

USSR

PROKHOROV, V. Ya., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 63-68

after causing a pyoderma in the fourth month persisted until the end of the experiment. Prolonged isolation apparently lowers human resistance to infection and creates favorable conditions for the growth of Staphylococci.

2/2

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USSR

UDC 621.396.6-181.48

PARECHIN, V. I., TSVETKOV, A. F.

"Synthesis of Tolerances in Hybrid Film Microcircuits"

V sb. Metody mat. i fiz. modelir. i optimiz. parametrov radioelektron. apparatury. No 1 (Methods of Mathematical and Physical Simulation and Optimization of the Parameters of Radio Electronic Equipment. No 1 -- collection of works), Moscow, 1972, pp 41-42 (from RZh-Radiotekhnika, No 7, Jul 72, Abstract No 7V253)

Translation: The combined method of synthesizing tolerances using iteration calculations for applying additional relations to the parameters is discussed briefly. The solution of the problem is simplified as a result of the presence of strong correlations between the parameters of the elements. This permits designation of identical tolerances for such elements. The tolerances on the groups of parameters are selected as a function of their partial effect on the output parameter. The problem of synthesis of the tolerances on the tuned elements is solved by recalculating the generalized influence coefficient and by the iteration method.

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USSR

UDC: 669.71

AMELINA, Ye. A., PARFENOVA, A. M., SHCHUKIN, Ye. D., Moscow

"Influence of Thin Layers of Diphilic Molecules (Surfactants) on the Formation of Contacts in Porous Dispersed Structures Arising Upon Pressing of Powders"

Moscow, Fizika i Khimiya Obrabotki Materialov [The Physics and Chemistry of Materials Processing], No 6, Nov-Dec 73, pp 118-122.

Abstract: The influence of layers of octadecylamine and cetyl alcohol on the surfaces of dispersed particles on the process of formation of contacts in porous dispersed structures arising upon pressing of NaCl powders is studied. All of the layers studied, regardless of their thickness, prevent contact between NaCl particles due to valent forces, i.e., hinder the formation of phase contacts with NaCl-NaCl contact surfaces, and reduce the strength of the structure produced. The greatest screening effect is achieved at a certain critical particle compression force. The screening effect is independent of layer thickness. The critical particle compression force is a quantitative characteristic of the physical properties of the layers of diphilic molecules on the solid surface.

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USSR

UDC 541.64:547.551/.554

KATSARAVA, R. D., KORSHAK, V. V., RUSANOV, A. L., KOLESNIKOV, G. S., FEDOTOVA, O. YA., and PARESISHVILI, O. I., Institute of Hetero-organic Compounds of the USSR Academy of Sciences

"Synthesis and Investigation of Polybenzoylenebenzimidazols Based on the Dianhydride of bis-(3,4-dicarboxyphenyl)phenylphosphine Oxide and Some Aromatic Tetraamines"

Moscow, Vysokomolekulyarnyye soyedineniya, Vol 14, No 10, 1972, pp 2065-2078

Abstract: Polybenzoylenebenzimidazols (PBB) were synthesized on the basis of the dianhydride of bis-(3,4-dicarboxyphenyl)phenylphosphine oxide and some bis-(o-phenylenediamines). A comparative study was made of the properties of the PBB and polyimides obtained on the basis of the above-mentioned dianhydride by solid-phase cyclodehydration of prepolymers. The PBB synthesized by cyclization of polyaminoamide acids in the solid state are insoluble in all of the solvents used. The data from studying model reactions indicate that PBB obtained by solid-phase cyclization of polyaminoamido acids have a three-dimensional structure. The possible reactions for the formation of the three-dimensional polymers and a method of obtaining PBB soluble in

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USSR

KATSARAVA, R. D., et al., Vysokomolekulyarnyye soyedineniya, Vol 14,
No 10, 1972, pp 2065-2078

organic based on the dianhydride of bis(3,4-dicarboxyphenyl)phenylphosphine
oxide are proposed. The infrared and nuclear magnetic resonance spectra of
the synthesized polymers are discussed, and their solubilities in seven
organic solvents are tabulated.

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USSR

UDC 541.64:536.4

FEDOTOVA, O. YA., GOROKHOV, V. I., PARETISHVILI, O. I., KARETNIKOV, G. S.,
and KOLESNIKOV, G. S. (deceased), Moscow Chemical Technological Institute
Imeni D. I. Mendeleev

"Study of the Thermal Degradation and Thermal Oxidation of Phosphorus Con-
taining Polyimides"

Moscow, Vysokomolekularnyye Soyedineniya, Vol 14, No 6, Jun 72, pp 1256-1266

Abstract: A study has been carried out on thermal and thermal-oxidative degradation of polyimides using the model reaction of the anhydride of di-(3,4-dicarboxyphenyl)-phenylphosphine oxide with various aromatic diamines. It has been shown that the thermal stability of phosphorus containing polyimides depends on the thermal stability of the imide cycle, whose stability in turn depends on the structure of the diamine. The low molecular weight products of thermal degradation consist of hydrogen, CO, CO₂, benzene, methane, ammonia, water, and traces of ethylene. Using EPR method, it was shown that in the solid products of thermal and thermal oxidation degradation the rate of the accumulation of paramagnetic centers depends on the structure of the diamine radical. Increasing concentrations of paramagnetic

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FEDOTOVA, O. YA., et al, Vysokomolekularnyye Soyedineniya, Vol 14, No 6,
Jun 72, pp 1256-1266

centers in the polymer lead to higher thermal degradations. Resistance to thermal oxidative degradation depends on the structure of diamine used in the synthesis of polyimides: introduction of compounds with polyconjugated systems results in a sharp increase in the oxidation rate of the polymer.

2/2

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USSR

UDC 678.675.01:53

KOLESNIKOV, G. S., (DECEASED), FEDOTOVA, O. YA., and PARESISHVILI, O. I.

"Polyimides Based on Di-(3,4-dicarboxyphenyl)-Phenylphosphine Oxide Dianhydride"

Moscow, *Plasticheskiye Massy*, No 12, Dec 70, pp 20-23

Abstract: The authors study the physical and mechanical properties of homo- and mixed phosphorus-containing polyimides of various chemical structure selected in such a way that the effect which the phosphorus-containing group has on the properties of the polyimides could be investigated. It was found that all polyimides with phosphorus-containing groups in the chain have a definite softening point temperature in the region of 270-330°C depending on the structure of the amine component, and in the case of mixed polyimides, on the content of the phosphorus-containing dianhydride as well. It was also found that considerable reversible deformations are typical of the materials studied, which indicates that the softening process in polyimides corresponds to transition to the highly elastic state. However, further investigation shows that partial cross-linking may take place in the highly elastic state at high temperatures. In

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USSR

KOLESNIKOV, G. S., (DECEASED), et al., *Plasticheskiye Massy*, No 12, Dec 70, pp20-23

contrast to most polyimides, some of the materials synthesized in this research are readily soluble in organic solvents. Solubility drops with a reduction of phosphorus content in the chain. The tensile strength of films based on these polyimides may be as high as 800-1200 kg/cm² depending on polymer structure. The dielectric constant of the materials studied varies from 3.3 to 3.9 and is not strongly dependent on temperature. The resistivity at room temperature is considerably greater than $10^{15} \Omega \cdot \text{cm}$, and the loss tangent is 0.002-0.16, showing almost no change with the structure of the polymer chain. The electrical strength of the polymers varies from 62 to 82 kV/mm. The polymers are fire-resistant and quench rapidly after removal from flame. In view of their valuable properties, these polymers should be put to practical use.

2/2

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THERMAL CYCLIZATION OF PHOSPHORUS CONTAINING HOMO AND MIXED
AROMATIC POLYAMIC ACIDS STUDIED FROM INFRARED ABSORPTION SPECTRA -U-
AUTHOR--(04)-KOLESNIKOV, G.S., FEDOTOVA, O.YA., PARESISHVILI, O.I.,
BELEVSKIY, S.F.
COUNTRY OF INFO--USSR

SOURCE--VVSOKOMOL SOEDIN., SER. A 1970, 12(2), 317-22

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIZATION, ORGANIC PHOSPHORUS COMPOUND, IR SPECTRUM,
PYROMELLITIC ACID, THERMAL EFFECT, ACTIVATION ENERGY, IMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1223

STEP NO--UR/0459/70/012/002/0317/0322

CIRC ACCESSION NO--AP0116685

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116685

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE KINETICS OF THERMAL CYCLIZATION OF P. CONTG. AROMATIC POLYAMIC ACIDS (G. S. KOLESNIKOV ET AL., 1968) INTO THE CORRESPONDING POLYIMIDES AND THE CYCLIZATION OF POLY(PYROMELLITAMIC ACID) INTO POLY(PYROMELLITIMIDE) WERE STUDIED BY SPECTROSCOPY AT 1380-780 CM PRIME NEGATIVE. THE POLYAMIC ACIDS CYCLIZED SLOWLY AT 110-20DEGREES, BUT RAPIDLY AT HIGH TEMPS. IMIDIZATION FOLLOWED 1ST ORDER KINETICS, CHARACTERIZED BY A RATE CONST. WHICH WAS UNCHANGED UP TO A CERTAIN DEGREE OF CYCLIZATION BUT WHICH RAPIDLY DECREASED THEREAFTER WITH INCREASING TEMP. A DECREASE IN THE C-C-N ANGLE CAUSED AN INCREASE IN THE APPARENT ACTIVATION ENERGY. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

A0040675

PARETSKIY V.M.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241660 TRANSPORTATION OF FINELY DIVIDED CHARGE to a smelting furnace, for example by means of compressed air is characterized in that, in order to reduce consumption of compressed air (or other gas) and to facilitate operation of the furnace, the charge is transported directly into the burner by means of compressed oxygen in the amount required only for this purpose. The rate of oxygen issuing from an ejector is controlled. The proposed method differs from the pneumatic transportation system in that it does not include a dust separating system and intermediate bankers for holding the charge and the gas tube terminates at the melting unit, passing directly into the charge/oxygen vertical or horizontal burners.

15.1.68 as 1211823/22-1. L.M. BOCHKAREV et al (26.8.69)
Bul 14/18.4.69. Class 40a. Int. Cl. C 22b.

19750277

AA0040675

AUTHORS: Bochkarev, L. M.; Bykhovskiy, Yu. A.; Makarov, D. M.;
Paretskiy, V. M.; and Sheynkman, L. K.

19750278

USSR

UDC 577.3:591.111

MKHEYAN, V. YA., PAREYSHVILI, YE. A., and KARAGEZYAN, E. G., Radiobiology
Department, Ministry of Health, Armenian SSR

"Changes Originating in Peripheral Blood and Spleen of Rats Under the Influence
of Ruby Laser Rays on the Spleen"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 25, No 1, 1972, pp 28-35

Abstract: Experiments were conducted to study the quantitative and morphological changes in peripheral blood as well as morphological changes in the spleen under the direct influence of laser rays on hemopoietic organs (spleen). The spleen of 40 white rats were submitted to a single irradiation by a ruby laser (wavelength-6943Å, energy-3j/pulse, diameter of pencil ray-7mm, pulse duration-0.5 sec). Twenty control rats underwent surgery without irradiation. Twenty-five rats were examined for peripheral blood changes, 35 for morphological spleen changes. After an initial reference sample, blood samples were taken 1 hour, 1, 7, 15, and 30 days after irradiation. Five-micron microscopic sections were made of spleen samples. No visual changes in erythrocytes or hemoglobin were observed. All types of blood cells were briefly diminished 1 hour after irradiation, especially eosinophils, evidently connected with marked destructive changes of the spleen and perhaps the nerve-reflex factor.

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USSR

MKHEYAN, V. YE., et al., Biologicheskii Zhurnal Armenii, Vol 25, No 1, 1972, pp 28-35

Number of leukocytes, absolute quantity of lymphocytes, monocytes, and basophils increased beginning with the 1st day after irradiation, reaching a maximum on the 7th. On the 7th, 15th, and 30th days an increase in the quantity of all blood cells was observed, especially lymphocytes, corresponding to hemopoiesis evidenced by an increased quantity of lymph follicles and cell elements of red pulp. Hemopoiesis activity was also influenced by the destruction of blood cells in the area of direct radiation. An increase of young forms of lymphocytes (lymphopoiesis) in the spleen and mitosis of marrow cells was observed. According to the results of the experiment, laser rays have a stimulating effect on the hemopoietic organs and peripheral blood beginning with the first day after irradiation.

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--CHOICE OF FURNACE FOR MELTING METALLIC SILICON -U-
AUTHOR--(02)-DONSKOY, A.V., PARFANOVICH, B.V. *P*
COUNTRY OF INFO--USSR
SOURCE--TSVET. METALLY JAN. 1970, (1) 47-49
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SILICON, METAL MELTING, BIBLIOGRAPHY, METALLURGIC FURNACE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1916 STEP NO--UR/0136/70/000/001/0047/0049
CIRC ACCESSION NO--AP0108245

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 016

CIRC ACCESSION NO--AP0108245
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TECHNOLOGICAL PROBLEMS ARISING IN THE CHOICE OF FURNACE FOR THE PRODUCTION OF METALLIC SI ARE DISCUSSED ON THE BASIS OF EXISTING DATA DRAWN FROM A NUMBER OF COUNTRIES. SOME WORKING FORMULAE INDICATING THE OPTIMUM CONDITIONS FOR THE PRODUCTION OF SI IN STANDARD FURNACES ARE PRESENTED; THESE FORMULAE GIVE THE RATE OF GAS EXTRACTION AND THE OPTIMUM GAS TEMP. FOR SPECIFIED CHARGE COMPOSITIONS. 8 REF.

UNCLASSIFIED

PROCESSING DATE 3006170
TITLE--INVESTIGATION OF INTERFERON INDUCTION IN ANIMALS BY MEANS OF
DIFFERENT STIMULATORS -U-

AUTHOR--(05)-OGANESYAN, R.KH., FADEYEVA, L.L., TIKHONENKO, T.I.,
NIKOLSKAYA, I.I., PARFANOVICH, M.I.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 287-291

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INTERFERON, MEASLES, GAMMA GLOBULIN, HEPATITIS, MOUSE, RNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/1853

STEP NO--UR/0402/70/000/003/0287/0291

ARC ACCESSION NO--AP0125464

UNCLASSIFIED

272 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

IRC ACCESSION NO--AP0125464

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE RESULTS OF TESTS OF DIFFERENT PREPARATIONS AS INTERFERON STIMULATORS IN MICE. SYNTHETIC DOUBLE STRANDED COMPLEX OF POLYADENYLIC AND POLYURIDILIC ACIDS (POLY-AU), DOUBLE STRANDED REPLICATIVE FORM OF RNA OF MEASLES VIRUS, GAMMA GLOBULINS OF HUMAN AND HORSE ORIGIN WERE FOUND TO BE ACTIVE INDUCERS ON INTERFERON IN MICE. THE PREPARATIONS UNDER STUDY WERE NOT TOXIC FOR THE ANIMALS. THESE INTERFERON INDUCERS SHOWED ANTIVIRAL ACTIVITY IN MICE AGAINST VIRUS OF MURINE HEPATITIS PROVIDED THE PREPARATION WAS INOCULATED BEFORE THE INFECTION. FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANOVSKOGO AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 019

UNCLASSIFIED

PROCESSING DATE--18SEPT0

TITLE--SOLID SOLUTIONS IN CAGED SUB3 AND BAGED SUB3 AND SRGED SUB3 AND BAGED SUB3 SYSTEMS -U-

AUTHOR--(03)-GREBENSHCHIKOV, R.G., SHIRVINSKAYA, A.K., PARFENENOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 323-6

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SOLID SOLUTION, OPTIC PROPERTY, X RAY DIFFRACTION, ANALYSIS, CALCIUM COMPOUND, BARIUM COMPOUND, STRONTIUM COMPOUND, GERMANIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0564

STEP NO--UR/0363/70/006/002/0323/0326

CIRC ACCESSION NO--AP0105549

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 323-6 (RUSS). PHASE EQUIL. WERE STUDIED IN THESE BINARY SYSTEMS WHICH HAVE REGIONS OF SOLID SOLNS. BASED ON INTERMEDIATE INDIVIDUAL PHASES AND THE EXTREME MEMBERS OF THE SYSTEMS. THE OPTICAL AND X RAY DIFFRACTION CHARACTERISTICS FOR THE INDIVIDUAL PHASES AND FOR THE GERMANATE SOLID SOLNS. ARE PRESENTED.

UNCLASSIFIED

USSR

UDC: 621.319.4(088.8)

BELYAKHIN, I. K., PARFENOV, B. F., BONDARCHUK, G. M., PROKOF'YEV, L. N.

"A Mandrel for Winding Mansbridge Capacitor Sections"

USSR Author's Certificate No 275231, filed 15 Nov 68, published 25 Nov 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V378 P)

Translation: This Author's Certificate introduces a mandrel for winding sections of self-sealing capacitors. The device contains a cylindrical housing with a longitudinal slot accommodating a long needle for holding the ends of the ribbons to be wound on the mandrel. As a distinguishing feature of the mandrel, removal of the finished sections from the device is simplified by forming the mandrel from two hollow interconnected half-cylinders with tapered inner surface encompassing a tapered rod with a spring on one end which presses the half-cylinders against a support set on the rod.

1/1

USSR

UDC: 621.372.41

AL'TSHULLER, G. B., PARFENOV, B. G., MURZIN, V. I.

"On the Effectiveness of Linear Thermal Compensation of AT Section Quartz Resonators"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 35-41 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V444)

Translation: The paper deals with the feasibility of using linear thermal compensation of AT section quartz resonators. Formulas are presented for calculating the parameters of the compensating elements, and experimental data are given. Resumé.

1/1

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1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--DYNAMICS OF SYSTEMS OF CONTROL AT LOWER LIMIT OF RANGE OF
CONTROLLING UNDER NONLINEAR DAMPING -U-
AUTHOR--(05)-DANILOV, YU.A., KAZMIRENKO, V.F., KUZMIN, A.N., PAREENOV,
A.S., PETROV, YU.A.
COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEXHANIKA, 1970, NR 3, PP 162-173

DATE PUBLISHED-----70

SUBJECT AREAS--MATHEMATICAL SCIENCES, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--DYNAMIC SYSTEM, NONLINEAR AUTOMATIC CONTROL SYSTEM, HARMONIC
FUNCTION, LINEAR APPROXIMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/1474

STEP NO--UR/0103/70/000/003/0162/0173

CIRC ACCESSION NO--AP0106230

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106230

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. THERE ARE CONSIDERED CONTINUOUS CONTROL SYSTEMS WITH NONLINEARITIES EXISTING IN THE LOADING OF THE EXECUTIVE COMPONENT THE INFLUENCE OF WHICH IS ESSENTIAL AT THE LOW SPEEDS OF THE MOVEMENT. THE METHOD OF HARMONIC LINEARIZATION IS USED TO DETERMINE THE CONDITIONS OF THE ORIGIN OF AUTO OSCILLATIONS AS WELL AS THE POSSIBILITY OF USING THEM TO ACHIEVE THE EFFECT OF VIBRATIONAL LINEARIZATION. THE RESULTS OF THE INVESTIGATION HAVE BEEN EXPERIMENTALLY PROVED.

UNCLASSIFIED

Acc. No. **AA0108722**

Abstracting Service: 3-70

Ref. Code:

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

244352 ROLL PELLETISER to produce hard alloys from powder comprises smooth sprung metal rolls (1) enclosed by a cowl (3) with a bin (4) at the top and a portioner (5). A rubber sleeve (7) in the channel (6) connects to the uppers of a vibro-screen (8) carried on shock absorbers (9). Above the screen deck is an intermediate deck (10) with paddle. The two screen decks are enclosed together with a channel (12). A bin (13) below the screen (8) has a vibrator (14) and worm (15) to feed the rolls.

27.5.63 as 838490/22-2. PARFENOV, F. I., A. P. CHERNOZUEV, V. P. MELNIKOV et al. (9.10.69) Bul 18/28.5.69. Class 18a. Int.Cl. C 21 b.

AUTHORS: Parfenov, F. I.; Chernozubov, A. P.; Mel'nikov, V. P.; Kropisnov, M. K.; Yakovlev, V. P.; Nelidov, M. A.

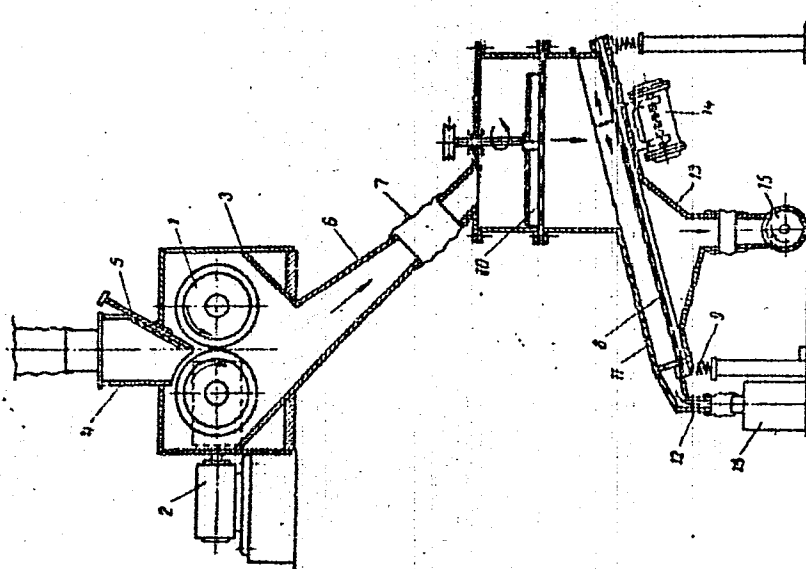
18

1/2

REEL/FRAME

19900498

Acc. Nr.: AA0108722



Reel/Frame

19900499

USSR

ANAN'YEVSKIY, M. G., BOCHKOV, N. G., SPEVAK, YE. YA., PARFENOV, G. V., and
MYL'NIKOV, R. M.

"The Effect of Vanadium, Titanium, and Boron Modification on the Structure,
Magnetic Properties, and Aging of Electric Unalloyed Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79)
Jan/Feb 73, pp 36-38

Abstract: In order to prevent E0100-E0300 electric steels from magnetic aging, which takes place primarily on account of nitrogen, an attempt was made to modify these steels with vanadium, titanium, and boron. Magnetic properties, aging coefficient, and microstructure of modified steels were studied after 200 hours of heat treatment at 120°C. Addition of 0.02-0.03% Ti (as ferrotitanium) to molten steel almost completely suppressed the magnetic aging while the magnetic reversal losses were $P_{1.5/50} = 9.3$ W/kg.

Higher amounts (0.04%) of titanium decreased considerably the size of grains. The aging of steel was completely suppressed with the addition of 0.03-0.06% V (as ferrovanadium) but the magnetic reversal losses were $P_{1.5/50} > 9$ W/kg.

High magnetic reversal losses in this case are attributed to small ferrite grains formed in steel (10-9 relative units, control 8-9 relative units).

1/2

USSR

ANAN'YEVSKIY, M. G., et al., Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79), Jan/Feb 73, pp 36-38

Boron in amount 0.0025-0.0030% was ineffective with respect to magnetic properties of steel, while it made the steel structure nonuniform. The concentration of nitrogen in steel increased with increasing concentration of Ti and V. For practical purposes the use of Ti as a modifier is recommended.

2/2

USSR

UDC 669.15'74-194:620.17:620.18

PARFENOV, L. I., and SOROKIN, G. A.

"Effect of the Deformation Temperature and Subsequent Heat Treatment on the Structure and Properties of High-Manganese Steel"

Moscow, Metallovedeniye, No 5, 1971, pp 43-45

Abstract: The structure and mechanical properties of billets of high-manganese steel (1.15% C, 12% Mn, 0.6% Si, 0.013% S, and 0.075% P) were investigated after forging and four types of subsequent heat treatment: 1) air cooling after forging; 2) water cooling after forging; 3) heating up to 1050-1080°C over a period of 1 hr after forging and subsequent water cooling; 4) air cooling after forging with subsequent heating at 1050°C over a period of 3 hrs and water cooling. The effect of the forging reduction ratio and heat treatment on mechanical properties and grain size and the effect of plastic deformation and temperature on wear resistance are discussed by reference to diagrams. The optimum deformation temperature for parts working under abrasive wear conditions was found to be 800-850°C and for parts working under impact abrasive wear conditions, 900-950°C. Four figures.

1/1

USSR

UDC 536.46:533.6

PANIÑ, V. F., PARFENOV, L. K., ZAKHAROV, Yu. A.

"On the Phenomenon of Three Flame Propagation Limits in a $H_2-O_2-N_2$ System"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works),
Moscow, "Nauka", 1972, pp 293-295 (from RZh-Mekhanika, No 3, Mar 73, Abstract
No 3B971)

Translation: The flame concentration limits in hydrogen-oxygen-nitrogen mix-
tures were studied experimentally in the pressure range $10^{-1} - 10^3$ mm Hg. The
existence of two limits (in terms of pressure) was established for flame propa-
gation: flame propagation at a certain H_2 concentration is possible only in a
limited pressure interval for a given O_2 content in the system. Analysis of the
experimental results and published data made it possible to propose the exist-
ence of three pressure limits for flame propagation in the $H_2-O_2-N_2$ system.
A schematic picture is proposed for a system in the pressure range $10^{-1}-10^5$ mm Hg.
6 ref. Authors' abstract.

1/1

1/2 027

TITLE--SOME PROBLEMS OF CLINICAL STUDY AND THERAPY IN KERATOMICOSSES -U-
UNCLASSIFIED PROCESSING DATE--18SEP70

AUTHOR--PARFENOV, L.K. P

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 81-84

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FUNGAL DISEASE, EYE, ANTIBIOTIC, CORTICOSTEROID, CORNEA,
CORTISONE, FUNGICIDE, TETRACYCLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0679

STEP NO--UR/0357/70/000/002/0081/0084

CIRC ACCESSION NO--AP0102663

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102663

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OF LATE A CONSIDERABLE INCREASE IN THE INCIDENCE OF FUNGAL EYE LESIONS, BELIEVED TO BE DIRECTLY RELATED TO IRRATIONAL USE OF BROAD SPECTRUM ANTIBIOTICS AND CORTICOID PREPARATIONS, HAS BEEN NOTED. ON AN EXAMPLE OF 36 PATIENTS SUFFERING FROM KERATOMYCOSES THE AUTHOR SHOWS A HIGHER PROBABILITY OF THE CORNEA INFECTION WITH THE EYE EXPOSED TO THE ACTION OF TETRACYCLINE OR CORTISONE, THE MORE SO WHEN THESE DRUGS ARE APPLIED CONCURRENTLY. IN MANY INSTANCES A MECHANICAL IMPACT ON THE FOCUS OF THE AFFECTION (CURRETAGE, CAUTERIZATION) AND THE USE OF ANTIFUNGAL AGENTS ARE BY FAR NOT ALWAYS EFFECTIVE IN CASES OF INTENSIVE CICATRICIAL OPACIFICATION OF THE CORNEA, DEMANDING ADDITIONAL TREATMENT WHICH FOR A LONG TIME DETRACTS THE PATIENTS FROM OCCUPATIONAL ACTIVITY. EXPERIMENTS AND CLINICAL OBSERVATIONS POINT TO THE RATIONALE OF EMPLOYING LAMINAR KERATOPLASTY, BOTH IN MANAGING THE RESULTANT LEUCOMAS OF FUNGAL ETIOLOGY AND IN THE ACUTE PERIOD OF THE AFFECTION, WHEN CONSERVATIVE ANTIFUNGAL THERAPY PROVES OF NO AVAIL.

UNCLASSIFIED

USSR

UDC 621.396.6-181.5

GUSAKOV, V. M., PARFENOV, R. I., BOKHANKEVICH, T. V.

"Use of a Computer to Calculate MOS-Transistorized Integrated Circuits"

Elektron. prom-st'. Nauch.-tekhn. sb. (Electronic Industry. Scientific-Technical Collection), 1970, No 2, pp 41-44 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4V183)

Translation: A model of a transistor with MOS structure is proposed which permits calculation of microcircuits with the MOS structure on computers. A method of solution is selected, and a program is written for calculating the transient process of the digital microcircuit with MOS structure in ALGOL-60. This program automatically compiles a system of differential equations describing the behavior of the circuit. The circuit of an inverter made of mutually complementing transistors with MOS structure is calculated analytically and on a computer, and the results obtained are compared with experimental data.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--MANAGEMENT PROBLEMS IN THE MACHINE TOOL INDUSTRY -U-

AUTHOR--(02)-PARFENOV, V., MIRONOV, N.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA, DEC. 25, P. 2

DATE PUBLISHED--25DEC70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--MINISTERIAL CONTROL, R AND D MANAGEMENT ORGANIZATION, COMPUTER CENTER, ECONOMIC PLANNING PROBLEM, BONUS, INDUSTRIAL PERSONNEL, R AND D MANAGEMENT PROBLEM, INFORMATION PROCESSING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1092

STEP NO--UR/9012/70/000/000/0002/0002

CIRC ACCESSION NO--AN0121655

UNCLASSIFIED

2/5 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121655
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. COMPLETING OUR PUBLICATION OF "LETTERS FROM A MINISTRY", TODAY'S ARTICLE TELLS ABOUT THE WAYS OF IMPROVING THE MANAGERIAL WORK OF EMPLOYEES AT BRANCH "HEADQUARTERS". MORE THAN A THOUSAND SPECIALISTS OF VARIOUS OCCUPATIONS, AGES AND BACKGROUNDS COME TO WORK EACH MORNING AT THE MINISTRY OF THE MACHINE TOOL AND TOOL INDUSTRY. AT 8.55 A.M. THE LINES AT THE CLOAKROOM AND THE ELEVATORS HERE ARE LONGER THAN THOSE AT THE THEATER AFTER A PLAY. BUT PEOPLE COME TO THE MINISTRY DURING THE DAY AS WELL. THEY WALK DOWN THE LENGTHY CORRIDORS, STAND IN LINE OUTSIDE THE OFFICES OF THE DIRECTORS OF CHIEF ADMINISTRATIONS AND OF THEIR DEPUTIES AND ARGUE HEATEDLY AT THE DESKS THAT CROWD THE ROOMS OF THE VARIOUS DEPARTMENTS. THE PHONES RING. A CONSTANT STREAM OF LETTERS, TABLES, REPORTS AND OTHER DOCUMENTS LANDS ON THE DESKS. SUCH IS AN AVERAGE DAY AT THE MINISTRY. "IN OUR MINISTRY, EMPLOYEES OF THE BUSINESS OFFICE WORK IN 17 DIFFERENT LOCATIONS; THEY ARE SCATTERED AROUND THE ENTIRE BUILDING", THE HEAD OF THE OFFICE TOLD US. "THERE ARE NO DIRECT COMMUNICATIONS; ONE HAS TO USE THE TELEPHONE". AFTER HEARING THE REPORT OF THE MINISTRY'S PARTY COMMITTEE, THE BUREAU OF THE FRUNZE BOROUGH PARTY COMMITTEE STATED THAT NO CLEAR CUT PROCEDURE FOR RECORDING AND PROCESSING COMPLAINTS HAS BEEN SET UP IN THE CHIEF ADMINISTRATIONS AND ADMINISTRATIONS. THERE ARE SERIOUS SHORTCOMINGS IN THE WAY THE RECEPTION OF VISITORS IS ORGANIZED. COMPLAINTS AND REQUESTS PRESENTED ORALLY ARE NOT REGISTERED. AS MANY AS 20PERCENT OF ALL DOCUMENTS ARE COMPLETED FROM 10 TO 30 DAYS LATE. THE OFFICIALS OF THE MINISTRY TAKE DIFFERING VIEW OF THIS STATE OF AFFAIRS.

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PROCESSING DATE--23OCT70

3/5 026

CIRC ACCESSION NO--ANO121655

ABSTRACT/EXTRACT--SOME ATTRIBUTE IT TO POOR DISCIPLINE, AND WE CANNOT BUT AGREE WITH THIS. IT IS STILL COMMON FOR ORDERS NOT TO BE CARRIED OUT ON TIME. AND THE GUILTY PARTIES ARE BY NO MEANS ALWAYS CALLED TO ACCOUNT. THIS WAS THE CASE, FOR EXAMPLE, WITH ORDER NO. AK-184, DATED JUNE 10. IN THIS DOCUMENT, MINISTER A. I. KOSTOUSOV ORDERED THE DIRECTORS OF THE CHIEF ADMINISTRATIONS TO WORK OUT MEASURES TO IMPROVE THE SYSTEM OF RECIPROCAL DELIVERIES OF CASTINGS. AN AUTHORITATIVE COMMISSION WAS SET UP, AND DEADLINES WERE FIXED. ALL THE DEADLINES HAVE PASSED, BUT NO MEASURES HAVE BEEN UNDERTAKEN, AND THOSE RESPONSIBLE HAVE NOT BEEN CALLED TO ACCOUNT. EVIDENTLY THIS IS WHY SOME EXECUTIVES HAD OUT PROMISES SO FREELY AND THEN FORGET ABOUT THEM. WHAT INFLUENCE HAS THE ECONOMIC REFORM HAD ON THE WORK STYLE OF THE MINISTRY'S APPARATUS? WE ASKED THIS QUESTION OF MANY RESPONSIBLE STAFF MEMBERS. UNFORTUNATELY, IT IS AS IF THE REFORM HAD BYPASSED THE BRANCH HEADQUARTERS. A GREAT DEAL REMAINS UNCHANGED HERE, JUST AS IT WAS AT ONE TIME IN THE FORMER MINISTRIES. THE MAIN DEFECT IS THAT THE WORK OF THE PLANTS IS OFTEN PLANNED WITHOUT CONSIDERATION FOR THE REQUIREMENT OF THE REFORM. PLANS ARE REVISED AND CORRECTED MANY TIMES DURING THE YEAR. FOR INSTANCE, THE PLAN FOR THE WORK OF THE RYAZAN CENTRAL FOUNDRY HAS BEEN REVISED SIX TIMES. THE SAME APPLIES TO INCENTIVES. BONUSES FOR THE YEAR'S RESULTS ARE ISSUED TO EMPLOYEES OF THE CHIEF ADMINISTRATIONS ON A ROTATING SYSTEM: ONE GROUP ONE QUARTER, ANOTHER GROUP THE NEXT. AND THIS HAPPENS SIMPLY BECAUSE THERE ARE NO ECONOMIC CRITERIA FOR EVALUATING THE EFFICIENCY OF THE WORK OF ANY GIVEN STAFF MEMBER IN THE APPARATUS.

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121655

ABSTRACT/EXTRACT--GREAT HOPES ARE HELD HERE FOR THE BRANCH AUTOMATED MANAGEMENT SYSTEM (BAMS) AND FOR THE MINISTRY'S INFORMATION AND COMPUTING CENTER. THE ORDERS TO CREATE AND INTRODUCE THIS SYSTEM IN THE BRANCH WERE ISSUED ON APRIL 19 AND AUG. 17, 1966. DURING THE PERIOD SINCE THAT TIME, "A CERTAIN AMOUNG OF WORK HAS BEEN DONE", AS IT IS CUSTOMARILY PUT. TELETYPE MACHINES HAVE BEEN INSTALLED AT 180 PLANTS, AND 43 INTERCONNECTED INFORMATION STATIONS HAVE BEEN ORGANIZED IN VARIOUS PARTS OF THE COUNTRY TO GATHER CURRENT INFORMATION. A DEPARTMENT FOR THE INTRODUCTION OF COMPUTER TECHNOLOGY HAS BEEN SET UP IN THE MINISTRY'S TECHNICAL ADMINISTRATION. A CENTRAL COMMUNICATIONS OFFICE AND INFORMATION AND COMPUTING CENTER, WHICH IS CONNECTED BY COMMUNICATIONS CHANNELS TO THE NETWORK OF INFORMATION STATIONS, HAS BEEN EQUIPPED IN MOSCOW. AT THE EXPERIMENTAL METAL CUTTING MACHINE TOOLS RESEARCH INSTITUTE, A DEPARTMENT HAS BEEN SET UP TO WORK OUT AND INTRODUCE A BRANCH AUTOMATED SYSTEM. SINCE MAY, 1968, MORE THAN A YEAR AND A HALF AGO, THE INFORMATION AND COMPUTING CENTER HAS BEEN GIVING ALL THE DIRECTORS OF CHIEF ADMINISTRATIONS AND THEIR DEPUTIES A REPORT EVERY TEN DAYS ON PROGRESS IN THE FULFILLMENT OF THE PRODUCTION PLAN BY THE MINISTRY'S PLANTS. NEVERTHELESS, THE STAFF MEMBERS OF THE CHIEF ADMINISTRATIONS CONTINUE TO COLLECT THE VERY SAME DATA BY TELEPHONE EVERY TEN DAYS. NOR IS THAT ALL. THE VERY SAME REPORTS, SIGNED BY DIRECTORS AND WITH OFFICIAL SEALS AFFIXED, STILL ARRIVE AT THE MINISTRY EVERY MONTH BY MAIL. BONUSES ARE GIVEN TO THE COLLECTIVES SOLELY ON THE BASIS OF THESE REPORTS. WHAT IS THE SOURCE OF THIS DISTRUST FOR ELECTRONIC MACHINES?

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121655

ABSTRACT/EXTRACT--IS IT PERHAPS BECAUSE THEY HAVE NOT YET BEEN ADAPTED TO
REPRODUCE THE OFFICIAL SEALS?

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USSR

UDC: 612.(075.5)

PARFENOV, V. A., PLATONOV, V. N., and PLATONOV, S. N., Chair of Swimming, Problem Scientific Research Laboratory of High Training Loads, State Institute of Physical Culture, Kiev

"A Barochamber-Treadband for Tests in an Altered External Environment"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 57, No 1, 1971, pp 140-143

Abstract: A barochamber with a capacity of 100 liters has been designed which is totally enclosed and made of transparent plastic. The purpose of the chamber is study of the functional state of small laboratory animals that walk or run at various speeds. The chamber can be filled with a gas mixture containing O_2 , CO_2 , He, and N_2 in the desired ratios. The pressure in the chamber can be varied in the 0.5-1.5 at pange and the concentration of negative air (gas) ions in it in the range of $10^3 - 10^6 /cm^3$. An endless moving band is contained in the chamber, the velocity of the motion of which can be varied in 30 steps from 0.2 to 2.5 m/sec. The animals of a group placed into the chamber run on the vertically moving band in the direction of its motion until they reach an electrically

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PARFENOV, V. A., et al, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 57, No 1, 1971, pp 140-143

charged gate suspended from the top at the point at which the band, which is propelled by an electric motor, turns downwards over a shaft. Under the effect of the electric shock from the gate, the animals turn back on the band, unless they are so tired that they cannot make the required effort; they then pass through the gate and fall into a lower compartment of the chamber. The chamber has been used in preliminary research on the effects of gas mixtures with different ratios of O_2 : N_2 partial pressures on the performance of animals at various intensities² of effort and also on the type and duration of restoration processes that followed physical loads to which the animals were subjected.

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USSR

UDC: 621.373.421.13

AL'TSHULLER, G. B., MIRZIN, V. I., PARFENOV, V. G.

"Effect Which the Transconductance Phase of a Transistor Has on the Frequency Stability of a Quartz Crystal Oscillator"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications—collection of works), Moscow, "Svyaz'", 1970, pp 113-121 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No No 1D342)

Translation: The authors consider frequency relationships in a quartz crystal controlled oscillator with regard to complex conductivities and the transconductance phase of the transistor. An expression is presented for determining the mismatch of the oscillator relative to the series resonance frequency. A formula is derived for calculating the component of frequency instability due to the effect of a change in the transconductance phase of the transistor. In addition, a study is made of the dependence of the given frequency instability component on the value of the given mismatch. Three illustrations, bibliography of six titles. Resumé.

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1/2 026

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PROCESSING DATE--30OCT70

TITLE--USE OF SURFACE ACTIVE AGENTS FOR DRYING THE EXTERIOR FACINGS IN GAS STORAGE WELLS -U-

AUTHOR-(04)-KARIMOV, M.F., KAYGORODOV, V.A., KVASOV, V.P., PARFENOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(3), 23-4

DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SURFACE ACTIVE AGENT, SURFACE TENSION, NATURAL GAS, POL STORAGE, UNDERGROUND FACILITY, CHEMICAL DRYING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2092

STEP NO--UR/0492/70/015/003/0023/0024

CIRC ACCESSION NO--AP0127465

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 026

CIRC ACCESSION NO--AP0127465

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE SUITABILITY OF SURFACE ACTIVE AGENTS IS DETD. BY THEIR FOAMING CHARACTERISTICS AND ISOTHERM OF SURFACE TENSION. THEIR OPTIMUM CONC. IS DETD. BY THE MIXING COEFF., WHICH IS DETD. BY MIXING THE SOLN. WITH N. FACILITY: UFIM. NETF. INST., UFA, USSR.

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UDC 617-001.28-056.12-092.9-085.849.1.015.25-07[:
616.36+616.61]07

MIKHAYLOVICH, S. M., OVDIYENKO, N. I., SEDOV, V. V., LEBEDEVA, G. A., and PARFENOV,
Yu. D.

"The Effect of Oxathiol on the Liver and Kidneys in Chronic Radiation Sickness
Induced by the Injection of Polonium²¹⁰"

Moscow, Meditsinskaya Radiologiya, No 4, 1970, pp 43-51

Abstract: A single subcutaneous injection of dogs with 2.5 microcurie/kg of Po²¹⁰ produced chronic radiation sickness accompanied by impairment of liver and especially kidney function, causing death of animals in 9 months. In experimental dogs, daily doses of 50 and 25 mg/kg of oxathiol for a month not only mitigated the liver and kidney disorders, but enabled the animals to survive for the entire 7-year observation period. Oxathiol treatments also reduced the size of the absorbed dose of Po²¹⁰ in the organs. Oxathiol is a complexing agent that accelerates the excretion of polonium from the body by forming stable water-soluble complexes. The free SH groups contained in oxathiol help to restore the radiation-impaired balance of SH groups in the enzyme systems.

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UDC 678.742.2:66.018.887.01:53

BRAGINSKIY, R. P., ~~PARFENOVA, D. S.~~ TROITSKIY, I. D., FINKEL', E. E.,
and CHERVONTSEVA, G. M.

"Radiation Modification of Self-Extinguishing Polyethylene Compositions"

Moscow, Plasticheskiye Massy, No 1, Jan 72, pp 15-18

Abstract: The authors consider possibilities for radiation modification of self-extinguishing compositions based on low-density polyethylene to improve thermal stability and physical and mechanical characteristics at high operating temperatures. The self-quenching composition studied was made up of 77.0 percent P2015KU polyethylene, 11.3 percent chloroparaffin 70, and 11.7 percent Sb_2O_3 . The control specimens were unmodified P2015KU polyethylene.

Pressed plates about 0.3 mm thick were exposed to Co^{60} gamma radiation at room temperature in helium to absorbed doses of 1-500 Mrad. The gel fraction content was then determined. Deformation characteristics were measured on special specimens. The thermomechanical characteristics and quenching properties were also studied. It was found that an optimum dose of about 15 Mrad considerably improves the deformation characteristics of the self-extinguishing composition. Thermomechanical tests of specimens which had absorbed this dose showed that shape stability is adequate for use of
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BRAGINSKIY, R. P., et al., *Plasticheskiye Massy*, No 1, Jan 72, pp 15-18
finished articles at 100°C, which extends the region of application of this
material. The authors thank L. Ye. Sokolova, L. Khokhlova and N. K. Kozlova
for assistance in the experimental studies. Four figures, bibliography of
twenty-four titles.

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JSSR

UDC 669.14.018.44:539.4

BABICH, B. N., BULYGIN, I. P., ZHUKOV, N. D., KRIVENKO, M. P., and PARMENOVA, N. I.
All-Union Scientific Research Institute of Aviation Materials (Moscow)

"The High-Temperature Strength of Dispersion-Hardening Composition Alloys
Potentially Suitable for Use in Engines"

Kiev, Problemy Prochnosti, No 11, Vol 73, pp 73-77

Abstract: An investigation is made of the high-temperature strength of the nickel-based dispersion-hardened alloys VDU-1 and VDU-2, hardened by finely dispersed, uniformly distributed particles of high-melting oxides of the ThO₂ type in the amount of 2-3% by weight. A study was made of the strength of semi-finished products in the form of rods 6-12 mm in diameter and sheets 0.8-1.2 mm in thickness, obtained from powders of the components via shaping, baking, and hot extrusion. Results are presented of an investigation of the short- and long-term strength, the creep, fatigue, and heat resistance of the alloys to establish their suitability for use in gas-turbine engines. An analysis was made of such strength features of these alloys as the nature of the temperature-time relationship of the strength, the scattering of the heat-resistance indicators, the sensitivity to loading instability, etc. in comparison to the strength properties of series-produced highly heat-resistant alloys. The

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BABICH, B. N., et al., Problemy Prochnosti, No 11, Vol 73, pp 73-77

obtained results demonstrate the fact that with regard to their high-temperature strength, dispersion-hardened alloys are potentially suitable for use in gas-turbine engines. 8 figures. 2 tables. 5 references.

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PARFENOVA, N. I.

JPRS 56002
16 May 1972

UDC: 669.14.018.44:539.4
STATISTICAL EVALUATION OF CHARACTERISTICS OF HEAT-RESISTANT
MATERIALS FOR GAS-TURBINE ENGINES

[Article by I.P. Bulzgin, N.I. Parfenova, I.N. Timofeyeva, and I.I. Tcsein;
Moscow, Problemy Prochnosti Russians, No 10, 1970, pp 20-24]

Change of Dispersion of the Characteristics of Long-Term Strength and Creep
As a Function of Test Temperature and Length

Characteristics of heat-resistance among the random values, the precision of determination of which depends to a considerable degree on the quantity of experimental data. This fact can explain the tendency to determine those characteristics on the basis of the results of mass tests.

The results of statistical processing of mass tests for long-term strength and creep can be used to obtain additional information which contributes to increased reliability of evaluation of the working capacity of heat-resistant materials. One of those possibilities is study of the time and temperature dependence of certain statistical parameters of experimental sets.

In the present work, on the example of two typical heat-resistant materials (EP109VD nickel-based alloy and EI961 steel) an investigation was made of the change of dispersion of the characteristics of resistance to deformation and destruction during creep as a function of the test temperature and length.

Three industrial casts of each material were selected for the investigation in accordance with the principles given in [1], in which is shown the possibility of estimating the mean values and dispersion of the "mark" characteristics of long-term strength by statistical processing of the results of long-term tests of three or four casts, selected with consideration of long-term distribution of a large number of casts with respect to durability.

On the basis of the smelting method, chemical composition, type of intermediates and conditions of heat treatment

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UDC 669.71:620.172.251.226

KOSAREV, A. I., BICH, E. N., and PAFENOVA, N. V., All-Union Institute of Light Alloys

"Strengthening and Weakening of Aluminum Alloys at 135-150°C Under Load"

Moscow, Metallovedeniye, No 3, 1973, pp 41-45

Abstract: The mechanical properties and structure of intermediate products of D20-1, D16, and VAD23 precipitation-hardening aluminum alloys after soaking at increased temperatures under stress were investigated in this work and the results compared with AK4-1 alloy properties from a previous study. The heat treatments consisted of the following for each alloy: D20-1, 2.5-mm-thick sheet -- aged at 170°C for 16 hours; D16, 2-mm-thick sheet, naturally aged and aged at 190°C for 8 hours; VAD23, sheet 1.8 mm thick, naturally aged and aged at 160°C for 12 hours; D16, extruded rod 100 mm in diameter, naturally aged and aged at 190°C for eight hours; and VAD23, extruded strip 54 mm thick, aged at 160°C for 12 hours. It was found that strengthening and weakening processes occur in these alloys at 150°, 135°, and lower temperatures under the action of tensile stresses; strengthening is caused by additional precipitation of strengthening phase particles and phase cold working, while weakening results from coalescence of the precipitated particles. With increased temperature and reduced stress the process of coalescence is accelerated in D20-1 and D-16

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KOSAREV, A. I., et al, Metallovedeniye, No 3, 1973, pp 41-45

alloys and promotes the presence of the less thermally stable CuAl_2 phase in intermediate products and a nonuniform, partially recrystallized structure in extruded intermediate products of D16 alloy. Extruded intermediate products with a coarse-grain recrystallized structure have a greater tendency toward strengthening. The long-time strength of these intermediate products can be more stable than the long-time strength of intermediate products with a fine-grain, equiaxial structure. In the height direction, these intermediate products are strengthened less and possess a lower long-time strength than those products with the fine-grain, equiaxial structure. It is possible to judge the tendency of an alloy to strengthening and weakening from long-time strength tests by the change in long-time ductility: the greater the slope of the curves the more intensive is the strengthening. An increase in relative reduction in area during long-time strength tests characterizes intensive weakening of the alloy at the time sample necking commences. 4 figures, 1 table, 3 bibliographic references.

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Acc. Nr: AP0038108 P

Ref. Code: UR 0326

PRIMARY SOURCE: *Fiziologiya Rasteniy*, 1970, Vol 17, Nr 1,
pp 83-90

**ROLE OF PHYSIOLOGICALLY ACTIVE SUBSTANCES IN DORMANT AND
GERMINATING PEACH SEEDS**

Kolomiyets, I. A.; Parfenova, T. M.; Teplitskaya, Ye. V.

Central Botanical Garden, Ukr. SSR Academy of Sciences, Kiev

1/2 The permeability of the coats of peach (*Persica vulgaris* Mill.) seeds with respect to water and the auxin and growth inhibitor content in the coats and embryos as depending on the growth conditions were studied. Considerable amounts of growth inhibitors were found in the coats and embryos of peach seeds. In the embryos the inhibitors were inactivated to a great extent as a result of soaking of the seeds. The remaining inhibitors do not hamper growth of isolated embryos but slow down division and growth of cells in the middle of the meristem and in the zones of primary differentiation and elongation of the stem. A result of this is dwarfness of the seedlings. Complete inactivation of growth inhibitors in the embryos can be attained by 30 day cold stratification. Dormancy of the inactive seeds is due to restricted uptake of water in the embryos. This can be ascribed to the presence in the inner coats (in the endospermal film and seed coat) of growth inhibitors blocking the enzyme activity during the initial period and at

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a later period, after 30 days of stratification, to resistance of the seed coats to swelling of colloids. The coats possess a restricted extensibility and a high durability and exert a turgor counter-pressure on the embryo as it expands during absorption of water. This obstacle in peach seeds can be removed by 90 days of stratification when the wholeness of the endocarp is violated and the durability of the endospermal film and seed wall is greatly lowered.

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USSR

UDC 547.621:661.718.J/.719:542.953

ISAGULYANTS, V. I., PARENNOVA, V. A., and ROCHEVA, G. YA., Moscow Institute of Petrochemical and Gas Industry imeni Akademika I. M. Gubkin

"Synthesis of O,O-Di-(alkylphenyl)-N-alkylamidothiophosphates"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 6, Jan 72, pp 1404-1406

Abstract: A mixture of 9.9 g O,O-di-(p-tert-butylphenyl)-thiophosphoryl chloride, 1.47 g n-propylamine, and 2 g pyridine in anhydrous benzene was heated to 60° with constant stirring under an atmosphere of nitrogen for 5 hrs. After cooling, pyridine hydrochloride was filtered off and benzene was removed under reduced pressure to yield O,O-di-(p-tert-butylphenyl)-N-n-propylamidothiophosphate. Analogously the following compounds were obtained: O,O-di-(p-tert-butylphenyl)-N-n-butyl-, and -n-amylamidothiophosphate and O,O-di-(octylphenyl)-N-propyl-, -isobutyl-, -n-butyl-, -n-amyl-, and -n-hexylamidothiophosphate.

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Acc. Nr: AF0037843 *P*

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 76-79

MAGNETIC HYPERFINE INTERACTION FOR Co^{60}
IN Pt-Co ALLOYS

Yerzinkyan, A. L.; Parfenova, V. P.

The magnetic fields on Co^{60} nuclei in Pt—Co alloys are measured by the oriented nuclei technique for Co concentration between 8 and 90 at.%. The field strength on the nucleus is practically independent on the Co concentration. The results are compared with the corresponding data for Pd—Co alloys obtained previously [1, 2]. The experimental results point to a significant difference in the interaction of the Co atom magnetic moment with the conductivity electrons in the two matrices.

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UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--DETERMINATION OF THE MONETHYL ADIPIC ACID CHLORIDE -U-

AUTHOR--(104)--SOLUNINA, I.A., PARFENOVA, V.V., DEVYATNIN, V.A., KUZNETSOVA, T.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. FARM ZH. 1970, 4(2), 46-8 *P*

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--CHEMICAL ANALYSIS, ADIPIC ACID, CARBOXYLIC ACID CHLORIDE, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0538

STEP NO--UR/0450/70/004/002/0046/0048

CIRC ACCESSION NO--AP0113429

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113429

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PROCEDURE WAS DEVELOPED FOR
DETG. THE TITLE COMPD. (I) IN THE PRESENCE OF MONO ET ADIPATE (II) AND
HCL. THE PROCEDURE WAS BASED ON ETHANOLYSIS OF I WITH ABS. ETOH TO FORM
DI ET ADIPATE AND HCL, AND ON HYDROLYSIS OF I TO FORM II AND HCL. A
TITRIMETRIC DETN. OF THE ACIDS FORMED BOTH REACTIONS PERMITS THE I
CONTENT TO BE ASSESSED FROM THE DIFFERENCE. THE HCL CONTENT WAS DETD.
BY THE VOLHARD METHOD. THE PROCEDURE IS AS FOLLOWS: DISSOLVE A SAMPEL
(SIMILAR TO 0.15 G) IN 5 ML ABS. ETOH, ADD SEVERAL DROPS OF BROMOTHYMOL
BLUE AND TITRATE WITH 0.1 N NAOH. THEN ADD 10 ML 16PERCENT HNO SUB3, 20
ML 0.1 N AGNO SUB3, AND BACK TITRATE THE AGNO SUB3 WITH 0.1 N NH SUB4
SCN IN THE PRESENCE OF NH SUB4 FE(SO SUB4) SUB2. DISSOLVE ANOTHER
SAMPLE IN 5 ML DIOXANE, ADD 20 ML H SUB2 O, AND TITRATE WITH 0.1 N NAOH
USING THE SAME INDICATOR AS IN THE 1ST TITRN. CALC. THE CONTENT OF
I, II, AND HCL FROM THE GIVEN FORMULAS. THE RELATIVE ERRORS OF THE DETN.
OF I, II, AND HCL BY THIS PROCEDURE WERE 5.5, 1.1, AND 15.0PERCENT,
RESP. FACILITY: VSES. NAUCH. ISSLED. VITAMIN. INST., MOSCOW,
USSR.

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USSR

UDC: 51

PARFENOVA, V. Ye., SYROYEZHIN, I. M.

"Mathematical Economics Analysis of an Organizational Hierarchy"

V sb. Primeneniye mat. v ekon. (Use of Mathematics in Economics--collection of works), vyp. 7, Leningrad, Leningrad University, 1972, pp 54-63 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V472)

[No abstract]

1/1

acc. Nr.

AA0108180

Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code
UR 0482

6

P

135549t Steel. Ozerskii, A. D.; Solntsev, Yu. P.; Galkin, M. F.; Myagkov, V. V.; Vladimirov, N. E.; Yurasov, S. A.; Nikonov, V. F.; Yakovenko, A. F.; Parfenovskii, A. B.; Kunitsa, S. S. U.S.S.R. 260,809 (Cl. ~~Group~~ 00-Jan-1976, Appl. 02 Dec 1968; From *Otkrytiya, Izobret., Prom. Obratsty. Totarnye Znaki* 1970, 47(4), 81. Steel with improved mech. properties consisted of: C 0.40-0.45, Si 0.5-0.7; Mn 0.5-0.8, Cr 1.5-1.8, V 0.3-0.5, Mo 0.9-1.2, impurities of S <0.03, and P <0.03%, and Fe the remainder. MSCL ✓

REEL/FRAME

18 CR

19891846

USSR

UDC: 621.371.332.3.01

BABAYEV, A. B., LOGACHEV, V. P., FEDOROV, V. A., PARFENT'YEV, V. N.

"Experimental Investigation of the Characteristics of Reflection From Uneven Ground Surfaces"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 87-89 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G56)

Translation: An investigation was made of the power of a signal reflected from a ground surface with forest cover as a function of the angle of irradiation of the surface for various types of forest cover (heavy coniferous forest, deciduous, mixed, and so on), and also of the influence which the moisture content of the reflecting surface and cover has on the power amplitude and degree of depolarization of the reflected signal. The results are presented in juxtaposition with data found for the surface of the sea, ice, and plowed ground without cover. Three illustrations, two tables. N. S.

1/1

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USSR

UDC: 621.371.332.3

BABAYEV, A. B., LOGACHEV, V. P., PARFENT'YEV, V. N., FEDOROV, V. A., SHELO-MANOVA, G. P.

"Some Problems of Reflection of a Frequency-Modulated Signal From Forest Cover"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 84-86 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G57)

Translation: Using an experimental model of a radio altimeter with frequency modulation (waveband of 7 cm, deviation of 100 MHz, width of the polar diagram at half power in both planes 25-30°), the authors studied the errors in measurement of flight altitude over a forested surface. The experiments were done over hills of various heights with different types of trees. A singularity was found in the signal reflected from the forest -- beats with two maxima showed up in the signal spectrum. The error in altitude measurement depending on the density and height of forest cover is determined. Three illustrations. N. S.

1/1

- 26 -

USSR

UDC 536.243

PCHELKIN, I. M., KALAKUTSKAYA, N. A. and
PAKFENT'YEVA, I. F.

"Effect of Length and Geometry of Laval Nozzle on Expansion
of Water-Air Mixture"

Moscow, Teplo-Massopernos v. Odnno-i Dvukhfaznykh Sredakh, 1971,
pp. 38-51

Abstract: An experimental investigation was conducted of the flow of
water-air mixture through a convergent-divergent Laval nozzle.

Four nozzles of different lengths were tested. All nozzles
had approximately the same throat and exit diameters.

The jet reaction of the nozzle and the mass flow were measured.
Since the jet reaction is equal to the product of the mass flow by
the mean velocity, the latter could be calculated. Fig. 1 shows the
mean velocity versus dryness for several values of the inlet
pressure.

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USSR

PCHELKIN, I. M., et al., *Teplo-Massopernos v Odno-i Dvukhfaznykh Sredakh*, 1971, pp 38-51

The ratio of the gas velocity to the water velocity was calculated from known mass flows and specific weights of the two phases, it is shown on fig. 2.

The efficiency of the nozzle is defined as the ratio of the sum of kinetic energies of the two phases to the sum of their potential energy drops. The efficiencies of the shortest and longest nozzles versus inlet pressure for several values of dryness are shown on fig. 5.

2/2

- 45 -

Acc. Nr.

AP0048460

Abstracting Service:
CHEMICAL ABST. 570

Ref. Code

UR 0949

P

105268h Negative magnetoresistance of n-gallium antimonide.
 Matvesnko, A. V.; Farfen'ev, R. V.; Shalvt, S. S. (Inst.
 Poluprov., Leningrad, USSR). *Pri. Tekh. Poluprov.* 1970,
 4(1), 191-4 (Russ). The magnetoresistance, the Hall effect,
 and the elec. resistivity of n-type GaSb single crystal with carrier
 concn. of $1.7 \times 10^{17}/\text{cm}^3$ were studied. Neg. magnetoresistance
 was found in transverse and longitudinal weak magnetic fields
 at 1.4-140°K. This phenomenon may be explained as assocd.
 with an addnl. scattering of current carriers on localized electron
 spins.
 L. Koudelka

1/1

REEL/FAME
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1814

welding

USSR

UDC: 621.791.019

MAKARA, A. M., GORDONNY, V. G., DIBETS, A. T., SARZHEVSKIY, V. A.,
PARFESSA, G. I., Institute of Electric Welding imeni Ye. O. Paton



"Remelting of High-Strength Steels as a Means of Increasing the Resistance to the Formation of Cold Cracks During Welding"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 73, pp 1-5.

Abstract: One method of improving the properties of high strength structural steels is refining of the initial metal, i.e., decreasing the content of harmful impurities, gasses, nonmetallic inclusions, and improvement of the initial structure of the metal. The use of electric-slag and cathode-ray remelting can significantly improve the ductility and toughness of the remelted steel by decreasing the content of sulphur, phosphorus, oxygen, nitrogen, hydrogen and nonmetallic inclusions. Following refining remelting, the resistance to the formation of cold cracks near a welded seam in type 35Kh2N2M and 42Kh2GSNM steels is increased by 50-60%.

USSR

UDC 621.791.754'264

UL'YANOV, V. I., Engineer, PARFESSA, G. I., Candidate of Technical Sciences, VYSOTSKIY, G. A., Engineer, Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR, and SUDAVTSOVA, V. S., Engineer, Kiev State University imeni T. G. Shevchenko

"Influence of Titanium on the Technological Properties of Type Sv-08G2S Wire"

Kiev, Avtomaticheskaya Svarka, No 6 (243), Jun 73, pp 59-62

Abstract: The authors studied the influence of titanium on the technological properties of type Sv-08G2S wire during welding in carbon dioxide. They showed that doping 0.3-0.4 percent Ti permits reducing the sputtering during CO₂ welding and improving the mechanical properties of the seam metal. They suggest studying additional measures to increase the resistance of the seam metal to crystallization cracks. The article contains 2 tables, 4 figures, and 7 bibliographic references.

1/1

USSR

UDC 621.791.053.002.637:546.226

PODGAYETSKIY, V. V., Doctor of Technical Sciences, PARFESSA, G. I., Engineer, and LEYNACHUK, YE. I., Candidate of Technical Sciences

"The Shape of Sulfide Inclusions in Welds"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 70, pp 14-15

Abstract: The article describes results of a study of sulfide inclusions in welds of varying composition. Welds on carbon and low-carbon steel display all three types of sulfide inclusions usually encountered in cast steel, viz. globular and round oxysulfide and sulfide inclusions, sulfide films and chains of small sulfide inclusions, and complex sulfur-containing inclusions of irregular shape. The shape and composition of the sulfide inclusions forming in the welds depend on the conditions for their elimination. The authors studied the effect of different titanium and vanadium contents on the shape of welds welded on low-carbon rimming steel St. 3 under a silicon-free manganese-free flux (AN-30 or AN-70). A metallographic study showed that

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USSR

PODGAYETSKIY, V. V., et al., Svarochnoye Proizvodstvo, No 12, Dec 70, pp 14-15

the introduction of small amounts of titanium changes the shape and composition of the sulfide inclusions. There is a significant increase in the quantity of complex sulfide films and chains situated along the primary crystallite boundaries and a decrease in the number of oxysulfide inclusions. A further increase in the titanium concentration results in the appearance of complex nonmetallic inclusions containing titanium carbides and sulfides, as well as a decrease in the number of film-like sulfide inclusions. With titanium concentrations of 0.5-2.0 percent practically the entire sulfur enters into the complex nonmetallic inclusions, and the films and chains of sulfides completely disappear. The introduction of vanadium changes the shape and composition of the globular oxysulfide inclusions. In welds without vanadium these inclusions consist mainly of ferromanganese oxides and silicates. With the introduction of vanadium the oxysulfide inclusions consist mainly of vanadium oxides and ferromanganese sulfides, with some sulfide films and chains. In

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USSR

PODGAYETSKIY, V. V., et al., Svarochnoye Proizvodstvo, No 12, Dec 70, pp 14-15

welds with a higher carbon content (up to 0.3 percent), vanadium carbide inclusions form, which serve as elimination centers for the sulfides. This reduces the number of film and chain sulfide inclusions. With a vanadium content of about 4-8 percent practically the entire sulfur is in the form of irregularly shaped vanadium carbosulfide particles.

3/3

USSR

UDC 535.37:548.736

I. A. PARFIANOVICH and P. N. YAROVOY (Irkutsk State University)

"Nature of the Inertia of Photostimulated Luminescence of the Crystal Phosphor NaCl-Ni"

Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya (News of the Academy of Sciences USSR, Physics Series), Vol. 35, No 7, 1971, pp 1316-1319

Abstract: Light absorption and emission in NaCl-Ni are due to centers formed by monovalent Ni^+ . Samples grown from NaCl- $NiCl_2$ contain only bivalent Ni^{++} ions. Ionizing radiation transforms these ions into monovalent ions and also forms F-centers in the crystal. The after-glow following a 10 microsec exposure decays exponentially. The light emission is practically independent of temperature in the 90 to 400°K range.

Experiments indicate that the inertia of photostimulated luminescence is due to electrons remaining on the excited level of the luminescence centers: i.e., the Ni^+ ions that replace the cations in the lattice. The participation of electron traps is investigated with the aid of thermoluminescence curves. The peaks of the curves indicate that in addition to the F-centers there are at least four systems of small electron capture levels. Impurity ions are the principal electron capture centers in the kinetics of afterglow. Special

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-USSR-

I. A. PARFIANOVICH and P. N. YAROVY, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 7, 1971, pp 1316-1319

experiments were made to study the possible storage of light when a phosphor sample is excited in the activator absorption band. Delocalization of the excited state is observed, but no photoconductivity or internal excitation of the centers.

It is concluded that recombination luminescence is due to the capture of electrons by Ni^{++} ions, whereby the electrons reach the excitation level of the Ni^+ center. Preliminary results are sketched for experiments in which the phosphor was exposed to ruby laser pulses. Storage of light is observed on the free electron capture levels. Results compare with those obtained by X-ray radiation.

Orig. art. has 2 figures and 9 references.

2/2

USSR

PARGAMANIK, L. E.

"A Theory for the Spectrum of the Electromagnetic Radiation of a Macroscopic System"

Minsk, Zhurnal Prikladnoy Spektroskopii, August 1970, pp 365-367

Abstract: The basic concepts and results of a quantum-statistical theory for the form of spectral lines emitted by atoms in a medium are presented. The radiating atoms and excited particles are considered as parts of a single macroscopic system. The Hamiltonian of the interaction in such a system with an electromagnetic field is expressed by the correlation density of the current of a radiating atom.

The dependence of the intensity of the spontaneous radiation of the macroscopic system on the frequency is studied. The intensity is expressed by the transition current of an atom and its Green function. The results obtained by Yakimets (ZhETF, 51, 1469, 1966) are given in a dipole approximation. Curves for the lines of Greim, Kolb, and Shen (phys. Rev., 116, 4, 1959) are obtained by means of the Green function for a hydrogen atom in $1/2$

USSR

PARGAMANIK, L. E., Zhurnal Prikladnoy Spektroskopii, August 1970,
pp 365-367

a plasma whose parameters were determined by the author and
Tsyganok (Summary of a report on the II All-Union Conference
on the Physics of a Low-Temperature Plasma).

The article includes 8 equations. There are 5 bibliographic
references.

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USSR

PARIBOK, V. P., Professor, (Editor) (Deceased)

Postradiatsionnaya Reparatsiya (Postradiation Repair)

Moscow, "Atomizdat," 1970, 336 pp

Translation: The Scientific Council on the Complex Problem of Radiobiology, USSR Academy of Sciences, is publishing the series Sovremennyye Problemy Radiobiologii (Modern Problems of Radiobiology). In our day of extremely rapid development of the atomic industry and the peaceful use of atomic energy, and of rapid penetration of man into space, questions of radiobiology are attracting increasing attention. Radiobiology is a young science. It studies the effect of radiation from large quantities of energy on living organisms, their populations, and the biosphere as a whole.

Modern radiobiology sets as its task understanding, on the molecular, cellular, and organism levels, the essence of the changes taking place under the influence of radiation, for the purpose of making practical use of ionizing radiation in medicine, agriculture, and biological industries, and in order to develop new methods of protection and restoration for radiation damage. In the volumes planned for publication, contemporary problems in molecular radiobiology, radioecology, radiation genetics, radiobiology of microorganisms, higher

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USSR

PARIBOK, V. P., "Atomizdat," 1970, 336 pp

animals, and plants, as well as other areas of this growing science, will be discussed.

The volumes are coming out under the editorship and with the participation of scientific specialists working in the field of radiobiology. The chief editor of the series is Corresponding Member of the USSR Academy of Sciences, A. M. Kuzin. The publication is intended for a broad circle of specialists working in various divisions of theoretical radiobiology, and dealing with questions of the practical utilization of high energy radiation in medicine, agriculture, and the biological industry. The works will be of interest to teachers and students of advanced courses in departments of biology and medicine, and to everyone who is interested in modern problems of natural science.

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PARIBOK, V. P., "Atomizdat," 1970, 336 pp

Chapter Four. V. D. ZHESTYANIKOV, I. A. ZAKHAROV, T. N. KOZHINA "Restoration and Radioresistance"	105
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Chapter Nine. V. P. PARIBOK, E. A. VAL'DSHLEYN. "The Role of Repair in Maintaining Stability of Genetic Structures"	314

USSR

UDC 612.014.481

PARIBOK, V. P., and KRUPNOVA, F. G., Laboratory of Radiation Cytology, Institute of Cytology, Academy of Sciences USSR, Leningrad)

"The Effect of Fractional X-ray Irradiation of the Meristematic Cells"

Leningrad, Tsitologia, Vol 12, No 4, 1970, pp 525-533

Abstract: In order to study the effect of repeated irradiation on the meristematic cells of the bean, *Vicia faba*, hundreds of sprouts were prepared. A group of sprouts was studied for the meristematic chromosomal formations. The others were irradiated with 400 r and kept moist between blotters. Ninety minutes later, groups of sprouts were again irradiated with various doses and subjected to comparative studies.

The results show that the population of meristematic cells irradiated for the second time contains fewer damaged chromosomes than a similarly treated group without prior irradiation. It was observed that the first dose of irradiation damaged many chromosomes, but at the same time provoked cyclic alterations in the sensitivity of chromosomes to secondary irradiation. The meristematic chromosomes developed a prophylactic immunological reaction against the injurious agent (radiation).

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Radiobiology

USSR

UDC 547.963.3:591.044.82

PARIBOK, V. P., (Deceased), and SEMENOVA, Ye. G., Laboratory of Radiation Cytology, Institute of Cytology, Academy of Sciences USSR, Leningrad

"Unscheduled DNA Synthesis and Repair of HeLa Zh-63 Cells Sublethally Damaged by Irradiation"

Leningrad, Tsitologiya, Vol 12, No 11, Nov 70, pp 1,423-1,432

Abstract: It was determined that the dose-survival rate curve of HeLa Zh-63 cells exposed to ultraviolet light (2,537 Å) is exponential and that there is no fractionation effect. Ultraviolet irradiation stimulates the "unscheduled" synthesis of DNA in all cells not in the S-phase. The dose-survival rate curve of X-ray-irradiated HeLa Zh-63 cells synchronized in the G₁-phase is S-shaped, and there is a fractionation effect, i.e., the sublethally damaged cells are repaired. In this stage, the unscheduled synthesis of DNA after X-ray irradiation cannot be detected by autoradiography. These findings suggest that sublethally injured HeLa cells can be repaired without the presence of unscheduled DNA synthesis detectable by autoradiography. Unscheduled DNA synthesis induced by ultraviolet light in HeLa Zh-63 cells is highly radioresistant. It is not inhibited by even 100 rads of X-ray irradiation.

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USSR

UDC: 537.533

ARIFOV, U. A., MUKHAMADIYEV, E. S., PARILIS, E. S., and PASYUK, A. S.,
Joint Institute of Nuclear Research, Dubna

"Identification of Multicharge Ions from the Electron Emissions They Cause"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, No 2, 1973, pp 375-379

Abstract: In the analysis of an ion beam with a mass analyzer the ions are divided in accordance with their mass/charge ratios. In such a beam, however, there are ion pairs of the same or similar ratio, thus giving rise to the problem of quantitatively identifying the ions making up these pairs. In an earlier paper one of the authors named above (Parilis, E. S., Reprint of the OIYaI, R7-335, Dubna, 1967) proposed a method for identifying such multicharge ions from the potential electron emission from metals they produce. The function of the present article is to explain briefly the mechanism of the electron emission and the theory behind the identification method and to give the method and results of experimental research conducted by the LYaR OIYaI (Nuclear Reactions Laboratory of the Joint Institute of Nuclear Research) in Dubna.

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USSR

UDC: 537.533

ARIFOV, U. A., et al, Zhurnal tekhnicheskoy Fiziki, No 2, 1973,
pp 375-379

A diagram of the experimental equipment and curves for its results are presented. The authors express their gratitude to Academician G. N. Flerov and Ye. D. Vorob'yev for their support and to Yu. P. Tret'yakov and R. I. Ivannikov for their assistance.

2/2

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Acc. Nr:

AF0050564

Abstracting Service:

CHEMICAL ABST. 5170

Ref. Code:

URC109

P

94318w Theory of reaction of ions from a single-crystal face.
 Parilis, E.S.; Turaev, N. Yu.; Kivilis, V. M. (USSR). *Radio-
 lekh. Elektron.* 1970, 15(1), 214-17 (Russ). The role of surface
 atom chains in the ion reflection at sliding angles of incidence
 was studied by modeling the process on an electronic computer.
 A program was written for Ar⁺ ions (E₀ = 30 keV) on the (100)
 face of Cu at angles from 8 to 18° in the plane (110). The space
 and energetic distribution of the reflected particles are given
 graphically. The results are understandable on the basis of
 trajectories oriented by the canal effect.

G. Thirot

IB

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REEL/FRAME
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*Physics, E. S.
(see page 5)*

PARILIS, E. S.

E.S. is correct

STNS 51877 2 Dec 70

EMISSION ELECTRONICS

(All-Union Conference In Tashkent)

Article by Candidate of Physical and Mathematical Sciences E. S. Parilis, Moscow, *Vesnik Akademii Nauk SSSR, Russian, Vol 40, No 9, September 1970, pp 117-120*

The Scientific Council for Physical Electronics of the AS USSR, the Institute of Electronics of the AS Uzbek SSR, Tashkent University and the Tashkent Polytechnic Institute convened in Tashkent on 11-16 May the 16th All-Union Conference on Emission Electronics. Participating in it were over 600 representatives of scientific and educational institutions, Gerasim Bureau and industrial enterprises of the country. Over 500 reports were heard at the conference. A noble prize contribution to its work was made by scientists of Bulgaria, Hungary, East Germany, Poland, Czechoslovakia and Yugoslavia, who presented 20 reports.

A special plenary session of the conference was dedicated to the centenary of the birth of V. I. Lenin. Reports were presented by I. B. Novik ("Lenin's teaching of the irreversibility of the electron and trends in the development of the contemporary natural sciences") and U. A. Arifov ("The main achievements and tasks of investigations of the interactions of atomic particles with the surface of a solid").

Seven sections and two symposia worked at the conference. The section which concerned itself with questions in the study of phenomena on the surface and in the surface layer considered the following themes: adsorption on a surface, the diffusion of slow electrons, autoemission and lan-atom methods of investigation of surface effects, surface ionization, and secondary electron emission. It should be noted that the sessions devoted to autoemission methods of studying surface effects also attracted specialists from other sections.

The work of the section of thermal electron emission was

USSR

PARIN, V.

"Space and Earth Medicine"

Moscow, Aviatsiya i Kosmonavtika, No 6, 1971, pp 34-35

Abstract: Maintaining man in top condition is one of the important objectives of space medicine and requires many preflight prophylactic measures. Space medicine is devoted to obtaining information on the most intimate processes taking place in the body and it attempts to correlate this information to perfect the direction and control of body functions. This is of importance also for the field of clinical physiology. New methods of medical research have been developed for space medicine. Among them is seismocardiography, a method of studying the contracting function of the heart. This method is used on Soviet spacecraft as well as in hospitals. In this way the achievement of space physiology has been incorporated in the cardiologic clinic. Valuable diagnostic criteria derived by space medicine are used in the operative control of patients and give rise to the development of new devices in medicine. Paradoxically, in earth medicine, the healthy body has been studied less than the sick one. The reverse is true in space medicine, and this also accounts for the great value of space medicine for terrestrial medicine. This area is
1/2

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USSR

PARIN, V., *Aviatsiya i Kosmonavtika*, No 6, 1971, pp 34-35

of particular interest to the fields of sports medicine and aviation medicine. Of particular significance are seasonal and daily variations in the state of man, as well as transitional phenomena in the body physiology. The analysis of data of this type and the quantitative evaluation of continuous recordings of body functions provide the necessary information for the development of criteria for "normal reactivity" and "health" provided by space medicine.

2/2

1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PSYCHOLOGICAL AND PHYSIOLOGICAL REACTIONS OF MAN IN SPACE --U-
AUTHOR--(03)-PARIN, S., CHASEN, I., KOSMOLINSKIY, F.
COUNTRY OF INFO--USSR
SOURCE--VDI-Z, VOL 112, NO. 6, 1970, P. 359, 360
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SPACE MEDICINE, PHYSIOLOGIC STRESS, SPACE PSYCHOLOGIC STRESS,
HYPCODYNAMIA
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1858 STEP NO--GY/0000/70/112/006/0359/0360
CIRC ACCESSION NO--AP0127268
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127268

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF SOME PHYSIOLOGICAL AND PSYCHOLOGICAL PROBLEMS ENCOUNTERED BY MAN DURING SPACE FLIGHTS IN THE LIGHT OF THE CONTEMPORARY SPACE BIOLOGY, SPACE MEDICINE, AND SPACE PSYCHOLOGY. PROBLEMS OF HUMAN HYPOKINESIS, SPACE KINETOSIS, AND HUMAN REACTIONS TO LIFE CONDITIONS IN AN ISOLATED AND VERY LIMITED ROOM ARE CONSIDERED. SOME PREDICTIONS CONCERNING THE ORIENTATION OF FUTURE RESEARCH ARE OUTLINED. FACILITY: AKADEMIJA NAUK SSSR, MOSCOW, USSR. FACILITY: INSTITUT MEDIKO-BIOLOGICHESKIKH PROBLEM, MOSCOW, USSR.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SPACE MARATHON -U-
AUTHOR-(03)-PARIN, V., PETROV, B., YELISEYEV, A.
COUNTRY OF INFO--USSR *P*
SOURCE--KNIZHNOYE OBOZRENIYE, JULY 3, 1970, NR 27
DATE PUBLISHED--03JUL70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, SPACE TECHNOLOGY
TOPIC TAGS--MANNED SPACECRAFT, S AND T PUBLICATION/UISOYUZ 9 MANNED SPACECRAFT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1991/1172 STEP NO--UR/0567/70/000/027/0000/0000
CIRC ACCESSION NO--AN0110825

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AN0110825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPACE EXPLOITS OF THE SOVIET SOYUZ 9 WILL BE TOLD IN THE "KOSMICHESKIY MARAFON" (SPACE MARATHON), A COLLECTION OF ARTICLES AND PRESS RELEASES WHICH WILL BE PUBLISHED BY THE "IZVESTIYA" PUBLISHING HOUSE.

1/2 029 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--LONG TERM SPACE FLIGHTS -U-

AUTHOR--PARIN, V.

COUNTRY OF INFO--USSR P

SOURCE--PRAVDA, JUNE 19, 1970, P 3, COLS 1-5

DATE PUBLISHED--19JUN70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, SPACE TECHNOLOGY, BIOLOGICAL AND
MEDICAL SCIENCES

TOPIC TAGS--SPACE MEDICINE, SPACE BIOLOGY, SOLAR FLARE, INTERPLANETARY
FLIGHT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1650

STEP NO--UR/9012/70/000/000/0003/0003

CIRC ACCESSION NO--AN0108049

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AN0108049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE RE VIEWS THE PHYSIOLOGICAL AND BIOLOGICAL PROBLEMS RELATED TO SPACE FLIGHTS. IT STRESSES THE IMPORTANCE OF THE QUANTITATIVE APPROACH IN THE ANALYSIS OF FACTS AND PHENOMENA, PARTICULARLY AT THIS TIME. IN PARIN'S OPINION, ONE OF THE IMPORTANT DIRECTIONS OF SPACE MEDICINE AND BIOLOGY IS TO TRANSLATE INTO MATHEMATICAL LANGUAGE THE PHYSIOLOGICAL NOTIONS ABOUT THE MECHANISMS THAT CONTROL PHYSIOLOGICAL FUNCTIONS UNDER SPACE FLIGHT CONDITIONS. THE MATHEMATICAL FORECAST OF HAZARDOUS CONDITIONS IS ALSO STRESSED. THE FUNCTIONS OF THE DIGESTIVE TRACT, WHICH IS HIGHLY SENSITIVE TO VIBRATIONS, HIGH G, S, ETC., ARE OF GREAT INTEREST. ANOTHER IMPORTANT DIRECTION OF SPACE BIOLOGY IS BIOCHEMICAL, MORPHOLOGICAL AND ENDOCRINOLOGICAL RESEARCH AS WELL AS THE STUDY OF THE CONTROL OF PHYSIOLOGICAL FUNCTIONS AT MOLECULAR AND CELL LEVELS. PARIN ALSO STRESSES THE IMPORTANCE OF THE FORECAST OF SOLAR FLARES AND MENTIONS, "WHAT APPEARS NOW FANTASTIC", THE ARTIFICIALLY INDUCED SLEEP AS ONE OF THE TECHNIQUES FOR LONG SPACE VOYAGES.

UNCLASSIFIED

Biotelemetry

PARIN, V.V.

V. V. Parin, V. M. Bayvelidze

SPACE BIOTELEMETRY

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SO: IPAS 55354
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Glenn

The second half of the 20th Century can undoubtedly be called the beginning of the space age. In 10-15 years, mankind has made a gigantic step from timid efforts at temporary lifting of representatives of the animal and plant world of the Earth into space on rockets to manned spaceflights lasting several days. A new science — space biology — has appeared and become reinforced. Its development is continuing stormily today. Special areas of space biology dealing with different problems of supporting life in outer space, tolerability of space flight factors, training of astronauts, human safety in space, and so on have appeared.

Preparation for and the performance of manned spaceflights were the first practical goal of space biology. With which it dealt successfully. Here, both laboratory research and flight experiments on high altitude respiratory rockets and satellite craft with different biological subjects on board had great significance.

One of the important roles in providing for space flights of man and animals has been played by the problem of transmitting biomedical data from on board the spacecraft to Earth and organization of reliable medical monitoring of the astronaut at a significant distance from ground-based medical centers. Manned spaceflight became a practical possibility only with certainty of its favorable completion although the technical possibility of manned flight obviously existed appreciably earlier.

One of the specific procedures of space biology is biological telemetry — a new branch of medical radio electronics which has been developing, spreading, intensifying in connection with programs in outer space. Biotelemetry, in a relation to all aspects of space biology: studying the effect of the factors of outer space on animals organisms, ensuring flight safety, monitoring the conditions which astronauts must endure, and studying the forms of extraterrestrial life.

Space biotelemetry deals with the problems of obtaining, converting, storing and transmitting biological data under space flight conditions. This is one of the divisions of space biology which combines the achievements of

PARIN, V. V.

Space biotelemetry

30 APR 1959
06 MAR 1962

SPACE BIOTELEMETRY

V. V. Parin, R. N. Bayevskiy

1959-61

The second half of the 20th century can undoubtedly be called the beginning of the space age. In 19-15 years, mankind has made a gigantic leap from tidal efforts at temporarily lifting of representatives of the animal and plant world of the Earth into space on rockets to manned spaceflights lasting several days. A new science -- space biology -- has appeared. Space biology is the development of a new science -- space biology -- has appeared and become a space biology dealing with different problems of supporting life in outer space, tolerability of space flight factors, training of astronauts, human safety in space, and so on have appeared.

Preparation for and the performance of manned spaceflights were the first practical goal of space biology when it dealt successfully, here, both laboratory research and flight experiments on high altitude balloons, rockets and satellite craft with different biological subjects on board had great significance.

One of the important roles in providing for space flight of man and animals has been played by the problems of transmission of medical data from on board the spacecraft to Earth and organization of reliable medical monitoring of the astronaut at a significant distance from ground-based medical personnel. Manned spaceflight became a practical possibility only with certainty of its favorable completion although the technical possibility of manned flight obviously existed appreciably earlier.

One of the specific procedures of space biology is biological telemetry -- a new branch of medical radio electronics which has been developed especially intensively in connection with progress in astronautics. Biological telemetry is a relation to all aspects of space biology: studying the effect of the factors of outer space on animal organisms, insuring flight safety, monitoring the conditions which astronauts must endure, and recording the forms of extraterrestrial life.

Space biotelemetry deals with the problems of obtaining, converting, storing and transmitting biological data under space flight conditions. This is one of the divisions of space biology which combines the achievements of

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UDC 615.21+612.178

PARTN, V. V., Academician (Deceased), FEDOROV, B. M., GRANDBERG, I. I.,
BATULIN, Yu. M., and PODREZOVA, N. A., Institute of Medical-Biological
Problems, Moscow

"Myorelaxation of Animals by the Injection of 3,5-Dimethyl-4-bromopyrazole and
the Effect of Extracardial Nerve Stimulation Under These Conditions"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1,252-1,253

Abstract: Intraperitoneal administration of 3,5-dimethyl-4-bromopyrazole in
a dose of 200-400 mg/kg to rabbits or in a dose of 300-500 mg/kg to dogs pro-
duced a state of profound myorelaxation, from which the animals recovered
within a time that increased with increasing doses of the drug. A dose of
450-500 mg/kg and > 500 mg/kg was lethal for rabbits and dogs, respectively.
Study of the effects of direct stimulation of the vagus or of sympathetic
nerves effecting adrenergic innervation of the heart, which was carried out in
experiments on dogs to which 350-500 mg/kg of the drug had been injected,
showed that the state of myorelaxation did not affect the action produced by
direct stimulation of the extracardial nerves.

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Acc. Nr.: AN 0103129

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Ref. Code: UR 9022

AUTHOR-- PARIN, V. V., ACADEMICIAN

TITLE-- PROGRESS OF SPACE PHYSIOLOGY

NEWSPAPER-- SOVETSKAYA ROSSIYA, JUNE 4, 1970, P 1, COLS 4-8

ABSTRACT-- IN PARIN'S OPINION, THE IMPLEMENTATION OF THE BIOLOGICAL RESEARCH PROGRAM, CARRIED OUT BY HIGH-ALTITUDE GEOPHYSICAL ROCKETS, AN ARTIFICIAL SATELLITE OF THE EARTH, AND SPACE SHIPS-SATELLITES /"KKS-2" AND "KKS-5"/, WAS A MILESTONE THAT MARKED THE TRANSFORMATION OF SPACE BIOLOGY AND MEDICINE INTO INDEPENDENT DISCIPLINES.

SOVIET RESEARCHERS HAVE DISCOVERED THAT CHANGES IN THE REACTIVITY OF HUMAN ORGANISM CAUSED BY ACCELERATION ARE CLOSELY RELATED TO STRUCTURAL AND METABOLIC DISTURBANCES IN SOME TISSUES, ORGANS, AND SYSTEMS. DESPITE GENERALLY SATISFACTORY CONDITIONS OF THE ORGANISM, LATENT FUNCTIONAL AND ORGANIC ABNORMALITIES MAY BE PRESENT.

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PARIN ALSO STRESSES THE IMPORTANCE OF B. YEGOROV'S FINDINGS MADE WHEN HE WENT ON A SPACE FLIGHT AS A PHYSICIAN-COSMONAUT. DURING THAT TIME, A MEDICAL MONITORING SYSTEM, FUNCTIONALLY AND DESIGN-WISE INDEPENDENT, WAS USED FOR THE FIRST TIME.

THE MOST IMPORTANT TASK OF SPACE PHYSIOLOGY IS TO PREVENT THE ORTHOSTATIC INSTABILITY AND CHANGES IN BLOOD AND IN FLUID-CALCIUM BALANCE THAT WERE DETECTED IN ASTRONAUTS AFTER SPACE FLIGHTS.

IN CONCLUDING THE ARTICLE, PARIN STATES THAT SPACE MEDICINE AND BIOLOGY HAVE FOUND A MEANS OF ASSURING SAFE LONG-TERM MANNED FLIGHTS.

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UDC 582.282.23.095

PARINA, O. V., PATRIKEYEV, V. V., and LYSENKO, S. V., Institute of Microbiology, Academy of Sciences USSR, Moscow

"Survival and Physiological Activity of Some Yeast Strains Studied After a Prolonged Storage in Silica Gel"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 164-167

Abstract: Yeast cultures of *Candida guilliermondii*, *C. tropicalis*, and *C. lyopolitica* were used in the study. The 24-hour cultures of yeast were mixed with silica gel or with silica gel containing one of the following compounds: 10 milligrams/liter of $\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$ or $\text{MnSO}_4 \cdot 7 \text{H}_2\text{O}$, or 6 milligrams/liter of $\text{ZnSO}_4 \cdot 7 \text{H}_2\text{O}$, $\text{CoCl}_2 \cdot 6 \text{H}_2\text{O}$, NH_4NO_3 , or $(\text{NH}_4)_2\text{MoO}_4$. The mixtures were dried and stored in sealed ampules for 1, 6 or 12 months at room temperature. The yeast survived in all mixtures, but the mixtures of silica gel containing FeSO_4 or MnSO_4 gave the best survival and retained best their capability to oxidize carbohydrates even after one year of storage, which indicated that their oxidizing function was preserved.

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UDC: 621.376:530.145.6

POKROVSKIY, Yu. A., BAKALOV, V. I., PARINSKIY, A. Ya., and
MILITEYEVA, G. V.

"Resonance Angular Devices in the Optical Range"

V sb. Vopr. radiotekhniki (Electronic Engineering Problems--
collection of works) Tula, Tula Polytechnical Institute, 1970,
pp 45-53 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No.
3D376)

Translation: This paper demonstrates the possibility of using
resonance angular devices as broad-band light modulators, trans-
verse oscillation selectors in open resonators, and Q modulators
for lasers. Their superiority over similar devices of the non-
resonance type is noted. Resume

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UDC: 621.372.852.1

BAKALOV, V. I., PARINSKIY, A. Ya., and KRAVTSOV, N. L.

"Investigating a Resonance Angle Filter in the Optical and UHF Ranges"

V sb. Vopr. radiotekhniki (Radio Engineering Problems--collection of works) Tula, Tula Polytechnical Institute, 1970, pp 28-44 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 33155)

Translation: Results are given of a theoretical and experimental investigation of an angular selective system of the single-layer resonance angle filter. The spectral (angular and frequency) characteristics of the interference system and the local and integral transmission characteristics with rectangular and sinusoidal spaced pulses at the input are obtained.

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UNC 621.372.061

POKROVSKIY, YU. A., PARINSKIY, A. YA.

"Spatial Transient Processes in Resonance Laminated Systems"

Vopr. radiotekhniki -- Vsh (Problems of Radio Engineering -- collection of works),
Tula, Tula Polytechnical Institute, 1970, pp 7-28 (from RZh-Radiotekhnika,
No 4, Apr 71, Abstract No 4A125)

Translation: The theory of opposed and two-dimensional spatial and transient processes in resonance laminated systems is discussed, and the characteristics of a two-resonator complete internal reflection filter are calculated.

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