

USSR

UDC 621.316.001.1

VENIKOV, V. A., GLAZUNOV, A. A.

"Problems in the Development of Electric Power Supply Systems for Large Cities and Problems of Prospective Developments in This Field"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya press, 1970, pp 133-137 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No Ye 267)

Translation: The basic goals of prospective scientific research and practical developments in the field of electric power supply systems for the cities are formulated on the basis of analysis of the development of municipal electric power networks and the electric power supply systems feeding them and also considering the demographic and sociological trends. Optimal construction and operating conditions of such systems can be found only when they are studied as electric power subsystems within the integrated power systems of the country. The bibliography has 12 entries. [Moscow Power Institute]

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USSR

UDC 617-001.28-06:616.8

GLAZUNOV, I. S., BLAGOVESHCHENSKAYA, V. V., IVANOV, V. A., and MALAKHOVA, V. V.,  
Moscow

"Clinical Characteristics and Some Problems of the Pathogenesis of Neurological Disturbances in Severe Forms of Acute Radiation Sickness"

Moscow, Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakov, Vol 73,  
Vyp 2, 1973, pp 165-168

Abstract: Nervous system pathology of eight patients receiving 400-900 rem gamma or neutron radiation is described. In the first stage acuteness could be diagnosed on the basis of the intensity of the initial reaction and the time of its appearance. Meningeal and general brain symptoms were most frequently characteristic of the intensity. Judging by them all patients had either mild or more pronounced radiation sickness. In the second stage these symptoms became less pronounced but persisted. In the critical third stage these symptoms intensified again, and various degrees of cerebral edema developed (the degree and the rapidity of onset depending on radiation dose). The whole range of neurological disruptions in the severe form of radiation sickness is described as a parenchymatic-meningeal syndrome of varying severity. Recovery was extremely slow, especially from vegetative-vascular instability accompanied by vestibular-vegetative reactions and asthenia. Rheoencephalographic studies supported the idea that such disruptions of the central nervous

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GLAZUNOV, I. S., et al., Zhurnal Nevropatologii i Psikhatrii imeni  
S. S. Korsakov, Vol 73, Vyp 2, 1973, pp 165-168

system are a product of vascular disturbances and changes in vessel wall permeability. Venous outflow from the brain cavity was found to be encumbered very early, prior to appearance of edematic symptoms. Such studies also revealed considerable damage to the brain ventricular system. Thus in severe and extremely severe forms of radiation sickness the damage to various nervous system structures is considerable and can be direct or indirect.

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Radiobiology

USSR

UDC 616-001.28-036.8-07:616.831-005-073.7.311

GLAZUNOV, I. S., GRAFOV, A. A., IVANOV, V. A., and BRYZHAKHIN, G. B.

"Cerebral Circulation in Man Afflicted With Acute Radiation Sickness"

Moscow, Meditsinskaya Radiologiya, Vol 16, No 3, Mar 71, pp 53-59

Abstract: Data are presented on the state of circulation and tonus of the cerebral vessels in 10 patients afflicted with acute radiation sickness in the moderate and severe stage. The observations were made 5-12 years from the onset of the disease. Acute illness emerged in these subjects as a result of a single dose of gamma-rays and neutrons in a total amount of 270 to 980 rem. Duration of the exposure varied from 1 sec to 20 min. The patients were 30-49 years of age during the study. Rheoencephalography and orbital plethysmography were used in combination with an appropriate somato-neurological examination. It was established that the dose of ionizing radiation and in connection with it the severity of the illness affect the cerebral circulation. The more severe the illness is, the most pronounced is the drop in regional or zonal blood circulation at some time after start of the illness. Data from orbital plethysmography showed that the volume pulse of the eye which characterizes the state of the tonus of the eye arteries was  $16.1 \pm 8.6 \text{ mm}^3$  for the patients afflicted with acute radiation

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GLAZUNOV, I. S., et al., Meditsinskaya Radiologiya, Vol 16, No 3, Mar 71, pp 53-59

sickness of moderate degree and  $-5.1 \pm 1.6 \text{ mm}^3$  for the patients suffering from acute serious radiation sickness. The results obtained indicated that the adhesive-elastic properties of the cerebral vessels are enhanced with subsequently developing chronic vascular insufficiency. The neurological state of the patients included general symptoms of cerebral disorders such as headache, oculovestibular vertigo, as well as signs of microorganic disturbances of the central nervous system (nystagmus, reflexes of oral automatism, mild pyramid insufficiency). From the general physiological aspects, the data obtained indicated a premature aging of the body taking place as a result of acute radiation sickness. These signs included premature greying of the hair, a sharp decline in the libido, trophic skin disorders, and hardening of the crystalline lenses with development of radiation cataracts.

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Cardiovascular Diseases

USSR

UDC 616.127-005.8-036.2(079.5)

KOKURINA, YE. V., GLAZUNOV, I. S., and METELITSA, V. I., Institute of Cardiology imeni K. L. Myasnikov, Academy of Medical Sciences USSR

"Value of Mail Questionnaires in Epidemiological Investigations"

Moscow, Kardiologiya, No 2, 1970, pp 124-128

Abstract: Rose's standard questionnaire for the detection of angina pectoris resulting from exertion was mailed to a representative group of 500 males, 50-59 years of age, living in the central area of Moscow. Angina was diagnosed in 5.4% of the cases according to "strict" criteria and in 12% of the cases according to "loose" criteria. Some 60% of the positive responses according to "strict" criteria corresponded to the findings of a physical examination including EKG, performed by a physician. Among those detected according to "loose" criteria, i.e., individuals with atypical location of the pain, symptoms of angina caused by exertion were found in 27.5% of the cases. EKG signs of ischemic heart disease were observed in 23.5% of the individuals who responded positively to the questionnaire. according to "strict" criteria.

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Water Treatment

USSR

UDC 543.123.11+532.74

SPITSTIN, V. I., GLAZUNOV, M. P., MULYAR, V. M., DERYAGIN, B. V., CHURAYEV, N. V., and ZORIN, Z. M., Institute of Physical Chemistry Academy of Sciences USSR, Moscow

"Study of the Anomalous Water by the Method of Neutron Activation Analysis"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 1, Jan-Feb 72, pp 132-135

Abstract: Samples of anomalous water were studied for their content of admixtures which could possibly be leached out of the glass; particularly Si and Na, after irradiation with thermal neutrons. As a preliminary experiment quartz glass itself was examined. The Na impurities were found to be low, and irregularly distributed throughout the capillary. The anomalous water samples were compared to double distilled water. It was established that the admixture concentration was much higher in the anomalous samples than in the double distilled material. The content of Si and Na was inversely proportional to the volume of the sample studied. This could be due to the evaporative procedures used, the impurities being introduced from the surface layer of the capillaries, from the evaporation equipment, etc. Temperature doesn't seem to have any particular effect on the content of impurities. The quantity of the anomalous components in the samples of anomalous water varied in the range of  $5 \cdot 10^{-8}$  to  $5 \cdot 10^{-3}$  g.

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USSR

UDC 546.718

SPITSYN, V. I., KUZINA, A. F., TSAKENKO, A. F., OZLOVA, A. A., BALAKHOVSKIY, O. A., KODOCHIGOV, P. N., GLAZUNOV, M. P., and KAYTEN, I. V.

"Synthesis of Metallic Technetium and its Physical Investigations"

Leningrad, Radiokhimiya, Vol 12, No 4, 1970, pp 617-621

Abstract: Highly pure metallic technetium in the form of a silver-gray powder or compact metal (regulus) was produced from tetraphenylarsonium pertechnetate  $(C_6H_5)_4AsTcO_4$  by hydrogen reduction in an electric furnace. The resultant material showed superconductivity with a critical point of 8.2°K. A study of the technology for producing the metal from the initial pertechnetate showed that technetium dioxide is produced after one hour in a hydrogen atmosphere at 260°C, and the metal is produced at a temperature of 1000°C. X-ray structural analysis revealed that metallic technetium has a hexagonal lattice with dense atomic packing of the magnesium type, the lattice parameters being  $a = 2.74 \pm 0.005$  and  $c = 4.41 \pm 0.005$ ;  $c/a = 1.609$ . The radiometric and neutron activation methods of analysis showed extremely minute quantities of trace impurities: Ru-- $10^{-8}$ , Rh-- $10^{-14}$ , Al-- $10^{-5}$ , Na-- $10^{-3}$  and As-- $10^{-3}$  gm per gm of technetium. Within the limits of sensitivity of the neutron activation method, no other impurities were detected.

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--ELECTRON PARAMAGNETIC RESONANCE STUDY OF CATION EXCHANGERS -U-  
AUTHOR--(04)-KARPUKHINA, T.A., KISELEVA, YE.D., CHMUTOV, K.V., GLAZUNOV,  
M.P.  
COUNTRY OF INFO--USSR *G*  
SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1003-7  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--ION EXCHANGE RESIN, FORMALDEHYDE, ANTHRACENE, ORGANIC AZOLE  
COMPOUND, PHENANTHRENE, GAMMA RADIATION, ELECTRON PARAMAGNETIC  
RESONANCE, PHOTOLYSIS, CONJUGATE BOND SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3007/0777

STEP NO--UR/0076/70/044/004/1003/1007

CIRC ACCESSION NO--AP0136214

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136214

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF HCHO WITH ANTHRACENE, PHENANTHRENE, CARBAZOLE, OR ACENAPHTHENE, FOLLOWED BY SULFONATION GAVE ION EXCHANGE RESINS CONTG. LARGE CONJUGATED SYSTEMS. THESE RESINS WERE VERY STABLE TOWARDS GAMMA IRRADN. EPR SPECTRA OF THE RESINS AND THEIR PHOTODEGRADATION PRODUCTS ARE DISCUSSED.  
FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

GLAZUNOV, N. M.

"Software for a Dialogue System for Studies in Algebra and Number Theory"

Teoriya Yazykov i Metody Postroyeniya Sistem Programmir. [Theory of Languages and Methods of Construction of Programming Systems--Collection of Works], Kiev-Alushta, 1972, pp 406-413 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V562, by V. Mikheyev)

Translation: The basic units of software for a dialogue programming system designed for studies in algebra and number theory are described. The system is based on the "MIR"- "BESM-6" system. The system uses an expanded version of ANALITIK as an input language. The jobs toward which this version of the software system is oriented are selected from the following sections of algebra and number theory: elementary number theory, matrix algebra for rings, polynomials and formal power series in rings, formal Li groups, groups of polynomials of one variable in fields, expansion of polynomials of one variable into simple cofactors, Galois groups of polynomials, groups of homologs and cohomologs.

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RUSSIA

UDC 620.17:669.295'71'26'28

KHOREV, A. I., GLAZUNOV, S. G., and MUKHINA, L. G.

"Mechanical Properties of Alloys of the Ti-Al-Cr and Ti-Al-Cr-Mo System"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 28-34

Abstract: Alloys of the Ti-Al-Cr and Ti-Al-Cr-Mo system with a constant amount of  $\alpha$ -stabilizing element (3% Al) and a variable amount of  $\beta$ -stabilizers (chromium and molybdenum) were investigated. The experimental procedure and test results are discussed. The mechanical properties of the alloys in the annealed and quenched states were plotted for annealing at  $-50^{\circ}\text{C}$  for 1 hour with cooling in air, annealing at  $-100^{\circ}\text{C}$  and cooling in air, water quenching from  $-50^{\circ}\text{C}$ , water quenching from  $-100^{\circ}\text{C}$ , and water quenching from  $600^{\circ}\text{C}$ . The mechanical properties of the alloys in the thermally hardened state and their sensitivity to superhardening were also plotted. It was found that alloys of the Ti-Al-Cr and Ti-Al-Cr-Mo (close to critical concentration) system in the annealed state have high plasticity with strength reaching 120 kg/cm<sup>2</sup>. Quenching with subsequent aging as a method  
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USSR

KHOREV, A. I., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 28-34

of improving strength while retaining satisfactory plasticity can be applied for alloys of the Ti-Al-Cr system containing no more than 3.6% Cr and for all Ti-Al-Cr-Mo alloys containing up to 9% Cr + 15% Mo. The mechanical properties of alloys with superheated structure in the annealed and thermally hardened state were investigated. With equal strength obtained after hardening heat treatment of low-alloy alloys and annealing of high-alloy alloys, the latter retain higher plasticity.

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USSR

UDC 620.17:669.295'71'26'28

KHOREV, A. I., GLAZUNOV, S. G., and MUKHINA, L. G.

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USSR

KHOREV, A. I., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 28-34

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USSR

UDC 539.3.01

GLAZUNOVA, N. T., SKOMAKHA, N. D.

"On the Plane Problem for a Wedge and a Rectangle. (Concerning the Question of the Sen-Venan Principle)"

Tr. Novocherkas. politekhn. in-ta (Works of Novocherkassk Polytechnical Institute), 1972, No. 253, pp 97-105 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V53)

Translation: A solution is proposed for wedge-shaped and trapezoidal plates bearing a longitudinal self-balancing load on one of the edges. The solution is used to evaluate the applicability of the Sen-Venan principle for a wedge-shaped region. It is shown that stresses in the wedge-shaped region are dampened extremely rapidly and consequently the Sen-Venan principle for triangular regions remains in force. 8 ref. Authors' abstract.

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USSR

UDC 615.786-092.259:612.746

KHAYDAROV, K. Kh., LEBEDEVA, L. D., GLAZUNOVA, Ye. M., and GLEBOVA, N. V.,  
Institute of Chemistry, Academy of Sciences Tadzhik SSR; Tadzhik State  
Medical Institute imeni Abuali ibn-Sino

"Physiological Effect of Carbamates of Dihydropyranol Derivatives"

Dushanbe, Izvestiya Akademii Nauk Tadzhikskoy SSR, No 4(45), 1971, pp 41-46

Abstract: The effect of 2,5,6,6-tetramethyl-2-ethyl-dihydro-5-pyranol (K<sub>3</sub>) and 2,6,5,6-tetramethyl-6-ethyl-dihydro-5-pyranol (K<sub>6</sub>) on the central nervous system of mice was studied. In both of these compounds the methyl was substituted for ethyl at the 2d and 6th positions. A transfer of the ethyl radical from the 2d to 6th position increased to some extent the toxicity of these compounds, regardless of the method of administration. At the same time, it improved some of their effects on the central nervous system, such as soporific and muscle-relaxation properties. An intraperitoneal dose of 200 mg K<sub>3</sub>/kg did not cause any visible effect on animals, but a dose of 300 mg/kg produced a very strong depressing effect, and 400 mg/kg made all mice lie on their sides in 4-5 min. In the case of K<sub>6</sub>, a strong depression was produced by 250 mg/kg. A large subcutaneous doses of K<sub>3</sub> and K<sub>6</sub> (900, 1000, 1100, 1200, 1300, 1400 mg/kg) produced depression in 60 min. Doses of 700, 800, 900, 1000, 1200 1/2

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KHAYDAROV, K. Kh., et al., *Izvestiya Akademii Nauk Tadzhikskoy SSR*, No 4(45), 1971, pp 41-46

mg K<sub>3</sub> and K<sub>6</sub>/kg administered orally produced a sedative effect in 15 min., and all animals were lying down in 45 min. A combination of caffeine and phenamine with 300 mg K<sub>3</sub> or K<sub>6</sub>/kg removed partially and doses of 500 mg/kg completely removed the stimulation produced by caffeine and phenamine. Animals slept for 30, 62, 87, and 150 min. when given 400, 500, 550, and 600 mg K<sub>3</sub>/kg, respectively. In the case of 300 and 350 mg K<sub>6</sub>/kg, the sleep was prolonged to 300 and 350 min., respectively. The effect of these compounds disappeared completely in 18-24 hr. All mice perished in sleep when injected with 650-700 mg K<sub>3</sub>/kg, or 500-600 mg K<sub>6</sub>/kg. The sleep produced by hexenal (60 mg/kg given intravenously) was prolonged 2.5-14 times when animals were preliminarily injected with 10, 25, 50, or 100 mg K<sub>3</sub> and K<sub>6</sub>. A displacement of the ethyl radical from the 2d to 6th position did not improve much the anticonvulsion properties of these compounds. The data obtained indicate that both compounds act on the central nervous system, although the cholinolytic properties cannot be ascribed to them.

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1/2 000 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--TERTIARY TRIHYDRIC ALCOHOLS OF THE ACETYLENIC AND ETHYLENIC SERIES  
AND THEIR CHEMICAL REACTIONS. TRIETHERS AND MONO AND DIETHERS OF  
AUTHOR--(03)-NIKITIN, V.I., GLAZUNOVA, YE.N., BENCER, E.F.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 661-5 (RUSS)  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ACETYLENE, GLYCEROL, ETHER, ORGANIC SYNTHESIS - CONDENSATION  
REACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2042 STEP NO--UR/0356/70/006/004/0561/0065  
CIRC ACCESSION NO--AP0105630

2/2 009

UNCLASSIFIED

PROCESSING DATE--10NOV70

CIRC ACCESSION NO--AP0125630

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF ROME(OMA)C:  
SHOWN ON MICROFICHE. SIMILARLY, MECR(OAC)C:CR, WHERE R IS  
1, METHOXYCYCLOHEXYL OR 1, ETHOXYCYCLOHEXYL, WERE PREPD.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SYNTHESIS OF ETHERS OF PRIMARY ACETYLENIC ALCOHOLS AND PRIMARY  
DITERTIARY ACETYLENIC TRIOLS -U-  
AUTHOR-(03)-NIKITIN, V.I., GLAZUNOVA, YE.M., POTAPOVA, I.M.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(2), 29-32  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ORGANIC SYNTHESIS, ACETYLENE, ALCOHOL, ETHER, HYDROLYSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/1165 STEP NO--UR/0425/70/013/002/0029/0032  
CIRC ACCESSION NO--AT0134847  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134847

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 0.3 MOLE HC:CCH SUB2 OH TO 0.33 MOLE NANH SUB2 IN LIQ. NH SUB3 AT NEGATIVE 40 TO NEGATIVE 50 DEGREES, FOLLOWED BY 0.2 MOLE OF N,C SUB6 H SUB13 BR OR N,C SUB8 H SUB17 BR, AND CONVENTIONAL WORK UP, GAVE HC:CCH SUB2 OR (I) FOR WHICH DATA ARE GIVEN. WHEN I WAS DISSOLVED IN ET SUB2 O WITH AN EQUIV. AMT. OF ME SUB2 C(OH)C(O)ME, 3 EQUIVS. POWD. KOH, AND ULTIMATE HYDROLYSIS, CONVENTIONAL WORK UP GAVE ME SUB2 C(OH)CME(CH)C:CCH SUB2 OR FOR WHICH DATA ARE GIVEN. FACILITY: INST. KHIM., DUSHANBE, USSR.

UNCLASSIFIED

Doc. Nr.: **AP0028772**

Ref. Code: UR 0050

PRIMARY SOURCE: *Meteorologiya i Gidrologiya*, 1970, Nr 1,  
pp **30-34**

PHASE STATE OF PRECIPITATION IN MOUNTAINS DEPENDING  
ON SURFACE AIR TEMPERATURE

G. Ye. Glazunov

In the paper the probability dependence of this or that phase state of precipitation at the earth surface on surface air temperature and absolute altitude of locality is considered. It is shown that both values of temperature when the fall of liquid and solid precipitation is equally probable and the quantity of interval between values of temperature when precipitation can be liquid and solid increase with height of locality. Probable explanations of these phenomena are given.

REEL/FRAME

**19680209**

12 28

USSR

UDC 624.04:534.1

GLAZYRIN, V. S.

"Decreasing the Vibrations of Structures by Means of a Dynamic Damper of the V. S. Martyshkin System"

Moscow, Stroitel'naya Mekhanika i Rashchet Sooruzheniy, No 3, 1972, pp 56-60

Abstract: Vibrations in buildings and structures are frequently caused by unbalanced inner forces originating during the rotary and reciprocating motion of machine components. If it is impossible to create a massive foundation underneath the machine in order to decrease the vibrations, or to cushion the vibrations by means of a pliant linkage between the machine and the foundation, there is the alternative of creating a counterweight that is capable of developing a force to counterbalance the inertial forces of the machine. For implementing the last-mentioned possibility, a special device has been invented and patented by V. S. Martyshkin. A description of the device, the principle of its operation, an example of its actual application, and theoretical considerations regarding its employment are presented. 4 figures. 3 references.

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USSR

BERDYEV, A. S., GLEBEZDIN, V. S., OVEZMUKHAMMEDOV, A., and REMYANNIKOVA, T. N.

"First Congress of the All-Union Society of Protozoologists (12-15 October 1971)"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh Nauk, No 1, 1972, pp 92-93

Abstract: The first congress of the All-Union Society of Protozoologists, meeting in Baku, was attended by 250 delegates and guests, including nine persons from Turkmenia. There were three plenary sessions and four sections (General Protozoology; Medical Protozoology; Veterinary Protozoology; Parasitic Protozoa of Fish and Invertebrates). The president of the All-Union of Protozoologists, Professor Yu. I. Polyanskiy, spoke of "Prospects of Development of Protozoology in the USSR." Sh. D. Moshkovskiy, corresponding member of the Academy of Medical Sciences, USSR, spoke on "Protozoology and Immunology," Professor D. N. Zasukhin delivered a lecture on "I. I. Mechnikov and Contemporary Problems of Protozoology," Professor N. A. Kolabskiy spoke on "Professor V. L. Yakimov and his Role in the Development of Protozoology and Chemotherapy." Particular attention was attracted by the lecture of Professor Yu. I. Polyanskiy, "Some Aspects of the Evolution of Protozoa."

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USSR

UDC 616.212-018.73-091-02:615.285.7.025.1

SADRIYEVA, R. V., Candidate of Medical Sciences, AVSALYANOV, I, F., Candidate of Medical Sciences, and GLEBKASHANSKAYA, N. V., Medical Institute imeni' Academician I. F. Pavlov

"Dynamics of Morphological Changes in the Nasal Mucosa During Prolonged Peroral Administration of Small Doses of Hexachloran"

Moscow, Vestnik Otorinolaringologii, No 3, May/Jun 71, pp 92-95

Abstract: Since organic compounds of chlorine are widely used as pesticides and herbicides, the toxicity of hexachloran to nasal mucosa was investigated on rabbits. The animals were given daily peroral doses of hexachloran (1 mg/kg body weight) for up to 104 days. They were serially sacrificed at various time intervals, and the nasal mucosa was investigated microscopically. No changes were observed during the first 40-50 days. Then, evidently due to weakened resistance, vascular disorders such as congestion and swelling of vascular in mucosal dystrophy and acute catarrhal rhinitis. On the 90th day of poisoning, exudative processes were diminished and regeneration began, leaving only small pathological changes on the 104th day. The results indicate that hexachloran is a very toxic chemical and that protective masks must be worn when working with this compound.

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1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--EFFECT OF DIBORANE ON HUMIC ACIDS -U-  
AUTHOR--MAKSIMOV, O.B., KULICHKOVA, V.A., GLEBKO, L.I. 6  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. TVERD. TOPL. 1970, (1), 14-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--DIBORANE, TETRAHYDROFURAN, QUINONE, WOOD PRODUCT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/2045 STEP NO--UR/0467/70/000/001/0014/0017  
CIRC ACCESSION NO--A20109977  
7777777777 UNCLASSIFIED

2/2 017  
CIRC ACCESSION NO--AP0109977

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF HUMIC ACIDS (I) IN TETRAHYDROFURAN STRONGLY DECREASES DURING THE REACTION WITH DIBORANE (II). THE REMAINING I HAS A CHARACTER OF A NONAROMATIC ALC. THE REACTION OF II WITH I C:O GROUPS NEEDS GREATER THAN 15 HR, WITH OTHER C:O GROUPS GREATER THAN 30 DAYS. THE DEGREE OF PARTICIPATION OF QUINONE GROUPS IN THE REDN. COULD NOT BE DETD.

ZZZZZZZZZZZZ

UNCLASSIFIED

USSR

UDC 681.326.35:621.374.3

GLEBOV, B. A., and MALAKHOV, E. S.

"Principles for the Construction of Static Flip-Flops With Double-Operating Thyristors"

Tr. Novocherkas. Politekhn. In-ta (Works of Novocherkassk Polytechnical Institute), 223, 1970, pp 140-148 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B153 by T. R.)

Translation: This article presents the results of the development of new circuits using only one double-operating thyristor for flip-flops with a complementing (common) input. Only with the help of heteropolar pulses is it possible to control the very simplest flip-flop circuit made from a double-operating thyristor, the flip-flop being connected to the power source through the resistance of the load. The necessity of having a special alternating-polarity pulse generator as a control source is a defect in the given circuit: that is, it limits its sphere of application. 8 illustrations, 4 titles in bibliography.

1/1

1/2 050 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--HEAT TRANSFER AT THE FORWARD STAGNATION POINT OF AN INDISTRICTIBLE  
BODY SITUATED IN A PARTIALLY IONIZED AIR FLOW -U-  
AUTHOR--(02)--AVDUVEVSKIY, V.S., GLEBOV, G.A. 6  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO FIZICHESKII ZHURNAL, VOL. 18, FEB. 1970, P. 201-209  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--LAMINAR BOUNDARY LAYER, AIR FLOW, IONIZED GAS, BOUNDARY LAYER  
HEAT TRANSFER, HEAT TRANSFER RATE, ENTHALPY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/0406 STEP NO--UR/0170/70/018/000/0201/0209  
CIRC ACCESSION NO--AP0111599  
UNCLASSIFIED

2/2 050

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE LAMINAR BOUNDARY LAYER AT THE FORWARD STAGNATION POINT OF AN INDISTRICTIBLE BODY IN A PARTIALLY IONIZED AIR FLOW, ON THE BASIS OF IMPROVED HEAT TRANSFER DATA. THE INFLUENCE OF THE DISSOCIATION OF THE AIR INTO ATOMS AND OF THE IONIZATION OF A PORTION OF THE ATOMS ON HEAT TRANSFER IS EXAMINED UNDER THE ASSUMPTION THAT THE BOUNDARY LAYER IS OPTICALLY THIN. THE LAMINAR BOUNDARY LAYER EQUATIONS ARE SOLVED NUMERICALLY, AND THE SPECIFIC HEAT FLUX IS CALCULATED AS A FUNCTION OF THE ENTHALPY OF THE FLOW.

UNCLASSIFIED

1/2 043 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--HEAT EXCHANGE IN THE VICINITY OF THE CRITICAL POINT ON A PERMEABLE  
SURFACE -U-  
AUTHOR--(02)-AVDUYEVSKIY, V.S., GLEBOV, G.A. **G**  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, MAY 1970, P. 777-782. 13  
REFS.  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, AIR, NITROGEN, IONIZED GAS, CRITICAL POINT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3007/1129

STEP NO--UR/0170/70/018/000/0777/0782

CIRC ACCESSION NO--AP0136549

UNCLASSIFIED



2/2 043

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--A0136549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE FLOW OF A DISSOCIATING AND PARTLY IONIZED GAS OVER ANY ARBITRARY POINT ON A PERMEABLE SURFACE THROUGH WHICH DIFFERENT GASES ARE INJECTED INTO THE LAMINAR BOUNDARY LAYER. ATTENTION IS GIVEN TO THE INFLUENCE OF GAS INJECTION (AIR AIR AND NITROGEN NITROGEN MIXTURES) ON THE VALUE OF THE CONVECTIVE HEAT FLUX AT LARGE ENTHALPIES OF THE ONCOMING FLOW AND LARGE VALUES OF THE CONVECTIVE HEAT FLUX. THE EFFECTS OF BLOWING ON THE RADIANT HEAT FLUX ARE NOT CONSIDERED. CORRELATIONAL EQUATIONS ARE OBTAINED FOR THE HEAT EXCHANGE PARAMETERS. FACILITY: MOSKOVSKI AVIATIONNI INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

GLEBOV, M.

Computer

30 Sep 71

91

PRO-CYBERNETICS

130016

41, USSR

GLEBOV, M.

10: Foreign Press Digest

30 SEP 71

Moscow, Tnd, 29 Apr 71, p 4

Excerpt: The installation of a "Minsk-22" electronic computer at a new Computer Center of the Central Council on the Administration of Trade Union Health Resorts on Moscow Vernadsky Boulevard has been completed.

In our country, in which people's health is taken care of better than anywhere in the world, there are thousands of Trade-Union sanatoriums alone. The Central Administration annually. Ultimately, these accommodations are supplied to be counted, and distributed among trade unions, branches of industry, and specialized health resorts according to geography and seasons of the year.

"Already in the course of this year," has stated a leading specialist of the new Computer Center, Vasily Lyashenko, "we will establish a direct telephone communication with Pozsgorak and Odessa. The electronic computer will be able to solve for them a number of planning-economic problems, determine duration and establishment of the

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USSR

GLEBOV, M., Tnd, 29 Apr 71, p 4

Results of treatment, the most effective health resorts, kind and methods of treatment, the extent of decrease of the temporary invalidity of persons that stayed at a health resort, and many other problems. And the main task is to create, based on the new Computer Center, a Scientific Research Laboratory and an Automatic Control Center of Trade-Union Health Resorts. The electronic computer that works on the Vernadsky Boulevard marks the beginning of the realization of this task.

2/2

USSR

GLEBOV, N. I., DEMENT'YEV, V. T., SYCHEV, A. N.

"The Dynamics of Development of Homogeneous Technical Systems"

Sb. tr. In-t mat. Sib. otd. AN SSSR [Collected Works of Institute of Mathematics, Siberian Division Academy of Sciences USSR], No 8, 1971, pp 51-67, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V466).

NO ABSTRACT.

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USSR

UDC 542.938.546.791.4

GLEBOV, V. A., KLYGIN, A. Ye., SMIRNOVA, I. D., and KOLYADA, N. S.

"An Investigation of the Hydrolysis of Tetravalent Uranium"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 12, Dec 72, pp 3312-3316

Abstract: By applying the method of spin echo, the effects of the pH and the temperature on the velocity of longitudinal relaxation of protons in  $\text{HClO}_4$  solutions of U(IV) were studied. It was shown that as a result of hydrolysis an increase took place in the frequency of exchange of  $\text{H}_2\text{O}$  molecules in the hydrate shell of U(IV) and that this increase affected the velocity of relaxation of protons in the solutions. Spectrophotometric measurements at various values of the pH of the absorption at the wavelength 548 nm that is characteristic for the  $\text{U}^{4+}$  ion were also carried out. Both measurements of the nuclear magnetic resonance, which gave information of the exchange of  $\text{H}_2\text{O}$  molecules in hydrolysis (cf. Glebov et al, Zh. Neorg. Khim., 15, 1332, 1970; 17, 1175, 1972), and determinations of optical densities at 548 nm, which yielded data on the concentration of free  $\text{U}^{4+}$  ions, indicated that in the pH range studied (0 - 1.97) hydrolysis of the  $\text{U}^{4+}$  ions proceeded by the reaction  $\text{U}^{4+} + \text{H}_2\text{O} \rightarrow \text{UOH}^{3+} + \text{H}^+$ . The constant of formation of the monohydrate complex  $\text{UOH}^{3+}$  was  $0.052 \pm 0.003$ .

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USSR

UDC 546.791.4'212-128.4

GLEBOV, V. A.

"Temperature Dependent Time of Linear Relaxation of Protons in Aqueous Solutions of  $UF_4^{3+}$  Ions"

Moscow, Zhurnal Neorganichiskoy Khimii, Vol 17, No 4, 1972, pp 1175-1176

Abstract: The temperature dependent time of linear relaxation of protons in aqueous solutions of tetravalent uranium in the presence of the fluoride ion was determined. Spin echo and NMR (Nuclear magnetic resonance) were used as analytical tools. An aqua complex of  $U^{IV}$  with non-equivalent molecules of water was indicated and an expression derived for the velocity of relaxation. The calculation of the existence of two sites for the relaxation of protons leads to the assumption that the increase in  $\tau_s$  leads to an increase at the second site in relaxation since for weakly bonded water molecules to the uranium ion,  $\tau < T_{ic}$  where  $T_{ic}$  is the time of relaxation of protons of the water molecule in the first coordination sphere of the uranium molecule. The relaxation is determined basically by the time  $\tau_s$ .

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1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ELECTRONIC STRUCTURE AND EPR OF THE TIF PRIME2POSITIVE ION -U-

AUTHOR--GLEBOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1378-80 (PHYS CHEM)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRON STRUCTURE, TITANIUM COMPOUND, EPR SPECTRUM, VANADIUM  
OXIDE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1590

STEP NO--UR/0020/70/190/006/1378/1380

CIRC ACCESSION NO--AT0116998

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70  
CIRC ACCESSION NO--AT0116998  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTRONIC STRUCTURE OF TIF (H  
SUB2 O) SUB5 PRIME2 POSITIVE ION WAS CALCD. BY THE LCAO MO METHOD  
(BOTSANOV, ET AL., 1966). THE GEOMETRIC STRUCTURE OF THE ION IS SIMILAR  
TO THAT OF VO(H SUB2 O) SUB5 PRIME2 POSITIVE (BALLHAUSEN AND GRAY, 1962).  
THE BEST AGREEMENT OF CALCD. AND EXPTL. ENERGIES IN THE PRIME2 BETA  
YIELDS PRIME2 ALPHA TRANSITION WAS OBTAINED WITH 3D SUB2 PRIME2 PLUS  
4SIGMA HYBRIDIZATION. THE ENERGIES OF THE AT. ORBITALS ARE: 4SIGMA  
106,942, 4RHO 64,298, AND 3D 134,416 CM PRIME NEGATIVE1. THE  
POPULATION OF THE 4SIGMA, 4RHO, AND 3D ORBITALS OF TI ARE 0.43, 0.24,  
AND 2.29 RESP. THE COMPLEX HAS THE FORM OF (TI PRIME1.05 POSITIVE F  
PRIME0.52 NEGATIVE-(5H SUB2 O) PRIME1.47 POSITIVE). THE STATE OF TIF(H  
SUB2 O) SUB5 PRIME2 POSITIVE IONS IS (IA SUB1 PRIME2 B SUB1 IIA SUB2  
PRIME2 EPI PRIME4 E PRIME4 IIIA SUB1 PRIME2 B SUB2 PRIME1) EQUALS PRIME2  
B SUB2, THE SAME AS IN VANADYL. IN THE COMPLEX, ABSORPTION BANDS APPEAR  
AT 475 AND 600 NM. THE EPR SPECTRUM IN AN AQ. SOLN. CONSISTS OF A  
SINGLE SYM. LINE WITH A G FACTOR 1.94.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--STRUCTURE OF AN AQUO COMPLEX OF URANIUM IV -U-  
AUTHOR-(04)-GLEBOV, V.A., KNYAZEV, YU.D., LEKAYE, V.A., BORODINA, N.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1332-5  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--COMPLEX COMPOUND, URANIUM COMPOUND, TEMPERATURE DEPENDENCE,  
PROTON  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3007/1155 STEP NO--UR/0078/70/015/005/1332/1335  
CIRC ACCESSION NO--AP0136575  
UNCLASSIFIED



2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEMP. DEPENDENCE OF THE RELAXATION TIME OF PROTONS IN SOLNS. OF U (IV) WAS DETD. BY THE SPIN ECHO METHOD. THE STUDY REVEALS NONEQUIV. WATER MOLLS. IN THE AQUO COMPLEX OF U(IV); SOME OF THEM ARE BONDED STRONGER THAN OTHERS. IN THE INNER SPHERE, THE ACTIVATION ENERGY AND LIFE TIME OF THE STRONGLY BONDED WATER MOLLS. ARE 11.0 PLUS OR MINUS 1.0 KCAL-MOLE AND 0.4 SEC (20DEGREES), RESP. A STRUCTURE OF THE U(IV) AQUO COMPLEX IS PROPOSED.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--RESISTANCE OF HEATING SURFACES OF MAZUT BOILERS TO VANADIUM  
CORROSION -U-  
AUTHOR--ANTIKAYN, P.A., VASYUCHKOVA, K.I., GLEBOV, V.P. *G*  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, ELEKTRICHESKIYE STANTSII, NR 4, 1970, PP 34-38  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS  
TOPIC TAGS--STEAM SUPERHEATER, VANADIUM CORROSION, BIBLIOGRAPHY,  
AUSTENITIC STEEL, STEAM BOILER, PETROLEUM RESIDUE/(U)PK41 MUZAT BOILER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1987/1411

STEP NO--UR/0104/70/000/004/0034/0038

CIRC ACCESSION NO--AP0104725

UNCLASSIFIED

2/2 021

UNCLASSIFIED


PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE QUOTED OF LABORATORY INVESTIGATIONS OF THE SPECIMENS OF STEAM SUPERHEATER PIPES FROM DIFFERENT STEELS OF PEARLITIC AND AUSTENITIC CLASSES. THE SPECIMENS WERE TESTED IN AN ARTIFICIAL MEDIUM CONTAINING 87PERCENT VANADIUM DIOXIDE AND IN DEPOSITS REMOVED FROM PIPES OF A CONVECTIVE STEAM SUPERHEATER OF THE PK-41 GAZ MAZUT BOILER. RECOMMENDATIONS ARE GIVEN FOR THE USE OF VARIOUS STEEL BRANDS.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--THE SUCCESSION OF IMMUNIZATION BY BRAIN ANTIGENS OF THE ORGANISM IN  
THE PERIOD OF EXACERBATION OF THE SCHIZOPHRENIC PROCESS -U-  
AUTHOR--GLEBOV, V.S.

COUNTRY OF INFO--USSR 

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,  
VOL 70, NR 4, PP 596-600  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMMUNIZATION, BRAIN, ANTIGEN, SCHIZOPHRENIA, ANTIBODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1539

STEP NO--UR/0246/70/070/004/0596/0600

CIRC ACCESSION NO--AP0106288

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0106288

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REPORT CONCERNS A STUDY OF THE BLOOD SERUM OF 248 SCHIZOPHRENIC PATIENTS IN RELATION TO THE CONTENT OF ORGANOSPECIFIC BRAIN ANTIGENS OF A PROTEIN NATURE AND ANTIBODIES TO THESE ANTIGENS. THE STUDIES WERE CONDUCTED DYNAMICALLY IN THE PROCESS OF EXACERBATIONS OF THE DISEASE. THE EXISTENCE OF ANTIGENS WERE ESTABLISHED IN THE BLOOD OF 114 PATIENTS, THE ANTIBODIES, IN 119 CASES. THE FOLLOWING IMMUNOLOGICAL TYPES OF SERA WERE DETERMINED: 1) SEROLOGICALLY INACTIVE; 2) SERA, CONTAINING BRAIN ANTIGENS; 3) SERA, CONTAINING BRAIN ANTIBODIES; 4) SERA, CONTAINING BRAIN ANTIGENS AND BRAIN ANTIBODIES. THESE STUDIES CONFIRMED THE PREVIOUS DATA, WHERE IT WAS SHOWN THAT ANTIGENS OF THE BLOOD APPEAR FIRST, AND SOMEWHAT LATER, THE ANTIBODIES. ANTIBODIES TO A HETEROLOGOUS BRAIN APPEAR IN THE BLOOD OF SCHIZOPHRENIC PATIENTS EARLIER THAN TO A HOMOLOGOUS BRAIN. THE SEX AND AGE OF THE PATIENTS DO NOT INFLUENCE SIGNIFICANTLY THE FREQUENCY OF AUTOIMMUNE CHANGES, BUT THERE IS A CERTAIN CORRELATION BETWEEN THE FREQUENCY OF BRAIN ANTIBODY TO SEASONAL FACTORS. THE MAXIMUM OF FINDINGS OF ANTIBODIES COINCIDES WITH JANUARY AND JULY AUGUST. THESE DATA TESTIFY TO IMMUNIZATION OF THE ORGANISM OF PATIENTS BY ORGANOSPECIFIC BRAIN ANTIGENS. EVIDENTLY, ANTIGEN IMMUNIZATION COMMON FOR HUMAN BRAIN AND SOME SPECIES OF ANIMALS TAKES PLACE EARLIER, THAN BY ANTIGENS, CLOSELY RELATED TO SPECIES AFFINITY OF BRAIN TISSUES.

UNCLASSIFIED

Aluminum and Its Alloys

USSR

UDC 669.71

DOBROMYSLOV, A. V., BUYNOV, N. N., GERSHKOVICH, R. M., and GLEBOV, V. V.,  
Institute of Physics of Metals of the Academy of Sciences USSR

"Investigation of the Structure of Guinier-Preston Zones in the Alloy  
Aluminum-Silver"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 5, May 71, pp  
1058-1062

Abstract: A comparative roentgenographic and electron-microscopic investigation of sizes of Guinier-Preston (G-P) zones was carried out with a view to examine the correctness of the three-phase model of the decay in aluminum-silver alloy. The investigation included the determination of the silver distribution in the G-P zone with full account for the diffusion dispersion. With that end in view, coefficients of order in the alloy aluminum-silver, water quenched from 535°C with subsequent aging at 165°C over a period of 15 min, were determined. A method is discussed by which the silver concentration in the G-P zone, which was found to be equal to the amount of silver previously present in a specific volume of the alloy, can be determined. Five illustr., five formulas, nine biblio. refs.  
1/1

USSR

UDC 533.915

NOVICHKOV, D. N. and GLEBOV, V. V.

"Experimental Investigation of Nonstationary Processes in an Unbalanced Plasma of Mixed Cesium and Argon"

Moscow, Teplofizika Vysokikh Temperatur, Vol 8, No 4, 1970, pp 695-706

Abstract: The authors present a system of equations describing the behavior of a plasma, and they state that although an analytical solution cannot be directly obtained, a type of solution is available if certain assumptions are made. Most researchers have made the assumption that in this system of equations the time derivatives for practically all the states can be neglected, since the concentration in those states varies in only a quasi-stationary way. The path taken by the remainder of this type of solution depends on the atomic model the theorizer adopts. The authors examine a number of these models and describe experiments they have performed to aid in determining the proper choice of model. The specific aim of the experiments is to determine the mechanism of ionization development. A stationary discharge in the argon and cesium mixture is used as the preliminary ionization source. Further details of the experimental equipment and procedure are given. Gratitude is expressed to F. N. Ul'yanov.

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1/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ORIGIN OF THE CENTRAL DIFFUSE SPOT ON THE X RAY DIFFRACTION  
PICTURES OF AN AGEING ALUMINIUM SILVER ALLOY -U-  
AUTHOR--(03)-DOBROMYSLOV, A.V., BUINOV, N.N., GLEBOV, V.V.  
COUNTRY OF INFO--USSR 6  
SOURCE--FIZIKA METALLV I METALLOVEDENIE, APR. 1970, 29, (4), 807-812  
DATE PUBLISHED----- 70  
  
SUBJECT AREAS--PHYSICS, MATERIALS  
TOPIC TAGS--X RAY DIFFRACTION PATTERN, SILVER ALLOY, ALUMINUM ALLOY,  
ELECTRON DENSITY, LOW TEMPERATURE EFFECT  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3003/0448 STEP NO--UR/0126/70/029/004/0807/0812  
CIRC ACCESSION NO--AP0129673  
UNCLASSIFIED



2/2 034

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ORIGIN OF THE CENTRAL DIFFUSE SPOT REPEATEDLY APPEARING ON THE X RAY DIFFRACTION PATTERNS OF AGEING AG-AL ALLOYS AT LOW TEMP. IS DISCUSSED. THE DIFFUSE SPOT CANNOT BE ADEQUATELY EXPLAINED ON THE BASIS OF THE THERMAL VIBRATIONS OF INDIVIDUAL ATOMS. HOWEVER, ON THE BASIS OF THE GENERAL LAW OF DIFFRACTION AS APPLIED TO SAMPLES CONTG. SPHERICAL GUINIER-PRESTON ZONES (THE X RAY ANALOGY OF THE DIFFRACTION OF LIGHT WAVES BY A CIRCULAR DISC), A FEASIBLE EXPLANATION FOR THIS EFFECT MAY BE SECURED, IF THE ZONES ARE CONSIDERED AS HAVING A RELATIVELY HIGH ELECTRON DENSITY.

UNCLASSIFIED

USSR

UDC 669.716:621.777.2

BARANCHIKOV, V. M., GLEBOV, Yu. P., GOROKHOV, V. S., DENISOV, S. M.,  
ZAKHAROV, M. F., MILORADOVA, O. N., KHARENKO, V. F., and TSAREV, V. I.

"Development and Investigation of the Process of Pressing Rods and Shapes  
of Aluminum Alloys with Lubricant Without Press-Residue"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970,  
pp 129-137, resume

Translation: A number of problems related to the investigation of the process  
of pressing aluminum alloys with lubricant and the investigation of mechanical  
properties, macrostructure, and geometric dimensions of products are discussed.  
Technological-economical data on the process are presented. Five figures, nine  
tables, seven bibliographic references.

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Acc. Nr: AP0047380 - Abstracting Service: 5/70 Ref. Code: 4R0065  
- GEOPHYSICAL ABST.

6

1/5  
12

91956s Comparison of the results of determination of the color of petroleum products on KN-51 and FEKN-56 instruments. Butrim, S. N.; Glebova, A. P.; Ivanyuk, G. E.; Musivaka, V. V.; Rogozhkin, P. A. (Volgograd Filial SKB ANS, Volgograd, USSR). *Khim. Tekhnol. Topl. Masel* 1970, 13(1), 57-8 (Russ). The precision obtained with the app. FEKN-56 was 5 times as great as that of KN-51 when detg. the color of refined oil. The relation between the results obtained with the 2 app. was expressed by the linear equation  $y = 5.6 + 0.15x$ , where  $x$  is the result obtained with the app. FEKN-56 and  $y$  that with the app. KN-51. The reproducibility errors for the 2 app. are tabulated. The equation is graphically presented. CGJR .

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REEL/FRA  
19790906

USSR

UDC: 669.017--12:539.53

GLEBOVA, E. D., KURASOV, A. N., and KARPOV, N. A., Dnepropetrovsk Metallurgical Institute

"Structural Changes in Hyperplastic Cr-Ni-Fe Alloys With High-Temperature Stretching"

Moscow, Izvestiya VUZ--Chernaya Metallurgiya, No. 8, 1971, pp 133-136

Abstract: Although little attention has been given to the structural changes occurring in the stretching of two-phase ( $\alpha+\delta$ ) high-chromium Cr-Ni-Fe alloys, their study is important for determining the hyperplasticity mechanism and choosing the conditions of heat deformation. The alloys investigated had the following composition: 42% Cr, 30-40% Ni, 1% Ti, 0.02% C, and 0.06% N. The width of the sheet specimens was 40 microns, with a grain dimension of 5-10 microns. Specimens measuring 15 mm in length and 3 mm in diameter were stretched at a rate of 1.5 mm/min at a temperature of 600-1250° C after a 15-minute preparatory maintenance at these temperatures. In this preliminary heating, the development of phase shifts was observed and confirmed through observation on a television microscope, and changes in the concentration of Cr and

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USSR

GLEBOVA, E.D., et al, Moscow, Izvestiya VUZ--Chernaya Metallurgiya, No 8,  
1971, pp 133-136

Ni in specimens heated from 900-1250° C were observed with the MAR-1  
x-ray microspectral device, Photomicrographs of Rh-2Ni40T  
alloy specimens heated at 1100° C after various percentages of de-  
formation are shown.

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- 65 -

USSR

UDC 620.186.5

GLEBOVA, E. D., GOL'DFARB, E. M., DUGANTSEV, A. YE., and FAYNSHTEYN, I. G. (Deceased)

"On the Welding of Automobile Steel Sheets During Annealing"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya promyshlennost', No 5, Sep-Oct 70, pp 41-42

Abstract: A description is given of an experimental laboratory installation and procedure for studying the effect of the surface condition of samples, temperature, and annealing atmosphere on the welding of low-carbon steel sheets intended for use in automobile manufacturing. The degree of welding was evaluated by the tearing stress along the junction plane. A metallographic analysis of the surfaces of welded samples showed that welding begins in separate microsections having the aspect of viscous discontinuities corresponding to microsections having the aspect of viscous discontinuities corresponding to microbulging, i.e., traces of rollers. A durable junction between surfaces in contact appears as the result of an electron interaction process having a

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USSR

GLEBOVA, E. D., et al, Metallurgicheskaya i Gornorudnaya promyshlennost', No 5,  
Sep-Oct 70, pp 41-42

quantum-mechanical nature. Surface polishing facilitates the formation of metallic bonds between surfaces. It was found that a neutral atmosphere contributes the most to decreased sheet welding during annealing. The dependence of tearing stress of welded samples on temperatures and annealing atmosphere is presented graphically.

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USSR

6

UDC: 669.15-194:669.26:620.186

BARANOV, A. A., BLIZNYUKOVA, L. A., GLEBOVA, E. D., and KARPOV, N. A.

"Structural Changes Upon Deformation and Annealing of Iron-Chromium Alloys"

Izv. VUZ. Chernaya Metallurgiya, No 6, 1970, pp 120-124

Abstract: The changes in the structure of vacuum treated alloys of iron with chromium in quantities of 25, 37, and 50% were studied with cold deformations of 5, 20, and 45% and subsequent heating to 400-1200°C. Deformation was by slipping and twinning, with the twinning increasing with increasing chromium content. The development of recrystallization in the deformed alloys was noted at 700°C. In alloys containing chromium 35 [sic] and 50%, recrystallization was accompanied by formation of the  $\sigma$ -phase. The changes in the twinning structure, polygonization, and grain growth occurring during heating are described. Three illustrations; two tables; seven biblio. refs.

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USSR

UDC: 621.373.826

BASHIROV, B. I., GLEBOVA, N. N., MELAMUD, G. B., TISHKOV, P. G.

"Use of a Ring Laser for Measuring Gas Flowrate by Mass"

Tr. Metrol. in-tov SSSR (Works of Metrological Institutes of the USSR),  
1972, vyp. 136(196), pp 116-120 (from RZh-Radiotekhnika, No 12, Dec 72,  
abstract No 12D225 [résumé])

Translation: The paper presents the results of a study of a laser flow-meter based on a laser with rectangular ring cavity. Consideration was given to methods of increasing the sensitivity of the flowmeter, emission conditions, the zone of "frequency clamping" and losses in the cavity, and the effect of vibrations and remote equipment on laser operation. One illustration, bibliography of eight titles.

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USSR

UDC 615.786-092.259:612.746

KHAYDAROV, K. Kh., LEBEDEVVA, L. D., GLAZUNOVA, Ye. M., and GLEBOVA, N. V.,  
Institute of Chemistry, Academy of Sciences Tadzhik SSR; Tadzhik State  
Medical Institute imeni Abuali ibn-Sino

"Physiological Effect of Carbamates of Dihydropyranol Derivatives"

Dushanbe, Izvestiya Akademii Nauk Tadzhikskoy SSR, No 4(45), 1971, pp 41-46

Abstract: The effect of 2,5,6,6-tetramethyl-2-ethyl-dihydro-5-pyranol (K<sub>3</sub>) and 2,6,5,6-tetramethyl-6-ethyl-dihydro-5-pyranol (K<sub>6</sub>) on the central nervous system of mice was studied. In both of these compounds the methyl was substituted for ethyl at the 2d and 6th positions. A transfer of the ethyl radical from the 2d to 6th position increased to some extent the toxicity of these compounds, regardless of the method of administration. At the same time, it improved some of their effects on the central nervous system, such as soporific and muscle-relaxation properties. An intraperitoneal dose of 200 mg K<sub>3</sub>/kg did not cause any visible effect on animals, but a dose of 300 mg/kg produced a very strong depressing effect, and 400 mg/kg made all mice lie on their sides in 4-5 min. In the case of K<sub>6</sub>, a strong depression was produced by 250 mg/kg. A large subcutaneous doses of K<sub>3</sub> and K<sub>6</sub> (900, 1000, 1100, 1200, 1300, 1400 mg/kg) produced depression in 60 min. Doses of 700, 800, 900, 1000, 1200 1/2

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USSR

KHAYDAROV, K. Kh., et al., Izvestiya Akademii Nauk Tadzhikskoy SSR, No 4(45), 1971, pp 41-46

mg K<sub>3</sub> and K<sub>6</sub>/kg administered orally produced a sedative effect in 15 min., and all animals were lying down in 45 min. A combination of caffeine and phenamine with 300 mg K<sub>3</sub> or K<sub>6</sub>/kg removed partially and doses of 500 mg/kg completely removed the stimulation produced by caffeine and phenamine. Animals slept for 30, 62, 87, and 150 min. when given 400, 500, 550, and 600 mg K<sub>3</sub>/kg, respectively. In the case of 300 and 350 mg K<sub>6</sub>/kg, the sleep was prolonged to 300 and 350 min., respectively. The effect of these compounds disappeared completely in 18-24 hr. All mice perished in sleep when injected with 650-700 mg K<sub>3</sub>/kg, or 500-600 mg K<sub>6</sub>/kg. The sleep produced by hexenal (60 mg/kg given intravenously) was prolonged 2.5-14 times when animals were preliminarily injected with 10, 25, 50, or 100 mg K<sub>3</sub> and K<sub>6</sub>. A displacement of the ethyl radical from the 2d to 6th position did not improve much the anticonvulsion properties of these compounds. The data obtained indicate that both compounds act on the central nervous system, although the cholinolytic properties cannot be ascribed to them.

2/2

USSR

UDC 669.295:539.4.011

BORISOVA, Ye. A., SHASHENKOVA, I. I., and GLEBOVA, R. D., Moscow

"The Effect of Oxygen and Hydrogen on the Strength of Titanium Alloys"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 5, Sep-Oct 72, pp 104-110

Abstract: The effect of oxygen and hydrogen on the variation in strength of semifinished goods and parts of titanium alloys was investigated by short-term and prolonged load actions on 2-mm-thick specimens of OT4, VT6S, and VT14 alloys, depending on the presence of stress concentrators and the oxygen and hydrogen content. The experimental investigation results are analyzed by reference to diagrams showing the effects of different O and H contents on the crack sensitivity, the structural strength after annealing and hardening and aging, and the relative long-term strength of specimens with cracks. Tabulated results of the effect O and H (0.15, 0.25 and 0.35% O<sub>2</sub>, and 0.007 to 0.045% H<sub>2</sub>) on the mechanical properties are discussed. An increase of O and H contents over a certain level was found to be conducive to premature failure. The efficiency of H as an embrittlement agent is ten times higher than that of O. The embrittlement action of H intensifies with increasing ultimate strength. Six figures, three tables.

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USSR

UDC: 669.295:621.785.34.061

BORISOVA, <sup>YE.</sup> A., SHASHENKOVA, I. I., GLEBOVA, R. D.

"Vacuum Annealing of Titanium Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 5, 1972  
pp 10-13.

Abstract: The high chemical activity of titanium at high temperatures requires that heat treatment of finished products be performed in a medium of neutral gasses or in a vacuum. This work studies the influence of various vacuum annealing modes on the service properties of titanium alloys. The studies were performed by extension of specimens with two lateral cracks symmetrically placed relative to the axis, by testing of flat specimens under hydraulic pressure, and by endurance and low-cycle fatigue testing of smooth and welded specimens. The studies performed showed that vacuum annealing causes etching of the surfaces of titanium alloy parts, particularly along the boundaries of a welded seam. Therefore, in determining the vacuum annealing mode, the operating conditions of the products to be annealed must be considered. For thin sheet-welded parts which will operate under conditions of repeated loading, vacuum annealing may be used as a final operation at temperatures of incomplete annealing for stress relief. Vacuum annealing can also be used to reduce the total content of hydrogen in an alloy. The depth of the irregularities of the surface layer increases with increasing vacuum annealing temperature and holding time.

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USSR

UDC 547.454:548.813

UZLOVA, L. A., GLEBOVA, Z. I., and ZHDANOV, Yu. A.

"Reactions of  $\alpha$ -Haloketoses With Triethyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484

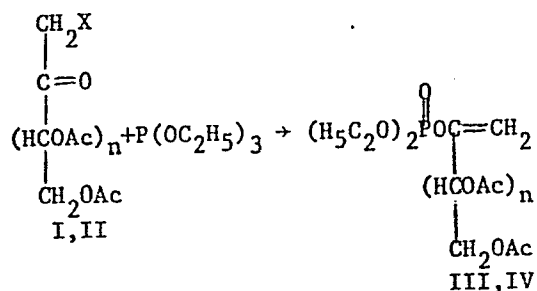
Abstract: The authors studied the reaction between triethyl phosphite and ketose halides. It was found that acetylated 1-halode-1-desoxyuloses 1-chloro-1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose (I) and 1-bromo-1-desoxy-3,4,5,6-tetra-O-acetyl-L-fructose (II) react with triphenyl phosphite to form vinyl phosphates (III, IV).

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USSR

UZLOVA, L. A., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484



(I) X=Cl, n=4, D-galacto; (II) X=Br, n=3, L-arabino.

Reaction of 1-iodo-1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose with triethyl phosphite gives 1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose.

2/2

USSR

UDC 378.121

AGEYEV, D. V., GLEBOVICH, G. V., LEZIN, YU. S., MALANOV, V. V., MORUGIN, L. A., SMORGONSKIY, V. YA.

"Gor'kiy Polytechnic Institute"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy—Radioelektronika, Vol XIV, No 8, 1971, pp 954-960

Abstract: A review of the scientific research work performed by the radio engineering department of Gor'kiy Polytechnic Institute is presented. Abstracts and bibliographic listings of many of the papers published by members of the radio engineering faculty are presented. The fields of study covered include improving the noise immunity of radio technical systems, the theory of pulse-duration modulation and pulse amplification of low-frequency electrical oscillations, improvement of the speed of pulse devices, automatic phase control and wave guide theory, and utilization of the research results in the training process. Specific lecture courses at the university in which the scientific research papers are used are listed.

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USSR

UDC: 621.317.34

~~GLEBOVIK, G. V.~~, KRYLOV, V. V.

"Discrimination and Evaluation of Small Extended Nonhomogeneities in Transmission Lines by the Method of Pulse Reflectometry"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 135-138 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A382)

Translation: Problems of precision in determination of small extended nonhomogeneities in the wave impedance of transmission lines are theoretically analyzed. The shape of a signal reflected from a small extended nonhomogeneity is analyzed as a function of the duration of the front  $t_f$  of the probing signal. The resultant expression is not given because of its unwieldy size, but is graphically presented instead. Calculation is done for the case of a nonhomogeneity expressed by a cosine square function; analogous results are found for other symmetric forms of nonhomogeneity. Calculation is also done for nonhomogeneities of asymmetric form. The difference between two nonhomogeneities is analyzed as a function of  $t_f$ . Four illustrations, bibliography of two titles. E. I.  
1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--FLIGHT SURGEON'S APPRAISAL OF DISORDERS IN THE AUTOMATISM,  
CONDUCTION AND EXCITATION FUNCTIONS OF THE HEART -U-  
AUTHOR--(03)-BROKHES, L.I., SVAROVSKIY, N.I., GLEBOVSKAYA, N.T.

COUNTRY OF INFO--USSR

SOURCE--VOENNO MEDITSINSKII ZHURNAL, FEB. 1970, P. 69-72

DATE PUBLISHED--FEB70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, EXCITED STATE, MEDICAL EXAMINATION, AIRCRAFT  
PILOT, AEROMEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0927

STEP NO--UR/0177/70/000/000/0069/0072

CIRC ACCESSION NO--AP0109084

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109084

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF OBSERVATIONS OF HEART RHYTHM DISORDERS AMONG INDIVIDUALS FROM A LARGE GROUP OF FLYING PERSONNEL SUBJECTED TO EXAMINATIONS. NUMERICAL DATA ARE GIVEN FOR THE OCCURRENCE OF VARIOUS HEART RHYTHM DISORDERS AMONG THIS GROUP. SYNUSAL BRADYCARDIA WAS THE MOST FREQUENT DISORDER, FOLLOWED BY SYNUSAL ARRHYTHMIA.

UNCLASSIFIED

USSR

UDC: 621.745.5

KUCHERENKO, L. A., GLEBOVSKIY, V. G., and BURISEV, V. T., Department of  
General Chemistry, Moscow State University

"Levitation Melting (Using an "Electromagnetic Crucible") for High-  
Temperature Reaction Studies"

Moscow, Vestnik Moskovskogo Universiteta, Series II, Khimiya, No. 6,  
Vol. 11, Nov-Dec 70, pp 700-704

Abstract: Experiments involving liquid metal desulfuration with slags by  
way of refractory magnesium oxide crucibles revealed slag saturation with  
up to 12% MgO. Dissolution of refractory magnesium oxide in the slag  
markedly decreased with temperature. Earlier studies have attempted to  
find methods for excluding the contact of refractory metals with the  
liquid phase or at least to reduce the contact to a minimum. All current  
methods proposed inferred the use of a refractory crucible which absolutely  
limited equilibrium studies in the metal-slag system. This study proposes

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USSR

KUCHERENKO, L. A., et al., Vestnik Moskovskogo Universiteta, Series II, Khimiya, No. 6, Vol. 11, Nov-Dec 70, pp 700-704

the use of an "electromagnetic crucible" or fluidized bed melting. This method of levitation melting features: lack of contact between liquid metal and slag, vigorous mixing of molten metal with slag, minimum time of reaching a given temperature (20-30 sec), and equilibrium in the complex system metal-slag-gas (2-3 min). The experimental equipment, specifications, and reaction are described. To preclude side reactions (such as gas conversion, metal or slag vaporization) the process must be conducted in a specific temperature range. In this study, use was also made of the method of levitation to analyze the relation between sulfur distribution factor  $L_s$  and the carbon content in iron in a carbon monoxide atmosphere.  $L_s$  values are calculated by thermodynamics.

2/2

GLEBUSHKO, T. P.

STRS 556.87  
12 Dec '72

CHANGES IN BLOOD COAGULATION UNDER THE INFLUENCE OF GRAVITATIONAL LOADS  
DETERMINED FROM THROMBOELASTOGRAPHY DATA  
UDC 616.151.5-092.9-02:612.014.477-063

[Article by A. Z. Serikova, I. F. Konkina and T. P. Glebushko; Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 6, No 1, pp 10-14, 1972, submitted for publication 17 November 1970]

Abstract: Acceleration-induced changes in blood coagulation in cats were examined by thromboelastographic and coagulographic techniques. Exposure of the animals to accelerations applied as a repeated (first group) or single (second group) stress effect increased the anticoagulation properties (activation of fibrinolysis, increase in heparin content, decrease in the quantity of procoagulants). Hemocoagulation disturbances in the first group of animals were greater, suggesting an effect from the gradient factor. Hemocoagulation parameters tended to return to the normal level on the sixth day after exposure.

The state of the blood coagulation system under the influence of different external factors has been studied by many authors. V. G. Petrukhin (1963), Ye. M. Chazov and V. G. Ananchenko (1963), A. V. Yezemin and V. I. Stepanov (1970), and A. V. Drozdova (1970) observed an increase in permeability of the vascular wall and hemorrhaging in different organs after gravitational stress on the living organism. O. D. Anashkin (1968) noted changes in the content of procoagulants and activation of the fibrinolytic system in animals after flight on an artificial earth satellite. R. A. Bardina, et al. (1970) demonstrated changes transpiring in the vascular and nervous systems under the influence of gravitational loads.

In this investigation the experiments were made on cats which were subjected to a single series of accelerations of 10 g (first group, eight cats) and single exposure to an acceleration of 10 g (second group, six cats) using schedules formulated by Ye. A. Dyskin and B. N. Savin (1970). The difference in the gravitational stress for animals in the first and second groups was that the animals in the first group experienced acceleration including exposure to a gradient of increase in acceleration, its intensity and duration, whereas animals in the second group were exposed to operation of only the latter two factors.

USSR

6  
UDC 611.791:620.193.1

YURCHENKO, Yu. F., AGAPOV, G. I., GLEK, L. M., and PAVLOV, S. S., Moscow

"Knife Corrosion Mechanism in Kh18N10T Steel Alloys"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 76, pp 20-22

Abstract: Although many papers have been devoted to the subject of knife corrosion, very little is known about its mechanism. This type of corrosion advances very rapidly, at about 5 to 10 mm/year, cutting holes in equipment and piping. The purpose of this article is to investigate the mechanism of the process in Kh18N10T steel, specifically in the welding alloys of the chromium-nickel steel. In the experiments, the basic structural components of the steel, chromium-nickel austenite,  $Cr_3C_2$ , and TiC, were electrochemically investigated. Type Kh18N10 steel, after tempering in water from 1100° C, was used as the electrode of chromium-nickel austenite. The  $Cr_3C_2$  and TiC electrodes were obtained by the method of hot sintering and pressing at 1750° C for  $Cr_3C_2$  and 1500° C for TiC, and pressures of 120 kg/cm<sup>2</sup> in the course of five minutes. The electrode, made in the form of disks 15 mm in diameter and 4-5 mm thick. Comparison of the stationary potentials of the  $Cr_3C_2$  and TiC electrodes shows that the potential of the latter is much more negative than that of the former, that the  $Cr_3C_2$

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USSR

YURCHENKO, Ya. P., et al, Avtomaticheskaya Svarka, No 10, Oct 70, pp 47-51

and austenite are cathodes while the TiC are polarized anodes, and due to the introduction of an additional ferrite electrode to form a three-electrode system, the potentials shift into the negative region as a result of cathode polarization.

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USSR

UDC 539.182/.184

GLEMBOTSKIY, I. I., KAROSENE, A. V., KISELEV, A. A., SAVUKINAS, A. Yu.,  
SHCHADZHYUVENE, S. D., YUTSIS, A. P.

"Theoretical Study of the Absorption of Soft X-Rays by Metal Films of  
Lanthanum and Cerium"

Lit. fiz. sb. (Lithuanian Physics Collection), 1972, Vol. 12, No. 2,  
pp 235-244 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D30)

Translation: The problem of the interpretation of an experimentally estab-  
lished structure of the absorption spectra of rare earth metals La and Ce  
on both sides of the absorption boundaries  $N_{IV,V}$  was studied theoretically.  
The given structure is explained by the transitions  $4d^{10}4f^n \rightarrow 4d^9 4f^{n+1}$  in  
triply charged ions of these elements. Interpretation of maxima of the  
absorption curves by discrete transitions is verified by computation of the  
strengths of the lines. The calculations were conducted with the aid of  
numerical solutions of ordinary Hartree-Fock equations. The results show  
that experimental maxima are well identified by the atomic transitions  
 $4d^{10}4f^n \rightarrow 4d^9 4f^{n+1}$  both as to the position of the maxima and as to their  
relative strengths of the lines. Authors abstract.

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USSR

UDC [ 621.357.5:621.79.027 ] : 669.14

GLEMBOTSKIY, Z. A., and KHARMAN, N. G.

"Question of the Product of the Anode Solution of Metals Obtained During Electrochemical Processing"

Bul. Akad. Shtiintse RSMold, Izv. AN Mold SSR. Ser. fiz.-tekh. i mat. n. (Bulletin of the Academy of Shtiintse (translit) Russian Soviet Socialist Moldania, Studies of the Academy of Sciences Moldania SSR. Physical-technical and Mathematical Sciences Series), No 3, 1972, pp 86-87 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L285)

Translation: A study was made of the anode solution of steel-45 obtained during the electrochemical processing in 15% NaCl solution. It was shown that the electrolyte turns into a colloid solution according to the amount of product dissolved in it. Electro-flotation method of purifying an electrolyte results in a four-fold decrease in iron ions in solution.

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USSR

6 UDC 621.792.05:621.791:629.12

BOCHKAREV, V. P., and GLEVITSKAYA, T. I.

"The Use of Glue-Welded Joints in Shipbuilding"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 70, pp 30-33

Abstract: Up to now, the basic processes applied in the manufacture of non-bearing structural units for ships have been riveting and argon-arc welding, both of which have significant weaknesses (reduction of bearing capacity of the sheathing, increase in weight and labor input, large deformations--and hence extensive corrective measures). These weaknesses can be avoided entirely by the use of the newly developed technique of spot welding in combination with glue. In general, glue introduced into spot-welded joints increases the static and, especially, the vibrational strength of the structure, protects the joint from corrosion, allows chemical processing of parts following welding, and assures hermetic sealing of the joint. The specific properties of several glues used in Soviet shipbuilding (for welding purposes) are discussed.

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USSR

UDC 577.1:615.7/9

GLEYBERMAN, S. YE., and VORONKINA, T. M.

"The Dynamics of the Absorption, Accumulation, and Elimination of Diethyltoluamide During Application on Skin"

Sb. nauch. Tr. Mosk. NII vaksii i syvorotok (Collection of Scientific Works of the Moscow Scientific Research Institute of Vaccines and Serum), 1972, Vyp 22, pp 235-242 (from RZh-Biologicheskaya Khimiya, No 16, Aug 73, Abstract No 16F1951)

Translation: Tests on mice, rabbits, and guinea pigs show that diethyltoluamide is rapidly absorbed into the blood through undamaged skin. It is distributed to various degrees in the organs and permeates through the hematoencephalic and placentarian barriers. The dynamics of the development of the clinical symptoms of poisoning and their manifestation are a direct function of the dynamics of the diethyltoluamide content in the blood which in turn is determined by the preparation dosage applied to the skin. The diethyltoluamide concentration in the blood is determined by its absorbability through the skin, by the absorption and reabsorption by tissues and organs, by its elimination from the organism, and possibly by the partial breakdown of diethyltoluamide molecules. The discontinuous nature of the diethyltoluamide content curve for blood occurs for all the animal species studied.

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USSR

GLEYSBERMAN, S. YE., and VORONKINA, T. M., Sb. nauch. tr. Mosk. NII vaktsii i syvorotok, 1972, Vyp 22, pp 235-242

The particulars associated with species find expression in the different rates and the massiveness of the entry of diethyltoluamide into the blood during the first hours after application and in the different amount of time required to reach the maximum concentration. Diethyltoluamide has a certain tropism for lipid rich organs. The clinical picture of poisoning shows damage symptoms of these organs. The elimination of diethyltoluamide from the organism takes long time and takes place primarily through urine.

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1/2 016 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--EFFECT OF TEMPERATURE ON THE SIZE AND COMPOSITION OF DROP  
ENTRAINMENT DURING MICROBUBBLING -U-  
AUTHOR--(04)-GLEIM, V.G., SHIDLOVSKIY, B.R., VISHNEVETSKAYA, A.N., KHENTOV,  
V.YA.  
COUNTRY OF INFO--USSR  
SOURCE--Zh. Prikl. Khim. (Leningrad) 1970, 43(5), 1177-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--HYDROLYSIS, SODIUM SILICATE, PHOSPHATE, SODIUM CHLORIDE,  
THERMAL EFFECT, LIQUID DROP MODEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/0956 STEP NO--UR/0080/70/043/005/1177/1178  
CIRC ACCESSION NO--AP0131541  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 016

CIRC ACCESSION NO--AP0131541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMATION OF 0.4 MM DIAM. BUBBLES IN BOILERS AT 200 PSI AND THEIR ENTRAINMENT WITH SUBSEQUENT CONTAMINATION OF THE STEAM WAS STUDIED BY THE TECHNIQUE OF G. (1970) IN A SO CALLED MICROBUBBLING MODEL AT 20-75DEGREES. THE TYPE AND FRACTION OF IONS CARRIED BY THE BUBBLES FROM SOLNS. CONTG. PO SUB4 PRIME3 NEGATIVE 0.5 G-L., NA CL 0.4 M, AND SIO SUB3 PRIME2NEGATIVE 0.5 G-L. (IN VARIOUS COMBINATIONS) WERE DETD. AS A FUNCTION OF TEMP. BUBBLES CONTG. THE LEAST AMT. OF IONS WERE FORMED AT 55DEGREES. THE LARGE CONTENT OF SIO SUB3 PRIME2 NEGATIVE IN THE ENTRAINMENT WAS ATTRIBUTED TO THE HYDROLYSIS OF NA SILICATE AND POLYMN. (DISILICATE FORMATION). THE PRESENCE OF SIO SUB3 PRIME2 NEGATIVE IN THE SOLN. INCREASES THE DROP ENTRAINMENT. FACILITY: ROSTOV.-NA-DCNU, INST. INZH, ZHELEZNOODROZH. TRANSP., RUSTOV-GN-DCN, USSR.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--DROP ENTRAINMENT DURING MICROBUBBLING -U-

AUTHOR--GLEYM, V.G., SHILDLOVSKIY, B.R., VISHNEVETSKAYA, A.N., KHENTOV,  
V.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 337-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--WATER, STEAM BOILER, SODIUM CHLORIDE, SODIUM SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0460

STEP NO--UR/0080/70/043/002/0337/0341

CIRC ACCESSION NO--AP0104073

UNCLASSIFIED



2/2 006

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104073

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. OF STEAM QUALITY IN HIGH PRESSURE BOILERS BY ENTRAPPED WATER DROPLETS WAS INVESTIGATED IN A MODELING STUDY. RATE OF BUBBLE FORMATION, MECHANISMS, AND ENERGIES REQUIRED TO BREAK UP THE BUBBLES AND THUS PERMIT THE FORMATION OF LIQ. DROPLETS ARE DISCUSSED. AN EQUATION YIELDING THE MASS (M) (G-CM PRIME<sup>2</sup> SEC) OF DROPLETS FORMED WAS DEVELOPED. DROPLET FORMATION IN THE BREAK UP OF 0.22 MM BUBBLES ON A POROUS CERAMIC PLATE (A) (BACTERIAL FILTER F5) WAS OBSD. ON A PLEXIGLAS PLATE 2 CM FROM A AT AIR VELOCITIES SMALLER THAN 0.65 CM-SEC, AND NA<sub>2</sub>SO<sub>4</sub> SOLNS. CONCNS. HIGHEST M VALUES WERE OBSD. AT VELOCITIES OF SIMILAR TO 0.1 CM-SEC AND LOW, SMALLER THAN 0.15 M, ELECTROLYTE CONCNS. FOR A 0.001M NA<sub>2</sub>SO<sub>4</sub> SOLN. A VALUE OF M EQUALS 680 TIMES 10 PRIME<sup>-6</sup> G-CM PRIME<sup>2</sup> SEC WAS DETD.; THE M VALUES AND HEIGHTS TO WHICH DROPLETS WERE CARRIED WERE LOWEST AT 0.05M NA<sub>2</sub>SO<sub>4</sub> AND 0.01M NA<sub>2</sub>SO<sub>4</sub>. CL PRIME<sup>-</sup> NEGATIVE, SO<sub>4</sub> PRIME<sup>2</sup> NEGATIVE AND PO<sub>4</sub> PRIME<sup>3</sup> NEGATIVE WITH HYDRATION ENERGIES OF 79, 249, AND 502 KCAL-MOL YIELDED M OF (680, 502, AND 430) TIMES 10 PRIME<sup>-6</sup>, RESP.

UNCLASSIFIED

USSR

UDC 534.1:226.2

GLEYZER, A. I.

"The Harmonic Analysis Application in Calculating Stators With Variable Blade Pitch"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1973, pp 107-110

Abstract: An explanation is given of the fallibility of the admitted calculation method of apparatus with variable blade pitch, the effectiveness of which was evaluated according to values of maximum relative amplitudes of resonance harmonics of the load input. The necessity is demonstrated to consider both, the dynamic characteristics of the oscillating system, the rotor blade itself, and also the reactions on its oscillations of a specific number of harmonics of the load input adjacent to the resonance load. As an example are analyzed the constrained oscillations of a rotor blade with a blade distribution system in which the first group of the total number of 19 stator blades is disposed with a  $20^\circ$  circular pitch and the second group with a  $18^\circ$  circular pitch.

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USSR

GLEYZER, A. I., Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1973, pp 107-110

The application of the harmonic analysis for the calculation of the effectiveness of stators with variable blade pitch proved to be perfectly justified, providing the adjacent harmonics are considered along with the basic resonance harmonics of the load input. Two figures, two tables, two formulas, three bibliographic references.

2/2

USSR

UDC 629.7.036.3-752

GLEYZER, A. I., POKRASS, L. P.

"Design and Calculation of a Corrugated Damper for Quenching Rotor Vibrations"

Tr. Kuybyshev aviats. in-t (Works of Kuybyshev Aviation Institute), 1970,  
No. 45, pp 313-320 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 4,  
Apr 72, Abstract No 4.34.70)

Translation: A corrugated damper for quenching rotor vibrations is a further development of laminated dampers of smooth strips and is distinguished from the latter by a considerably higher bearing capacity, stability in characteristics and use for directed change over wide limits. The higher effectiveness of corrugated dampers as compared with ordinary dampers is supported by the results of comparative tests where with a corrugated damper one could achieve a reduction in rotor vibrations of more than a factor of 1.5. A computational method is proposed for determining the rigidity and the damping force of a corrugated damper, i.e., the basic parameters necessary for calculating rotor vibrations. 6 ill., 3 ref. Resume.

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USSR

UDC 539.433:621.454

GLEYZER, A. I., FEDORCHENKO, G. P.

"Probabilistic Estimation of the Aerodynamic Disbalance of Aircraft Gas Turbine Engine Rotors"

Kazan', Izvestiya Vysshykh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1970, pp 86-93

Abstract: A method is presented for determining a component of the total disbalance of the rotors of aircraft gas turbine engines -- aerodynamic disbalance, brought about by errors in manufacture of the working blades of compressors and turbines. Determination of the level of the exciting forces acting upon a working rotor is necessary for a soundly based approach to the designing of damping devices. 1 table, 3 figures, 3 bibliographic entries.

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1/2 017 UNCLASSIFIED PROCESSING DATE--02JCT70  
TITLE--ORGANIZATION OF THE PRODUCTION OF A STRIP FOR CANNING TARES AT  
ALUMINUM PLANTS ←U-  
AUTHOR-(02)-GVOZDEV, S.G., GLEYZER, M.M.  
COUNTRY OF INFO--USSR  
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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108250

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECIFICATIONS ARE GIVEN FOR AL AND ITS ALLOYS TO BE EMPLOYED IN THE PRODUCTION OF CANNING TARES. THE POSSIBLE TECHN. PRODUCTION PROCESSES OF A STRIP FROM AL AND ALLOYS AMTS AND AMR2 ARE ALSO CONSIDERED.

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UNCLASSIFIED

USSR

UDC 597.0/5-11

VASIL'YEV, A. S., and GLEYZER, S. I., Atlantic Scientific Research Institute of Fishery and Oceanography and Kaliningrad Technical Institute of the Fish Industry and Fishery

"Changes in the Activity of the River Eel *Anguilla anguilla* L. in Magnetic Fields"

Moscow, Voprosy Ikhtiologii, Vol 13, No 2, 1973, pp 381-383

Abstract: The effect of artificially generated magnetic fields on the motor activity of young common (river) eels *Anguilla anguilla* L. in fresh and salt water was investigated. A magnetic field with a strength of 0.2 T increased the motor activity of the fish by 10-20% above normal. The aftereffect in the subsequent absence of the field was expressed in a drop of activity by 38% below normal. During a gradual decrease of the magnetic field strength from 0.3 T to zero in fresh water, the motor activity of the fish decreased in a regular manner, dropping to half its initial value. With increasing salinity of the water, the stimulating effect of magnetic fields in increasing the motor activity of the eels increased. This was due to an increasing role of the magnetohydrodynamic effect. In a uniform magnetic field, the eels, in 80% of cases, tried to swim in the direction of the force line. This indicated that the magnetic field exerted an irritating effect on the fish, which they tried to avoid. The

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VASIL'YEV, A. S. and GLEYZER, S. I., Voprosy Ikhtiologii, Vol 13, No 2, 1973,  
pp 381-383

effects of the earth's magnetic field on the motion of eels, which migrate over very long distances in the period before spawning, have been studied in earlier work by the authors. The study of the effect of artificially created magnetic fields on fish is of interest from both the ecological standpoint and that of controlling the behavior of fish.

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USSR

UDC 639.3.05(088.8)+597.0/5-15

GLEYZER, S. I., and KHODORKOVSKIY, V. A.

"Experimental Determination of Geomagnetic Reception by the European Eel"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 4, 19 Apr 71, pp 964-967

Abstract: European eels (*Anguilla anguilla*) were selected as the most suitable tests object in view of their range of migration, extending to 7,000 km in the direction of the Sargasso Sea. The principle of the "blank reaction", that is, reaction in a situation where all the external stimuli are either eliminated or subjected to the conditions of isotropy was accepted. In such a case the behavior of the test object is determined by factors of the internal medium of the organism. Tests were conducted in a situation where the medium, providing basically the possibilities of moving in any arbitrary direction, was limited to the choice of one of the two evenvalued possibilities. This was accomplished by sending the fish through a labyrinth consisting of passages of equal length and forming sides of hexagons arranged in a regular honeycomb pattern. In the absence of any external stimulus, the three main directions determined by the structure of the labyrinth are equally probable selections for the fish moving at random, and the system may be treated as an "empty" reference. The resultant direction of movement depends in this case only on  
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GLEYZER, S. I., and KHODORKOVSKIY, V. A., Doklady Akademii Nauk SSSR,  
Vol 201, No 4, 19 Apr 71, pp 964-967

the original point of entry. This was no longer true in the situation in which the isotropy was preserved in all factors, such as temperature, chemical composition of water, currents, illumination, and absence of sound, but not in magnetic properties of the environment. In this case, a reliable preference was observed for one of the predominant directions with respect to the remaining two. On the basis of successful experiments conducted with the magnetic effect, it was concluded that the described method may be applied with equal success to the determination of susceptibility of various objects to various environmental factors.

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USSR

UDC 612.46-06:612.176

GLEZER, G. A., LUBUZH, K. D., and LEDYASHOVA, G. A., Institute of Cardiology imeni A. L. Myasnikov, Academy of Medical Sciences USSR, and All-Union Scientific Research Institute of Physical Culture

"Study of the Main Hemodynamic Indexes and Kidney Function in Healthy Persons After Physical Exercise"

Moscow, Kardiologiya, No 5, 1971, pp 114-120

Abstract: The volume of circulating blood, heart rate, renal circulation, and so forth were studied in two groups of healthy males - 18 to 39 and 40 to 60 years of age - after exercise of different degrees of strenuousness (150, 400, 750 kgm/min) on a bicycle ergometer for 30 minutes. Exercise slightly decreased the amount of circulating blood at the expense of plasma, resulting in an elevated hematocrit. It increased the systolic pressure but had virtually no effect on the diastolic. The heart rate and cardiac index increased in direct proportion to the strenuousness of the exercise. Heavy exercise increased the cardiac output more in those over 40. General peripheral resistance decreased more rapidly after slight exertion and it continued to decrease after greater exertion but at a slower rate. Heavy exercise slowed the renal

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USSR

GLEZER, G. A., et al, Kardiologiya, No 5, 1971, pp 114-120

blood flow, especially in those over 40. Glomerular filtration tended to decrease only after heavy exercise. Minute diuresis decreased with increasing exertion chiefly because of increased tubular reabsorption.

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Superalloys

USSR

UDC 620.193:669.24

LASHKO, N. F., GLEZER, G. M.

"Characteristic Features of Oxidizing Heat-Resistant Nickel Alloys Containing Molybdenum"

Moscow, Zashchita Metallov, Vol 8, No 6, 1972, pp 654-659

Abstract: A study was made of the effect of molybdenum and tungsten on the process of intense oxidation of heat-resistant nickel alloys containing different amounts of molybdenum, tungsten, and chromium. The methods of x-ray diffraction phase analysis of the scale and anode deposits isolated from the surface layers of the metal adjacent to the scale were used.

The presence of a liquid phase in the scale of nickel molybdenum-containing alloys is not the only mandatory cause of intense oxidation of these alloys. During oxidation of complexly alloyed heat-resistant nickel alloys molybdenum and tungsten behave differently. The alloys containing molybdenum are oxidized intensely under defined conditions with the formation of a loose layer of  $\text{NiMoO}_4$  under the scale which promotes swelling of the basic mass of the protective scale, peeling, and a reduction of the bonding with the basic metal. The presence of  $\text{H}_2\text{O}$  in the scale is a necessary condition of the formation of  $\text{NiMoO}_4$ . In alloys which do not contain molybdenum but do contain tungsten, the two-layer scale is not formed. The loose, friable subscale is not observed.

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LASHKO, N. F., et al., Zashchita Metallov, Vol 8, No 6, 1972, pp 654-659

In alloys which do not contain molybdenum, no compounds similar with respect to structure and properties to nickel molybdate and wolframate are detected in the subscale. The alloying of nickel molybdenum-containing alloys with iron can prevent the formation of the subscale layer containing nickel molybdate  $\text{NiMoO}_4$ .

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USSR

UDC: 51:330.115

DRUGALEVA, Z. S., GLEZER, N. N., TULUPOVA, S. S.

"Use of Mathematical Models in the Development and Allocation of Complex Production of a Territory"

V sb. Sotsial'no-ekon. probl. razvitiya Urala i leninsk. metodol. ekon. issled. (Socioeconomic Problems in Ural Development and Leninist Methodology of Economic Research--collection of works), Sverdlovsk, 1971, pp 278-282 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V872)

Translation: Two linear programming models are written out.

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USSR

GLEZER, V. D. and KUPERMAN, A. M., Institute of Physiology imeni I. P. Pavlov,  
Academy of Sciences USSR, Leningrad

"Model of a Relationship Between Visual Acuity and Contrast"

Moscow, Biofizika, No 1, 1972, pp 110-115

Abstract: In an earlier article the authors showed that there are three types of receptive fields in the cat corpus geniculatum laterale. One type is characterized by a decrease in the central summation zone with increasing contrast between stimulus and background. In the other two types, the central zone is independent of contrast. The proposed model here described shows the receptors converging through intermediate inhibitory and excitatory elements upon the output element. By altering the parameters of the element one can shift from one type of field to another. The outputs of the excitatory and inhibitory elements are power functions of the input signals with different exponents. The model reflects a real receptive field in which the central summation zone diminishes as contrast increases. Visual acuity is intensified with increase in contrast.

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USSR

UDC 591.1.05

PIRUZYAN, L. A., GLEZER, V. M., DEMENT'YEV, V. A., LOMONOSOV, V. A. and  
CHIBRIKIN, V. M., Institute of Chemical Physics, Academy of Sciences USSR

"The Mechanism of the Biological Effect of Permanent Magnetic Fields"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1970,  
pp 535-539

Abstract: This review of the Soviet and foreign literature on the biological effect of magnetic fields discusses the effects of a permanent magnetic field on the electrical properties of axons, the rate of chemical reactions associated with free radicals in nervous tissue, the effects produced by impairment of spatial orientation of biomolecules, and conformational changes in protein mitochondria. The effects of a permanent magnetic field on electrolytes, water, and currents circulating in living systems are treated at some length.

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USSR

UDC 591.105

PIRUZYAN, L. A., ~~GIEZER, V. M.~~, LOMONOSOV, V. A., BARSEGYAN, L. KH., KHAVKINA, L. S., Institute of Chemical Physics of the USSR Academy of Sciences

"Effect of a Constant Magnetic Field on the State of the Blood System of Mice"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1972, pp 142-145

Abstract: A study was made of the effect of a constant magnetic field on the state of the blood system and the free radical content in the blood of mice. The constant magnetic field intensity was 5,000 oersteds for exposure times of 4, 24 and 72 hours. After exposure to a constant magnetic field, the number of erythrocytes, reticulocytes and leukocytes in the blood of mice increases, the hemoglobin content increases, the erythrocyte production per cubic millimeter of blood per day increases, and the free radical content increases. A change in the qualitative composition of the erythrocytes expressed in an increase in the number of cells of increased stability is observed. A correlation between the number of erythrocytes, reticulocytes, the diurnal erythropoiesis and the variation in free radical activity of the blood of mice after the effect of a constant magnetic field were established. Analysis of the dynamics of the variations of the hemotologic indexes and free radical activity in the blood of mice after the effect of the constant magnetic

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