathematical formulas, nomographs, conversion tables, units of measurement, and nomenclature. 

Human factors engineering data for equipment design including anthropometry, environmental conditions and physiological and behavioral factors. 

Manhrii Systems Sciences, Inc., Northridge, Calif. 

Crew performance measurement relationships for automated air to air intercept weapon system training simulator. 

Martin, Co., Baltimore, Md. 

Computerized and manned spacecraft and aircraft simulator impact testing of air cushion elastic restraint systems. 

Martin Marietta Corp., Baltimore, Md. 

Emergency escape cabin system for launch towers. 

Chemistry and enzymology of photosynthesis, oxygen evolution, energy migration, and kinetics of reaction chain. 

Martin Marietta Corp., Denver, Colo. 

Weightlessness manufacturing of vaccines and fermenter design for orbital workshop. 

Design and tests of astronauts tool kit and tools for in-flight space maintenance. 

Experimental determination of effects of terrain, target, and operator performance in conducting search and rescue missions from aircraft. 

Two and three dimensional simulated target detection and recognition by pilots and TV gamma and gray scale transmission effects on target acquisition in flight simulators. 

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Edges and curve detection in textured regions related to visual scene analysis. 

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Perspectives and perceptions of organization behavior and design. 

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SYSTEMS, INC., CLEVELAND, OHIO. 

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Effects of spacecraft environment on oxidative metabolism. 

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Zero-gravity absorption refrigeration system design and performance testing for space station environmental control application. 

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Water electrolysis system for oxygen production during long term manned test of space station simulator. 

Psychophysiologic factors of manned space flight. 

Design, fabrication, and testing of circulating electrolyte type water electrolysis system for automatic control of spacecraft total pressure and oxygen partial pressure. 

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Design concepts for crew accommodations, personal equipment, and facilities for space station components. 

LONDON UNIV., ENGLAND. 

Ultrasound bioacoustic research using rodents and insects. 

LOS ALAMOS SCIENTIFIC LAB., N. MEX. 

Production of algae containing 93 percent C-13. 

Comparative tests of finested masks. 

Combined effects of optical absorption and thermal conduction in retinal tissue calculated for establishing thresholds for eyeburn in imaging intense light sources as lasers and nuclear explosions. 

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**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.**
Investigation of survivability of spacecraft components during entry of Jupiter atmosphere to determine probability of biological contamination

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.**
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