

# NASA Contractor Report 3922(06)

NASA-CR-3922(06)  
19860016499

## USSR Space Life Sciences Digest

*Index to Issues 1-4*

Ronald Teeter and Lydia Razran Hooke

CONTRACT NASW-3676  
JUNE 1986

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# USSR Space Life Sciences Digest

*Index to Issues 1-4*

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*Washington, D.C.*

Prepared for  
NASA Office of Space Science and Applications  
under Contract NASW-3676



National Aeronautics  
and Space Administration

**Scientific and Technical  
Information Branch**

1986

### NOTE FROM THE EDITORS

The document herein is intended as an appendix to issues 1 through 4 of the USSR Space Life Sciences Digest. It is arranged in three sections. In Section 1, abstracts from the first four issues are grouped according to subject; please note the four-letter codes in the upper right hand corner of the pages. Section 2 lists the categories according to which Digest entries are grouped and cites additional entries relevant to that category by four-letter code and entry number in Section 1. Please refer to Section 1 for titles and other pertinent information. Key words are indexed in Section 3. Where only codes are listed, with no specific entry numbers, all or most of the abstracts in that area are considered relevant to the key word.

USSR

SPACE LIFE SCIENCES DIGEST

INDEX

ISSUES 1 THROUGH 4

USSR SPACE LIFE SCIENCES DIGEST INDEX

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SECTION 1

USSR SPACE LIFE SCIENCES DIGEST

AREAS OF INTEREST

ISSUES 1 THROUGH 4

ADAP	Adaptation
BIOR	Biological Rhythms
BIOS	Biospherics
BODF	Body Fluids
BOTA	Botany
CDRS	Cardiovascular and Respiratory Systems
CYBM	Cybernetics/Biomedical Data Processing
DEVE	Development
ENDO	Endocrinology
EXOB	Exobiology
GAST	Gastrointestinal System
GENE	Genetics
GRAV	Gravitational Biology
GPDY	Group Dynamics
HAEN	Habitability/Environment Effects
HEAL	Health and Medical Treatment
HEMA	Hematology
HIST	Histology
HUPF	Human Performance
IMMU	Immunology
LFSP	Life Support Systems
MAMC	Man-Machine Systems
MATH	Mathematical Modeling
META	Metabolism
MICR	Microbiology
MPHC	Morphology and Cytology
MUSC	Musculoskeletal System
NEUR	Neurophysiology
NUTR	Nutrition
PERC	Perception
PERS	Personnel Selection
PSYC	Psychology
RADI	Radiobiology
REPR	Reproductive System
SPBI	Space Biology
SPPH	Space Physiology

## ADAPTATION

### ISSUE 2

1. P52(8/85) Bobrov LL. Effect of the adaptation facilitator bemityl on seasonal and diurnal fluctuation in the physical work capacity of people stationed in the Antarctic. Informativnyy Byulleten' Sovetskoy Antarkticheskoy ekspeditsii. 105: 59-64; 1984.

Adaptation, Drugs  
Humans, Antarctic Regions  
Performance, Physical Work Capacity

2. M15(8/85) Soroko SI. Neyrofiziologicheskiye mekhanizmy individual'noye adaptatsii cheloveka v antarktide [Neurophysiological mechanisms of individual adaptation to the antarctic in humans]. Leningrad: Nauka; 1984.

Key words: Adaptation, Antarctic conditions, Neurophysiology, Biofeedback, Psychology, Performance

### ISSUE 4

3. P145(12/85) Kolenda YuV, Vovchuk SV, Levitskiy AR. Effect of kallikrein on the development of the general adaptive syndrome. Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya. 1985(4):52-54.

Adaptation, General, Stress  
Rats  
Countermeasures, Kallikrein; Immobilization

BIOLOGICAL RHYTHMS

ISSUE 4

1. M49(12/85) Alyakrinskii BS, Stepanova SI; [Volume editor: O.G. Gzenko]. Po zakony ritma [Following rhythm's law]. Moscow: Nauka; 1985.

Key Words: Biorhythms: Human Performance, Job Performance, Cosmonauts, Cosmonaut Schedules



## BIOSPHERICS

## ISSUE 2

1. M25(8/85) Afanas'yev YuA, editor. Izucheniye prirodnykh resursov i okruzhayushchey sredy kosmicheskimi sredstvami [The study of natural resources and the environment from space]. Leningrad: Gidrometeoizdat, 1984.

Key Words: Biospherics, Natural Resources, Environment, Remote Sensing, Satellite Data

2. M26(8/85) Tishchenko AP, Viktorov SV (Kozlov NP, editor). Priroda zemli uz kosmosa [Earth's natural resources from space]. Leningrad: Gidrometeoizdat, 1984.

Key Words: Biospherics, Remote Sensing Data, Vegetation Oceanography, Earth Resources

## ISSUE 3

3. M30(10/85) Kaznacheyev VP, editor in chief. Prognoz antropoekologicheskoy situatsii s pomoshch'yu kosmicheskikh sredstv: Materialy Pervogo Vsesoyuznogo soveshchaniya po kosmicheskoy antropoekologii [Predicting anthropoecological situations using data obtained in space: Proceedings of the First All-Union Conference on Space Anthropeocology], Novosibirsk, 1982. Leningrad: Nauka; 1982.

Key Words: Biospherics, Remote Sensing Data, Ecology, Human Impact, Natural Resources, Public Health, Desertification, Epidemiology, Salyut-6

4. M31(10/85) Kaznacheyev VP, editor-in-chief. Kosmicheskiye issledovaniya antropoekologicheskoy situatsii Sibiri i Dal'nego Vostoka: Materialy Pervogo Vsesoyuznogo soveshchaniya po kosmicheskoy antropoekologii [Use of data obtained in space to study anthropoecological conditions in Siberia and the Far East: Proceedings of the First All-Union Conference on Space Anthropeocology], Novosibirsk, 1982. Leningrad: Nauka; 1982.

Key Words: Biospheris, Remote Sensing Data, Ecology Human Impact, Natural Resources, Public Health, Epidemiology, Salyut-6

## ISSUE 4

5. P147(12/85) Vinogradov BV. Aerospace methods in ecological prediction. Priroda. 1985(7): 13-23.

Biospherics  
Review Article  
Ecological Prediction

6. M52(12/85) Krasnogorskaya NV, Fokin AV, Laskorin BN, editors. Electromagnitnyye polya v biosfere. Tom I: Electromagnitnyye polya v atmosfere zemli i ikh biologicheskoye znachenie [Electromagnetic fields in the biosphere. Volume I: Electromagnetic fields in the atmosphere of Earth and their biological significance]. Moscow: Nauka; 1984.

Key Words: Biospherics, Electromagnetic Fields, Solar Activity, Anthropogenic Effects; Cardiovascular System, Modeling

7. M53(12/85) Krasnogorskaya NV, Fokin AV, Kaznachev VD, editors. Electromagnitnyye polya v biosfere. Tom II: Biologicheskoye deystviye elektromagnitnykh poley [Electromagnetic fields in the biosphere. Volume II: The biological effects of electromagnetic fields] Moscow: Nauka; 1984.

Key Words: Biospherics, Electromagnetic Fields, Adaptation, Metabolism, Enzymology, Biorhythms, Modeling, Health and Medical Treatment

## BODY FLUIDS

## ISSUE 2

1. P67(8/85)\* Grigor'yev AI, Dorokhova BP, Semenov VYu, Morukov BV, Baychorov EO, Skukina IS, Afonin BV. Fluid-electrolyte metabolism and renal function in cosmonauts after an 185-day space flight. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 21-27; 1985.

Body Fluids, Mineral Metabolism; Also Endocrinology  
Humans, Cosmonauts  
Space Flight, Salyut-6

2. M19(8/85) Natochin YuV. Problemy evolyutsionnoy fiziologii vodno-solevogo obmena [Problems in the evolutionary physiology of fluid-electrolyte exchange]. Paper read at the IVth Lecture dedicated to L.A. Orbeli, 29 October 1982. Leningrad: Nauka; 1984.

Key Words: Body Fluids, Fluid Electrolyte Exchange

## ISSUE 3

3. P122(10/85)\* Yunusov MA, Orlov VN, Vinokhodova TV. The effect of "dry" immersion on indicators of fluid-electrolyte exchange and levels of aldosterone and hydrocortisone in the blood plasma of individuals with varying levels of total body water. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina, 19(4):42-45; 1985.

Body Fluids, Fluid-electrolyte Exchange, Aldosterone  
Humans, Edema  
Hypokinesia, Immersion

4. P132(10/85)\* Simonov LG, Rosenblyum LA, Bogdanova NN. Information derivable from echo-signals produced by pulsed ultrasound scanning of the brain (simulation study). Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4):83-85; 1985.

Body Fluids, Intracranial Fluid Shifts  
Model, Analogue  
Ultrasound Scanning

5. P133(10/85)\* Krotov BP, Bazunova YeG, Kulayev BS. Exploration of the potential for using dual frequency impedance plethysmography for determining the ratio between total and extracellular fluids in the body. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4):86-89; 1985.

Body Fluids, Total and Extracellular Fluids  
Rats  
Impedance Plethysmography, Dual Frequency

6. P91(10/85) Semenov VYu, Aleksandrova YeA. Changes in fluid-electrolyte exchange early in an immersion period at different times of day. *Fiziologiya Cheloveka*. 11(3): 499-503; 1985.

Body Fluids, Fluid-electrolyte Balance  
Humans  
Immersion, Biological Rhythms

7. P92(10/85) Monin YuG, Goncharevskaya OA, Izmaylova NP, Mlodik YeYa. The effect of various low-calorie diets on fluid-electrolyte homeostasis. *Fiziologiya Cheloveka*. 11(3): 511-521; 1985.

Body Fluids, Fluid-electrolyte Balance  
Humans, Males  
Nutrition, Diets, Low Calorie

8. M28(10/85) Lebedev AA. *Diuretiki i krovoobrashcheniye* [Diuretics and circulation]. Moscow: Meditsina; 1984. [208 pages; 14 tables; 21 illustrations; 217 references; 77 in English]

Key Words: Body Fluids, Fluid-Electrolyte Exchange,  
Diuretics, Cardiovascular Systems, Circulation Disorders,  
Endocrinology, Renin-Aldosterone, Catecholamine

9. BR4(10/85) Leybson L. Review of: Natochin YuV. *Problemy evolyutsionnoy fiziologii vodno-solenogo obmena*. [Problems in the evolutionary physiology of fluid-electrolyte exchange]. Leningrad: Nauka; 1984; 34 p. In: *Zhurnal Evolyutsionnoy Biokhimii i Fiziologii*. XXI(2): 210-212. See BODF2 (M19).

Key Words: Body Fluids, Fluid Electrolyte Exchange

#### ISSUE 4

10. P156(12/85)\* Noskov VB, Kozyrevskaya GI, Morukov BV, Artamasova YeM, Rustam'yan LA. Body position during hypokinesia and its effects on fluid-electrolyte exchange. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(5): 31-34.

Body Fluids, Fluid-electrolyte Exchange  
Humans, Males  
Hypokinesia, Horizontal, Head-down Tilt

## BOTANY

## ISSUE 1

1. P24(6/85)\* Safonkin AF. The effect of substrate moisture content on growth and leaf structure of corn. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 1985; 19(2): 94-96.

Botany  
Higher Plants, Corn  
Moisture

## ISSUE 2

2. P80(8/85)\* Maksimova YeN. The effect of heavy charged particles (HZE) of galactic cosmic radiation on seeds. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(3):71-74; 1985.

Botany, Cell Mutations; Also Radiobiology  
Lettuce, Seeds  
Radiation, HZE

3. P63(8/85) Vikhrov AI, Kovalev YeYe, Maksimova YeN, Nevzgodina LV, Potapov YuV. Cytogenic changes in cells of lettuce seedlings during irradiation with a beam of accelerated carbon nuclei. *Radiobiologiya*. XXV(1): 24-28; 1985.

Botany, Cells; Also Radiobiology  
Lettuce, Seeds  
Radiation, Heavy Nuclei

4. M16(8/85) Sytnik KM, Kordyum YeL, Nedukha YeM, Sidorenko PG, Fomicheva VM. *Rastitel'naya kletka pri izmenenii geofizicheskikh faktorov* [The plant cell under altered geophysical conditions]. Kiev: Naukova Dumka; 1984.

Key Words: Botany, Lower and Higher Plants, Cytology, Space flight Factors, Weightlessness, Vibration, Magnetic Fields, Clinostasis, Space Flight Simulation

## ISSUE 4

5. P178(12/85) Laurinavichyus RS, Yaroshus AV, Radzyavichus G. A methodology for setting up experiments on the significance of gravity in plant growth and development processes. In Dubinin NP, editor, *Biologicheskkiye issledovaniye na orbital'nykh stantsiyakh "Salyut"* [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 15-20. (See SPPH #1 -- M5)

Botany, Growth and Development  
Experimental Methods and Equipment  
Space Flight, Salyut

6. P179(12/85) Merkis AI, Laurinavichyus RS, Shvyazhdene DV. Spatial orientation and growth of plants under weightlessness and in an artificial gravity field. In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 72-81. See SPPH1 (M5).

Botany, Orientation and Growth  
Lettuce and Cress  
Space Flight, Salyut; Weightlessness; Artificial Gravity

7. P181(12/85) Laurinavichyus RS, Yaroshyus AV, Marchyukaytis A, Shvyagzhdene DV, Mashinskiy AL. Metabolism of pea plants grown under space flight conditions. In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 96-81. See SPPH1 (M5).

Botany, Metabolism  
Pea  
Space Flight, Salyut

## CARDIOVASCULAR AND RESPIRATORY SYSTEMS

## ISSUE 1

1. P6(6/85)\* Dartsmeliya VA, Belkaniya GS. Typology of hemodynamic state of healthy individuals during tilt tests. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 26-32; 1985.

Cardiovascular and Respiratory Systems, Hemodynamics  
Humans, Typology  
Orthostatic Tolerance, Tilt Tests

2. P8(6/85)\* Kabesheva TA, Kopanev SV, Panferova NYe, Zavadovskiy AF. Mechanisms underlying vascular adaptation to head-down tilt, Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 1985.

Cardiovascular System, Peripheral Circulation  
Humans, Men  
Head-down Tilt and Hypokinesia, Adaptation Training

3. P9(6/85)\* Sokolov VI. Cerebral hemodynamics and ventricular function during head-down tilt of  $-15^{\circ}$ , Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 39-42; 1985.

Cardiovascular and Respiratory System, Cerebral Hemodynamics and Ventricular Function  
Humans, Men, Typology  
Head-down Tilt

4. P10(6/85)\* Genin AM, Baranov VM, Shabel'nikov VG, Acyamolova NM, Kotov AN, Volkov MYu, Yurova KS, Poleshchuk AT. The influence of short-term hypokinesia with head-down tilt on the dynamics of cardiorespiratory indices during an incremental exercise test, Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 43-46; 1985.

Cardiovascular and Respiratory Systems, Physical Work Capacity  
Humans, Males  
Hypokinesia, Head-down Tilt, Physical Exercise

5. P25(6/85) Meyerson FZ, Katkova LS, Malyshev VV. Comparison of the effects of preliminary adaptation to moderate exercise and of short-term stress on disruption of cardiac contractile functions in response to long-term stress. Kardiologiya. XXV(2): 74-77; 1985.

Cardiovascular and Respiratory Systems, Myocardium  
Rats  
Stress, Exercise



6. P26(6/85) Nepomnyashchikh LM, Kolesnikova LV, Nepomnyashchikh GI. Myocardial tissue organization in rats under hypokinesia (a stereological investigation). Arkhiv Anatomii, Gistologii i Embriologii. 88(1): 57-62; 1985.

Cardiovascular and Respiratory Systems, Myocardium; Also  
Morphology and Cytology  
Rats  
Immobilization

7. P29(6/85) Palets BL, Popov AA, Tikhonov MA, Arkhangel'skiy DYu. Hemodynamics under gravitational loading (mathematical model). Fiziologiya Cheloveka. 11(2): 185-191; 1985.

Cardiovascular and Respiratory Systems, Hemodynamics  
Mathematical Models  
High-Gravity Environments; Head-down Tilt

8. P49(6/85) Desova AA, Korotkiy VF, Belova II, and Zhuravel' AA. Identification of additional features in the peripheral pulse signal providing information about the functional state of a human operator. Fiziologiya Cheloveka. 11(2): 192-200; 1985.

Cardiovascular and Respiratory Systems, Pulse; Also Health and  
Medical Treatment, Diagnosis  
Humans, Operators  
Mental Complexity, Stress

## ISSUE 2

9. P55(8/85) Karabayeva AK, Milovanov AP. Morphometric changes in the pulmonary bronchial tree of rats in response to high altitude and post-adaptation. Zdravokhraneniye Kirgizii. 1985(2): 25-26.

Cardiovascular and Respiratory Systems, Lungs; Also Morphology  
and Cytology  
Rats  
High Altitude, Adaptation

10. P56(8/85) Moldotashev IK, Tilis YuA, Tenenbaum, AM. Non-invasive evaluation of the mitral regurgitation volume and pumping function of the left ventricle of the heart. Zdravokhraneniye Kirgizii. 1985(2): 27-29.

Cardiovascular and Respiratory Systems, Mitral Regurgitation; Also  
Health and Medical Treatment  
Humans, Patients  
Health and Medicine, Diagnosis, Non-invasive

11. P68(8/85)\* Kotovskaya AR, Dimitrov DG, Luk'yanyuk VYu, Vil'Vil'yams IF, Golovkina OL, Andreyeva VG, Artamonova NP, Kuz'min MP (Bulgaria, USSR). Tolerance of healthy and arteriosclerotic middle-aged subjects to  $+G_z$  and  $+G_x$  acceleration. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 27-31; 1985.

Cardiovascular and Respiratory Systems, Tolerance  
Humans, Patients, Arteriosclerosis  
Acceleration, Centrifugal

12. P70(8/85)\* Vol'vach SI, Kovalenko YeA, Ponomarev SI, Gabyshev VK, Nikiforov VI, Kulev AP, Arkhipov VV. Oxygen supply and regional circulation in the gingival mucosa in response to lower body negative pressure. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 33-37; 1985.

Cardiovascular and Respiratory Systems, Peripheral Circulation  
Humans, Males  
Lower Body Negative Pressure

13. P71(8/85)\* Fomin IO, Orlov VN, Radzevich AE, Leksin GS. The effect of immersion in water on central hemodynamic parameters in individuals over 45. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 1985; 19(3):37-40.

Cardiovascular and Respiratory Systems, Blood Pressure  
Humans, Patients, Arterial Hypertension, Middle-aged  
Water Immersion

14. P78(8/85)\* Bednenko VS, Polyakov VN, Dvornikov MV, Stepanov VK, Kozlov AN. The effect of acute hypoxia on coronary and systemic circulation. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):64-68; 1985.

Cardiovascular and Respiratory Systems, Coronary Circulation  
Humans  
Hypoxia

15. P85(8/85)\* Kazakova PT, Yurenev AP, Kulayev BS, Nazin AN, Shevchenko YuV. Results of echocardiographic examinations of Macaca mulatta at rest. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 1985; 19(3): 81-84.

Cardiovascular and Respiratory Systems, Echocardiography; Also Health  
and Medicine  
Primates, Macaca mulatta  
Validation

16. M18(8/85) Breslav IS. Patterny dykhaniye: Fiziologiya, ekstremal'nyye coctoyaniya, patologiya [Patterns of respiration: Physiology, extreme conditions, pathology]. Leningrad: Nauka; 1984.

Key Words: Cardiovascular and Respiratory Systems, Stress,  
Sleep - Wakefulness, Hypoxia, Hypobaria

## ISSUE 3

17. P131(10/85)\* Bryantsev LA, Mikhenko AYe. Evaluation of human physical work capacity under hyperbaric conditions. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina, 19(4):11-19; 1985.

Cardiovascular and Respiratory Systems, Physical Work Capacity  
Humans, Divers  
Hyperbaria

18. P119(10/85)\* Vol'vach SI, Kovalenko YeA, Voronin LI, Ulyatovskiy NV, Gabyshev VK, Nikiforov VI, Arkhipov VV. Oxygen balance and regional circulation in the gingival mucosa during exposure to positive  $+G_z$  acceleration in the head-pelvis direction. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 31-35; 1985.

Cardiovascular and Respiratory Systems, Impedance Plethysmography,  
Polarography  
Humans, Males  
Acceleration Stress, Countermeasures

19. P134(10/85)\* Sokolova IV, Khrashcheva LA. Automated measurement of cardiac output by means of impedance plethysmography of the trunk. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4):89-90; 1985.

Cardiovascular and Respiratory System, Cardiac Output, Impedance  
Plethysmography  
Humans  
Biomedical Data Processing and Cybernetics, Automated Program;

20. P126(10/85)\* Katkov AYu, Vyazova YeP, Chabdarova RN, Krikun IS, Kudryashova ZhM. Tolerance to sudden onset hypoxic hypoxia in humans. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 57-60; 1985.

Cardiovascular and Respiratory Systems  
Humans, Typology  
Hypoxia, Rapid Onset

21. P97(10/85) Bunyatyan AM, Mar'yan KL, Kargina-Terent'yeva. Changes in cardiovascular functions and adrenergic cardiac innervation in response to immobilization stress. Fiziologicheskiy Zhurnal SSSR imeni I.M. Sechenova. LXXI(5):581-586; 1985.

Cardiovascular and Respiratory Systems, Innervation; Also  
Endocrinology, Adrenal Gland  
Rats, Typology  
Immobilization Stress

22. P94(10/85) Vinogradov AV, Sycheva Im, Rylova AK. Clinical value of using scintigraphy with  $^{99}\text{Tm}$ -pyrophosphate in conjunction with a bicycle ergometric exercise test. *Kardiologiya*. XXV(5): 9-14; 1985.

Cardiovascular and Respiratory Systems, Myocardium; Also Health and Medical Treatment  
Humans, Patients, Heart Disease  
Scintigraphy

23. P93(10/85) Meyerson FZ, Dolgikh VT, Smolentseva VN, Batrachenko YeR. Prevention of metabolic disorders and impairment of heart muscle functioning in response to immobilization by means of preliminary adaptation to short periods of stress. *Voprosy Meditsinskoy Khimii*. 31(3): 41-45: 1985.

Cardiovascular and Respiratory Systems, Myocardia; Also Adaptation  
Rats  
Stress, Immobilization; Pre-adaptation

24. M33(10/85) Lipovetskiy BM. *Funcstional'naya otsenka koronarnogo krovotoka u cheloveka (Methody fiziologicheskikh issledovaniy)* [Functional evaluation of coronary circulation in humans (Methods for physiological studies)]. Leningrad: Nauka; 1985.

Key Words: Cardiovascular and Respiratory Systems, Coronary Circulation, Health and Medical Treatment, Diagnosis, Ischemia, Physical Stress Tests, Provocative Test

#### ISSUE 4

25. P158(12/85)\* Orlov VN, Fomin IO, Radzevich AE, Leskin GS. The effect of breathing pressurized air during immersion in water on hemodynamics in patients with borderline arterial hypertension. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(5): 39-41.

Cardiovascular and Respiratory Systems, Hemodynamics  
Humans, Patients, Hypertension  
Hyperkinesia, Immersion; Pressure Breathing

26. P159(12/85)\* Krasnykh IG, Gaydamakin NA, Petrukhin VG. Functional [determined using X-rays] and pathological morphological changes in the hearts of dogs undergoing six months of hypokinesia. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(5): 41-45.

Cardiovascular and Respiratory Systems, Heart, Atrophy; Also Histology and Morphology, Cardiac  
Dogs  
Hypokinesia, Immobilization

27. P162(12/85)\* Kokova NA. Hemodynamic parameters of individuals varying in tolerance to  $+G_z$  (head-foot) acceleration. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 56-60.

Cardiovascular and Respiratory Systems, Hemodynamics; Also  
Musculoskeletal System, Conditioning  
Humans, Typology  
Acceleration Stress

28. P164(12/85)\* Lapayev EV, Bednenko VS. The cumulative effect of Coriolis acceleration on cardiac hemodynamics. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 64-67.

Cardiovascular and Respiratory Systems, Hemodynamics, Cardiac  
Humans  
Acceleration, Coriolis

29. P166(12/85)\* Gorozhanin VS. Individual differences in regulation and level of maximum oxygen uptake. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 72-77.

Cardiovascular and Respiratory Systems, Maximum Oxygen Uptake  
Humans, Males; Typology  
Neurological and Hormonal Systems

30. M39(12/85) Amosov NM, Bendet YaA. Fizicheskaya aktivnost' i serdtse. [Physical activity and the heart]. Second edition, revised and augmented. Kiev: Zdorov'ya; 1984.

Key Words: Cardiovascular and Respiratory Systems, Cardiovascular  
Conditioning, Physical Exercise; Human Performance, Work Capacity

31. BR5(12/85) Zhironkin AG. Review of: Breslav IS. Patterny dykhaniye: Fiziologiya ekstremal'nyye sostoyaniye, patologiya [Patterns of respiration: Physiology of extreme conditions, pathology]. Leningrad: Nauka; 1984. In: Fiziologicheskii Zhurnal SSSR imeni I.M. Sechenova. LXXI(8): 1036-1039; 1984. See CARD16 (M18).

Key words: Cardiovascular and Respiratory Systems, Respiration,  
Extreme Conditions, Hyperbaria, Stress, Exertion, Hyperthermia

CYBERNETICS AND BIOMEDICAL DATA PROCESSING

ISSUE 1

1. M8(6/85) Aleksandrov VV, Shneyderov VS. Obrabotka mediko-biologicheskikh dannyykh na EVM [Processing of biomedical data on the computer]. Leningrad: Meditsina; 1984.

Key Words: Cybernetics and Biomedical Data Processing,  
Biomedical Statistics, Medical Diagnosis

ISSUE 2

2. P84(8/85)\* Nidekker IG, Nechayev AP, Brodetskaya YeYe, Zarovnyy AV, Ryzhov BN, Stepanov VA, Odinkov GI. Development of an interactive system for data processing in human factors engineering experiments. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 78-81; 1985.

Biomedical Data Processing, Human Factors Engineering  
System Description  
Man-Machine Systems

## DEVELOPMENT

## ISSUE 4

1. P176 (12/85). Kokorin AI, Pigareva MD, Pal'mbakh LR, Afanes'yev GD, Mashinskiy AL. Embryological development of the domestic quail under conditions of weightlessness. In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 139-141. See SPBI1 (M5).

Development, Embryology  
Birds, Quail  
Space Flight, "Salyut-6," Weightlessness

2. M43(12/85)\* Kusen' SI, Stoyka RS. Molekulyarnyye mekhanizmy v deystvii polipeptidnykh faktorov rosta [Molecular mechanisms in the operation of polypeptide growth factors]. Moscow: Science; 1985.

Key Words: Development, Embryogenesis, Polypeptide Growth Factors; Cytology, Cell Proliferation

## ENDOCRINOLOGY

## ISSUE 1

1. P14(6/85)\* Tigranyan RA, Kalita NF, Makho L, Kvetnyanski R. (USSR, Czechoslovakia). Hormone content of blood plasma in rats after flight in the "Cosmos-1129" biosatellite. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(2): 60-61; 1985.

Endocrinology, Stress; Also Hematology  
Rats  
Space Flight, Cosmos-1129 Biosatellite; Immobilization

2. P21(6/85)\* Shirinyan EA, Avakyan OM. Regulation of physical activity in head-down tilt by means of the sympathoadrenal and pituitary-adrenocortical systems. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 1985; 19(2): 87-89.

Endocrinology; Endurance  
Rats  
Head-down Tilt, Tail Suspension; Hypothermia

3. P39(6/85) Goncharov NP, Katsia GB, Shexova, AN. Circadian rhythms of corticosteroids in female hamadryas baboons after long-term hypokinesia. *Problemy Endokrinologii*. XXXI(1): 70-73; 1985.

Endocrinology, Circadian Rhythms; Also Reproductive Systems  
Primates, Baboons, Females  
Hypokinesia

## ISSUE 3

4. P95(10/85) Belyayev NG. Endocrine regulation of calcium homeostasis in a recovery period. *Teoriya i Praktika Fizicheskoy Kul'tury*. 1984(4): 18-19.

Endocrinology, Thyroid, Parathyroid, Calcium  
Humans, Athletes  
Physical Exercise

5. P106(10/85) Ivanova TM, Kvetanskiy R, Bedova TI, Oprshalova Z, Dobrakovova M. [USSR, Czechoslovakia] Catecholamine content in brain nuclei of August rats subjected to immobilization stress. *Fizioloicheskiy Zhurnal SSSR imeni I.M. Sechenova*. LXXI(7): 823-828; 1985.

Endocrinology, Catecholamines; Neurophysiology;  
Cardiovascular and Respiratory System, Blood Pressure  
Rats, Individual Differences, Typology  
Stress, Immobilization



6. P96(10/85) Makoyeva LD, Belinskaya TF, Li YeD, Margaryan AG, Sabayev VV. The effect of beta-adrenegic blockers and trental on plasma renin and aldosterone concentration in normal subjects during hypokinesia with head-down tilt. *Kardiologiya*. XXV(6):40-42; 1985.

Endocrinology, Aldosterone, Renin  
 Humans, Males  
 Hypokinesia, Head-down Tilt; Drugs, Beta-blockers

ISSUE 4

7. P144(12/85) Shvalev VN, Kargina-Terent'yeva RA, Mar'yan KL, Pavlovich YeR. Changes in the medulla of the adrenal glands in rats subjected to immobilization stress. *Arkhiv Anatomii, Gistologii i Embriologii*. 89(8): 97-103; 1985.

Endocrinology, Adrenal Histology  
 Rats  
 Immobilization Stress

8. P146(12/85) Morenkova SA. Insulin-receptor interaction with plasma membranes of hepatic and muscle cells in rats with generalized infections. *Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya*. 1985(4): 43-46.

Endocrinology, Insulin, Insulin-Receptor Interaction  
 Rats  
 Disease, Infections, Countermeasures, Indomethacin

## EXOBIOLOGY

## ISSUE 3

1. P99(10/85) Lozina-Lozinskiy LK. Where did life originate -- in the ocean or on land? Zhurnal Evolutsionnoy Biokhimii i Fiziologii. XXI(3):303-307; 1985.

Exobiology, Abiogenesis  
Review Article  
Anabiosis, Dry Land

2. BR3(10/85) Korochkin LA. Review of: Kordyum VA, Evolutsia i Biosfera. Kiev: Naukova Dumka; 1982. In: Zhurnal Evolutsionnoy Biokhimii i Fiziologii. XXI(3): 319-321; 1985.

Key Words: Exobiology, Molecular Evolution, Population Genetics, Silent DNA, Exogenous Influences, Genome, Biosphere

## ISSUE 4

3. P175(12/85) Mednikov VM. The monophyletic origin of life (the organic world) and the evolution of ecosystems. Zhurnal Obshchey Biologii. XLVI (4): 462-470; 1985.

Exobiology, Evolution of Ecosystem  
Theoretical Paper  
Origin of Life

4. P177(12/85) Khenokh MA, Kuznetsova YeA, Tsupkina NV, Mashinskiy AL, Konyshin NI, Nechitaylo GS, Semenov YuP. Abiogenic synthesis of biological precursors during exposure to space flight factors. In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 21-25. See SPPH1 (M5).

Exobiology, Abiogenic Synthesis  
Biological Precursors, Nucleosides  
Space Flight, "Salyut-6," Cosmic Radiation, Long-term Exposure

5. M55(12/85) Rubenchik LI. Poisk mikro-organizmov v kosmose [Search for microorganisms in space (Second Edition; revised and augmented)]. Kiev: Naukova Dumka; 1983\*. [111 pages]

Key Words: Exobiology, Microbiology, Space Flight Factors

GASTROINTESTINAL SYSTEM

ISSUE 1

1. P7(6/85)\* Zhiznevskaya OV, Medkova IL. Investigation of the bile acid spectra in humans subjected to a 120 day period of hypokinesia with head-down tilt. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 33-35; 1985.

Gastrointestinal System, Liver  
Humans, Males  
Hypokinesia, Bedrest and Head-down Tilt

ISSUE 2

2. P72(8/85)\* Medkova IL, Nikolayeva NM, Zhiznevskaya OV. Lipid hydrolysis in humans during hypokinesia with head-down tilt. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):40-44; 1985.

Gastrointestinal System, Lipid Hydrolysis, Liver Function  
Humans, Males  
Hypokinesia, Head-down Tilt

GENETICS

ISSUE 1

1. P30(6/85) Bobkova NN. Investigation of the effect of hypokinesia and acceleration on human chromosomes. Fiziologiya Cheloveka. 11(2): 300-301; 1985.

Genetics, Chromosomes  
Humans, Patients  
Hypokinesia, Acceleration

GRAVITATIONAL BIOLOGY

ISSUE 3

1. P125(10/85)\* Kotovskaya AR, Krasnov IB, Shipov AA. Major results of experiments with long-term centrifugation of rats as applied to the problem of artificial gravity. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 53-57.

Gravitational Biology, Physiological Indicators, Musculoskeletal  
System, Neurophysiology, Endocrinology, Enzymology  
Rats  
Artificial Gravity, Centrifugation, Long-term

## GROUP DYNAMICS

## ISSUE 1

1. M2(6/85) Krylov VYu, Morozov YuI. Kiberneticheskiye modeli i psikhologiya, [Cybernetic models and psychology]. Moscow: Nauka; 1984.

Key Words: Group Dynamics, Occupational, Artificial Intelligence, Psychology, Computer Systems, Simulation

## ISSUE 2

2. M22(8/85) Nemov RS. Sotsial'no-psikhologicheskiy analiz effektivnoy deyatel'nosti kollektiva [Social psychological analysis of effective collective activity]. Moscow: Pedagogika; 1984.

Key Words: Group Dynamics, Group Performance

3. M24(8/85) Shcheligachev RV (editor). Sovershenstvovaniye organizatsii truda i otdykha plavsostava (Sb. nauch. tr.) [Enhancing the organization of work and rest for ships' crews: Collection of scientific papers]. Leningrad: Transport; 1984.

Key Words: Group Dynamics, Crew Performance, Psychology, Work Capacity, Work-rest Cycles, Environmental Factors, Noise and Vibration, Personnel Selection

## HABITABILITY AND ENVIRONMENT EFFECTS

## ISSUE 1

1. P15(6/85)\* Zaloguyev SN, Viktorov AN, Shilov VM, Gorshkov VP, Zarubina MM, Shinkareva MM, Norkina TYu. Results of microbiological investigations performed during the flight of the "Salyut-6" orbital station. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 64-69; 1985.

Habitability and Environment Effects, Hygiene  
Microbiology, Plants  
Space Flight, Salyut-6

2. P16(6/85)\* Viktorov AN, Novikova ND. Characteristics of the formation of microflora on construction materials used in hermetically sealed living quarters. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 66-69; 1985.

Habitability and Environment Effects  
Microbiology, Plants  
Spacecraft Cabins, Hermetic Seals

3. P18(6/85)\* Kondratyuk VA. Experimental determination of acceptable concentrations of sodium and calcium in reclaimed drinking water. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 1985; 19(2): 69-74.

Habitability and Environment Effects, Potable Water; Also Life Support Systems  
Rats  
Life Support Systems, Water Reclamation; Minerals

4. P19(6/85)\* Galaktionova GV, Mastryukova VM, Strizhovskiy AD. Sensitivity of mammalian tissues to the prolonged effects of constant high-voltage magnetic fields. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 78-81; 1985.

Habitability and Environment Effects; Also Morphology and Cytology  
Mice  
Radiobiology, Magnetic Fields

5. P31(6/85) Bushov YuV, Yershov AF, Os'minin FB, Pisanko AP, Nibush VA. The effect of moderate hypoxia on the work capacity of a human operator as a function of individual differences. Fiziologiya Cheloveka. 11(2): 258-261; 1985.

Radiobiology, Habitability and Environment Effects, Hypoxia; Also Cardiovascular and Respiratory Systems  
Humans, Typology, Operators  
Human Performance

6. P45(6/85) Il'nitskaya AV, Kalina OV. Evaluation of the combined effects of noise and ozone. Gigiyena Truda i Professional'nyye Zabolevaniya. 1985(3): 19-22.

Habitability and Environment Effects, Noise and Ozone  
Rats  
Medical Effects

ISSUE 2

7. P81(8/85)\* Sedov AV, Akimov VI. Metering out the dosage of volatile compounds in hypobaric experiments. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):74-75; 1985.

Habitability and Environment Effects, Gas Composition  
Apparatus Description  
Volatile Substances

ISSUE 4

8. P171(12/85)\* Mishchenko VF, Zubov VA, Yeremenko YuG. Synthetic biocidal paintings composed of high molecular metalloorganic compounds. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 89-92; 1985.

Habitability and Environment Effects, Paints, Metalloorganic  
compounds; Life Support Systems, CELSS  
Fungi  
Fungicidal Properties

9. P148(12/85) Vlasov VA, Vasil'yev GA. Predicting the toxicity of burning polymers. Gigiyena i Sanitariya. 1985(8): 18-21.

Habitability and Environment Effects, Outgas, Toxicity  
Mathematical Modeling  
Polymers, Burning



## HEALTH AND MEDICAL TREATMENT

## ISSUE 1

1. P28(6/85) Agadzhanyan NA, Krasnikov NP. Evaluation of the functional state of athletes breathing atmospheres with altered gas compositions. *Teoriya i Praktika Fizicheskoy Kul'tury*. 1985(3): 19-20.

Health and Medical Treatment, Fitness  
Humans, Athletes  
Atmosphere, Gas Mixtures

2. P32(6/85) Lushchitskiy MA, Myasnikov AP, Shumskiy YuP. The effect of severe trauma on decompression sickness. *Voenno-meditsinskiy Zhurnal*. 1985(1): 35-37.

Health and Medical Treatment, Decompression Sickness  
Cats  
Injuries

3. P47(6/85) Kislyakov YuYa, Kopyl'tsov AV. Formation of gas bubbles in biological tissues during decompression (mathematical modeling). *Biofizika* 30(2): 337-340; 1985.

Health and Medical Treatment, Decompression Sickness  
Tissues  
Mathematical Models

4. P46(6/85) Lozinskiy VS. Trends in the work of the flight surgeon. *Voyenno-meditsinskiy Zhurnal*. 1985(3): 47-48.

Health and Medical Treatment, Medical Trends  
Flight Crew  
Flight Surgeon

## ISSUE 2

5. P61(8/85) Kokhanov VP, Nikitin YeA. The effect of electro-acupuncture on the work capacity of ship crew members on long-term cruises. *Voyenno-meditsinskiy Zhurnal*. 1984(4): 69-70.

Health and Medical Treatment, Electroacupuncture  
Humans, Crew, Ship  
Work Capacity, Productivity

6. P83(8/85)\* Zal'tsman GG, Kuchuk GA, Rovnyy. Identifying individual differences in susceptibility to hyperbaric oxygen. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):76-77; 1985.

Health and Medical Treatment, Oxygen Toxicity; Also Habitability and Environment Effects  
Humans, Individual Differences  
Hyperoxia

ISSUE 3

7. P136(10/85)\* Naydina VP, Avetisyants BL, Dubinin DM. Gas chromatographic analysis of free fatty acids of skin lipids. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 93-94; 1985.

Health and Medical Treatment, Skin Lipids  
Humans, Males  
Gas Chromatography

ISSUE 4

8. P169(12/85)\* Vlasov VV. [Effectiveness] of drugs and surfactants in preventing decompression sickness in rats. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 86-87.

Health and Medical Treatment, Decompression Sickness  
Rats  
Drugs, Surfactants

9. P173(12/85)\* Simonov LG, Drobakhin GA, Uoffe YuS, Safarov YuS, Talalayev YeG. A small piezo transducer with an elastic coating for continuous study of biological subjects. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 81-82.

Health and Medical Treatment, Ultrasound  
Equipment Development  
Transducer, Piezo; Adhesive

## HEMATOLOGY

## ISSUE 1

1. P35(6/85) Mishchenko VP, Yeremina YeL, Sorokina SI, Gritsay NN, Goncharenko LL, Loban' GA, and Gubka PI. The effect of therapeutic running on lipid peroxidation, blood coagulation, and the antiaggregation properties of vessel walls. *Voprosy Meditsinskoy Khimii*. XXXI(1): 99-101; 1985.

Hematology, Coagulation; Also Metabolism, Lipids  
Humans  
Physical Exercise, Fitness

## ISSUE 2

2. P50(8/85) Deribas VI, Ostan'kovich AA, Pogozhev IB, Sitnikov AP, Fedorova OP. Statistical analysis of the leukocyte ratios used to assess adaptive reactions. *Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR*. 6(1): 121-128; 1985.

Hematology, Leukocytes; Also Adaptation  
Humans  
Statistical Processing, Confidence Intervals

3. P54(8/85) Volzhskaya AM, Troshikhin GV, Shumilova TYe. Oxygen transport capacity of the blood and erythropoiesis in rats after prolonged exposure to nitrogen-oxygen gas mixture under high pressure. *Fiziologicheskiy Zhurnal SSSR (imeni I.M. Sechenov)*. 71(3): 320-324; 1985.

Hematology; Also Habitability and Environment Effects  
Rats  
Hyperbaric Chambers, Gas Mixture

4. P69(8/85)\* Khapilov NV, Panchenko VS, Kotov NN, Asyamolov, BF. The effect of hypokinesia and  $+G_z$  acceleration on the transport function of the blood. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(3): 31-33; 1985.

Hematology  
Humans, Males  
Hypokinesia, Acceleration

5. P90(8/85) Dudarev VP. Compensation and adaptation mechanisms of the blood system in response to hematic hypoxia. *Fiziologicheskiy Zhurnal (Akademiya Nauk Ukrainskoy SSR)*. 31(1):21-27; 1985.

Hematology, Adaptation  
Rats  
Hematic Hypoxia

## ISSUE 4

6. P153(12/85)\* Ushakov AS, Ivanova SM, Ataulakhanov FI, Pichugin AV, Dubinskaya YeI, Brantova SS, Labetskaya OI, Naydina VP, Zezerov AYe. Human erythrocyte metabolism during long-term space flight. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 19-23.

Hematology, Erythrocyte Metabolism  
Humans, Cosmonauts  
Space Flight, Long-term, Salyut-7

7. P157(12/85)\* Kirichenko LL, Smirnov VV, Yevdokimova AG. Microcirculation and cellular hemostasis in men with borderline arterial hypertension exposed to "dry" immersion in thermally neutral water. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 35-38.

Hematology, Hemostasis Cellular  
Humans, Male, Patients, Hypertension  
Immersion

8. P150(12/85) Raimzhanov AR. Characteristics of erythropoiesis in permanent inhabitants of high altitude regions. Zdravookhraneniye Kirgizii. 1985(4): 30-35.

Hematology, Erythropoiesis; Also Adaptation, Long-term  
Humans  
High Altitudes

9. M51(12/85) Moiseyeva OI. Fiziologicheskiye mekhanizmy regulyatsii erythropoiesis [Physiological mechanisms for regulating erythropoiesis]. Leningrad: Nauka; 1985.

Key Words: Hematology, Erythropoiesis, Hypoxia

HISTOLOGY

ISSUE 4

1. P172(12/85)\* Furduy FI, Khaydarliu SKh, Mamalyga LM. Combined effects of stressors on the structure of spinal reflex arcs. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 92-95.

Histology, Spinal cord, RNA, proteins; Also Neurophysiology  
Rats  
Hypokinesia, Immobilization stress, hypoxia

HUMAN PERFORMANCE

ISSUE 4

1. M38(12/85) Medvedev VI, editor. Fiziologicheskiye printsipy razrabotki rezhimov truda i otdykha [Physiological principles underlying scheduling of work and rest periods]. Leningrad: Nauka; 1984.

Key Words: Human Performance, Work Schedules, Rest Periods

## IMMUNOLOGY

## ISSUE 1

1. P27(6/85) Petrov VR, Cheredeyev AN, Koval'chuk LV. Principles of immunology research. Sovetskaya Meditsina. 1985(3): 66-69.

Immunology; Also Health and Medical Treatment  
Humans  
Research Principles

## ISSUE 2

2. P79(8/85)\* Novikov VS, Bortnovskii VN. The effect of dibasolum on the general immunity of humans in a hermetically sealed cabin. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 68-70; 1985.

Immunology; Also Habitability and Environment Effects  
Humans, Males  
Isolation, Hypokinesia, Performance; Drugs

## ISSUE 3

3. P101(10/85) Voytko NYe, Yatsishina TA, Vysotskiy, Konovalova LS. Cellular and humoral immunity in volunteers consuming diets differing in protein content. Voprosy Pitaniya. 1985(3): 28-33.

Immunology, Cellular and Humoral  
Humans  
Nutrition, Protein

4. P102(10/85) Surkina ID, Orlova ZS, Borodin YuV, Sharova TL, Bogdanov NG, Smirnova AN, Pyatnitskaya IN, Larina TI. Immune competence and vitamin level of highly trained athletes. Teoriya i Praktika Fizicheskoy Kul'tury. 1985(4): 37-39.

Immunology  
Humans, Athletes  
Nutrition, Vitamins

5. P103(10/85) Arlashchenko NI, Adamchik ZhF, Shtemberg AS, Klemparskaya NN, Dobronravova NN, Chukhrov AD. The effect of immunoglobulin on the work capacity of irradiated animals. Seriya Biologicheskaya. 1985(3): 404-411.

Immunology, Immunoglobulins; Radiobiology, Radioprotection  
Mice, Rats  
Work Capacity; Autoflora; Higher Nervous Activity

## LIFE SUPPORT SYSTEMS

## ISSUE 1

1. P17(6/85)\* Kondrat'yeva YeM. The composition and growth dynamics of bacteria associated with algae in human biological LSS. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2):69-74; 1985.

Life Support Systems  
Microbiology, Bacteria; Algae  
Waste Utilization

2. P23(6/85)\* Golubeva YeG, Gur'yeva TS, Tikhobayeva OI. Chemical composition of the biomass of Musca domestica L. larvae and pupae which develop in organic wastes in biological human life support systems. Kosmicheskaya Biologiyai Aviakosmicheskaya Meditsina. 19(2): 91-93; 1985.

Life Support Systems, Closed Ecological Systems  
Insects, Flies  
Chemical Composition

3. M4(6/85) Serebryakov VN. Osnovy proyektirovaniya sistem zhizneobecpecheniye ekipazha kosmicheskikh letatel'nykh apparatov [Principles for designing life support systems for crews of space flight vehicles]. Moscow: Mashinostroyeniye; 1983.

Key Words: Life Support Systems, Closed Ecological Systems, Environmental Factors, Air Purification, Recovery, Recycling, Reliability, Spacecrew Supplies, Temperature Control

## ISSUE 2

4. M12(8/85) Abramov IP, Severin GI, Stolitskiy AYu, Sharipov PKh. Skafandry i sistemy dlya raboty v otkrytom kosmose [Space suits and systems for work in outer space]. Moscow: Mashinostroyeniye; 1984.

Key Words: Life Support Systems, Portable Life Support Systems, Habitability and Environmental Effects, Man Machine Systems, Space Flight, Voskhod-2, Gemini, Soyuz-5, Apollo, Skylab, Salyut, Shuttle

## ISSUE 3

5. P129(10/85)\* Yunusova LS, Drugova NA. A study of the microflora of the chufa plant -- a proposed component of biological life support systems. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina, 19(4):65-68; 1985.

Life Support Systems, CELSS  
Botany, Higher Plants, Chufa; Microbiology, Microflora  
Cultivation Conditions



6. P128(10/85)\* Bergter F, Harz D, Muller PJ, Mund K, Gunther U, Hesse T, Hartmann R, Wanke G, Tairbekov MG, Parfenov GP, Pakhomov AI (GDR, USSR). Determining the growth coefficient of the biomass of Bacillus Subtilis under weightlessness. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4):63-65.

Life Support Systems, Biomass Growth  
Microbiology, Bacteria, Bacillus Subtilis  
Spaceflight, Salyut-6, Weightlessness

7. P130(10/85)\* Antonyan AA, Levinskikh MA, Sukhova NI. Study of the growth, development and metabolism of the Closteriopsis acicularis under conditions of limited nitrogen from the standpoint of biological life support systems. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina, 19(4):69-73; 1985.

Life Support Systems, CELSS  
Microbiology, Algae, Closteriopsis acicularis  
Nitrogen Deficit

8. P137(10/85)\* Levinskikh MA, Livanskaya OG. Study of the mineral requirements of a new strain of algae proposed for biological life support systems. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 95-96; 1985.

Life Support System, CELSS  
Microbiology, Algae, Closteriopsis  
Mineral Requirements

9. P104(10/85) Fishteyn GN, Kovrov BG. Microecosystems and a case study of their use for studying the life of protozoa in a community of microscopic organisms. Zhurnal Obshchey Biologii. XLVI(3): 336-344; 1985.

Life Support Systems, Microecosystems  
Microbiology, Algae, Chlorella; Bacteria; Protozoa, Tetrahymena  
Light, Peptone

MAN-MACHINE SYSTEMS

ISSUE 1

1. M3(6/85) Popov YeP, Yushchenko AS. Roboty i chelovek [Robots and the human] (In series: Nauka i tekhicheskiy progress [Science and technological progress], editor, Makarov IM) Moscow: Nauka; 1984.

Key Words: Man-Machine Systems, Robotics, Human Factors, Performance

## MATHEMATICAL MODELING

## ISSUE 4

1. M34(12/85) Gel'fand IM, scientific editor. Voprosy kibernetiki: Zadachi meditsinskoy diagnostiki i prognozirovaniya s tochki zreniya matematika [Issues in cybernetics: The problems of medical diagnosis and prognosis from the mathematician's point of view]. Moscow: Scientific Committee on the Interdisciplinary Problem of] Cybernetics, USSR Academy of Sciences; 1985.

Key Words: Health and Medical Treatment, Diagnosis, Prognosis, Cardiovascular Disease; Mathematical Modeling, Computer Modeling

2. M41(12/85) Baydosov VA, Fefelova VA. Matematicheskoye modelirovaniye protsessov v meditsinskikh i biologicheskikh sistemakh: [Sb. statey] [Mathematical modeling of processes in medical and biological systems: [Coll. of papers]. Sverdlovsk: 1982.

Key Words: Mathematical Modeling, Biological and Physiological Systems; Health and Medical Treatment, Cardiovascular Systems, Thyroid, Cell Development

## METABOLISM

## ISSUE 1

1. P11(6/85)\* Ushakov AS, Vlasova TF, Miroshnikova YeB, Panferova NYe, Murugova TP. Investigation of certain aspects of amino acid metabolism in humans subjected to the combined effects of short-term head-down tilt and ultraviolet irradiation. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(2): 46-49; 1985.

Metabolism, Amino Acids; Also Habitability and Environment  
Effects

Humans

Head-down Tilt and Ultraviolet Radiation

2. P36(6/85) Temur'yants NA, Yevstaf'yeva YeV, Makeyev VB. Adaptation of lipid metabolism in rats with restricted mobility as a result of exposure to a variable infra-low frequency magnetic field. *Biofizika*. 1985: 30(2): 313-316.

Metabolism, Lipid

Rats

Magnetic Field and Immobilization

## ISSUE 2

3. P86(8/85)\* Makho L, Tigranyan RA, Shkottova N, Palkovich M (Czechoslovakia, USSR). The process of lipogenesis in the liver of rats after flight in the "Cosmos-1129" Biosatellite. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(3): 84-85; 1985.

Metabolism, Liver, Lipogenesis

Rats

Space Flight, Cosmos-1129

## ISSUE 3

4. P118(10/85)\* Libkind VI, Vlasov VD. The effect of physical activity on lipid metabolism in pilots. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(4): 29-31; 1985.

Metabolism, Lipids

Humans, Pilots

Physical Work Capacity

5. P120(10/85)\* Vlasova TF, Miroshnikova YeB, Ushakov AS. An investigation of certain aspects of amino acid metabolism in humans exposed to 120 days of hypokinesia with head-down tilt. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(4): 35-38; 1985.

Metabolism, Amino Acids

Humans

Hypokinesia, Head-down Tilt

6. P123(10/85)\* Shidovskaya TYe. Lipid peroxidation rate in tissues of rats subjected to hypokinesia. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina, 19(4):42-45; 1985.

Metabolism, Lipid Peroxidation  
Rats  
Hypokinesia, Immobilization Stress

7. P127(10/85)\* Davydova NA, Senkevich YuA, Belakovskiy MS, Samratova SV. Study of catecholamine metabolism under high altitude conditions. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 60-63; 1985.

Metabolism, Catecholamines  
Humans, Athletes, Mountain Climbers  
Adaptation, High Altitude; Training

ISSUE 4

8. P170(12/85)\* Vlasova TF, Miroshnikova YeB, Belakovskiy MS, Kochetkova AN, Sergeev IN. The effect of 24,25-dihydroxycholecalciferol on amino acid metabolism in rats subjected to hypokinesia. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 88-89.

Metabolism, Amino Acid  
Rats  
Hypokinesia, Vitamins, 24,25-dihydroxycholecalciferol

9. P143(12/85) Bol'shakova TD, Meshcheryakova SA, Tyabenkova VF, Romanova NI, Levin YaI, Dallakyan IG. The effect of 24 hours of sleep deprivation on metabolism of biogenic amines. Fiziologiya Cheloveka. 11(4): 652-656. M.

Metabolism, Biogenic Amines; Biological Rhythms  
Humans, Males  
Sleep, Deprivation, Short-term

## MICROBIOLOGY

## ISSUE 3

1. M27(10/85) Bayev AA, editor. Biotekhnologiya [Biotechnology]. Moscow: Nauka; 1984. [309 pages]

Key Words: Microbiology; Biotechnology, Biochemistry, Genetic Engineering, Cellular Engineering

## ISSUE 4

2. P182(12/85)Vaulina EN, Ankeyeva ID, Slashcheva NK. Viability and mutability of Chlorella cells. [In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut. Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 43-45. See SPBI1 (M5).

Microbiology, Viability, Mutability; Also Cytology  
Chlorella  
Space Flight, Salyut-Soyuz, Soyuz-22

## MORPHOLOGY AND CYTOLOGY

### ISSUE 1

1. P13(6/85)\* Kaplanskiy AS, Savina YeA, Kazakova PB, Khoroshilova-Maslova IP, Kharin GM, Yakovleva VI, Plakhuta-Plakutina GI, Durnova GN, Il'ina-Kakuyeva YeI, Alekseyev YeI, Pankova AS, Shvets VN, Burkovskaya TYe. Head-down tilt in monkeys: A morphological investigation. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(2): 53-60; 1985.

Morphology and Cytology  
Primates, Rhesus Monkeys  
Hypokinesia, Head-down Tilt

2. P20(6/85)\* Yakovleva VI, Belkaniya GS. Morphological manifestations of hemodynamic shifts in the lungs of monkeys during hypokinesia with head-down tilt. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina* 19(2): 85-87; 1985.

Morphology and Cytology, Lungs; Also Cardiovascular and Respiratory  
Primates, Rhesus Monkeys  
Hypokinesia, Head-down Tilt

### ISSUE 2

3. P74(8/85)\* Lychakov DV, Lavrova YeA. Investigation of the vestibular structure and the concentration of ions in the body of spurred frog tadpoles exposed to weightlessness. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(3): 48-52; 1985.

Morphology and Cytology, Otolith Organs, Ontogeny; Also Neurophysiology  
Frogs  
Space Flight, Salyut-6, Weightlessness

4. P180(12/85) Sushkov FB, Mal'ts V, Kopp F, Pitra K, Rokov A, Rudneva SV, Stolley P, Tolkendorf Ye, Fender Kh, Yunge G. Experiment in culture of mammalian cells on the "Salyut-6" -- Soyuz-31" space complex. In Dubinin NP, editor. *Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut"*. See SB #1 -- M5.

Morphology and Cytology, Cytogenetic Parameters  
Mammalian Cells, Hamsters  
Space flight, Salyut-6

## MUSCULOSKELETAL SYSTEM

## ISSUE 1

1. M9(6/85) Prokhonchukov AA, Zhizhina NA, Tigranyan RA. Gomeostas kostnoy tkani v norme i pre ekstemal'nom vosdeystvii [Homeostasis of bone tissue under normal and extreme conditions]. (In series, Problemy kosmicheskoy biologii [Problems in space biology]; vol. 49; editor, Gorizontov PD.) Moscow: Nauka; 1984.

Key Words: Bone Physiology, Space flight, Cosmos biosatellites and Salyut-1 orbital stations, Weightlessness, Radiobiology

2. P34(6/85) Kasatkina LF. Density of muscle fibers in motor units in different stages of denervation-reinnervation in humans, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya. 1985(1): 42-46.

Musculoskeletal System; Also Neurophysiology  
Humans, Patients  
Diseases

## ISSUE 2

3. P58(8/85) Osipenko AV. The effect of antimacrophage cytotoxic serum on blood composition and regeneration of bone tissue in distraction osteosynthesis. Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya. 1985(2): 68-71.

Musculoskeletal System, Bone Regeneration; Also Hematology,  
Monocytes  
Dogs  
Injuries

4. P76(8/85)\* Il'ina-Kakuyeva YeI, Novikov VYe. Skeletal muscles of rats in simulated weightlessness: A morphological investigation. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):56-59; 1985.

Musculoskeletal System, Leg Muscles  
Rats  
Tail Suspension

5. P77(8/85)\* Talipov MS, Bogoyavlenskaya ON. The effect of short-term exposure to heat on tissue respiration of the skeletal muscles and internal organs of chickens during hypokinesia. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 60-63; 1985.

Musculoskeletal System, Muscles, Tissue Respiration  
Chickens  
Hypokinesia and Heat



6. BR2(8/85) Petrovich YA, Sumarokov DD. Review of: Prokhonchukov AA, Zhizhina NA, Tigranyan RA. Gomeostaz kostnoy tkani v norme i pri ekstremal'nom vozdeystvii [Homeostasis of bone tissue under normal and extreme conditions]. Moscow: Nauka, 1984. In: Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya. 1985(3):89-90.

Musculoskeletal System, Bone Physiology  
Space Flight, Cosmos and Salyut-1  
Weightlessness  
Radiobiology

## ISSUE 3

7. P121(10/85)\* Grigor'yeva LS, Kozlovskaya IB. The effect of 7 days of immersion hypokinesia on fine motor control [literally: precise movements]. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 38-41; 1985.

Musculoskeletal System, Motor Control  
Humans, Males  
Hypokinesia, Immersion

8. P124(10/85)\* Shvets VN, Burkovskaya TYe, Vnukova ZYe, Kabitskaya OYe. The effect of 24, 25-dihydroxyvitamin D<sub>3</sub> on osteoprogenitor cells in immobilized rats. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 48-53; 1985.

Musculoskeletal System, Osteoporosis  
Rats  
Immobilization; Nutrition, Vitamin D

9. P98(10/85) Chaykovskiy VS, Ivanova YeI, Posozkin VA. Content and utilization of testosterone in the cardiac and skeletal muscles of male rats after physical exercise. Problemy Endokrinologii. XXXI(3): 78-82; 1985.

Musculoskeletal System, Cardiac and Skeletal Muscles; Also  
Endocrinology, Testosterone  
Rats, Males  
Physical Exercise

10. P100(10/85) Smolyar VI. Effect of amino acid deficiency on growth and formation of bone tissue. Voprosy Pitaniya. 1985(3): 38-42.

Musculoskeletal System, Bone Growth  
Children, Rats  
Nutrition, Amino Acids

11. M32(10/85) Rakhimov YA, editor in chief. Struktura skeletnykh myshts i vysokogornaya gipoksiya [The structure of the skeletal muscles and high-altitude hypoxia]. Novosibirsk: Nauka; 1985. [85+ pages]

Key Words: Musculoskeletal System; Skeletal Muscles;  
Hypoxia, High Altitude; Morphology and Cytology

## ISSUE 4

12. P154(12/85)\* Zatsiorskiy VM, Sirota MG, Prilutskii BI, Raytsin LM, Seluyanov VN, Chugunova LG. Biomechanical description of body and movements of humans subjected to a 120-day period of hypokinesia with head-down tilt. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 23-27.

Musculoskeletal System, Muscle Atrophy, Walking  
Humans, Males  
Hypokinesia, Head-down tilt

13. P161(12/85)\* Oganov VS, Skuratova SA, Shirvinskaya MA. Contractile properties of the myofibrils of rats under long-term exposure to +2 G<sub>x</sub>. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 53-56.

Musculoskeletal System, Myofibrils, Contractility  
Rats  
Artificial Gravity, Centrifugation

14. P163(12/85)\* Tikunov BA, Kayfadzhyan MA, Oganessian SS. Change in the physicochemical properties of contractile and regulatory protein of different types of muscle during and after acceleration stress. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 60-64.

Musculoskeletal Muscles, Actomyosin  
Rats  
Acceleration

15. P160(12/85)\* Shipov AA, Shvets VN, Tabakova LA, Kabitskaya OYe. Changes in the physical condition, vestibular function and skeletal system of rats undergoing long-term rotation. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 46-52.

Neurophysiology, Vestibular Nystagmus; Musculoskeletal System, Bone Growth  
Rats  
Artificial Gravity, Centrifugation

## NEUROPHYSIOLOGY

## ISSUE 1

1. P1(6/85)\* Yegorov AD, Yuganov YeM. Labyrinthine and extralabyrinthine mechanisms underlying the development of motion sickness during weightlessness. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 1985; 19(2): 4-9.

Neurophysiology, Motion Sickness  
Humans, Cosmonauts  
Weightlessness, Adaptation

2. P41(6/85) Popugayev AI. Potential for directed development of the vestibular function. *Teoriya i Praktika Fizicheskoy Kultury*. 1985(1); 22-23.

Neurophysiology, Motion sickness, Vestibular Nystagmus  
Human, Children, Typology  
Adaptation, Training

3. P37(6/85) Bragin YeO. Neurochemical mechanisms regulating the sensitivity to pain. *Uspekhi Fiziologicheskikh Nauk*. 16(1): 21-42; 1985.

Neurophysiology, Brain  
Rats  
Pain Sensitivity

4. M10(6/85) Levashov MM. Nistagometriya v otsenke sostoyaniya vestibulyarnoy funktsiy [The use of nystagmometry to evaluate the vestibular function]. (In series, *Problemy kosmicheskoy biologii* [Problems in space biology]; volume 50; editor, AM Ugoleva.) Moscow: Nauka; 1984.

Key Words: Neurophysiology, Nystagmus, Motion Sickness,  
Vestibular Function

## ISSUE 2

5. P51(8/85) Bazarov VG, Lutsenko VI. Vestibulospinal reactions and excitability thresholds of the cupular apparatus in chronic cochleovestibular insufficiency. *Zhurnal Ushnykh, Nosovykh i Gorlovykh Bolezney*. 1985(1): 17-21.

Neurophysiology, Motion Sickness, Vestibular Tests, Nystagmus  
Humans, Patients  
Cochleovestibular Pathology

6. P59(8/85) Shaposhnikov YeA. Prevention of neuro-psychological changes in hypokinesia. Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakova. 85(2): 215-219; 1985.

Neurophysiology, Hypokinesia Effects; Also Psychology, Hypokinesia Effects

Humans

Physical Exercise; Electrostimulation; Psychotherapy

7. P62(8/85) Shaposhnikov YeA, Khondkarian OA. Changes in the nervous system following prolonged hypokinesia (a clinical/experimental investigation). Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakova. 84(12): 1761-1766; 1984.

Neurophysiology

Humans, Males

Hypokinesia, Countermeasures

8. P73(8/85)\* Krylov YuV, Vorob'yev OA, Zaritskiy VV. The dissociation of vestibular-autonomic and vestibular-sensory reactions. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 44-48; 1985.

Neurophysiology, Vestibular System

Humans, Patients, Deaf

Caloric Irrigation

9. P75(8/85)\* Popov VK, Ivanova RS (Bulgaria). The pairing principle and kinematic asymmetry of the otolithic system. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3):53-55; 1985.

Neurophysiology, Otolith Organs

Humans

Rotation; Mathematical Modelling

10. M21(8/85) Arshavskiy YuI, Gel'fand IM, Orlovskiy GN. Mozhhechok i upravleniye ritmicheskimi dvizheniyami [The cerebellum and control of rhythmic movements]. Moscow: Nauka; 1984.

Key Words: Neurophysiology, Cerebellum, Motor Control, Rhythmic Motion

11. BR1(8/85) Shipov AA. Review of: Levashev, MM. Nystagmometry in evaluation of the status of the vestibular function. Series: Problems in Space Biology, Vol. 50, editor V.A. Kislyakov. Leningrad: Nauka; 1984. In: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 87-89; 1985. See NEUR4 (M10).

Key Words: Neurophysiology, Nystagmus, Vestibular Function, Motion Sickness

ISSUE 3

12. P109(10/85) Sten'ko YuM, Varenikov II, Skrupskiy VA. Using electric sleep to prevent cumulative fatigue in sailors on long-term cruises. Gigiyena Truda i Professional'nyye Zabolevaniye. 1985(5): 42-44.

Neurophysiology, Fatigue  
Humans, Sailors  
Sleep, Electric Sleep; Noise

13. P110(10/85) Kabalova LA, Soldatkina SA, Zaytseva YeP. The state of the central and peripheral nervous systems during exposure to transport noise of varying intensity. Gigiyena i Sanitariya. 1985(6): 22-24.

Neurophysiology, Sensorimotor Cortex; Also Psychology, Experimental  
Neurosis, Learning  
Rats  
Noise

ISSUE 4

14. P160(12/85)\* Shipov AA, Shvets VN, Tabakova LA, Kabitskaya OYe. Changes in the physical condition, vestibular function and skeletal system of rats undergoing long-term rotation. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 46-52.

Neurophysiology, Vestibular Nystagmus; Musculoskeletal System, Bone  
Growth  
Rats  
Artificial Gravity, Centrifugation

15. P155(12/85)\* Davydov NA, Galkina YeYu, Ushakov AS. Functional activity of the serotonin and histaminergic systems in humans subjected to long-term hypokinesia. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 27-30.

Neurophysiology, Histamines  
Humans, Males  
Hypokinesia, Head-down Tilt, Prolonged

16. P165(12/85)\* Stolbkov YuK. Dependence of nystagmus on the function of the utricle. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 68-72.

Neurophysiology, Nystagmus, Cervical; Utricular Nerves  
Birds, Doves  
Acceleration, Angular

17. P167(12/85)\* Levashov MM. Role of vestibular recruitment and directional predominance in nystagmus in diagnostic examinations. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 78-81.

Nystagmus, Directional Predominance  
Review/Theoretical Article, Patients  
Diagnosis

18. P168(12/85)\* Marks E, Zuzhevich V, Dvoretzki Ye, Mazhenski M (Poland). Age-related changes in the EEGs of pilots, Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 85-86.

Neurophysiology, EEG  
Humans, Pilots  
Aging

19. P142(12/85) Ivanov AL, Snitko VM. Use of acupuncture in the prevention and cure of motion sickness. Voenno-meditsinskiy zhurnal. 1985(8): 56-57.

Neurophysiology, Motion Sickness  
Human, Sailors  
Health and Medical Treatment, Countermeasures, Acupuncture

20. P141(12/85) Lapayev EV, Vorob'yev OA. Identification of vestibular asymmetry in the flight medical examination. Voenno-meditsinskiy zhurnal. 1985(8): 53-56.

Neurophysiology, Vestibular Nystagmus  
Humans, Pilots  
Asymmetry

21. M45(12/85) Nasonkin OS, Pashkovskiy EV. Neyrofiziologiya shoka [The neurophysiology of shock]. Leningrad: Meditsina; 1984.

Key Words: Neurophysiology, Cerebral Hemodynamics, Metabolism; Health and Medical Treatment, Shock

NUTRITION

1. P174(12/85)\* Popov IG. Hygienic aspects of the daily diet of flight crews. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(5): 4-19.

Nutrition, Daily Diets  
Flight Crews  
Review Article

## PERCEPTION

## ISSUE 1

1. P5(6/85)\* Solodovnik FA, Chapayev AB. The influence of position of the human body and its restraint on magnitude of spatial illusions during weightlessness. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(2): 23-26; 1985.

Perception, Spatial Illusion  
Humans  
Weightlessness, Body Position, Immobilization

2. P21(6/85)\* Ayzikov GS, Klyushnikova ON. The influence of experimentally induced motion sickness on postrotation nystagmus and counter-rotation illusion. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(2): 89-91; 1985.

Perception, Illusion; Also Neurophysiology, Nystagmus  
Humans, Males  
Motion Sickness; Drugs

3. P44(6/85) Gurfinkel' VS, Debrevva YeYe, Levik YuS. On the relationship between perception of the parts of the body and movement. *Fiziologiya Cheloveka*. 1985; 11(1): 7-11.

Perception, Orientation  
Humans  
Motion

## ISSUE 3

4. P115(10/85)\* Lapa VV, Bukalov YeYe, Lemeshchenko NA. An investigation of the factors determining geocentric techniques used by pilots for orientation. *Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina*. 19(4): 19-23; 1985.

Perception, Orientation  
Humans, Pilots  
Visual Displays, Perspective

## ISSUE 4

5. M35(12/85) Travnikova NP. *Effektivnost' vizual'nogo poicka* [Effectiveness of visual search]. Moscow: Mashinostroyeniye; 1985.

Key words: Perception, Visual Search, Optical Instruments, Human Performance, Personnel Selection



## PERSONNEL SELECTION

## ISSUE 1

1. P4(6/85)\* Yevdokimov, V.I. Use of projective tests as a rapid technique for predicting self-discipline of pilot trainees. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 20-23; 1985.

Personnel Selection, Self-discipline; Also Psychology  
Humans, Pilots  
Psychological Tests

2. P42(6/85) Lapin YeA. Spatial representations and job performance in air traffic controllers. Vestnik Moskovskogo Universiteta: Seriya: 14 Psikhologiya. 1985(1): 68-70.

Personnel Selection, Operator Performance; Also Perception  
Humans, Air Traffic Controller  
Space Perception

3. M1(6/85) Bodrov VA, Malkin VB, Pokrovskiy BL, Shpachenko DI. Psikhologicheskiy otbor letchikov i kosmonavtov [Psychological selection of pilots and cosmonauts]. (In series, Problemy kosmicheskoy biologii [Problems in space biology]; vol. 48; editor, Lomov BF.) Moscow: Nauka, 1984.

Key Words: Personnel Selection, Cosmonauts, Psychological Tests, Pilot and Cosmonaut Performance, Electroencephalography, Mathematical Models

## ISSUE 4

4. P152(12/85) Bodrov VA, Fedoruk AG. Functional asymmetry of paired organs in members of flight crews. Voenno-meditsinskiy Zhurnal. 1985(7): 50-52.

Personnel Selection, Physiological  
Humans, Flight Crews  
Functional Asymmetry

## PSYCHOLOGY

## ISSUE 1

1. P2(6/85)\* Litsov AN, Shevchenko VF. Psychophysiological characteristics of the organization and scheduling of daily activity cycles of crews on long-term space flights. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 12-16; 1985.

Psychology, Circadian Rhythms; Also Neurophysiology; Also Human Performance  
Humans, Cosmonauts  
Activity cycles, Work and Rest; Also Space Flight, Salyut-6 and -7

2. P3(6/85)\* Myasnikov VI, Ryzhov BN, Sal'nitskiy VP. Zone of functional comfort for an operator in control of a moving object. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 17-19; 1986.

Psychology, Stress; Also Neurophysiology; Also Human Performance  
Humans, Operators  
Task Complexity, Performance

3. P43(6/85) Aladzhhalova NA, Kvasovets SV. Spontaneous mood changes under conditions of monotony and decasecond rhythms in brain potentials. Problemy Psikhofiziki. 6(2): 105-113; 1985.

Psychology, Mood; Also Neurophysiology  
Humans, Adults  
Monotony, Electroencephalography

4. P40(6/85) Bokovikov AK, Krylova NV, Kurashvili VA. Problems in aerospace psychology: Papers presented at the XIVth Gagarin lectures. Psikhologicheskiy Zhurnal. 6(1): 151-152; 1985.

Psychology, Aerospace  
Humans, Cosmonauts, Pilots  
Conferences

5. P48(6/85) Kulikovskiy VV. Influence of performance of demanding mental tasks demands on sleep. Fiziologiya Cheloveka. 11(2): 247-250; 1985.

Psychology, Sleep, Electroencephalography; Also Neurophysiology  
Humans, Adults  
Human Performance, Mental Tasks

ISSUE 2

6. P87(8/85)\* Yevdokimov VI. Means used by pilots and cadets to resolve frustrating situations. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 86-87; 1985.

Psychology; Human Performance  
Humans, Pilots and Cadets  
Psychological Tests

7. P60(8/85) Ponomarenko VA. The psychological evaluation of flight performance. Voenno-meditsinskiy zhurnal. 1985(4): 67-69.

Psychology; Human Performance, Evaluation; Health and Medical Treatment,  
Flight Surgeon  
Humans, Pilots  
Trends

8. M11(8/85) Leonova AB. Psikhodiagnostika funktsional'nykh sostoyaniy chelovek [Psychological diagnosis of human functional states]. Moscow: Izd. Mosk. Univ.; 1984.

Key Words: Psychology, Functional Studies, Human Performance,  
Circadian Rhythms

ISSUE 3

9. P117(10/85)\* Bodrov VA, Kupriyanov AA, Fedoruk AG, Kharin VV. Use of pilot training simulators to detect functional capabilities of pilots. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 26-29; 1985.

Psychology, Stress  
Pilots; Patients, Functional Disorders  
Personnel Selection, Training Simulator Performance

10. P116(10/85)\* Tereplyak Ya, Matseychik (Poland). Resistance of psychomotor performance to anticipatory stress in pilots with varying anxiety levels. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(4): 24-26; 1985.

Psychology, Human Performance, Psychomotor  
Humans, Pilots  
Stress, Anxiety Level

11. P112(10/85) Gambashidze GM, Tkhorevskiy VI, Yampol'skaya YeG. Human functional status during monotonous activity accompanied by various levels of physical strain. Gigiyena Truda i Professional'nyye Zabolevaniya. 1985(6): 5-9.

Psychology, Functional Status  
Human Performance, Humans, Workers, Sex Differences  
Physical Exertion; Monotony

12. P113(10/85) Rakov GK, Fadeyev YuA. Using galvanic skin response to estimate emotional stress during job performance. Fiziologiya Cheloveka. 11(3): 463-469; 1985.

Psychology, Stress, Emotional; Human Performance  
Humans, Workers  
GSR

## RADIOBIOLOGY

### ISSUE 1

1. M7(6/85) Miroshnichenko LI, Petrov VM. Dinamika radiatsionnykh usloviy v kosmos [The dynamics of the radiation environment in space]. Moscow: Energoatomizdat; 1985.

Key Words: Radiobiology, Radiation

### ISSUE 2

2. P57(8/85) Moldotashev B, Daniyarov SB. Quantitative changes in Myelokaryocytes and Picture Produced by Myelography in Response to the Combined Influence of High Altitude and Ionizing Radiation. Izvestiya Akademii Nauk Kirgizskoy SSR. 1985(1): 32-36.

Radiobiology; Also Hematology, Bone Marrow  
Rats and Dogs  
Adaptation, High Altitude

3. P66(8/85)\* Davydov BI. Electromagnetic radiation of radio wave frequency (microwaves): Principles, standardization criteria and threshold doses. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(3): 8-21; 1985.

Radiobiology, Microwaves  
Humans  
Dosage, Risk

4. P64(8/85) Turdyev AA, Bogdanova-Berezobskaya IG, Dvornikova LI. Criteria for evaluating the radiation tolerance of Testudo horsfieldi. Radiobiologiya. XXV(1): 92-95; 1985.

Radiobiology, Radiation Tolerance  
Tortoises  
Mortality Rate; Stochastic Processes

5. P65(8/85) Shlumukova IF, Serkiz YaI, Chebotarev YeYe, Pavlenko IO, Shlapatskaya VV, Svirgun VP. The effect of seasonal and diurnal rhythms on the time course of radiation injury. Radiobiologiya. XXV(1): 139; 1985.

Radiobiology, Radiation Tolerance  
Rats  
Biological Rhythms; Mortality Rate

6. P88(8/85) Grodzinskiy DM, Fialkova YeYu, Gudkov IN. Radioprotective effect of ethylene on gamma-irradiated plants. Radiobiologiya. XXV(2): 212-215; 1985.

Radiobiology, Mitosis; Also Botany  
Botany, Pea, Root Meristem  
Radioprotective Agent, Ethylene

7. P89(8/85) Kuna P. (Czechoslovakia). Acute toxicity and radioprotective effect of gammaphos injected intramuscularly in mice. Radiobiologiya. XXV(1): 59-62; 1985.

Radiobiology, Antiradiation Drugs, Gammaphos  
Mice  
Toxicity, Radioprotective Efficacy

8. M17(8/85) Akoyev IG, Yurov SS. Voprosy biologicheskogo deystviya i dozimetrii tyazhelykh zaryazhennykh chastits i adronov vysokikh energii [Issues related to the biological effects and dosimetry of HZE and high energy hadrons]. Proceedings of: All-Union Scientific Conference with Participation of Socialist Countries, Pushchino; 1984.

Key Words: Radiobiology, Hadrons, HZE, Dosimetry, Cytology,  
Mammals, Plants, Perception, Visual sensation, Space flight, Salyut-6

9. M23(8/85) Eydus LKh, Korystov YuN. Kislorod v radiobiologii [Oxygen in radiobiology]. Moscow: Energoatomizdat; 1984.

Key Words: Radiobiology, Oxygen Effect, Cytology

#### ISSUE 3

10. P114(10/85) Kalacheva VYa, Arente GV, Pavlovskaya TYe. Energy-independent binding of  $Ca^{2+}$  ions by mitochondria of pea seedlings and the negative effect of X-rays on this process. Radiobiologiya. XXV(3): 348-35; 1985.

Radiobiology, X-rays  
Botany, Peas, Mitochondria  
Calcium Binding

11. P140(10/85) Chernov IP. The moderating influence of hypokinesia on interphase destruction of thymus and peripheral blood lymphocytes in irradiated rats [Abstract only]. Radiobiologiya. XXV(3): 429; 1985.

Radiobiology, Lymphocytes  
Rats  
Hypokinesia

#### ISSUE 4

12. P183(12/85) Fedorenko BS, Karpovskiy AL, Ryzhov NI, Krasavin YeA. Study of radiation damage in the brain tissue of rats. In Dubinin NP, editor, Biologicheskkiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 152-158. See SPBI1 (M5).

Radiobiology, Brain Tissue; Also Neurophysiology, Histology  
Rats  
Space Flight, Kosmos; HZE

13. P184(12/85) Nevsgodina LV. Study of the effect of galactic HZE's on air-dried seeds of Lactuca sativa. In Dubinin NP, editor, Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on "Salyut" orbital stations]. Moscow: Nauka; 1984; pp. 158-162. See SPBI1 (M5).

Radiobiology  
Botany, Lettuce, Seeds  
Space Flight, Salyut-6, Kosmos; HZE

14. P149(12/85) Kyshtobayev ShK, Razumovskiy YuK, Turganbayev ZhT. Changes in oxidation-reduction (redox) and hydrolytic enzymes of rat pituitary glands in response to irradiation at low mountain elevations. Zdravokhraneniye Kirgizii. 1985(4): 20-22.

Radiobiology, Irradiation  
Rats  
Enzymology, Pituitary, Redox

15. M36(12/85) Miroshnichenko LI, Petrov VM. Dinamika radiatsionnykh uslovii v kosmose [The dynamics of radiation conditions in space]. Moscow: Energoatomizdat; 1985.

Key Words: Radiobiology, Galactic and Solar Radiation

16. M37[(12/85) Vorob'yev YeI, Stepanov RP. Ioniziruyushchiye islucheniya i krovenosnyye sosudy [Ionizing radiation and blood vessels]. Moscow: Energoatomizdat; 1985.

Key Words: Radiobiology; Cardiovascular and Respiratory Systems, Vascular Damage

17. M46(12/85) Grigorov NL. Elektrony vysokoy energii v okrestnosti zemli [High energy electrons in the environment of Earth]. Moscow: Nauka; 1985.

Key Words: Radiobiology, Cosmic Rays, Corpuscular Radiation, Near-earth Space

18. M54(12/85) Vorob'yev YeI, Kovalov YeYe. Radiatsionnaya bezopasnost' ekipazhey letatel'nykh apparatov [Radiation safety of flight vehicle crews]. Moscow: Energoatomizdat; 1983.

Key Words: Radiobiology, Radiation Safety, Space Crews

## REPRODUCTIVE SYSTEM

## ISSUE 1

1. P12(6/85) Serova LV, Denisova LA, Apanasenko ZI, Bryantseva LA, Chel'naya NA. General description of an experiment on rat ontogenesis on the "Cosmos-1514" biosatellite. Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina. 19(2): 49-53; 1985.

Reproductive System, Pregnancy, Ontogeny  
Rats, Mothers, Neonates  
Space Flight, Cosmos-1514 Biosatellite



SPACE BIOLOGY

ISSUE 1

1. M5(6/85) Dubinin NP (editor). Biologicheskiye issledovaniye na orbital'nykh stantsiyakh "Salyut" [Biological investigations on the Salyut orbital stations]. Moscow: Nauka; 1984.

Key Words: Space Biology, Space Flight, Salyut, Genetics, Embryology, Botany, Higher Plants, Lower Plants, Zoology, Insects, Vertebrates, Radiobiology

## SPACE PHYSIOLOGY

## ISSUE 3

1. M29(10/85) Gasanov GG, editor in chief. XIV S'yezd vsesoyuznogo fiziologicheskogo obshchestva imeni I.P. Pavlov [(Proceedings of) the] XIVth Conference of the I.P. Pavlov All-Union Physiological Society]; 1983; Baku. Leningrad: Nauka; 1983. 2 vol.

Key Words: Cybernetics, Psychology, Health and Medical Treatment, Cardiovascular and Respiratory Systems, Genetics, Neurophysiology, Human Performance, Musculoskeletal System, Mathematical Monitoring, Adaptation, Nutrition, Endocrinology, Metabolism, Biological Rhythms

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USSR SPACE LIFE SCIENCES DIGEST  
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**CYBERNETICS/BIOMEDICAL DATA PROCESSING (CYBM)**

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NEUR: 12, 18, 21; NUTR: 1; PSYC: 7; SPPH: 1

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META: 4; PERC: 5; PERS: 1, 2; PSYC: 1, 2, 5, 6, 7, 8, 10, 11, 12; SPPH: 1

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1. Report No. NASA CR-3922(06)		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle  USSR Space Life Sciences Digest - Index to Issues 1-4				5. Report Date June 1986	
				6. Performing Organization Code	
7. Author(s)  Ronald Teeter and Lydia Razran Hooke				8. Performing Organization Report No.	
9. Performing Organization Name and Address Management and Technical Services Company (MATSCO) 600 Maryland Avenue SW Suite 209. West Wing Washington, DC 20024				10. Work Unit No.	
				11. Contract or Grant No. NASW-3676	
				13. Type of Report and Period Covered Contractor Report	
12. Sponsoring Agency Name and Address Office of Space Science and Applications National Aeronautics and Space Administration Washington, DC 20546				14. Sponsoring Agency Code EBM	
15. Supplementary Notes					
16. Abstract  This document is an index to issues 1-4 of the USSR Space Life Sciences Digest. It is arranged in three sections. In section 1, abstracts from the first four issues are grouped according to subject; please note the four-letter codes in the upper right hand corner of the pages. Section 2 lists the categories according to which Digest entries are grouped and cites additional entries relevant to that category by four-letter code and entry number in section 1. Refer to section 1 for titles and other pertinent information. Key words are indexed in section 3.					
17. Key Words (Suggested by Author(s)) space life sciences aerospace medicine space biology USSR space flight experiments space flight simulations			18. Distribution Statement  Unclassified - Unlimited  Subject Category 51		
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 74	22. Price A04

**End of Document**