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# USSR Space Life Sciences Digest

## *Index to Issues 10–14*

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*Index to Issues 10–14*

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**1988**

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TOPIC AREA LISTINGS

TOPIC AREA LISTING FOR USSR SPACE LIFE SCIENCES DIGEST ISSUES 10-14

The following pages give bibliographic citations and key words for abstracts published in issues 10-14 of the USSR Space Life Sciences Digest grouped according to the topic area categories under which they were originally included. Topic area categories are listed in alphabetical order. Within categories, abstracts are grouped according to the Digest issue in which they appeared.

Following this section is a key word index; numbers in this index refer to page numbers in this topic area listing. Cross referenced among topic areas (e.g., a reference relevant to ENDOCRINOLOGY which is listed in the ADAPTATION category area) can be found by looking for additional page referenced to a category in the key word index.

ISSUE 11

**PAPERS:**

1. P480(11/87)* Berezovskiy VA, Serebrovskaya TV, Ivashkevich AA.
**Individual differences in human adaptation to high altitudes.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 34-37; 1987.
[18 references; 5 in English]

Cardiovascular and Respiratory Systems, Gas Exchange, Ventilation, Hypoxia Tolerance; Hematology, Blood Biochemistry; Human Performance, Physical Work Capacity
Humans, Males, Individual Differences
Adaptation, High Altitude, Hypoxia

2. P497(11/87) Serebrovskaya TV, Dubrovskaya TG.
**Responses of the respiratory system to hypoxic and hypercapnic stimuli in humans adapted to high altitudes.**
Fiziologiya Cheloveka.
13(1): 58-63; 1987.
[33 references; 15 in English]
Authors' affiliation: A.A. Bogomolets Institute of Physiology, Ukrainian Academy of Sciences, Kiev.

Cardiovascular and Respiratory Systems, Gas Exchange, Ventilation, Hypoxia and Hypercapnia Tolerance; Hematology, Blood Biochemistry; Human Performance, Physical Work Capacity
Humans, Males
Adaptation, High Altitude, Hypoxia

**MONOGRAPH:**

3. M105(11/87) Gazenko OG, Meyerson FZ, et al., editors.
Fiziologiya adaptsionnykh protsessov. Rukovodstvo po fiziologiya.
**[The physiology of adaptive processes. A physiology handbook.]**
Moscow: Nauka; 1986.
[635 pages]
Affiliation: Book: Scientific Committee on Multidisciplinary/Comprehensive Problems in Human and Animal Physiology, Physiology Division, USSR Academy of Sciences; Chief Editors: Institute of Biomedical Problems, USSR Ministry of Health

**KEY WORDS:** Adaptation, Stress, Hypoxia, Physical Exercise, Cold, Heat, Injury; Psychology, Memory, Conditioned Responses; Operational Medicine; Cardiovascular and Respiratory Systems; Musculoskeletal System; Metabolism; Gastrointestinal System

ISSUE 12

**PAPERS:**

4. P509(12/87) Vartbaronov RA, Glod GD, Uglova NN, Rolik IS, Krasnykh IG, Novikov VG, Gaydamakin NA.
**Adaptive and cumulative effects of regular exposure to $+G_z$ acceleration in dogs.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 37-40; 1987.
[14 references; 4 in English]

Adaptation; Cardiovascular and Respiratory Systems
Dogs
Acceleration, $+G_z$, Repeated Exposure

5. P544(12/87) Zatstepina GN, Il'in YeA, Lazarev AO, Novikov VYe.
**Static electrical field of rats during adaptation to functional unloading of the hind limbs.**
Fiziologicheskiy Zhurnal SSSR im. I.M. Sechenova.
LXXII(12): 1619-1623; 1986.
[11 references; 2 in English]

Adaptation, Electrical Field
Rats
Musculoskeletal System, Suspension, Unloading

ISSUE 14

**PAPERS:**

6. P617(14/87) Ushkalova VN, Kadochnikova GD.
**Use of lipid peroxidation parameters to study human adaptation to new climatic and geographic conditions.**
Byulleten' Eksperimental'noy Biologii i Meditsiny.
CIII(5): 571-573; 1987.
[10 references; none in English]
Authors' affiliation: Dept. of Organic Chemistry, Tyumen' Medical Institute

Metabolism, Lipid Peroxidation; Hematology, Erythrocytes
Humans, Age Differences
Adaptation, North; Biological Rhythms, Seasons

7.P619(14/87) Lebedev MD, Bobrov NI, Keerig YuYa.
**Some parameters of human adaptation to extreme conditions in the Arctic.**
Gigiyena i Sanitariya.
1987(2): 18-21.
[10 references; none in English]
Authors' Affiliation: Rostov Medical Institute

Body Fluids, Renal Function
Humans, Males
Adaptation, Arctic, Long-term; Biological Rhythms, Diurnal Differences, Seasons

ISSUE 11

**PAPER:**

1. P496 (11/87)* Rudnyy NM, Bodrov VA.
**Current problems in aviation physiology.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 4-11; 1987.
[11 references; none in English]

Aviation Physiology, Review Article
Personnel Selection; Human Performance, Pilots
Adaptation, Hypoxia, Acceleration; Psychology, Work-rest Schedules, Fatigue, Biofeedback, Pharmacological Countermeasures; Neurophysiology, Vestibular System; Perception, Light

ISSUE 10

**PAPERS:**

1. P408(10/87) Stepanova SI.
**Major trends in the use of biological rhythms for cosmonaut selection.**
In: M97(Digest Issue 9) Stepanova SI.
Biologicheskiye aspekty problemy adaptatsii
[**Biological aspects of the problem of adaptation**].
Moscow: Nauka; 1986.
Part II, Chapter 2, pages 165-171.

Biological Rhythms, Sleep-wakefulness Schedules; Human Performance, Work Capacity
Humans; Personnel Selection, Cosmonauts
Adaptation, Space Flight

2. P418(10/87)* Alpatov AM, Klimovitskiy VYa.
**The splitting of the body temperature rhythm of monkeys undergoing hypokinesia with head-down tilt**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 37-41; 1986.
[12 references; 4 in English]

Biological Rhythms, Body Temperature, Diurnal Rhythms
Primates, Rhesus Monkeys
Hypokinesia, Head-down Tilt

ISSUE 12

**PAPER:**

3. P545(12/87) Turova NV, Oranskiy IYe.
**Diurnal rhythm of parameters of bioelectric activity of the brain.**
Fiziologiya Cheloveka.
13(2): 225-228; 1987.
[11 references; 5 in English]
Affiliation: Sverdlovsk Scientific Research Institute of Health Resort Treatment and Physical Therapy

Biological Rhythms, Diurnal Rhythms
Humans, Patients, Cerebral Arteriosclerosis
Neurophysiology, EEG Parameters

ISSUE 13

**PAPER:**

4. P560(13/87)* Galichiy VA.
**Analysis of biological rhythms in parameters of pulmonary ventilation during tilt tests.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 52-59; 1987.
[15 references; 1 in English]

Biological Rhythms; Cardiovascular & Respiratory Systems, Pulmonary Ventilation
Humans, Males
Tilt Tests; Individual Differences, Orthostatic Intolerance, Adaptation

ISSUE 10

**MONOGRAPHS:**

1. M102(10/87) Kiyenko YuP, P. Shtefanovich (Hungary), et al., editors. "Salyut-6" izuchaet biosferu. Issledovaniye prirodnoy sredy iz kosmosa po Sovetsko-Vengerskoy programmy "Biosfera-M"
[Salyut-6 studies the biosphere. Research on the natural environment from space in the Soviet-Hungarian "Biosphere-M program].
Moscow: Mashinostroyeniye; 1986.
[144 pages; 59 photographs and figures; no references cited]
Affiliation: Central Geodetic and Cartographic Administration, USSR Council of Ministers; Hungarian Academy of Sciences

**Key Words:** Biospherics, Remote Sensing, Environmental Studies; "Soyuz-35," "-36," ""Salyut-6"

2. M103(10/87) Moyseyeva NI, Lyubitskiy RYe.
Vozdeystviye Geliogeogfizicheskiye faktorov na organizm cheloveka
[**The effects of helio-geophysical factors on the human body**].
Volume 53 in series: Problemy Kosmicheskoy Biologii [Problems in Space Biology].
Leningrad: Nauka; 1986.
[136 pages; 47 tables; 24 figures; 201 references]
Affiliation: Not available

**Key Words:** Biospherics, Radiobiology, Solar Radiation, Geomagnetic Activity

ISSUE 11

**BOOK REVIEW:**

3. BR11(11/87)Review of Sidyakin VG, Temur'yants NA, Makeyev VB, Vladimirskiy BN
Kosmicheskaya Ekologiya [**Space Ecology**].
Kiev: Nauk. dumka: 1985. See Digest Issue #5: M58.
Reviewed by Kholodov YuA, Lebedeva NN.
In: Uspekhi Fiziologicheskikh Nauk.
18(1): 120-122; 1987.

**KEY WORDS:** Biospherics, Solar Activity; Radiobiology, Geomagnetic Fields; Cardiovascular and Respiratory Systems; Neurophysiology; Hematology; Biological Rhythms; Operational Medicine, Epidemiology

ISSUE 11

**PAPER:**

1. P450(11/87)* Smirnova TM, Kozyrevskaya GI, Lobachik VI, Zhidkov VV, Abrosimov SV.
**Individual differences in fluid-salt metabolism under exposure to a 120-day period of hypokinesia with head-down tilt and the efficacy of prophylactic measures.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 21-24; 1986.
[9 references; 1 in English]

Body Fluids, Metabolism, Fluid-Electrolyte Metabolism
Humans, Males, Individual Differences
Hypokinesia, Head-down Tilt; Countermeasures, Drugs; Musculoskeletal System, Physical Exercise; Nutrition, Vitamin D

ISSUE 12

**PAPER:**

2. P510(12/87)* Panferova NYe, Kabesheva TA.
**Fluid dynamics in human limbs in different body positions.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 40-45; 1987.
[9 references; 7 in English]

Body Fluids, Limbs
Humans, Males
Body Position, Horizontal, Head-down Tilt

ISSUE 13

**PAPERS:**

3. P555(13/87)* Vartbaronov RA, Glod GD, Uglova NN, Rolik IS.
**Hypovolemic reactions in humans and animals in response to exposure to $+G_z$ acceleration increasing in intensity.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 35-39; 1987.
[18 references: 10 in English]

Body Fluids, Blood and Plasma Volume, Hypovolemia
Dogs, Humans, Males
Fluid Loading, $+G_z$ Acceleration, Anti-g Suit

4. P557*(13/87) Degtyarev VA, Kaplan MA, Andriyako LYa, Bubeyev YA, Remizov YuI
**Blood redistribution in humans in response to lower body negative pressure.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 42-45; 1987.
[13 references; 9 in English]

Body Fluids, Blood Redistribution
Humans, Males
LBNP

ISSUE 14

**PAPER:**

5. P624(14/87) Grigro'yev AI, Ushakov AS, Popova IA, Dorokhova BR, Ivanovna SM, Davydova NA, Afonin BV.
**Fluid-electrolyte metabolism and renal function [in Salyut-6 prime crews].**
In: Gurovskiy NN, editor.
Rezul'taty meditsinskikh issledovaniy vypolnennykh na orbital'nom nauchno-issledovatel'skom komplekse "Salyut-6"-"Soyuz" [**Results of medical research performed on board the "Salyut--6"-"Soyuz" orbital scientific research complex**].
[See Digest issue 13: Space Medicine: M112.
Moscow: Nauka; 1986; pages 145-149. Note: the portion of this chapter dealing with other metabolic factors will be abstracted in a subsequent Digest issue.
[79 references; 27 in English]

Body Fluids, Fluid-electrolyte Metabolism, Renal Function
Humans, Cosmonauts
Space Flight, Long-term, "Salyut-6"

ISSUE 10

**PAPERS:**

1. P436(10/87)Podluts'kiy, AG.
**Cytochemical localization of $Ca^{2+}$-ATPase under normal conditions and during clinostatting.**
Ukrainian Botanical Journal
43(4): 82-84; 1985
Author's affiliation: M.G. Kholodnoy Botanical Institute, Uk. Academy of Sciences
[9 references; 7 in English]

Botany, Cytochemical Localization, $Ca^{2+}$-ATPase
Pea Plants, Roots
Clinostatting
[Note: original in Ukrainian; Russian abstract was translated.]

2. P437(10/87) Vasilenko OI.
**Changes in level of ATP in cultures of Haplopappus gracilis (Nutt) A. Gray in the initial stages of clinostatting.**
Ukrainian Botanical Journal.
43(4): 84-85; 1986.
Author's affiliation: M.G. Kholodnoy Botanical Institute, Ukrainian Academy of Sciences
[6 references; 2 in English]

Botany, ATP; Cytology
Haplopappus
Clinostatting
[Note: original in Ukrainian; Russian abstract was translated.]

3. P438(10/87) Zhad'ko SI.
**Early reactions of pea shoots to clinostatting.**
Ukrainian Botanical Journal.
43(4):86-87; 1986.
Author's affiliation: MG Kholodnoy Botanical Institute, Ukrainian Academy of Science.
[10 references; 2 in English]

Botany, Growth; Lipid Peroxidation, Antioxidation
Peas, Shoots
Clinostatting

[Note: original in Ukrainian; Russian abstract was translated.]

4. P440(8/87) Aliyev AA, Abilov ZK, Mashinskiy AL, Ganiyeva RA, Ragimova GK, Alekperov UK.
**The ultrastructure and physiological characteristics of the photosynthesis system of shoots of garden peas grown for 29 days on the "Salyut-7" space station.**
Izvestiya Akademii Nauk Azerbaydzhanskoy SSR. Seriya biologicheskikh nauk.
1985(6): 18-23.
[11 references; 3 in English]

Botany, Ultrastructure, Photosynthesis System
Peas, Shoots
Space Flight, "Salyut-7"

5. P441(10/87) Tayrbekov MG, Grif VG, Barmicheva YeM, Valovich YeM.
**Cytomorphology and ultrastructure of the root meristem of corn in weightlessness.**
Izvestiya Academii Nauk SSSR. Seriya Biologicheskaya.
1986(5): 680-687.
[21 references; 10 in English]
Authors' affiliation: Institute of Biomedical Problems, USSR Ministry of Health; V. L. Komarov Botanical Institute, USSR Academy of Sciences, Leningrad

Botany, Morphology and Cytology
Corn, Root Meristem
Space Flight, "Cosmos-1514"

ISSUE 11

**PAPER:**

6. P504(11/87) Anikeyeva ID, Balayeva AV, Vaulina EN, Vikhrov AI, Kostina LN, Maksimova YeN, Nevzgodina LV, Potapov YuV.
**[A study of] Genetic effects induced by accelerated carbon ions (320 MeV/nuclon.**
Radiobiologiya.
XXVII(1): 103-107; 1987.
[10 references; 5 in English]
Authors' Affiliation: N.I. Vavilova Institute of General Genetics, USSR Academy of Sciences, Moscow; Institute of Biomedical Problems, USSR Ministry of Health, Moscow

Genetics, Plant Genetics, Mutations, Chromosome Damage
Botany, Arabidopsis thaliana (L) cress, Crepis capillaris (l) Wallr hawk's bear Lactuca sativa L lettuce
Radiobiology, Accelerated Carbon Ions

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**PAPER:**

7. P529(12/87)* Miller AT, Nevzgodina LV.
**Changes in growth response of lettuce (Lactuca Sativa L.) as a function of duration of exposure of seeds to space flight on board the "Salyut-7" manned space station.**
Izvestiya Academii Nauk Latviyskoy SSR.
1986(4): 75-78.
[18 references; 4 in English]
Affiliation: Institute of Biology, Latvian Academy of Sciences; Institute of Biomedical Problems; USSR Ministry of Health

Botany, Development, Growth
Lettuce, Seeds
Space Flight, "Salyut 7," Duration; Radiobiology, Cosmic Radiation

8. P530(12/87)* Miller AT, Nevzgodina LV, Akatov YuA.
**[A study of physiological processes in lettuce seeds after damage by high energy high mass ions**
Izvestiya Akademii Nauk Latviyskoy SSR.
1986(4): 79-86.
[22 references; 11 in English]
Affiliation: Institute of Biology, Latvian Academy of Sciences; Institute of Biomedical Problems; USSR Ministry of Health

Botany, Development, Growth,
Lettuce, Seeds
Space Flight, "Salyut-7;" Radiobiology, HZE, Recovery

9. P531(12/87) Zaslavskiy VA, Fomicheva VM.
**Functional state of chromatin and proliferation of meristem cells in pea sprouts exposed to varying rates of clinostatting.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986, pp 23-28.
See abstract M106, issue 11.
[8 references; 1 in English]
Affiliation: N.G. Kholodnyy Botanic Institute, Ukrainian Academy of Science, Kiev

Botany, Chromatin, Cell Proliferation
Pea, Sprouts
Clinostatting, Fast and Slow

10. P532(12/87) Viktorova NV, Sidorenko NG, Fomicheva VM.
**The rhythm of plant cell reproduction in vitro and in vivo in microgravity.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986, pp 28-32.
See abstract M106, issue 11.
[9 references; 1 in English]
Affiliation: N.G. Kholodnyy Botanic Institute, Ukrainian Academy of Science, Kiev

Botany, Plant Cell Reproduction; Biological Rhythms; Adaptation
Haplopappus, in vivo; Pea, Meristem, in vitro
Clinostatting, Fast and Slow

11. P533(12/87) Cherevchenko TM, Mayko TK, Bogatyr'VB, Korsakovskaya IV.
**Prospects for future use of tropical orchids in space research.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986, pp 41-54.
See abstract M108, this issue.
[17 references; 4 in English]
Affiliation: Central Republic Botanical Gardens, Ukrainian Academy of Sciences, Kiev

Botany; Life Support Systems, CELSS
Orchids, Epiphyte
Space Flight Factor Tolerance

ISSUE 13

**PAPERS:**

12. P568(13/87)* Tayrbekov MG.
**Investigation of metabolism of biological subjects in weightlessness.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 89-90; 1987.
[1 references; none in English]

Metabolism, Plant and Insect
Botany, Corn, Seeds; Developmental Biology, Flies
Space Flight, Cosmos-1514, -1667

ISSUE 14

**PAPER:**

13. P607(14/87)* Kovalev YeYe, Brill' OD, Nevsgodina LV, Ivanov LI, Yanushkevich VA.
**Simulation of the effects of an impact wave from heavy charged particles on biological subjects.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 73-76; 1987.
[7 references; 2 in English]

Botany, Bioeffects, Simulation, Viability, Mitosis, Aberration
Lettuce, Seeds
Radiobiology, HZE, Impact Wave

ISSUE 10

**PAPERS:**

1. P425(10/87)* Breslav IS, Isayev GG, Kochubeyev AV, Sokol YeA.
**Evaluation of the effect of positive intrapulmonary pressure on human respiratory function.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 64-69; 1986.
[16 references; 7 in English]

Cardiovascular and Respiratory System, Respiratory Function
Humans
Positive Intrapulmonary Pressure, Counterpressure

2. P434(10/87) Shashkov VS, Modin AYu.
**Problems and prospects in pharmacological correction of orthostatic [in]tolerance in space medicine.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 4-11; 1986.
[64 references; 21 in English]

Cardiovascular and Respiratory Systems, Orthostatic Intolerance
Humans, Review Article
Space Flight, Pharmacological Countermeasures, Hemodynamics

3. P447(10/87) Gansburgskiy AN.
**The state of the endothelium of the aorta under conditions of hypodynamia [hypokinesia].**
Arkhiv Anatomii, Gistologii i Embriologii.
XCI(8): 13- 17; 1986.
[14 references; 3 in English]
Affiliation: Department of Histology, Embryology and Cytology, Yaroslavl Medical Institute

Cardiovascular and Respiratory Systems, Aortal Endothelium; Cytology
Rats
Hypokinesia, Psychology, Immobilization Stress

**MONOGRAPH:**

4. M101(10/87) Tkachenko BI, editor.
Fiziologiya krovoobrashcheniya: Regulyatsiya krovoobrashcheniya.
**[Circulatory physiology: Regulation of circulation.]**
Leningrad: Nauka, 1986.
[640 pages; 983 references; 43 tables; 156 figures]
Affiliation: Book: USSR Academy of Sciences; Editor: USSR Academy of Medicine

**KEY WORDS:** Cardiovascular and Respiratory System, Circulation, Regulation; Metabolism, Vascular Tonus; Endocrinology, Epinephrine, Vasopressin, Angiotensin, Hypothalamus; Neurophysiology, Conditioned Reflexes, Cerebral Cortex; Postural Responses; Exercise, Acceleration, Weightlessness, Hypoxia, Hyperoxia, Temperature Changes, High Altitudes, Hyperbaria, Hypokinesia; Psychology, Stress, Experimental Neuroses; Mathematical Modeling

ISSUE 11

**PAPERS:**

5. P451(11/87)* Artamovova TS, Zakharova TS, Morukov BV, Arzamazov GS, Semenov VYu.
**Bioelectric cardiac activity and blood electrolytes in healthy men undergoing 120 days of hypokinesia with head-down tilt.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 24-25; 1986.
[22 references; 6 in English]

Cardiovascular and Respiratory Systems, Bioelectric Cardiac Activity; Body Fluids, Blood Electrolytes
Humans, Males
Hypokinesia with Head-down Tilt, Longterm

6. P467(11/87)* Rumyantsev VV, D'yachenko AI.
**The mechanism through which local negative pressure applied to the human body affects central circulation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 84-86; 1986.
[9 references; 3 in English]

Cardiovascular and Respiratory Systems, Central Circulation; Mathematical Modeling
Humans, Males
Negative Pressure, Lower Body, Local

7. P481(11/87)* Yarullin KhKh, Artamanova NP.
**Responses to [Literally: Characteristics of] the atropine test in individuals varying in age.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1):37-42; 1987.
[13 references; none in English]

Cardiovascular and Respiratory Systems, EKG Parameters
Humans, Males, Age Differences
Atropine

8. P486(11/87)* Kazakova RT, Krotov VP, Giryayeva IO/
**Central hemodynamics in monkeys in a post-operative period as a function of preoperative living conditions.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 58-60; 1987.
[4 references; 1 in English]

Cardiovascular and Respiratory Systems, Central Hemodynamics, Contractile and Pumping Function
Primates, Rhesus Monkeys
Immobilization; Operational Medicine, Surgery, Electrode Implantation

9. P487(11/87)* Simonov LG, Saribekyan AS.
**[Properties] of pulsation volumes and pressures in response to changes in reserve spaces in the skull.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 42-47; 1987.
[15 references; 3 in English]

Cardiovascular and Respiratory Systems, Intracranial Blood Flow and Pressure; Operational Medicine, Ultrasound Scanning of the Brain
Humans, Neurosurgical Patients; Primates, Rhesus Monkeys
Neurophysiology, Cerebrospinal Fluid, Reserve Spaces

10. P488(11/87)* Khodos BA, Gabinskiy VL.
**A comparative study of central hemodynamics, myocardial contractility, and tension in the left ventricle wall in athletes and [cardiac] patients.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 66-71; 1987.
[18 references; 7 in English]

Cardiovascular and Respiratory System, Central Hemodynamics, Myocardial Contractility, Ventrical Wall Tension; Operational Medicine, Diagnosis, Latent Cardiac Insufficiency
Humans, Males, Athletes, Patients, Ischemic Heart Disease, Hypertension
Physical Exercise

ISSUE 12

**PAPERS:**

11. P511(12/87)* Machinskiy GB, Buzulina VP, Mikhaylov VM, Nechayeva EI.
**Functional state of the cardiorespiratory system in humans after 30 days of hypokinesia with head-down tilt.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 46-48; 1987.
[16 references; 6 in English]

Cardiovascular and Respiratory Systems, Functional Parameters
Humans, Males
Hypokinesia, Head-Down Tilt, Long-term

12. P513(12/87)* Chinkin AS.
**Beta-adrenergic regulation of stroke volume in rats undergoing hypokinesia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 52-55; 1987.
[15 references; 8 in English]

Cardiovascular and Respiratory Systems, Stroke Volume; Endocrinology, Adrenergic System
Rats, Males
Hypokinesia, Immobilization

13. P514(12/87)* Kuznetsov VI, Pruss GM.
**Adaptive capacities of the heart of rats exposed to hypokinesia to surgically increased workload and the role of neural regulation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 55-58; 1987.
[8 references; none in English]

Cardiovascular and Respiratory System, Capacity; Neurophysiology, Regulation
Rats, Male
Adaptation, Increased Workload, Hypokinesia

14. P520(12/87)* Vikhrov NI, Solob'yeva LS, Turbasov VD, Vasil'yev VK, Reddi BRS, Chatterjee RS (USSR, India).
**Automated analysis of vectorcardiograms in space medicine.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2):79-82; 1987.
[3 references; 2 in English]

Cardiovascular and Respiratory System, Vectorcardiograms; Equipment and Instrumentation. Computer Analysis
Humans, Cosmonauts
Operational Medicine, Space Flight, "Salyut-7"

15. P524(12/87)* Gora YeP.
**The effects of voluntary changes in respiration on the functioning of the cardiorespiratory system in exposure to hypoxic hypoxia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 86-87; 1987
[5 references; 1 in English]

Cardiovascular and Respiratory System, Function
Humans, Males
Voluntary Changes, Hypoxia

**MONOGRAPH:**

16. M111(12/87) Minyayev VI (editor).
Vzaymodeystvie dvigatel'nykh i vegetativnykh funktsiy pri razlichnykh sostoyaniyakh organizma cheloveka [**Interaction of motor and autonomic functions in various states**].
Kalinin: Kalinin State University; 1986.
[140 pages; 35 figures; 21 tables; 230 references]

**KEY WORDS:** Cardiovascular and Respiratory Systems, Respiration, Ventilation, Cerebral Circulation; Musculoskeletal System, Motor Activity, Physical Exercise; Neurophysiology, Autonomic Nervous System; Human Performance, Biofeedback, Relaxation, Noise; Hypodynamia, Head-down Tilt, Orthostatic Tolerance

ISSUE 13

**PAPERS:**

17. P553(13/87)* Bayevskiy RM, Chatterjee PS, Funtova II, Zakatov MD (USSR, India).
**Cardiac contractility in weightlessness measured by spatial ballistocardiography.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 26-31; 1987.
[8 references; 1 in English]

Cardiovascular and Respiratory Systems, Cardiac Contractility, Ballistocardiography
Humans, Cosmonauts, Soviet-Indican Crew
Space Flight, Salyut-7; Adaptation

18. P559(13/87)* Chinkin AS.
**Characteristics of and mechanisms underlying the effects of epinephrine and norepinephrine on cardiac pumping function in hypokinesia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 49-52; 1987.
[14 references; 5 in English]

Cardiovascular and Respiratory Systems, Cardiac Pumping Function
Rats
Endocrinology, Epinephrine, Norepinephrine; Hypokinesia, Immobilization

19. P563(13/87)* Krotov VP, Sandler H, Badakva AM, Hines J, Magedov VS, Stone H (USSR, USA).
**Variation in blood pressure and flow in the common carotid artery of a monkey flown on board the "Cosmos-1514" biosatellite.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 69-74; 1987.
[7 references; none in English]

Cardiovascular and Respiratory Systems, Blood Pressure and Flow, Carotid Artery; Biological Rhythms
Primate, Rhesus Monkey
Space Flight, Cosmos-1514; Adaptation

20. P564(13/87)* Breslav IS, Shmeleva AM, Normatov AT.
**Use of biofeedback control of alveolar $P_{CO2}$ to avoid hypercapnia in humans exposed to hypoxia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 74-77; 1987.
(19 references; 3 in English)

Cardiovascular and Respiratory Systems, $P_{CO2}$, Hypercapnia
Humans, Males
Hypoxia; Psychology, Biofeedback

21. P572(13/87) Chinkin AS.
**The effect of blockade and stimulation of adrenoreceptors on the pumping function of the heart in animals with or without adaptation to physical exercise.**
Fiziologicheskiy Zhurnal SSSR im. I. M. Sechenova
LXXII(3):389-395; 1987.
[18 references; 11 in English]
Author's affiliation: State Pedagogical Institute, Kazan

Cardiovascular and Respiratory Systems, Pumping Function
Rats, Male
Endocrinology, Adrenoreceptors; Adaptation, Physical Exercise

22. P576(13/87) Altukhov VG, Grebenik MA, Shapovalov AA.
**The effect of elevated concentration of oxygen and carbon dioxide in the atmosphere on the cardiorespiratory system.**
Voyenno-meditsinskiy Zhurnal.
1987(4): 39-40.
[Citations not listed.]
Authors' affiliation: Military Medical Corps

Cardiovascular and Respiratory Systems; Life Support Systems
Humans
Hypokinesia, Artificial Atmosphere, Increased $O_2$ and $CO_2$, Exercise

ISSUE 14

**PAPERS:**

23. P594(14/87)* Sokolov VI, Yarullin KhKh, Vikharev ND, Sazonova MV, Degterenkova NV.
**Circulatory response to hypokinesia with head-down tilt in males aged 45-52.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 22-26; 1987.
[23 references; 8 in English]

Cardiovascular and Respiratory Systems, Circulation, Central and Regional, Brain
Humans, Males, Older, Arteriosclerois, Neurocirculatory Distonia
Hypokinesia, Head-down Tilt

24. P595(14/87)* Gansburgskiy AN.
**Morphometric analysis of aortic endothelium of rats exposed to long-term hypokinesia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 26-28; 1987.
[9 references; 2 in English]

Cardiovascular and Respiratory Systems, Aortic Endothelium, Morphometry
Rats, Male
Immobilization, Psychology, Stress

25. P599(14/87)* Yarullin KhKh, Simonov LG, Vtoryy SA.
**Changes in regional and central hemodynamics induced by a 7-day period of immersion in water.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 45-50; 1987.
[19 references; 7 in English]

Cardiovascular and Respiratory Systems, Hemodynamics, Central, Regional, Brain, Liver, Lungs
Humans, Males
Immersion

26. P604(14/87)* Kondrakov VM, Koledenok VI, Suvorov PM, Arsen'yeva LI.
**Diagnostic significance of provocative tests in evaluating non-specific changes in electrocardiograms.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 67-69; 1987.
[14 references; none in English]

Cardiovascular and Respiratory Systems, Diagnosis, Myocardium
Humans
EKG Changes, Provocative Tests

27. P622(14/87) Yegorov AD, Itsekhovskiy OG, Alferova IV, Turchaninova VF, Polenova AP, Golubchikova ZA, Domracheva MV, Lyamin VR, Turbasov VD.
**[Study of the cardiovascular system [of Salyut-6 prime crews.]**
In: Gurovskiy NN, editor.
Rezul'taty meditsinskikh issledovaniy vypolnennykh na orbital'nom nauchno-issledovatel'skom komplekse "Salyut-6"-"Soyuz" [**Results of medical research performed on board the "Salyut-6"-"Soyuz" orbital scientific research complex**].
See Digest issue 13: Space Medicine: M112.
Moscow: Nauka; 1986; pages 89-114.
[86 references; 33 in English]

Cardiovascular and Respiratory Systems, Cardiovascular Parameters
Human, Cosmonauts
Space Flight, Long-term, "Salyut-6"

ISSUE 13

**MONOGRAPH:**

1. M114(13/87) Korchemnyy PA.
Psikhologiya Letnogo Obucheniya
[**Psychology of Flight Training**].
Moscow: Voyennoye Izdatel'stvo; 1986.
[136 pages; 5 tables; 5 figures; no references]

**KEY WORDS:** Cosmonaut Training, Flight Training, Pilots, Psychology, Human Performance

ISSUE 14

**MONOGRAPH:**

2. M115(14/87) Beregovoy GT, Grigorenko VN, Bogdashevskiy RB, Pochkayev IN, Kosmicheskaya Akademiya [**Space Academy**].
Moscow: Mashinostroyeniye; 1987.
[152 pages; 13 tables; 10 figures; numerous photographs; 113 references; 4 in English]

**KEY WORDS:** Cosmonaut Training, Personnel Selection, Psychology, Human Performance, Small Groups, Space Crews

ISSUE 13

**CONFERENCE REPORT:**

1. CR6(13/87)* Krasnov IB.
**Report of 3rd Soviet-French Symposium on Space Cytology.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 92-95; 1987.

**KEY WORDS:** Cytology, Weightlessness, Spaceflight, Cosmos-1514, -1667, Hypergravity, Hypokinesia; Neurophysiology; Developmental Biology, Embryology; Genetics; Immunology, Lymphocytes; Musculoskeletal System, Osteoclasts, Osteoblasts; Hematology, Erythrocytes; Mathematical Modeling; Equipment and Instrumentation; Metabolism

ISSUE 11

**PAPER:**

1. P482(11/87)* Shakhmatova YeI, Lavrova YeA, Natochin YuV, Serova LV, Denisova LA.
**Concentration of fluid and electrolytes in pregnant rats and their offspring after flight in the "Cosmos-1514" biosatellite.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 42-47; 1987.
[15 references; 7 in English]

Developmental Biology; Body Fluids, Fluid and Electrolyte Balance
Rats, Pregnant, Fetus, Neonate
Space Flight, Cosmos-1514

ISSUE 13

**PAPERS:**

2. P561(13/87)* Serova LV.
**The mother-fetus system in the study of the mechanisms underlying the physiological effects of weightlessness.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 63-66; 1987.
[29 references; 10 in English]

Developmental Biology, Fetal Development; Reproductive Biology
Rats, Female, Pregnant
Space Flight, Cosmos 1514; Adaptation; Genetics

3.P562(13/87)* Komolova GS, Makeyeva VF, Yegorov IA, Serova LV.
**Nucleic acids in spleen lymphocytes of pregnant rats flown in space and their offspring.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 66-69; 1987.
[7 references; none in English]

Developmental Biology; Hematology, Spleen Lymphocytes
Rats, Female, Pregnant; Neonates
Space Flight, Cosmos 1514

ISSUE 14

**PAPER:**

4.P593(14/87)* Krasnov IB, Olenev SN, Babichenko II, Kesarev VS.
**Morphogenesis of the brains of rats developing in weightlessness.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 16-22; 1987.
[20 references; 11 in English]

Developmental Biology, Morphogenesis; Neurophysiology, Brain; Endocrinology, Pitutiary, Hypothalamus; Enzymology
Rats
Space Flight, Cosmos 1514

ISSUE 10

**PAPERS:**

1. P411(10/87)* Afonin BV, Grigor'yev AI, Pavlova YeA.
**The effect of short-term space flights on the activity of the renin-angiotensin-aldosterone system, and the concentration of cyclic nucleotides and prostaglandins of the blood.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 27-30; 1986.
[13 references; 4 in English]

Endocrinology, Renin, Angiotensin, Aldosterone, Prostaglandin, Cyclic Nucleotides; Body Fluids
Humans, Cosmonauts
Space Flight, Soyuz

2. P433(10/87)* Davydova NA, Shishkina SK, Korneyeva NV, Suprunova YeV, Ushakov AS.
**Biochemical aspects of the functioning of neurohumoral systems during long-term hypokinesia with head-down tilt.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 91-95; 1986.
[18 references; 4 in English]

Endocrinology, Neurohumoral Systems, Cholinergic, Sympathetic Adrenal; Neurophysiology
Humans, Males
Hypokinesia, Head-Down Tilt, Long-Term

3. P439(10/87) Noskov VB, Katkov VYe, Afonin BV, Chestukhin VV, Sukhanov YuV.
**Central venous pressure and hormonal regulation of fluid shifts due to head-down tilt.**
Fiziologiya Cheloveka.
12(5): 810 - 815; 1986.
[13 references; 9 in English]

Endocrinology, Hormonal Regulation; Body Fluids, Fluid Shifts; Cardiovascular and Respiratory Systems, Central Venous Pressure
Humans, Males
Head-down Tilt; Diuresis

ISSUE 11

**PAPERS:**

4. P457(11/87)* Krasnov IB, Babichenko II, Afonin BV, Pankova AS.
**Morphological and biochemical analyses of certain organs and tissues in rats after 30 days of exposure to increased gravity of 1.1 and 2.0 g.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 51-58; 1986.
[27 references; 19 in English]

Endocrinology, ACTH, Angiotensin, Aldosterone, Renin, Thymus, Adrenal Gland; Neurophysiology, Cerebellum, Vestibular System; Morphology
Rats, Males
Artificial Gravity, Centrifugation

5. P461(11/87)* Klimovskaya LD, Kokoreva LV.
**Reactivity of the sympathetic adrenal system and exercise tolerance under repeated exposure to a constant magnetic field.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 70-72; 1986.
[12 references; 2 in English]

Endocrinology, Sympathetic Adrenal System; Physical Work Capacity
Rats, Males
Radiobiology, Magnetic Field, Constant; Physical Exercise

6. P477(11/87)* Makarovskiy VV, Reznikov YuP, Khalangot AF, Zinkovskaya SA.
**Variations in hormones, sugar, and electrolytes in the blood as shown by biochemical indicators in men undergoing hypodynamia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 21-27; 1987.
[17 references; 9 in English]

Endocrinology, Hormones, Aldosterone, Testosterone, Hydrocorisone, T3, T4; Body Fluids, Blood Electrolytes; Metabolism, Blood Sugar
Humans, Men, Age Groups
Hypodynamia; Life Support Systems, Hermetically Sealed Quarters; Physical Exercise

ISSUE 13

**PAPERS:**

7. P554(13/87)* Tigranyan RA, Kalita NF, Kiseleva TA, Ivanov VM, Kolchina YeV, Afonin BV.
**Hormonal responses of cosmonauts to short-term space flights.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 32-35; 1987.
[10 references; 4 in English]

Endocrinology, Hormones; Psychology, Stress
Subjects, Cosmonauts
Space Flight, Soyuz, Soyuz-T

ISSUE 14

**PAPERS:**

8. P608(14/87)* Pribylova NN.
**The effect of steroid hormones on the level of biogenic amines in the lungs during the development of pulmonary hypertension in rats under conditions of chronic hypobaric hypoxia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 76-78; 1987.
[16 references; 1 in English]

Endocrinology, Steroid Hormones, Biogenic Amines; Cardiovascular and Respiratory Systems, Pulmonary Hypertension
Rats
Hypoxia, Hypobaric, Chronic

9. P618(14/87) Arefolov VA, Malikova LA, Val'dman AV.
**Morphometric study of the ultrastructure of cells containing epinephrine and norepinephrine in the adrenal glands of rats subjected to immobilization stress varying in duration.**
Byulleten' Eksperimental'noy Biologii i Meditsiny.
CIII(6): 743-746; 1987.
[8 references; 2 in English]
Affiliation: Institute of Pharmacology, USSR Academy of Medicine, Moscow

Endocrinology, Adrenal Glands; Cytology and Morphology, Cell Ultrastructure
Rats
Psychology, Immobilization Stress

ISSUE 10

**PAPER:**

1. P431(10/87)* Vlasov VD, Dlusskaya IG, Krashutskiy VV, Domnikova AA.
**Activity of proteolytic enzymes in the blood serum of individuals in a hypoxic environment.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 88-90; 1986.
[15 references; 7 in English]

Enzymology, Proteolytic Enzymes; Neurophysiology, Parasympathetic Nervous System
Humans, Males
Hypoxia, Hypobaria

ISSUE 11

**PAPER:**

2. P495(11/87)* Serebrovskaya TV, Krasyuk AN, Fedorovich VN.
**Isoenzyme composition of lactate dehydrogenase in the blood in humans in response to repeated exposure to acute hypoxia and its relationship to level of physical work capacity.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 87-89; 1987.
[20 references; 5 in English]

Enzymology, Lactate Dehydrogenase, Isoenzyme Spectrum
Humans, Males
Adaptation, Hypoxia; Physical Exercise

ISSUE 14

**PAPERS:**

3. P616(14/87) Komarin AS, Azimova ShA.
**The state of the monooxygenase enzymatic system in liver tissue of rats undergoing hypokinesia.**
Voprosy Meditsinskoy Khimii.
33(4): 75-78; 1987.
[22 references; 3 in English]
Affiliation: Central Research Laboratory, Tashkent Medical School

Enzymology, Monooxygenase System, Liver
Rats
Psychology, Immobilization Stress; Endocrinolgy, Adrenalectomy

4. P620(14/87) Kurtser BM, Zor'kina TA.
**Changes in succinic dehydrogenase and cytochrome oxidase activity in the myocardium and brain of rats exposed to hypokinesia.**
Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya.
1987(1): 11-13.
[11 references; 1 in English]
Authors' affiliation: Kishinev Medical Institute

Enzymology, Succinic Dehydrogenase, Cytochrome Oxidase, Brain, Myocardium
Rats
Immobilization

ISSUE 11

**PAPER:**

1. P494(11/87)* Drozhzhin VM.
**Automation of research on operator performance.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 78-80; 1987.
[2 references; none in English]

Equipment and Instrumentation, Automated Research System
Humans, Operators
Human Performance, Tracking; Cardiovascular and Respiratory System, EKG Parameters

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**PAPERS:**

1. P538(12/87) Shvedova MK, Goryunov AV, Engbrekht II, Seleznev SA, Mikhaylov AI.
**Modeling abiogenetic synthesis of amphipathic molecules and mechanisms of formation of photomembranes.**
Zhurnal Evolyutsionnoy Biokhimii i Fiziologii.
XXIII(1): 9-15; 1987.
[9 references; 7 in English]
Affiliation: Institute of Chemical Physics, USSR Academy of Sciences, Chernogolovka; Medical Institute, Tselinograd.

Exobiology, Abiogenetic Synthesis
Amphipathic Molecules, Photomembranes
Photochemical Transformation, UV Radiation

2. P539(12/87) Kuzicheva YeA.
**Photochemical transformations of nucleic acid components in the presence of lunar soil.**
Zhurnal Evolyutsionnoy Biokhimii i Fiziologii.
XXIII(1): 3-8; 1987.
[15 references; 3 in English]
Affiliation: Institute of Cytology, USSR Academy of Sciences, Leningrad

Exobiology, Abiogenetic Synthesis
Uracil, Uridine
Photochemical Transformation, UV Radiation, Lunar Soil

3. P540(12/87) Boychenko YeA.
**Metallic compounds in plants in the evolution of the aerobic biosphere.**
Seriya Biologicheskaya.
1987(2): 237-244.
[32 references; 12 in English]
Affiliation: V.I. Vernadskiy Institute of Geochemistry and Analytic Chemistry, USSR Academy of Sciences, Moscow

Exobiology: Biospherics; Evolution of Biosphere
Algae, Higher Plants
Metal Components

ISSUE 11

**PAPERS:**

1. P453(11/87) Medkova IL, Zhiznevskaya OV, Smirnov VI, Lebedev VI, Artamasova YeM.
**Change in the concentration of bile acids and lipids in human bile during hypokinesia with head-down tilt with and without countermeasures.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 31-37; 1986.
[9 references; none in English]

Gastrointestinal System, Bile Acids and Lipids; Metabolism, Calcium
Humans, Males
Hypokinesia with Head-Down Tilt, Long-term; Countermeasures, Physical Exercise, Drugs

2. P455(11/87)* Goland-Ruvinova LG, Pechenkina RA, GOncharova NP, Smirnov KV.
**Hydrolysis, transport and utilization of carbohydrates under conditions of curtailed motor activity.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 41-47; 1986.
[9 references; 2 in English]

Gastrointestinal System, Intestine, Hydrolyis and Transport; Metabolism, Carbohydrates; Endocrinology, Pancreas
Rats
Immobilization Stress

ISSUE 12

**CONFERENCE REPORT:**

3. CR5(12/87)* Smirnov KV.
**Symposium on 'Space Gastroenterology.'**
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 93-94 1987.

**KEY WORDS:** Gastrointestinal System, Secretions, Pancreas, Liver, Hydrolysis, Carbohydrate, Protein; Metabolism, Lipids; Microbiology, Intestinal Microflora; Psychology, Stress; Space Flight, Hypokinesia, Exercise

ISSUE 14

**PAPER:**

4. P605(14/87)* Liz'ko NN, Goncharova GI.
**Use of bifidumbacterin to correct intestinal bacteriosis.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 70-72; 1987.
[4 references; none in English]

Gastrointestinal System, Intestinal Flora
Humans, Cosmonauts
Isolation, Countermeasures, Bacterin, Bifid??, Hypokinesia, Head-down Tilt

ISSUE 11

**PAPER:**

1. P466(11/87)* Terelyak Yan (Poland).
**Group dynamics and performance efficiency under extreme conditions.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 82-83; 1986.
[9 references; 9 in English]

Group Dynamics, Psychology, Aggression; Human Performance, Cognitive Efficiency and Fatigue
Humans
Adaptation, Social Adaptation, Isolation, Antarctica

ISSUE 10

**PAPERS:**

1.P427(10/87)* Popov IG, Blodavets VV, Chizhov SV, Sinyak YuYe, Shikina MI, Vinogradova LA, Kolesina NB.
**Investigation of the causes of the formation of hydrogen sulfide in reclaimed water.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 75-77; 1986.
[3 references; none in English]

Habitability and Environment Effects; Life Support Systems, Reclaimed Water
Microbiology, Microflora
Hydrogen Sulfide

ISSUE 13

**PAPERS:**

2.P571(13/87)* Pak ZP, Lobacheva GV.
**Physiological and biochemical aspects of the toxic effects on humans of environmental (air, water) oxidants.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 16-23; 1987.
[111 references; 59 in English]

Habitability and Environmental Effects, Toxicity
Humans
Life Support Systems, Environmental Oxidants

3. P586(13/87) Zaloguyev SN.
**Human habitability conditions on the space station: Major goals of the sanitary and hygienic studies; Microclimate and atmosphere of the cabin.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
[**Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.**]
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 36-39; [42 references; 3 in English (whole chapter)]

Habitability and Environmental Effects, Microclimate, Cabin Atmosphere; Life Support Systems; Thermal Regulation
Humans
Space Flight, Salyut-6

4. P587(13/87) Savina VP, Solomin GI, Mikos KN.
**Human habitability conditions on the space station: Toxicological and hygienic description of the environment.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
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Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 39-43; [42 references; 3 in English (whole chapter)]

Habitability and Environment Effects, Atmospheric Toxins, Polymers, Metabolites; Life Support System
Humans, Cosmonauts
Space Flight, Salyut-6

5. P588(13/87) Zaloguyev SN, Viktorov AN, Gorshkov VP, Novikova ND.
**Human habitability conditions on the space station: Sanitary/Microbiological description of the environment.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
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Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 43-46; [42 references; 3 in English (whole chapter)]

Habitability and Environmental Effects, Sanitation; Microbiology; Life Support Systems
Humans, Cosmonauts; Microbiology, Microflora, Bacteria, Fungi
Space Flight, Salyut-6

6. P589(13/87) Zaloguyev SN, Viktorov AN, Shumilina GA, Kondrashova VN.
**Human habitability conditions on the space station: Sanitation and housekeeping.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
[**Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.**]
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 46-50; [42 references; 3 in English (whole chapter)]

Habitability and Environmental Effects, Personal Hygiene, Cabin Maintenance; Life Support System
Humans, Cosmonauts
Space Flight, Salyut-6

ISSUE 10

**PAPERS:**

1. P409(10/87)* Kuznetsova IV.
**[A study of the] state of the hemostasis system in air traffic controllers**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 19-23; 1986.
[14 references; none in English]

Hematology, Hemostasis
Humans, Air Traffic Controllers
Human Performance, Workload

2. P443(10/87) Meyerson FZ, Frolov BA, Stadnikov AA.
**Characteristics of the megakaryocyte-thrombocyte system in mice experiencing immobilization stress.**
Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya.
1986(4): 30-35.
[18 references; 3 in English]

Hematology, Megakaryocyte-Thrombocyte System; Morphology and Cytology
Mice
Immobilization Stress

3. P449(10/87) Konovalov SV.
**Adaptation of the rheological characteristics of blood to the effects of maximal physical exertion.**
Teoriya i Praktika Fizicheskoy Kul'tury.
1986(8): 54-55.
[15 references; 4 in English]
Affiliation: Orenburg Medical Institute

Hematology, Rheological Characteristics of Blood; Adaptation
Humans, Males, Athletes
Physical Exercise, Maximal

ISSUE 11

**PAPERS:**

4. P474(11/87)* Kalandarova MP.
**The effects of space flight factors on hemopoiesis.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 7-17; 1986.
[111 references; 34 in English]

Hematology, Hemopoieses, Hemoglobin, Erythrocytes; Musculoskeletal System, Bone Marrow, Bone Degeneration
Review Paper, Humans, Cosmonauts, Animals
Adaptation, Space Flight Factors

5. P502(11/87) Agafonova NA, Lunina NV.
**The effect of alpha-tocopherol acetate on the response of the lysosome system of neutrophilic leukocytes to immobilization stress.**
Fiziologicheskiy Zhurnal.
33(1):57-63; 1987.
[20 references; 5 in English]
Authors' affiliation: T.G. Shevchenko Pedagogic Institute, Voroshilovgrad

Hematology, Lysosomes, Neutrophilic Leukocytes
Rabbits
Psychology, Immobilization Stress, Countermeasures, Alpha-tocopherol

ISSUE 12

**PAPERS:**

6. P523(12/87)* Tenchova VB, Pantev TP (Bulgaria).
**Change in hemopoiesis in rats as a result of the combined effects of acceleration, irradiation, and anti-radiation measures.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 85-86; 1987.
[2 references; none in English]

Hematology, Hemopoiesis
Rats
Acceleration, Irradiation, Antiradiation Measures

7. P541(12/87) Agafononva NA, Lunina NV.
**The effects of alpha-tocopherol acetate on response of the lysosome apparatus of neutrophilic leukocytes to immobilization stress.**
Fiziologicheskiy Zhurnal.
33(1): 57-62; 1987.
[20 references; 5 in English]
Affiliation: T.G. Shevshchenko Pedagogical Institute, Voroshilovgrad

Hematology, Lysosome, Neutrophilic Leukocyte
Rabbits
Psychology, Immobilization Stress; Metabolism, Lipid Peroxidation, Alpha-tocopherol

ISSUE 13

**PAPERS:**

8. P565(13/87)* Ivanov KP, Chuykin AYe, Samsonov GV, Kuznetsova NP.
**The role of hemoglobin's affinity for oxygen in [determining] the efficiency of the respiratory function of the blood.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 77-79; 1987.
[5 references; 1 in English]

Cardiovascular and Respiratory Systems, Respiratory, Efficiency
Rats
Hematology, Hemoglobin, Oxygen Affinity

9. P569(13/87)* Andreyeva OI, Pukhov VV, Daniyarov SB.
**Differentiation of stem hemopoietic cells during adaptation to high altitudes.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[5 references; 3 in English]

Hematology, Stem Hemopoietic Cells, Differentiation
Mice
Adaptation, High Altitude

ISSUE 14

**PAPERS:**

10. P598(14/87)* Gladilov VV, Moyseyenko NA.
**Acid-base balance and other blood parameters in rats after exposure to hyperbaric oxygenation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 41-45; 1987.
[12 references; 1 in English]

Hematology, Acid-Base Balance, Oxygen Affinity
Rats
Hyperbaric Oxygenation

ISSUE 10

**PAPER:**

1. P410(10/87)* Makarevich OF.
**Tolerance of frustration as a factor influencing the reliability of an [human] operator's work.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 24-26; 1986.
[6 references; none in English]

Human Performance, Reliability
Humans, Air Traffic Controllers
Psychology, Frustration, Tolerance

**MONOGRAPH:**

2. M100(10/87)* Matyukhin VA, Krivoshchekov SG, Demin DV.
**Physiology of human dislocation and watch* work.**
Novosibirsk: Nauka (Sibirskoye Otdeleniye); 1986.
[196 pages]
Affiliation: [Book] USSR Academy of Sciences (Siberian Division); USSR Academy of Medicine (Siberian Division)

ISSUE 11

**PAPERS:**

3. P476(11/87)* Ioseliani KK, Ryzhov BN.
**Relationship between information processing and effort and operator cognitive performance [Literally: Information-activation ratio and psychological work capacity of operators]**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 17-21; 1987.
[12 references; none in English]

Human Performance, Information Processing, Cognitive Performance, Efficiency
Humans, Pilots, Patients
Psychology, Motivation, Effort

4. P491(11/87)* Denisov AF.
**Psychological state during job performance in air traffic control.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1):76-78.
[12 references; none in English]

Psychology, Psychological State
Humans, Air Traffic Controllers
Human Performance, Workload, Performance Quality

5. P498(11/87) Kolpakov SP, Rumyantseva AG.
**Comprehensive method for correcting psychophysical state in people whose work involves constant eye strain.**
Fiziologiya Cheloveka.
13(1):42-49; 1987.
[23 references; 3 in English]
Authors' affiliation: P.K. Anokhin Scientific Research Institute for Normal Physiology, Moscow

Human Performance, Psychophysiological State
Humans, Industrial Workers
Perception, Visual System, Eye Strain; Countermeasure, Exercises, Massage

ISSUE 12

**PAPERS:**

6. P506(12/87)* Ponomarenko VA, Oboznov AA, Arkhangel'skiy.
**On the psychological regulation of state under prolonged exposure to +$G_z$ acceleration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 24-27; 1987.
[9 references; 4 in English]

Human Performance, Signal Detection; Perception; Visual; Psychology, Regulation; Attention
Humans, Operators
Acceleration, Prolonged, Positive, Countermeasures

7. P515(12/87)* Skrypnikov AI, Yepishkin AK.
**Psychosomatic correction of operator performance during prolonged, uninterrupted work.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 59-62; 1987.
[8 references; none in English]

Human Performance, Uninterrupted Cognitive Work, Sleep Deprivation, Fatigue; Neurophysiology, EEG Parameters
Humans, Operators
Psychology, Autogenic Training

8. P520(12/87)* Petrenko YeT, Yermukhametova LA.
**A technique for increasing the resistance to noise of operator performance.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 78-79; 1987.
[5 references; none in English]

Human Performance, Noise Tolerance
Humans, Operators, Pilots
Equipment and Instrumentation

**MONOGRAPH:**

9.M110(12/87) Volkov VG (editor).
Metodicheskoye i tekhnicheskoye obespecheniye psikhofizilogicheskikh issledovaniye [**Methodology and Hardware for Psychophysical Research**].
Moscow: Nauka; 1986,
[79 pages; 25 figures; 3 tables; 85 references]
Affiliation (Book): Institute of Higher Nervous Activity and Neurophysiology, USSR Academy of Sciences

**KEY WORDS:** Human Performance, Job Performance, Man-Machine Systems, Reliability, Monotony; Psychology, Psychophysics, Emotional Stress, Eye Movements, Speech Parameters, Biofeedback; Musculoskeletal System

ISSUE 10

**PAPERS:**

1. P450(10/87) Apanasen'ko GL, Nedopryadko DM.
**The role of autoimmune responses in the recovery period after strenuous physical exercise.**
Teoriya i Praktika Fizicheskoy Kul'tury.
1986(8): 48-51.
[29 references; 5 in English]
Affiliation: A.A. Bogomolets Medical Institute, Kiev

Immunology, Autoimmune Responses
Humans, Athletes
Adaptation, Physical Exercise

ISSUE 12

**PAPER:**

2. P546(12/87) Mirrakhimov MM, Kitayev MI. Tokhtabayev AG.
**Human immunological competence in adaptation to high-altitude hypoxia.**
Fiziologiya Cheloveka.
13(2): 265-269; 1987.
[27 references; 11 in English]
Kirghiz Scientific Research Institute of Cardiology, Kirghiz SSR Ministry of Health, Frunze

Immunology, Immune Competence, B- and T-cells
Humans, Males
Adaptation, High Altitude

ISSUE 13

**PAPER:**

13. P575(13/87) Kut'kova ON, Kuznets YeI, Yakovleva EV, Shal'nova GA, Bobrov AF, Yastrebov PT, Nevinnaya AD, Utekhin BA.
**Changes in immunological protection factors in humans undergoing simulated weightlessness.**
In: Trudy XVIII-XIX chtenii, posvyashchennykh razrabotke nauchnogo nasledii i razvitiyu idei K.E. Tsiolkovskoga, Kaluga: 1983, 1984.
**[Papers from the XVII and XIXth lectures dedicated to the development of the scientific heritage and further advancement of the ideas of K.E. Tsiolkovskiy, Kaluga: 1983-1984].**
Space Biology: M113; this Digest issue.
Pages: 40-45.
[7 references; none in English]

Immunology, Cellular and Humoral Immunity Parameters
Humans
Hypokinesia, Head-down Tilt; High Temperatures

ISSUE 14

**PAPERS:**

14. P602(14/87)* Mukhamedyeva LN, Konstantinova IV, Zhuravlev VV.
**Physiological and immunological aspects of human adaptation to heat in a hermetically sealed environment.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 60-64; 1987.
[22 references; 6 in English]

Immunology; Adaptation
Humans
Sealed Environment, Heat, Humidity

15. P610(14/87)* Kitayev MI, Goncharov AG.
**Mononuclear phagocytes in high altitude adaptation of healthy individuals.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 80-82; 1987.
[12 references; 3 in English]

Immunology, Mononuclear Phagocytes
Humans, Males, Individual Differences
Adaptation, High Altitude

16. P623(14/87) Konstantinova VI.
**Immunological research [on "Salyut-6" prime crews].**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6" -"Soyuz"
**[Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.]**
Moscow: Nauka; 1986: 114-124. See Digest Issue 13: Space Medicine: M112
[25 references; 16 in English]

Immunology, Epidemiology, Immunological Reactivity, T-lymphocytes, Immunoglobulin
Humans, Cosmonauts
Space Flight, Long-term, Salyut-6

ISSUE 10

**PAPERS:**

1. P429(10/87)* Drugova NA, Yunusova LS, Shaydorov YuI.
**[Properties of] the formation of a microbial complex in nutrient solutions of higher plants using products of straw mineralization.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 81-85; 1986.
[10 references; 2 in English]

Life Support Systems, CELSS, Microbiology, Microflora
Botany, Lettuce
Straw Mineralization Products, Ecotol

ISSUE 11

**PAPERS:**

2. P463(11/87)* Grishayenkov BG, Vasil'yev VK, Zorina NG, Zhukov AK.
**Derivation of working equations for a gas mixture of $CO_2$-CO-$H_2O$-$H_2$-$N_2$ for cathode space of an electrolyzer with a solid electrolyte with oxygen extraction accounted for.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 73-76; 1986.
[1 reference; none in English]

Life Support System, Gas Mixture Regeneration System
Equation Derivation
Thermodynamics, Equilibrium

3. P464(11/87)* Grishayenkov BG, Zorina NG, Vasil'yev VK.
**Computation of equilibrium concentrations of components of the gas mixture $CO_2$-CO-$H_2O$-$H_2$-$N_2$ for the cathode space of an electrolyzer with a solid electrolyte and appropriate theoretical values for voltage of dissociation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 76-79; 1986.
[no references]

Life Support System, Gas Mixture Regeneration System
Equation Derivation
Thermodynamics, Equilibrium

4. P484(11/87)* Grishayenkov BG, Zorina NG.
**Thermodynamic state of a multicomponent gas mixture $CO_2$=CO=$H_2O$=$H_2$=$N_2$ in an electrolyzer with a solid electrolyte.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 55-58: 1987.
[no references]

Life Support System, Gas Mixture Regeneration System
Equation Derivation
Thermodynamics, Equilibrium

ISSUE 12

**PAPER:**

5. P525(12/87)* Shikina MI, Chizhov SV, Kolesina NB.
**The effect of cooling and freezing on microflora in water regenerated from condensate of atmospheric moisture.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 87-89; 1987.
[5 references; none in English]

Life Support Systems, Hermetically Sealed Space
Microbiology, Microflora
Water, Atmospheric Condensate, Cooling, Freezing

**MONOGRAPH:**

6. M109(12/87) Alekseyev, SM.
Kosmicheskiye Skafandry Vchera, Segodnya, Zavtra [**Space Suits Yesterday, xxxxxToday and Tomorrow**]
In series: Kosmonavtika, Astronomiya, 2/87.
Moscow: Znaniye; 1987.
[64 pages; 27 figures; 6 tables; 18 references; none in English]

**KEY WORDS:** Life Support Systems, Space Suits; Equipment and Instrumentation

ISSUE 13:

**PAPERS:**

7. P591(13/87) Author not cited
**Quails in space.**
Translation of excerpts from article in Journal SELSKAYA ZHIZN' (Rural Life), 1987(3).
Pages: 127-128.

Life Support Systems; Nutrition, Eggs
Quails
CELSS

8. P566(13/87)* Shikina MI, Sinyak YuYe, Chizhov SV, Kolesina NB.
**An investigation of the effects of silver compounds on the microflora of water regenerated from atmospheric condensate in a hermetically sealed environment.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 80-82; 1987.
[6 references; none in English]

Life Support Systems, Regenerated Water, Hermetically Sealed Environment
Microbiology, Microflora
Silver Compounds

9.P578(13/87) Meleshko GI, Shepelev VA, Kordyum VA (USSR); Setlik I, Doukha (Czechoslovakia).
**The effects of weightlessness on microorganisms and plants: One-celled algae.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
**[Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.]**
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages 370-380. [41 references; 15 in English]

Life Support Systems, CELSS, Photoautotrophic Component, Growth Conditions
Microbiology, Botany, Chlorella, Scenedesmus, Active and Inactive Cultures
Space Flight, Salyut-6

10. P589(13/87) Pak ZP, Sinyak YuYe, Chizhov SV.
**Human habitability conditions on the space station: Water supply.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
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Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 50-52.
[42 references; 3 in English; (whole chapter)]

Life Support Systems, Water System; Habitability and Environment Effects
Humans, Cosmonauts
Space Flight, Salyut-6-Soyuz

ISSUE 14

**PAPERS:**

11. P600(14/87)* Dmitriyev MT, Malysheva AG, Rastyannikov YeG.
**Specific organic compounds in human wastes.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 50-56; 1987.
[15 references; 4 in English]

Life Support Systems, Organic Compounds
Equipment and Instrumentation, Chromatomass Spectrometer, Computer
Human Wastes

12. P601(14/87)* Savina VP.
**Changes in functional parameters of animals in response to prolonged inhalation of acetic acid.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 56-60; 1987.
[16 references; 1 in English]
Life Support Systems, Physiological and Behavioral Effects
Mice, Rats
Hermetically Sealed Environments, Acetic Acid, Toxicology

ISSUE 11

**PAPER:**

1. P460(11/87)* Kondrachuk AV, Shchekin IYe, Sirenko SP.
**A mathematical model of the otolith.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 66-70; 1986.
[15 references; 6 in English]

Mathematical Modeling
Mammals
Neurophysiology, Otolith

ISSUE 12

**PAPERS:**

2. P512(12/87)* Titunin PA, Sveshchinskiy ML, Chudimov VF, Zerov SF.
**An approach to the quantitative evaluation of mechanisms regulating central hemodynamic response to upright position.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 48-51; 1987.
[19 references; none in English]

Cardiovascular and Respiratory Systems, Hemodynamics
Humans, Males
Mathematical Modelling, Upright Position

3. P519(12/87)* Kharchenko VI, Golovleva NV, Konakhevich YuG, Lyapin VA, Mar'in AV, Petlyuk VKh, Sholpo LN.
**Mathematical modeling of the kinematics of a pilot's head in ejection into the air stream.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 73-78; 1987.
[no references]

Mathematical Modeling, Head Movement
Humans, Pilots
Ejection, Aircraft

ISSUE 14

**PAPER:**

4. P614(14/87) Palets BL, Popov AA, Tikhonov MA, Panchenko VS.
**Regulation of hemodynamics in simulation of transition to weightlessness.**
Fiziologiya Cheloveka.
13(4): 627-632; 1987.
[7 references; 3 in English]
Authors affiliation: Institute of Cybernetics, Ukrainian Academy of Sciences

Mathematical Modeling, Cardiovascular and Respiratory System, Hemodynamics
Humans
Weightlessness, Initial Response; Countermeasures, LBNP, Hypovolemia

ISSUE 10

**PAPERS:**

1. P413(10/87)* Smirnov KV, Medkova IL, Zhiznevskaya OV, Bychkov VP, Mosyakina LI, Khokhlova OS.
**Lipid metabolism parameters in men exposed to hypokinesia with head-down tilt, and means of normalizing these parameters.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 34-37; 1986.
[14 references; 3 in English]

Metabolism, Lipids
Humans, Males
Hypokinesia, Head-Down Tilt; Countermeasures, Nutrition, Linoleic, Linolenic Acids

2. P419(10/87)* Yershikov SM.
**The effect of hypokinesia on rate of gluconeogenesis in the renal cortex of rats.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 41-44; 1986.
[19 references; 3 in English]

Metabolism, Gluconeogenesis, Renal Cortex
Rats
Psychology, Immobilization, Stress

3. P430(10/87)* Krylov YuF, Tigranyan RA.
**Hormonal-metabolic status of humans in the Far North.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 85-88; 1986.
[17 references; 5 in English]

Metabolism; Endocrinology, Hormonal Status; Body Fluids, Fluid-Electrolyte Homeostasis
Humans, Males
Adaptation, Far North; Physical Exercise

ISSUE 12

**PAPER:**

4. P542(12/87) Yershikov SM.
**Rate of glyconeogenesis and concentration of carbohydrates in liver tissue of rats undergoing hypokinesia.**
Voprosy Meditsinskoy Khimii.
XXXIII(2): 87-89; 1987.
[20 references; 6 in English]
Affiliation: Department of Biochemistry, Yaroslavl Medical Institute

Metabolism, Glyconeogenesis, Carbohydrates, Liver
Rats
Hypokinesia, Immobilization

ISSUE 13

**PAPERS:**

5. P558*(13/87) Vorob'yev VYe, Kovachevich IV, Stazhadze LL, Ivchenko VF, Abdrakhmanov VR, Kal'yanova VN, Voronina SG, Repenkova LG.
**Metabolism and peripheral circulation in humans exposed to hypokinesia with head-down tilt.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 46-49; 1987.
[11 references; 2 in English]

Metabolism; Cardiovascular and Respiratory Systems, Peripheral Circulation
Humans, Males
Hypokinesia, Head-down Tilt, Short- and Long-Term

6. P570(13/87)* Nasolodin VV, Rusin VYa.
**Trace element metabolism in humans and animals under hypoxic conditions varying in etiology.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 10-16; 1987.
[75 references: 16 in English]

Metabolism; Nutrition, Trace Elements; Enzymology
Humans, Review Article
Hypoxia; Musculoskeletal System, Physical Exercise

ISSUE 14

**PAPERS:**

7. P606(14/87)* D'yakonov MM, Persianova VR.
**Regulation of metabolism during parachute jumps.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 72-73; 1987.
[9 references; none in English]

Metbolism, Metabolic Parameters
Human, Parachute Jumpers
Psychology, Stess; Nutrition

8. P613(14/87) Polozhentsev SD, Rudnev DA, Kuvshinik AV.
**Changes in lipid metabolism and hormonal status during adaptation to long-term emotional stress and physical exertion.**
Fiziologiya Cheloveka.
13(4): 616-620; 1987.
[13 references; none in English]
Authors' affiliation: S.M. Kirov Academy of Military Medicine

Metabolism, Lipid; Enzymology, Catecholamines
Humans
Adaptation; Psychology, Stress; Human Performance, Physical Exercise

ISSUE 11

**MONOGRAPH:**

1. P106(11/87) Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sb. Nauch. Tr.
[**Space Biology and Biotechnology: A Collection of Scientific Works**].
Kiev: Naukova dumka; 1986.
[72 pages; 29 figures; 10 tables; 130 references for all articles]
Affiliation (book): Institute of Molecular Biology and Genetics, Ukrainian Academy of Sciences.

**KEY WORDS:** Microbiology, Space Biology, Biotechnology, Botany, Bacteria, Algae, Pea, Haplopappus, Orchids, Chlorella, Space Flight, "Salyut-7", Weightlessness, Bioconvectivity, Cytology, Clinostatting, Biological Rhythms, Diurnal Rhythms, Vibration, Acceleration, Life Support Systems, Electrophoresis

ISSUE 12

**PAPERS:**

2. P534(12/87) Manko VG, Kordyum VA, Vorob'yev LV, Konshin NI, Nechitaylo GS.
**Changes over time in Proteus vulgaris cultures grown in the ROST-4M2 device on the "Salyut-7" space station.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986; pp 3-10.
See abstract M106, issue 11,
Affiliation: Institute of Molecular Biology and Genetics, Ukrainian Academy of Sciences, Kiev.

Microbiology, Growth Dynamics
Proteus vulgaris
Space Flight, "Salyut-7"

3. P535(12/87) Babskiy VG.
**On the role of mass transfer in the growth of microorganisms in weightlessness.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986; pp 10-18.
[46 references; 27 in English]
Affiliation: Institute of Molecular Biology and Genetics, Ukrainian Academy of Sciences, Kiev.

Microbiology, Mass Transfer, Bioconvection, Growth
Mathematical Modeling
Weightlessness

4. P536(12/87) Popova AF.
**Submicroscopic organization of Anabaena Azollae Strasb. exposed to space flight.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukov Dumka; 1986; pp. 18-22.
[16 references; 10 English]

Life Support System, CELSS; Submicroscopic Organization
Microbiology, Algae, Anabaena Azollae; Botany Azolla pinnata
Space Flight, "Salyut-6"

5.P537(12/87) Popova AF, Sidorenko PG, Kimchuk DA, Zhad'ko SI, Martyn GM, Ivanenko GF.
**An investigation of the structural and functional characteristics of one-celled algae and higher plant cell cultures in the simulation of various space flight factors.**
In: Sytnik KM (editor).
Kosmicheskaya Biologiya i Biotekhnologiya: Sbornik Nauchnykh Trudov [**Space Biology and Biotechnology: A Collection of Scientific Papers**].
Kiev: Naukova Dumka; 1986; pp 33-41.
[23 references; none in English]
Affiliation: N.G. Kholodnyy Botanical Institute, Ukrainian SSR Academy of Sciences, Kiev

Cytology, Structure and Function; Adaptation
Microbiology, Algae, Chlorella vulgaris; Botany, Haplopappus gracilis
Vibration, Acceleration, Clinostatting

ISSUE 10

**PAPERS:**

1. P426(10/87)* Makarovskiy VV, Khalangot AF, Shafranskiy YuA, Kryzhanovskaya GF.
**[Evaluation of] the functional status of the musculoskeletal system on the basis of biochemical blood parameters for people living in a closed life support system.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 69-75; 1986.
[18 references; 7 in English]

Musculoskeletal System, Functional Status, Blood Parameters
Humans, Males
Life Support Systems, Closed, Isolation, CELSS

2. P442(10/87) Rogacheva IV.
**The effect of calcitonin and retabolil on the condition of the femur in rats undergoing hypokinesia.**
Patologicheskaya fiziologiya i eksperimentalnaya terapiya.
1986(4): 53-56.
[7 references; none in English]

Musculoskeletal System, Femur
Rats
Hypokinesia, Amputation, Countermeasures, Calcitonin, Retabolil

3. P446(10/87) Slesarenko NA.
**Structural adaptation of the articular cartilage in fur-bearing animals varying in motor activity.**
Arkhiv Anatomii, Gistologii i Embriologii.
XCI(7): 75-79; 1986.
[5 references; 2 in English]
Affiliation: Department of Animal Anatomy, Veterinary Institute, Moscow.

Musculoskeletal System, Cartilage, Articular; Adaptation
Minks, Sables
Hypodynamia

ISSUE 11

**PAPERS:**

4. P452(11/7) Khristova LG, Gidikov AA, Aslanova IF, Kirenskaya AV, Kozlova VG, Kozlovskaya IB. (Bulgaria, USSR)
**The effect of immersion hypokinesia on human muscle potential parameters.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 27-31; 1986.
[10 references; 6 in English]

Musculoskeletal System, Muscle, EMG, Potential
Humans
Hypokinesia, Immersion

5. P454(11/87)* Durnova GN, Sakharova ZF, Kaplanskiy AS, Ivanov VM, Khaydakov MS.
**Quantitative analysis of osteoblasts and osteoclasts in the bones of rats undergoing simulations of weightlessness.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 37-41; 1986.
[15 references; 4 in English]

Musculoskeletal System, Osteoblasts, Osteoclasts
Rats, Males
Immobilization; Psychology, Stress; Tail-suspension

6. P456(11/87)* Rogacheva IV, Polyakov AN, Volozhin AI, Stupakov GP.
**[The possibility for using] Pharmacological measures to counteract regional osteoporosis in non-supporting limbs.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 47-51; 1986.
[8 references; none in English]

Musculoskeletal System, Osteoporosis
Rats
Amputation; Countermeasures, Calcitonin, Retabolil

7. P478(11/87)* Grigror'yeva LS, Kozlovskaya IB.
**The effect of weightlessness and hypokinesia on muscle velocity-strength relationships in humans.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 27-30; 1987.
[8 references; 1 in English]

Musculoskeletal System, Muscle Velocity-Strength Relationships
Humans
Space Flight, "Salyut-7"; Hypokinesia, Long- and Short-term, Countermeasures; Head-down Tilt, Long-term
Musculoskeletal System, Muscle Velocity-Strength Relationships
Humans
Space Flight, "Salyut-7"; Hypokinesia, Long- and Short-term, Countermeasures; Head-down Tilt, Long-term

8. P483(11/87)* Kaplanskiy AS, Durnova GN, Sakharova ZF, Morukov BV.
**Effects of diphosphonates on development of osteoporosis in rats undergoing hypokinesia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 47-51; 1987.
[11 references; 8 in English]

Musculoskeletal System, Osteoporosis
Rats, Males
Immobilization; Psychology, Stress; Diphosphonates

9. P501(11/87) Tatarinov AM, Grigor'yev AI, Dzenis VV, Yanson KhA, Oganov VS, Rakhmanov AS.
**Changes in the state of tibia bones in humans during hypokinesia with head-down tilt.**
Mekhanika Kompozitnykh Materialov.
1986(1): 134-143.
[6 references; none in English]
Authors' Affiliations: Latvian Scientific Research Institute of Traumatology and Orthopedics, Riga; Institute of Biomedical Problems, USSR Academy of Health, Moscow; A.Ya Pel'she Polytechnical Institute of Riga.

Musculoskeletal System, Biomechanical Properties; Mineral Content; Operational Medicine, Diagnosis Techniques, Ultrasound Scanning, Photon Absortiometry
Humans, Males
Hypokinesia, Head-down Tilt; Countermeasures, Exercise, Drugs

ISSUE 12

**PAPER:**

10. P508(12/87)* Koroleva IN, Petukhov SV, Bulayev YuO.
**Effects of linear acceleration, deceleration (impact), and vibration on accuracy of maintenance of isometric tension.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 34-37; 1987.
[7 references; 1 in English]

Musculoskeletal System, Isometric Tension, Accuracy
Humans
Acceleration, Deceleration, Vibration

ISSUE 13

**PAPER:**

11. P577(13/87) Kuznetsov SL, Goryachina VL, Lebedeva NB.
**Response of striated fibers in human skeletal muscles to hypokinesia combined with exercise.**
Arkhiv Gistologii i Embriologii.
XCII(2): 32-35; 1987.
[8 references; 4 in English]
Authors' affiliation: Department of Histology, Cytology, and Embryology, I.M. Sechenov First Medical Institute, Moscow

Musculoskeletal System, Striated Fibers; Metabolism; Enzymology
Humans, Males
Hypokinesia, Head-down Tilt; Physical Exercise

ISSUE 14

**PAPERS:**

12. P596(14/87)* Shibkova DZ, Fomin NA.
**Concentration of nucleic acids in the skeletal muscles of rats during hypokinesia and a recovery period.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 28-31; 1987.
[17 references; 1 in English]

Musculoskeletal System, Nucleic Acids
Rats
Immobilization; Psychology, Stress

ISSUE 10

**PAPERS:**

1. P420(10/87)* Krasnov IB, D'yachkova LN.
**The ultrastructure of the cortex of the cerebellar nodulus in rats flown on the "Cosmos-1514" biosatellite.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 45-47; 1986.
[18 references; 8 in English]

Neurophysiology, Cerebellar Nodulus; Morphology and Cytology, Ultrastructure
Rats
Space Flight, "Cosmos-1514"

2. P421(10/87)* Anichin VF.
**[A study of] the receptor epithelium of the vestibular apparatus and the cochlea under exposure to acceleration and noise.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 48-53; 1986.
[14 references; 5 in English]

Neurophysiology, Vestibular Apparatus, Cochlea, Epithelium; Morphology and Cytology, Ultrastructure
Rabbits, Guinea Pigs
Acceleration, Noise

3. P422(10/87)* Yasnetsov VV, Pravdivtsev VA.
**[On] the chemical sensitivity of neurons of the medial vestibular nucleus to enkephalin, acetylcholine, GABA and L-glutamate.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Biologiya.
20(5): 53-57; 1986.
[18 references; 10 in English]

Neurophysiology, Vestibular Nucleus, Chemical Sensitivity
Cats
Physiologically Active Substances, Opioids, Opioid Antagonists, Neural Transmitters

4. P423(10/87)* Karkishchenko NN, Dimitriadi NA, Molchanovskiy VV.
**Pharmacological correction of the effects of Coriolis acceleration on the central nervous system.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina
20(5): 57-59; 1986.
[10 references; none in English]

Neurophysiology, Central Nervous System, Vestibular System; Human Performance, Mental Work Capacity
Humans, Males
Acceleration, Coriolis, Countermeasures, Drugs, RNA

5. P424(10/87)* Antipov VV, Drobyshev VI, Ushakov IB, Stepanova TP.
**Responses to vibration of nerve cells in the kinesthetic sensor of rats.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 60-64; 1986.
[17 references; 1 in English]

Neurophysiology, Nerve Cells, Kinesthetic Sensor, Morphology and Cytology
Rats, Males
Vibration, Noise

6. P435(10/87)* Shipov AA, Kondrachuk AV.
**The structure and function of the otoliths.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 11-19; 1986.
[35 references; 24 in English]

Neurophysiology, Otoliths
Review Article, Mammals
Mathematical Modeling

7. P444(10/86) Mel'nik CG, Shakula AV, Ivanov VV.
**The use of the electrotranquilization method for increasing vestibular tolerance in humans.**
Voyenno-meditsinskiy Zhurnal.
1986(8): 42-45.
[11 references; none in English]
Affiliation: USSR Medical Corps

Neurophysiology, Motion Sickness, Vestibular Tolerance
Humans, Males
Acceleration, Coriolis; Countermeasures, Electrotranquilization

8. P445(10/86) Maksimuk VF, Skoromnyy NA.
**Changes in the functional activity of and blood supply to cortical structures of the brain in conscious rabbits experiencing motion sickness.**
See Digest Issue 8, page 73: P341.
Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova.
LXXII(7): 881-887; 1986.
[12 references; 2 in English]
Affiliation: I. M. Sechenov Institute of Evolution Physiology and Biochemistry (Comparative Circulatory Physiology Laboratory), USSR Academy of Sciences, Leningrad; School of Pediatrics (Department of Pharmacology), Crimean Medical Institute, Simferopl'

Neurophysiology, Brain Cortex; Cardiovascular and Respiratory Systems, Blood Supply; Biological Rhythms, Seasonal Variations; Adaptation
Rabbits
Motion Sickness

ISSUE 11

**PAPERS:**

9. P449(11/87)* Bodrov VA, Fedoruk AG.
**Assessment of the functional state of pilots on the basis of parameters of interhemisphere asymmetry.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 18-21; 1986.
[15 references; none in English]

Neurophysiology, Interhemisphere Asymmetry
Humans, Pilots, Norming Study; Personnel Selection
Flight Factors, Acceleration, Hypoxia, Tolerance; Human Performance

10. P458(11/87)* Zaritskiy VV, Krylov YuV
**Effects of altered circulation on human nystagmic reactions.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 58-61; 1986.
[14 references; 4 in English]

Neurophysiology, Nystagmus, Optokinetic Stimulation, Coriolis Acceleration
Humans, Males
Cardiovascular and Respiratory Systems, Altered Circulation, Head-down Tilt

11. P459(11/87)* Trinus KF.
**The thresholds of long latency evoked potentials and sensations of movement in humans exposed to linear acceleration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 62-66; 1986.
[10 references; 7 in English]

Neurophysiology, Long Latency Evoked Potentials, Motion Perception
Humans, Patients, Meniere's Disease, Labyrinthine Areflexia, Neuritis of Auditory Nerve
Linear Acceleration
Auditory Nerve

12. P468(11/87)* Kovalev VYu, Tigranyan RA.
**Level of polyamines in the brain of rats undergoing long-term hypokinesia.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 86-87; 1986.
[10 references; 5 in English]

Neurophysiology, Polyamines, Cerebrum, Cerebellum, Medulla Oblongata
Rats
Immobilization; Psychology, Stress

13. P469(11/87)* Tigranyan RA, Vakulina OP.
**Response of the opioid system in sympathectomized rats to immobilization stress.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 87-89; 1986.
[14 references; 11 in English]

Neurophysiology, Opioid System, Adrenergic, Catecholaminergic
Rats, Male, Sympathectomized
Immobilization; Psychology, Stress

14. P472(11/87)* Yasnetsov VV, Drozd YuV, Shashkov VS, Ryumin YuI.
**On the emetic effects of enkephalin, beta-endorphin, and morphine in cats.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 93-95; 1986.
[9 references; 7 in English]

Neurophysiology, Endogenous Opioid Peptides, Enkephalin, Beta-endorphin, Morphine
Cats
Emetic Effects

15. P489(11/87)* Telezhnikov AV, Bazarov VG, Tsygankov VL, Kulikova MV, Mishchanchuk NS.
**A spectral representation of vestibular nystagmus.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1):71-73; 1987.
[3 references; none in English]

Neurophysiology, Vestibular Nystagmus
Humans
Mathematical Modeling, Spectral Analysis

16. P493(11/87)* Ovsyanik VP, Baykay EA, Gurik VV, Karimov RSh, Udovik SL, Kovalenko LS.
**The effect of specific stimulation of the vestibular system on medium latency acoustic evoked potentials.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 80-82; 1987.
[No references]

Neurophysiology, Medium Latency Acoustic Evoked Potentials
Humans, Individual Differences
Vestibular Tolerance, Rotation

17. P494(11/87)* Ovsyanik VP, Udovik SL.
**Long latency evoked potentials in human exposure to linear acceleration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 82-86; 1987.
[1 reference; none in English]

Neurophysiology, Cerebral Cortex, Long Latency Evoked Potentials
Humans, Patients, Vestibular Disorders
Linear Acceleration

**MONOGRAPH:**

18. M104(11/87) Meshman VF.
Vliyaniye vestibulyarnogo apparata na zritel'noy analizator
**[The effect of the vestibular apparatus on the visual system].**
Moscow: Nauka, 1986.
[87 pages; 431 references]
Affiliation: Book: Institute of Higher Nervous Activity and Neurophysiology, USSR Academy of Sciences

**Key Words:** Neurophysiology, Vestibular System; Perception, Visual System, Bioelectric Activity, Weightlessness

ISSUE 12

**PAPER:**

19. P521(12/87)* Podshivalov AA.
**The effect of stimulation of the vestibular apparatus on static physical work capacity [i.e., strength].**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 83-84; 1986.
[14 references; 1 in English]

Musculoskeletal System, Static Strength
Humans
Neurophysiology, Vestibular Stimulation

ISSUE 13

**PAPERS:**

20. P556(13/87)* Fedorov VP, Ushakov IB.
**Karyometric estimation of the reactions of neurons of the cerebral cortex to the combined effects of ionizing radiation, longitudinal acceleration, and vibration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 39-42; 1987.
[11 references: 3 in English]

Neurophysiology, Sensorimotor Cortex, Neurons
Rats
Radiobiology, Gamma-Radiation; Habitability and Environment Effects, Vibration, Acceleration, $+G_z$

21. P561(13/87)* Nalimova TA.
**Characteristics of nystagmus in individuals with regular occupational exposure to vibration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 59-62; 1987.
[14 references; 1 in English]

Neurophysiology, Nystagmus
Humans, Workers
Habitability and Environment Effects, Vibration, Long-term; Human Performance, Occupational Exposure

22.P567(13/87)* Matveyev AD.
**A history of development of methods for studying space motion sickness.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 83-88; 1987.
[59 references; 16 in English]

Neurophysiology, Space Motion Sickness
Humans, Cosmonauts
Review Article, Methods; Equipment and Insturmentation; Space Flight, Soyuz-8, -9, Soyuz-T-7, Soyuz-T-3, Soyuz-37, -38, -39, Salyut-6, -7

23.P585(13/87) Bryanov II, Gorgiladze FI, Kornilova LN, Tarasov IK, Yakovleva IYa.
**Sensory systems [of prime crews on "Salyut-6" flights]: Vestibular function.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
[**Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.**]
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 169-185 [58 references; 8 in English (whole chapter)]

Neurophysiology, Vestibular Function
Humans, Cosmonauts
Space Flight, Salyut-6, Soyuz

ISSUE 14

**PAPERS:**

24. P621(14/87) Viru AA, Tendzegol'skis ZhL, Karel'son KM, Alev KP, Smirnova TA.
**Relationship between changes in concentration of beta-endorphin and hormones in the blood during exercise.**
Voprosy Meditsinskoy Khimii.
33(3): 28-32; 1987.
[20 references; 15 in English]

Neurophysiology, Beta-endorphins; Endocrinology, Pituitary, Adrenal Cortex
Humans, Athletes, Patients
Physical Exercise

ISSUE 10

**PAPER:**

1. P412(10/87)* Kalandarov S, Bychkov VP, Frenkel' ID.
**Nutritional compensation for effects of hypokinesia and emotional stress on levels of histamine and serotonin.** [NB: although this is the title of the paper, nutritional compensation is only involved in the second experiment.]
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 31-34; 1986.
[14 references; 1 in English]

Neurophysiology, Histamine, Serotonin; Metabolism
Humans
Hypokinesia, Head-Down Tilt, Psychology, Stress; Nutrition, Vitamins, Mineral, Glucose, Phosphatides; Hypobaria

ISSUE 11

**PAPERS:**

2. P475(11/87) Gazenko OG.
**Space Medicine -- new approaches in the theory and practice of general medicine.**
Presentation made by the Soviet delegation at the 24th session of the Science and Technology Subcommittee, of the UN Committee on Peaceful Uses of Space.
UN, New York, February, 1987.

Translation of speech text.

**Key Words:** Nutrition, Trophology; Gastrointestinal System; Metabolism; Microbiology, Intestintal Microflora; Enzymology, Endocrinology, Peptide Hormones; Biospherics; Body Fluids; Equipment and Instrumentation; Operational Medicine, Space Medicine

3. P503(11/87) Sergeyev IN, Kim Ren Kha, Blazheyevich NV, Spirichev VB.
**The combined effects of vitamin D and E deficiency on calcium metabolism in bone tissue in rats.**
Voprosy Pitaniya.
87(1):39-43; 1987.
[18 references; 12 in English]

Metabolism, Calcium; Musculoskeletal System, Bone Tissue
Rats, Male
Nutrition, Vitamin D, Vitamin

ISSUE 12

**PAPER:**

4.P543(12/87)Sergeyev IN, Blazheyevich NV, Kaplanskiy AS, Shvets VN, Belakovskiy MS, Spirichev VB.
**A comparative study of the effects of 1,25-dihydroxyvitamin $D_3$ and 24,25-dihydroxyvitamin $D_3$ on calcium homeostasis and the state of bone tissue in rats undergoing hypokinesia.**
Voprosy Meditsinskoy Khimii.
33(1): 100-106; 1987.
[20 references; 13 in English]
Affiliation: Institute of Nutrition, USSR Academy of Medicine; Institute of Bio-medical Problems, USSR Ministry of Health.

Musculoskeletal System, Bone Tissue, Calcium Homeostasis; Developmental Biology
Rats, Male
Nutrition, Vitamin $D_3$; Hypokinesia

ISSUE 11

**PAPERS:**

1. P465(11/87)* Barer AS, Okhobotov AA, Sorokina YeI, Tardov VM.
**Pathological effects on the organs of the small pelvis after exposure to long periods of high +$G_z$ acceleration.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 81-82; 1986.
[No references]

Operational Medicine, Small Pelvis, Prostate
Humans, Males
Acceleration, Long-term, Centrifugation

2. P470(11/86)* Chadov VI, Tsivilashvili AS, Iseyev LR.
**Probability of developing altitude-decompression sickness as a function of duration of preliminary exposure to hypobaric atmosphere.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 30-33; 1987.
[19 references; 3 in English]

Operational Medicine, Decompression Sickness, Altitude; EVA Simulation
Humans
Adaptation, Hypobaria

**CONFERENCE REVIEW:**

3. CR5(11/87)* Salivon SG.
**Problems in evaluating human functional capacities and predicting health.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 12-17.

Report on: First All-Union Conference on "Problems of evaluating human functional capacities and predicting health," held in Moscow, 3-5 December, 1985.

**Key Words:** Operational Medicine, Health, Prediction; Human Performance, Functional Capacities; Adaptation, Extreme Conditions; Biological Rhythms; Biospherics, Environmental Factors; Equipment and Instrumentation; Immunology; Mathematical Modeling; Psychology

ISSUE 4

**PAPER:**

4. P580(13/87) Gazenko OG, Grigor'yev AI, Ilyin YeA, Kholin SF.
**Medilab - Design for a medical laboratory in space.**
Paper delivered at the 1987 NASA Space Life Sciences Symposium.
Washington DC, June 21-26.

Operational Medicine, Medilab
Equipment and Instrumentation
Space Flight, Mir

ISSUE 11

**PAPER:**

1. P500(11/87) Oshchepkov NA, Lyashchukova SM.
**The effects of light (color and brightness) on the visual system during performance of space craft orienting tasks.**
Psikhologicheskiy Zhurnal.
7(6): 46-49; 1986.
[9 references; none in English]

Perception, Visual Recovery Time; Human Performance, Astroorientation
Humans, Cosmonauts
Equipment and Instrumentation, Spacecraft Console, Visual Display, Brightness, Color, Duration
,,,X Visual Display, Brightness, Color, Duration

ISSUE 12

**PAPERS:**

2. P516(12/87)* Dantsig IN, Diyev AV.
**A study of critical flicker fusion frequency in humans exposed to noise.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 62-66; 1986.
[11 references; none in English]

Perception, Critical Flicker Fusion Frequency
Humans, Males
Habitability and Environment Effects, Noise

3. P528(12/87)* Vorob'yev OA, Ivanov VV.
**The formation of an image of spatial position under influence of illusions of vestibular origin.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 7-11; 1987.
[21 references; 4 in English]

Perception, Spatial Orientation
Humans, Pilots
Vestibular Illusions

ISSUE 13

**PAPERS:**

4. P582(13/87) Plyasova-Bakunina IA, Portnov VD.
**Sensory systems [of prime crews on "Salyut-6" flights]: Vision.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
**[Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.]**
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 163-165. [58 references; 8 in English (whole chapter)]

Perception, Vision; Human Performance
Humans, Cosmonauts
Space Flight, Salyut-6

5.P583(13/87) Yakovleva IYa, Nefedova MF.
**Sensory systems [of prime crews on "Salyut-6" flights]: Hearing.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
**[Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.]**
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 165-168. [58 references; 8 in English (whole chapter)]

Perception, Hearing; Human Performance
Humans, Cosmonauts
Space Flight, Salyut-6

6. P584(13/87) Nefedova MF, Yakovleva IYa.
**Sensory systems [of prime crews on "Salyut-6" flights]: Taste.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
**[Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.]**
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 168-169 [58 references; 8 in English (whole chapter)]

Perception, Taste
Humans, Cosmonauts
Space Flight, Salyut-6

ISSUE 14

**PAPER:**

7. P609(14/87)* Golobeva TI, Kuz'min MP.
**The effect of intermittent exposure to hypercapnia on visual functioning.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 78-80; 1987.
[4 references; none in English]

Perception, Visual Functioning; Adaptation
Humans
Hypercapnia

ISSUE 11

**PAPER:**

1. P473(11/87)* Vyadro MD, Bryanov II.
**Development of the Soviet system for medical selection of cosmonauts (hospital stage).**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 3-7; 1986.
[12 references; 6 in English]

Personnel Selection, Review Article; Cosmonaut Training
Humans, Cosmonauts
Operational Medicine, Medical Criteria, Stress Tests; Psychology, Selection Tests

ISSUE 12

**PAPER:**

2. P527(12/87)* Marishchuk VL, Yevdokimov VI.
**Theoretical basis for a social psychological selection system for flight crews.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 4-7; 1987.
[26 references; 5 in English]

Personnel Selection
Humans, Flight Crews
Psychology, Social Variables

ISSUE 13

**PAPERS:**

3. P552(13/87) Yevdokimov VI, Parkhomenko PP.
**[(Some aspects of) Social and psychological selection of flight school applicants.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(3): 23-26; 1987.
[9 references; none in English]

Personnel Selection, Flight School; Human Performance
Humans, Pilots
Psychology, Social and Psychological Traits

ISSUE 11

**PAPER:**

1. P499(11/87) Medvedev VI, Zav'yalova YeK, Polikarpova MV.
**The mechanism underlying voluntary and involuntary regulation of human performance under extreme conditions.**
Fiziologiya Cheloveka.
13(1): 90-95; 1987.
[9 references; none in English]
Authors' affiliation: S.M. Kirova Academy of Military Medicine, Leningrad.

Psychology, Learning, Conditioning, Voluntary and Involuntary Control; Human Performance
Humans
Sleep Deprivation; Drugs, Stimulants

**MONOGRAPH:**

2. M107(11/87) Khachatur'yants LS, Khrunov YeV.
Pobezhdaya Nevesomost'
[Conquering Weightlessness]
Moscow: Znaniye: 1985
[144 pages, 5 references]

**Key Words:** Psychology, Psychophysiology; Human Performance, Cosmonaut Performance

ISSUE 12

**PAPERS:**

3. P526(12/87)* Yevdokimov VI.
**A case study in evaluation of the psychological readiness of pilots for flight.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 89-93; 1987.
[5 references; none in English]

Personnel Selection, Projective Test; Human Performance
Humans, Pilots
Psychology, Flight Readiness

4. P547(12/87) Yevdokimov VI.
**A projective diagnostic test for the aviation profession.**
Voprosy Psikhologii.
1987(2): 142-146.
[13 references; none in English]

Personnel Selection, Projective Test; Human Performance
Humans, Aviation Professions
Psychology, Factor Analysis

ISSUE 13

**PAPER:**

5. P581(13/87) Simonov PV.
**Monitoring man's work capacity in aviation and space flight.**
Paper delivered at the NASA Space Life Sciences Symposium.
Washington DC, June 21-26, 1987.
Author's affiliation: Institute of Higher Nervous Activity and Physiology, USSR Academy of Sciences.

Human Performance, Work Capacity, Functional State
Humans, Pilots, Cosmonauts
Psychology, Motivations, Emotion, Stress, Uncertainty, Fatigue, Vigilance

ISSUE 10

**PAPERS:**

1. P432(10/87)* Sidyakin VG, Temur'yantz NA, Yevstaf'yeva YeV,
**Biochemical and morphological changes in the blood of rats exposed to a variable magnetic field in the infrared range.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(5): 90-91; 1986.
[9 references; 1 in English]

Hematology, Biochemical and Morphological Parameters; Adaptation
Rats
Radiobiology, Magnetic Field, Variable, Infrared

2. P448(10/87) Vladimirov VG, Kamenko IP, Poddubskiy GA, Smirnova SM, Tarnopol'skaya LG.
**Optimization of the composition of the radioprotective compound APAETP+ Mexamine and study of its action.**
Radiobiologiya.
XXVI(4):495-498; 1986.
[10 references; none in English]
Affiliation: S.M. Kirov Academy of Military Medicine, Leningrad

Radiobiology, Survival Rate
Mice, Male
Gamma Radiation; Radioprotection, Dose Optimization, APAETP, Mexamine; Mathematical Modeling

**MONOGRAPH:**

3. M98(10/87) Frenkel' LA, Kalmykov LZ, Lan'ko AI, et al. (Shantyr' VI, editor).
Radiobiologiya kostnoy tkani
[**Radiobiology of bone tissue**].
Moscow: Energoatomizdat; 1986.
[136 pages; 34 tables; 38 figures; 85 references]
Affiliation: Radiation Biochemistry Laboratory, Khar'kov Scientific Research Institute for Medical Radiology, Ukrainian Ministry of Health

**KEY WORDS:** Radiobiology; Musculoskeletal System, Bone Tissue, Mineralization; Developmental Biology; Metabolism

ISSUE 11

**PAPER:**

4. P462(11/87)* Pantev TP, Minkova MI (Bulgaria)
**Direct and indirect effects of a constant magnetic field on biological subjects.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 73-76; 1986.
[18 references; 2 in English]

Growth, Survival; Hematology, Leukocytes
Microbiology, Bacteria; Rats
Radiobiology, X-rays, Gamma-radiation; Radioprotective Effects, Constant Magnetic Field, Direct and Indirect Effects

5. P470(11/87)* Minkova MI, Pantev TP (Bulgaria).
**Radiosensitivity of intestinal bacilli after exposure to a constant magnetic field.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 90-91; 1986.
[9 references; 1 in English]

Radiobiology, Radiation Tolerance, Survival
Microbiology; Gastrointestinal System, B E. coli Bacteria
Ionizing Radiation; Radioprotective Effects, Constant Magnetic Field

6. P477(11/87)* Minkova MI, Pantev TP, Talash M, Batkay L (Bulgaria).
**Antiradiation effect of insoluble polyanion in prolonged exposure to gamma-irradiation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
20(6): 92-93; 1986.
[4 references; none in English]

Hematology, Spleen, Bone Marrow
Mice, Male
Radiobiology, Gamma-radiation; Radioprotective Effects, Polyanion

7. P484(11/87)* Fedorenko BS, Kabitsyna RA, Krivitskaya GN, Derevyagin VI, Ryzhov NI.
**[Study of the]Frequency of morphological changes in neurons in the cerebral cortex of rats exposed to accelerated carbon ions.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(1): 51-55; 1987.
[6 references; 2 in English]

Neurophysiology, Cerebral Neurons
Rats, Female
Radiobiology, HZE, Gamma Radiation

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**PAPERS:**

8. P517(12/87)* Vinogradova ZA.
**Changes over time in metabolism of non-collagen proteins in dogs exposed to 6 years of doses of gamma-radiation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 66-69; 1987.
[13 references; 3 in English)

Metabolism, Protein, Non-collagen; Musculoskeletal System
Dogs
Radiobiology, Gamma-irradiation, Long-term

9. P518(12/87)* Barannikov YuI, Barsykov OA, Gavrilov PF.
**Calculation of levels of ionizing radiation along the routes of high altitude aircraft flights.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(2): 69-73; 1987.
[11 references; 2 in English]

Radiobiology, Ionizing Radiation, Dose Rate
Mathematical Modeling
Aircraft, High Altitude Flights

10. P548(12/87) Govorun RD, Naconova YeA, Krasavin YeA, Kozubek S, Cherevatenko AP.
**Lethal effects of accelerated heavy ions on mammal cells treated with inhibitors of DNA synthesis.**
Radiobiologiya.
XXVII(2): 177-181; 1987.
[21 references; 12 in English]
Affiliation: Joint Institute for Nuclear Research, Dubna

Cytology, Mammal Cells
Chinese Hamsters
Radiobiology, Gamma-rays, HZE; DNA inhibitors

11. P549(12/87) Zherbin YeA, Lapin BA, Komar VYe, Barkaya VS, Konnova LA, Fedorov BA, Torua RA.
**Plasma proteinase inhibitors during the early stages of acute radiation sickness in monkeys.**
Radiobiology.
XXVII(2): 250-252; 1987.
[16 references; 2 in English]
Central Scientific Research X-ray and Scientific Research Institute, USSR Ministry of Health, Leningrad; Scientific Research Institute of Experimental Pathology and Therapy, USSR Academy of Medicine, Sukhumi

Hematology, Proteinase Inhibitors
Monkeys, Macacus nemestrinus
Radiobiology, Gamma-radiation

ISSUE 13

**PAPER:**

12. P579(13/87) Akatov YuA, Nevsgodina LV, Sakovich VA (USSR), Feher I, Deme Sh (Hungary), Khashchegan D(Romania).
**Radiation research in flight.**
In: Gurovskiy NN, editor.
Rezultaty Meditsinskikh Issledovaniy Vypolnennykh na Orbital'nom Nauchno-issledovatel'skom Komplekse "Salyut-6"-"Soyuz"
[**Results of Medical Research Performed on the "Salyut-6"-"Soyuz" Space Station Complex.**]
Moscow: Nauka; 1986. Abstract: Space Medicine: M112, this Digest Issue.
Pages: 335-348. [22 references; 6 in English]

Radiobiology, Dosimetry, HZE, Gamma-radiation
Botany, Lettuce, Seeds; Humans, Cosmonauts
Space Flight, Salyut-6

ISSUE 14

**PAPERS:**

13. P611(14/87)* Grigor'yev YuG, Stepanov VS, Batanov GB, Beskhlebnova LI, Mityayeva ZYa, Paramonov AA, Salimov RM.
**The combined effects of microwave and ionizing radiation.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 4-9; 1987.
[8 references; 3 in English]

Radiobiology, Bioeffects; Psychology, Behavior, Imprinting; Immunology
Review Paper, Rats, Chicks
Microwaves, Ionizing Radiation, Combined Effects

14. P612(14/87) Fedorenko BS, Savchenko NYa, Vorozhtsova SV. Gerasimenko VN, Kabachenko AN, Portman AI.
**Biological effectiveness of helium ions and protons of relativistic energy.**
Radiobiologiya, XXVII(4): 339-343; 1987.
[5 references; none in English]
Authors' affiliation: Institute of Biomedical Problems

Radiobiology, Biological Effectiveness; Hematology, Lymphocytes; Cytology; Genetics, Chromosome Damage; Reproductive Biology, Spermatosomes
Human Blood, Mice, Rats
Helium Ions, Relativistic Energy

15. P615(14/87) Shubik VM, Levin MYa, Mashneva NI, Pul'kov.
**Combined effects of ionizing radiation and physical exercise on certain parameters of nonspecific protection and immunity.**
Radiobiologiya.
XXVII(4): 548-550; 1987.
[1 reference; none in English]
Authors affiliation: Leningrad Scientific Research Institute of Rational Hygiene, USSR Ministry of Health

Immunology, Non-specific Protection, Humoral, Cellular
Rats, Mice
Radiobiology, Ionizing Radiation; Physical Exercise

16. P563(14/87)* Popov AV, Bochenkov AA, Ivnitskiy YuYu, Volkovskiy YuV.
**The effects of pyrocetam on mice's tolerance of hypoxic hypoxia 2-3 months after irradiation with X-rays.**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 64-66; 1987.
[14 references; 4 in English]

Radiobiology, Hypoxia, Tolerance; Neurophysiology, Brain Bioenergetics
Mice, Male
Pharmacological Countermeasures, Pyrocetam

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**MONOGRAPH:**

1. M113(13/87) No author or editor cited.
Voprosy biologii v trudakh K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy kosmonavtike: Trudy XVIII-XIX chtenii, posvyashchennykh razrabotke nauchnogo nasledii i razvitiyu idey K.E. Tsiolkovskogo (Kaluga, 1983, 1984)
[**Biological issues in the works of K.E. Tsiolkovskiy and their development in modern cosmonautics: Papers presented at the XVIII-XIXth lecture series dedicated to further development of the ideas of K.E. Tsiolkovskiy** ]
Moscow: 1985.

**KEY WORDS:** Space Biology, Space Medicine, Space Flight, Salyut-7, Gravitational Tolerance, LBNP, Hypokinesia with Head-down Tilt, Cardiovascular and Respiratory Systems, Hemodynamics, Immunology, Habitability and Environmental Effects, Hermetically Sealed Cabin, Vibration, Equipment and Instrumentation, Musculoskeletal System, Physical Exercise, Human Performance, Flight Performance, Life Support Systems, Greenhouse, Metabolism, Operational Medicine, Psychology, Stress, Hyperbaria, Hypobaria

ISSUE 14

**PAPERS:**

2. P592(14/87)* Gazenko OG, Il'in YeA, Savina YeA, Serova LV, Kaplanskiy AS, Smirnov KV, Konstantinova IV.
**Experiments on rats flown on the "Cosmos-1667" biosatellite: Major goals, experimental conditions and results)**
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 9-16; 1987.
[15 references; 1 in English]

Space Biology, Body Fluids, Endocrinology, Enzymology, Gastrointestinal System, Hematology, Immunology, Metabolism, Musculoskeletal System, Metabolism, Reproductive Biology
Rats
Space Flight, Short-term, Cosmos-1667; Adaptation, Weightlessness

**CONFERENCE REVIEW:**

3. CR7(14/87)* Enes AE, Kovalev VYu.
**Eighth All-Union Conference on Space Biology and Aerospace Medicine.**
In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
21(4): 90-94; 1987.
**KEY WORDS:** Space Biology, Space Medicine, Adaptation, Body Fluids, Botany, Cardiovascular and Respiratory Systems, Developmental Biology, Enzymology, Habitability and Environment Effects, Human Performance, Immunology, Life Support Systems, Metabolism, Microbiology, Musculoskeletal Systems, Neurophysiology, Operational Medicine, Perception, Personnel Selection, Psychology, Space Flight, Soyuz-T, Salyut-7, Biofeedback, Hypokinesia with Head-Down Tilt, Space Motion Sickness, LBNP, Physical Exercise, Accleration

ISSUE 13

**PAPERS:**

1. P573(13/87) Grigor'yev AI, Stepantsov VU, Tishler VA, Mikhaylov VM , Pometov YuD, Dorokhova VR.
**Means and methods for preventing the undesirable effects of weightlessness.**
In: Gurovskiy NN, editor,
Razul'taty meditsinskikh issledovaniy vypolnennykh na orbital'nom nauchno-issledovatel'skom komplekse "Salyut-6"-"Soyuz"
**[Results of medical research performed on board the "Salyut-6"-"Soyuz" orbital scientific research complex]**
Moscow: Nauka; 1986; pages 125-145.
[47 references; 3 in English]

Space Medicine; Musculoskeletal System, Muscle Atrophy; Cardiovascular and Respiratory System, Cardiac Deconditioning; Human Performance, Adaptation
Humans, Cosmonauts
Space Flight, Salyut-6, EVA; Prophylactic Measures, Physical Exercise; Equipment and Instrumentation; LBNP; Body Fluids, Fluid and Salt Supplements, Drugs
Space Medicine; Musculoskeletal System, Muscle Atrophy; Cardiovascular and Respiratory System, Cardiac Deconditioning; Human Performance, Adaptation
Humans, Cosmonauts
Space Flight, Salyut-6, EVA; Prophylactic Measures, Physical Exercise; Equipment and Instrumentation; LBNP; Body Fluids, Fluid and Salt Supplements, Drugs

2. P574(13/87) Gazenko OG, Yegorov AD.
**Preliminary results of medical research during a 211-day space flight.**
In: Voprosy biologii v trudakh K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy kosmonavtike: Trudy XVIII-XIX chtenii, posvyashchennykh razrabotke nauchnogo nasledii i razvitiyu idey K.E. Tsiolkovskogo (Kaluga, 1983, 1984)
**[Biological issues in the works of K.E. Tsiolkovskiy and their development in modern cosmonautics: Papers presented at the XVIII-XIXth lecture series dedicated to further development of the ideas of K.E. Tsiolkovskiy (Kaluga: 1983, 1984)]**
Moscow: 1985; pages 3-15.

Space Medicine, Body Fluids, Cardiovascular and Respiratory System, Endocrinology, Enzymology, Hematology, Immunology, Musculoskeletal System, Psychology, Human Performance, Metabolism
Humans, Cosmonauts
Salyut-7, 211-day Flight
Space Medicine, Body Fluids, Cardiovascular and Respiratory System, Endocrinology, Enzymology, Hematology, Immunology, Musculoskeletal System, Psychology, Human Performance, Metabolism
Humans, Cosmonauts
Salyut-7, 211-day Flight

**MONOGRAPH:**

3. M112(13/87) Gurovskiy NN, editor,
Razul'taty meditsinskikh issledovaniy vypolnennykh na orbital'nom nauchno-issledovatel'skom komplekse "Salyut-6"-"Soyuz"
[**Results of medical research performed on board the "Salyut-6"-"Soyuz" orbital scientific research complex**]
Moscow: Nauka; 1986.
[398 pages; 64 tables; 70 figures]
Affiliation: Institute of Biomedical Problems, USSR Ministry of Health

**KEY WORDS:** Space Medicine, Salyut-6-Soyuz, Operational Medicine, Medical Support, Personnel Selection, Habitability and Environmental Effects, Radiobiology, Radiation Safety, Dosimetry, HZE, Microbiology, Automicroflora, Bacteria, Yeast, Cardiovascular and Respiratory Systems, Heart Rhythm, Hemodynamics, Gastrointestinal System, Physical Exercise, Perception, Vision, Hearing, Taste, Neurophysiology, Vestibular System, Psychology, Cosmonaut Reliability, Psychological Support, Work-Rest Schedules, Equipment and Instrumentation, Human Performance, Work Capacity, Life Support Systems, Microclimate, Biological Rhythms, Diurnal Rhythms, Body Fluids, Fluid-Electrolyte Metabolism, Botany, Lettuce, Chlorella, Cytology, Endocrinology, Nutrition, Musculoskeletal System, Metabolism

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**MONOGRAPHS:**

4. M116(14/87) Gazenko OG (editor).
Kosmicheskaya Biologiya i Meditsina: Rukovodstvo po Fiziologii [**Space Biology and Medicine: A Physiological Manual**]
Moscow: Nauka; 1987.
[320 pages; 35 illustrations; 18 tables]
Author's Affiliation: Institute of Biomedical Problems

**KEY WORDS:** Space Biology, Space Medicine, Adaptation, Botany, Cosmonaut Training, Developmental Biology, Habitability and Environment Effects, Life Support Systems, Microbiology, Nutrition, Operational Medicine, Personnel Selection, Psychology, Radiobiology, Countermeasures, Space Flight, Space Suits, EVAs, Insects

5.M117(14/87) Gazenko OG (editor).
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina: Tezisy dokladov VIII Vsesoyuznoy Konferentsii, Kaluga, 25-27 June 1986 [**Space Biology and Aerospace Medicine: Abstracts of papers delivered at the VIIIth All-Union Conference, Kaluga 25-27 June 1986**]. See CR7, this digest issue.
Moscow: Nauka; 1986.
[391 pages]
Affiliation (Conference): Scientific Council on "Space Biology and Physiology," USSR Academy of Sciences: Institute of Biomedical Problems, USSR Ministry of Health, KE Tsiolkovskiy State Museum on the History of Cosmonautics

**KEY WORDS:** Space Biology, Adaptation, Body Fluids, Botany, Cardiovascular and Respiratory Systems, Developmental Biology, Enzymology, Habitability and Environment Effects, Human Performance, Immunology, Life Support Systems, Metabolism, Microbiology, Musculoskeletal Systems, Neurophysiology, Operational Medicine, Perception, Personnel Selection, Psychology, Space Flight, Soyuz-T, Salyut-7, Biofeedback, Hypokinesia with Head-Down Tilt, Space Motion Sickness, LBNP, Physical Exercise, Acceleration

## KEY WORD INDEX OF USSR SPACE LIFE SCIENCES DIGEST ISSUES 10-14 (1987)

(Numbers listed after key words refer to page numbers in this index where bibliographic citations of relevant abstracts can be found. Category names appear in boldface. Page numbers directly after a category name refer to the listing for that category; other page numbers refer to listings in other categories where category name is cited as a key word.)

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15. Supplementary Notes

16. Abstract

This document provides an index to issues 10-14 of the USSR Space Life Sciences Digest. There are two sections. The first section lists bibliographic citations of abstracts contained in the Digest issues covered grouped by topic area categories. The second section provides a key word index for the same set of abstracts.

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