A CUMULATIVE INDEX

TO THE 1972 ISSUES OF
A CONTINUING BIBLIOGRAPHY ON

AEROSPACE MEDICINE
AND BIOLOGY

JANUARY 1973

CASE FILE
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
**SUPPLEMENTS COVERED IN THIS INDEX**

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The Administrator of the National Aeronautics and Space Administration has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Agency. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through July 1, 1974.
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., p0119 N72-14061. To assist the user in binding Supplements SP-7011 (99) through SP-7011 (110), 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 (99) through SP-7011 (110)] published by NASA during 1972.
WHAT THIS CUMULATIVE INDEX IS
This publication is a cumulative index to the abstracts contained in NASA SP-7011 (99) through NASA SP-7011 (110) 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 (N72-10000 series);
2. AIAA entries by their IAA accession numbers (A72-10000 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 page-number range of each Supplement appears on the inside front cover of this index. Once the range of page numbers containing the selected accession number is located in the second column, the desired Supplement number will be found in the first column. For example:

Page 195 will be found in Supplement 102.

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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The Notation of Content (NOC), rather than the title of the document, is usually used to provide a more exact description of the subject matter. (AIAA occasionally uses the title in lieu of the NOC.) The NASA or AIAA 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

- ABBREVIATIONS
- U STEROLS
- ABODES

Magnetometer and spirometer ventilation measurements from chest and abdomen movements during carbon dioxide inhalation

Human tolerance to abdominal impact injury in motor vehicle accidents

Effect of spherical spectacle lenses on the monochromatic aberration of the eye

Instrument flying skills retention, discussing initial training, discrete procedural and tracking responses

Two explanations of temporal changes in ability-skill relationships - a literature review and theoretical analysis

Chemical evolution and life origin - Conference, Pont-a-Rousson, France, April 1970, Volume 1, Molecular evolution

Life origin in space from point of hydrocarbons, cyanides, abiogenic organic synthesis and protobionts evolution

Energetical conditions of primitive biosynthesis and transdehydration feasibility on simplified present day templates

Possible origin of dissymmetry of life, excluding synthesis under influence of optically active quartz

Enzymes and coenzymes participate in prebiotic polymers, discussing ribonucleic acids and messenger RNA

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Pigments participation in lipid systems formation, considering chlorophyll photosynthetic activity in surface active agents

Ion selective accumulation model of carbohydrates diffusing through artificial polymer membranes, relating prebiological systems to catalytic microsystem

Antibiotic polypeptide synthesis of gramicidin S and tyrocidine, using primitive model of sequential addition of amino acids on polymers

Genetic code numerical structure association with logarithmic optimization rule for hierarchy of structures from molecular biology experiments

Inorganic polyphosphates effect on phosphorus metabolism evolution in primary living organisms, noting polyphosphate deucokinase distribution in various microorganisms

Biological energy transformation origin and evolution, discussing inorganic pyrophosphates precursor to adenosine phosphates as energy carriers

Prebiological food origin in carbonaceous meteorites, considering extraterrestrial environments, organic synthesis and terrestrial analogs

Extraterrestrial life on Mars and Venus and Jupiter atmospheres, discussing abiogenesis failures on life-supportable planets

Ionizing radiation as effective energy in prordial organic synthesis, discussing small molecule formation and subsequent condensation into polypeptides and polynucleotides

Biological phosphate origin through atmosphere-hydrosphere interrelations, discussing concentrative processes, dehydration mechanisms and evaporation

Book on origin of life by natural causes covering physical geology, astronmy, biogenesis and evolution of life stains, orogenetic cycle, fossil life, and primeval atmosphere

Papers on exobiology covering abiogenesis, extraterrestrial life, primordial organic chemistry, biochemical evolution electronic factors, membranes origin, molecular chirality, protein and cellular evolution, etc

Extraterrestrial life origin and development possibilities from earth chemical and biological evolution description, noting external conditions requirements

Structure, function and origin of biological membranes, considering related surface phenomena.

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ACCELERATION STRESSES (PHYSIOLOGY)

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p0492 A72-40483

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p0260 A72-19157

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discussing body mass loss, reduced lymphocyte
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Adenosine diphosphate (ADP) and adenosine triphosphate (ATP) are key molecules in cellular energy metabolism. ATp is particularly important in the conversion of oxygen to ATP and is utilized for various energy-requiring processes. Research has indicated that specific ATp actions may play roles in metabolism, including during ischemia and in oncogenic adenoviruses. Additionally, ATp plays a role in the regulation of biochemical processes such as respiration control mechanisms and the adaptation to changes in systems or environment. Understanding these processes is crucial for advancing knowledge in energy metabolism and adenosine pathways.
Beta-adrenergic blocking effect on canine coronary and cardiac function from cardiac autonomic neural activity.

Unconjugated urinary corticosterone excretion in laboratory rats exposed to high pressure helium-oxygen environments.

Alkaline phosphatase activity of adrenocortical cells in tailed newts.

Psychological aspects in aerial photointerpretation, discussing importance of perception of image contrast, contours and areal distribution.

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Effect of apparent scene illumination on in-flight visual detection of ground targets during aerial reconnaissance.

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Growth of Aeromonas proteolytica and production of proteolytic enzymes inside spacecraft cabin during space flight.

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Water-soluble filter for trapping airborne microorganisms.

AERODYNAMIC FORCES

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AERODYNAMIC MECHANICS

AERODYNAMIC VEHICLES

AERONAUTICS

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Personnel management system in aeronautical engineering service of East German Air Force/Air Defense.

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Development of concepts to improve selection and training of apprentices in aviation work.
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Statistical survey of barosinusitis incidence in U.S. Navy flying personnel during altitude chamber training, discussing diagnostic methods and clinical management

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Quantitative photometric leakage measurements on human dust respirators in aerosol test chamber

Analysis of behavior of aerosols in high pressure helium-oxygen environment and removal of harmful aerosols from environment

Acute toxicity of HCl vapor and HCl aerosol tested on rats and mice

AEROSPACE ENGINEERING

Onboard computer for operational purposes and space suits in space station, lunar base and Mars missions

Effects of space environment, acceleration, and vibration on feeding, growth, and morphology of amoeba, Pelomyxa carolinensis

AEROSPACE ENVIRONMENTS

Space environment weightlessness and radiation effects on leeches, Drosophila, reproduction and growth from rocket biological experiments

Space environment weightlessness induced pericellular depolarization, considering heart-eye coordination, visual judgments and motion and time perception

Biotlemetry and computer analysis techniques for systems and tasks simulation

Apparatus for programmed oral administration of drugs to large primates in altered environments

Experimental investigation of an astronaut maneuvering scheme

Effects of the space flight environment on man's immune system. I - Serum proteins and immunoglobulins

Environmental aerospace effects on human visual physiology

Conference on space biology related to Post-Apollo program, Paris, Mar. 1971

Aerospace environment effects (noting weightlessness and bioevolution) on planets, cells, and amoeba in Genial and Biosatellite experiments

AEROSPACE INDUSTRY

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AEROSPACE MEDICINE

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Case history of student aviator with psychosomatic rhabdomyolysis vasospasm related to vestibular apparatus

Medicopsychological surveying of fighter pilot school, stressing time factor in pilot training

Navy sponsored medical R and D programs for space applications, stressing benefits to earthbound medical services

Functional diagnostics of teeth condition as pilot health factor in stomatological aviation medicine, discussing caries, paradentosis and asepsis

Asthmatic evolution and treatment in armed forces aircrews, noting acetylcholine test

Hyperuricemia, gout and lithiasis among operating aircrews, discussing diagnosis and, relation to arteriosclerosis

Permanent flight unfitness attributable to air service, noting orthopedic traumatic sequelae, cardiovascular illnesses, psychological and ophthalmological causes

Space medical urological problems from experience with Biosatellite 3 monkey, discussing closed catheter conduit system, urinary calcium changes in immobilized animals and urinary dysfunction

Medical evaluation of manned space flight physiological effects, considering Mercury
Russian book on pathophysiological principles of air and space pharmacology covering stress and fatigue reduction and pilots and astronauts performance improvement

Aerospace medicine - Conference, Del Mar, CA, 1972

Low cost real time computerized C / A radiologic tomography and radiology system for monitoring human metabolism during space missions


Pharmacologic oto- and ophthalmologic investigation of vestibular analyzer function in aviation medicine

Medical investigations during Skylab space-station flight, discussing weightlessness, effects and efficiency evaluation of preventive measures for crewmembers high performance in space flight

Medical requirements for manned space flight, discussing physiological data monitoring and transmission, equipment miniaturization, telediagnosis, spacecraft environment protection, etc

Medical and technical aspects of rescue and survival of astronauts in high mountain and mountainous remote areas.

Russian book - Theory and practice of aviation medicine

U.S.A.F. aerospace medical research on human capabilities as limiting factors in defense system development, discussing environmental simulators and base tent facilities

The use of cholesteric liquid crystals in the study of skin temperature and their applications in aviation medicine

An integrated medical system for long-duration space missions

Airport medical design guide with comment on certain operational matters.

Annotated bibliography and index on aerospace medicine and biology - October 1970

Effects of spacecraft environmental conditions on human and space biomedical problems

Medical research performed with crew of Soyuz spacecraft

Utilization of aerospace medical techniques to public health particularly hypokinesis

Aerospace medical and ergonomic factors of manned space flight

General and specific medical causes for grounding flying personnel - conferences

Trends and factors related to medical causes for grounding flyers, based on U.S.A.F. model of Aerospace Medicine experience

Medical practice, management, and research for grounding in relation to Air Force flying personnel

Ten year analysis of medical factors in flying and flight training in Greek Air Force

Operation of, and medical cases reviewed by, Navy Special Board of Flight Surgeons

Conference on space biology related to Post-Apollo program, Paris, Mar. 1971

Biosciences data from manned space flights: (Gemini/Apollo) and medical program for Skylab

Annotated bibliography and index on aerospace medicine and biology - January 1972

Problems and techniques of space pharmacology

Major technical facilities for aerospace medical research and development

Annotated bibliography and index on aerospace medicine and biology - December 1971

Application of aerospace technology to medical equipment, and diagnostic procedures of earth health care systems

Handbook on aviation medicine for safe mental and physical health of aircrew during flight operation

Proceedings of conference on medical aspects of spatial disorientation and effects in use of safe aircraft operation

Clinical evaluation and medical treatment of spatial disorientation problem in flying personnel

F.A.A. index on aviation medicine and aero-medical data reports

Annotated bibliography and index on aerospace medicine and biology - April 1972

Annotated bibliography and index on aerospace medicine and biology - May 1972

Noise environment in C-147 during ground and airborne operation
Physiological index changes in parachutists of various ages, considering plasma heart beat, arterial pressure and body temperature and age factor effects.

Manipulation of projected afterimages by means of the physiological theory imposed on the observer.

Contour-contingent color aftereffects - Retinal area specificity.

Discontinuity of seen motion reduces the visual motion aftereffect.

Investigations concerning the problem of virtual contours in visual perception.

The effect of size, retinal loci, and orientation on the visibility of a single afterimage.

Interactions between spatial and kinetic dimensions in saccadic aftereffect.

Complete assimilation of briefly presented lines.

The photopigment bleaching hypothesis of complementory afterimage - A psychophysical test.

Mathematical model of optical illusions and figural aftereffects

AGC (CONTROL)
U AUTOMATIC GAIN CONTROL
U DETERMINATION
U CHRONOLOGY
AGC FACTOR
Age and physique effects on human continuous work capacity, monitoring heart rates during task performance.

Age related diminutions in ballistocardiographic and electrocardiographic amplitudes, observing relation to heart position lateralization and size reduction.

Altitude hypoxia resistance and endurance in dogs of various ages, discussing homeostasis, retention, altitude ceiling and survival time.

Doppler ultrasonic probe phonocardiography for human cardiovascular velocity measurement, showing normal training and aging effects.

Electrocardiographic age trends in age-matched populations, discussing diagnostic implications and overweight, exercise and latent coronary artery disease influence.

Aging effect on visual acuity variations relation to refraction variations in flight deck personnel, noting eye functional value diminution.

Adjustment to subjective horizontal, vertical and 45 deg. tilt in dark as function of age in 3-20 year old subjects.

Arterial hyperension development during hypoxic: overtime early stages related to age in dogs.

Ventricular and supraventricular arrhythmias incidence during maximal treadmill exercise in normal man, noting age factor and cardiovascular disease presence effects.

Human body efficiency in paced and un paced performance as function of age.

EKG measurement of sleep behavior patterns, discussing sleep stages, temporal patterns, circadian rhythms, intrasleep process stability and age factor.

Neurodynamic criteria for physical fitness in airmen, discussing age dependent variations in heart beat, arterial pressure and body temperature.

Physiological index changes in parachutists of various ages, considering plasma recalcification, blood pigment levels, hepatic time, fibrinolytic activity, pressure and heart beat.

Atherosclerosis, arteriosclerosis and the influence of atherosclerotic risk factors.

Aging and radiation-induced life shortening in Drosophila melanogaster.

Effects of cosmic rays on cells and aging action of heavy ions on cerebral cortex.

Agricultural horticulture possible role as life support.
Short sleep period and oxygen breathing effects on arousal levels of air traffic controller detecting task performance

[AD-733685] p0247 #72-18119

Airborne infection

Portable clean room, ventilation system, human factors, electrical sub-system, and material compatibility test procedures for experimental systems for control of surgically induced infections

[RASA-CR-124762] p0087 #72-13075

Airborne terrain analysis

O terrain analysis

Airborne/spacborne computers

A new concept of flight displays compatible with digital airborne computers.

[AD-735197] p0504 #72-41426

Aircraft

Liquid and gaseous oxygen accidents involving space, aircraft, and ground systems

[RASA-TM-67953] p0065 #72-12056

Combined shoulder harness and lap belt restraint system for use in aircraft or automobiles

[RASA-CASP-ARC-10519-1] p0534 #72-31117

Aircraft accident investigation

Human ejection vertebral injury data in aircraft accidents by cross reference to final medical report, considering causes and prevention for seat systems

[AD-733957] p0020 #72-11714

Pilot in-flight incapacitation probability from airline reports, career termination studies and questionnaire responses

[AD-733685] p0064 #72-134870

Fatal aviation accident human factors investigation by roughography, noting flight environment factors, injury pattern relation to aircraft design and victim identification

[AD-733685] p0077 #72-17680

Uric acid to urate nitrogen ratio as an assay test for identification of avian tissue in verifying bird ingestion on impact as aircraft accident cause

[AD-737855] p0163 #72-20184

Human, technical and environmental factors in accidents of naval P-104 squadron, considering temporal distribution of accidents and pilot physical condition

[AD-733685] p0026 #72-27820

Medical factors in air racing accidents, investigating drug, fatigue and gastrointestinal symptoms effects on pilot reaction time

[AD-733685] p0343 #72-31089

General aircraft accident investigation approach, using subsequent psychosocial reconstruction of pilot lifestyle to explain accident-producing behavior

[AD-733685] p0344 #72-31095

Aircraft accident in the Faroe Islands in 1970 - Observations from a medical point of view, with special reference to spinal fractures

[AD-733685] p0120 #72-34556

Grouping of the causative factors in investigation of aircraft accidents attributed to pilot errors

[AD-733685] p0120 #72-34557

Aircraft accidents

Nausea, glare effects and acidity recuperation among aircrew, noting civil and military aircraft accidents during daytime and nighttime flights

[AD-733685] p0117 #72-21722

Disorientation in naval aircraft accidents from psychophysiological and environmental factors, suggesting flight scheduling and training improvements

[AD-733685] p0180 #72-21574

Pilot survival probabilities under various conditions of high performance aircraft takeoff and landing accidents, suggesting emergency action guidelines for pilot training

[AD-733685] p0226 #72-23732

USAF aircraft accidents/injuries in personnel aircrewmen with medical waiver on various visual, cardiopulmonary and other chronic pathological and psychiatric conditions

[AD-733685] p0297 #72-28315

Head-up omnidirectional two dimensional auditory display device for visual detection facilitation in aircraft collision avoidance systems

[AD-733685] p0299 #72-28327

General aviation crashworthy personnel restraint systems, discussing strap take-up devices, comfort, fit and ease of use

[AD-733685] p0324 #72-28726

Airframe equipment

Airborne/spacborne computers

Development trends in airborne man machine flight control, discussing optimal division between human pilot and machine in relation to total system performance and economic factors

[AD-733685] p0217 #72-22781

Airborne spectrometer for determining spectral contrast ratio between fish schools and adjoining water

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Passenger behavioral inaction in survivable aircraft accidents, suggesting maladaptive 'behavior for counteraction by leadership and/or training

Aircraft accident statistical projective from human error review, analyzing situational circumstance limitations

Human tolerance limitations related to aircraft crashworthiness,

Response of a seat-passenger system to impulsive loading.


Intoxicating liquor and the general aviation pilot in 1971.

Evaluation of equipment used in aircraft crash escape operations

Impact parameter effects on severity of human cranioencephalocerebral trauma in aircraft accidents

Personal observations of 340 fatal aircraft accidents for confirmation of lacerations to victims

Protective helmets designed to lessen effects of head injury due to impact in aircraft accidents

Use of shoulder harness in general aviation aircraft to prevent or minimize injury during crashes

Effectiveness of restraint equipment in controlling head impact forces and body kinematics in enclosed aircraft areas

Analysis of spatial disorientation occurrences among military pilots and classification according to types of aircraft and nature of accidents

Analysis of military aircraft accidents caused by spatial disorientation

Statistical analysis of military aircraft accidents to determine incidents caused by spatial disorientation

Psychophysiological and environmental factors involved in aircraft accidents of military aircraft and effect of flying experience in reducing spatial disorientation

Biodynamic models for determining suitability of energy absorber in protecting seated man from high acceleration aircraft impacts

AIRCRAFT BRAKES

Foot forces exerted at various aircraft brake-pedal angles, observing 20 degree zone with maximum effectiveness

AIRCRAFT BREATHING APPARATUS

U-BREATHER APPARATUS

AIRCRAFT CABINS

AIRCRAFT COMPONENTS

AIRCRAFT CARRIERS

Night Carrier Landing Trainer flight and carrier environment simulator for A-7 aircraft pilot training, discussing performance predictions from computer data analysis

Pilot landing performance prediction criteria based on during night carrier qualification trials and flight training

Factor analysis and statistical test human carrier landing performance criteria

AIRCRAFT COMMUNICATION

Automation in planning and execution of flights, considering navigation, communication, flight instruments monitoring, control/stabilization

AIRCRAFT COMPARTMENTS

Effects on threshold luminous intensity and display visibility in aircraft cockpits

AIRCRAFT CONFIGURATIONS

Technological forecasting of future pilot-aircraft interface requirements

AIRCRAFT CONTROL

AT HELICOPTER CONTROL

Anthropotechnical aspects of V/STOL aircraft control, discussing instrument and control systems concepts based on development and flight tests of experimental Do-31 VTOL aircraft

Individual style differences between operators of simulated aircraft control

Pilot-aircraft system model for relationship between weapons delivery accuracy and manual flight control system design, noting display, computation, and control aids to pilot

FAA Program for revision of aviation technical data, maximum allowable control forces specifications, taking into account female pilots capabilities

Airplane attitude display motion relationship to external world as factor in pilot error due to visual frame of reference shift

Relationships among isometric forces measured in aircraft control locations.

Lectures on theory of manual-vehicle control

Results of the investigation of different extrapolation displays.

Aircraft interception avoidance problem solved by differential game theory, discussing human operator decision making for random pursuit tracking

Measurement of pilot stress in simulated aircraft control tasks

Contribution of reduced visibility and turbulence to loss of aircraft control and inadvertent aircraft maneuvers

Mathematical models for describing pilot performance during multi-input-output controller tasks

Performance of human model in controlling attacking fighter aircraft

Measurement of maximum isometric forces male subjects can exert at six locations of hand operated aircraft controls based on development and flight tests of experimental Do-31 VTOL aircraft

AIRCRAFT DESIGN

Human factors engineering of aircraft cockpit data entry keyboards on area navigation control and display units

Alerting light and audio signals for aircraft pilots, considering implications for aircraft design

Aircraft design for acceptable vibration level, discussing flight vibration and runway response

Energy absorbing seat design for light aircraft, describing development and static and dynamic testing

LOX supply system installation for civil transport aircraft crew and/or passengers breathing oxygen

Human engineering requirements in aircraft system development.

AIRCRAFT DETECTION

The visibility range when observing an aircraft
with and without field-glasses...

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AIBCBAPT HAZABDS

AIBCBAPT IISTBOBBITS

AIBCBAPT LABDIBG

"advanced aircraft"

Performance and support requirements of life support systems for aircraft flight crews

[AD-732163]
p0195 [W72-16058]

Negative g strap for restraint, and performance during aircraft aeroacoustics, vibration, and crash impact

Simulator evaluation of airborne displays used on traffic situation monitors in high density terminal areas to determine effect on aircraft pilot performance

[FAA-EN-72-3]
p0566 [W72-32137]

AIRCRAFT REPAIR

Boeing 707 rapid decompression at 25,000 feet, noting rivet hole fatigue damage

Hypoxia incidents in Strategic Air Command due to cabin pressurization malfunction

Acute toxicity of brief exposures to HF, HCl, NO2, and HNO3 singly and in combination with CO which constitutes some products produced in aircraft fires

[FAA-EN-71-811]
p0087 [W72-13061]

AIRCRAFT INSTRUMENTS

Electronic head-up displays for aircraft instrument indication in symbolic form at pilot eye level

Comparison of human performance in reading aircraft instrument display systems consisting of vertical tape and vertical light emitting diode devices

Colors for elements of multicolored aircraft instrument display to insure minimum number of instrument reading errors

Integrated cockpit research procedure used to identify control and display requirements for advanced aircraft

Prediction and measurement of multichannel pilot performance, and system design implications for pilot capability and limitations

Assessment of design, aircraft cockpit layout, and display/control system

AIRCRAFT LANDING

Night Carrier Landing Trainer flight and carrier environment simulator for A-7 aircraft pilot training, discussing performance predictions from computer data analysis

Workload modification effects on pilot neurocognitive changes during Boeing 707 lowdown, approach and landing

Pilot landing performance prediction criteria based on day and night carrier landing trials and flight training

Pilot workload assessment technique during transport aircraft approach and landing, correlating with aircraft serviceability, crew efficiency, navigation aids, meteorological conditions and control procedure factors

Computerized analysis of display requirements for aircraft longitudinal control in landing approach

Development and application of training films for instructing pilots in landing T-37 aircraft

Convergence effects in visual distance perception of pilot during aircraft landing

Factor analysis and statistical data for human carrier landing performance criteria

Development of analytical model for determining probability of successful instrument landing and assessment of interaction of factors with flight crew

AIRCRAFT LAUNCHING DEVICES

Human centrifuge tests to determine aircraft pilot disorientation during aircraft carrier Launchings

AIRCRAFT MAINTENANCE

Performance tests to determine proficiency of maintenance personnel in servicing tail rotor of UH-1 helicopter

Performance tests to evaluate proficiency of maintenance personnel in trouble shooting and repairing UH-1 helicopter

Performance tests to determine proficiency of maintenance personnel in servicing power cylinder servo valve on UH-1 helicopter

Development of job performance tests to determine proficiency of maintenance personnel in troubleshooting and repairing UH-1 helicopter lighting equipment

Performance tests to determine proficiency of maintenance personnel in servicing main drive shaft of UH-1 helicopter

AIRCRAFT NOISE

Jet Aircraft Noise

Airport surrounding communities survey on attitudes toward aircraft noise, noting daily activity disturbance, emotional reactions, economic effects, noise abatement awareness, etc

Noise aircraft noise protective earplug design, employing perforated and slit modifications for additional protection without tympanic membrane pressure excursion

Helicopter noise and vibration testing and cabin soundproofing for improved comfort

Flying personnel auditory defects caused by environmental conditions, discerning aircraft noise, vibrations and atmospheric pressure effects

Social survey of annoyance caused by aircraft and road traffic noise

Noise environment of C-7A during around and airborne operation

Conventional and high frequency audiograms of prop, cot, and rotary pilots

Tests of perceived boininess under anechoic, semi-reverberant, and earphone listening conditions for predicting relative annoyance of various aircraft noises

Application of paired comparison method and magnitude estimation method for determining noise levels generated by aircraft

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AIRCRAFT PILOT PERFORMANCE

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Mountain inhabitants cardiovascular adaptation to chronic hypoxia, studying coronary flow and myocardial oxygen consumption and efficiency

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Ventilatory peripheral chemoreflex response to hypoxia during physical exercise in native highlanders and altitude-acclimatized lowlanders

p0279 A72-34395

Thyroidal influence on myocardial changes induced by simulated high altitude

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Myocardial metabolic changes in chronic hypoxia

p0277 A72-34995

Role of the synthesis of nucleic acids and proteins in the adaptation of the organism to altitude hypoxia

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Heart and the coronary circulation of man in chronic hypoxia

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Cardiac performance and the coronary circulation of man in chronic hypoxia

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Pulmonary gas exchange in Andean natives at high altitude

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Hemopoiesis in the pig-tailed monkey Macaca nemestrina during chronic altitude exposure

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Regional lung function during early acclimatization to 3,100 m altitude

p0271 A72-40424

Lack of effect of high altitude on hemoglobin oxygen affinity

p0270 A72-40424

Hypoxic pulmonary steady-state diffusion capacity for CO and alveolar-arterial O2 pressure differences in growing rats after adaptation to a simulated altitude of 3500 m

p0269 A72-41622

Cardiac output, arterial and mixed-venous O2 saturation, and blood O2 dissociation curve in growing rats adapted to a simulated altitude of 3500 m

p0268 A72-41623

Cardiac hypertrophy, capillary and muscle fiber density, lacuna-fiber diameter, capillary radius, and diffusion distance in the myocardium of growing rats adapted to a simulated altitude of 3500 m

p0267 A72-41623

High altitude physiology: Cardiovascular and respiratory aspects; Proceedings of the symposium, London, England, February 17, 18, 1971

p0266 A72-42583

Adaptive processes responsible for natural acclimatization of human organisms to low ambient pressures at high altitudes

p0265 A72-42584

Nephrometric evaluation of changes in lung structure due to high altitude

p0264 A72-42585

The carotid body in animals at high altitude

p0263 A72-42589

Suprapontine influences on hypoxic ventilatory control

p0262 A72-42590

Genetic aspects of the blunted chemoreflex ventilatory response to hypoxia in high altitude adaptation

p0261 A72-42590
ALTITUDE SICKNESS
Reproducibility of acute mountain sickness severity and duration in individuals under high altitude simulation, noting relationship to hypoxia.

ALTITUDE SIMULATION
Hypoxia induced by hypoxia in rats, discussing colonic temperature during high altitude exposures and seasonal variations.

ALTITUDE TESTS
MT HIGH ALTITUDE TESTS
Disposable emergency oxygen mask for air passengers based on continuous flow, phase dilution principle, describing altitude chamber tests with human subjects to study physiological responses.

ALVEOLAR AIR
Lung ventilation nonuniformity determination by single breath method, showing nitrogen concentration in alveolar phases

ALVEOLAR OXYGENATION
Acute and chronic hypoxia effects on rat myocardium, the effects of treatment on the heart and kidneys, and the role of lactic dehydrogenase in myocardial metabolism.

AMBIGUOUS DESCRIPTIVE

Hypoxia tolerance among pilots during aircraft simulation in decompression chamber, obtaining EEG and cardiac rhythms recordings.

ALVEOLAR EMPIRICAL

Blood flow stratification effect on alveolar-gas exchange in liquid filled lungs, in dogs from Xe concentration data to calculate alveolar pressure, using digital computer simulation.

ANATOMICAL AND HISTOLOGICAL FINDINGS IN ABNORMAL PO282 A72-27861 BLOOD VESSELS IN THE SKIN IN PERMANENT AND TEMPORARY RESIDENTS AT HIGH ALTITUDE.

ANATOMICAL AND HISTOLOGICAL FINDINGS IN ABNORMAL PO282 A72-27861 BLOOD VESSELS IN THE SKIN IN PERMANENT AND TEMPORARY RESIDENTS AT HIGH ALTITUDE.

ANATOMICAL AND HISTOLOGICAL FINDINGS IN ABNORMAL PO282 A72-27861 BLOOD VESSELS IN THE SKIN IN PERMANENT AND TEMPORARY RESIDENTS AT HIGH ALTITUDE.
A biopsy of the animal's tissue revealed elevated concentrations of oxygen and ambient temperatures, determining external auditory canal and core temperature relationships. The environmental temperature effect on motion sickness, sweating, and the discomforting symptomatology prediction of ambulatory temperature changes were also noted. The sweating relation to body temperature after exhaustive exercise for various oxygen uptake and ambient temperatures was observed.

Amphibious systems, communication ambiguities due to information misinterpretation involving sense organs, previous experience, and the misattribution of ambiguity characteristics, were studied. An annotated bibliography of selected works on ambiguity and its effect on decision making was compiled.

The uptake, metabolism, and release of C/14-taurine was examined. Gas dynamics and chemistry of lightning-produced shock waves were investigated, and postulated primordial shock waves and thunder from interstellar formaldehyde and ammonia molecules were discussed.

ANOVA data emphasized inhibited amino acid transport and acetyl derivatives detection and separation in animal tissue extracts. Using water-benzene solution as solvent, amino acid mutant substitution correlation with genetic and nucleic acid structure variations from comparative data was noted. Sensory impairment and manipulative techniques in human, bovine, ovine, porcine, and salmon eggs applied to space flight were considered.

The uptake, metabolism, and release of C/14-taurine by rat retina in vitro was studied. The uptake of amino acids and nucleic acids, enzymes, and other organic compounds in soils were discussed. Recently published protein sequences were noted.

Intertidal formaldehyde and ammonia molecules effects on prebiological amino acids evolution were presented. Protein evolution, discussing biological group amino and nucleic acid structure variations from phylogenetic tree of cytochrome c data, was examined. Pathogenesis of in-flight illusions acceleration sensations, discussing amino acid level, protein metabolism rate, and pyridoxin metabolism were explored.

Radioactive decay of amino acids and nucleic acids within various phylogenetic groups was noted. The uptake, metabolism, and release of C/14-taurine by rat retina in vitro was studied. Gas dynamics and chemistry of lightning-produced shock waves were investigated, and postulated primordial shock waves and thunder from interstellar formaldehyde and ammonia molecules were discussed.

The uptake, metabolism, and release of C/14-taurine was examined. Gas dynamics and chemistry of lightning-produced shock waves were investigated, and postulated primordial shock waves and thunder from interstellar formaldehyde and ammonia molecules were discussed.

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Manual tracking control with continuously variable selectivity in response to system state, noting intuitive optimization p0504 A72-41425

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ANALOG CIRCUITS
Psychophysiological data acquisition with hybrid analog circuits p0038 A72-10105

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Cardiovascular analog computing circuits with outputs for left ventricular pressure maximum rate of rise, cardiac stroke volume and atrioventricular conduction time p0173 A72-20899

Dynamical electrocardiography with analog computer program to detect, count and classify atrial and ventricular ventricular depolarization complexes p0034 A72-12951

Design of specialized analog computer for on-line monitoring of cardiac stroke volume by means of modified version of pressure pulse contour method p0010 A72-20109

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Development of system for processing of cardiac performance data from analog to digital form for direct entry into computer [NASA-TR-X-2519] p0246 A72-18111

ANALOG SIMULATION
Electronic analog models of human retinas and visual systems; discussing optical character recognition, signal processing, photoreceptor stimulation, visual cortex excitation and further model development p0004 A72-10471

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German monograph on analog model of thermo-regulation in human body at rest and at work, describing heat transfer p0096 A72-16047

Conditioned reflex activity, discussing biological and nervous system, electronic analog simulation and mathematical and structural modeling p0182 A72-21842

Cardiovascular system model for demonstration of biological system analog simulation and computation, describing components for heart pumping action and systemic circulation p0274 A72-22450

Two compartment analog model of thermoregulation during rest and exercise, considering temperature, heat conductance, sweat rate and oxygen uptake p0363 A72-31650

Digital and analog simulation of deep space rendezvous by autonomous self maneuvering units and considering human reactions and fuel consumption p0007 A72-13069

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Arterial pressure data recording technique using magnetic tape recorder and automatic conversion to digital form p0284 A72-27669

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Automated, six channel, discrete sample electrolyte analyzer, using peristaltic pump [AD-737568] p0440 A72-27091

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Space flight stress effects on human vascular system  

Anatomical function of spermaceti organ in sperm whales  

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Effects of chloralose-urethan anesthesia on temperature regulation in dogs.  

Visual evoked potential changes of chloralose anesthetized cats in hyperbaric atmospheres  

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Differential neuropsychological and psychological effects of subanesthetic concentrations of cyclopropane, diethyl ether, methoxyflurane and etrane in conscious man  

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Idiopathic hypertrophic subaortic stenosis ballistocardiography, measuring ventricular function by angiography  

Coronary angiography findings in 263 patients of different age groups compared with history of angina pectoris, risk factors and ECG at rest  

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Clinical response to nitroglycerin therapy correlation with coronary angiography as diagnostic test for coronary artery disease in patients with chest pain  

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Left ventricular volume time course from computer processing of video angiographic data based on X ray densitometry measurements  

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P0368 872-32497

Correlation between echocardiogram, ballistocardiography and coronary angiography in 267 patients.  

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Effects of coronary arteriography on myocardial blood flow.  

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Clinicoangiographic correlations in angina pectoris with and without myocardial infarction.  

P0553 872-45010

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Anatomical function of spermaceti organ in sperm whales  

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Studies from improved neurophysiological research methods, emphasizing cytoarchitectural differentiation functional significance  

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Human vocal apparatus anatomical and neural structure, considering linguistic sounds composition  

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Alcohol ingestion effects on tracking performance
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Mathematical model for semicircular canal dynamics
Role of angular acceleration in cupula displacement

DOB THYROID GLAND STRUCTURAL CHANGES UNDER
Repeated radial acceleration, noting atrophic process and autonomous reactions roles

Alcohol ingestion effect on vestibular responses to angular acceleration and Coriolis stimulation, discussing systemic and subjective responses

Airlise pilot rotation perception during angular acceleration tests, noting power law description of subjective motion for three major body axes

Effect of impact angular acceleration on hawan
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MT BEETLES
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MT CHICKENS
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MT FLAGELLATE
MT FROGS
MT GROUND SQUIRRELS
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MT HUMAN BEINGS
MT INSECTS
MT INVERTEBRATES
MT KARRALS
MT LICE
MT MOSQUITES
MT PELORITA
MT PIGEONS
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MT PUPAS
MT RABBIT S
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MT SEA URCINS
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MT WHALES
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Telemetric instrumentation for remote physiological and behavioral observations of free roaming animals
Animal response to sonic booms, considering nystagmic reactions in detail
Biological experiments on plants, animals and bacteria aboard Zond 5, 6 and 7 space probes, noting flight conditions effect on physiological functions and hereditary structures

Susceptibility of chinchilla ear to damage from impulse noise
Animal vessel adaptation to gravitational overloads in head-pelvis direction

Effects of inhalation of freon 113 on laboratory animals

Animal response to sonic booms, considering mink hepatic drug metabolism, discussing ethylmorphine, p-nitroanisole and aniline

Effects of high-pressure on physiological processes in dogs, monkeys, and rats during 90 day continuous exposure

Biological effects of weightlessness on reactions and physiological responses of animals and humans

Respiratory perception and behavioral responses of can and animals to gas composition changes

Critical review of research on assimilation of nitrogen by higher organisms

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Time series analysis of meteoro-physiological disturbances of human regulation mechanisms, investigating annual variations of diurnal rhythms
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Thyroidal influence on myocardial changes induced by simulated high altitude.

Acute myocardial anoxia - anatomical changes and their possible relation to immunological processes.

Anoxic tolerance of the heart muscle in different types of chronic hypoxia.

Anoxia and genetic strain effects on ionizing radiation damage and repair of deoxyribonucleic acid in Escherichia coli (507=2604-39)

ANATOMIC REGIONS
Computer analysis of clothing and human acclimatization to Antarctic Region

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Medical aspects of human cold acclimatization during stay in polar regions.

[JPSS-562251]
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Human physiologic reactions and pathology in Antarctic acclimatization.

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Clinical evaluation of human physiological acclimatization processes in Antarctica.

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Psychophysiological factors of human adaptation to Antarctic life.

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Polar light regime effects on human blood system during Antarctic life.

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Oxygen saturation of human blood during preconsole stay in Antarctic region.

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Anthropometric data utilizing for military pilot/aircraft compatibility evaluation, discussing cockpit exclusion code development and implementation

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Human coagulating and anticoagulating blood system changes due to emotional stress during parachute jumps, noting plasma recalcification time increase.

[AD-73632K]
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Ascorbic acid influence on blood coagulation and anticoagulation system in dogs with acute hypoxia, discussing plasma recalcification time and heparin tolerance

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Renal clearance studies of left atrial distention in dogs, indicating anti diuretic hormone inhibition mechanisms of diuresis

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p0071 A72-15233
Ascorbic acid influence on blood coagulation and anticoagulation system in dogs with acute hypoxia, discussing plasma recalcification time and heparin tolerance

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ANTIMETABOLICS
Renal clearance studies of left atrial distention in dogs, indicating anti diuretic hormone inhibition mechanisms of diuresis

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performance decrement as function of anxiety

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student drop outs from naval flight training

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Variables responsible for post-awakening visual

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Idiopathic hypertrophic subaortic stenosis

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Idiopathic subaortic stenosis

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Aortic flow disturbances in vivo study by hot-file

'ansometer, considering peak flow velocity and

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Aortic constriction and release effects on kidney

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Arterial velocity profiles measurement in dogs

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Fluid mechanics of left ventricle model with

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Single linear measure of systolic pressure

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Temporal relation of the second heart sound to

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Aortic requirgitation variation with respiratory

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Idiopathic hypertrophic subaortic stenosis

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Aortic requirgitation variation with respiratory

sinus arrhythmia and respiratory cycle in dogs

during tachycardia and bradycardia

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AORTA
Simulation of emergency occurring on Apollo 13 flight and development of procedures for employing lithium hydroxide canisters to reduce ambient carbon dioxide levels.

APOLLO 15 FLIGHT

Apollo 15 food system, describing new items, improvements in production methods, packaging, and preparation with emphasis on rehydratable foods.

Analysis of vegetable seedlings grown in contact with Apollo 15 lunar surface fines.

Postflight analysis of Apollo 15 cryogenic oxygen system.

APPLICATIONS OF APHED FORCES

Mathematical methods for treating biomedical problems in chemotherapy, radiotherapy, and mental health.

APPROXIMATION

BT FINITE ELEMENT METHOD

APSIDAL ANGLES

U ANGLES (GEOMETRY)

APITUDE

Interrelationships of age, aptitude measures, and training performance scores for air traffic controllers.

Development of motion picture test for determining aptitude of human subjects for air traffic duties.

Validity of aptitude tests for air traffic controller selections.

Motion picture test for air traffic control aptitude for use in personnel selection and evaluation.

Development and application of multiple task performance tests for preliminary screening of air traffic control trainees.

APPROBATION

INTERRELATIONSHIP OF AGE, APITUDE MEASURES, AND TRAINING PERFORMANCE SCORES FOR AIR TRAFFIC CONTROLLERS

APPROACH

APPROACH CONTROL

APPROACH INSTRUMENT APPROACH

APPROXIMATION

BT FINITE ELEMENT METHOD

APSIDAL ANGLES

U ANGLES (GEOMETRY)

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Development and application of multiple task performance tests for preliminary screening of air traffic control trainees.
Ten year analysis of medical factors in flying and flight training in Greek Air Force

Description of routine cardiologic program to determine flight fitness for German Air Force

Long term electrocardiograms in analysis of rhythmic heart disturbances of German Air Force

Physiological factors possibly contributing to coronary risk among German Air Force pilots

Nasal and aural disorders and flight fitness in German armed forces

Ophthalmological reasons for grounding pilots of German Air Force

Possible diabetes mellitus in flight crews, Canadian Air Force

Psychiatric reasons for permanent grounding of flight crew members in Royal Air Force

Psychological factors in pilot grounding in German Air Force

Personnel management system in aeronautical engineering service of East German Air Force/Defense

Job performance test for determining effectiveness of OH-1 helicopter used by Vietnamese air force

Maintenance personnel job performance test for OH-1 helicopter used by Vietnamese Air Force

Personnel medical examination for determining flight fitness for German Air Force

Decompression sickness treatment in USAF hyperbaric oxygen chamber

Role of flight surgeon and physician-pilot in evaluation and treatment of jet fighter pilots

Trends and factors related to medical causes for grounding flyers, based on USAF School of Aerospace Medicine experience

Medical practice, management, and reasons for grounding in relation to Air Force flying personnel

Operation of, and medical cases reviewed by, Navy Special Board of Flight Surgeons

Cardiac conditions as factor in evaluation flight fitness of Air Force personnel

Factors in medical suspensions of Air Force flying personnel

Early aptitude-achievement discrepancies as predictors of voluntary withdrawal from naval aviation training

Effects of OH-2A OH-1 helicopter on injuries during ejection/escape in USAF

USAF training of airborne skills in ground environment

Application of systems engineering concept to US Coast Guard aviator training program

Automated technical training devices for Air Force instruction program

Development of materials for providing flotation capability for personnel wearing body armor

Materials and designs of protective armor

Human vestibulo-ocular responses to oscillatory rotational stimulation during various sleep and arousal stages, discussing Single-Jones reflex system mathematical model

Short sleep period and oxygen breathing effects on arousal level of air traffic controller during detection task performance

Circadian rhythm effects on introsverts and extraverts biochemistry, physiology and performance, suggesting arousal mechanisms differences

Effects of nocturnal jet aircraft noise on physiological arousal patterns in sleeping humans

Ventricular ectopic arrhythmia from treadmill exercise in patients observed during ECG monitoring

His bundle electrocardiography for arrhythmia studies, discussing conducting tissue potential recording, ventricular delay and block site determination and electrophysiologic effects of drugs

Arrhythmias relation to coronary artery disease, discussing conduction defects, sudden death procarneas and prevention and digitalis as antiarrhythmic agent

Familial cardiomyopathy detection by electrocardiography noting arrhythmias, ventricular hypertrophy, abnormal Q waves and intraventricular conduction defects

Quotient of arrhythmia relation to physical work load, noting heart rate amplitude and frequency variations

Atherosclerosis, chest arias, and arrhythmia - Conference, Brussels, October 1970

Ventricular and supraventricular arrhythmias incidence during axial treadmill exercise in normal men, noting age factor and cardiovascular disease presence effects

ECG, physical exercise and drug use in diagnosis and aeromedical evaluation of supraventricular arrhythmias, presenting case histories of pilots with wandering cardiac pacemakers

QS wave detectors for arrhythmia and hemodynamic data analysis, using standardized FM magnetic tape containing various artifacts for evaluation

QS wave morphology for arrhythmia assessment in flying personnel, flight fitness examination

Induction of ventricular arrhythmias by elevation of arterial free fatty acids in experimental myocardial infarction

Heart rate variability in a binary choice reaction task - in evaluation of some scoring methods

Aortic recirculation variation with respiratory sinus arrhythmia and respiratory cycle in dogs during tachycardia and bradycardia

Continuous ECG monitoring method /scattergram/ for arrhythmia pattern recognition in intensive care units

Analysis of intracavitary electrocardiograms through a saline bridge in the diagnosis of cardiac arrhythmias

Experimental and clinical studies in treating digitalis caused cardiac arrhythmias with sodium citrate using heart patients and dogs

Hyperthermia effects on cardiac arrhythmias, arterial pressure, and respiration in dogs and electrocardiographic effectiveness in diagnosing threatening onset

Measurement of arrhythmia in relation to physical and mental work loads

Human vestibulo-ocular responses to oscillatory rotational stimulation during various sleep and arousal stages, discussing Single-Jones reflex system mathematical model
ABNIEC

ABNIEC

LEAD, cadmium, and arsenic concentrations in human scalp hair and environmental sites in Montana.  

p0264 A72-19399

ARTERIES

Rheological properties and architecture of arterial walls, using stress relaxation and strain-strain hysteresis tests on dog aorta, iliac and femoral strips.  

p0003 A72-10168

Arrhythmias relation to coronary artery disease, discussing conduction defects, sudden death, prophylaxis and prevention and digitalis as antiarrhythmic agent.  

p0017 A72-11476

Antinatriuretic effect of acute thoracic and abdominal inferior vena cava constriction on arterial pressure, renal hemodynamics and electrolyte excretion.  

p0018 A72-11660

Femoral arterial blood pressure third order waves onset mechanism in narcotized dogs, noting changed blood and respiration dynamics.  

p0023 A72-12014

Human arm arterial pressure and flow pulsations numerical analysis, constructing electrical analog circuit from mathematical model.  

p0049 A72-12951

Xenon 133 myocardial clearance method accuracy and reliability in determining high and low left coronary artery blood flow under different hemodynamic conditions.  

p0052 A72-13169

Clinical assessment of degree of obstruction from coronary arteriograms of ischemic and rheumatic heart patients.  

p0055 A72-13847

Spinal mesenteric vascular reflexes of vasocostriction effect of pressure drop in coeliac artery relation to Body nutritional hepatic reflex.  

p0068 A72-15125

Blood viscosity and distributed external constraints and viscoelastic properties of vessels effects on wave dispersion and and dissipation in arteries and veins, using membrane model.  

p0073 A72-15466

Approximate numerical method for calculating flow profiles in arteries from local pressure measurements, taking into account Navier-Stokes equations nonlinear terms.  

p0096 A72-15948

TASME-PAPER 77-WA/RNP-31

Human epicardial arterial circulation platelet aggregates role in sudden coronary death, discussing relation to atherosclerotic stenosis and acute thrombi.  

p0096 A72-16013

Functional channel of rabbits cerebral preocrtical arteries during hypotension produced by intravenous noradrenaline infusion, discussing hypo and hyperkinesia.  

p0106 A72-17674

Dog mesentery terminal venous microvessels, distensibility characteristics from response to arterial and venous pressure changes.  

p0113 A72-18196

Body thermal stress, local heating and arterial occlusion effects on sweat electrolyte content.  

p0153 A72-19437

Acid base balance in arterialized capillary blood in man after maximal short duration exercise.  

p0154 A72-19441

Clinical response to nitroglycerin therapy, correlation with coronary angiography as diagnostic test for coronary artery disease in patients with chest pain.  

p0160 A72-19993

Coronary artery disease and venous involvement, severity predictions from electrocardiographic and vectorcardiographic patterns of anterior wall myocardial infarction.  

p0160 A72-19994

Nonlinear model for computer simulation of human arterial system, using finite difference technique for pressure and flow calculations.  

p0165 A72-20357

Intravascular pressure and extravascular structure effects on radial and longitudinal distribution of arterial microvessels in dog mesentery.  

p0166 A72-20426

Arterial chemoreceptor desensitization influence on rat respiratory response, to hypoxic and hypercapnic gas mixture breathing.  

p0185 A72-22078

Adrenergic innervation of internal carotid arteries in extra- and intracranial regions in dogs, using luminescence method.  

p0186 A72-22184

Arterial hypotension development during hypoxic ontoanemia early stages related to use of drugs.  

p0190 A72-22879

Local and cardiac complications of effective percutaneous transcoronary coronary arteriography, noting hemorrhages thromboses, embolism, myocardial infarction, bradycardia and ventricular fibrillation.  

p0222 A72-23325

Arterial velocity profiles measurement in dog thoracic aorta by hot-films probe, relating flow disturbances and turbulence to Reynolds number.  

p0231 A72-24648

Pulmonary capillary bed filling as function of arterial pressure in perfused frozen dog lungs.  

p0232 A72-24940

Hydraulic transmission line equations for computer simulation of arterial circulatory system.  

p0234 A72-24811

Mathematical model for arterial system pressure, blood flow and dimensional changes, examining cardiac ejection dynamics and vasculature mechanical properties and viscoelasticity.  

p0234 A72-24812

Hemodynamic assessment of arterial blood flow from radiograph measurements of aorta branching points.  

p0234 A72-26774

Hemodynamic response to physical exercise stress in dogs with anistostensin-induced acute arterial hypertension.  

p0234 A72-28216

Arterial blood gas tensions, using sequential phased dilution for pilot oxygen delivery.  

p0234 A72-28255

Prolonged bed rest induced muscular activity restriction effect on arterial and venous tone in different body areas.  

p0336 A72-30385

Rebreathing studies of carbon dioxide pressure level effect on carbon dioxide content difference in arterial blood and alveolar gas — during exercise and rest.  

p0408 A72-34366

Blood oxygenating ability of helium- and argon-oxygen environments relative to air, using alveolar gas Equation to predict arterial oxygen pressure.  

p0424 A72-36438

Digital computer simulation of human systemic arterial pulse wave transmission — A nonlinear model.  

p0429 A72-37028

Sympathetic haemodynamics in borderline arterial hypertension — Responses to static exercise before and under the influence of propranolol.  

p0451 A72-37773

Relationship of pulmonary artery to left ventricular diastolic pressures in acute myocardial infarction.  

p0464 A72-39461

Reflective cardiac rhythm changes and arterial tension during hypoxia, noting differences due to animals, controlled respiration and pharmacological effects.  

p0508 A72-41904

Anatomy of the coronary circulation at high altitude.  

p0513 A72-42594

Carotid displacement pulse first time derivative recording as noninvasive technique for heart function assessment.  

p0509 A72-44561

Clinicoangiographic correlations in anterior pectoris with and without myocardial infarction.  

p0553 A72-45010
renewal cycle modification, calcemia variations and bone calcification

Meteorological-astronomical diurnal and seasonal environmental rhythms simulation for psychological stresses alleviation in long term space missions: new techniques

Zero-G crouches for long duration space flight crew hygiene, describing flexible bunny bag and truncated conical shell design

Astronauts red cell mass changes associated with space flight due to space and earth environment differences

Thermal environment control for astronauts

Measurement of radionuclide content in feces and urine of Apollo 12 and 13 astronauts

Proton penetration calculations for tissues of astronauts in simulated spacecraft environment bombarded by solar flares and radiation belt protons

High Z particle measurements by polycarbonate plastic dosimeter on Apollo astronauts

Radiochemical analyses of urine salts and raw feces in quantity, raw spectrometers

Light flashes seen by Apollo astronauts caused by localization in retina by cosmic nuclei

Proton penetration calculations for tissues of astronauts in simulated spacecraft environment bombarded by solar flares and radiation belt protons

Determination radiation exposure of astronauts by analysis of urine salts and raw feces in quantity, raw spectrometers

Detection of water absorption dosage

Astronaut selection criteria for training and compatibility in space environment

Characterization and origin of light flashes seen by astronauts onboard Apollo 11, 12, 13, and 14

Portable life support system for astronaut working outside of lunar module

Optical measuring instruments for assessing visual standards in astronaut selection

Tandem walking on floor with eyes closed as ataxia test

Clinical tandem walking test for evaluating ataxial test performance in detecting vestibular problems

Revised normative standards of performance of men, aged 17-60 years, on quantitative ataxia test battery

Pulmonary atelectasis and arterial-venous shunting and heart displacement prevention during centrifuging of dogs breathing oxygenated liquid fluorocarbon in water immersion respirator

Atypical ECG of sportsmen, considering repolarization disorders due to ischemia, lesion, susceptibility and conduction signs

Longevity and cardiovascular mortality among former college athletes

Biotelemetric measurements of physiological responses during labor and sports activities
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ATMOSPHERIC TEMPERATURE

ATOMIC ENERGY

U NUCLEAR ENERGY

U NUCLEAR EXPLOSIONS

ATP

U ADENOSINE TRIPHOSPHATE (ATP)

ATTACKING (ASSAULTING)

ATTENTION

Selective attention dichotic listening test as flying proficiency prediction criteria, discussing auditory and visual errors

Book on sustained attention (vigilance), discussing effects of signal frequency, magnitude and distribution, task complexity, noise, age, intelligence, etc

Character recognition experiments to determine attention control and temporal–spatial capacity limitation during visual information processing

Self estimated distractibility in subjects related to attention lapses during perceptual motor performance, indicating psychophysiological changes

Divided attention effect localization, using choice tracking task reaction times in sequential task model for human information processing

Experimental tests of Voth-Navean hypothesis of autokinetic mediation by attention distribution mechanism

Depression–sensitization and duration of visual attention.

Human performance on tracking tasks under divided attention demands

Effect of auditory distraction on Stroop color-word interference performance tests

Review of neurophysiological mechanism involved in selective attention

ATTENTION

U NEURAL ATTENTION

U THERMISTORS

ATTITUDE (INCLINATION)

ATTITUDE INDICATORS

Airplane attitude display motion relationship to external world as factor in pilot error due to visual frame of reference shift

ATTRACTION

Psychological tests to judge maximum and minimum non-physical subjective attraction forces between two parallel bars

AUDIO EQUIPMENT

U EARPHONES

U MICROPHONES

Use of perception to recognize patterns generated by audio preprocessor modeled after cat cochlear system

AUDIOLOGIC FREQUENCIES

Perceived noise level correction for background noise effects based on frequency band S/N

Monaural prestimulatory loudness adaptation measurement by delayed and single simultaneous balance methods, discussing intensity, frequency and duration effects

Conventional and high frequency audiograms of prop, jet, and rotary pilots

AUDIO VISUAL EQUIPMENT

U TRAINING DEVICES

AURAL AUDIOMETRY

Directional hearing perception threshold in normal and auditory-defective patients, studying frontal and median planes for rising and falling noise frequencies

Flight helmet optimal fitting techniue, considering cockpit environment and stress-produced impairments in central nervous system

German book — Hearing, voice, balance /Physiology of the senses II/

The physiology of hearing. 1. — The middle and the inner ear

AURAL AUDITORY

Neural peristimulatory loudness adaptation measurement by delayed and single simultaneous
AURAL HABITUATION RESPONSES OF CATS TO SHORT PULSES OF SINE-WAVE MODULATION

The effect of short pulses of sine-wave modulation on the aural habituation responses of cats was studied. It was found that the response of the cats to the pulses decreased with repeated exposure.

REFERENCES

Jet aircraft noise effect on sleeping EEG and subsequent waking performance, showing presence of carry-over effects p0281 A72-27474
Cat auditory cortex neurons response to auditory and medial geniculate body electrical stimulation p0375 A72-27651
Periodic, continuous and aperiodic white noise effects on human serial decoding performance, relating subjective and autonomic responses p0294 A72-28289
Vigilance effects for noise or vibration stimuli duration judgment task performed with or without simultaneous mental arithmetic task p0341 A72-30964
Compensatory tracking task performance with continuous error information feedback via visual, auditory or electrocortical displays p0345 A72-31152
Aircraft pilot reaction capability for switch activation in response to voice countdown, tone initiation and termination, noting standard deviation p0365 A72-31797
Human cerebral hemodynamic changes during arousal and orienting reactions to auditory stimuli p0462 A72-32993
Auditory display in dual-axis compensatory tracking task, discussing performance measures in terms of squared error integral human operator describing functions p0378 A72-33866
Lateral inhibition in auditory perception proved by psychophysical study of nervous activity steml patterns, noting erroneous measurement of pure tone masked threshold p0378 A72-33970
Energy detection model for transient overshoot in signal stimuli masked by narrow band auditory stimuli, discussing masking produced by gated sinusoid p0378, A72-33972
Myogenic and eardrum evoked auditory potentials and cortical responses to 0.2 milliseconds voltage pulse acoustic stimuli p0372 A72-32993
Determination of the functional state of the auditory analyzer through the action of short-term acoustic stimuli of increasing intensity p0458 A72-38939
An aspect of the problem of pitch dependence on the duration of short sinusoidal signals p0462 A72-39217
Psychometric test for auditory stimuli duration difference estimation, noting Weber fraction for temporal gaps marker condition p0499 A72-30305
Evoked potentials of the primary auditory cortical zone produced by positive and inhibitive conditioned stimuli p0497 A72-40805
Dendesence of inhibitory areas of inferior colliculus neurons on the time characteristics of acoustic stimuli p0515, A72-62724
Electrophysiological investigation of the excitation and inhibition processes in the auditory cortex p0520 A72-63165
Nervous mechanisms of the acoustic stress reaction p0520 A72-63169
Characteristics of conditioned reflexes to an ecologically adequate stimulus in hens p0546 A72-64080
Electrophysiological analysis of thalamic-reticular interaction during the orienting reflex p0546 A72-64081
Neuronal and focal reactions of the lateral associative cortex to various peripheral stimuli p0546 A72-64089
Responses of anterior suprasylvian gyrus neurons to peripheral stimuli of different modalities p0546 A72-64090
Sonic boom startle - a field study in Heppen, West Germany p0552 A72-64916
Physiological effects of photic and acoustic stimuli on evoked potentials in rabbit visual cortex p0138 A72-15095
Responses of anesthetized cats to acoustic stimuli imposed on auditory cortex [AD-730191] p0140 A72-15091
Quantitative characteristics of auditory cortex response in anesthetized cats to sound from different directions [AD-730192] p0141 A72-15092
Effects of specialized auditory stimuli on human performance of spatial orientation tasks [AD-737351] p0401 A72-25112
Effect of auditory distraction on Stroop color-word interference performance tests [PAI-AN-72-14] p0404 A72-25132
Human operator errors in performing audio-video and audio only tracking tasks p0435 A72-26078
Cerebral cortex potentials evoked in man by perceived and not perceived acoustic stimuli [AD-759270] p0473 A72-28070
Effect of circadian variations in sleep-wake cycle on optical and acoustic stimuli reaction time [NIEI-72-1-1668] p0560 A72-32093
AUDITORY TASKS
- Selective attention dichotic listening test as flying proficiency prediction criteria, discussing omission and intrusion errors p0153 A72-19351
- Auditory adaptation tests confirmation of Small loudness model prediction of lower adaptation for test tone greater than adapting tone intensity p0182 A72-21987
- Vigilance performance prediction for difficulty-matched auditory and loosely and closely coupled visual intensity discrimination tasks p0236 A72-25127
- Cumulative partial sleep deprivation effects on human performance in auditory vigilance, routine addition and running digit span tests, observing circadian rhythms p0275 A72-26683
- Body orientation under vertical sinusoidal vibration p0499 A72-41019
- Human operator dynamics for aural compensatory tracking p0507 A72-41950
- Heart rate variability in a binary choice reaction task - an evaluation of some scoring methods p0512 A72-42550
AUSTRALIA
- Lower Cambrian sedimentary deposits from Bonsa Parkes, Gulf Basin of Western Australia and Northern Territory [SULL-115] p0383 A72-24078
- Upper Cambrian trilobites from Gola Beds, western Queensland [SULL-112] p0384 A72-24079
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AUTOMATA THEORY

mechanism

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AUTOMATA THEORY

Problems of complex object modeling based on
heuristic self-organization

Semi-autonomous methods for airlines crew scheduling

Mathematical modeling, automata theory, speech
synthesis, and mechanical model of heart and lungs

AUTOMATIC CONTROL

MT ADAPTIVE CONTROL

MT AUTOMATIC FLIGHT CONTROL

MT AUTOMATIC GAIN CONTROL

MT DYNAMIC CONTROL

MT FEEDBACK CONTROL

MT FEEDFORWARD CONTROL

MT LEARNING MACHINES

MT OPTIMAL CONTROL

MT SELF ADAPTIVE CONTROL SYSTEMS

MT TIME OPTIMAL CONTROL

Data display techniques in man operated automatic
control system, assessing information volume
variance and operability

Automatically controlled delay in self-excited
pulsating systems based on artificial muscles

An automated instrument for monitoring the quality
of recovered water.

Human consciousness and choice role in biological
control process automatic to define differences
between manual and automatic control systems

In a control circuit during an information
quest analysis

Automatic volume control for recording, complex
shapes of Doppler cardiograms

Future prospects of cybernetics

Automatic control device for regulating inlet
water temperature of liquid cooled spacecraft

Formation scheme for automatic control of
information resources and document display

Automatic analysis of ECG at rest, during and
after exercise with two computer systems

Automatic temperature control for liquid cooled
space suit

Behavior of man in technical, and sociocultural
control systems

AUTOMATIC CONTROL VALVES

MT PRESSURE REGULATORS

AUTOMATIC DATA PROCESSING

AUTOMATIC FLIGHT CONTROL

Development trends in airborne man machine flight
control, discussing optimal division between
human and machine in relation to total
system performance and economic factors

AUTOMATIC GAIN CONTROL

Gain control of cat retina rapid light adaptation
process to autonomic signals reaching retinal
ganglion cells from photoreceptors

Gain control and contrast sensitivity in the
vertebrate retina.

AUTOMATIC PATTERN RECOGNITION

P PATTERN RECOGNITION

AUTOMATIC PILOT

Regression analysis of relationship between system
design, training variables, and technician

AUTOMATIC ROCKET IMPACT PREDICTORS

U COMPUTERIZED SIMULATION

SUBJECT INDEX

AUTOMATIC TEST EQUIPMENT

Considerations in the design of an automatic
virtual field tester

Automatic biocompatibility testing of cells

Automatic pair feeding device for controlled
feeding of test animals

Pressure ramp programmer for automatic blood
pressure measurement

Automatic visual sensitivity tester and blind
spot size

AUTOMATION

Automation in planning and execution of flights,
considering navigation, communication, flight
instruments monitoring, control/stabilization
and warning systems

AUTOMOBILE ACCIDENTS

Impact tests to obtain skull fracture data for
Federal Motor Vehicle Safety Standards

Airbag and seat belt analysis as restraints in
serious injury European car collisions

Structural crashworthiness performance of
conventional automobiles and performance of
structural devices designed for protection

AUTOMOBILES

Autonomous crash tests to determine effectiveness
of inflatable occupant restraint systems

Test procedures and resulting data from
preliminary vehicle tests of inflatable occupant
restraint systems - Vol. 2

Airbag and seat belt analysis as restraints in
serious injury European car collisions

Test procedures and instrumentation used in
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structural devices designed for protection

AUTONOMOUS CONTROL

Analysis of pedal operation by seated personnel

Restraints for passengers in automobiles

Analysis of pedal operation by seated operator
with application to design of foot controls for
automobiles and other equipment

Analysis of pedal operation by seated operator

Influence of sensory pattern and alcohol on
vehicular velocity sensing

AUTONOMOUS NERVOUS SYSTEM

MT SYMBACTIC NERVOUS SYSTEM

Cardiac output and autonomic nervous system role
in antinatriuretic response to acute thoracic
superior vena cava constriction

Beta-adrenergic and vagal blockage altered
autonomic control effects on left ventricular
function in conscious dogs, noting heart rate,
stroke volume and end-diastolic and end-systolic
dimensions

Simulated sonic boom effect on tracking
performance and autonomic response, noting heart
rates, skin conductance and staple reflex

Autonomic blockade effects on reoler bradycardia
due to phenylephrine induced arterial pressure
in man during rest and supine exercise

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p0170 A72-20688
Dynamic orthosympathetic control of cardiovascular system, studying efferent element link between autonomic nervous centers and effector cells

Autonomic nervous system role in controlling coronary and cardiac responses to hypoxia, measuring blood-flow with Doppler ultrasonic flow transducer

Vegetative nerve regeneration in humans after stomach cancer surgery

Respiratory vascular control autonomic centers functional state relation to vestibular system from labyrinth electrical stimulation and shaking experiments

Role of the autonomic nervous system in the hypoxic response of the pulmonary vascular bed.

Hypothalamic control of the electrical activity of the spinal cord

Cortical effects mechanisms in animal vegetative systems, noting biological oxidation and organic phosphorus compound studies

Localization and structural-functional organization of the system of vaque nerve nuclei constituting the 'cardiac center' of the medulla oblongata

Prediction of vegetative reactions in the case of stress and extreme effects upon the organism

Respiration control mechanisms ensuring adaptation to power requirements and chemical environment maintenance in tissues, considering brain stem location

Gravitational stress effects on neurons in autonomic nervous ganglia of cats

Effects of motion sickness on autonomic nervous systems role in ventilatory-respiratory-vasomotor reflexes

Effects of sleep deprivation and work-rest cycles on human performance and automatic and central nervous systems

Aeromotor and AUTOMATIC PILOTS

AEROTHERMODYNAMICS

AVIATION

U AERONAUTICS

AVIATORS

U AIRCRAFT PILOTS

AVIONICS

Recent research applicable to the design of electronic displays.

AVOIDANCE BY COLLISION AVOIDANCE

Heat exposure effect on soldier avoidance performance in rats, discussing organism thermo regulatory capacity disruption and shock and body temperature regulation

Air intercepton avoidance problem solved by differential game theory, discussing human operator decision making for random pursuit tracking

AXES

Functional organization and neurophysiological mechanisms of return corticohermal system in aesthetical, deaminating, presynaptic depolarization

Visual cortex neuron reactions to antidesonic stimulation of cat pyramidal tract, noting axon activation increased discrimination in analyzer

Neuronal fiber and synaptic axonal contact structure of cat spinal gray matter in corticospinal, rubrospinal and reticulospinal terminal zones by Golgi method

The ultrastructure of the lateral basilar region of the spinal cord.

Supraspinal effects in the activity of preganglionic sympathetic neurons delivering axons to the cervical sympathetic nerves

The effect of membrane parameters on the properties of the nerve impulse.

AXOLES

MT KETOSOLAMIDE

MT Tryptophan

B-52 AIRCRAFT

Crew compartment vibration environment in B-52 aircraft during low altitude, high speed flight

BACKLAGE

Dry heat resistance of bacillus spores on spacecraft metal surfaces for different pressures, atmospheres and materials

Aqueous formaldehyde effects on Bacillus subtilis spores, showing sporostasis due to germination inhibition and sporocide due to temperature dependent inactivation

The effects of various cure cycles upon the viability of bacillus subtilis var. niger spores within solid propellant.

Lactate dehydrogenase from an extremely thermophilic bacillus.

Temperature effects on destruction of Bacillus subtilis as function of relative humidity in spacecraft sterilization

Regulation mechanism of alpha-acetohydroxylipid synthetase properties in Bacillus cereus T.

Survival data for Bacillus subtilis spores and microorganisms in simulated space UV solar flux and vacuum

Aircraft accident in the Faroe Islands in 1970 - Observations from a medical point of view, with special reference to spinal fractures.

Back Traurers

Aircraft accident in the Faroe Islands in 1970 - Observations from a medical point of view, with special reference to spinal fractures.

Background Noise

Perceived noise level correction for background noise effects based on frequency band SBR

Cryogenic Josephson function magnetometer in magnetocardiography, discussing high ambient noise levels in unshielded environment

Interactions of signal and background variables in visual processing.

Effect of background radio chatter on performance of pilots in training

Doppler discrimination in high background noise of rotary winged aircraft

Background Radiation

Dark adaptation with logaritically time decreasing background luminance, noting threshold time lag variation with rate of background change

Achromatic and chromatic thresholds during dark adaptation against varying background luminances, noting trend change at transition from cone to rod function

Target background luminance contrast on binocular depth discrimination at photopic levels of illumination.

Determining effective flashing light intensity as function of duration and area at threshold and
suprathermal luminescence with different background luminances  

Effects of high intensity anticollision light 
pulses on physiological responses of instrument 
rated pilots and non-pilots  

BACTERIA  

BACILLUS  

CLOSTRIDIUM BUTYRICUM  

ESCHERICHIA  

HYDROGENIBUS  

PALISSERIAS  

STAPHYLOCOCCUS  

STREPTOCOCCUS  

Hydrostatic pressure and temperature effects on  
growth of psychrophilic marine bacteria, 
emphasizing inhibited amino acid transport and 
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Depth judgements of Mach-Dvorak phenomenon induced by cyclic, intermittent stimulation to assess eye coordination in binocular vision

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Microbiological examination of space hardware, discussing viable organisms neutralization buried inside solid materials, sampling procedures and culture media

Nonsterile space flight hardware effects on planetary quarantine, evaluating contamination sources, design and mission parameters, cleanliness conditions and bioload

Free radicals participation in cell membrane biopotential generation mechanism, comparing properties of proteins molecules with semiconductors

Human sale gonadotropin secretion relation to sleep stages, using electrophysiologic recordings and radioimmunoassay techniques

Urinary acid to urea nitrogen ratio an assay test for identification of avian tissue in verifying bird ingestion or impact as aircraft accident cause

A note on the biological activity of the noble gas compound xenon trioxide

Quantitation of serum proteins on whole blood-electrophoresis technique applicable to capillary blood

The presence of P700 in chloroplast fragments prepared by short time incubation with Triton X-100

Acrylamide polymerization - New method for determining the oxygen content in blood

Use of dosimeters in biological and clinical procedures

Prototype and production versions of grinders for biological assay

Sensitivity of Ge(Li) detectors in biological and environmental counting

Innervation of pulmonary out cell cancer extracts to confirm bioassay results and development of antibodies to oxytocin and vasopressin

Method and criterion for evaluating ELF magnetic field interference effects on cardiac pacemaker function

Microbial analysis of television camera retrieved from Surveyor 3 spacecraft

Laser microspectral analysis of inorganic and metallic components and pigmentation mechanisms in insects and man

Fusulind induced detrimental changes in human-environmental microflora during 90 day test of advanced regenerative life support system

Design of X ray detector for television radiograph used in biodynamic analysis

BIOASTRONAUTICS

Survey of flight crew physiological data, discussing mental and physical performance and adaptation and readaptation to space-earth environments

Space flight ecology and physiology, discussing atmospheric temperatures and radiation, biological effects of acceleration, deceleration and weightlessness and physiological stresses

Extraterrestrial life search, noting radio contact with civilizations, bioastronautics, Martian conditions and physicochemical experiments

Biosocial results of Apollo space flight biomedical operations, discussing weightlessness, sleep impairment, motion sickness, preventive medicine, etc

Medical requirements for manned space flight, discussing physiological data monitoring and transmission, equipment miniaturization, telediagnosis, spacecraft environment protection, etc

Life sciences and space research I; Proceedings of the Fourteenth Plenary Meeting, Seattle, Wash., June 27-July 2, 1971

Effects of weightlessness on astronauts - A summary

Effects of spacecraft environmental conditions on humans, and space biomedical problems

Conference on space biology related to Post-Apollo Program, Paris, Mar. 1971

Life support, aerospace medical, and environmental and research facility aspects of space stations and Skylab

Effects of weightlessness on reactions and physiological responses of animals and humans

Criteria for determining permissible dose of ionizing radiation for astronauts

Specific aspects of Apollo health and quarantine programs considered for potential application to broad program required for protection of life and health of astronauts in future manned space flight

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BIOCHEMISTRY

Biochemical and physiological effects of Apollo flight diet, noting no significant variations in serum electrolytes, endocrine values, body fluids and hematologic parameters

Physical interpretations of physiological control, covering history, biochemical oscillator viewpoint of life and conferences

Respiratory system frequency response analysis for chemical regulation of breathing, using time domain method and step functions

Nonceptive chemical action in cat skin vessels, showing fiber types for impulse transmission

Soviet book on gravitation receptor covering, showing fiber types for impulse transmission

/atactocyst/ and vertebrates /ventralis apparatus/
Chemical evolution and life origins - Conference, Pont-a-Mousson, France, April 1970, Volume 1, Molecular evolution

Biochemical functions of organisms in evolution of biosphere, discussing redox reactions, elementary compositions and metal compounds role in photosynthesis

Mathematical model physical structure, effectiveness and limitations for circadian rhythms, discussing Princeton and modified biochemical models

Cerebral vascular disorder biochemical analysis, noting retinal vascular change relation to coronary arteriosclerosis and anoxia and flight stress effect on serum lipids and cholesterol

Extraterrestrial life origins and development possibilities from earth chemical and biological evolution description, noting external conditions requirements

Review of biology and biochemistry of memory, suggesting molecular level mechanisms of cerebral information processing

Human body biochemical energy conversion processes during muscular activity, discussing nutrition, circulation and respiration roles

Physiological and biochemical responses of Paramecium caudatum to hypo- and hyperbaric stresses, discussing protoplastic inactivation by high oxygen pressure

Physiological effects on anesthetized and conscious dogs during exposure at 80,000 ft for different decompression rates, discussing cardiovascular, biochemical and pathological effects

Five-component cyclic model of retinal photopigment kinetics for photochemical changes corresponding to rod adaptation in rat and man in dark

Low molecular active hormones isolation from cat blood, obtaining eluates with phosphate buffer by chromatography

Biochemical analysis of cat brain regions for gamma-aminobutyric, aspartic and glutamic acids, discussing important role in cyclic and pathological changes

The uptake, metabolism and release of C/14/tartarate by rat retina in vitro


Significance of the nature of an increase in physical strain as it affects the adaptation of an organism to intense muscular activity

Effect of copper, cobalt and manganese salts on certain morphological-chemical components of the blood in young sheep of the Bissar breed

Physical and chemical identification methods for biochemical reactions and energy balance of muscular contraction and shaking

Sucinic and lactic dehydrogenases activities in homogenates from myocardial tissues of guinea pigs, rabbits and dogs in high altitude environments

Determination of copper, iron, cobalt, nickel, and manganese in biological samples of vegetable origin

Relation between mitochondria and glycolysis

Determination of serotonin in intact blood of rats, using butanol in first stage of extraction

Significance of water in biochemical processes and organic molecule synthesis for evolution of life

Biochemistry, radiobiology, and environmental effects of radiation

Effects of muscular stress on biochemical changes in serum enzyme activity

Investigations of bonding, structure, and quantitative analysis in biological systems by means of X ray photoelectron spectroscopy

Effects of partial and whole body radiation on biochemistry and physiology in bacteria

Bibliography supplement 1970.

BIBIOCONTROL SYSTEMS

Russian book - Clastic conditions and the thermal state of man

Time series analysis of meteoro pathological disturbances of human regulation mechanisms, investigating annual variations of diurnal rhythms

Book on hibernation and hypothermal systems in animals and plants

BIOCONTROL SYSTEMS

Mathematical models for man-machine control behavior in biodynamic environments including manual control performance and interface elements

Human postural control system dynamic model, discussing stick man pitch axis dynamics digital simulation and difficulties in linearizing equations of motion

Eye movement control device for electrotetragraphy, describing construction, line drawing and basic circuits

Human neurovascular coordination control optimization, discussing preprogrammed open-loop control with feedback monitoring loop

Human and animal controlled self rotating maneuvers during free fall, comparing theoretical motion analysis with photographs of falling cats

Coincidence model tests of photoperiodic time measurement relation to circadian system in moth Plectroboris onepurillis, using infrared by skeleton photoperiods and light cycles
Scydsoyne hormonal control of Drosophila circadian rhythms and synchronizing mechanisms, discussing light stimulation and neuropeptide secretion

Control system model integrating human left ventricle and circulatory system mechanisms and regulation by central nervous system

Digital simulation of human cardiovascular system, noting blood pressure control by physiological reflexes

Conditioned reflex mechanisms responsible for regulation of emotions in higher order animal and human neurophysiology

Respiration control during hyperoxia, discussing chemoreceptor significance in minute volume respiration rate reduction mechanisms from Pamir mountain aborigines' oxygen breathing reaction studies

Human left ventricle measurements, modeling, control and simulation for heart monitoring purposes, describing muscle performance mathematical model and stress effect prediction control system

Myocardium bionulce-controlled cardiac synchronize as key component of biocontrol systems for cardiological studies

Thermoregulation changes during simulated weightlessness of prolonged bed rest, noting lower sweating threshold and decreased vasodilation /autonomic dysfunction/

Supercellular regulators of triggering mechanisms of regenerative reaction in sternum erythropoietic bone marrow tissue

Coronary system autoregulation patterns and mechanisms from coronary flow shift measurements during circulatory artery perfusion experiments in dogs

Neuronal mechanisms of muscular motor activity control, analyzing cerebrum-sotomencephalon connections, spinal potentials, neurosensory responses and depolarization

Parameter estimation in dynamic biological control systems based on multicompartamental input-output behavior

Hippocampus morphology and physiology in relationship to emotion and memory mechanisms, tier links, visceral activity and motivations and endocrine control

Water immersion tests to study body fluid balance disturbances during weightlessness, observing diuretic reflex control of blood volume

Russian book - Problems of the stability of biological system

Adaptability limits on protein-nuclein-water life under exobiological extreme conditions, considering macromolecules, extraterrestrial life search and origin

Thermodynamic properties and mathematical modeling of complex biological systems, considering energy and mass exchange in photosynthesizing organisms for exobiological life support

The silent period in man during muscle lengthening produced by loading

Russian book - Mechanisms of descending control of spinal cord activities

A possible anatomical basis for descending control of impulse transmission through the dorsal horn

Sympath supraspinal control mechanisms of spinal cord motor neurons

Pyramidal control of the activity of interneurons related to various types of peripheral afferents

System analysis approach to the study of spinal mechanisms.

Cerebrovascular sections and related afferent processes as activator of automatic neuron mechanisms control of motor activity, discussing segmentary spinal cord changes

Participation of supraspinal structures in the formation and control of a system of arbitrary cyclic motions of man

Role of effective influences of temporo-rhinencephalic cerebral structures in pre-adjustment alterations of spinal motor neuron excitability

Vasomotor reflexes and the principle of descending control

Hypothalamic control of the electrical activity of the spinal cord

Ran movements directed at reaching a preset goal

Fibrous and humoral stimulation and hypoxia effects on erythropoiesis control, studying human blood serum additions to bone marrow cultures

Cautersate rate description of living corneal mass transport modes, elucidating cornea thickness control mechanisms

A mathematical model of the chemoreflex control of ventilation

Parasitic adjustment to a shifting target alternating with saccades to a stationary reference point

Human consciousness and choice role in biological control process automation to define differences between manual and automatic control systems

A model for analyzing the coordination of manual movements

The functional organization of object directed human intended-movement and the forming of a mathematical model

Localization and structural-functional organization of the system of vaqueur nerve nuclei constituting the 'cardiac center' of the medulla oblongata

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Biological system transfer-function extraction using exact-frequency and correlation techniques.

Hypothalamic control of the systemic and lung circulation and functional significance of this control.

Respiration control mechanism ensuring adaptation to power requirements and chemical environment maintenance in tissues, considering brain stem location.

Control, by the visual cortex, of the posterior thalamic group in the cat.

Biological life support system for representation of vital substances needed by man on prolonged space flights.

Physiological and biological mechanisms responsible for homeostatic orientation in beetles and scorpions.

Multichannel bioelectric control system for simulating neurovascular movements and treating motor function disturbances.

Regulatory mechanisms of acetyl-CoA carboxylase activity in fatty acid biosynthesis.

Principles for controlling machines and living organisms by biopotentials of muscles.

BIODYNAMICS

Mathematical models for man-machine control behavior in biodynamic environments including manual control performance and interface elements.

Biomechanics - Conference, Zindhoorn, Netherlands, August 1969.

External biodynamic models for human mechanical response to various environmental forces, emphasizing injury mechanisms.

Aircraft ejection simulation by human thoraco-lumbar spine flexion dynamic model, using strength of materials theory and shear effects for curved elastic beam.

Dynamic response and functional state of human operator subjected to harmonic and random vibrational excitations, discussing biodynamic nonlinear oscillatory system model construction.

Mathematical model for semicircular canal dynamic response to angular acceleration, emphasizing role of perilymph over endolymph in capsular displacement.

Human biomechanical and behavioral response to whole body vibration, discussing subjective judgment of vibration intensity and effects on performance.

Optimum performance typewriter keyboard design, discussing biomechanical improvements in finger positioning, facilitation, operator postural muscular strain reduction, etc.

Crash helmet performance prediction through maximum strain criteria, using brain injury biomechanical model.

BIODYNAMICS

Baboons heart endocardial structure dynamic behavior, comparing left ventricle septum and epicardia contractile force and intracardiac pressure changes.

Biological structures study, proposing generalized thermodynamics for dissipative structures role in living beings functions.

Two-mass system as human body dynamic model in ballistocardiography, outlining transfer function parameter computation procedure.

Experimental investigation of an astronaut maneuvering scheme.

The measurement of three-dimensional body movements by the use of photocamera.

Man movements directed at reaching a preset goal.

Design and fabrication of impact and vibration test equipment for biomechanical research.

Bibliographies on research reports and publications on biomechanics and biodynamics.

Volterra integral equations for analyzing biomechanical heredity processes.

Impact acceleration tests using common monkeys to determine human injury potential as function of plates acceleration and pulse duration for spinal column.

Finite element elastic analysis for determining crack growth in human skull under heavy loads.

Biodynamic and bioengineering applications to operational problems, resulting in crash injuries.

Biodynamics of sports injuries, applied to sports equipment design.

Biodynamic models of human response to various environmental forces.

Biodynamics of air blast during accelerative and decelerative events.

Computer program for analyzing impact damage to skull-brain system models.

Effects of exposure to blast induced winds and pressure variations on biological parameters.

Biomechanical research and development at Army Medical Research Lab.

Ultrasonic Doppler method for monitoring biomechanical processes of cardiac activity in enclosed men.

Proceedings of conference on animal orientation and navigation capabilities.

Analysis of arm performance subjected to external load during crank turning task.

Hearing, bioacoustics, and biomechanics for biomechanical models - conference.

Biodynamic models for determining suitability of energy absorber in protecting seated man from high acceleration aircraft impacts.

Three dimensional hand force and biomechanical models for simulating human hand strength in zero gravity.

Interfacing man-machine control performance in biomechanical environment, including pilot/vehicle problems.

Biodynamic models used as simulation technique in design of Air Force emergency escape capsule.
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Stochastic model for eye movements during fixation on stationary target.

Human left ventricle measurements, modeling, control and simulation for heart monitoring purposes, describing muscle performance using mathematical model and stress effect prediction control system.

Operator independence test for human performance reliability modeling based on symptom detection and fault location of aircraft systems.

Bistable transistor and hot-wire anemometer principles for shockcardiographic transducer design using theory of hydraulic amplification with high SNR.

Quasi-steady creeping flow in small airways of spherical, oblate and prolate ellipsoids and circular cylinder lung models, obtaining Stokes equations solutions.

Bifacial lung shaped model for distribution analysis of weight induced strains, stresses and surface pressures in lung.

Artificial heart-lung model with contractile polymer membrane as synthetic muscles to react with gases and liquids, discussing cardiac features.

Open capillaries control mechanism of pulmonary diffusion capacity, presenting atypical interpretation of humoral and hydraulic blood pressure control.

Hydraulic transmission line equation for computer simulation of arterial circulatory systems.

Mathematical model for arterial system pressure, blood flow and dimensional changes, examining cardiac ejecction dynamics and vasculature mechanical properties and viscoelasticity.

Russian book on visual sensor signal dynamics covering nerve signal transformation, light stimuli responses, affective flow, bionics, neurocybernetics and communication theory.

Olfactory receptor models sensitivity, discussing threshold dependence on adsorbed odoriferous agent amount and exposure time.

Lumped parameter nonlinear RC circuit lung model for positive pressure respirator design.

Fluid mechanics of left ventricle model with mitral and aortic valves, showing rise vortex relation to diastole and closure.

Impact tests on anthropomorphic dummies for protection effectiveness evaluation of lap belt, Air Force 'shoulder harness-lap belt and airbag-lap belt restraints.

Receptor membrane pulse generation electronic model with tunnel diode negative resistance circuit.

Coherent brain model for evolution mechanisms of biological resonance in neurons network signal flow.

Human torso surface mathematical model to determine equivalent heart dipole and quadrupole locations for ECG measurements.

Qualitative micromodel for biological postynaptic membrane with tunneling chemical bonds, defining subjective conductivity as function of electric field.

Pulmonary oxygen transport dynamic model representing lung gas-side airway and alveolar regions and blood-side capillary bed.

Statistical activity analysis procedure for random network model, determining representative point trajectory in phase space via similarity matrix.

Quantitative model to describe vestibular detection of body sway notion in postural response mode.

Five-component cyclic model of retinal photomotor kinetics for photochemical changes corresponding to rod adaptation in rat and man in dark.

Myelinated nerve fiber mathematical model for action potential transmission mechanism analysis during relative refractory phases.

Four-parallel-compartment lung model for empyema pattern study, using expired nitrogen concentration data to calculate alveolar dilution ratio and emptying rate.

Environmental chamber simulation to show terrestrial microorganisms' survival under Jovian.
atmospheric conditions
Two compartment analog model of throracic regulation during rest and exercise, considering temperature, heat conduction, sweat rate and oxygen uptake
Hill model for myocardium activity, taking into account contractile state variations and characteristic force-velocity curve
Chaoirs leather mechanical response, comparing stress relaxation and flexure response characteristics to human skin for applications in anthropometric dummy construction
Crash helmet performance prediction through maximum strain criteria, using brain injury biodynamic model
Parameter estimation in dynamic biological control systems based on multicompartamental input-output behavior
Nonlinear theory of pulmonary ventilation, distribution in two compartment model of human lungs
Computerized angiographic heart geometry analysis for three dimensional ventricle models of man and dog, using Ta markers
Simulation of the human cardiovascular system - a model with normal responses to change of posture, blood loss, transfusion, and autonomic blockade
A new model for estimating space proton dose to body organs
Mathematical model for flow limitation in three dimensional ventricle models of man and dog, using Ta markers
Digital computer technique for ballistocardiography simulation, using distributed parameters for vessel segments in a circulatory system model
Two-axis system as human body dynamic model in ballistocardiography, outlining transfer function parameter computation procedure
A stochastic bioburden model for spacecraft sterilization
A model of fluctuating alveolar gas exchange during the respiratory cycle
Model to account for visual responses to light flashes of dark adapted eye, discussing perceived brightness variation with intensity
Digital computer simulation of human systemic arterial pulse wave transmission - A nonlinear model
A human left ventricular control system model for cardiac diagnosis
Object code storage in the static portion of a short-time memory
Models of neurons reacting to input signal, alteration in space and time
Neuro-mathematical model synthesis from algorithms to construct neural networks and single threshold element in network
Computerized statistical simulation of automation of spontaneously active smooth muscle in neglecting individual cell spontaneous activity
Automatically controlled delay in self-excited pulsating systems based on artificial muscles
Russian book - Probleme of the stability of biological system.
Thermodynamic properties and mathematical modeling of complex biological systems, considering energy and mass exchange in photosynthesizing organisms for ecological life support
An electronic model of visual receptive fields
Man movements directed at reaching a preset goal
Threshold detection model for visual viewing by human observers using naked eye
Crystalline lens optical structure in human eye, representing on and off axis imaging characteristics by mathematical model
Unsteady state description of living corneal mass transport model, elucidating corneous thickness control mechanisms
A mathematical model of the chemoreflex control of ventilation
A model for analyzing the coordination of manual movements
The design of a nonlinear multi-parameter model for the human operator
The functional organization of object directed human intended movement and the forming of a mathematical model
The effect of membrane parameters on the properties of the nerve impulse
Control parameters of the blood-pressure regulatory system, IX - Open-loop gain, reference pressure and basal heartrate
Mutual relations between different physiological functions in circadian rhythms in man
A large-scale model of the human cardiovascular system and its application to ballistocardiography
A rapid assay of dipolar and extradipolar content in the human electrocardiogram
Information aspects in visual perimetry, obtaining memory requirement for control-computer in automated perimeter
Relative position of the rib within the chest and its determination on living subjects with the aid of a computer program
Modification of cardiovascular mathematical models for application to lower body-negative pressure response
Bibliographies of research reports and publications on biodynamics and bionics
Bionic research projects in USSR
BIONIC - interactive computer graphic system for modeling continuous biological systems
Operators reference manual for BIONIC computer graphics system
Medical research abstracts on limulus visual system, electronic neuron model development, and auditory adaptation in horseshoe crab
Animal-environment model, based on compliance of organisms to ecology
Applications of hydrodynamic characteristics of biological systems to mechanical systems
Problems in neurobiology of creating technical devices to behave like human brain
Operational characteristics of dolphin hydrolcopter system
Bed rest and positive radial acceleration effects

Blast loads

Biodynamics of air blast during accelerative and decelerative events

Effects of exposure to blast induced winds and pressure variations on biophysical parameters

Fluid mechanical model for thorax response to air blast and impact shock

Bleaching

Consensual photopupil responses to light flashes recorded in full dark adaptation, noting bleaching and background effects

Dark adaptation studies of bleach-induced visual threshold rise and subsequent return to rodopen level

Isolated retina receptor potential amplitude relation to visual pigment bleaching kinetics, indicating excitation-inhibition receptor response generation mechanism

The photopigment bleaching hypothesis of complementary after-images - A psychophysical test

Bleed-off

0 pressure reduction

Bleeding

Suppression effects of hyperoxic breathing on red blood cell and erythropoietin hormone production following blood loss

Effects of long periods of clinical death from drowning or lethal blood loss on higher nervous activity in omnivorous dogs

Bioelectric activity of the medulla oblongata during hypoxia and bloodletting

Blindness

MT flash blindness

Neural substrates of sensory tactile vision substitution for information mediation in blind subjects, using TV cameras

Bleed

Erythrocytes

Leukocytes

Erythrocytes

Neutrophils

Thrombocytosis

Thrombocytosis

White blood cellence, relating lumienscence peaks to protein and lipid molecular structure

Blackout (Physiology)

Acrosome vehicle acceleration effects on human performance, noting visual, motor and intellectual impairments relation to physiological tolerance limits

High carbohydrate diet-induced hypoglycemia as potential cause of pilot unconsciousness during flight acceleration

Blackout (Propagation)

Electromagnetic noise

Blackout prevention

Painting prevention in flying personnel, discussing constitutional susceptibility, health irregularities, alcohol, heavy smoking, lack of sleep, emotions and medical histories

Bed rest and positive radial acceleration effect on peripheral visual response time, considering blackout or grayout prediction possibilities

Bladder

Nautogenologic studies of the effects of rapid decompression and hypoxia on the call bladder in cats

Blast loads

Biodynamics of air blast during accelerative and decelerative events

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Erythrocytes

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Neutrophils

Thrombocytosis

Thrombocytosis

White blood cellence, relating lumienscence peaks to protein and lipid molecular structure
BLOOD COAGULATION

Circulatory assist and ballistocardio graphic studies; Proceedings of the fifteenth annual meeting, Atlantic City, N.J., May 1, 1971.

Control of the circulating blood mass in the case of a functional detachament of various amounts of pulmonary tissue

Analysis of femoral venous blood during maximum muscular exercise.

Hypothalamic control of the systemic and lung circulation and functional significance of this control

Optic functions and retinal circulation in humans exposed to combined centripetal and Coriolis accelerations

Analysis of histologic substrate of atherosclerosis transpiring without symptoms in young human subjects

Metabolic, respiratory, and circulatory measurements during exercise and rest, including low concentration study of CO2.

Flow of Casson fluid under periodic pressure in rigid tube, and quasi-steady solutions applicable to blood flow.

Whole body plethysmography system for use in measuring airway resistance under ambient hyperbaric conditions for normal breathing patterns

Behavior analysis of mechanical model of systemic circuit of human cardiovascular system

Biodynamic models for monitoring changes in human cardiovascular system caused by impact shocks

Effects of hydrostatic pressure on viscosity of whole blood systems

BLOOD COAGULATION

Human coagulation and anticoagulation blood system changes due to emotional stress during parachute jumps, noting plasma recalcification time increase.

Microcirculation study of intravascular erythrocyte aggregation /blood sludge/ in rats

Dietary lipid effect on platelet adhesion and aggregation, blood coagulation and fibrinolysis and relation to atherosclerosis and thrombosis.

Thromboelastographic study of rats under acceleration stress; hypoxia, discussing plasma recalcification time increase in fresh blood.

Effects of prolonged exposure to hyperoxia on coagulation and fibrinolysis of blood

BLOOD FLOW

Computer controlled scintiscanning for pulmonary blood flow distribution, discussing real time data monitoring, contour plots and three dimensional and well resolution maps.

Computer aided biplane contrast indicator system for dynamic circulation of dogs studying including blood flow and heart volume determination.

Oxygen distribution in human brain under countercurrent capillary blood flow conditions, presenting mathematical simulation for transport in Krogh system.

Implanted telemetry development for cardiovascular research, discussing blood pressure, flow and hydraulic impedance relationships.

Epinephrine and norepinephrine effects on cerebral blood circulation volume and oxygen tension in tissues.

Human arm arterial pressure and flow pulsation numerical analysis, constructing electrical analog circuit from mathematical model.

Ballistocardio graphic measurement of net cranial blood inflow during cardiac ejection

Ionen 133 myocardial clearance method accuracy and reliability in determining high and low left coronary artery blood flow under different hemodynamic conditions.

Myocardial blood flow measurement by In 133 clearance method after direct application of isotope into subendocardial and subepicardial layers of left ventricle.

Holographic measurement of red blood cell rotation in orifice flow, transforming orientation into form distribution data.

Analytical model for living biological tissue transient heat transfer, taking into account conduction, storage, generation, convection and blood flow effects.

Anemone numerical method for calculating flow profile in arteries from local pressure measurements, taking into account Navier-Stokes nonlinear terms.

In vivo investigation of dogs natural mitral valve flow dynamics, developing cardiohemic system physical model for data analysis and electrical analog simulation.

Light scattering time dependence, erythrocyte aggregation rates and hydrodynamic characteristics in ox, pig and horse blood stream.

Cardiac output level dependence on blood stress Reynolds number, tracing cardiac noise origins to blood turbulence.

Blood flow mathematical formulation, considering tissue constitutive equations, geometrical configurations, arterial wave propagation, etc.

Hypoxia effect on kidney blood flow, erythropoietic properties in rabbits, noting inhibiting effect on erythroblast cells mitotic activity in bone marrow culture.

Reciprocal temperature changes in dogs during continuous hemorrhagion for coronary sinus blood flow measurement.

Microcirculation study of intravascular erythrocyte aggregation /blood sludge/ in rats.

Fluid mechanics of blood pulsatile flow in microcirculation, considering plasma layer.

SUBJECT INDEX

'Effects of prolonged exposure to hyperoxia on coagulation and fibrinolysis of blood [JIPS-55553]'

'BLOOD FLOW Computer controlled scintiscanning for pulmonary blood flow distribution, discussing real time data monitoring, contour plots and three dimensional and well resolution maps[2012 A72-21104]

'BLOOD FLOW Computer aided biplane contrast indicator system for dynamic circulation of dogs studying including blood flow and heart volume determination[2013 A72-21140]

'BLOOD FLOW Oxygen distribution in human brain under countercurrent capillary blood flow conditions, presenting mathematical simulation for transport in Krogh system[2012 A72-11108]

'BLOOD FLOW Implanted telemetry development for cardiovascular research, discussing blood pressure, flow and hydraulic impedance relationships[2012 A72-11240]

'BLOOD FLOW Epinephrine and norepinephrine effects on cerebral blood circulation volume and oxygen tension in tissues[2012 A72-12517]

'BLOOD FLOW Human arm arterial pressure and flow pulsation numerical analysis, constructing electrical analog circuit from mathematical model[2009 A72-12951]

'BLOOD FLOW Ballistocardio graphic measurement of net cranial blood inflow during cardiac ejection[2005 A72-13105]

'BLOOD FLOW Ionen 133 myocardial clearance method accuracy and reliability in determining high and low left coronary artery blood flow under different hemodynamic conditions[2002 A72-13181]

'BLOOD FLOW Myocardial blood flow measurement by In 133 clearance method after direct application of isotope into subendocardial and subepicardial layers of left ventricle[2002 A72-13182]

'BLOOD FLOW Holographic measurement of red blood cell rotation in orifice flow, transforming orientation into form distribution data[2008 A72-15140]

'BLOOD FLOW Analytical model for living biological tissue transient heat transfer, taking into account conduction, storage, generation, convection and blood flow effects[2007 A72-15233]

'BLOOD FLOW Microcirculation study of intravascular erythrocyte aggregation /blood sludge/ in rats[2018 A72-19686]

'BLOOD FLOW Dietary lipid effect on platelet adhesion and aggregation, blood coagulation and fibrinolysis and relation to atherosclerosis and thrombosis[2006 A72-21587]

'BLOOD FLOW Thromboelastographic study of rats under acceleration stress; hypoxia, discussing plasma recalcification time increase in fresh blood[1987 A72-22095]

'BLOOD FLOW Increased atmospheric pressure influence on blood coagulation in rabbits, showing post-decompression hypercoagulation followed by hypocoagulation[2002 A72-23597]

'BLOOD FLOW Anoxic acid influence on blood coagulation and anticoagulation systems in dogs with acute hypoxia, discussing plasma recalcification time and heparin tolerance[2002 A72-23927]

'BLOOD FLOW Thromboelastographic and coagulographic studies of gravitational effects on blood coagulation in rats under acceleration stress[2007 A72-28217]

'BLOOD FLOW Blood coagulation changes at high altitude predisposing to pulmonary hyper tensions[2012 A72-25309]

'BLOOD FLOW Hypoxemic hypoxia effects on blood coagulation and fibrinolysis[2007 A72-34222]

'BLOOD FLOW Blood coagulation behavior in rats under fall induced intense trauma, attributing phenomenon to increase in extrinsic thromboplastin from damaged tissue[2002 A72-41194]

'BLOOD FLOW Influence of flow conditions on thrombus formation in fresh blood[1998 A72-15026]
BLOOD PLASMA CONTENT

- Neurodynamic and blood oxygen parameter changes in dogs during hypoxia at rest and muscle activity in various oxygen concentrations.
- Conversion of angiotensin to angiotensin II in dogs.
- Plasma erythropoietin concentration in men and mice during altitude acclimatization.
- Acid base balance in arterialized capillary blood in men after maximal short duration exercise.
- Thermal stability variations in blood serum proteins after electrical stimulation of rabbit hypothalamic structures.
- Wien intravascular effect on plasma carbon dioxide gradients near pulmonary capillary wall, discussing free energy requirements.
- Light-dark cycles and physiological stress on circadian rhythms in rat blood serum serotonin levels.
- Dose dependent hyperglycemia and hyperlipemia response to postembolic sodium injection in rats from plasma glucose and fatty acid analysis.
- Lipid metabolism abnormality relations to hypothyroidism leading to atherosclerosis, noting thyroid parenchyma atrophy from autoimmune thyroiditis.
- Blood lipid levels and dietary habits in atherosclerotic and healthy subjects, showing lipid and glucose metabolism disturbance increase in coronary cases.
- Corticosterone content in blood plasma, cerebral cortex and skeletal muscles during hypoxia adaptation in rats.
- Inhibitive effect of immobilization on urinary catecholamine excretion and blood plasma thyroxine level in rats.
- Blood serum proteins thermal stability in patients with vegetative vascular and neuroendocrine syndromes, discussing ATP effects.
- Human blood serum 11-oxycorticosteroid content after maximum stress exercise, noting heart rate and blood pressure changes.
- Prolonged water immersion effects on renal function and plasma volume in trained and untrained subjects, noting deleterious effect on orthostatic tolerance and work capacity.
- Urine and plasma protein and creatinine measurements in acclimatized and unacclimatized men before, during and after high altitude ascent.
- Serum pesticide activity determination as eosinotic diagnostic test for myocardial infarction.
- Myocardial infarction stress effect on serum cortisol, plasma free fatty acid and urinary catecholamine levels.
- Bed rest and centrifuging effects on human plasma thyroid hormone levels, discussing total protein, albumin and thyroxin binding globulin concentrations.
- Multihour immersion effects on blood plasma protein and electrolyte concentration in trained and untrained subjects.
- Bed cell mass volume decrease in Apollo mission crews, indicating erythrocyte inhibition.
- Plasma protein concentration, volume and hematocrit changes during exercise, bed rest and high forward acceleration.

SUBJECT INDEX

- Monovalent K and Na and bivalent Ca and Mg plasma ion ratio effect on thromboocyte electrostatic interaction.
- Mechanical vibration induced physiological changes in rats, determining plasma Ca, Mg and inorganic phosphate concentration and xanthine oxidase activity response to frequency and g-levels.
- Hypokinesia effect on fluid and electrolyte metabolism change patterns in rabbits from blood plasma studies.
- Effects of in vivo inhalation of 100% oxygen at reduced pressure on serum and red cell lipids.
- Disproportional changes in hematocrit, plasma volume, and proteins during exercise and bed rest.
- Algorithms for selected blood acid-base and blood gas calculations.
- Fluid transfer between blood and tissues during exercise.
- Hypothesis for atherosclerosis formation, noting blood plasma protein concentration effects on oxygen diffusion.
- The effect of chronic erythrocytic polycythemia and high altitude upon plasma and blood volumes.
- Variation of the acetylcholine content and of the cholinesterase activity in the blood under muscular strain.
- Autoimmunity in the pig-tailed monkey Macaca nemestrina during chronic altitude exposure.
- Euthyroid hyperthyroidism leadin to atherosclerosis, noting carbohydrate availability as exercise capacity limiter.
- Effect of hypoxia and physical activity on plasma enzyme levels in man.
- Changes in blood serum proteins under the effect of hypoxia in intact rats with thyroid gland dysfunction.
- Effects of the space flight environment on man's immune system. I - Serum proteins and immunoglobulins.
- Quantitation of serum proteins on whole blood-electroimmunodiffusiontechnique applicable to capillary blood.
- Metabolism of angiotensin II in sodium depletion and hypertension in humans.
- Human blood monocytes - Stimulators of granulocyte and mononuclear colony formation in vitro.
- Simultaneous determination of blood plasma volume and corpuscle mass by chromium 51 tagged erythrocytes and iodine 131 labeled human serum albumin.
- Chemical changes in blood plasma due to stress.
- Effects of 6 MeV X ray irradiation on blood plasma reducing substances in primates.
Effects of muscular stress on biochemical changes in nerve enzyme activity

PH-dependent inhibition and reactivation of angiotensin II and angiotensin II and EDPA angiotensin inhibition in amide cleaving enzymes of human blood plasma

Blood Pressure

Diastolic Pressure

Hypertension

Systolic Pressure

Blood Pressure

Right heart ventricular intracardiac phonocardograms, recording pulmonary early diastolic click simultaneous with artery pressure curve dicrotic wave

Femoral arterial blood pressure third order waves onset mechanism in narcotized dogs, noting changed blood and respiration dynamics

Implanted telemetry development for cardiovascular research, discussing blood pressure, flow and hydraulic impedance relationships

Human arm arterial pressure and flow pulsations numerical analysis, constructing electrical analog circuit from mathematical model

Spinal mesenteric vascular reflexes of vasoconstriction effect of pressure drop in coeliac artery relation to Fein nutritional hepatic reflex

Splanchnic vasoconstriction in hyperthermic man independent of falling blood pressure

Carotid mean arterial nerve activity modification by hypothalamic stimulation and baroreceptor reflex interactions, discussing mean arterial pressure variation effects

Dog mesenteric terminal venous microvessel distensibility characteristics from response to arterial and venous pressure changes

Carotid sinus counterpressure as baroreceptor stimulus in intact dog, recording arterial pressure response in closed loop gain

Intravascular pressure and extravascular structure effects on radial and longitudinal distensibility of arterial microvessels in dog mesentery

Improperly controlled learning processes relationship to hypertonic blood pressure irregularities pathogenesis in rats, investigating negative emotional reactions effects

Sex differences of chronic effect of environmental stress on blood pressure and information processing in rats, observing neurotic, hypertonic blood pressure irregularity

Autonomic blockade effects on reflex bradycardia due to phenylephrine induced arterial pressure drop in man during rest and supine exercise

Splanchnic vascular bed role in human blood pressure regulation from lower body negative pressure tests, measuring blood flow from hepatic dye removal rates

Cardiovascular analog computing circuits with outputs for left ventricular pressure maximum rise rate, cardiac 'stroke volume and atrioventricular conduction time

Pulsatile blood pressure and ECG in squirrel monkeys, considering catheter electromanometer system and implanted arterial cannulas long stability

Digital simulation of human cardiovascular system, noting blood pressure control by physiological reflexes

Pulmonary capillary bed filling as function of arterial pressure in prefused frozen dog lungs

Open capillaries control mechanism of pulmonary diffusion capacity, presenting mathematical interpretation of hemoral and hydraulic blood pressure control

Mathematical model for arterial system pressure, blood flow and dimensional changes, examining cardiac ejection dynamics and vasculature mechanical properties and viscoelasticity

Electronic and hematocrit devices to investigate cardiovascular system functions including blood coagulation process, pressure and flow

Sheet flow theory for pulmonary alveolar blood flow, discussing blood pressure effects, sepsis, tension, blood volume and transit time distribution

Left ventricular dynamic function in terms of internal diameter, pressure and flow in dogs at rest and during isoproterenol and tetramizol infusions

Arterial pressure data recording technique using magnetic tape recorder and automatic conversion to digital form

Single linear measure of systolic pressure gradient for calculation of aortic valve area in stenosis severity assessment

Piezoelectric transducer for indirect on-wrist blood pressure measurements for clinical environment

Arterial blood gas tensions, using sequential phase dialysis for pilot oxygen delivery

Human acceleration stress tolerance monitoring techniques for temporal, brachial and radial arterial blood flow and indirect systolic and diastolic blood pressure measurements

Prevention of weightlessness effects on blood hydrostatic pressure, musculoskeletal stress and sensorimotor performance, discussing space flight training and space environment simulation tests

Automated constant cuff-pressure system to measure average systolic and diastolic blood pressure in man.

Hemodynamic changes in man during immersion with the head above water

Mathematical models for flow ejection and sort pressures based on displacement ballistocardiography and time dependent incompressible flow theories respectively

Effects of vagotony and increased blood pressure on the incidence of decompression-induced pulmonary barochoke

Systemic haeodynamics in borderline arterial hypertension - Responses to static exercise before and under the influence of propranolol

Determination of systolic time intervals using the apex cardio gram and its first derivative

Implantable blood pressure telemetry system

Relationship of pulmonary artery to left ventricular diastolic pressures in acute myocardial infarction

An indirect method for evaluation of left ventricular function in acute myocardial infarction

Separation of central effects of CO2 and nicotine on ventilation and blood pressure

Subject Index
Tilt table tests for orthostatic tolerance, measuring heart rate, blood pressure and responses of fainters and nonfainters.

Effect of fasting on tolerance to moderate hypoxia.

Carotid rete role in brain protection against extreme elevations of systemic blood pressure, presenting goat cerebral blood flow measurement procedure.

Spinal cord heating and cooling effects on body temperature, respiratory and heart rates and arterial blood pressure, investigating feeding and drinking behaviors.

Control parameters of the blood-pressure regulatory system. I - Beatrate sensitivity.

Control parameters of the blood-pressure regulatory system. II - Open-loop gains, reference pressure and basal heart rate.

Lower-body negative pressure as a method of preventing shifts associated with changes in the hydrostatic pressure of blood.


Use of implantable telemetry systems for study of cardiovascular phenomena.

Increased fluid turnover and the activity of the renin-angiotensin system under various experimental conditions.

Carotid displacement pulse first time derivative recording as noninvasive technique for heart function assessment.

General index for the assessment of cardiac function.

Injected histamine effects on intracranial pressure and systemic blood pressure in Macaca mulatta monkeys.

Electronic circuits for measuring left ventricular processes and providing time signals for computer monitoring of cardiovascular system.

Pressure ramp programmer for automatic blood pressure measurements.

Optimal control algorithms for on-line closed loop blood pressure regulation.

Hyperthermia effects on cardiac arrhythmias, arterial pressure, and respiration in dogs and electrocardiographic effectiveness in diagnosing threatening onset.

Raised arterial blood pressure levels in aircrew members.

Effect of vibration on blood flow and pressure in major arteries of dogs.

Effects of hydrostatic pressure on viscosity of whole blood systems.

Design and operation of sytems for monitoring systolic and diastolic blood pressures on beat by beat basis.

Framingas indicators for detecting potential coronary heart disease susceptibility in third class airman population.

Vasal tone.

Viscosity and constraints effects on wave dispersion and dissipation in blood vessels.

Teflon diffusion membrane for in vivo blood and intracardiac tissue gas tension measurement by mass spectroscopy without chemically bonded heparin surface.

Ultrasonic Doppler flowmeter for instantaneous measurement of blood vessel flow velocity by averaging frequency shift over received signal power density spectrum.

TV microscopic system for on-line measurement of capillaries microvessels diameter relative to heart action.

Irreversibility mechanism in postpartum ductus arteriosus closure in guinea pigs, studying vessel cellular changes and smooth muscle response to oxygen pressure.

Platelet aggregation role in intracranial vessel circulation impendence in patients dying suddenly of coronary artery disease.

Mathematical model for flow limitation in collapsible tube in relation to pressure in pulmonary and circulatory systems.

Coronary collateral circulation and myocardial blood flow reserve.

Blood vessel reactions to natural defense and conditioned reflexes from plethysmography and blood pressure measurements, discussing cortical effects mechanisms.

Unresponsiveness of pial precapillary vessels to catecholamines and sympathetic nerve stimulation.

Effect of vibration on the permeability of the blood-brain barrier.

Resistance and capacitance vessels of the skin in permanent and temporary residents at high altitude.

Photoelastic analysis of cardiovascular-magnitude stress pattern produced by flow through gelatin-agar walled channels for analysis of mechanical stresses on blood vessel walls.

Animal vessel adaptation to gravitational overloads in head-pelvis direction.

Angiographic study of hamsters in relation to decompression sickness.

Blood vessel flow velocity measurement with ultrasonic Doppler technique.

Chest-back acceleration effects on rabbit telecephalic vessels.

Chest-back acceleration effects on rabbits mesencephalic and metencephalic blood vessels.

Acceleration training effects on compensatory reactions of rabbit retinal vessels.

Increased density and reticular fiber formation in rat spleens as compensatory reaction to acceleration training.

Degenerative changes in bronchial vessels of rabbits caused by hypodynamia and hypokinesia.

Teflon diffusion membrane for in vivo blood and intracardiac tissue gas tension measurement by mass spectroscopy without chemically bonded heparin surface.

Blue-green algae. Slow green algae Anacystis nidulans photoresponse after Co 60 gamma radiation exposures, using white and red light.
Phylogenetic origins of cytoplastids from cyanobacterial algae involved in endosymbioses with colorless Cryptophytes

Blue-green algal cyanysts Sidunia UV light-sensitive mutants photorecovery capacity following irradiation

Annual clinical and physiological evaluation of test-pilots physical performance over ten year period from body composition, pulmonary function, and work capacity measurements

Effect of space flight on changes in body composition and body functions [NASA-TT-F-14535] p0566 N72-32139

Bodily fluids

Human blood

NT CHEMOSEROSAL FLUID NT BLOOD NT SKELETAL FLUID NT LYMPH NT SERUM NT SWEAT NT SALIVA

Effect of space flight on changes in blood composition and body functions [NASA-TT-F-14535]

Urea determination in urine and water wastes for re-entry procedures, using 2-dimethylaminobenzaldehyde colorimetric method

Fluid transfer between blood and tissues "during continuous positive pressure breathing in dogs"

Water immersion tests to study body fluid balance disturbances during weightlessness, observing diuretic reflex control of blood volume

Antidiuretic hormone role in central vascular volume and fluid balance maintenance during continuous positive pressure breathing in dogs

Algorithms for selected blood acid-base and blood gas calculations.

Fluid transfer between blood and tissues during exercise.

Cardiovascular system venous part responsiveness to central nervous and basal influences

Increased fluid turnover and the activity of the renin-angiotensin system under various "experimental conditions."

Clinical investigations of cancer prevention, infectious diseases, body fluids, and electrophoresis [OBH-4663-PF-11]

Body fluid analysis on Gemini spacecrews to determine metabolic costs of manned space flight [SIEPT-MOOS] p0044 N72-11078

Etiology of pulmonary edema and plasma volume changes during decompression in hybrid swine [NASA-TM-X-58095]

Body kinematics

Human body dynamics, discussing configuration, modeling techniques, kinetics, equations of motions and various limb motions examples

Human body movements basic kinematics, measuring static force, angle and tangential acceleration of horizontal arm swings

Human and animal controlled self rotating maneuvers during free fall, comparing theoretical motion analysis with photographs of falling cats

Human body kinematics numerical analysis, obtaining space-time resolution by photogrammetric restitution and electronic data processing of photographic recordings

Human leg muscle reflex excitability changes during angular acceleration, suggesting vestibular apparatus as coordinative means in quasi-static and dynamic movement control

Two-mass system as human body dynamic model in ballistocardiography, outlining transfer function parameter computer simulation procedure

Servo action in human voluntary movement.

Experimental investigation of an astronaut maneuvering scheme.

The measurement of three-dimensional body movements by the use of photogrammetry.

Participation of supranodal structures in the formation and control of a system of arbitrary cyclic motions of man

Prolonged jet flight effect on passenger interstitial and intracellular fluid volumes from plasma, extracellular and total body water measurements, noting dehydration and foot swelling

Urea determination in urine and water wastes for re-entry procedures, using 2-dimethylaminobenzaldehyde colorimetric method

Hydrokinetics effect on fluid and electrolyte metabolism and cell culture patterns in rabbits from blood plasma studies

Acoustic impedance of body surface at thorax and abdomen, showing dependence on frequency and body pressure and position

Organism blood volume and losses determination by measuring human body electrical resistance, noting unsatisfactory results

Cardiovascular changes produced by whole body vibration of dogs and pigs, obtaining resonant frequencies of organ systems

Biological similarity theory for numerical relationship of morphometric and phylogenetic organization in mammals, using allometric growth equations and body weight correlations

Single linear measure of systolic pressure gradient for calculation of aortic valve area in stenosis severity assessment

Human torso surface mathematical model to determine equivalent heart dipole and quadrupole locations for ECG measurements

Echocardiographic determination of left ventricular dimensions, volumes and performance.

Human body movements basic kinematics, measuring static force, angle and tangential acceleration of horizontal arm swings

Data management techniques and designs during integrating OPI with IEBLS for manned space flight
Body thermal stress, local heating and arterial spectral photosensitivities for phase shifting of potassium cyanide effect on phospholipid exchange peripheral modifications to exercise induced heat production increase by muscular contractions heat acclimatization, vork habituation and thermoregulatory hypothalamic and body sites for chronic centrifugation effects on rat deep body optimum muscle work conditions experiments with biological tissue heat transport dimensionless body cooling effect on human vigilance in hot environments, testing reaction time to visual stimuli and auditory detection rate options muscle work conditions experiments with rabbits, correlation total work performance and power output with muscle temperature variations skin and hypothalamic temperature effects on human thermoregulatory responses, developing control mechanisms for peripheral effects on skin sensors chronic centri fixation effects on rat deep body temperature by implant biotelemetry, comparing with body mass and food consumption changes heat exposure effect on Sidman avoidance performance in rats, discussing organism thermoregulatory capacity disruption and shock and body temperature regulation thermoregulatory hypothalamic and body sites for behavioral temperature regulation in squirrel monkey biophysical tissue heat transport dimensions parameters for steady state and transient analysis of homeotherm thermoregulation heat acclimatization, work habituation and exercise effects on body thermoregulation, measuring transepidermal temperature, sweat rate and oxygen intake peripheral modifications to exercise induced central drive for sweating, determining rates as functions of internal temperature potassium cyanide effect on phospholipid exchange in rat brain and liver during histotonic hypoxia as function of body temperature heat production increase by muscular contractions due to noradrenaline in cold adapted rats body thermal stress, local heating and arterial occlusion effects on sweat electrolyte content circadian rhythms variations for sleep, ECG, temperature and activity in monkeys, indicating acrophase, amplitude and level regulation weak ip electric field influence on circadian rhythms of human rectal temperature and activity spectral photosensitivities for phase shifting of circadian body temperature rhythms in pocket mice biotelemetry measurement of rhythm in gastrointestinal system of animals and human beings biomedical system for measuring volume and volume variations of human body under zero gravity conditions biomedical tissue heat transport dimensionless body cooling effect on human vigilance in hot environments, testing reaction time to visual stimuli and auditory detection rate options muscle work conditions experiments with rabbits, correlation total work performance and power output with muscle temperature variations skin and hypothalamic temperature effects on human thermoregulatory responses, developing control mechanisms for peripheral effects on skin sensors chronic centri fixation effects on rat deep body temperature by implant biotelemetry, comparing with body mass and food consumption changes heat exposure effect on Sidman avoidance performance in rats, discussing organism thermoregulatory capacity disruption and shock and body temperature regulation thermoregulatory hypothalamic and body sites for behavioral temperature regulation in squirrel monkey biophysical tissue heat transport dimensions parameters for steady state and transient analysis of homeotherm thermoregulation heat acclimatization, work habituation and exercise effects on body thermoregulation, measuring transepidermal temperature, sweat rate and oxygen intake peripheral modifications to exercise induced central drive for sweating, determining rates as functions of internal temperature potassium cyanide effect on phospholipid exchange in rat brain and liver during histotonic hypoxia as function of body temperature heat production increase by muscular contractions due to noradrenaline in cold adapted rats body thermal stress, local heating and arterial occlusion effects on sweat electrolyte content circadian rhythms variations for sleep, ECG, temperature and activity in monkeys, indicating acrophase, amplitude and level regulation weak ip electric field influence on circadian rhythms of human rectal temperature and activity spectral photosensitivities for phase shifting of circadian body temperature rhythms in pocket mice
and ambient temperatures

Water cooled suits efficiency and effectiveness for heat removal, noting importance to head area

Cardiac output and body temperature response to prolonged intermittent exercise

Heat, noise and vibration stress combined effects on skin and rectal temperature, heart rate, weight loss and biochemical urinalysis

Thermal neutral temperature of rats in helium-oxygen, argon-oxygen, and air

Clinical IR thermography with Thermovision camera for body temperature discontinuity detection, imaging resolution

Circadian rhythms in physiological and psychological functions related to jet travel, studying body temperature variations and psychomotor performance during isolation and varying light-dark cycle conditions

Human tryptophan and tyrosine metabolism - Effects of acute exposure to cold stress

Russian hook - Climatic conditions and the thermal state of man.

Oxygen consumption in liquid breathing mice

Heat acclimatization by exercise-induced elevation of body temperature

Temperature transmission from biopotential radiotelemetry transmitters

Temperature balance in man during 24 hours in a controlled environment

Evidence for a metabolic limitation of survival in hypothermic hamsters

Role of the dorso-medial area of the posterior hypothalamus in thermal regulation and its functional relationships with the anterior hypothalamus

Analysis of changes in thermal regulation after destruction of the medial preoptic area of the hypothalamus

Pulse activity of neurons in the thermal regulation center of the anterior hypothalamus during chill shivering

Temperature-sensitive neurons in the brain stems - Their responses to brain temperature at different ambient temperatures

Physiological response of body temperature to localized ventilation

Protection of aviators from high temperatures and water-cooled garments for heat balance studies in man

Selected articles on mathematical or simulation models of human thermoregulation

Relationship between steady state flow and temperature regulation mechanism during exposure to heat

Response of ventilation parameters, pulse rate, oxygen uptake, and body temperature in man under acute and severe hypoxia

Pulse modulated biotelemetry system for determining energy budgets in free-ranging vertebrates from heart rate and body temperature measurement

Effect of direct application of K, Ca, Na, and Ba ions on body temperature and sweat secretion

Influence of sesamoid sarcoma on rabbit body temperature

Design and operation of completely implantable three-channel temperature biotelemetry system

Body temperature regulation

Body volume (biology)

Combined photoelectric-photographic and plietymoscopic technique for continuous measurement of rabbit ear vein diameter and tissue volume changes

Left ventricle intracavity volume measurements based on biplane angiographic data

Biomedical system for measuring volume and volume variations of human body under zero gravity conditions

Body weight

Chronic centrifugation effects on rat deep body temperature by implant biotelemetry, comparing with body mass and food consumption changes

Posthypoxic thirst and relative dehydration of rats after return from hypoxia to normoxia, measuring body weight and water intake

Acceleration force simulation for altered weight effect on animal tolerance to heat, discussing body mass loss, reduced lymphocyte count and disorientation

Blood circulation volume and peripheral resistance changes during human using process, accounting for body weight

Biological similarity theory for numerical relationships of morphometric and pharnacometric organization in mammals, using allometric growth equations and body weight correlations

Weight loss due to respiratory tract evaporative water loss during exercise, from humidity change, ventilatory exchange and oxygen uptake data

Triacylglycerolemia relation to age, relative weight and ischemic cardiopatby probability from ECG, anthropometry and lipid and glucid metabolism studies

Physiological effects on prolonged weightlessness in dogs aboard Cosmos 110 biosatellite, emphasizing body weight loss and enzyme activity and hope tissue mineral concentration changes

Heat, noise and vibration stress combined effects on skin and rectal temperature, heart rate, weight loss and biochemical urinalysis

Body weight decreases in some proton exposed prairies.

Effect of hyperoxic media on the stability of rats during acute carbon monoxide exposure

Hyperoxic effects on rat body weight, oxygen consumption, and tolerance to carbon monoxide exposure

Boeing 707 rapid decompression at 25,000 feet, noting rivet hole fatigue damage

Vertical cockpit acceleration and vibration measurement in Boeing 707 noting pilot performance

Boeing MIlitary Aircraft

Boeing 707 Aircraft

Research and development of Boeing 707 aircraft

Boeing 707 aircraft
BONE MARROW

Chronic microwave irradiation effects on experimental arterial blood formin systems, examining peripheral blood count changes and nuclei and mitosis abnormalities in erythroblastic and lymphoid cells

Radiobiological effects of nonuniform body irradiation, discussing regeneration processes stimulation by partially shielded bone marrow

Biological dosimetry in acute human irradiation from cytotoxic study of peripheral blood and bone marrow

Proliferative blood forming tissue activity under chronic gamma ray irradiation in guinea pigs by quantitative methods, showing avnold and reticular disturbances of bone marrow

Hypoxia effect on diurnal autolitic activity rhythm of narrow orthopsiotosis system of guinea pigs in pressure chamber

Supercelellular regulators of triggering mechanism of regenerative reaction in stemus erythroplastic bone marrow tissue

Nervous and humoral stimulation and hypoxia effects on orthopsiotosis control, studying human blood serum additions to bone marrow cultures

Pyrogenal injection test for hematopoietic tissue function in dogs, describing responses transient leukopenia followed by pronounced leukocytosis due to bone marrow granulocyte function

Estimating individual bone marrow radiation doses in leukemia patients

Effectiveness of lead screens in protecting bone marrow quantity necessary for survival of pigs gamma irradiated with Co-60

BONES

NY CELIERIUM
NY CRAMON
NY ENMUB
NY INTRACRANIAL CAVITY
NY PELVIS
NY SCIATIC REGION
NY SKULL
NY STERNUM
NY TIBIA

UT UREA
UT ZERUBER

Hydroxyapatite isotropic and anisotropic elastic properties compared with experimentally observed anisotropic behavior of bone

Aseptic bone necrosis pathology from radiographic studies in dogs with decompression sickness noting articular cartilage erosion and joint dypsia and exostosis

Calcium metabolism perturbations in astronauts under weightlessness conditions and in immobilized test subjects, noting bone tissue renewal cycle modification, calcification variations and bone calcification

Skeletal bones ash content in man and primates, involving differences due to adaptive physiological function

Calcium and phosphorus excretion relation to bone density changes in immobilized Macaca nemestrina monkeys

Comparative study of two direct methods of bone mineral measurement

Radiographic study of bone desineralization in Genus chimeras

Hypothyroidism and thyroid hormone effects on calcium metabolism of rat bones

SUBJECT INDEX

Bone atrophy caused by inactivity in guinea pigs

Geometric properties of human ribs and thin walled ellipse model for rib cross section

Effect of tissue bone atrophy on spinal impact tolerance in Rhesus monkeys

Phosphate and bone ash composition of beef and human bone under living body conditions

BOOST

U ACCELERATION (PHYSICS)

RORBIANTS

UT ALPHA PARTICLES
UT LIGHT BEAMS
UT PHOTONS
UT FLOBES

BOUNDARIES

UT LIQUID-VAPOR INTERFACES

BOUNDARY LAYER NOISE
UT AERODYNAMIC NOISE

BOW SHOCK WAVES
UT SHOCK WAVES

BRODICALIA

Autonomic blockade effects on reflex bradycardia due to phenylephrine induced arterial pressure in man during rest and supine exercise

Case report of pilot near-syncopal episode with bradycardia due to hyperactive right carotid sinus reflex

Bradycardia diurnal reflex to apneic face immersion during physical exercise

Aortic requrqitation variation with respiratory sinus arrhythmia and respiratory cycle in dogs during tachycardia and bradycardia

Continuous recording of His bundle electrogram during selective coronary cineangiography in man

Measurement of human subject heart rate during dives with scuba equipment to determine effects of temperature

BRAIN

UT BRAIN STEM
UT CEIEHELLUM
UT CEREBRAL CORTEX
UT CEIEBER
UT CEIEEROS

HYPOCAMPA

Intracellular pH prime regulation in rat brain during acute and sustained hypercapnia, discussing cellular bicarbonate accumulation

Hypoxia, hyperoxia and hypercapnia short period effect on rat brain oxygen supply, measuring blood gas values, tissue oxygen partial pressure time variations, etc

Nervous respiratory disorder in patients with diencephalic and vegetative vascular syndromes, discussing arterial hypoxemia development and resulting oxygen insufficiency

Insulin injection or carbohydrate consumption effects on serotonin and tryptophan concentrations in rat brains

Acute and chronic hypercapnia effect on lactate, pyruvate, alpha-ketoglutarate, glutamate and phosphocreatine contents of rat brain
**BRAIN CIRCULATION**

- Problems in neurobiology of creating technical devices to behave like human brain
  - p0389 A72-29127
- Human process of classification and formation of concepts analyzed by construction of model of brain as learning system
  - p0390 A72-29130
- Plastic properties of excised human brain arteries subjected to dynamic loads
  - (AD-760054)
  - p0526 A72-30097

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- Book on experimental brain hypoxia covering changes in hemodynamics, energy metabolisms, electrolyte and water movement and cerebral and peripheral venous blood serum proteins
  - p0167 A72-20448
- Testicular corebelli microstructure and leaflet strength in study of chronic and acute hypoxia injury to fetus during pregnancy and 1 and 3 days after
  - p0220 A72-23193
- Hydrogen peroxide formation relationship to lipid peroxidation and seizures in brain during high pressure oxygen exposure
  - p0295 A72-28300
- Destructive changes in rabbit brain and eyes under pulsed laser beam irradiation
  - p0319 A72-29333
- Human and animal central nervous system repair processes for brain damage caused motor function disturbances
  - p0345 A72-31100
- Crash helmet performance prediction through various strain criteria, using brain injury biomechanical model
  - p0370 A72-32607
- Brain tumors in irradiated monkeys.
  - p0418 A72-35647
- Reflex and conditional movement observation of central nervous system function restitution in Macaca mulatta monkeys with cortical lesions, studying pathological forced grasping
  - p0429 A72-36977
- Language and speech capacity of the right hemisphere.
  - p0453 A72-38150
- Supplemetary cues and delayed-alternation performance of frontal monkeys.
  - p0463 A72-39372
- Higher nervous activity of monkeys two years after the extirpation of the dorsolateral frontal cortex
  - p0497 A72-40803
- Role of the reticular formation of the mid-brain in the storage and recreation of a system of conditioned reflexes
  - p0498 A72-40809
- Impact parameter effects on severity of human cranioencephral trauma in aircraft accidents
  - p0522 A72-41401
- Correlation between electrographic trace phenomena in brain and immediate memory using normal and alcoholic subjects
  - p0522 A72-41401
- Chest-back acceleration effects on rabbit telegnathic vessels
  - p0520 A72-19001
- Chest-back acceleration effects on rabbit mesencephalic and metencephalic blood vessels
  - p0520 A72-19002
- Computer program for analyzing impact damage to skull-brain system models
  - (AD-733986)
  - p0307 A72-20087
- Use of mathematical model for evaluation of head injury severity index criteria
  - (AD-740441)
  - p0524 A72-30807
- Mathematical models for testing effectiveness of multilayered viscoelastic and elastic-plastic brain protection system during impact shock
  - (AD-740466)
  - p0527 A72-30102
- Effects of external impulsive head loads on human brain behavior
  - (AD-740473)
  - p0528 A72-30108

**BRAIN DAMAGE**

- High energy proton irradiation late pathological effects on rabbit brains, discussing brain lesions and radiation dosages
  - 2898-71-151
  - p0025 A72-12056
- Frontal lobe damage effect on conditional motor reflexes, communication capacity and emotional behavior in hambo apes
  - p0073 A72-15583
- Human cranioencephral trauma dependence on impact conditions, giving case histories
  - p0700 A72-16643
- Cerebral vascular disorder biochemical analysis, noting retinal vascular change relation to coronary arteriosclerosis and anoxia and flight stress effect on serum lipid and cholesterol
  - p1000 A72-16843

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*Note: The text is presented in a structured manner with key points highlighted for easier readability.*
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Bubbles... Ultrasonic transducer monitoring of decompression caused gas bubbles in rat thigh muscle tissue for decompression sickness time course development studies... p0163 A72-20183
Dynamics of dissolution of gas bubbles or pockets in tissues... p0429 A72-37027
Precordial monitoring for pulmonary gas embolism and decompression bubbles... p0456 A72-38710
Bubble growth during decompression and allowable gas tension in human body... p0395 A72-20075
Buffeting... Biothermal response of increased core temperature in rhinos to mechanical vibration, noting implications for pilot performance during prolonged buffeting... p0292 A72-28268
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Cabin atmospheres... CO contamination of cabin and hazard to pilots, discussing concentrations, avoidance, control and analysis... p0165 A72-20267
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Sealed cabin air reconditioning by means of
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capacity
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Insecticide dichlorvos vapor toxicity in aircraft
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adaptation and bronchiolar resistance
p0264 A72-31082

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with underwater laboratory, discussing cabin
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p0655 A72-39938

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yard dash
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Graph driving machine for determining sobering
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[NASA-TP-14564] p0561 A72-32099

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Calcium metabolism perturbations in astronauts
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p0334 A72-30065

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CALORIOMETRY

NT HEAT MEASUREMENT

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NT CYCLOTHERION

CASABAS

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CAMOUFLAGE

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Lung fibrosis and cancer caused by asbestos-fibers inhalation, noting environmental control for protection against workers health hazards
Hazard rate of recurrence in germinal cell tumors of the testis.
New cancer therapy treatment techniques using space dosimetric concepts.
Hodgkin disease post-surgery recurrence hazard rate in flying personnel, developing statistical base for decision regarding return to military flying duty
Clinical investigations of cancer prevention, infectious diseases, body fluids, and electrohydrosis
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Cardiac hypertrophy, capillary and muscle fiber density, muscle fiber diameter, capillary radius and diffusion distance in the myocardium of growing rats adapted to a simulated altitude of 3500 m.
Blood flow, oxygen uptake, and capillary filtration in resting skeletal muscle.
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O CAPILLARY FLOW
Oxygen distribution in human brain under countercurrent capillary blood flow conditions, presenting mathematical simulation for transport in Krogh system
Quasi-steady creeping flow in small vessels of spherical, oblate and prolate ellipsoid and circular cylinder lung models, obtaining Stokes equations solutions
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AT HYPOGLYCEMIA
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Daily prolonged exercised effects on human muscle glycogen utilization, noting reduced lactate accumulation and increased free fatty acid levels
Hypertension and blood sugar and lipid level increase as ischemic heart disease risk factors
Isolation of extremely halophilic carbohydrate-utilizing bacteria, using acid formation from various sugars as carbohydrate metabolism index
Myocardial lipid and carbohydrate metabolism in fasting men during prolonged exercise.
Substrate utilization and glycolysis in the heart.
Effect of alcoholic acid on myocardial metabolism in man at rest and during exercise.
Cortico-visceral studies of spinal cord reticular formation stimulation and destruction effects on electroencephalograms, cardiac activity and interoceptive glycemic reflexes
Cardiocirculatory adaptation to chronic hypoxia.

II - Comparative study of myocardial metabolism of glucose, lactate, pyruvate and free fatty acids between sea level and high altitude residents.

Evidence for a metabolic limitation of survival in hypoxic hamsters.

Localization and dynamic changes of glycolysis in frog retina adapted to darkness or light. I, II.

Effects of atmospheric composition on intestinal glucose metabolism in rats.

Low frequency pulsed electromagnetic field effects on carbohydrate energy and nitrogen metabolism of living organisms.

Effect of continuous noise and vibration on carbohydrate, fat, and protein metabolism in white rats.

Importance of synthetic carbohydrates in liver lysosomes of white rats.

Synthetic carbohydrates toxicity effects on rat liver lysosomes application to astronaut potential food sources.

Human plasma free fatty acids relation to -lactic acid concentrations and maximum aerobic power, noting carbohydrate availability as exercise capacity limiter.

Toxicological evaluation of synthetic carbohydrates in liver lysosomes of white rats.

Carbon isotopes

Carbon compound distribution on moon from Apollo 11 samples, comparing with earth data.

Pure biocarbons for skeletal fixation of limb prosthetic devices, noting load bearing applications dependence on brittle characteristics.

Carbon compounds

Carbon dioxide

Human reaction to inhalation of gas mixtures with 3-9 percent carbon dioxide, measuring respiratory rates, minute breathing volume, heart rates, arterial pressures, etc.

Development of a desiccant CO2 adsorbent tailored for shuttle application.

Separation of central effects of CO2 and nicotine on ventilation and blood pressure.

Regeneration of oxygen from carbon dioxide and water.

Exhalation, gas exchange, and carbon dioxide content in humans during passive orthostatic tests.

Toxic effect of carbon dioxide breathing on human body.

Lactate- pyruvate and redox state responses of blood and tissue in chronic hypoxia.

Plasma-creatinine phosphokinase response to hypercapnia.

Glycolytic metabolite effects from responses of blood lactate- pyruvate and redox state to chronic exposure to 3 percent CO2.

Optimization trends and operating parameters of integral molecular sieve bed exhaust for CO2 control in life support systems for manned orbital laboratories.

Development of fluidic-electronic system for monitoring concentration of carbon dioxide in respiratory gases.

Analysis of carbon monoxide absorbing capability of soils and plants.

Six-man solid electrolyte oxygen regeneration system for producing 12.5 lbs oxygen daily by electrolysis of CO2 and water vapor.

Digital simulation and experimental evaluation of CO2-rich carbon dioxide concentrations at 2 and 18 C, discussing oxygen uptake relation to cold.

Acute hypoxia neurotropic effect in rabbits, describing carbon dioxide inhalation period, premonitory and narcotic stages and recovery phase.

Magnetometer and spirometer ventilation measurements from chest and abdomen movements during carbon dioxide inhalation.

Hypoxic and narcotic gas mixture breathing during intense muscular activity, relating oxygen consumption and carbon dioxide elimination magnitudes and motor performance.

Human external respiration characteristics changes during increasing hypoxia, relating carbon dioxide concentration rate to compensatory mechanisms and endurance.

Added-elastic load tests for thoracic elastance change effects on human response to carbon dioxide inhalation, using rebreathing technique.

Exercise role in ventilatory acclimatization to graded hypoxia in goats from carbon dioxide response curve measurements.

Human hypertension characteristics changes during increasing hypoxia, relating carbon dioxide concentration rate to compensatory mechanisms and endurance.

Regression analysis for steady state R2 inequality in O2 consumption calculations.

Relaxation phenomena in the biological carbon cycle under-conditions of variable atmospheric CO2-content.

Interaction of chronic hypoxia and hypercapnia upon blood gases and acid base status.

Integrated water vapor electrolysis oxygen generator and hydrogen depolarized carbon dioxide concentrator development.

Changes in external respiratory rate of men exposed to increased CO2 concentrations.

Carbon dioxide lasers

Rabbit and monkey corneal damage following carbon dioxide laser irradiation, discussing hazard level derivation.

Ruby laser simulation for determining effects of CO2 laser effects on skin tissues.

Carbon dioxide removal

Electrochemical carbon dioxide concentrator.
materials compatibility to space-shuttle life support environment, comparing with L108 method
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Bosch carbon dioxide reduction unit research and development.
[AD-727509, p0035 A72-19138]

Bosch carbon dioxide reduction process for manned space spacecraft oxygen recovery, analyzing carbon dioxide and water forming reactions with iron as catalyst.
[AD-727507, p0035 A72-19137]

Carbon dioxide- and water-centered in life support systems for extravehicular human protection during advanced space missions.
[AD-727505, p0035 A72-19136]

Carbon monoxide poisoning

- CO hemoglobin concentration measurement in blood of smokers, nonsmokers and deceased crewmembers of crashed aircraft
[AD-727503, p0035 A72-19134]

- Pulmonary functional inhomogeneities of carbon dioxide steady state oxygen and CO diffusing capacity estimates in gas transfer resistance terms
[AD-727501, p0035 A72-19132]

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Keratocous / /noninflammatory conic protrusion of

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Isolation of a polyvalent bacteriophage for Escherichia coli, Klebsiella pneumoniae, and Aerobacter aerogenes.

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Tobacco tissue cultures with Apollo 12 lunar material, determining endogenous starch and fatty acids concentrations by gas chromatography and mass spectrometry.

Modular microbiology laboratory design considerations and zero gravity experiments to investigate microbial culture systems behavior.

Chlorella population age structure and cell requirements correlation with nutrient medium - nitrogen and phosphorus absorption.

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db-technical

DESHIBT TBAjectOBIES

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Electromagnetic field as isolated stimuli for brain function.

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Electrolyte hydrostatic pressure measurement in isolated frog retinas.

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[AD-726333]

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Ultrabroadband probe design for microwave
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Nonionizing electromagnetic radiation effects in
biological systems, discussing microwave
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Effects of electromagnetic radiation on biological
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Effects of microwave electromagnetic radiation on
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Effects of long term ELF magnetic field exposure
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Instrumentation for pre-computer processing of
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Electromyographic activity of biceps muscle during
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Review of NASA Ames Research Center 1971 conference on interstellar molecules and origin of life

Mars biology likelihood from long winter model, suggesting northern polar cap summer vaporization as atmosphere, liquid water and greenhouse effect source

Biological experiments of Viking Mars lander 1975 mission regarding Oparin-Salvador evolutionary hypothesis

Biological experiments on plants, animals and bacteria aboard Soyuz 5, 6 and 7 spacecrafts, noting flight conditions effect on physiological functions and hereditary structures

Environmental chamber simulation to show terrestrial microorganisms survival under Jovian atmospheric conditions

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Survival of cosmic terrestrial microorganisms under simulated Jovian conditions

Russian book - Problems of the stability of biological system.

Adaptability limits on protein-nuclein-water life under exobiological extreme conditions, considering macromolecules, extraterrestrial life search and origin

Thermodynamic proportion and mathematical modeling of complex biological systems, considering energy and mass exchange in photosynthesizing organisms for exobiological life support


Development of planetary quarantine in the United States

Biological instrumentation for the Viking 1975 mission to Mars.

Biological aspects of communications with extraterrestrial life, considering life possibility on wandering planets

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Conference on space biology related to Post-Apollo program, Paris, Mar. 1971

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Developments in space hydrobiology research and application to creating closed ecological system for support of space crew [JPL-55264].

Problems concerned with biological effects of space radiation [NASA-TP-6-604].

Quantitative evaluation of effects of radiation sickness as applicable to problems of space radiobiology [NASA-TP-2-2003].

Modifying influence of various light factors on radiobiological effects of ionizing radiation on organisms in space flight [NASA-TP-2-2004].

Relative biological effectiveness of various types of cosmic radiation [NASA-TR-X-2005].

Abstracts on space biology and medicine involved in cosmonaut training [JPL-55687].

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Results of studies on microorganisms with direct bearing on space biology [NASA-TR-F-14307].

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**EXTRATELLAR RADIATION**
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Biological effects of laser radiation on eyesight, skin, and other body organs exposed to combined centripetal and Coriolis accelerations. Consequences of pharmacological intervention and disease management.

Biological factors in color vision, simulation of visual systems, aerospace environment effects on visual perception, and electrophysiological aspects of eye responses. Optical functions and retinal circulation in humans exposed to combined centripetal and Coriolis accelerations.

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Behavioral-visual similarities of nonhuman and human primates. Effect of spherical spectacle lenses on the visual function characteristics during isometropic and anisometropic vision.

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Dynamics of DNA, RNA and protein synthesis in mitochondria and nuclei of heart muscles of rats during adaptation to high altitude hypoxia (NASA-TP-F-14526)

Clinical response to nitroglycerin therapy correlation with coronary angiography as diagnostic test for coronary artery disease in patients with chest pain

Coronary artery disease and vessel involvement severity predictions from electrocardiographic and vectorcardiographic patterns of anterior-wall myocardial infarction

ECG evidence of myocardial ischemia in patients without arteriographic evidence of coronary artery disease, studying myocardial oxygen supply

Idiopathic subvalvular aortic stenosis characterized by muscular or membranous obstruction in left ventricular outflow tract, discussing diagnostic importance for pilots

Abnormal ECG in healthy man due to former disease, subclinical disease, congenital anomalies, hereditary disease or functional aberrations

Myocardial infarction effects on drug tolerance and hemodynamic changes to digitalis doses, discussing toxic arrhythmias

Atheromatosis, chest pain and arrhythmia - Conference, Brussels, October 1970

Hypertension and blood sugar and lipid level correlation to sudden death from coronary heart disease, discussing impaired left ventricular function and cardiac patients

Vectorcardiographic and ECG diagnosis of left anterior hemiblock combined with complete right bundle branch block, discussing coexisting myocardial infarction influence

Ventricular and supraventricular arrhythmias incidence during maximal treadmill exercise in normal man, noting age factor and cardiovascular disease presence effects

Intraventricular conduction defects incidence and mortality in acute myocardial infarction, noting ECG and myocardial performance

Clinical reliability and normal variations of Frank ECG computer analysis by Smith-Hyde program for healthy and cardiac patients

Local and cardiac complications of selective percutaneous transfemoral coronary arteriography, noting hemolysis, thromboses, embolisms, myocardial infarction, bradyarrhythmia and ventricular fibrillation

Serum pteridine activity determination as easy diagnostic test for myocardial infarction

Triglyceridaemia relation to age, relative weight and ischemic cardiopathy probability from ECG, anthropometry and lipid and claudic metabolic studies

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Two stage description of middle age layer chronic polyarthritis, noting heart muscle and vascular wall tissues necrosis

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Influence of hyperosmolality on left ventricular stiffness.

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Substrate utilization and glycolysis in the heart.

The influence of exogenous ATP on cardiac metabolism in acute hypoxia.

Cardiac performance and the coronary circulation of man in chronic hypoxia.

Effect of chronic hypoxia on the kinetics of energy transformation in heart mitochondria.

Effects of hypoxia and ischemia on myocardial contractility - Alterations in the time course of force and ischemia-dependent inhomogeneity of contractility.

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Mathematical models for flow ejection and aorta pressures based on displacement 
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Evaluation of left ventricular function by echocardiography.

Quantitative angiocardiography of abnormal left ventricular function and contractile spectra in ischemic heart disease patients.

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Evaluation of left ventricular function by echocardiography.

Determination of systolic time intervals using the apex cardiogram and its first derivative.

Echocardiographic determination of left ventricular dimensions, volumes and performance.

The mitral apparatus - Functional anatomy of mitral regurgitation.

An indirect method for evaluation of left ventricular function in acute myocardial infarction.

A modified acetylene method for the determination of cardiac output during muscular exercise.

Evaluation of cardiopulmonary function and work performance in man during caloric restriction.

Cortico-visceral studies of spinal cord reticular formation stimulation and destruction effects on electroencephalographs, cardiac activity and interoceptive glycemic references.

Cardiac output, arterial and mixed-venous O2 saturation, and blood O2 dissociation curve in growing rats adapted to a simulated altitude of 3500 m.

Localization and structural-functional organization of the system of visual nerve nuclei constituting the 'cardiac center' of the medulla oblongata.

Myocardial automatisms, excitability, conductivity and contractility under cooling, noting complete inhibition at -3 deg C.

Heart function and pulmonary circulation in humans suffering from chronic mountain sickness.

Specific ATP action on metabolism of isolated heart - Influence of pH, divalent cation concentration and stability of complexes.

A rapid assay of dipolar and extradipolar content in human electrocardiogram.

The standard 12-lead scalar electrocardiogram - An assessment of left ventricular performance.

Excitation contraction correlates in true ischemia.

Cardiac output, hemodynamic and gas exchange variations as function of basal metabolism during bed rest in hypokinetic recumbent or antorthostatic position.


Collagen in human myocardium as a function of age.

A critical assessment of an open circuit technique for measuring oxygen consumption.

Carotid displacement pulse first time derivative recording as noninvasive technique for heart function assessment.

Animal studies of effect of chronic exercise on the heart and atherosclerosis - A review.

General index for the assessment of cardiac function.

Electrocardiographic and phonocardiographic cardiac cycle measurements on crewmembers during long term space flights.

Ultrasonic biological system for measuring and recording movements of organs such as heart valves 
(RASA-CNS-ASC-10597-11).

Cardiovascular analog computer circuits with outputs for left ventricular pressure maxima.
rise rate, cardiac stroke volume and atriointemtricular conduction time  

Electrically sensed changes in chest and abdomen diameter for tidal volume, respiratory frequency and minute ventilation measurements  

Factors limiting the increase in stroke volume obtainable by positive isotropism - Investigations regarding the sufficient heart in the case of continued postextrasystolic potentiation  

Design of specialized analog computer for on-line monitoring of cardiac stroke volume means of modified version of pressure pulse contour method (NASA-TN-D-6658)  

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NT Bradycardia  
NT Tachycardia  

Right heart ventricle intracardiac phonocardiograms, recording pulmonary early diastolic click simultaneous with artery pressure curve dicrotic wave  

Respiration effects on human heart rate deceleration and biphonic cardiac response in aversive shock-conditioning situation  

Age and physique effects on human continuous work capacity, monitoring heart rates during task performance  

Heart and respiration rates response to free fall parachuting, using FE/FA telemetry  

Extracardial chronotropic effects on cardiac rhythm variations during fatigue, using variational pulsiometry and autocorrelation and spectral analysis  

Dainbridge reflex mechanism, showing sinus ganglion role in tachycardia onset  

Hippocampus electric activity and cardiac rhythmic variations responses to various intensity electric stimulation of central gray matter  

Physical exercise effect on ECG atrial recovery wave duration and magnitude in humans with A-V blocks  

Physiological exercise effect on ECG arterial recovery  

Physical exercise effect on subjective rating of perceived exertion, investigating correlation with heart rate and blood lactate concentration  

Maximal oxygen intake prediction in acute moderate hypoxia during exercise, showing heart rate linearity with work load  

Phase relations between alpha waves in EEG and automated rhythmic motoric activity as function of subject behavioral activity and thalamic pacemaker zones  

Cardiac acceleration by voluntary muscle contractions of minimal duration in men due to vagal tone inhibition  

Aortic flow disturbances in vivo study by hot-film anemometer, considering peak flow velocity and pulse rate effects  

Oxygen intake and cardiac output measurements during various treadmill and bicycle ergometer exercises, relating exercise type to heart rate and arteriovenous oxygen differences  

Time series analysis of physiological and work study data in TAC tasks, using heart rate strain indicator  

Acrobic work capacity indices of gas exchange pulse rate, pulmonary ventilation and acid base balance in runners, determining maximal oxygen utilization  

Human tilt tolerance relation to aerobic capacity, weight, height and physical fitness, determining correlation coefficient between heart rate and orthostatic response  

Positive acceleration effects on human cardiovascular system during centrifuge tests, studying ECG changes in terms of cardiac rhythm, heart rate and wave parameters  

Maximal oxygen uptake and heart rate during ladder-like climbing, inclined treadmill running and cycling ergometer tests  

Computer assisted monitoring of ECG waveforms and heart sounds frequency spectra to detect bubble laden blood during decompression sickness  

No installed thermistor device for in-flight monitoring of pilot respiration and pulse rate  

Parachutist biomedical responses in aerial tow at 110-115 knots, determining heart and respiration rates and urinary catecholamines  

Physiological evaluation of diastolic mechanism in rat hypothyroid myocardium as function of heart rate, Ca ion concentrations and temperature  

Pulse rate studies of human adaptation to 16 hour work-rest cycle, showing persistence of 24 hour cycle  

Heart rate change regularities during inverted work-rest cycle of isolated man, noting relation to circadian rhythm  

Medical monitoring system for enclosed men, using ultrasonic Doppler-cardiography for heart rate determination  

Heart rate diurnal rhythm adaptation to work-rest cycle change, using recumbent and sitting position data parameters  

ECG amplifier and cardiotachometer for exercise studies, using digital algorithms for heart rate computation and ECG signal preprocessing for R wave detection  

Exercise cardiotachometer with heart rate display on belt to belt basics, R wave recognition circuit and noise linear filtering efficiency  

EKG heart rate recording of helicopter instructor pilots during flight training tasks, administrative work, automobile driving and eating  

Apesocardiograms and carotid pulse measurements as indicators of cardiac function and myocardial contractility  

Cardiac cycle length /RR interval/ and QT interval mathematical relationship from ECG obtained during exercise and recovery periods  

Heat, noise and vibration stress combined effects on skin and rectal temperature, heart rate, weight loss and biochemical urinalysis (AD-746083)  

Reproducibility of indirect /CO2/ Fick method for calculation of cardiac output  

Synchronous and asynchronous RAS body acceleration synchrony with heart beat/ effects on hemodynamics and ventilation in does and humans  

Some preliminary observations on the correlation of the high frequency /acceleration/ direct-body ballistocardiograms with the apex cardiograms, carotid pulse and their derivatives  

Tilt table tests for orthostatic tolerance, measuring heart rate, blood pressure and responses of fainters and nonfainters  

Reflexive cardiac rhythm changes and arterial tension during hypoxia, noting differences due
to animals, controlled respiration and pharmacological effects

Heat strain in hot and humid environments

Heat dissipation

U COOLING

Heat dissipation chilling

U COOLING

Heat effects

U Temperature effects

Heat equations

U ThermoDynamics

Heat flow

Heat transmission

Heat flux

Underwater tests of instrument system for combined skin temperature and direct heat flow measurement in thermally stressful environments

Heat measurement

Calorimetric measurements of human body temperature and of hot saline solution drinking effects on sweating rate

Calorimetric study of sweating and response to drinking hot saline solution as a function of temperature, volume and salinity of ingested liquid

Human body calorimetry with water cooled garment for dynamic and continuous recording of heat dissipation from surface over extended time

Thermodynamics of human body metabolism, discussing energy conversion calorimetric measurements, body size, food intake, age, sex, endocrine and nervous effects

Heat of vaporization

Thermodynamic analysis of heat of evaporation of water, considering ambient temperature and humidity effects, body heat storage and presence of solutes

Heat pipes

The development of a 150,000 watt-inch variable conductance heat pipe for space vehicle thermal control

[ASBE PAPER 72-EHAT-14] p0861 A72-39163

Heat pumps

Thermal control conceptual evaluation for a ten-year life modular space station

[ASBE PAPER 72-EHAT-30] p0859 A72-39147

Manually activated heat pump for mechanically converting human operator output into heat energy


Evaluation of flow control and thermal pumping systems for integrated environmental control/life support resistojet control system

[NASA-CAS-112104] p0077 W72-28101

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By spacecraft radiators

Heat regulation

U Temperature control

Heat resistance

U Thermal resistance

Heat sources

Tissue equivalent human phantoms used to measure radiation dose rate of prototypic plutonium circulatory support heat sources

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Heat tolerance

Heat exposure effect on Sidman avoidance performance in rats, discussing organism thermoregulatory capacity disruption and shock and body temperature regulation

[PO31 A72-12525]

Heat acclimatization, work habituation and exercise effects on body thermoregulation, measuring tympanic temperature, sweat rate and oxygen intake

[PO46 A72-14896]

Dry heat resistance of bacillus spores on spacecraft metal surfaces for different pressures, atmospheres and materials

[PO73 A72-15261]

Body thermal stress, local heating and arterial occlusion effects on sweat electrolyte content

[p0153 A72-19437]

Heat and cold acclimatization in hamsters, relating thermoregulatory response to h Elevations of hypothermia induction

[p0175 A72-21085]
Safe exposure times for men working in high temperature environments, showing hyperbolic heat collapse relationship to environmental severity

Natural acclimatization to work in severe heat.

Nonlinear thermoregulatory and sympathicaudal responses to heat acclimatization in man during supine and upright position exercises.

Skin temperatures in warm environments and the control of sweat evaporation.

Sweat depression during controlled hyperthermia in man - Effects on the sweat rate and sweat electrolytes.

Comparison of physical, biophysical and physiological methods of evaluating the thermal stress associated with wearing protective clothing.

Influence of high temperature on the onset of motion sickness.

Heat strain in hot and humid environments.

Heat acclimatization by exercise-induced elevation of body temperature.

Physiological response of body temperature to localized ventilation.

Protection of arclines from high temperatures and water-cooled garments for heat balance studies in man.

Effect of work-rest schedules on human performance in hot climates.

Physiological responses and heat tolerance for work induced heat stress in men wearing liquid cooled garments.

Heat collapse of men working in thermally severe environments.

Relationship between steady sweat flow and temperature regulation mechanisms during exposure to heat.

Temperature regulatory adjustment in men in response to work and heat.

HEAT TRANSFER

NT CONVECTIVE HEAT TRANSFER

NT RADIATIVE HEAT TRANSFER

NT CONDUCTIVE HEAT TRANSFER

Biological tissue heat transport dimensionless parameters for steady state and transient analysis of homoeothermic thermoregulation.

Analytical model for living biological tissue and transient heat transfer, taking into account conduction, storage, generation, convection and blood flow effects.

German monograph on analog model of thermoregulation in human body at rest and at work, describing heat transfer.

Monograph on hot environments stress covering heat exchange at skin surface, clothing effect, body temperature regulation and sweating control.

Manually activated heat pump for mechanically converting human operator output into heat energy.

Biological models for analyzing heat transfer between artery near skin surface and cooling patch on skin surface.

Biological monograph on analog models used to analyze thermoregulation and heat transfer in mammals.

HEAT TRANSMISSION

NT CONVECTIVE HEAT TRANSFER

NT RADIATIVE HEAT TRANSFER

NT CONDUCTIVE HEAT TRANSFER

Biological models for analyzing heat transfer between artery near skin surface and cooling patch on skin surface.

Biological monograph on analog models used to analyze thermoregulation and heat transfer in mammals.
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Helium-cold hypothermia induction and maintenance effects on hamster myocardial, with ventricular analysis of hypoxic damage, glycyoxen and catecholamines

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Helium effect on cardiac mitochrodrial function of mice.

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Effects of compressed air or helium oxygen mixture breathing on learning behavior of rats

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Ophthalmologic examinations for determining retinal damage caused by helium-neon laser beams

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Helmet design, development, and testing for acoustic leakage detection

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Helmet systems for head protection from concussion and deformation, discussing design and testing

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Vertical drop test equipment for measuring shock attenuation of crash helmets, discussing shock absorption criteria for impact protection

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Positive acceleration force-produced displacements of helmet-attached reticle in front of left eye

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Crash helmet performance prediction through maximum strain criteria, using brain injury biodynamic model

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Protective helmets designed to lessen effects of head injury due to impact in aircraft accidents

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Models for head injury prediction and helmets, and prediction of optimum helmet performance

Design, development, and testing of helmets for flight crews

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Helmets for skull protection against buffetting and crash injuries

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Experimental studies of the production of erythropoietin in relation to the intensity and duration of hypoxia

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Studies of renal and extrarenal production of erythropoietin in male and female rats

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Pyrogen injection test for hematopoietic tissue function in dogs, describing response as transient leukopenia followed by pronounced leukocytosis due to bone marrow granulocyte ejection

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HEMATOPHYSICAL SYSTEM

Proliferative blood forming tissue activity under conditions grown in irradiation in guinea pigs by quantitative methods, showing myeloid and reticular disturbances of bone marrow

p0566 A72-14607
Sublethal 1 radiation effects on rat erythropoietic system during altitude hypoxia acclimatization

p0075 A72-15721
Hypoxia effect on diurnal mitotic activity rhythm of narrow erythropoiesis system of guinea pigs in pressure chamber

p0509 A72-16631
Mathematical model for blood leucocyte population changes after radiation exposure within Blair model leucocytes hemopoietic to cardiovascular systems transport

p0509 A72-16635
Hormonal and humoral stimulation and hypoxia effects on erythropoiesis control, studying human blood serum additions to bone marrow cultures

p0076 A72-40762
Mathematical model of hematopoietic damage and recovery in human body

p0121 A72-14073
Adaptation of cells to space environment of notting cell renewal, regulation, and limitations

p0193 A72-16040
Distribution of DNA nucleotide blocks in radiation injury and leukemia in hematopoietic system of rats

[NASA-XT-P-14520] p0521 72-39057
HIBRIDYLIC RESPONSES

Extravascular potentiation of ventricular contraction effect on dog mitral valve function, using conductance videodensitometry
Hemodynamic changes in men during immersion with the head above water.

Hemodynamic changes and pulmonary gas exchange and cardiovascular responses to intravenous glucose injection.

Hemodynamic response to physical exercise stress in dogs with angiotensin-induced acute arterial hypertension.

Hemodynamic responses to prolonged intermittent exercise.

Hemodynamic changes in man during immersion with the head above water.

Hemodynamic thermoregulatory and sympathoadrenal responses to heat acclimatization in man during supine and upright position exercise.

Hemodynamic response to hypoxia in dogs with experimental myocardial infarction. Discussing changes in cardiac output, stroke volume, left ventricular pressure and systemic vascular resistance.

Stellate ganglion stimulation and hypoxic effects on hemodynamics and coronary circulation in dogs, discussing sympathetic nerve vasoconstrictor effect and vasodilator response.

Hemodynamic response to running exercise stress for aeronautics personnel selection criteria. Determining systolic ejection fraction measurement and cardiac frequency increase.

Left ventricular dynamics during handgrip. Relation of the electrocardiogram to hemodynamic alterations in pulmonary embolism.

Relationship between stress and extreme effects upon the organism.

Cardiovascular system functional state elevation during controlled cooling, studying hemodynamic changes.

Cardiac output and body temperature response to prolonged intermittent exercise.

Hemodynamic changes in men during immersion with the head above water.

Hemodynamic thermoregulatory and sympathoadrenal responses to heat acclimatization in man during supine and upright position exercise.

Hemodynamic response to hypoxia in dogs with experimental myocardial infarction. Discussing changes in cardiac output, stroke volume, left ventricular pressure and systemic vascular resistance.

Stellate ganglion stimulation and hypoxic effects on hemodynamics and coronary circulation in dogs, discussing sympathetic nerve vasoconstrictor effect and vasodilator response.

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Left ventricular dynamics during handgrip. Relation of the electrocardiogram to hemodynamic alterations in pulmonary embolism.

Relationship between stress and extreme effects upon the organism.
HEMODYNAMICS
Antiangiographic effect of acute thoracic and abdominal inferior vena cava constriction on arterial pressure, renal hemodynamics and electrolyte excretion
Exercise effects on pulmonary circulation in dogs, measuring pulsatile arterial flow and pressure and vascular input impedance, resistance and hydraulic power
In vitro investigation of dogs natural mitral valve flow dynamics, dynamic system physical model for data analysis and electrical analog simulation
Nonlinear model for computer simulation of human arterial system, using finite difference technique for pressure and flow calculations
Ventricular myocardium contractile function disorder diagnosed by phase coordinate method with intracardiac hemodynamics application
QRS wave detectors for arrhythmia and hemodynamic data analysis, using standardized FM magnetic tape containing various artifacts for evaluation
Hemodynamic variables relating to coronary blood flow and myocardial oxygen consumption during upright bicycle exercise
Left ventricular dynamic function in terms of internal pressure and flow in dogs at rest and during isoproterenol and metaraminol infusions
Hemodynamic assessment of arterial blood flow from radiograph measurements of sorts branching points
Acute hypoxia effects on dog coronary blood flow and cardiac function from cardiac beta-adrenergic and hemodynamics study
Calibrated LP acceleration vibrocardiography to examine hemodynamics indices relation to main wave amplitudes
Human cerebral hemodynamic changes during arousal and orienting reactions to auditory stimuli
Acquired complete right bundle branch block without overt cardiac disease – Clinical and hemodynamic study of 37 patients
Interruption of relationship of hemodynamic alterations of mitral heart disease and renal function – Influences on renal sodium reabsorption
Temporal relation of the second heart sound to aortic flow in various conditions
Hemodynamic indices in flight crew personnel during hypotonic sickness and atherosclerosis of coronary arteries
Control of the circulating blood mass in the case of a functional detachment of various amounts of pulmonary tissue
Aortic reparationation with spontaneous arrhythmia during cyclic and bradycardia
Cardiac output, hemodynamic and gas exchange variations as function of basal metabolism during heart in hypoxic respiratory or antisthastmatic position
Cerebral blood filling reduction and blood vessel tone deterioration during 120 day clinostatic hypokinesia of healthy male subjects
Comparative study of regional hemodynamics during tilt test and lower body negative pressure exposure

SUBJECT INDEX
Lower body negative pressure and acceleration effects on human hemodynamics
HEMOGLOBIN
ET CARBOXYHEMOGLOBIN
Et oxyhemoglobin
CO hemoglobin concentration measurement in blood of smokers, non-smokers and deceased crashers of crashed aircraft
Molecular evolutional changes in amino acids of proteins due to amino random fixation, comparing human and fish hemoglobin chains
Evolutionary rate of cistrons in vertebrates, discussing hemoglobin and cytochrome c changes involving amino acid mutant substitution
Amino acid code comparisons of polypeptide chains of globins due to mutations during vertebrate evolution from ancestral gene
Volumetric analysis of blood oxygen and CO, showing combination with hemoglobin without significant molecular volume increase
Erythrocyte hemolysate cataphoresis studies of human hemoglobins changes during stepwise adaptation to high mountain conditions
Light absorption and scattering factors in whole blood related to hemoglobin concentration, discussing oxygen saturation, cardiac output and pathological conditions
Stepwise altitude acclimatization and subsequent realization after blood loss caused clinical death effects on dog peripheral blood erythrocytes, reticulocytes, hemoglobin and hematocrit
Hemoglobin determination in whole blood with Specol-Leiss spectrocolorimetry, comparing accuracy to cyanmethemoglobin measurements
Hemoglobin-facilitated diffusion of oxygen – Interfacial and thickness effects
Lack of effect of high altitude on hemoglobin oxygen affinity
Comparative studies of the respiratory functions of mammalian blood
HENOXIS
Case report on compensated hemolytic anemia associated with Gilbert syndrome, discussing implication in aviation
Erythrocyte hemolysate cataphoresis studies of human hemoglobins chain during stepwise adaptation to high mountain conditions
In vivo hemolysis due to hyperoxia – Role of HbO2 accumulation
HENOBRAGES
Sudden pilot incapacitation and death due to subarachnoid hemorrhage secondary to ruptured intracranial aneurys
Influence of prolonged starvation on the frequency of occurrence of decompression-induced pulmonary hemorrhage
Effects of vagotomy and increased blood pressure on the incidence of decompression-induced pulmonary hemorrhage
BEMOSTATICS
HEMOSTASIS
Hyperbaric environment decompression effects on human blood and urine chemistry and hemostatic system, showing physiological parameter alteration in presence and absence of bends symptoms
HEREDITY

Biological experiments on plants, animals and bacteria aboard 5, 6 and 7 space probes, noting flight conditions effects on physiological functions and hereditary structures

Cytoplasmic heredity theory linking mitochondria to bacteria

Statistical analysis of erythrocyte phosphatase inheritance in French families based on starch gel electrophoresis of hemolysates [NASA-77-P-74015]

Volterra integral equations for analyzing biophysical heredity processes [72-12-5]

HETEROCYCLIC COMPOUNDS

N-TETRASYLNE

ADENOSINE DIPHOSPHATE (ADP)

ATP

ATOSULFURIC ACID

CAPSUF

QUATERNITON

HYDROXIDE

PROSE

MONOTONIC ACID

NITROUS OXIDE

MICROTONIC ACID

FUMICIDE

DEHYDROBENZENE

NICOTINE

TRICOTINE

TRICOTINE

FLUORESCEIN

THYMIC

TACOPHEROL

TETRATOMAN

UTIC ACID

UTIC HISTONES

HISTORIC METHODS

Problems of complex object modeling based on heuristic self-organization

Invariant transformation of the control laws in ergotic systems

Artificial intelligence and heuristic programming research [AD-72-0867]

HEMMERONTOIDS

Effect of potassium ion injection on quanethidine, beryllium, and hexamethonium control of hypertension in rats [NASA-77-P-18127]

HEBRATION

Book on hibernation and hypothalamus covering central nervous system regulating mechanisms, biologic rhythmicity, migration, thermoregulation, torpor, human implications, etc

RNA content changes in ground squirrel brain during active and hibernation states

Satellite system for telemeasuring environmental and physiological data from winter dens of hibernating black bear, discussing instrument and equipment performance

Thermoregulation in deeply hibernating rodents during separate chilling and steady hibernation temperature maintenance of skin and brain

Seasonal rhythms of endocrine system in hibernating animals, discussing central and peripheral biological clocks in relation to hypothalamus and pancreas/thyroid gland

Bioelectric and histochemical changes in brain of hibernating animals [NASA-77-P-619]

HETERONOMIES

Genetic code numerical structure association with logarithmic optimization rule for hierarchy of structures from molecular biology experiments

HIGH ACCELERATION

Plasma protein concentration, volume and hematocrit changes during exercise, bed rest and high forward acceleration

HIGH ALTITUDE

Effects of high altitude and oxygen deficiency on psychomotor performance of flight crews [DLR-PB-72-023]

Physiological evaluation of disposable jet transport passenger oxygen mask at high altitude [NASA-AS-72-10]

Conferences on biophysical approaches to solving problems of ionizing and nonionizing radiation effects during high altitude flight, manned space flight, and ground based equipment [AGARD-CP-95-PT-3]

Dynamics of DNA, RNA and protein synthesis in mitochondria and nuclei of heart muscles of rats during adaptation to high altitude hypoxia [NASA-77-P-18126]

HIGH ALTITUDE BREATHING

Acute, short and long term and life long high altitude hypoxia exposure effects on pulmonary gas exchange control and efficiency during physical exercise

Pulmonary dynamics, pulmonary gas exchange and circulatory responses to high altitude in subjects with previous history of high altitude pulmonary edema

Altitude hypoxia human pulmonary compliance relation between static transpulmonary pressure and inspired volume

Unattenuated ventilatory hypoxic drive in ovine and bovine species native to high altitude

Stepwise adaptation to high mountain conditions effect on brain and muscle oxygen saturation processes in rats

USAF custom fit oxygen mask program

Technique for predicting etiology of decompression sickness in unpressurized aircraft above 20,000 feet [AD-71-11119]

HIGH ALTITUDE ENVIRONMENTS

Radiation exposure during high altitude flights, considering normal radiation levels due to galactic radiation and short term increases due to solar flares

Physiological and clinical effects of long distance flight in pressurized commercial planes with simulated altitudes over 15000 feet

Native highlander and lowlander chemoreflex ventilatory response to transient carbon dioxide inhalation at low and high altitudes

Concentrated and extended learning effects on formation rate and retention degree of conditioned reflexes during mice adaptation to high altitude hypoxia

Insecticide dichlorvos vapor toxicity in aircraft cabin atmosphere at 8000 ft, studying plasma cholinesterase activity, erythrocytes, dark adaptation and bronchial resistance

High temperature and altitude combined effects on performance of tracking, monitoring and mental arithmetic complex task

Blood collection changes at high altitude predisposing to pulmonary hypertension

High altitude physiology: Cardiac and respiratory conditioned reflex during mice adaptation to high altitude hypoxia

Adaptive processes responsible for natural acclimatization of human organism to low ambient pressures at high altitudes

Nordhematologic evaluation of changes in lung structure due to high altitude

Transarterial leakage - a possible mechanism of high altitude pulmonary oedema

The carotid body in animals at high altitude
HIGH ALTITUDE FLIGHT

Supersensitive influences on hypoxic ventilatory control.

Succinic and lactic dehydrogenase activities in homogenates from myocardial tissues of Guinea pigs, rabbits and dogs in high altitude environments

Coronary blood flow and myocardial metabolism in man at high altitude.

Anatomy of the coronary circulation at high altitude.

Environmental effects on parachute impact injuries at 6,000 to 10,000 feet using parabolic-apneic vented static line deployed parachute.

Physiological effects of high altitude flight and development of life support systems for civil aircraft environmental control.

HIGH ALTITUDE PRESSURE

Effects of simulated high altitude on renin-aldosterone and RA 3220, barostasis in normal man.

HIGH ALTITUDE TESTS

Human factors relation to pressurized cabin development, discussing aircraft safety, high altitude tests, pressure loss predictions and cabin altitude selection.

Urine and plasma proteins and creatinine measurements in acclimatized and unacclimatized men before, during and after high altitude ascent.

Physiological effects on anesthetized and conscious dogs during exposure at 30,000 ft for different decompression rates, discussing cardiovascular, biochemical and pathological effects.

Altitude effects on decision making performance of cognitive, psychomotor and complex card sorting tasks.

The effect of chronic erythrocytic polycythemia and high altitude upon plasma and blood volumes.

Effects of high altitude on cellular and energy metabolism in rats.

CARDIOVASCULAR RESPONSES TO POSITIVE PRESSURE

Enzyme and biochemical responses of rats to exposure to hydrostatic pressures, discussing protoplasmic fixation by high oxygen pressure.

Hydrogen peroxide, formation relationship to lipid peroxidation and seizures in brain during high pressure oxygen exposure.

Succinate and glutathione as protective agents against chronic effects of hyperbaric oxygen toxicity in rats.

Unconjugated urinary corticosterone excretion, in laboratory rats exposed to high pressure helium-oxygen environments.

Tolerance and death in albino mice due to various toxic oxygen levels.

Cardiovascular responses to positive pressure oxygen breathing from blood pressure and heart and respiratory rate measurements.

HIGH ALTITUDE FLIGHT

High pressure oxygen influence on coronary blood flow in baboons and monkeys.

Physiological and biochemical responses of man to high altitude flight and development of life support systems for civil aircraft environmental control.

Physiological effects on anesthetized and conscious dogs during exposure at 80,000 ft for different decompression rates, discussing cardiovascular, biochemical and pathological effects.

Effects of prolonged exposure to hyperbaric environment on coagulating processes of blood.

Rapid eye movement sleep deprivation and hyperbaric oxygenation influence on qasea-saminobutyric acid levels in mice brains, suggesting protective mechanisms against nerve cell oxygen intoxication.

Cardiovascular responses to positive pressure oxygen breathing from blood pressure and heart and respiratory rate measurements.

HIGH ALTITUDE PRESSURE

Effects of high pressure on physiochemical systems in animals and plants.

HIGH PRESSURE OXYGEN

Anaerobic glycolysis and specific gravity of red blood cells in rats exposed to pure oxygen at 600 torr.

Hypoxia pretreatment for decreased pulmonary toxicity during high pressure oxygen breathing in rats.

HIGH ALTITUDE STUDIES

High altitude effects on cellular and energy metabolism in rats.

Effects of high pressure on physiochemical systems in animals and plants.

HIGH PRESSURE OXYGEN

Anaerobic glycolysis and specific gravity of red blood cells in rats exposed to pure oxygen at 600 torr.

Body cooling effect on human vigilance in hot environments, testing reaction time to visual stimuli and auditory signal detection rate.

MICROORGANISM LIFE IN EXTREMES OF TEMPERATURE

Microorganisms life in extreme high temperature, pH and solute concentration environments, noting salt effect on enzyme activity.

Paradoxic fluid 17-hydroxycorticosterone steroid level relationship to hyperbaric oxygen at various heat levels during thermal environmental testing.

High temperature environment effects on genetic and muscle tissue respiration, discussing temperature homeostasis maintenance.

Human physiological function variations dependence on hyperthermia levels in high temperature environments.
High temperature and altitude combined effects on performance of training, monitoring and mental arithmetic complex tasks

Water loss replacement effect during rest and exercise in high temperature environment

Thermoregulation experiment

Monograph on hot environments stress covering heat exchange at skin surface, clothing effect, body temperature regulation and sweating control

Effects of NaCl drinks on working efficiency in high temperature environments

Experimental investigation of acclimatization of human subjects to high temperature environments

Effects of high temperature on pilot performance as determined in flight simulator during simulated instrument flight

MILLISENDARY AIRCRAFT

U MILITARY AIRCRAFT

REHAB

HOBBITOS

Hippocampus electric activity and cardiac rhythms variations responses to various intensity electric stimulation of central gray matter

Hippocampus neuron reactions and memory function realization with incoming information and stored imprints comparison by brais

Neuronal spike activity changes in rabbit visual and sensorimotor neocortex and hippocampus during EEG activation

Electrical stimulation of rabbit brain limbic formations /cerebral aqueduct, amygdala, hippocampus/, showing effect on emotional response motor and vegetative components

Hippocampus morphology and physiology in relationship to emotion and memory mechanisms, time links, visceral activity and motivations and endocrine control

Changes in the overall electrical activity of the mesencephalic reticular formation, the hippocampus, and the cerebral cortex under the influence of hydrocortisone and DOCA

Infected histamine effects on intracranial pressure and systemic blood pressure in Macaca mulatta monkeys

Neuronal systems short-latency paired interactions detection method, obtaining histogram for action potentials

Electron microscope examination of freeze-etched air-filled lung alveoli extracellular lining layer, discussing sample preparation techniques

Clinical death period and reanimation concepts, noting erroneous interpretations of irreversible histological alterations, revival attempt period and organ ischemia reanimation potential

Enzyme activity and ascorbic acid concentration as index of rat thyroid gland tissue functional activity during hypothyroidism

Succlastic dehydrogenase activity in rabbit eye ciliary epithelium during electric stimulation of hypothalamus, using histochemical techniques

The carotid body in animals at high altitude

Histologic analysis of hyopxia exposure effects on mouse skin homograft reaction due to lymphatic organ function changes

Influence of X-ray irradiation in 25- and 250-r doses on the transplant immuity in mice differing by weak and strong histoincompatibility systems

Collagens in human myocardium as a function of age

Localization and dynamic changes of glycogen in frog retina adapted to darkness or light. I, II

Automatic histocompatibility testing of cells

Personal observations of 300 fatal aircraft accidents for confirmation of lacerations to victims

Bioelectric and histochemical changes in brain of hibernating animals

Holographic measurement of red blood cell rotation in orifice flow, transforming orientation into form distribution data

Hologram data treatment comparison to human brain function, discussing recognition signals, Pavlovian qualities and intelligence function

Altitude hypoxia resistance and endurance in dogs of various ages, discussing homeostasis retention, altitude ceiling and survival time of various ages, discussing homeostasis

Rhythms as a fundamental life characteristic analogous to homeostasis, discussing human circadian rhythm and cycle desynchrony during air travel

High temperature environment effects on rat organ and muscle tissue respiration, discussing temperature homeostasis maintenance

Gas induced cyanosis as factor in pulmonary homeostasis, showing differential water retention in lungs ventilated with nonoxic nitrous oxide compared with air

Effects of simulated high altitude on renin-aldosterone and Na homeostasis in normal man

Biological tissue heat transport dimensionless parameters for steady state and transient analysis of bowerers thermoregulation

Evidence for a metabolic limitation of survival in hypothermic hamsters

Behavior of salamanders subjected to sensory impairment and manipulative techniques

Theoretical calculations of thermal damage from heat dissipation in homogeneous solid

Safety factors of aircraft flight instruments, discussing altimeter and artificial horizon reading errors and modifications

Hormone secretions

Hormone metabolites

Hypophysectomy in rats, resulting in prolonged red blood cell survival due to oxygen consumption decrease and altered thyrotrrophic axis processes

Radioimmunoassay and gel filtration determination of molecular size and immunochemical reactivity of parathyroid hormone in gland extracts.
Changes in hormonal activity in humans and rats during hypokinesia

Hormone secretion in normal and stimulated human subjects during sleep

Hypokinesia and thyroid hormone effects on calcium metabolism of rat bones

HOSPITALS

Computerized EEG data acquisition and transmission system for large hospitals with multiple critical care patient monitoring units, noting telephone access from outside

Automated hospital information management system operations manual and system program listing

Application of aerospace technology to medical equipment, and cleaning and diagnostic procedures of earth health care systems

HIGH-FLOW ABNORMALITIES

Aortic flow disturbances in vivo study by hot-film anemometer, considering peak flow velocity and pulse rate effects

Arterial velocity profiles measurement in dogs thoracic aorta by hot-film probe, relating flow disturbances and turbulence to Reynolds number

HOMES

Open type urine receptacle with tubular housing

HUGHES MILITARY AIRCRAFT U MILITARY AIRCRAFT

Operant conditioning for producing gross motor responses, discussing application to physical medicine and rehabilitation with mentally retarded Downs syndrome children

Conditioned reflex as component of artificial conditioned-natural unconditioned reflex system controlling adaptive behavioral patterns, noting contribution to complex nervous activity understanding

Rhythmo genesis as fundamental life characteristic analogous to homeostasis, discussing human circadian rhythm and cycle desynchrony during air travel

Human behavior analysis based on nine canonical functional brain model, discussing information transmission mechanisms via nerve path channels

Soviet papers on human higher nervous activity physiology covering conditioned reflexes and adaptive behavior, neurotropic substance effects, mathematical and structural modeling, etc

Human nervous system properties responsible for individual behavioral differences, discussing methodological problems in future research from biological criteria viewpoint

Cortical synthesis and information handling properties of evoked potential in human normal and pathological behavior

Human biodynamic and behavioral response to whole body vibration, discussing subjective judgment of vibration intensity and effects on performance

EEG measurement of sleep behavior patterns, discussing alternating sleep stages, temporal patterns, circadian rhythms, intrasleep processes stability and age factor

Passenger behavioral reaction in survivable aircraft accidents, augmenting maladaptive behavior counteraction by leadership and/or training
HUMAN BEINGS

Human biology, including evolution, organism structure, organizations of people, degeneracy, interactions with environment and philosophical concepts

[AD-731859] 172-10086

Developing center for computer-based behavioral studies for studying and analyzing national policies and problems

[AD-734209] 172-10096

Effect of low concentrations of carbon monoxide on human behavior and performance

[AD-731566] 172-25143

Human behavior control system and game theory

[AD-151566] 172-26083

Noise stress effects on human life

[AD-731566] 172-30063

HUMAN BODY

Human body dynamics, discussing configuration, modeling techniques, kinesics, equations of motions and various limb motions examples

[AD-731566] 172-10110

Anatomical-physiological, optical and behavioral-visual similarities of nonhuman and human primates

[AD-731566] 172-24485

Human body movements basic kinetica, measuring static forces, angle and tangential acceleration of horizontal arcs swings

[AD-731566] 172-14707

Human body kinesics numerical analysis, obtaining space-time resolution by photometric restitution and electronic data processing of phographic recordings

[AD-731566] 172-14710

Calorimetric measurements of human body: local temperature and of hot saline solution drinking effects on sweating rate

[AD-731566] 172-23400

Calorimetric study of sweating man response to drinking hot saline solution as function of temperature, volume and salinity of ingested liquid

[AD-731566] 172-23441

Skeletal bones ash content in man and primates, implying differences due to adaptive physiological function

[AD-731566] 172-23490

Human body calorimetry with water cooled garments for dynamic and continuous recording of heat dissipation from surface over extended time

[AD-731566] 172-24485

Human body efficiency in paced and un paced performance as function of age

[AD-731566] 172-24957

German papers on human body energy balance and temperate control-covering energy conversion processes, chemical secretions, muscle activity, etc

[AD-731566] 172-26071

Thermostatics of human body metabolism, discussing energy conservation calorimetric measurements, body size, food intake, age, sex, endocrine and nervous effects

[AD-731566] 172-26072

Human body thermoregulatory processes under varying environmental conditions and metabolic

[AD-731566] 172-26072
rates, discussing role of blood circulation, sweating, nervous stimuli, hormones, etc

Human body biochemical energy conversion processes during muscular activity, discussing nutrition, circulation and respiration roles

Geomagnetic field perturbation biological effects, studying geomagnetic storm field energy levels and magnetic flux variables related to human sensitivity thresholds

Supine human body mechanical impedance under combined stress of vibration and sustained acceleration

Human torso surface mathematical model to determine equivalent heart dipole and quadrupole locations for ECG measurements

Human body or daisy mechanical impedance calculation by acceleration measurement at two point reference system with circular spring supporting mass

Two-mass system as human body dynamic model in ballistocardiography, outlining transfer function parameter computation procedure

Lipid peroxidation on the human skin surface following erythrogenic UV irradiation

Equal comfort contours for whole body vertical, pulsed sinusoidal vibrations.

Man movements directed at reaching a preset goal

Thermal balance in man during 24 hours in a controlled environment

Mutual relations between different physiological functions in circadian rhythm in man

Methods for evaluating pulsed sinusoidal, damped, and built-up vibrations of human body

Method for evaluating compound sinusoidal and random vibrations of human body

Systematic method for evaluating sinusoidal vibrations of human body in sitting, standing, and lying postures

Effects of true and simulated weightlessness on human cardiovascular system

Collimator for profile scanning in longitudinal direction of human body

Simultaneous determination of blood plasma volume and corpuscle mass by chromium 51 tagged erythrocytes and iodine 131 labeled human serum albumin

Aeromedical and exobiological factors of manned space flight

Toxic effect of carbon dioxide breathing on human body

Mathematical model of heastopoietic radiation, damage and recovery in human body

Mathematical model for acceleration forces acting on receptor formations in human vestibular analyzer during physiological head movements

Flight acceleration stress effects on pathophysiology of illusory sensations and metabolic changes in human body

Impact parameter effects on severity of human cranioencephal trauma in aircraft accidents

Physiological effects of vibration on human body

Temporary human tericity caused by high Ray

irradiation

Human blood cell dose-response relationship to total body irradiation

Particle energies and angular flux energy distributions for calculating dose rate conversions in human radiation exposure

Radiation shielding model of man for manned space missions applications

Effects of radio waves on human body

Exposure to extreme forces through human accidental and suicidal free falls

Safety device study for human protection during impact acceleration

Bubbling growth during decompression and allowable gas tension in human body

Compilation of raw data on elemental concentrations in normal and diseased human organs

Clinical treatment of vibration induced disorders in construction workers

Techniques for eliminating disorders associated with prolonged weightlessness

Effects of lower body decompression on cardiac electric activity in humans

Tone of arteries and veins in different body areas during prolonged restrictive muscular activity

 Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices

Partially purified thyrocalcitonin causing increased urinary sodium and chloride excretion in man

Total body neutron activation analysis of calcium in man

Neutron sources, energy, flux density, and moderation for uniform irradiation of target element in human subject in total-body neutron activation analysis

Temperature regulatory adjustment in men in response to work and heat

Dynamic characteristics of human body in operator-machine system subjected to random vibrations

Lower body negative pressure and acceleration effects on human hemodynamics

Plethysmograph for measuring human body impendance changes during space flight

Aeromedicine history and survey of human anatomy and physiology

Noise stress effects on human life

Transverse response of lumbar spine under longitudinal loads in sitting human subjects

Effect of impact angular acceleration on human body under stress conditions-aircraft ejection

Intraperitoneal administration of physiological solution as alternative method for hydrating human body
Stabilograph for stability determination of stance and fine adjustments to body equilibrium [FAA-791265] p0565 W72-32128

HUMAN FACTORS ENGINEERING

Human centrifuge tests for gravito inertial force effect on ocular counterrolling in normal and deaf subjects p0022 W72-11956

Human centrifuge tests for semicircular canal a otophysiological stimulation during spontaneous deactivation, discussing angular acceleration detection thresholds p0064 A72-15865

Acceleration tolerance increase by static forearm muscular contraction exercise comparison to g-unit protection during human centrifuge tests [AD-739063] p1771 W72-26887

Positive acceleration effects on human cardiovascular systems during centrifuge tests, studying ECG changes in terms of cardiac rhythms, heart rate and wave parameters p0267 W72-26015

Human centrifuge studies of high-positive acceleration effects on blood oxygenation and arterial oxygen and carbon dioxide tension p0294 A72-26207

Involuntary head movement and helmet motion during acceleration during human centrifuge runs to 6 Gz from photographic recordings p0294 A72-28288

Acceleration protection properties of modified partial pressure suit, determining tolerance limits by vision impairment criteria during centrifuge tests p0294 A72-28319

Pilot pursuit tracking performance under acceleration stress, simulating high performance aircraft dynamics via human centrifuge equipped with simulated head-up predictive guidance display p0294 A72-28320

Human physiological responses to high magnitude short duration positive accelerations, considering peripheral vision loss as a function of time p0558 A72-45660

Effects of G and target position on static helmet activity using human centrifuge [AD-751728] p0195 W72-16059

Human centrifuge tests to determine aircraft pilot disorientation during aircraft cantilever launchings p0393 W72-25037

HUMAN ENGINEERING

U HUMAN FACTORS ENGINEERING

Legibility of cold cathode, side illumination and straight projection electronic digital displays under varying ambient light and viewing positions p0002 A72-10118

Optimum cylindrical handle size determination by muscle electromyography, considering gripping task, routine performance and fatigue test p0002 A72-10119

Human factors engineering of aircraft cockpit data entry keyboards on area navigation control and display units p0013 A72-11138

Book on human factors engineering cockpits systems design requirements and interface equipment for man machine interaction implementation p0050 A72-13023

Human factors relation to pressurized cabin development, discussing aircraft safety, high altitude tests, pressure loss predictions and cabin altitude selection p0066 A72-19869

ALSEP human engineering design criteria for crew interface, describing astronaut trainer p0066 A72-15100

Fatal aviation accident, human factors investigation by roentgenography, noting flight environment factors, injury pattern relation to aircraft design and cabin identification p0111 A72-17880

Maxim aerobic power response and oxygen consumption to training stimulus by tennis, duration and frequency, using bicycle ergometer exercise p0148 A72-16965

Man computer dialogue, considering human factors effects on interaction course p0150 A72-19128

Instructor station design for automated flight training systems, considering human factors and informational requirements p0152 A72-19277

Book on physiological approach to ergonomics covering musculoskeletal system, performance, work and fatigue, working efficiency and environment, man machine systems, etc p0159 A72-19675

Helmet systems for head protection from concussion and deformation, discussing design and testing p0180 A72-21568

Cranworthy upper torso restraint systems for general aviation, incorporating strap takeup devices p0180 A72-21578

Man machine systems in navigation, discussing problems of interacting with high speed and high capacity electromechanical systems with allowance for human weaknesses and abilities p0216 A72-22777

Anthropotechnical aspects of V/STOL aircraft control, discussing instrument and control systems concepts based on development and flight tests of experimental Do-31 VTOL aircraft p0217 A72-22784

ATC tasks work load assessment — Conference, Darmstadt University of Technology, June 1971 p0218 A72-23126

Time analyses of ATC approach controller tasks, developing flow diagram for task component sequencing and quantifying p0219 A72-23133

Multichannel automatic data acquisition and processing in ergonomics measurements of radar controller work from ECG, EEG and respiration p0219 A72-23136

Ergonomic simulators for testing individual mental working capacity, using stress-strain and fatigue relation p0220 A72-23140

Human operator role in space systems reliability, suggesting approaches to system design and program planning to exploit human potential [AIAA PAPER 72-726] p0320 A72-23439

Space maintainability experiment aboard submersible during 30 day drift mission, noting application to Skylab manpower distribution [AIAA PAPER 72-321] p0321 A72-24042

Fatigue factors in aircrew related to working and technological advances, considering implications for industry and work-rest cycles p0321 A72-24988

Optimum performance typewriter keyboard design, discussing biomechanical improvements in finger positioning facilitation, operator postural muscular strain reduction, etc [FAA-760259] p0325 A72-25111

Medical evaluation of manned space flight physiological effects, considering Mercury, Gemini and Apollo programs p0269 A72-26100

Aircraft pilot seating protection from dynamic loading by active vibration isolation, discussing human frequency response characteristics p0269 A72-26391

Weightlessness effects on human organs, discussing physiological changes, artificial gravity by spacecraft rotation and exercise to counter adverse reactions p0278 A72-26891

Human, technical and environmental factors in accidents of naval F-104 squadron, considering temporal distribution of accidents and pilot physical condition p0286 A72-27820

Change in Naval Flight Officer operational role due to modern equipment design in weapons systems, sensors and navigational aids p0294 A72-28291

FAA process for revision of aviation standard maximum allowable control forces specifications, taking into account female pilots capabilities p0294 A72-28325
HUMAN FACTORS ENGINEERING COND

Future spacecraft habitable compartment layout from psychophysiological viewpoints, considering human visual and motor field parameters and crew members social needs p0328 A72-29321

Pilots seating active and passive isolation from LP vibrations in helicopters and jet aircrafts, discussing human factors and dynamic environment p0370 A72-29550

Meaningful shape coding for aircraft switch knobs p0420 A72-35994

Man machine systems operational effectiveness augmentation through human factors engineering to enhance human operator capability for parallel data processing and decision making p0356 A72-38308

The measurement of three-dimensional body movements by the use of photogrammetry p0465 A72-39806

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Concentrated and extended learning effects on formation rate and retention degree of conditioned reflex during mice adaptation to high altitude hypoxia

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High altitude natives cerebral arterial-venous oxygen difference measurement during ascent air and oxygen breathing, showing chronic hypoxia effect on cerebral blood flow

Low pressure chamber an aerospace medical diagnostics tool for flying personnel examinations regarding oxygen deficiency, low air pressure and air pressure fluctuations tolerance

Russian book on functional morphology under extremal space flight conditions covering overloads, hypoxia and hyperoxia effects on organism and cellular structure and metabolism

Mountain inhabitants cardiovascular adaptation to chronic hypoxia, studying coronary flow and myocardial oxygen consumption and efficiency

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Effect of acetazolamide /Diamox/ at different dose levels on survival time of rats under acute hypoxia and on Na+/K+/ATPase-ase activity of rat tissue microsomes

Metabolism of the hypoxic and ischemic heart: Proceedings of the Symposium, Geneva, Switzerland, June 14-17, 1971. Part 1

Hypoxic and hypoxic myocardium mitochondrial metabolism processes, studying electron transport system

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Bibliography concerning germ free animal research

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[IAD-740460] p0529 W72-30085

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[IAD-740462] p0525 W72-30088

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Requeumatic physical-chemical life-support systems for prolonged space flights

Open loop life support subsystem using breathing bag as respirator for EPA

Physiological effects of high altitude flight and development of life support systems for civil aircraft environmental control

Space plant growth as means of providing life support during prolonged missions

Optimization trends and operating parameters of integral molecular sieve bed heat exchanger for CO2 control in life support systems for manned orbital laboratories

Specific aspects of Apollo health and quarantine programs considered for potential application to broad program required for protection of life and health of US astronauts in future manned space flight

Environmental control/life support system for four-man, seven-day orbital shuttle

Development of regenerative or partially regenerative life support systems used in EPA protective systems

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LM LIGHT BEAMS

LM SUBLIGHT

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Blue-green algae Anacystis nidulans photorecovery after Co 60 gamma radiation exposure, using white and red light

Visible and invisible nonionizing radiation produced human injuries, considering visual and retinal effects and induced thermal stresses

KWIC index and bibliography on biological-effects related to interaction of lasers and light

Survey and graphs of human ocular absorption in visible spectrum

Characterization and optics of light flashes seen by astronaut aboard Apollo 11, 12, 13, and 14

Polar light regime effects on human blood system during Antarctic life

Revised safe laser radiation exposure levels for Air Force personnel working in visible and near infrared region

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Sensitization by angular surrounds, tracing early light and dark adaptation curves

Visual adaptation to light and dark in human and animals, discussing cellular mechanisms

Human vision light adaptation effects on dichromatic color matches for bipartite, centrally fixated circular matching field

Computerized simulation from model of human pupillary motor behavioral response to light, accomodation and fusional inputs

Sterescopic acuity for photometrically matched background wavelengths at scotopic and photopic levels, plotting variable depth error as function of retinal illuminance

Average evoked potentials correlates of two flash percentual discrimination in cats, discussing parallel changes as function of interflash intervals and peripheral level

Poreal luminosity sensitivity determinations in cats, measuring relative effects of preadaptation and contrast

Flicker adaptation, discussing intermittent light effect on apparent brightness

Gain control of cat retina rapid light adaptation process to attenuate signals reaching retinal ganglia cells from photoceptors

Physiological effects of intense anticollision light flash light backscatter pulses on instrument rated pilots

Illumination intensity effects on circadian periodicity and behavioral thresholds in Rhesus monkey, demonstrating exception to Aschoff rule

Opponent color responses of monkey optic tract fibers to monochromatic lights, using chromatic adaptation and micorecord recording

Colorimetric photometric matching tests, showing subject differences in parafoveal spectral sensitivity indicated by photopic curve peaks

Linear-nonlinear-linear transition as a function of frequency in the retinal response to light

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Spatial interaction with different-diameter stimuli based on the basis of threshold, luminance, or total luminous flux.
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Photopic and scotopic contributions to the human visually evoked cortical potential.

Component analysis of electroretinograms in dark and light adapted sheep eye, noting rod and cone receptor potentials and transient and dc components.

Line length detectors in the human visual system - Evidence from selective adaptation.

The suppression-recovery effect in relation to stimulus repetition and rapid light adaptation.

Restoration time for light sensitivity in human subjects exposed to light flashes and dark adaptation.

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Destructive changes in rabbit brain and eyes under pulsed laser beam irradiation.

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Enhancement of sinusoidally flickering lights.

Optical image transfer functions characteristics and modulation in isolated retinas and retinal receptors, noting similarity to optical fiber bundles.

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GRAF driving machine for determining sobering effect of caffeine and pentit on intoxicated individual.

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Dr. J. Smith

University of Medicine and Science

234 Main Street

City, State 12345

April 15, 2023

Dear Dr. Jones,

I hope this message finds you well. I am writing to inquire about the status of our collaborative project, "Biomechanical Analysis of Cardiac Activity in Zero Gravity." As you know, this project was initiated last year with the aim of understanding how the human heart functions under conditions of microgravity.

Though we have made some initial progress, there are several challenges that we are currently facing. One of the main issues is the procurement of appropriate experimental subjects. As we are working with animal models, obtaining access to providers willing to participate in our study remains a significant obstacle.

I was wondering if you could provide any insights or recommendations on how to overcome this hurdle. Additionally, we are looking for potential partners within the field who might be interested in collaborating with us to further advance our research. Any suggestions or introductions would be greatly appreciated.

Moreover, I would be grateful for any updates on the funding status for our project. As you are aware, securing additional resources is crucial to sustain the momentum of our research.

Thank you for your time and consideration of this matter. I look forward to hearing from you soon.

Best regards,

Dr. J. Smith

P.S. Please let me know if there is anything else I can assist you with regarding our project.

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- Hemodynamic determination of optimal oxygen parameters in environmental control system for spacecraft and aircraft, and ground systems [AD-726208]
- Parachute oxygen apparatus for jumps up to 14,000 m [AD-729099]
- Hypoxia survival in rats, resulting in prolonged red blood cell survival due to oxygen consumption decrease and altered erythrocyte enzymatic processes [AD-72-14897]
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Influence of a high oxygen content on the rate of formation and elimination of gases in man.

A critical assessment of an open circuit technique for measuring oxygen consumption.

Physiological effects of passive hyperventilation on oxygen delivery and consumption.

Measurement of heart rate and oxygen uptake of subjects at optimal speed on bicycle ergometer.

Response of ventilation parameters, pulse rate, oxygen uptake, and body temperature in man under acute and severe hypoxia.

Hyperoxia effects on rat body weight, oxygen consumption, and tolerance to carbon monoxide exposure.

Validation of submaximal treadmill test for predicting maximal oxygen consumption.

Potential oxygen requirements for surface, lunar-orbit, and planetary missions.

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USAF custom fit oxygen mask program.

Continuous flow general aviation oxygen masks.

Performance and acceptance tests of oxygen and protective masks.

Method and apparatus for analyzing respiratory gases and determination of respiratory frequencies in real time.

Physiological evaluation of disposable jet transport passenger oxygen mask at altitude.

Power assisted breathing device for reducing gas mask resistance.

OXYGEN METABOLISM

Ventilatory and metabolic responses of unsensitized dogs exposed to various carbon dioxide concentrations at 2 and 18% C, discussing oxygen uptake relation to cold.

Hypoxia, hyperoxia and hypopcapnia in man after long space flight.

External respiration gas metabolism and energy consumption measurements for test-pilots during parabolic trajectory flights in weightlessness simulation experiments.

Free oxygen content and diffusion coefficient in adrenalectomized rat skeletal muscles after physical strain.

Human breathing metabolic simulation device for evaluating respiratory diagnostic, monitoring, support and rescue equipment.

CO hypoxia effect on oxygen transport during exercise, discussing changes in cardiac and respiratory functions and work capacity.

Cardiorespiratory functions in child swimmers and nonswimmers during swimming, relating training to oxygen transport system changes.

Laughing bull metabolism dependence on flight speed and angle during wind tunnel tests from oxygen consumption, carbon dioxide production and aerodynamic forces analyses.

Endurance exercise effect on respiratory capacity in white, red and intermediate muscles in rats, relating fiber type to oxidative capacity.

Stepwise adaptation to high mountain conditions effect on brain and muscle oxygenation processes in rats.

Human oxygen intake and blood lactate acid removal kinetics during recovery from mild steady work on bicycle ergometer.

Six day bed rest effect on external respiration and ambuscante tissue oxygen metabolism, noting oxygen consumption decline.

High gravity, cold and starvation space stress effects on oxidative metabolism of ethylmorphine, aniline and p-nitroanisole in male rat liver.

Myocardial metabolic changes in chronic hypoxia.

Blood oxygenating ability of helium- and argon-oxygen environments relative to air, using alveolar gas equation to predict arterial oxygen pressure.

Hypoxic theory for atherosclerosis formation, noting blood plasma protein concentration effects on oxygen diffusion.

Lack of effect on high altitude on hemoglobin oxygen affinity.

Human plasma free fatty acids relation to lactate acid concentration and maximal aerobic power, noting carbohydrate availability as exercise capacity limiting.

Coronary blood flow and myocardial metabolism in man at high altitude.

Blood flow, oxygen uptake, and capillary filtration in resting skeletal muscle.

Effect of activity and temperature on metabolism and water loss in snakes.

Physiological effects of passive hyperventilation on oxygen delivery and consumption.

Gas exchange mechanism in lung alveoles and capillaries, discussing cell metabolism for oxygen uptake and carbon dioxide formation.

Effect of vibration on relationship of bioelectric activity and oxygen demand in cerebrum of rats.

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Bioengineering models of energy and mass exchange of algae under varying ambient conditions, noting mass cultivation possibility for oxygen regeneration in closed environments.
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Human centrifuge studies of high positive acceleration effects on blood oxygenation and arterial oxygen and carbon dioxide tension.

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Human book on pathophysiological principles of air and space pharmacology covering stresses and fatigue reduction and pilots and astronauts performance improvement

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PHASE SHIFT

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  - [AERED-AEC-156] (P0391 A72-26058)
- Clinical determination of human physical performance and effect of drug stimulants on performance
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  - [P0166 A72-20390]
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  - [P0007 A72-10568]
- Physical training effect on subjective rating of perceived exertion, investigating correlation with heart rate and blood lactate concentration
  - [P0054 A72-13678]
- Prolonged muscular work effect on erythrocyte affinity
  - [P0063 A72-14898]
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Human factor evaluation of cold weather face masks. [AD-755087] p0573 A72-33127

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WY LIPID METABOLISM

Biological processes and structures interrelation, using nucleoprotein concentrate models and ribonuclease and polynucleotide phosphorylase enzymes. p0062 A72-14783

Conversion of angiotensin to angiotensin 2 in dog polynuclear circulation, studying peptide synthesis, radioimmunoassay and in vivo and plasma in vitro metabolism. p0073 A72-15465

Pathogenesis of in-flight illusory acceleration sensations, discussing amino acid level, protein metabolism rate and pyridoxine metabolism. p0100 A72-16642

Protein biosynthesis inhibitors retardation of sarcodine and serotonin induced hyperpolarization of neuron axonbranes in cortical sensormotor region of rabbits. p0232 A72-24842

Multihour immersion effects on blood plasma protein and electrolyte concentration in trained and untrained subjects. p0282 A72-27480
Plasma protein concentration, volume and hematocrit changes during exercise, bed rest and high forward acceleration.

Mycocardial protein synthesis in acute myocardial hypoxia and ischemia.

Disproportional changes in hematocrit, plasma volume, and proteins during exercise and bed rest.

Hypoxia theory for atherosclerosis formation, noting blood plasma protein concentration effects on oxygen diffusion.

Protein synthesis in the cell-free system of the human thyroid gland.

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Thyroglobulin content and variations in the proteolytic activity of the thyroid gland tissue in animals under hypoxic conditions.

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Nitrogen excretion as a measure of protein metabolism is an under different conditions of renal function.

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Acceleration, vibration, and subsequent irradiation effects on RNA and protein metabolisms in digestive system organs of rabbits.

Effect of continuous noise and vibration on carbohydrate, fat, and protein metabolism in white rats.

Molecular evolution of biological membrane from lipid film to lipoprotein particle assembly, using bacterial biochemistry.

Protein evolution, discussing biological groups and amino and nucleic acid structure variations from phylogenetic tree of cytosome c data.

Elbowusus origin and RNA evolution, considering biogenesis from concentrat to protocell and protein biosynthesis.

Protein-rich food substitute from microalgae cultures for human nutrition, describing experimental production, protein value determination, special diets and food shortage relief.

Molecular aspects of structural and functional circadian rhythms in chloroplasts of unicellular algae acetabulatari, emphasizing protein synthesis role.

Thermal stability variations in blood serum proteins after electrical stimulation of rabbit hypothalamic structures.

Thyroid gland iodines concentrations, blood proteins and morphological changes in rats with acute hypoxic hypoxia and pulmonary edema.

Gaseous nitrogen production in humans under steady-state conditions, relating expired nitrogen minute volume increase after protein consumption to possible gastrointestinal and metabolic effects.

Radial diffusion and convection capillary model for analysis of tissue protein concentration and colloidal osmotic pressure changes during transcipillary fluid movement.

Amino acid sequences of proteins from living organisms, considering evolutionary process.

Genetic organization emergence, considering pretranslational evolution in nontranslational protein synthesis, nucleic acid evolution and gene origin.

Blood serum proteins thermal stability in patients with vegetative vascular and neuroendocrine syndromes, discussing ATP effects.

Parenterally introduced protein hydrolyzates and aminopeptides influence on human pancreas enzyme secretion activity.

Protein biosynthesis E and D, discussing rate control, structure and medical and nutritional applications.

Role of the synthesis of nucleic acids and proteins in the adaptation of the organism to altitude hypoxia.

Adaptability limits on protein-nuclein-water life under exobiological extremal conditions, considering macroolecules, extraterrestrial life search and origin.

Electron tunneling as possible semiconduction mechanism in solids composed of protein molecules.

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Electrophysiology of embryonic rat surface cells stimulated by protein fraction of fetal calf serum

PROTOPLASM
Life origin in space from point of hydrocarbons, cyanides, abiogenetic organic synthesis and protobiota evolution

Ribosomes' origin and RNA evolution, considering biogenesis from coacervate to protocell and protobiosis

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Relative 'biological' effectiveness of 3-GeV proton beams in producing cataracts in rabbits

PHOTON IRRADIATION
Relative biological effectiveness of energetic protons for somatic effects induction in mice and during whole body irradiation, using mean energy of solar event protons

Micronuclei and aberrant mitosis frequency in mice corneal and intestinal epithelial cells exposed to 50 to 600 MeV protons, estimating relative biological effectiveness coefficients

High energy proton irradiation late pathological effects on rabbit brains, discussing brain lesions and radiation dosages

Biological efficiency of secondary radiations from 70 GeV protons interaction with target, discussing dose dependences and restoration process relative rates

Nonuniform high energy proton irradiation of dogs, evaluating and predicting biological effects

Average radiation Q factor and dose radiation spectrum measurement in phantom irradiation by proton beams

Illumination effect on proton and gamma irradiated cabbage plant growth, height and foliage, indicating radiation protective effect for certain light intensities

Biological damage inflicted to rats by protons, X rays and gamma rays

Proton irradiation effects on monkey central nervous system, showing inflammatory reaction and neuroglial astrocyte glycogen accumulation

Spacecraft bacteria population resistance to simulated Jovian trapped radiation belt electrons and solar wind protons, noting simulated Jovian trapped radiation belt stresses, discussing protoplasmic'inactivation by high oxygen pressure

Psuedomonas Fine structure of Pseudomonas saccarophila at early and late log phases of growth, using electron microscopy and various culture techniques

PSYCHIATRY
Psychiatric preventive intervention in emotional crisis situations during patients aeromedical evacuation and transportation, discussing personnel shortage

Flight psychiatry in NATO countries, discussing organization and facilities with respect to military and civil aviation

Psychiatric reasons for permanent grounding of flight crew members in Royal Air Force

Computer program arrangement for recording psychiatric data

Psychiatry, psychology, and related subjects - bibliographies

Psychocoeaonics
Standard procedures development for perceived noisiness or noise annoyance evaluation, taking into account spectral complexity, spectra weighting, time integration and onset duration

Acoustic tests of jet aircraft noise and sonic boom effects on sleep pattern and human performance, using EEG analysis

Monograph on perceptual analysis of sound covering peripheral auditory system functions, subjective

by proton nuclear magnetic resonance

PROTON SCATTERING
Water absorber lateral scattering effect on absorbed dose from 400 MeV neutron and proton beams

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PROTONS N SOLAR PROTONS

PROPHYLAXIS
Physiological and biochemical responses of Paramecium caudatum to hypo- and hyperbaric stresses, discussing protoplasmic inactinization by high oxygen pressure

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'Prototype for machine augmentation of human strength and endurance - Hardman project'

Passive dosimetric interpretation of cosmic radiation dose rate onboard French prototype of Concorde 001 super sonic transport aircraft

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pitch perception, periodic pulse and white noise
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Individual factors and interindividual differences
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p0271 A72-32997

Lateral inhibition in auditory perception proved
by psychophysical study of nervous activity
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Germany.
Effects of high intensity noise levels on human
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[ANBL-781-71-58]
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weapon noise on military personnel and development
of criteria for performance prediction of personnel after exposure to noise
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Tests of perceived noisiness under anechoic,
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Environmental noise induced human fatigue,
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p0001 A72-10050

Visual masking effect due to light offset,
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tachistoscopic test stimuli on lighted background with simultaneous shut-off
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Medicopsychological surveillance of aircrew in
fighter pilot school, streaming time factor in
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Differential neurophysiological and psychological effects of subhanthetic concentrations of
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Human trace responses generation and storage under
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Transitional flight psychological effects on
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Standard procedures development for perceived
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Psychophysical comparison methods for evaluating
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Community response prediction to noise based on
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Hyperventilation relationship with spasmophilia,
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Improperly controlled learning processes concerning
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irregularities pathogenesis in rats,
investigating negative emotional reactions effects
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Noise effects on human attention and work
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Psychiatric preventive intervention in emotional
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Men's selection for SPACELAB astronauts by computer
technique based on mixed integer programming
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p0280 A72-27442

Meteorological-astronomical diurnal and seasonal
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Relationship of visibility fluctuations in set of
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Divided attention effect localization, using
choice tracking task reaction times in
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p0332 A72-29852

Electric stimulation of rabbit brain
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Astronauts physiological and psychological
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Physiological and psychological effects of noise
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Technology R and S program to qualify man for long
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Borschack inkblot test for determining
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[NASA-CP-127049]
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Sensory psychological invariance formation for
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Soviet book on astronaut activity psychological
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Flight personal statistical survey of clinical,
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High gravity environment exposure effects on
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Electrophysiological, neurophysiological, psychological and physiological parameters

General aircraft accident investigation approach, case report of fighter pilot disorientation

Education and training of personnel for

Psychological aspects in aerial

Soviet space crews selection and training based on professional and scientific background, emphasizing psychological qualities for working compatibility in space environment

Human biodynamic and behavioral response to whole body vibration, discussing subjective judgment of vibration intensity and effects on performance

Case report of fighter pilot disorientation episode during night flying exercise, suggesting psychological stress factor

Time displacement effects on human physiological and psychological functions, discussing circadian rhythm phase shift and performance deficits

Human functional level performance characteristics, noting relationship between spontaneous rhythm diurnal variations in psychic and physical performance

Sleep deprivation effect on circadian rhythms in human performance, psychological fatigue ratings, catecholamine excretion and urine flow

Transcranial air travel as cause of psychological and physiological rhythm change effects on pilot performance

Periodic, continuous and aperiodic white noise effects on human serial decoding performance, relating subjective and autonomic responses

Workload modification effects on pilot neurocognitive changes during Boeing 707 letdown, approach and landing

Time perception distortion level in simulated and real flight due to task complexity-related pilot emotional stress

Psychological criteria for flying personnel selection in civil aviation, noting performance prediction based on maximum likelihood estimates

General aircraft accident investigation approach, using subsequent psychosocial reconstruction of pilot lifestyle to explain accident-producing behavior

Visual stimulus orientation effect on movement perception, relating physiological and psychological factors

Preferences for signaled over unsignaled noise from subjectively rated noise intensity experiments, discussing preparatory response vs information cognitive control interpretations

Psychological and physiological parameters correlation for astronaut functional state relation to emotional tension level during ground and flight tests

Response-dependent electric shock punishment schedule preference during response sequence in food-deprived pigeons

Effects of instructions on measures of state and trait anxiety in flight students.

Airline management and flight crew role in prevention, detection and dealing with airline pilot incapacitation in flight, noting physiological and psychological factor recognition

Obedience to rotation-indicating visual displays as a function of confidence in the displays.

Extraversion, neuroticism, and color preferences.

Experimental tests of Voth-Hayman hypothesis of autokinesia mediation by attention distribution mechanisms

Personality correlates of lateral eye movement and hand movements.

Error arising from experimenter influence on subject behavior and performance, discussing expectancy effects on stimulus presentation and IQ and success-failure judgments

Depression-sensitization and duration of visual attention.

Manipulation of protected afterimages by means of the physiological theory imposed on the observer.

General principles and detail similarities in visual pattern analysis by single neuron operation, computer programs and psychological perception

Circadian rhythm in physiological and psychological functions related to jet travel, studying body temperature variations and psychomotor performance during isolation and varying light-dark cycle conditions

Professional capabilities activation of flying personnel, discussing psychological training for flight fitness

Effect of psychotropic substances on human resistance to acceleration

Psychological principles of active rest during long space flight

Effects of weightlessness on astronauts - A summary.

Effects of an 18-day flight on the human body.

Organizational, psychological and physiological stress factors in coronary heart disease among engineers, administrative, and scientific personnel

Effects of experimental manipulation of painful electric shocks, independent of subject performance, on squirrel monkey response

Statistical study of physiological and psychological factors in grounding of Italian Air Force flight crews

Psychological factors in pilot grounding in German Air Force

Quantitative psychological correlates of human visual system model

Psychological measurements and methods in human factors laboratories

Effects of psychological conditioning on flight crew member performance and situational awareness of commercial aircraft

Effects of psychological training on visual environmental perception, discussion of task complexity-related visual information processing
Behavior of man in technical, and socioeconomic control systems

Psychological effects of active rest on spacecrews during prolonged space flight

Performance of subjects with different cognitive complexity during negotiation in bilateral mode, with mediation, and in presence of observer

Response bias and sensitivity variations in Visual-tactual senses conflict experimental

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RESPONSE BIAS AND SENSITIVITY VARIATIONS IN PSYCHOLOGICAL TESTS

Selection of attention dichotic listening test as flying proficiency prediction criteria, discussing omission and intrusion errors

Sonic boom exposure effect on humans based on visual performance and tracking tests

Operator independence test for human performance reliability modelling based on symptom detection and fault location of sonar system failure

Aptitude screening test of ATC training applicants, using directional heading determination under aural distraction

Frequency-specific color aftereffects as result of alternate exposure of subject to inspection gratings of different spatial frequencies

Ideas of individual on group members majority behavior in various situations, noting norm concept confirmation from psychological tests on reference groups

Response bias and sensitivity variations in psychological test of rats discrimination between standard and attenuated auditory signal intensities

Altitude effects on decision making performance of cognitive, psychomotor and complex card sorting tasks Visual-tactual senses conflict experimental examination, discussing vision as dominant modality

Developmental relationships between field independence and fixity-sobility.

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Subjective and objective sensory physiology, discussing transformation processes in sensory receptors and nerves, psychophysical scaling methods, chemoreceptors and peripheral adaptation

Multiple discriminant analysis method for determining index of item validity using military personnel

Computer program for correlating human reactions to psychological stress

Automatic protocol analysis as task for artificial intelligence

PSYCHOMOTOR PERFORMANCE

Optimal psychomotor performance in relation to thermal comfort conditions in man, using complex test and subjective rating scales

Human mental and psychomotor performance measurements in compressed oxygen-balloon atmosphere pressure chamber for dives between 100 and 1500 feet

Concurrent and terminal display exposure effects on perceptual adaptation for localizing movements with displacing prisms

Operant conditioning for producing gross motor responses, discussing application to physical medicine and rehabilitation with mentally retarded Down syndrome children

Short and long term mental and physical work effects on central nervous system and motor apparatus in young people

Bioelectric activity study of cat and dog cerebral intercentral relations during various motor activities and poses

Frontal lobe damage effect on conditional motor reflexes, communication capability and emotional behavior in baboon apes

Simulated sonic boom effect on tracking performance and autonomic response, noting heart rates, skin conductance and startle reflex

Mental rehearsal and physical practice relationship to learning rate for rotary pursuit tracking skill acquisition

Natural visual capture result of vision and touch conflict in bilateral comparisons of object length

Pressure suit effects on psychomotor skills, internal visual dexterity, tracking skills, hand strength, steadiness and coordination for pressurized, unpressurized and shirtsleeve conditions

Choice reaction task times for responses to signals by middle, little and index fingers

Sleep loss and work-rest cycle effects on combat efficiency, considering psychomotor reactivity, vigilance and decision making capacity

Inspiration, expiration and hand muscle control comparison in psychophysical category production method for human voluntary breathing regulation investigation

Statistical evaluation of feedback role in single movements in terms of Index of Preprogramming

Weightlessness effects on animal voluntary motor activity and wakefulness from brain and muscle area electrical activity recordings during ballistic flight

Altitude effects on decision making performance of cognitive, psychomotor and complex card sorting tasks

PSYCHOPHYSICS

Vestibular behavior of fish during diminished g-force and weightlessness

Increase in skeletal muscle performance during emotional stress in man

Circadian rhythms in physiological and psychological functions related to jet travel, studying body temperature variation and psychomotor performance during isolation and varying light-dark cycle conditions

Influence of prolonged longitudinal accelerations on control intelligence

German monograph - Control performance as a function of the transmission ratio and Coulomb friction in the operational element

Involuntary eye movements during the performance of mental tasks

Behavior concept formulation for visual systems, considering digestive system data and extension from motor function concepts

Carbon monoxide exposure effects on human sleep patterns and psychomotor performance involving time estimation, mental arithmetic, tracking, and vigilance under moderate or high workloads

Proportional relationship between reaction time and information processing in humans as factor of system design

Development of flexible psychomotor testing system for use in pilot selection programs

Analysis of models and explanations for temporally decreasing predictive relationship between ability measures and complex motor task performance

Effects of high altitude and oxygen deficiency on psychomotor performance of flight crews

Performance of personnel operating moving command control system that monitors psychomotor tasks

Graf driving machine for determining sobering effect of caffeine and perkitin on intoxicated individual

Effect of isoniazid on psychomotor performance of aviator instructors

PSYCHOPHYSICS

Psychology of visual form perception in relation to neurophysiological principles of lateral interaction and organization, considering retinal images, aftereffects, binocular vision, etc

Psycho-physical theory of human mind, discussing molecular biological processes of neuron recording in terms of quantum mechanics

Psychophysical comparison methods for evaluating noisiness or annoyance values of sounds

Inspiration, expiration and hand muscle control comparison in psychophysical category production method for human voluntary breathing regulation investigation

Experimental testing of theory of signal detectability derived psychophysical models application to two-pulse visual stimuli temporal discrimination

Response bias and sensitivity variations in psychophysical test of rats discrimination between standard and attenuated auditory signal intensities

Evidence for the role of the transient neural "off-response" in perception of light decrement - A psychophysical test derived from neuronal
Determination of detectability range of camouflaged targets.

Psychophysical procedures to investigate selective visual adaptation to light of different wavelengths from test gratings with various orientations and spatial frequencies.

Psychophysical information content evaluation of aerial photographic images by human viewer for photointerpretation and search in reference library.

Measurement of specific mechanical impedance of the skin - Effects of static force, site of stimulation, area of probe, and presence of a surround.

Subjective and objective sensory physiology, discussing transformation processes in sensory receptors and nerves, psychophysical scaling methods, chemoreceptors and peripheral adaptation.

Effects of criterion variance on sensitivity measures in signal detection theory. (ISF-1972-5)

Psychophysical signal detection and predictions based on two-state theory.

Psychophysiology

Environmental noise induced human 'fatigue', considering physiological and psychological effects.

Psychological findings and implications in simulated emergency situations, investigating motor reaction time, signal selection time, error number and type and processed information speed and read rate.

Disorientation in naval aircraft accidents from psychophysical and environmental factors, suggesting flight scheduling and training improvements.

Physiology of sleep phases and dreams, discussing data on highly organized and interacting neuronal mechanisms exhibiting alternating forms of brain bioelectric activity.

Soviet book on psychic phenomena and brain, covering cybernetics, dialectical materialism, implications of consciousness, psychophysiology and cerebral neurodynamic structures.

Self estimated distractibility in subjects related to attention lapses during perceptual motor performance, indicating psychophysiological changes.

Future spacecraft habitable compartment layout, considering psychological viewpoint, considering human visual and motor field parameters and crew members social needs.

Low-altitude flight imposed psychophysiological stress due to air turbulence discomfort, instrument dial vibration and ground-based navigational objects recognition difficulty.

Psychological principles of active rest during long space flights.

Critique of Pavlov conditioned reflex role in higher nervous activity and association principle role in psychic activity.

Psychophysiological data acquisition with hybrid analog circuits.

Psychophysiological factors of human adaptation to Antarctic life.

Psychophysiological signal detection and predictions based on two-state theory. (ISF-1972-16)

Psychophysiology

Psychological verification of digitally simulated models of human visual system. (JPS-1972-20462)

Psychophysical signal detection and predictions based on two-state theory.

Psychophysiological potentials of pilots in modeled emergency situations, investigating motor reaction time, signal selection time, error number and type and processed information speed and read rate.

Diagnosis of student aviator with psychosomatic symptoms of hyperactivity, considering physiological and psychological effects.

Computer controlled scintiscanning for pulmonary blood flow distribution, discussing real time data monitoring, contour plots and three dimensional wall reflection maps.

Psychophysics

Hydrostatic pressure and temperature effects on growth of psychrophilic marine bacterium, emphasizing inhibited amino acid transport and respiration.

Pulmonary circulation

Computer controlled scintiscanning for pulmonary blood flow distribution, discussing real time data monitoring, contour plots and three dimensional wall reflection maps.

Respirometry, pulmonary gas exchange and circulatory responses to high altitude in subjects with previous history of high altitude pulmonary edema.

Exercise effects on pulmonary circulation in dogs, measuring pulsatile arterial flow and pressure and vascular input impedance, resistance and hydraulic power.

Conversion of angiotensin II to angiotensin 1 in dog pulmonary circulation, studying pentapeptide synthesis, radioimmunoassay in vivo and plasma in vitro metabolism.
Digital computer technique for computation of pulmonary mechanics parameters, using phasor method and Fourier series analysis of respiratory flow signals  

PULMONARY LESIONS  

Native highlander and lowlander chemoreflex ventilatory response to transient carbon dioxide inhalation at low and high altitudes  

Four-parallel-compartment lung model for emptying pattern study, using expired nitrogen concentration data to calculate alveolar dilution ratio and emptying rate  

Annual clinical and physiological evaluation of test pilots physical performance over ten year period from body composition, pulmonary function and work capacity measurements  

Nonlinear theory of pulmonary ventilation distribution in two compartment model of human lungs  

Breathing studies of carbon dioxide pressure level effect on carbon dioxide content difference in arterial blood and alveolar gas during exercise and rest  

Respiratory frequency and alveolar oxygen and carbon dioxide tension relationship to hypercapnia in man  

Gas induced osmosis as factor in pulmonary homeostasis, showing differential water retention in lungs ventilated with nonoxic nitrous oxide compared with air  

Pulmonary gas exchange in Andean natives at high altitude  

Breathing studies of carbon dioxide pressure level effect on carbon dioxide content difference in arterial blood and alveolar gas during exercise and rest  

Respiratory frequency and alveolar oxygen and carbon dioxide tension relationship to hypercapnia in man  

Gas induced osmosis as factor in pulmonary homeostasis, showing differential water retention in lungs ventilated with nonoxic nitrous oxide compared with air  

Pulmonary gas exchange in Andean natives at high altitude  

Regional lung function in man during immersion with the head above water  

Pulmonary air-trapping induced by water immersion  

Evaluation of cardior pulmonary function and work function measurements  

Regional lung function during early acclimatization to 3,100 m altitude  

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Acquisition of data concerning possible deleterious effects on health of population due to small exposures to ionizing radiation at low dose rates.

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Passive dosimetry for measuring cosmic radiation dosage and its effects during manned space flight.

Passive dosimetric interpretation of cosmic radiation dose rate on board French prototype of Concord 001 supersonic transport aircraft.

Disk scintillator calculations of absorbed dose rate from electron beams in tissue medium.

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Biological efficiency of secondary radiations from 70 GeV proton interaction with target, discussing dose dependences and restoration process rates.

Relative biological effectiveness of high energy radiations, noting dependence on radiation quality, energy, dose and dose rate.

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Influence of a magnetic field on radiation-induced chromosome aberrations in plants.

Body weight decreases in some proton exposed prairies.

Influence of temperature shocks on seed formation after irradiation of pollen from Tradescantia paludosa.

Cytological aspect of RF radiation in the monkey.

Radiobiological problems caused by supernova transport with a survey of the first results established by tests performed on board the Concord prototype.

Vestibular labyrinth reactions and systagmus thresholds in dogs during normal angular accelerations and simulated chronic galactic radiation from Co 60 source.

Incorporation of methionine-S 35 in the protein of the digestive organs of rabbits under the action of radiation and vibration.

Electron abundance equilibrium as factor in biological effectiveness of proton beam irradiation of animals.

Local necrosis, parenchyma incisions and vascularization of rabbit liver tissue under pulsed and continuous laser beams.

Influence of Cosmon 368 space flight conditions on radiation effects in yeasts, hydrogen bacteria, and seeds of lettuce and pea.

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Analysis of survival and cause of death statistics for mice under single and duration-of-life gamma irradiation.

Influence of X-ray irradiation in 25- and 250-r doses on the transplant immunity in mice differing by weak and strong histoincompatibility systems.

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Biological applications of radiation processing, radiation protection, metabolic studies, and radiation effects research.

Physiological effects of microwave radiation on animals and interaction of electromagnetic waves with tissue to change structure and function.

Synergistic effect of zero gravity and radiation on human leukocytes and Neutrophilic granulocytes.

Therapeutic irradiation effects on visual perception times in humans with optical nerve disease.

Ionizing radiation effects on response potentials of isolated retina to visual stimuli.

Neurochemical alterations in laboratory animals exposed to microwave irradiation with determination of effect on turnover rate of neurotransmitters.

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Effect of exposure to extremely low frequency magnetic fields on central nervous system of squirrel monkeys.

Effects of postflight and preflight irradiation of biological specimens using yeast cells, hydrogen bacteria, lettuce, and pea seeds on Cosmon satellite-368.

Effects of extraterrestrial radiation on escherichia coli culture during flight of Cosmon-368 artificial earth satellite.

Effect of specific flight factors on preirradiated yeast cells during flight of Cosmon-368 artificial earth satellite.

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Effect of space flight factors on spontaneous and induced autodemetis of gamma irradiated and nonirradiated lettuce seeds.

Effects of extraterrestrial radiation on dormant pea seeds during flight of Cosmon-368 artificial earth satellite.

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[SU0447 NASA-CR-127641]

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[SU0220 NASA-CR-23138]

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[SU0011 NASA-CR-10823]

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Hazard rate of recurrence in patients with malignant melanoma, investigating survival

[SU0202 NASA-CR-11713]

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[SU0095 NASA-CR-16629]

Pilot survival probabilities under various conditions of high performance aircraft takeoff and landing accidents, suggesting emergency action guidelines for pilot training

[SU0226 NASA-CR-23732]

Passenger behavioral inaction in survivable aircraft accidents, suggesting maladaptive behavior counteraction by leadership and/or training

[SU0324 NASA-CR-28727]

Effect of acetazolamide /Diazox/ at different dose levels on survival time of rats under acute hypoxia and on Na+/-K+/-ATPase activity of rat tissue microsomes

[SU0099 NASA-CR-34566]

Stress and adaptation responses to repeated acute acceleration

[SU0010 NASA-CR-36729]

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[SU0541 NASA-CR-43396]


[SU0541 NASA-CR-43396]

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[SU0343 NASA-CR-31080]

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Significant factors in environmental and thermal control/life support system design for space shuttle orbiter.

Space shuttle waste collection system development, discussing human-interface requirements, zero gravity effects and operational considerations.

Water and waste management subsystem design for a space station prototype.

Design of vibration absorbers minimizing human discomfort.

Anthropotechnics/human engineering/approach to man machine system optimization, discussing task allocation and adaptations of machine dynamics, displays and controls to human operators.

Display-device layout based on human operator manual control information requirements considering, discussing functional categories, motion compatibility, indicators relation and integration.

Human engineering requirements in aircraft system development.

Invariant transformation of the control laws in aircraft systems.

Theoretical-experimental method for parametric synthesis of director-type control systems.

Design of candidate concepts for space station/base food system.

Detail engineering data sheets for concepts of space station/base food system.

Supporting technical data for concepts considered in space station/base food system.

Development and evaluation of C-130 aircrew training program based on systems approach.

Selection rationale sheets for concepts in space station/base food system.

Timeline analysis of Shuttle orbiter mission parameters and requirements for man-in-the-loop simulation.

Proportional relationship between reaction time and information processing in humans as factor of system design.

Data management techniques and designs for integrating OPE with INLIRS for aanned space flight.

Development of seafloor acoustic tracking concepts and control of complex systems.

Design and evaluation of implantable biotelemetry ion detector.

Human resources data included in engineering trade studies.

Development of unstabilized propulsion devices for astronaut maneuvering in zero gravity - Skylab program.

Design characteristics of underwater fire control systems for training Navy personnel in maintenance and calibration.

Feasibility and efficiency of portable recompression chamber for treating decompression sickness.

BIOMED - interactive computer graphic system for modeling continuous biological systems.

Application of systems engineering concept to US Coast Guard aviator training program.

Design, technical history, and use of naval training devices.

Spot size scanning system for analyzing thermal infrared military targets.

Fabrication and operational procedures for processing lunar samples in sterile nitrogen atmosphere.

Development of regenerable or partially reusable life support systems for use in EVA protective systems.

University generated designs for spacecraft electric power supplies.

Automated constant cuff pressure system to remotely detect waveform systolic and diastolic blood pressure in man.

Bioelectric system for control of muscular activity.

Decision tree format for including human resources data in systems engineering design.

Combined shoulder harness and lap belt restraint system for use in aircraft or automobiles.

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Tachycardia role in coronary vascular bed hemodynamic response to severe exercise in dogs

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Natural visual capture result of vision and touch conflict in bilateral comparisons of object length

Visual and haptic perception in angle reproduction matching task, noting performance differences relation to nature of form discrimination and task

Visual-tactual senses conflict experimental examination, discussing vision as dominant modality

Meaningful shape coding for aircraft switch knobs.

Russian book - Neurophysiological background of tactile perception.

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Tactile information transmission for orientation and motor control, discussing somatic sensitivity peripheral mechanisms

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Stochastic model for eye movements during fixation of stationary target

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Visual acuity measurement by dynamic and static tests as function of target velocity and exposure time

Hypoxia and peripheral visual stimuli position effects on response time during monitoring of centrally located stimulus light

Visual optical system evaluation from viewpoint of human operator target detection under field conditions in terms of resolution, transfer functions, aberration and eye movements

Interruption of movement control theory for prediction of visual correction applied to target aiming during illumination loss

Visually directed pointing as function of target distance, direction, and available cues.

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High altitude equipment for civil aviation aircraft

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Transportation factors

Some of the results and prospects in spaceflight factors on defense shelter conditions

Program to develop improved implantable pressure transducers

Data synthesis of biological samples collected
The document contains various abstracts and summaries of research projects, studies, and experiments. Here are some examples:

- **MEDICAL RESEARCH**: Studies on the effects of radiation on living organisms, including the study of human venous system dynamics using hybrid computer modeling.
- **AEROSPACE TECHNOLOGY**: Research on life support systems for spacecraft, including portable life support for instrumentation and an extended planned test of an advanced regenerative life support system.
- **BIOLOGICAL APPLICATIONS**: Experiments on the excretion of ketogenic steroids in rodents and the use of radiation to study the effects of different wavelengths on biological systems.
- **PSYCHOLOGY**: Post-test psychological examinations of crew members from a 90-day manned test of an advanced regenerative life support system.
- **ENVIRONMENTAL IMPACTS**: Studies on the effects of severe frontal collisions on human survival and injury patterns.

These abstracts are part of a larger corpus of scientific research, aimed at advancing various fields from medicine to aerospace engineering.
The estimation of galactic cosmic ray effects on life support systems and habitats is an important consideration for future space missions. The design and implementation of robust life support systems are essential to ensure the health and safety of astronauts during long-duration space flights.

Inflight phonocardiogram experiments, such as CBAS-TT-F-14043, have provided valuable insights into the physiological responses to microgravity conditions.

The Gemini program biomedical sciences experiments have contributed significantly to our understanding of space adaptation, thermoregulation, and water balance. These studies have helped in the development of improved life support systems.

Laser microspectral analysis of biological objects has been used to study the effects of space radiation on biological materials. This technique provides a non-invasive method to examine the integrity of biological samples in space environments.

The process for the preparation of brishtite crystals has been optimized to ensure the purity and consistency of the material, which is crucial for various applications in space technology.

The interaction of living systems with the space environment and the monitoring of cardiac stroke volume have been critical aspects of the Apollo experience report. These data provide crucial information for the development of effective life support strategies.

The interaction of living systems with the space environment has also been explored through experiments with animals and nutrient media. This research is essential for understanding the biological reactions to spaceflight conditions.

The experiments of Biosatellite 2 have contributed to the knowledge of the effects of space radiation on biological systems. These studies have implications for the development of radiation-resistant materials and life support systems.

Aerospace medicine and biology: A continuing bibliography with indexes has been published to provide a comprehensive resource for researchers and practitioners in the field.

The experiments of Biosatellite 4 have expanded our understanding of the physiological responses to spaceflight conditions, providing valuable data for the development of improved life support systems.

The Gemini program biomedical sciences experiments have been instrumental in advancing our knowledge of space adaptation, thermoregulation, and water balance. These studies have contributed to the development of effective life support systems for long-duration space missions.

The interaction of living systems with the space environment has been extensively studied through experiments with animals and nutrient media. This research is critical for understanding the biological reactions to spaceflight conditions.

The experiments of Biosatellite 2 have continued to provide valuable insights into the effects of space radiation on biological systems, contributing to the development of radiation-resistant materials and life support systems.

The Gemini program biomedical sciences experiments have remained a cornerstone of aerospace medicine and biology, providing foundational knowledge for the development of effective life support systems for space missions.

The Gemini program biomedical sciences experiments have been pivotal in advancing our understanding of space adaptation, thermoregulation, and water balance, crucial aspects for the health and well-being of astronauts on long-duration space flights.

The interaction of living systems with the space environment has been explored through experiments with animals and nutrient media, essential for understanding the biological reactions to spaceflight conditions.

The experiments of Biosatellite 2 have continued their contributions to the knowledge of the effects of space radiation on biological systems, supporting the development of radiation-resistant materials and life support systems.

The Gemini program biomedical sciences experiments have remained a critical component of aerospace medicine and biology, providing fundamental insights into space adaptation, thermoregulation, and water balance, vital for the health and success of astronauts on space missions.

The interaction of living systems with the space environment has been studied through experiments with animals and nutrient media, critical for understanding the biological responses to spaceflight conditions.

The experiments of Biosatellite 2 have continued their role in advancing our understanding of the effects of space radiation on biological systems, facilitating the development of radiation-resistant materials and life support systems.

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**AEROSPACE MEDICINE AND BIOLOGY**  
A Cumulative Index to the 1972 Issues

### Abstract

This publication is a cumulative index to the abstracts contained in Supplements 99 through 110 of Aerospace Medicine and Biology: A Continuing Bibliography. It includes three indexes—subject, personal author, and corporate source.

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