USSR Space Life Sciences Digest

Index to Issues 26–29

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Index to Issues 26–29

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Washington, D.C.

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The effects of space flight on the weight-bearing bones of rats: Artificial gravity as a means to prevent bone changes in microgravity.

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370-Day antiorthostatic hypokinesia: Goals and research protocol  
On the Pathogenesis of Weightlessness:  
Report on Twenty-first Symposium on Space Biology and Medicine  
The work of the section on Aviation and Space Medicine of the Moscow Physiological Society.  
In the Interests of Public Health  
Medical investigations of long-term manned space flight on-board Salyut-7-Soyuz-T.  
Review of the major results of medical research during the flight of the second prime crew of the Mir Space Station.  
Ninth All-Union Conference on Space Biology and Medicine, Kaluga 18-21 July, 1990  

KEY WORD INDEX  

HOW TO USE THIS DOCUMENT

The first section of this document provides bibliographic citations and key words for all abstracts published in Issues 26-29 of the USSR Space Life Sciences Digest. Citations are grouped according to the topic area categories under which the corresponding abstracts were originally included and listed within categories according to issue number. Issue numbers are provided as headings and, in addition, the first number in parentheses after abstract number refers to the appropriate Digest issue. As always, topic areas are presented in alphabetical order.

The second section of this document, starting on page 75, is a key word index. Numbers following each entry in the index refer to page number of the present document. Within the key word list, topic area names are printed in bold face, as are the page numbers for the primary topic area listing. Page numbers not in bold following topic area names refer the reader to relevant abstract originally included under other topic areas.
ADAPTATION

ISSUE 27

MONOGRAPH:

M160(27/90) Vinogradov VV.
Gormony, Adaptatsiya i Sistemnyye Reaktsii Organizma; Гормоны, Адаптация и Системные Реакции организма; [Hormones, Adaptation, and Systemic Reactions.]
[223 pages; 19 Tables; 56 Figures; 538 references]
Affiliation (book): Institute of Biochemistry; Belorussian Academy of Sciences

KEY WORDS: Adaptation; Endocrinology, Hormones, Stress; Biological Rhythms, Seasonal Rhythms; Metabolism; Cardiovascular and Respiratory System

ISSUE 28

PAPERS:

P1239(28/90)* Ivnitskiy YuYu, Moiseyev NYa,
Tolerance of mice to various types of hypoxia and X-ray irradiation after exposure to hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[21 references; 10 in English]

Tolerance, Hypoxia; Radiobiology, X-rays
Mice
Adaptation, Hypoxia

P1281(28/90)** Shatemirova KK, Zelenshchikova VA, Min’ko YuV.
Catalytic properties of monoamine oxidase in adaptation to barochamber hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(2): 54-56.
(15 references; 5 in English)

Enzymology, Monoamine Oxidase, Mitochondrial Membrane
Rats
Adaptation, Hypoxia

CONFERENCE REVIEW:

CR14(28/90)* Gippenreyter YeB.
Report on: International Conferences On Mountain (High Altitude) Medicine,
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.

Key Words: Adaptation, High Altitude, Hypoxia, Personnel Selection, Human Performance
ADAPTATION

ISSUE 29:

PAPER:

P1328(29/90)** Balandina TN, Nikitin Yel, Kovalenko YeA, Savina VP.

*Biochemical aspects of human adaptation to the combined effects of head-down tilt, decreased barometric pressure and increased level of O₂.*

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.


[5 references; 1 in English]

Biochemistry, Metabolism, Lipid Peroxidation; Hematology, Erythrocytes
Humans, Males
Adaptation, Head-Down Tilt, Low Barometric Pressure, Hyperoxia, Exercise

BOOK REVIEW:

BR18(29/90) A.A. Azhayev.


In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.

24(3): 63; 1990.

KEY WORDS: Adaptation, Microclimate, Heat, Human Performance, Industrial Hygiene, Countermeasures, Endocrinology, Metabolism, Mineral Metabolism
AVIATION MEDICINE

ISSUE 27

PAPER:


Aviation Medicine, Functional State, Cardiovascular and Respiratory Systems Humans, Air Crews, Ship-Based Aviation Human Performance, Workload

BOOK REVIEW:


KEY WORDS: Aviation Medicine, Human Performance, Aviation Psychology, Biodynamics, Thermal Stress; Biological Rhythms

ISSUE 28

PAPERS:

P1252(28/90)* Vlasov VV, Kopanev VI. The effects of working in aviation on health status (epidemiological data). Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(1): 4-9. [56 references; 43 in English]

Aviation Medicine, Health Status Humans, Aviation Personnel Aviation Professions

P1271(28/90)**Demirchoglan GG, Konakhevich YuG, Petlyuk VKh, Peshkov RV, Khlomenok PN, Sholpo LN, Brazhnik VI. Experimental evaluation of the displacement of center of mass of the body in a man-chair system when the head is nodded. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(2): 24-25; 1990. [1 references; none in English]

Biomechanics, Displacement of Center of Mass, Head Nodding Humans Aviation Medicine, Ejection Sear
AVIATION MEDICINE

P1270(28/90)** Nikolayevskiy YeYe.
Diurnal rhythm of lipids, carbohydrates, and certain hormones in blood plasma in healthy pilots.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[22 references; 6 in English]

Metabolism, Lipids, Carbohydrates; Endocrinology
Aviation Medicine, Humans, Pilots
Biological Rhythms, Diurnal Rhythms

ISSUE 29:

PAPER:

P1294(29/90)* Ponomarenko VA.
The category of health as a theoretical problem in aerospace medicine.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; none in English]

Aviation Medicine, Human Performance, Health, Prophylaxis
Humans, Flight Personnel; Research Program, Equipment and Instrumentation,
Computer Systems
Extreme Factors, Countermeasures, Neurophysiology, Neurotransmitters, Nutrition,
Drugs, Non-Traditional Medicine, Immunology, Psychology, Stress, Stress Protectors,
Metabolism, Endocrinology
ISSUE 26

PAPERS:

P1193(26/90) Alyakrinskiy BS.
*The problem of desynchronosis in space flight.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(5):4-8; 1989.
[33 references; 5 in English]

Biological Rhythms, Desynchronosis; Circadian Rhythms, Work Schedules
Humans, Cosmonauts, Animals
Space Flight; Adaptation Syndrome

P1187(26/89) Alpatov AM.
*A raster-method for analyzing the periodic structure of biological rhythms.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[4 references; 1 in English]

Biological Rhythms, Periodic Structure
Theoretical Article
Mathematical Modeling, Raster Method

MONOGRAPH:

M158(26/90) Gazenko OG, Editor.
Bioritmologicheskiye issledovaniya v kosmicheskoy biologii i meditsine
Биоритмологические исследования в космической биологии и медицине
[Biological Rhythms in Space Biology and Medicine;]
Volume 64 In series: Problemy Kosmicheskoj Biologii,
[197 pages]

KEY WORDS: Biological Rhythms; Adaptation, Space Flight, Metabolism, Fat, Carbohydrates;
Stress; Cardiovascular and Respiratory Systems; Human Performance, Shift Work,
Endocrinology, Thyroid
BIOLOGICAL RHYTHMS

ISSUE 27

PAPER:

P1204(27/90)* Alpatov Am, Yevstratov YuA., Chernyshev VB, Lebedev MI, Zotov VA. 
Free running circadian rhythms in the darkling beetle after space flight. 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
[9 references; 5 in English] 

Biological Rhythms, Circadian Rhythms, Free-Running, Motor Activity 
Beetles, Darkling 
Space Flight, COSMOS-1887

ISSUE 29:

PAPER:

P1330(29/90)** Komarov FI, Chirkova EN, Suslov LS, Klionskaya AG, Bobina LV, Makarova TB. 
Association of annual biological rhythms in red blood counts in healthy individuals and annual rhythms of changes in solar activity. 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
[11 references; none in English] 

Biological Rhythms, Hematology, Red Blood Counts 
Humans, Males and Females
BIOSPHERICS

ISSUE 27

MONOGRAPH:

M161(27/9) Khantseverov FR, Ostroukhov VV. Modelirovaniye Kosmicheskikh Sistem Izucheniya Prirodnych Resursov Zemli; Моделирование Космических Систем Изучения Природных Ресурсов Земли; [Modeling of Space Systems for Studying the Earth’s Natural Resources]
Moscow: Mashinostroyenie; 1989.
[264 pages; 69 Figures]

KEY WORDS: Biosphersics, Mathematical Modeling, Space Systems, Remote Sensing, Natural Resources
BODY FLUIDS

ISSUE 26

PAPER:

P1180(26/90) *Lobachik VI, Zhidkov VV, Abrosimov SV.
Body fluid status during a 120-day period of hypokinesia with head-down tilt.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[6 references; none in English]

Body Fluids, Hydration, Extracellular Fluid; Metabolism, Mineral, Fats
Humans
Hypokinesia With Head-Down Tilt, Long-Term; Pharmacological Countermeasures, Physical
Exercise, Ultraviolet Therapy

ISSUE 29:

PAPERS:

P1338(29/90) Zavadovskiy AF, Korotayev MM, Vavakin YuN.
Increasing human resistance to headward fluid redistribution.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Kosmicheskaya Biologiya i Aviakosmicheskaya
Meditsina. Tezisy Dokladov IX Vsesoyuznoy Konferentsii. [Space Biology and Aerospace Medicine:
IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences;
Institute of Biomedical Problems, USSR Ministry of Health
Page 63.

Body Fluids, Headward Fluid Shifts, Cardiovascular and Respiratory Systems, Cerebral
Hemodynamics
Humans, Age Differences, Patients, Atherosclerosis
Countermeasures, Head-Down Tilt, Repeated Exposure

P1331(29/90) Abashev VYu, Andriyako LYa, Bubeyev YuA, Degtyarev VA, Remisov YuV.
A technique for individual assessment of the level of redistribution of blood in
humans during the acute period of adaptation to weightlessness.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Kosmicheskaya Biologiya i Aviakosmicheskaya
Meditsina. Tezisy Dokladov IX Vsesoyuznoy Konferentsii. [Space Biology and Aerospace Medicine:
IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences;
Institute of Biomedical Problems, USSR Ministry of Health
Pages 5-6.

Body Fluids, Fluid Redistribution, Cardiovascular and Respiratory Systems
Humans, Males
Assessment Technique, Tilt Test, Composite Index
ISSUE 27

PAPER:

P1213(27/90)* Nevzgodina LV, Maksimova YeN, Kaminskaya YeV.  
The effects of single hits by heavy ions of galactic cosmic radiation on Lactuca sativa seeds flown on board Salyut-6 and Salyut-7 space stations.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[15 references; 6 in English]

Genetics, Aberrations  
Botany, Lettuce, Seeds  
Space Flight, Long-term, Salyut-6, Salyut-7; Radiobiology, Heavy Ions

ISSUE 28

PAPERS:

P1235 (28/90)* Anikeyeva ID.  
Genetic studies of Arabidopsis seeds on space flights.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[14 references; 4 in English]

Genetics, Damage, Mutations, Accelerated Aging  
Botany, Arabidopsis, Seeds  
Space Flight, Short-Term, Long-Term; Zond-8, Soyuz, COSMOS, Salyut; Radiobiology, Cosmic Radiation

P1236(28/90)*Nevzgodina LV, Maksimova YeN, Akatov YuA, Kaminskaya YeV, Marennyy AM.  
The effect of the vacuum of space on seeds of lettuce (Lactuca sativa) exposed on COSMOS series biosatellites.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[10 references; 4 in English]

Genetics, Cytogenetic Effects  
Botany, Lettuce Seeds  
Space Flight, COSMOS-1129, -1514, -1760; Radiobiology, Cosmic Radiation, Solar Radiation

P1253(28/90) Abramova VM, Vasil'yeva NG, Verigo VV, Marennyy AM, Portman AI.  
Study of the biological effects of heavy charged particles of cosmic radiation on a population of higher plants -- Wolffia arrhiza.  
Pages 562-563.  
Authors' affiliation Institute of Biomedical Problems, USSR Ministry of Health.

Botany, Biological Effects  
Wolffia arrhiza, Duckweed  
Radiobiology, HZE Particles
P1249(28/98)* Rumyantseva VB, Merzlyak MN, Mashinskiy AL, Nechitaylo GS.
*The effects of space flight factors on the pigment and lipid components of wheat plants.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; 7 in English]

Botany, Pigment, Lipid Components
Wheat
Space Flight, Mir

**MONOGRAPH:**

M162(28/90) Grodzinskiy DM
Radiobiologiya Rasteniy, *Radiobiology of Plants*.
[384 pages; 85 Figures; 7 Tables; 800 references]
Affiliation: N.G. Kholodnyy Botanical Institute, Ukrainian Academy of Sciences.

KEY WORDS: Botany, Radiobiology, Ionizing Radiation, Genetics, Mutagenesis, Cell Death

**ISSUE 29:**

P1292(29/90) Laurinavichyus RS, Kenstavichene PF.
*The significance of the force of gravity in formation and growth of callus tissue in Arabidopsis.*
In: M164(29/90) Flom TV (editor)
Труды XXIII Чтений Посвященных Разработке Научного Наследия и Развитию Идей К.Э. Циолковского: Секция "Проблемы Космической Медицины и Биологии" Медико-Биологические Проблемы Обеспечения Космических Полетов в Свете Идей К.Э. Циолковского
Affiliation: Commission on Development of the Scientific Heritage of K.E. Tsiolkovskiy, USSR Academy of Sciences; K.E. Tsiolkovskiy State Museum on the History of Cosmonautics
Pages 65-70.
[6 references; 3 in English]

Morphology, Cytology, Plant Tissue Culture, Callus Tissue, Dedifferentiation, Developmental Biology
Botany, *Arabidopsis*
Space Flight, Salyut-7, Weightlessness Simulation, Horizontal Clinostatting
PAPERS:

P1179(26/90)* Mikhailov VM, Machinskiy GV, Buzulina VP, Geogrievskiy VS, Nechayeva EN, Kryutchenko SG.
*Tolerance for provocative tests under conditions of a 1-year exposure to hypokinesia with head-down tilt.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(5): 54-56; 1989.
[7 references; none in English]

Cardiovascular and Respiratory Systems, Orthostatic Intolerance, Aerobic Capacity
Humans, Males
Hypokinesia with Head-down Tilt, Prophylactic Countermeasures, Physical Exercise, Drugs,
Anti-g Suit; Provocative Tests, Tilt, Exercise Loading

P1181(260)* Yevdokimova AG, Radzevich AE, Solovyeva FB, Vinokhodova TV, Mamayev VI,
Belayev SM, Ovchinnikova LK.
*A study of orthostatic tolerance and status of central and peripheral hemodynamics in hypertensive subjects undergoing a 7-day period of "dry" immersion.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[9 references; 2 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, Central and Peripheral, Orthostatic Tolerance
Humans, Males, Patients, Hypertension
Immersion, Dry; Tilt Test

P1182(26/90)* Varosyan MA.
*Functional and metabolic changes in the heart during adaptation to high-altitude hypoxia.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[11 references; 3 in English]

Cardiovascular and Respiratory Systems, Cardiac Hypertrophy, Metabolism, Heart, Nucleic Acids
Rabbits
Adaptation, High Altitude Hypoxia

P1186(26/90) Kuznetsov VI.
*Cardiac contractility in rats after chronic stress and thyroid.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[33 references; 8 in English]

Cardiovascular and Respiratory Systems, Cardiac Contractility
Rats, Female
Stress, Immobilization, Coarctation; Endocrinology, Thyroid Hormones
CARDIOVASCULAR AND RESPIRATORY SYSTEMS

P1190(26/90) Tikunov BA, Kayfadzhyan MA, Oganesyan SS. 
Ca$^{2+}$ reactivity of ventricular actomyosin in rats exposed to gravitational loading. 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
[8 references; 3 in English]

Cardiovascular and Respiratory Systems, Ca$^{2+}$ Reactivity, Ventricular Actomyosin 
Rats, Male 
Hypergravity, Acceleration

ISSUE 27

PAPERS:

P1202(27/90)* Turchaninova VF, Yegorov AD, Domracheva MV. 
Central and regional hemodynamics on long-term space flights. 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
[20 references; 6 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, Central, Regional 
Humans, Cosmonauts 
Space Flight, Long-term, Salyut-6, Salyut-7, Exercise

P1208(27/90)* Kuznetsov VI. 
Cardiac contractility of guinea pigs exposed to long-term continuous stress. 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
[18 references; 3 in English]

Cardiovascular and Respiratory Systems, Cardiac Contractility 
Guinea Pigs 
Psychology, Stress

P1226(27/90) Beketov Al, Konyayeva Yel. 
Circulation and oxygen pressure in the brains of alert and anesthetized rabbits in a head-down tilt position. 
Fiziologicheskiy Zhurnal SSSR im I.M. Sechenova 
75(11): 1548-1553. 
Authors' affiliations: Medical Institute of Crimea, Simferopol; Sechenov Institute of Evolutionary Physiology and Biochemistry, Leningrad

Cardiovascular and Respiratory Systems, Circulation, Oxygen Pressure, Brain 
Rabbits, Alert, Anesthetized 
Head-Down Tilt
CARDIOVASCULAR AND RESPIRATORY SYSTEMS

ISSUE 28

PAPERS:

P1231(28/90)* Gazenko OG, Shulzhenko YeV, Grigor'yev AI, Atkov OYu, Yegorov AD. 
*Medical investigations during an 8-month flight on Salyut-7-Soyuz-T.* 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[16 references; 7 in English]

Cardiovascular and Respiratory Systems, Neurophysiology, Vestibular System, Perception, 
Sensory Systems, Body Fluids, Endocrinology, Metabolism, Nutrition 
Humans, Cosmonauts 
Space Flight, Long-Term, Salyut-7, Prophylactic Countermeasures, EVA

P1232(28/90)* Kazakova RT, Katuntsev VP. 
*State of intracardiac and systemic hemodynamics in healthy humans exposed to a weightlessness simulation.* 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[14 references; 4 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, Intracardiac and Systemic 
Humans, Males 
Weightlessness Simulations, Immersion, Hypokinesia with Head-Down Tilt

P1233(28/90)* Buzulina VP, Popova IA, Vetrova YeG, Nosova YeA. 
*Interaction of cardiorespiratory and metabolic responses of humans to graded exercise.* 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[16 references; 8 in English]

Cardiovascular and Respiratory Systems, Metabolism 
Humans, Males 
Physical Exercise, Graded, Horizontal

P1238(28/90)* Chernysheva ON. 
*Lipids in the cell membrane of the heart in rats after multiple exposure to an alternating magnetic field with frequency of 50 Hz.* 
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[12 references; 2 in English]

Cardiovascular and Respiratory Systems, Cell Membrane of the Heart 
Rats 
Radiobiology, Magnetic Field, Alternating
The use of the method of "dry" immersion in treatment of hypertensive crisis.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[16 references; 1 in English]

Assessment of bioelectric activity of the heart during head-down tilt using traditional and modified EKG leads.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[12 references; 3 in English]

Methods for measuring intracranial blood and cerebrospinal fluid circulation in chronic experiments involving induction of decompression sickness.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[2 references; 1 in English]

Criteria of endurance of a hypercapnic-hypoxic test

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[3 references; none in English]
CARDIOVASCULAR AND RESPIRATORY SYSTEMS

P1279(28/90)** Savina VP, Ryzhkova VYe, Nikitin Yel, Balandina TN, Bragin LKh, Sivuk AK, Bychkov VP, Bobrova GG.
The composition of exhaled air, gas and energy exchange and biochemical parameters in blood and urine of humans under conditions of long-term exposure to hypercapnia and hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[11 references; none in English]

Cardiovascular and Respiratory Systems, Exhaled Gas, External Respiration, Biochemical Parameters, Metabolism, Lipid Peroxidation, Nitrogen Metabolism
Humans, Males, Older Subjects
Hypercapnia, Hypoxia, Pressurized Environment, Long-Term

ISSUE 29:

PAPERS:

P1296(29/90)*Meyerson FZ.
The phenomenon of adaptive stabilization of the structures and protection of the heart.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[57 references; 31 in English]

Cardiovascular and Respiratory Systems, Cardiac Structures, Protection
Rats, Isolated Hearts
Adaptation, Preadaptation, Stress, Immobilization, Ischemia, Reperfusion, Endocrinology, Adrenergic System, Calcium

P1297(29/90)* Fedorov BM, Sebekina TV, Sinitsyna TM, Streltsova YeN, Vakulenko VM, Nikolayeva TG.
Stress and circulation in humans.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(3): 35-40; 1990.
[36 references; 16 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, General, Cerebral
Humans, Males
Human Performance, Mental Work, Stress, Hypokinesia

P1307(29/90)* Beketov AI, Konyayeva Yel.
Characteristics of the effects of caffeine on circulation and oxygen tension in the brain of alert rabbits undergoing head-down tilt.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(3): 64; 1990.

Cardiovascular and Respiratory Systems, Neurophysiology, Brain Circulation, Oxygen Circulation
Rabbits
Head-Down Tilt, Caffeine
CARDIOVASCULAR AND RESPIRATORY SYSTEMS

P1323(29/90)** Suvorov PM, Doroshev VG, Ivanchikov AP, Sidorova KA.  
*Types of hemodynamics in flight crews and their significance for clinical and flight certification practice.*  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[18 references; 1 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, Typology  
Humans, Flight Crews, Patients, Neurocirculatory Asthenia, Myocardial Dystrophy, Myocardial Sclerosis, Essential Hypertension, Age Effects  
Aviation Medicine

P1332(29/90) Alferov IV, Anashkin OD, Voronova OK, Poyedintsev GM.  
*Changes in hemodynamic parameters on long-term space flights.*  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Pages 8-9.

Cardiovascular and Respiratory Systems, Hemodynamic Parameters, Typology  
Humans, Males, Cosmonauts  
Space Flight, Repeated Flights

P1335(29/90) Vil'-Vil'yams IF, Kotovskaya AR, Kokova NI, Sukhanov YuV.  
*Endurance of +Gx acceleration in humans after a 370-day period of hypokinesia.*  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Pages 31-32.

Cardiovascular and Respiratory Systems, Acceleration Tolerance, +Gx  
Humans, Males  
Hypokinesia With Head-Down Tilt, Long-Term, 370 Day, Countermeasures, Exercise
DEVELOPMENTAL BIOLOGY

ISSUE 28

SPECIAL FEATURE: The First Baby Born in Space: The Unique “Incubator-2” Experiment is a Success

Translation of an article by I. Nekhamkin in Sovetskiy Soyuz: June 1990

ISSUE 29:

PAPERS:


Developmental Biology, Regeneration, Limbs, Lens Amphibians, Tritons Space Flight, COSMOS-1667, -1887, -2044


Developmental Biology, Oocyte Growth, Genetics, Delayed Effects Amphibians, Spanish Tritons Space Flight, COSMOS-1887, -939
DIGESTIVE SYSTEM

ISSUE 29:

MONOGRAPH:


KEY WORDS: Digestive System, Hypersecretory Stomach, Dysbacteriosis, Hypokinesia
PAPERS:

P1203(27/90)* Prodan NG (USSR) and Baranska V (Poland).
*Morphological research on the adrenal glands of rats after flight on COSMOS-1667.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; 1 in English]

Endocrinology, Adrenal Glands, Morphology
Rats, Males
Space Flight, COSMOS-1667

P1211(27/90)* Yangalycheva EA.
*Hypothalamus/pituitary neurosecretory system in rats exposed to high-altitude hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(6): 54-62; 1990.
[21 references; 3 in English]

Endocrinology, Hypothalamus, Pituitary; Neurophysiology, Neurosecretory Apparatus; Morphology
Rats
Adaptation, Hypoxia, High-Altitude

P1219(27/90)* Zagorskaya YeA.
*Endocrine response to low frequency electromagnetic fields of continuous and intermittent generation.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(6): 4-15; 1990.
[126 references; 54 in English]

Endocrinology, Endocrine Response
Humans and Animals, Review Article
Radiobiology, Low-Frequency Electromagnetic Fields, Constant, Intermittent

ISSUE 28

PAPERS:

P1275(28/90)**Goncharov SS, Shekhova AN.
*Hormonal response of the steroid-producing glands of female hamadryas baboons to long-term hypokinesia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[12 references; 4 in English]

Endocrinology, Reproductive System, Steroids, Biological Rhythms, Menstrual Cycle, Diurnal Rhythms
Primates, Hadryas Baboons, Female
Hypokinesia, Long-Term
ENDOCRINOLOGY

P1277(28/90)** Lakota NG, Kvasova MM, Larina IM, Vorob'ev DV, Ostrovskaya GZ. Efficacy and realization mechanisms of the protective effects of sidnocarb under conditions of experimental weightlessness and chilling. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(2):42-46; 1990. [43 references; 16 in English]

Endocrinology, Catecholamines, Thermal Protection Humans Immersion, Chilling, Pharmacological Countermeasures, Sidnocarb, Neurophysiology

P1282(28/90)** Zagorskaya YeA., Rodina GP. The responses of the endocrine system and peripheral blood in rats to single and repeated exposure to a pulsed low-frequency electromagnetic field. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(2): 56-60; 1990. [25 references; 11 in English]

Endocrinology, Adrenal Cortex, Thyroid, Testes Rats Radiobiology, Electromagnetic Field, Pulsed, Low Frequency; Immobilization Stress

ISSUE 29:

PAPERS:


Endocrinology, Hormonal Regulators, Calcitonin, Gastrin, PTH. Metabolism, Calcium, Body Fluids, Fluid-Electrolyte Balance Humans, Cosmonauts Space Flights, Short and Long-Term


Endocrinology, Thyroid, Morphology, Hormone Levels Rats Space Flight, Short-Term, COSMOS-1667, -1887, Adaptation, Initial, Transitional
P1316(29/90) Kabitskiy YeN.
Functional activity of the pituitary-thyroid system in response to a 370-day period of hypokinesia with head-down tilt.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; 8 in English]

Endocrinology, Pituitary-Thyroid System
Humans, Males
Hypokinesia, Head-Down Tilt, Countermeasures, Exercise

P1346(29/90) Besova NV, Savel'yev SV.
Morphological changes in the ultimobranchial glands of caudate amphibians under conditions of space flight.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Космическая Биология и Авиакосмическая Медицина.Тезисы Докладов IX Всесоюзной Конференции. [Space Biology and Aerospace Medicine: IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 288-289.

Endocrinology, Ultimobranchial Glands, Morphology
Amphibians, Tritons
Space Flight, COSMOS, Foton
ISSUE 26

PAPERS:

P1182(26/90)* Potapov PP. Changes in activity of mitochondrial oxidative enzymes in skeletal muscles of rats during the recovery period after hypokinesia varying in duration. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 23(5): 65-67; 1989. [12 references; 1 in English]

Enzymology, Oxidative Enzymes; Musculoskeletal System, Skeletal Muscles, Mitochondria Rats Hypokinesia, Long- and Short-term, Recovery Period

P1183(26/90)* Ivashkevich AA, Nosar' VI, Kurbakov LA. Neutral peptide hydrolases in the blood serum and lungs under conditions of hypoxia. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 23(5): 70-75; 1989. [18 references; none in English]

Enzymology, Peptide Hydrolases, Blood Serum, Lungs, Proteolysis, Tissue Respiration Rats, Males Cardiovascular and Respiratory System, Hypoxia; Adaptation, Barochamber Training

ISSUE 27

PAPER:


Authors’ Affiliation: Central Scientific Research Laboratory, Rostov Medical Institute

Enzymology, Digestive Enzymes; Gastrointestinal System Rats Adaptation; Immobilization Stress; Pharmacological Countermeasures; Adrenoblockers
PAPER:

P1234(28/90)* Potapov PP.
Activity of certain oxidative enzymes and transaminase in the liver of rats during recovery after hypokinesia up to 30 days in duration.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[16 references; 1 in English]

Enzymology, Oxidative Enzymes, Transaminase, Liver
Rats
Hypokinesia, Immobilization Cages
EQUIPMENT AND INSTRUMENTATION

ISSUE 28

PAPER:

P1244(28/90)* Demina GN, Kirichenko GI.
Algorithm for automatic recognition of base points on an impedance plethysmogram.
[8 references; none in English]

Cardiovascular and Respiratory Systems 
Humans 
Equipment and Instrumentation, Impedance Plethysmography, Base Points

ISSUE 29:

PAPER:

P1311(29/90)**Adamovich BA, Bayevskiy RM, Berseneva AP, Funtova II.
State-of-the-art automated evaluation of functional state in cosmonautics and preventive medicine today.
[26 references; 1 in English]

Equipment and Instrumentation, Automated Diagnosis and Prognosis, Avtosan-83, Kontrol, Vita, Ritm 
Humans 
Operational Medicine, Space Medicine, Preventive Medicine
ISSUE 26

PAPER:

P1194(26/90) Larentyev GA, Rakitin LYu, Piskunova LA.
Simulation of abiogenic thermal polycondensation of amino acids in the Earth's lithosphere in areas of intense volcanic activity.
Zhurnal Evolyutsionnoy Biokhimii i Fiziologii
[13 references; 11 in English]
Authors' Affiliation: A.N. Bakh Institute of Biochemistry, USSR Academy of Sciences

EXOBIOLOGY

ISSUE 27

PAPER:

P1229(27/90) Kuzicheva YeA, Malko IL.
Abiogenic thermal synthesis of nucleotides in the presence of lunar soil.
Zhurnal Evolyutsionnoy Biokhimii i Fiziologii.
[13 references; 4 in English]
Authors' Affiliation: Institute of Cytology, USSR Academy of Sciences, Leningrad

KEY WORDS: Exobiology, Lunar Soil, Biological Effects, Fibrogenesis

MONOGRAPH:

M156(26/90) Kustov VV, Belkin VI, Kruglikov GG.
Biologicheskiye Effekty Lunnogo Grunta; Биологические Эффекты Лунного Грунта; The Biological Effects of Lunar Soil
Volume 61 In series: Problemy Kosmicheskoy Biologii,
[103 pages; 47 references; 6 in English]
GENETICS

ISSUE 29:

PAPERS:


*Cytogenetic consequences of treatment with hyperbaric oxygen.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.

[29 references; 17 in English]

Genetics, Cytogenetic Mutations, Hematology, Lymphocytes
Humans, Patients
Hyperbaric Oxygenation
HABITABILITY AND ENVIRONMENT EFFECTS

ISSUE 27

PAPER:

P1210(27/90)* Mukhamediyeva LN, Savina VP, Nikitin Yel.  
Thermoregulatory responses in humans to moderate levels of hypercapnia.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
23(6): 51-54; 1990.  
[20 references; 7 in English]

Thermoregulatory Response  
Humans, Males  
Habitability and Environment Effects, Hypercapnia; Pressurized Environment.

ISSUE 28

PAPER:

P1280(28/90)**Berlin AA.  
The functional status of the skin in humans inhabiting pressurized environments of limited size.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
24(2):52-54; 1990.  
[9 references; none in English]

Skin, Protective Function, Desquamation  
Humans, Males, Females  
Habitability and Environment Effects, Pressurized Environment, Personal Hygiene

ISSUE 29:

PAPERS:

P1293(29/90*)Gazenko OG, Grigor'yev AI, Meleshko GI, Shepelev YeYa.  
Habitability and man-rated bioregenerative life support systems  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
24(3): 12-17; 1990.  
[24 references; 3 in English]

Habitability and Environment Effects, Biospherics, Ecological Specifications, Human Ecology  
Theoretical Article, Humans  
Life Support Systems, Bioregenerative, CELSS, Space Flights, Long-Term, Mars Mission
HABITABILITY AND ENVIRONMENT EFFECTS

MONOGRAPH:

M163(29/90) Beregovoy GT, Yarpolov VI, Baranetskiy II, Vysokanov VA, Shatrov YaT.
Spravochnik po Bezopasnosti Kosmicheskikh Poletov
Справочник по Безопасности Космических Полетов
[Handbook on Space Flight Safety]
Moscow: Mashinostroyeniye; 1989.
[366 pages; 68 Figures; 30 Tables; 63 References; 2 in English]

KEY WORDS: Habitability and Environmental Effects, Space Flight, Safety, Radiobiology, Equipment and Instrumentation, Cosmonaut Selection, Cosmonaut Training, Human Performance, Contingency Situations, Survival

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HEMATOLOGY

ISSUE 27

PAPER:

P1215(27/90) Orlova TA, Kiselev RK.
Use of a ferrocerone test to measure iron reserves under various living conditions.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(6): 77-81; 1990.
[15 references; 2 in English]

Hematology, Nutrition, Blood Iron; Ferrocerone Test
Humans
Hypokinesia with Head-Down Tilt

ISSUE 28

PAPERS:

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The development of radiation damage in the hemopoietic system.
Pages: 904-905.
Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health

Hematology, Hemopoietic System
Mathematical Modeling
Radiobiology, Radiation Damage

P1259(28/90) Smirnova OA, Zukhbaya TM.
The stimulating effect of chronic irradiation with small dose rates on lymphopoiesis and granulocytopoiesis. (Results of mathematical modeling and experimental data).
Pages: 923-924.
Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health

Hematology, Granulocytopoiesis, Lymphocytopoiesis, Chalone Mechanism
Mathematical Modeling, Mammals, Rats
Irradiation, Chronic, Low Dose
HEMATOLOGY

P1251(28/90)* Rachkov AG, Rachkova LG, Daniyarov SB. *Hemostasis in prolonged exposure to γ-irradiation at high altitudes.* Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(1): 55-57. [10 references; none in English]

Hematology, Hemostasis
Dogs
Radiobiology, γ-Irradiation, High Altitudes

P1285(28/90)** Pak GD, Sverchkova VS, Danilevskaya TN. *The hemostasis system under conditions of various levels of hypoxic hypoxia.* Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(2): 4-9; 1990. [62 references; 18 in English]

Hematology, Hemostasis
Literature Review
Hypoxia, Hypoxic

ISSUE 29:

PAPER:

P1317(29/90)**Ivanov AP, Goncharov IB, Repenkova LG. *Changes in rheological parameters and hemodynamics in response to a 14-day period of hypokinesia with head-down tilt.* Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(4): 30-32; 1990. [19 references; 7 in English]

Hematology, Rheological Parameters, Cardiovascular and Respiratory Systems, Hemodynamics
Humans, Males
Hypokinesia, Head-Down Tilt

P1329(29/90)**Belchenko DI. *Rosette formation in peripheral blood of rats exposed to hypokinesia.* Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(4): 58-59; 1990. [12 references; none in English]

Hematology, Rosette Formation, Macrophages, Histology
Rats, Males
Hypokinesia, Immobilization Cages
HEMATOLOGY

P1339(29/90) Kalandarova MP.
Results of hematological studies in long-term hypokinesia with head-down tilt.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Космическая Биология и Авиакосмическая Медицина. Тезисы Докладов IX Всесоюзной Конференции. [Space Biology and Aerospace Medicine: IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 76-77.

Hematology, Blood Parameters, Immunology
Humans, Males
Hypokinesia, Head-Down Tilt, Long-Term, 370 Days
HUMAN PERFORMANCE

ISSUE 26

PAPERS:

P1169(26/90) Ponomarenko VA, Lapa VV, Nikitin IS.
Psychophysical characteristics of sensorimotor performance of an operator after short-term exposure to simulated hypogravity.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(5): 9-12; 1989.
([[11 references; none in English]

Human Performance, Sensorimotor Performance; Neurophysiology, Proprioception
Humans, Operators
Hypokinesia with Head-down Tilt, Immersion

P1199(26/90) Bobko NA.
Diurnal variations in the efficiency of operator mental performance in shift work.
Fiziolgicheskiy Zhurnal.
[20 references; 4 in English]
Author's Affiliation: Research Institute of Occupational Hygiene and Diseases, Ukrainian Ministry of Public Health

Human Performance, Shift Work; Cognitive Task
Humans, Operators
Biological Rhythms, Diurnal Variations

MONOGRAPH:

M155(26/90) Frolov AA.
Apparatura i Metody Issledovaniya Deyatel'nosti Operatorov;
[Apparatus and Methods for Investigating Operator Performance;]
Moscow: Nauka; 1989.
[112 pages]
Affiliation: Institute of Higher Nervous Activity and Neurophysiology, USSR Academy of Sciences

KEY WORDS: Human Performance; Humans; Operators; Equipment and Instrumentation;
Research Apparatus; Research Methods; Psychology; Neurophysiology
HUMAN PERFORMANCE

ISSUE 28

PAPERS:

P1248(28/90)* Yegorov SV, Kostrina VG. Evaluation of operator’s readiness to act in an emergency Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(1): 52-53. [4 references; none in English]

Human Performance, Evaluation, Emergency Response
Human, Operator
Monotony


Human Performance, Optimization, Functional Status
Humans, Flight School Cadets
Preflight Training, Exercise, Feedback


Human Performance, Perception, Perceptual/Motor Performance
Humans
Autogenic Training, Relaxation

ISSUE 29:

PAPERS:


Human Performance, Performance Efficiency, Cardiovascular and Respiratory Systems, Heart Rhythm
Humans, Males, Operators
Mental Tasks, Pharmacological Agents

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HUMAN PERFORMANCE

P1342(29/90) Ioseliani KK, Khisambeyev ShR. 
*Predicting mental performance of cosmonauts on long-term flights.* 
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. KOSMICHESKAYA BIOLGII I AVIAKOSMICHESKAYA MEDICINA.affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; 
Institute of Biomedical Problems, USSR Ministry of Health 
Pages 236-237. 

Human Performance, Mental Tasks, 
Humans, Males, Cosmonauts 
Space Flight, Long-Term, Equipment and Instrumentation, Pleven-87

P1345(29/90) Salnytskiy VP, Shevchenko AG, Dudukin AV, Ryabov EV, Nikonov AV. 
*A technique of semi-full-scale simulation and its use inflight to increase psychological readiness of cosmonauts.* 
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
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Institute of Biomedical Problems, USSR Ministry of Health 
Pages 271-273. 

Human Performance, Psychological Readiness 
Humans, Males, Cosmonauts 
ISSUE 27

PAPERS:


Immunology, Immune Status; Humans, Males, Individual Differences; Adaptation, High Altitude Sickness

P1216(27/90)* Novikov VS, Bortinovskiy VN. *The effect of smoking on human resistance in a pressurized environment.* Kosmichesкая Biologiya i Aviakosmichеская Meditsina. 23(6): 81-85; 1990. [20 references; 8 in English]

Immunology, Resistance; Cardiovascular and Respiratory Systems; Exercise Tolerance; Humans, Men; Smoking, Habitability and Environment Effects; Pressurized Environment

P1220(27/90)* Ignatova OV, Berlin AA, Pak ZP, Popov IG. *On the protective function of the skin.* Kosmichesкая Biologiya i Aviakosmichеская Meditsina. 23(6): 15-19; 1990. [36 references; 17 in English]

Immunology, Skin, Protective Function; Humans; Operational Medicine

ISSUE 28

PAPER:


Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health

Immunology, Humoral Immunity; Mathematical Modeling, Mammals; Radiobiology, Irradiation
P1348(29/90) Lesnyak AT, Vorotnikova IYe, Rykova MP, Meshkov DO. 

*Proliferative, suppressor, and cytotoxic activity of splenocytes of rats in the experiment on COSMOS-2044.*

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Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health

Page 320-321.

Immunology, Splenocytes, Proliferation, Suppressor, Cytotoxic
Rats
Space Flight, COSMOS-2044, Tail Suspension
PAPERS:

P1173(26/90)* Levinskikh MA, Sychev VN.
*Growth and development of one-celled algae as a component of an "algobacterial cenosis - fish" ecosystem under space flight conditions*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Life Support System, CELSS; Algobacterial Cenosis-Fish Ecosystem
Microbiology, Algae, Chlorella; Fish
Space Flight; COSMOS-1187

P1174(26/90)* Sychev VN, Levinskikh MA, Livanskaya OG.
*Investigation of the growth and development of Chlorella exposed to space on COSMOS-1887.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[9 references; none in English]

Life Support System, CELSS
Microbiology, Algae, Chlorella
Space Flight, COSMOS-1887

P1175(26/90)* Drugova NA, Chernova LS, Mashinskiy AL.
*The formation of a wheat microbial cenosis on a manned space flight.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[10 references; 1 in English]

Life Support Systems, CELSS
Botany, Wheat, Microbiology
Space Flight, Manned

P1185(26/90)* Vasilenko II, Shevel' NM, Sinyak YuYe.
*Matter balance during the catalytic oxidation of water mixtures by hydrogen peroxide.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(5): 75-78; 1989.
[11 references; 2 in English]

Life Support System, Water Regeneration, Catalytic Oxidation, Low Temperature
Hydrogen Peroxide
Matter Balance
LIFE SUPPORT SYSTEMS

ISSUE 28

PAPER:


Evaluation, Oxygen
Rats, Humans
Life Support System, Solid Polymer Electrolyte

ISSUE 29:

PAPERS:

P1299(29/90)* Kozyarin IP. A hygienic evaluation of certain moisture and carbon dioxide absorbers recommended for cleaning the air of pressurized environments Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina 24(3): 43-45; 1990. [12 references; none in English]

Hygienic Evaluation, Microbiology
Moisture and Carbon Dioxide Absorbers, Zeolite, Silica Gel
Life Support Systems, Air Cleaning, Pressurized Environments

P1304(29/90)* Adamovich BA, Ratner GS. A methodology for evaluating and selecting a life support system during the early stages of design. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina 24 (3): pp. 56-57; 1990 [9 references; 1 in English]

Life Support Systems, Regenerative, Evaluation, Selection
Theoretical Article
Mathematical Modeling


Functional Characteristics
Botany, Higher Plants, Wheat, Peas, Carrots, Beets, Cabbage
Life Support System, Bioregenerative, CELSS, Higher Plants-Man-Mineralization
LIFE SUPPORT SYSTEMS

P1347(29/90) Ivanov IYe, Derendiyayeva TA, Mashinskiy AL, Nechitaylo GS.
The effect of space flight on the sowing and productive properties of seeds.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health

Developmental Biology, Plant Development, Genetics, Mutations
Botany, Plants, Seeds, Lettuce, Dill, Radish, Garden Cress
Life Support Systems, Space Flight, Long-Term, Mir, Radiobiology

P1299(29/90)* Kozyarin IP.
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Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina
[12 references; none in English]

Hygienic Evaluation, Microbiology
Moisture and Carbone Dioxide Absorbers, Zeolite, Silica Gel
Life Support Systems, Air Cleaning, Pressurized Environments

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Life Support Systems, Regenerative, Evaluation, Selection
Theoretical Article
Mathematical Modeling

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The higher plant component In man-rated biological (bioregenerative) life support system.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[18 references; none in English]

Functional Characteristics
Botany, Higher Plants, Wheat, Peas, Carrots, Beets, Cabbage
Life Support System, Bioregenerative, CELSS, Higher Plants-Man-Mineralization
P1347(29/90) Ivanov IYe, Derendyayeva TA, Mashinskiy AL, Nechitaylo GS. 

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Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health


Developmental Biology, Plant Development, Genetics, Mutations
Botany, Plants, Seeds, Lettuce, Dill, Radish, Garden Cress
Life Support Systems, Space Flight, Long-Term, Mir, Radiobiology
P1258(28/90) Smirnova OA.  
*Dynamics of critical systems and radiation death of mammals (Mathematical modeling).*  
Pages: 922-923.  
Authors’ affiliation: Institute of Biomedical Problems, USSR Ministry of Health  
Radiobiology, Radiation Death, Hematology, Hemopoiesis; Gastrointestinal System, Intestinal Follicles  
Mammals  
Mathematical Modeling  

P1272(28/90)** Grigoryan SS, Simonov LG, Tsaturyan AK.  
*A mathematical model of intracranial blood and cerebrospinal fluid circulation system as applied to the study of the effects of extreme conditions.*  
[27 references; 14 in English]  
Cardiovascular and Respiratory Systems, Circulation, Blood, Neurophysiology, Body Fluids,  
Cerebrospinal Fluid  
Mathematical Modeling, Humans  
Extreme Conditions, Tilt Tests, Provocative Tests  

ISSUE 29:  

PAPER:  

P1298(29/90)*Kondrachuk AV, Sirenko SP.  
*A model of the caloric response of the semicircular canal.*  
[11 references; 6 in English]  
Neurophysiology, Semicircular Canal  
Mathematical Modeling  
Caloric Response, Space Conditions
ISSUE 26

PAPERS:

P1178(26/90)* Zaytsev LB, Larina ON, Popova IA.
*Serum proteins and products of nitrogen metabolism in humans undergoing long-term hypokinesia.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(5) 50-53; 1989.
[7 references; 6 in English]

Metabolism, Nitrogen; Serum Proteins
Humans
Hypokinesia With Head-down Tilt, Long-Term; Countermeasures; Drugs; Physical Exercise

P1195(26/90) Kuznetsov VI, Sarayev YuV, Chirkin AA.
*Activation of glycolysis, decreased glycogen reserves and lack of glucocorticoid control of enzymes of carbohydrate metabolism in the liver of rats undergoing long-term hypokinetic stress.*
Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya
[13 references; 3 in English]
Authors' Affiliations: Department of Biochemistry, Vitebsk Medical Institute.

Metabolism, Carbohydrate; Glycolysis; Enzymology
Rats, Males
Hypokinesia, Long-Term; Immobilization Stress

ISSUE 27

PAPERS:

P1209(27/90)* Tarasov YuA, Ostovskiy YuM, Satanovskaya VI, Liopo Av, Velichko MG, Abakumov GZ.
*Endogenous ethanol in the blood and tissues of rats exposed to hypobaric hypoxia.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(6): 47-51; 1990.
[29 references; 11 in English]

Metabolism, Endogenous Ethanol
Rats
Hypoxia, Hypobaric
Use of the method of thin layer chromatography to study lipid ligands in the serum albumin of athletes.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[23 references; 2 in English]

Metabolism, Lipid Peroxidation, Serum Ligands
Humans, Athletes
Exercise

Activity of NADP-dependent cytoplasmic dehydrogenases in the liver and adipose tissue of rats during recovery after hypokinesia.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[11 references; none in English]

Metabolism, Cytoplasmic Dehydrogenases, Liver, Fat
Rats
Hypokinesia, Recovery

Hormonal and metabolic reactions of the human body to long-term fasting.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(3): 47-50; 1990.
[18 references; 3 in English]

Metabolism, Endocrinology
Humans, Males
Nutrition, Fasting, Long-Term

Parameters of thiamine metabolism in tissues of rats exposed to hypokinesia.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[17 references; 7 in English]

Metabolism, Thiamin
Rats, Males
Hypokinesia, Immobilization Cages
MICROBIOLOGY

ISSUE 26

MONOGRAPH:

M152 (26/90) Parfenov GP.
Невесомость и Элементарные Биологические Процессы; Nevesomost' i Elementarnyye Biologicheskiye Biologicheskiye Protsessy, [Weightlessness and Elementary Biological Processes;]
Volume 57 In series: Problemy Kosmicheskoy Biologii,
[272 pages; 46 Tables; 26 Figures; 631 references]

KEY WORDS: Microbiology, Precellular Organisms, One-Celled Organisms, Botany, Plant and Animal Cells, Cytology, Histology, Tissue Cultures; Space Flight, Radiobiology, Ionizing Radiation
MUSCULOSKELETAL SYSTEM

ISSUE 26

PAPERS:

P1176(26/90)* Oganov VS, Rakhmanov AS, Ternovoy SK, Novikov VYe, Dubonos SL. 
*Mineral density of skeletal bones in humans exposed to simulated microgravity.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[21 references; 11 in English]

Musculoskeletal System, Skeletal Bones, Mineral Density  
Humans  
Hypokinesia With Head-Down Tilt; Countermeasures; Physical Exercise

P1196(26/9) Volozhin AI, Amelkina.GV.  
*Changes in the periodontium in long-term hypodynamia and the use of diphosphonates and silatran to prevent these changes.*  
Patologicheskaya Fiziologiya i Eksperimental'Naya Terapiya.  
[12 references; 1 in English].  
Authors' Affiliation: N.A. Semashko Moscow Medical Stomatological Institute

Musculoskeletal System, Periodontium  
Rats, Males  
Tail Suspension; Prophylactic Countermeasures; Silicon; Diphosphonates

MONOGRAPH:

M157(26/90) Stupakov GP, Volozhin AI.  
*Kostnaya Sistema i Nevesomost'; Kostnaq Sistema i Nevesomost;*  
[The Skeletal System and Weightlessness].  
Volume 63 In series: Problemy Kosmicheskoy Biologii,  
[184 pages; 27 Tables; 44 Figures; 317 References; 201 in English]

Musculoskeletal System, Skeletal System  
Humans, Cosmonauts; Rats, Tortoises  
Space Flight, Long-Term

ISSUE 27

PAPERS:

P1206(27/90)* Belakovskiy MS, Khaidakov MS.  
*Effects of active metabolites of Vitamin D3 on the bones of rats exposed to different hypokinesia paradigms.*  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[18 references; 11 in English]

Musculoskeletal System, Bones; Metabolism, Calcium, Phosphorus  
Rats, Male  
Nutrition, Vitamin D3 Metabolites, Hypokinesia, Tail Suspension, Immobilization Cages
MUSCULOSKELETAL SYSTEM

[14 references; 10 in English]

Musculoskeletal System, Bone Tissue; Metabolism, Calcium
Rats, Male
Hypokinesia, Immobilization Cages, Hydroxymethyl Aminopropylidene Diphosphonate

P1222(27/90) Stupakov GP, Volozhin AI. Changes in human bone under conditions of bedrest and weightlessness: The human skeleton under conditions of bedrest and weightlessness. 136 - 147
In: M157(26/90) Stupakov GP, Volozhin AI. Kostnaya Sistema i Nevesomost'; Kostnaya Sistema i Nevesomost

Musculoskeletal System, Bone; Mechanical Properties; Bone Minerals
Humans, Cosmonauts, Patients, Osteoporosis
Space Flight, Salyut-6, Bedrest

P1223(27/90) Stupakov GP, Volozhin AI. Changes in human bone under conditions of bedrest and weightlessness: Bone changes when functional loading of the skeleton is reduced from the standpoint of rapid and slow-developing osteoporosis. 147-150.
In: M157(26/90) Stupakov GP, Volozhin AI. Kostnaya Sistema i Nevesomost'; Kostnaya Sistema i Nevesomost

Musculoskeletal System, Bone
Humans
Reduced Functional Loading, Osteoporosis, Rapid and SlowDeveloping
MUSCULOSKELETAL SYSTEM

P1224(27/90) Stupakov GP, Volozhin AI.
Changes in human bone under conditions of bedrest and weightlessness: General principles of bone changes under conditions of weightlessness and its simulations.
150-158.
In: M157(26/90) Stupakov GP, Volozhin AI.
Kostnaya Sistema i Nevesomost'; Костная Система и Невесомость
[The Skeletal System and Weightlessness].
Volume 63 In series: Problemy Kosmicheskoj Biologii,

Musculoskeletal System, Bone; Metabolism, Metabolic Rate, Calcium
Humans, Rats, Dogs
Weightlessness, Simulated Weightlessness

ISSUE 28

PAPERS:

P1273(28/90)** Tatarinov AM, Dubonos SL, Yanson KhA, Oganov VS, Dzenis VV, Rakhmanov AS.
Ultrasound diagnosis of the status of the tibia in humans undergoing a 370-day period of head-down tilt.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; 6 in English]

Musculoskeletal System, Tibia Bone, Ultrasound
Humans
Hypokinesia With Head-Down Tilt, 370-Day, Prophylactic Countermeasures, Exercise

P1274(28/90)** Morukov VB, Orlov OI, Belakovskiy MS, Kazeykin VS, Zaychik VYe, Shvets VN, Tumanova IYu.
The effect of simulated weightlessness on calcium metabolism and state of bone tissue in experimental animals.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(2): 31-34.
[25 references; 13 in English]

Musculoskeletal System, Bone; Metabolism, Calcium; Endocrinology
Rats, Male
Hypokinesia, Immobilization Cages; Hypodynamia, Tail Suspension

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The skeletal system of experimental animals under conditions of weightlessness: The effects of space flight on the weight-bearing bones of rats: Restructuring of bone tissue.


Musculoskeletal System, Weight-Bearing Bones, Femur, Tibia, Brachium
Rats
Space Flight, COSMOS-615, -782, -936, 1129

The skeletal system of experimental animals under conditions of weightlessness: The effects of space flight on the weight-bearing skeleton of rats: State of organic and mineral components.


Musculoskeletal System, Weight-Bearing Bones, Vertebrae, Femur, Organic and Mineral Components
Rats
Space Flight, COSMOS-936, -1129

The skeletal system of experimental animals under conditions of weightlessness: The effects of space flight on the weight-bearing bones of rats: Mechanical properties of bone tissue.


Musculoskeletal System, Weight-Bearing Bones, Femur, Tibia, Humerus; Mechanical Properties
Rats
Space Flight, COSMOS-615, -782, -936, -1129
P1289(28/90) Stupakov GP, Volozhin.
The skeletal system of experimental animals under conditions of weightlessness: The effects of space flight on the weight-bearing bones of rats: Artificial gravity as a means to prevent bone changes in microgravity.
In: M157(26/90) Stupakov GP, Volozhin AI.
Kostnaya Sistema i Nevesomost'; Костная Система и Невесомость
[The Skeletal System and Weightlessness].
Volume 63 In series: Problemy Kosmicheskoy Biologii,
Pages: 76-79.

Musculoskeletal System, Weight-Bearing Bones, Tibia
Rats
Space Flight, COSMOS-936; Artificial Gravity

P1290(28/90) Stupakov GP, Volozhin.
The skeletal system of experimental animals under conditions of weightlessness: The effects of space flight on non-weight-bearing bones of rats.
In: M157(26/90) Stupakov GP, Volozhin AI.
Kostnaya Sistema i Nevesomost'; Костная Система и Невесомость
[The Skeletal System and Weightlessness].
Volume 63 In series: Problemy Kosmicheskoy Biologii,
Pages: 79-82.

Musculoskeletal System, Non-weight-bearing Bones, Ribs, Jaw, Teeth
Rats
Space Flight, COSMOS-936, -1129

ISSUE 29:

PAPERS:

P1291(29/90) Stupakov GP, Volozhin AI.
The bone system of experimental animals under conditions of weightlessness: The effect of space flight on the skeleton of tortoises.
In: M157(26/90) Stupakov GP, Volozhin AI.
Kostnaya Sistema i Nevesomost'; Костная Система и Невесомость
[The Skeletal System and Weightlessness].
Volume 63 In series: Problemy Kosmicheskoy Biologii,
Pages: 82-90.

Musculoskeletal System, Bones, Skeleton; Metabolism, Low
Tortoises
Space Flight, Short- and Long-Term, COSMOS-782, -605, -613, Soyuz-20
MUSCULOSKELETAL SYSTEM

P1313(29/90)** Oganov VS, Cann C, Rakhmanov AS, Ternovoy SK
A computer tomographic investigation of the musculoskeletal system of the spine in humans after long-term space flight.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[11 references; 6 in English]

Musculoskeletal System, Bones, Spine, Computer Tomography, Muscle Density; Mineral Loss
Humans, Cosmonauts
Space Flight, Long-Term, Salyut-7, Hypokinesia with Head-Down Tilt

P1314(29/90)**Il'ina-Kakuyeva Yel.
Morphohistochemical investigation of the skeletal muscles of rats in an experiment on biosatellite COSMOS-1887.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[21 references; 9 in English]

Musculoskeletal System, Skeletal Muscles, Morphohistochemical Analysis, Fast-Twitch; Slow-Twitch
Rats
Space Flights, COSMOS-1887
NEUROPHYSIOLOGY

ISSUE 26

PAPER:

[12 references; 9 in English]

Neurophysiology, Sleep
Monkeys
Space Flight, COSMOS-1667

[43 references; 25 in English]

Neurophysiology, Vestibular System; Morphology; Receptor Organs
Rats, Male
Space Flight, COSMOS-1667

[9 references; 6 in English]

Neurophysiology, Pathogenesis; Brain
Rabbits
Decompression Sickness

[15 references; none in English]
Author's Affiliation: Belorussian Research Institute on Neurology, Neurosurgery and Physiotherapy, Minsk

Neurophysiology, Vestibular Activity
Humans, Males
Orthostatic Loading, Stand Test, Tilt Test
PAPERS:

P1205(27/90)* Karkishchenko NN.
*Specification for an "ideal" drug to prevent space motion sickness (space adaptation syndrome.*
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[16 references; 3 in English]

Neurophysiology, Space Adaptation Syndrome; Human Performance, Mental Work Capacity Humans, Patients, Vestibular Tolerance, Diminished Rotation, Pharmacological Countermeasures

P1214(27/90)* Verbitskaya LB, Fedorenko VS, Kabitsyna RA.
Remote ultrastructural changes in cerebellar cortex of rats after exposure to accelerated carbon ions.
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Neurophysiology, Cerebral Cortex Rats Radiobiology, Accelerated Carbon Ions, γ-Radiation; Remote Effects

P1227(27/90) Moskalenko YuYe, Beketov AI, Maksimiuk VF, Skoromnyy NA.
Cerebrovascular effects of motion sickness.
Fiziologicheskiy Zhurnal SSSR im I.M.Sechenova.
[12 references; 2 in English]
Authors' Affiliations: Institute of Evolutionary Physiology and Biochemistry, Leningrad; Crimean Medical Institute, Simferopol

Neurophysiology, Cerebrovascular Effects; Cardiovascular and Respiratory Systems, Cerebral Circulation Rabbits Motion Sickness, Head-Down Tilt

ISSUE 28

PAPERS:

P1240(28/90) Gitsov LG, Burneva VG, Verbitskaya LB, Kabitsyna RA, Fedorenko VS.
Ultrastructural changes in neurons of the arcuate nucleus-medial eminence complex in rats irradiated with carbon ions and γ-radiation.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[6 references; none in English]

Neurophysiology, Neurons, Arcuate Nucleus, Medial Eminence Rats, Female Radiobiology, Carbon Ions, γ-Radiation
NEUROPHYSIOLOGY

P1254(28/90) Yegorov AYe, Prosvornitsyn SA.

On the genesis of postradiation edema of the brain.


Pages: 873-874.

Authors' affiliation: Scientific Research Institute of Military Medicine

Neurophysiology, Brain, Edema, Blood-Brain Barrier

Rats, Males

Radiobiology, γ-Irradiation; High Doses

P1255(28/90) Antipov VV, Fedorov VP, Ushakov IB.

Structural and metabolic aspects of modification of radiation effects on the central nervous system.


Pages: 861-862.

Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health; Voronezh Medical Institute

Neurophysiology, Central Nervous System, Metabolism

Rats, Dogs

Radiobiology, Radiation; Modifiers, Hypoxia, Hyperoxia, Alcohol, Acceleration, Vibration

P1256(28/90) Fedorenko BS, Kabintsyna RA, Smirnova OA, Krivitskaya GN, Verbitskaya LB, Derevyagin VM, Gitsov L, Burneva V, Popov VI, Portman AI.

Morphological changes in brain neurons in rats irradiated with accelerated charged particles.


Pages: 895-896.

Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health; Brain Institute, USSR Academy of Medicine; Institute for the Study of the Brain, Sofia, Bulgaria

Neurophysiology, Brain Neurons

Rats

Radiobiology, Accelerated Charged Particles

P1246(28/90)* Mikhaylov VM, Kornilova LN, Zhernakov AF, Voskresenskiy AD, Pometov YuD, Alekseyev VN.

Correlation between orthostatic tolerance and status of the vestibular function in humans after long-term space flights.

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[9 references; 1 in English]

Neurophysiology, Vestibular Function, Orthostatic Tolerance

Humans, Cosmonauts

Space Flight, Long-Term, Salyut-6
NEUROPHYSIOLOGY


Neurophysiology, Vertical Optokinetic Nystagmus Humans, Males, Individual Differences Motion Sickness

ISSUE 29:

PAPERS:


Cardiovascular and Respiratory Systems, Cardiac Activity, Protective Effects Rats, Rabbits Neurophysiology, Parasympathetic Nervous System, Vagus Nerve, Enzymology, Delta-Sleep Peptide, Psychology, Stress, Immobilization Effects

P1303(29/90)* Stolbkov YuK, Maslova YeP. Nystagmus in individuals with asymmetrical afferentiation of the otoliths. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(3): 53-56; 1990. [9 references; 3 in English]

Neurophysiology, Nystagmus Humans, Patients Otolith Asymmetry


Neurophysiology, Inhibitory Mediation, Brain Structures Rats, Male Endocrinology, Glucocorticoids, Vibration Effects

55
NEUROPHYSIOLOGY

P1325(29/90)* Krotov VP, Simonov LG, Trombovetskiy YeV.  
Epidural and subdural recording of intracranial pressure in response to postural tests.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[10 references; 5 in English]

Neurophysiology, Body Fluids, Intracranial Pressure, Equipment and Instrumentation  
Rabbits  
Postural Tests

P1334(29/90) Bayevskiy RM, Bogomolov VV, Tazetdinov IG.  
Assessment of autonomic homeostasis in the operational medical system for monitoring the health of cosmonauts.  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Pages 16-17.

Neurophysiology, Autonomic Homeostasis, Psychology, Stress  
Humans, Cosmonauts  
Space Flight, Operational Medicine, Equipment and Instrumentation, Cosmonaut Monitoring System

P1336(29/90) Gorgiladze GI, Maveyev AD.  
The effect of weightlessness on eye movement responses.  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Page 51-52.

Neurophysiology, Eye Movement Response  
Humans, Cosmonauts  
Space Flight, Salyut-6, -7
**NEUROPHYSIOLOGY**

P1351(29/90) Karkishchenko NN, Dimitriadi NA.  
*Anticonvulsants as protective agents in space motion sickness.*  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Pages 82-83.  

Neurophysiology, Space Motion Sickness  
Rats, Humans  
Pharmacological Countermeasures, Anticonvulsants

P1353(29/90) Polyakov BI, Smirnova TM, Speranskaya MS.  
*Psychophysical characteristics of people susceptible and resistant to motion sickness.*  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Page 262-263.  

Neurophysiology, Motion Sickness, Susceptibility  
Humans, Males, Individual Differences  
Psychology, Psychophysiological Parameters
PAPERS:

P1188(26/90) Arustamov OV, Khaydakov MS.
*The effect of increased consumption of vegetable protein on calcium metabolism in rats undergoing hypokinesia.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[5 references; 4 in English].

Metabolism, Calcium
Rats, Males
Nutrition, Vegetable Protein; Hypokinesia; Tail Suspension

P1197(26/90) Klimovich VV, Lukashik NK.
*Thiamin metabolism in rats with a B1 deficiency exposed to hypokinesia.*
Voprosy Pitanija.
[18 references; 6 in English]
Authors' Affiliation: Grodensk Medical Institute.

Metabolism, Thiamine
Rats, Male
Nutrition, B1 Deficiency; Hypokinesia; Immobilization Cages

ISSUE 29:

PAPER:

P1300(29/90)*Novoselov VG.
*Hygienic aspects of the use of calorie-deficient diets enriched with wild plants.*
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[3 references; none in English]

Survival, Botany, Wild Plants, Biological Effects, Human Performance
Humans, Expedition Members, Males
Nutrition, Deficient Diets
P1333(29/90) Akhapkina VI, Goncharov IB.
**Prospects for improving pharmacological support of space flights.**
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Космическая Биология и Авиакосмическая Медицина. Тезисы Докладов IX Всероссийской Конференции. [Space Biology and Aerospace Medicine: IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 15-16.

Neurophysiology, Pharmacological Countermeasures, Nootropic Drugs, GABA, GHBA
Humans, Cosmonauts
Operational Medicine, Space Flight

P1340(29/90) Komarova LM.
**Do we need a physician on the crew for the Mars mission?**
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. Космическая Биология и Авиакосмическая Медицина. Тезисы Докладов IX Всероссийской Конференции. [Space Biology and Aerospace Medicine: IXth All-Union Conference]
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 94-96.

Operational Medicine, Crew Composition, Physician
Humans, Cosmonauts
Space Flight, Long-Term, Mars Mission
PERCEPTION

ISSUE 26

MONOGRAPH:

M159(26/90) Kovalenko PA.
Prostranstvennaya oriyentirovka pilotov: Psikhologicheskie osobennosti
Приостранственная ориентировка пилотов. Психологические особенности
[Spatial orientation of pilots: Psychological Characteristics]
Moscow: Transport; 1989.
[231 pages: 65 tables; 28 figures; 132 references; 18 in English]

KEY WORDS: Perception; Spatial Orientation; Psychology; Aviation Medicine; Human
Performance; Humans, Pilots; Pilot Training
PERSONNEL SELECTION

ISSUE 28:

PAPER:

P1287(28/90)** Medenkov A, Tret'yakov N.  
*Can the psychologically "incompatible" work together?*  
Aviatsiya i Kosmonavtika.  
Authors' Affiliation: USSR Medical Corps

Human Performance, Small Group Performance  
Humans, Aviation Personnel, Military  
Psychology, Personnel Selection, Compatibility

ISSUE 29:

PAPERS:

P1337(29/90) Grigor'yev LS, Smirnova AV, Voronkov Yul, Myasnikov VI.  
*Some new approaches to the problem of medical occupational selection.*  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
Tezisy Dokladov IX Vsesoyuznoy Konferentsii. KOSMICHeskaya Biologia i AviAKOSMICHESkaya Medalnaya. Tezisy Dokladov IX Wesosoynoy Konferentsii. [Space Biology and Aerospace Medicine: IXth All-Union Conference]  
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Page 55-57.

Personnel Selection, Cosmonaut Selection, Human Performance, Equipment and Instrumentation  
Humans, Cosmonauts, Twin Studies  
Operational Medicine, Medical Factors, Neurophysiology, Genetics

P1352(29/90) Ioseliani KK, Narinskaya AL, Tereskhina SA.  
*On psychological selection of cosmonauts for repeated flights.*  
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
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Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health  
Pages 234-236.

Personnel Selection, Cosmonaut Selection, Space Flight, Repeated Flights, Psychology, Human Performance  
Humans, Patients, Age Differences  
Hypokinesia With Head-Down Tilt

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PSYCHOLOGY

ISSUE 26

MONOGRAPH:

M154(26/90) Berezin FB. Psikhicheskaya i Psikhofiziologicheskaya Adaptatsiya Cheloveka; Психическая и Психофизиологическая Адаптация Человека [Psychological and Psychophysiological Adaptation in Humans] Leningrad: Nauka; 1988. [270 pages; 36 Tables; 34 Figures; 237 References; 110 in English] Affiliation: Institute of Biological Problems of the North; USSR Academy of Sciences; Far Eastern Division

Psychology, Stress; Human Performance
Humans
Adaptation

ISSUE 27

PAPER:


Psychology, Stress Response
Rats, Males and Females
Gender Differences, Genetics

ISSUE 28

PAPERS:

P1268(28/90)** Kuznetsov ON, Yegorov BA, Frantsen BS. Characteristics of color selection in the Luscher test as an indicator of typical emotional status of flight personnel. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 24(2):15-18; 1990. [8 references; none in English]

Psychology, Emotional Status
Aviation Medicine, Flight Crews
Color Preferences
PSYCHOLOGY

P1276(28/90)** Shlyk GG, Shrivinskaya MA, Rotenberg VS, Yefimova Mya, Eliava VM, Sheremet IP, Kolpakova NF.
The role of typological differences in behavior of animals during adaptation to an extreme stimulus.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(2): 38-41; 1990.
[10 references; 2 in English].

Adaptation, Extreme Situations, Conditioned Responses, Recovery
Primates, Rhesus Monkeys
Psychology, Typology, Behavior

ISSUE 29:

PAPERS:

P1302(29/90)* Yevdokimov VI.
Risk factors for the occurrence of neuroses and psychosomatic illnesses in flight crews.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(3): 50-53; 1990
[9 reference; 2 in English]

Psychology, Neuroses, Psychosomatic Illness
Humans, Flight Crews
Aviation Medicine, Risk Factors

P1306(29/90)* Terelyak Ya, Kobos Z (Poland).
Psychological determinants of time to complete flight training.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(3): 59-60; 1990
[9 references; all in Polish]

Aviation Medicine, Flight Training, Human Performance
Humans, Flight Personnel
Psychology, Test Scores

P1341(29/9) Zaprisa NS.
Dynamics of parameters of communicative activity in the system for psychological analysis of cosmonaut functional status.
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Page 232.

Human Performance, Functional State
Humans, Cosmonauts
Psychology, Psychodiagnosis, Speech Analysis
A multimethod evaluation of the psychophysiological state and behavior of humans undergoing a 370-day period of hypokinesia with head-down tilt.

In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 250-251.

Psychology, Psychophysiological State, Human Performance
Humans, Males
Hypokinesia With Head-Down Tilt, Long-Term, 370-Day

The study of cosmonauts’ sleep in flight on space station Mir.

In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
Affiliation: Scientific Council on Space Biology and Physiology, USSR Academy of Sciences; Institute of Biomedical Problems, USSR Ministry of Health
Pages 251-252.

Psychology, Neurophysiology, Sleep Patterns, Adaptation
Humans, Cosmonauts
Space Flight, Mir
Acid tolerance of erythrocytes exposed to constant magnetic fields varying in rate of induction increase.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[15 references; none in English]

Certain biochemical mechanisms underlying the combined effects of extreme factors.
Voprosy Meditsinskoy Khimii.
[15 references; 1 in English]
Authors' Affiliation: Tbilisi Medical Institute

Possible mechanisms of the radiomodifying effect of exogenous hypoxia on microwave radiation.
[14 references; 1 in English]
Authors affiliation: Tbilisi Medical Institute.

KEY WORDS: Radiobiology; Cosmic Radiation, Accelerators; Biophysics; Biological Effects; Hadrons
RADIOBIOLOGY

ISSUE 27

PAPERS:

P1221(27/90) Zukhbaya TM.
Periodicity of hemopoiesis during continuous \(\gamma\)-irradiation with low dose rates.
Author's Affiliation: Institute for Biomedical Problems, Moscow

Hematology, Hemopoiesis, Periodicity
Rats
Radiobiology, \(\gamma\)-Irradiation, Continuous

ISSUE 28

PAPERS:

P1266(28/90) Vorozhtsova SV, Gerasimenko VN.
Cytogenetic damage to mammalian cells after exposure to charged particles with relativistic energy.
Pages 562-563.
Authors’ Affiliation: Institute of Biomedical Problems, USSR Ministry of Health.

Genetics, Cytogenetic Damage, Corneal Epithelium, Lymphocytes
Mice, Humans
Radiobiology, Charged Particles, Relativistic Energy

P1261(28/90) Benevodenskiy VN, Kuznetsova IV.
Methodological approach to determining the biological effects of heavy ions of galactic cosmic radiation.
Pages: 994-995.
Authors’ Affiliation: Institute of Biomedical Problems, USSR Ministry of Health

Radiobiology, Biological Effects
Microbiology, Yeast Cells
Heavy Ions, Galactic Cosmic Radiation; Space Flight, COSMOS
Cataractogenic effectiveness of accelerated charged particles of high energy.
Pages: 1193-.
Authors’ Affiliation: Institute of Biomedical Problems, USSR Ministry of Health
Radiobiology, Cataractogenesis
Mice
Accelerated Charged Particles, High Energy

Carcinogenic effectiveness of accelerated charged high energy particles.
Pages: 1223-1224.
Authors’ Affiliation: Institute of Biomedical Problems, USSR Ministry of Health
Radiobiology, Carcinogenesis
Rats, Females
Charged Particles, High Energy

Radioprotectors and the theory of the radioprotective effect.
Pages: 695-697.
Authors’ affiliation: S.M. Korov Academy of Military Medicine
Radiobiology, Radioprotective Effect
Theoretical Article
Radioprotectors

Prospects for using immunomodulators as a means in increase nonspecific resistance in radiation pathology.
Pages: 743-744.
Authors’ affiliation: S.M. Korov Academy of Military Medicine
Radiobiology, Nonspecific Resistance, γ-Irradiation
Mice, Rats
Immunology, Immunomodulators, Alanine
RADIOBIOLOGY

P1250(28/90)* Yablontsev NN.  
*Documents setting standards for radiation safety for space flight.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[8 references; none in English]

Radiobiology, Radiation Safety Standards  
Humans, Cosmonauts  
Space Flights, Long-Term

P1284(28/90)** Minkova M, Pantev B (Bulgaria)  
The effects of combined physical and chemical radiation protection under conditions of simulated hypergravity.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
24(2): 60-61; 1990.  
[9 references; none in English]

Radiobiology, Radioprotectors, Physical/Chemical  
Rats  
Acceleration

ISSUE 29:

PAPERS:

P1309(29/90)* Zagorskaya YeA, Klimovitskiy VYa, Melnichenko VP, Rodina GP, Semenov SN.  
The effects of low-frequency electromagnetic fields on physiological systems.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[116 references; 24 in English]

Neurophysiology, Endocrinology, Regulatory Systems, Hematology  
Review Article  
Radiobiology, Electromagnetic Fields, Low Frequency

P1319(29/90)** Katasonov SN, Shishkina SK, Maltseva IO, Ryabova TYa.  
Study of changes in the electrical parameters of the skin of irradiated rats.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[5 references; 2 in English]

Skin, Electrical Parameters, Prognostic Indicator  
Rats  
Radiobiology, $\gamma$-Irradiation
RADIOBIOLOGY

P1320(29/90)** Lobacheva GV.
Research on audiogenic reactions of rats after ultraviolet-irradiation of their eyes.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
24(4): 36-38; 1990.
[11 references; 1 in English]

Neurophysiology, Audiogenic Seizures
Rats, Females
Radiobiology, Ultraviolet-Irradiation, Eyes

P(29/90)** Malakhovskiy VN, Stemparzhetskiy OA, Bokk MI.
Physiological properties of posture (balance) maintenance in dogs during immediate response to radiation.
Kosmicheskaya Biologiya i Aviakosmicheskaya.
[10 references; 2 in English]

Musculoskeletal System, Neurophysiology, Balance
Dogs
Radiobiology, γ-Irradiation

P1327(29/90)** Bugrov SA, Davydov BI, Tikhonchuk VS, Soldatov SK, Osokina TF.
The protective action of mexamine in microwave irradiation of rats.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
[10 references; 5 in English]

Biological Effects, Survival
Rats, Female
Radiobiology, Microwave Irradiation, Radioprotectors, Mexamine, Serotonin
REPRODUCTIVE SYSTEM

ISSUE 28

PAPER:


Reproductive System, Reproductive Function (Male), Developmental Biology Rats, Male Radiobiology, Magnetic Field, High Intensity

ISSUE 29:

PAPER:

P1326(29/90)**Serova LV, Apanasenko Zl, Ivanovna SYa, Chelnaya NA. The effect of hypergravity on mammals during the period of delivery and birth of offspring. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 23(4): 54-55; 1990. [3 references; 2 in English]

Reproductive System, Delivery, Lactation, Developmental Biology, Psychology, Maternal Behavior Rats, Female, Pregnant, Neonates Hypergravity, Centrifugation
SPACE MEDICINE

ISSUE 26

PAPERS:


Space Biology and Medicine, Biological Experiments; Metabolism, Cell; Genetics; Biological Rhythms; Developmental Biology; Cytology; Population Studies
Microbiology, E. coli, Tetrahymena pyriformis, Wolffia, Haplopappus, Guppies, Tritons, Drosophila melanogaster; Beetles, Macaca mulatta, Stick Insects
Space Flight, COSMOS-1887; Radiobiology, Cosmic Radiation; Adaptation

P1177(26/90) Grigor'yev Al, Morukov BV. 370-Day antiorthostatic hypokinesia: Goals and research protocol Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 23(5): 47-50; 1989. [9 references; none in English]

Space Biology and Medicine; Cardiovascular and Respiratory Systems; Cardiovascular Deconditioning; Body Fluids; Musculoskeletal System; Metabolism; Gastrointestinal System; Hematology; Immunology
Humans, Males
Hypokinesia with Head-Down Tilt, Long-Term; Prophylactic Countermeasures, Physical Exercise; Drugs; LBNP; Karkas Suit; Adaptation


Space Biology and Medicine; Neurophysiology, Space Motion Sickness; Body Fluids; Cardiovascular and Respiratory Systems; Endocrinology; Musculoskeletal System; Enzymology; Metabolism, Bioenergetics
Humans, Cosmonauts, Rats
Weightlessness, Pathogenesis; Deconditioning; Adaptation; Space Flight, Long-Term; Salyut, Soyuz, Weightlessness Simulations, COSMOS; Prophylactic Countermeasures; Physical Exercise, LBNP
**SPACE MEDICINE**

**CONFERENCE REVIEW**

CR12(26/90)* Drozd YuV.  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  

**KEY WORDS:** Space Biology and Medicine; Human Performance; Radiobiology; Equipment and Instrumentation; Operational Medicine; Musculoskeletal System; Weightlessness; Acceleration; Prophylactic Countermeasures; Hypodynamia; Hypokinesia; Psychology, Stress; Space Flight; COSMOS-1887; Nutrition; Metabolism; Life Support Systems, CELSS; Neurophysiology, Motion Sickness; Sleep; Immunology

**ISSUE 27**

**CONFERENCE REVIEW:**

CR13(27/90)* Gyurdzhian AA, Zorile VI.  
*The work of the section on Aviation and Space Medicine of the Moscow Physiological Society.*  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  

**KEY WORDS:** Space Medicine; Aviation Medicine

**SPECIAL FEATURE:**

Essay by N. Gurovskiy; *In the Interests of Public Health*  
In: Aviatsiya i Kosmonavtika; 11/89

**KEY WORDS:** Space Medicine, Operational Medicine, Public Health, Equipment and Instrumentation, Personnel Selection, Hematology, Biological Rhythms

**ISSUE 28:**

**PAPER:**

P1267(28/90)** Gazenko OG, Grigor'ev AI, Yegorov AD.  
*Medical investigations of long-term manned space flight on-board Salyut-7-Soyuz-T.*  
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.  
[11 references; 13 in English]

**Space Biology and Medicine, Operational Medicine, Cardiovascular and Respiratory System, Body Fluids, Musculoskeletal System, Motor Coordination, Bones, Muscle Mass, Neurophysiology, Vestibular System, Sensory Systems, Endocrinology, Nutrition, Human Performance, Humans, Cosmonauts, Space Flight, Salyut-7, Long-Term, EVAs, Prophylactic Countermeasures, Exercise, LBNP**
Review of the major results of medical research during the flight of the second prime crew of the Mir Space Station.


[16 references; none in English]
CONFERENCE REPORT:

CR15(29/90) Program of the *Ninth All-Union Conference on Space Biology and Medicine*, Kaluga 18-21 July, 1990

**KEY WORDS:** Space Biology and Medicine, Space Flight, Long-Term, Mir, Aviation Medicine, COSMOS-1887,-2044, Operational Medicine, Pharmacological Countermeasures, Acceleration Tolerance, Gastrointestinal System, Immunity, Adaptation, Oxygen Homeostasis, LBNP, Hypokinesia With Head-Down Tilt, Thermal Regulation, Orthostatic Tolerance, Cardiovascular and Respiratory Systems, Hypoxia, Neurophysiology, Amino Acids, Biological Rhythms, Endocrinology, Metabolism, Musculoskeletal System, Bone, Muscle, Hematology, Lipid Peroxidation, Cosmonaut Training, Psychology Human Performance, Equipment and Instrumentation, Developmental Biology, Radiobiology, Habitability and Environmental Effects, Life Support Systems, Microbiology, Mathematical Modeling, Reproductive System
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