"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

REBANE, T. C., et al., Leningrad, Optika i Spektroskopiya, Vol 34, No 6, Jun 73, pp 1037 - 1042

method then consists of using a sufficiently large number of values of $\alpha$ between 0 and 1 and choosing for every Q the modified adiabatic potential curve which is lowest, ultimately yielding a segmented curve, which is then replaced by a smoothed continuous analytic function.

The method is applied to the first 1snl levels of the helium atom, and the adiabatic connection between the state of the 1s electron and the instantaneous position of the external nl electron is described by the variable coefficient of adiabaticity $\alpha$. The optimal values of $\alpha$ are found to differ significantly from unity when the nl electron is within the 1s electron cloud. Variational calculations show a significant improvement in accuracy for the first 1snl levels over the use of the ordinary adiabatic approximation.

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USSR

(12)

UDC 539.1.074.3

BORISOV, A. A., BUGORSKIY, A. P., BUSHNIN, Yu. A., DEREVSHCHIKOV, A. A., DUNAYTSEV, A. F., ZHIL'CHENKOV, V. D., MATULENKO, Yu. A., MESHCHANIN, A. P., MIKHAYLOV, Yu. V., NURUSHEV, S. B., SEN'KO, V. A., SMIRNOV, V. V., SMIRNOV, Ye. V., SISKIN, V. V., SOLOV'YEV, L. F., and SOLOV'YANOV, V. L., Institute of High-Energy Physics, Serpukhov

"A Hodoscopic Installation for Investigation of the Elastic Scattering of High-Energy Particles"

Moscow, Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

Abstract: A description is given of a hodoscopic installation, developed at the Institute of High-Energy Physics, for investigation of the elastic scattering of high-energy particles within the pulse range of 30-60 gigaelectron volts/sec. The range of dispersion angles covered by the installation is 0-29 millirads with an angular resolution of $\pm$ 0.17 millirad. The total solid angle is 39 microsteres. The pulse is determined to within $\pm$ 0.22%. The resolving time is 35 nanosec. The dead time is 50 microsec. The pulse pass band of the spectrometer is 8%. The statistics-setup is up to $10^6$ per hour. The installation is electrically coupled to a "Minsk-22" computer, which stores and processes the information during the experiment. The

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USSR

BORISOV, A. A., et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

obtained results are immediately printed out in the form of tables and graphs, and also appear on the oscillograph screen. Monitoring equipment has been developed, which keeps track of proper operation of the hodoscopes. The first results have been obtained on the scattering of $\pi^-$-mesons on nuclei at a pulse of 50 gigaelectron volts/sec and of protons within the initial-pulse range of 30-60 gigaelectron volts/sec. 3 figures. 2 tables. 3 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DRAINAGE OF THE CHOLEDOCHUS VIA THE CYSTIC DUCT AFTER REMOVAL OF THE GALLBLADDER -U-

AUTHOR--SMIRNOV, YE.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 4, PP 35-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, SURGERY, RADIOGRAPHY, CATHETER, GALLBALDDER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0030 STEP NO--UR/0589/70/104/004/0035/0040

CIRC ACCESSION NO--AP0105129

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2/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105129

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DRAINAGE OF THE CYSTIC DUCT WITH A FINE POLYCHLORVINYL TUBE IS RECOMMENDED AFTER CHOLECYSTECTOMY. SUCH DRAINAGE IS FELT OT BE NECESSARY IN CASE OF BILE HYPERTENSION IN EXTRAHEPATIC BILIARY PASSAGES DETERMINED BY ROENTGENOMANOMETRY DURING SURGERY, IN DOUBTFUL COMPLETE PATENCY OF THE CHOLEADCHUS, IN IMPAIRED MOTOR FUNCTION OF THE DUODENUM, IN REFULX OF A CONTRAST MATTER IN THE WIRSUNG'S DUCT, REVEALED BY MEANS OF RUENTGENOCHOLEGRAPHY DURING THE OPERATION. A FINE CATHETER IN THE CYSTIC DUCT STUMP ENABLED TO PUT SUTURES ON THE CHOLEDOCHUS WOUND IN CHOLEDUCHOTOMY, PERFORMED FOR REMOVING BILIARY STONES. AFTER WITHDRAWAL OF A FINE CATHETER FROM THE CYSTIC DUCT IN 8-9 DAYS A SMOOTH COURSE AND WOUND HEALING WITHOUT EXTERNAL BILE DISCHARGE WAS OBSERVED. A FINE CATHETER VIA THE CYSTIC DUCT IS SUGGESTED INSTEAD OF A GAUZE AND ESPECIALLY EXTENSIVE TAMPONADE, AND ALSO INSTEAD OF CLOSE SUTURING OF THE ABDOMEN AFTER REMOVAL OF THE GALLBLADDER.

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USSR

UDC 517.934:517.966

SMIRNOV, Ye. Ya.

"Analytic Construction of Optimal Regulators"

Minsk, Differentsial'nyye Uravneniya, Vol 7, No 12, 1971, pp 2176-2186

Abstract: This article examines the problem of analytic construction of optimal regulators for control of linear equations. The necessary and sufficient conditions for the existence of optimal control, when the integrand, as the quality criterion, is the constantly positive quadratic form of the system variables and the control components, are found. The author defines the problem by considering the system of linear differential equations

$$\frac{dx}{dt} = Px + Qu, \quad x(0) = x_0, \qquad (1)$$
$$u = Mx,$$

where the following functionals are specified as solutions:

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

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SMIRNOV, Ye. Ya., Differentsial'nyye Uravneniya, Vol 7, No 12, 1971, pp 2176-2186

$$\left.\begin{aligned} J(x_0,u) &= \int_0^\infty W(x,u)\,dt, \\ W(x,u) &= x^*Ax + u^*Cu, \end{aligned}\right\}$$

$x = \{x_1, x_2, \ldots, x_n\}$ is the vector of the variables of (1); $x_0$ is the vector of the initial conditions; $u = \{u_1, u_2, \ldots, u_r\}$ is the vector of the controlling actions; P, Q, A, C are real constants corresponding to nXn, nXr, nXn, and rXr matrices respectively, the ranks of Q, A, and C being r, m, and r respectively; matrices A and C are symmetrical such that the quadratic form of W(x,u) is constantly positive; M is an arbitrary, real, constant rXn matrix; r, m, and n are natural numbers satisfying the limitations $1 \leqslant r \leqslant n$, $0 \leqslant m < n$, $n \geqslant 1$; the symbol * indicates conjugation operations. The author is connected with the A. A. Zhdanov State University of Leningrad.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 669-412.141.241.2:658.562

KOLOSOV, M. I., STROGANOV, A. I., SMIRNOV, YU. D., and OKHRIMOVICH, B. P.

"Killed Steel Ingot Quality"

Moscow, Kachestvo slitka spokoynoy stali (cf. English above), Metallurgiya, 1973, 408 pp (from Kachestvo slitka spokoynoy stali, Metallurgiya, 1973, pp 2-5)

Translation of Annotation: This book is devoted to the description of the process of crystallization of a killed steel ingot. A study is made simultaneously of the processes occurring on solidifying of the ingot: the behavior of the gases and nonmetallic inclusions, the admixture distribution, convective flows, and so on.

A great deal of attention in the book is given to the investigation of various macro and microdefects of the steel ingot and in the majority of cases practical recommendations are made with respect to elimination of them.

The book is intended for engineering and technical workers of the metallurgical plants, the planning and design and scientific research institutions and training institutions, and it can be useful for students specializing in steel metallurgy.

There are 89 illustrations, 60 tables and a 551-entry bibliography.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

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KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp


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KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp


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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 669.14

STREKALOVSKIY, M. M., SMIRNOV, Yu. D., CHERNOV, G. I., KATSNEL'SON, Ya. Ye., KHOLODOV, Yu. A., STARIKOVA, A. P., MUKHINA, P. P., and MALYGIN, Yu. D.

"Improvement of Technology and Quality of the 18Kh2N4VA Structural Steel as the Result of Vacuum Tapping"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 241-242

Translation of Abstract: An installation is described which ensures metal tapping under vacuum. The results of an investigation of some technological alternatives for melting and treatment of the 18Kh2N4VA steel are given.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--NATURE AND FORMATION MECHANISM OF GHOSTS IN INGOTS ARC MELTED IN VACUUM -U-

AUTHOR-(03)-KARYAKIN, A.P., SHVED, F.I., SMIRNOV, YU.D.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(1) 62-4

DATE PUBLISHED--------70

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

TOPIC TAGS--CRYSTALLIZATISN, INGOT, CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0296 STEP NO--UR/0133/70/030/001/0062/0064

CIRC ACCESSION NO--AP0053281

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF BATH ROTATION DURING SOLIDIFICATION WAS STUDIED IN THE LAB. AND IN A PLANT. ROTATION LOWERS THE TEMP. GRADIENT OF A BATH AND CHANGES ITS SHAPE AND DEPTH CAUSING A ZONAL REDISTRIBUTION OF IMPURITIES ALONG THE LENGTH OF AN INGOT AND LEADS TO A DISORIENTED DENDRITIC STRUCTURE. THIS REDISTRIBUTION IN THE 2 PHASE SYSTEM PRODUCES SEGREGATED AREAS IN INTERDENDRITIC VOLS. EXPRESSING THEMSELVES AS GHOSTS WHICH GROW IN SIZE WITH LONGER ROTATION AND REACH FULL DEVELOPMENT WHEN THE WHOLE SOLIDIFICATION CYCLE TAKES PLACE DURING ROTATION.

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Acc. Nr. AP0049951 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code UR 0467

104893w X-ray diffraction study of the effect of thermal treatment on the fine structure of pyrocarbon. Khorenko, A. A.; Kasatochkin, V. I.; Rol'bin, Yu. A.; Smirnov, Yu. E. (USSR). *Khim. Tverd. Topl.* 1970, (1), 118-23 (Russ). The pyrocarbon deposited at 2000° was ground (size of grains 40–100 μ) and heated in an Ar atm. at 2000–3000° at a rate of 40°/min. The samples heated at 2000–2600° were mixed with 40% Ni powder and those heated at 2700–3000° were mixed with 70% Ni powder for removing the effect of weak absorption of x-rays by pyrocarbon, i.e., considerable diffraction-lines broadening. A graphite mixed with 40 or 70% Ni powder was used as the std. The exptl. relation between the interplanar spacings and the sizes of space of coherent scattering of pyrocarbon, and temp. of treatment was detd. by method of harmonic anal. using 2 orders of reflection of one diffraction line. A Warren-Bodenstein formula was used for detn. the diams. of layers from a 2-dimensional zone (11) becoming a 3-dimensional line (110). The temp. relation of all these characteristics are given. Tadeusz J. Bartczak

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 024

TITLE--TRANSLATIONALLY INVARIANT SHELL MODEL -U-

AUTHOR-(04)-KURDYUMOV, I.V., SMIRNOV, YU.F., SHITIKOVA, K.V., ELSAMARAI, S.KH.

COUNTRY OF INFO--USSR

SOURCE--NUCL. PHYS. A 1970, 145(2), 593-612

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR SHELL MODEL, HARMONIC OSCILLATION, WAVE FUNCTION, COORDINATE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0011 STEP NO--NE/0000/70/145/002/0593/0612

CIRC ACCESSION NO--AP0114411

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2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0114411

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TRANSLATIONALLY INVARIANT SHELL MODEL IN WHICH THE N OSCILLATE HARMONICALLY WITH RESPECT TO THE NUCLEAR CENTER OF MASS IS CONSIDERED. IN THIS MODEL THE WAVEFUNCTION OF THE NUCLEUS DEPENDS ON THE 3(A-1) JACOBI COORDINATES. THUS, THE PROBLEM OF THE SPURIOUS STATES IS ABSENT IN THIS MODEL. THE TRANSFORMATION FROM ONE SET OF JACOBI COORDINATES INTO ANOTHER FOR THE OSCILLATOR WAVEFUNCTIONS IS DISCUSSED. THE METHOD FOR CALCG. THE FRACTIONAL PARENTAGE COEFFS. IS SET OUT. FACILITY: INST. NUCL. PHYS., MOSCOW STATE UNIV., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--GENERALIZED CONCEPTION OF FRACTIONAL PARENTAGE AND THE (ALPHA D) (PRIME3 HE T) DUALITY IN THE PRIME6 LI NUCLEUS -U-

AUTHOR-(03)-KURDYUMOV, I.V., NEUDATCHIN, V.G., SMIRNOV, YU.F.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS (NETHERLANDS), VOL.3 18. NO.7. P.426-8 (30 MARCH 1970)

DATE PUBLISHED--30MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HELIUM, MODEL, NUCLEON INTERACTION, LITHIUM, MATHEMATIC EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0566 STEP NO--NE/0000/70/031/007/0426/0428

CIRC ACCESSION NO--AP0111759

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111759

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FRACTIONAL PARENTAGE CONCEPT IS GENERALIZED FOR THE CASE OF THE NUCLEON CLUSTER MODEL. IN TERMS OF THIS, MODEL CALCULATIONS ARE MADE FOR THE PRIME6 LI NUCLEUS OF THE WAVE FUNCTIONS PHI OF MUTUAL CLUSTER MOTION ALPHA D AND PRIME3 HE T. FOURIER IMAGES OF WHICH ARE MEASURED IN THE QUASIELASTIC KNOCK OUT REACTIONS. ALSO OBTAINED ARE THE REDUCED WIDTHS THETA PRIME2 IN THE CHANNELS ALPHA D AND PRIME3 HE T. THE PRIME3 HE T CHANNEL IS ONLY SLIGHTLY DEPRESSED. THETA SUB1 PRIME2 SIMILAR TO OR EQUIVALENT TO 0.5. THE WAVE FUNCTION PHI (PRIME3 HE T) IS APPRECIABLY MORE LOCALIZED THAN THE FUNCTION PHI (ALPHA D), WHICH IS REFLECTED IN THE FORM FACTORS. FACILITY: MOSCOW STATE UNIV., USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--INFLUENCE OF THE NUCLEAR STRUCTURE ON PHOTODISINTEGRATION OF LITHIUM 6 -U-

AUTHOR-(04)-KURDYUMOV, I.V., SMIRNOV, YU.F., SHITIKOVA, K.V., ELSAMARAI, S.KH.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETT. B 1970, 31(4), 163-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR STRUCTURE, PHOTONUCLEAR REACTION, LITHIUM ISOTOPE, EXCITED NUCLEUS, EXCITATION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0808 STEP NO--NE/0000/70/031/004/0163/0166

CIRC ACCESSION NO--AP0052244

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0052244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT IS MADE TO DESCRIBE IN A SINGLE WAY THE TOTAL CURVE OF THE DIPOLE PHOTOEXCITATION OF THE PRIME6 LI NUCLEUS. THE PARTIAL CROSS SECTIONS OF PHOTOREACTION AND THE DECAY SPECTRA ARE COMPARED TO EXPTL. DATA. THE INFLUENCE OF THE EFFECTS OF N CLUSTERING IN THE GROUND STATE ON THE FORM OF PHOTOABSORPTION CROSS SECTION IS ESTD. FACILITY: INST. NUCL. PHYS., MOSCOW STATE UNIV., MOSCOW, USSR.

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USSR UDC: 534-8

PIROGOV, B. N., SIROTIN, G. F., SMIRNOV, Yu. G., KAVERINA, G. M.

"Excitation, Reception, and Propagation of Ultrasonic Surface Waves in Lithium Niobate Plates"

Leningrad, Tr. Leningr. in-t aviats. priborostr. (Works. Leningrad Institute of Aviation Instrument Building), 1972, vyp. 76, pp 44-49 (from RZh--Fizika, No 5, May 73, abstract No 5Zh612 [résumé])

Translation: The paper gives the results of experimental studies of excitation and reception of ultrasonic surface waves in Y-cut lithium niobate plates on space harmonics of multielement converters. During propagation of the surface wave, a reflection was observed under the multielement converter due to electrical and mechanical loading of the free surface. An investigation was made of the coefficient of reflection as a function of the number of electrodes and their geometry. The propagation of surface waves over the free and metallized surface of X, Y, $Y_{+45}$, and Z-cut lithium niobate was examined. Experimental velocity diagrams are compared with theoretical diagrams published by Campbell and Jones.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

ANISIMOVA, N. I., SMIRNOV, YU. I.

UDC 539.4:621.81

"Experimental Study of the Stresses of the Crankshaft of a 4M10-100/8 Opposite Compressor"

Tr. Gor'kov. in-ta inzh. vodn. transp. (Works of the Gor'kiy Institute of Water Transportation Engineers), 1971, vyp. 112, pp 22-31 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V964)

Translation: A description is presented of tensometric measurements on the flanges and fillets of the crankshaft of the 525 kilowatt series compressor with a cantilevered electric motor performed by the Gor'kiy Scientific Research Materials Testing Laboratory in Cooperation with the LenNIIkhimmash [Leningrad Scientific Research and Design Institute of Chemical Machinery]. Norms were defined for the limiting allowable magnitudes of the divergences of the flanges of the shaft and the effect of the forces of magnetic attraction of the rotor to the stator when they are positioned eccentrically. A sketch of the tested part of the shaft is presented with indication of the position of the resistance strain gages. The results of the studies are presented graphically. The following basic conclusions were drawn: the basic effect on the strength of the investigated shaft comes from the cantilever loading, and the margins of strength

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

ANISIMOVA, N. I., et al., Tr. Gor'kov. in-ta inzh. vodn. transp., 1971, vyp. 112, pp 22-31

of the shaft exceed the allowable values. The allowable spread of the first offset of the shaft from the electric motor with the rotor seated is 0.10 mm (the minimum margin of safety is 2). Use of one-way magnetic attraction is effective, especially for worn bearings. An initial eccentricity in the range from 0.25 to 0.45 is recommended.

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JPRS 59208
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4

III-5. EFFECT OF SUPERCOOLING OF A MELT ON THE STRUCTURE OF SINGLE GERMANIUM CRYSTALS

[Article by E. S. Fal'kevich, Yu. M. Smirnov, N. V. Bessonova, Ye. P. Dudnik, Zaporozh'ye; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 29]

The morphology of the phase interface when growing single germanium crystals from a melt characterizes the mechanism of the crystallization process [1].

The degree of supercooling of the melt has an affect on the formation of the crystal and its property.

Data have been obtained which indicate the presence of the interaction of supercooling and the crystal lattice during growth from a molten layer. During Czochralski drawing, the dislocationless structure as a rule is formed with a radial gradient close to zero in the melt at the crystallization front [2]. By varying the degree of supercooling it is possible to achieve the formation of a dislocationless structure with a radial gradient differing significantly from zero.

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2. Yu. M. Smirnov, Izv. AN SSSR, ser. fizicheskaya (News of the USSR Academy of Sciences, Physics Series), Vol 33, No 12, 2001, 1969.



Smirnov, Yu. M.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

UDC 546.289:548.55

LITVINOVA, I. YU., and SMIRNOV, YU. M.

"Distribution of Antimony in Dislocationless Single Crystals of Germanium"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 115-116

Abstract: A description is given of an experiment in which dislocationless germanium crystals with antimony additive in the amount of $10^{12}$-$10^{14}$ $cm^{-3}$ were grown in the [111] direction by the Czochralski method. The nature of the antimony distribution was studied by the method of pulse anode pickling on the end cross sections of the crystals and by measuring the specific resistance by the four-probe method. The crystals with triangular faces were of special interest. Three cavities with negative relief in comparison with the plane face occupying the primary area of the cross section were frequently observed on the cleavage surface. These cavities were usually located near the vertices of the triangular cross section. The special properties of these cavities are described, and the mechanism of the effects in them is discussed.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--DISTRIBUTION OF ANTIMONY IN DISLOCATION FREE GERMANIUM SINGLE CRYSTALS -U-

AUTHOR-(02)-LITVINOVA, I.YU., SMIRNOV, YU.M.

COUNTRY OF INFO--USSR

S

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 115-16

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--ANTIMONY, GERMANIUM, SINGLE CRYSTAL, CRYSTAL LATTICE DISLOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0081 STEP NO--UR/0363/70/006/001/0115/0116

CIRC ACCESSION NO--AP0054878

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--18SEP70

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CIRC ACCESSION NO--AP0054878

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISLOCATION FREE GE SINGLE CRYSTALS WITH SB ADDNS. OF 10 PRIME12 MINUS 10 PRIME14 CM PRIME NEGATIVE3 WERE GROWN BY THE CZOCHRALSKI TECHNIQUE IN THE (111) DIRECTION. THE NO. OF THE DISLOCATIONS PRESENT IN THEM VARIED FROM 0 TO 10 CM PRIME NEGATIVE2. TO PREP. SUCH CRYSTALS, THE CRYSTN. FRONT WAS KEPT STRAIGHT. IN THIS CASE THE (111) FACE FACED THE INTERPHASE SURFACE. THE SB DISTRIBUTION WAS STUDIED BY THE PULSE ANODIC METHOD. THE DISTRIBUTION OF SB AT VARIOUS SECTIONS OF THE CRYSTALS IS DISCUSSED.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TRIOXANE POLYMERIZATION IN THE PRESENCE OF TRITYL HEXAFLUOROANTIMONATE -U-

AUTHOR-(04)-SMIRNOV, YU.N., VOLKOV, V.P., IRZHAK, V.I., YENIKOLOPYAN, N.S.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1403-6 (PHYS. CHEM.)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TRIOXANE, POLYMERIZATION KINETICS, FLUORINATED ORGANIC COMPOUND, ORGANOANTIMONY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1142 STEP NO--UR/0020/70/190/006/1403/1406

CIRC ACCESSION NO--AT0119996

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 016 UNCLASSIFIED

CIRC ACCESSION NO--AT0119996 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONVERSION OF TRIOXANE DURING ITS POLYMN. IN THE PRESENCE OF PH SUB3 CSBF SUB6 DOES NOT PROCEED TO COMPLETION. THE CONVERSION LEVEL, THE REACTION RATE, AND THE INITIATION RATE CONSTS. INCREASE WITH PH SUB3 CSBF SUB6 CONCN. AND THE TEMP. THE ACTIVATION ENERGY IS 7 PLUS OR MINUS 1 KCAL PER MOLE. KINETICALLY, THIS CATIONIC POLYMN. IS IDENTICAL WITH FREE RDICAL POLYMNS. THE INITIATION RATE DECREASES AND THE CHAIN TERMINATION RATE INCREASES DURING THE REACTION, WHICH RESULTS IN A STEADY STATE BEING REACHED BEFORE CONVERSION IS COMPLETE. FACILITY: INST. KHIM. FIZ., CHERNOGOLOVAK, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 669.295.48

SMIRNOV, Yu. R., LISKOVICH, V. A., KHAVSKIY, N. N., MEYERSON, G. A., BOYKO, A. I.

"Some Results of Investigation of Application of Ultrasound in Hydrometallurgical Processing of Titanium Alloy Wastes"

Primeneniye Ul'trazvuka v metallurg. Protsessakh [Use of Ultrasound in Metallurgical Processes -- Collection of Works], Moscow, 1972, pp 98-102, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G267 by the authors)

Translation: Results are presented from studies of combined reagent modes of leaching of trinary Ti-Al-V alloy hydride with the application of US oscillations. The duration of the process and temperature decrease in comparison with leaching in an ordinary tank. However, the ultrasound causes undesirable overfine breakdown of some portion of the solid phase, hindering further treatment of the suspensions. 3 Figures; 2 Tables; 4 Biblio. Refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

Phytology

USSR

UDC 581.192.7+632.954:581.2

SMIRNOV, Yu. S., FEDOROV, Al. A., and SHKOL'NIK, M. Ya., Botanical Institute imeni V. L. Komarov of the Academy of Sciences, USSR Leningrad

"Teratological Changes in Plants Induced by Large Doses of Growth Stimulators and Herbicides and Their Biochemical Mechanisms"

Leningrad, Botanicheskiy Zhurnal, Vol 56, No 5, 1971, pp 633-646

Abstract: This article briefly reviews the literature on the teratological changes which are induced in plants by high concentrations of growth stimulators and herbicides. The diverse structural abnormalities which occur involve both vegetative and reproductive organs and appear to be associated with disruption of the normal course of mitosis and a significant increase in the activity of ribonucleases. The authors' experiments on the effects of the growth stimulator heteroauxin and the herbicides 2.4-diclorphenoxyacetic acid and maleic acid hydrazide are described. On the basis of experimental and literature data it is concluded that teratological changes are the result of disruption of cell division, which in turn is caused by: degradation of nucleoli; disruption of biosynthesis of DNA and changes in DNA; disturbances in the fine structure of chromatin; and disruption of the synthesis of specific

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

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SMIRNOV, Yu. S., et al., Botanicheskiy Zhurnal, Vol 56, No 5, 1971, pp 633-646

proteins, including the synthesis of the enzymes which catalyze polymerization of the structural proteins of the protoplasm and nucleus. Formative changes may also be the result of disruption of the bond of a complex of DNA-histons, which leads to the loss of the cell's capacity to control the genetic apparatus. It is possible that this type of change takes place when the teratological changes are of a hereditary nature.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DEHYDRATION AND DESALTING OF PETROLEUM -U-

AUTHOR-(04)-SMIRNOV, YU.S., PETROV, A.A., LEZOV, O.F., POLYANTSEV, V.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,795

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL PATENT, PETROLEUM DESALTING, PETROLEUM DEHYDRATION, BLOCK COPOLYMER, ETHYLENE OXIDE, ALIPHATIC AMINE, PROPYLENE OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0886 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132976

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

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UNCLASSIFIED

CIRC ACCESSION NO--AA0132976 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PETROLEUM IS DEHYDRATED AND DESALTED BY INTRODUCING A CATION ACTIVE DEMULSIFIER, E.G., A HIGHER ALIPHATIC PRIMARY AMINE HYDROCHLORIDE, AND A NONIONIC SURFACTANT, E.G., BLOCK COPOLYMER OF ETHYLENE OXIDE AND PROPYLENE OXIDE. THE RATIO OF THE FIRST COMPONENT TO THE SECOND IS 3:1 TO 5:1.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 621.73.001.5

SMIRNOV-ALYAYEV, G. A., and CHIKIDOVSKIY, V. P.

"Experimental Studies in Pressure Working of Metals"

Leningrad, Eksperimental'nyye issledovaniya v obrabotke metallov davleniyem, (cf. English above), Mashinostroyeniye, 1972, 360 pp (from Eksperimental'nyye issledovaniya v obrabotke metallov davleniyem, Mashinostroyeniye, 1972, pp 2, 360)

Translation of Annotation: A study was made of the problems of stating and performing experimental studies based on the primary principles of probability theory and mathematical statistics and processing of the results. The methods of studying the stress-strain state of plastically worked metals are discussed which are illustrated by examples of the experimental operations.

The book is designed for scientific and engineering and technical personnel doing research in the field of pressure working of metals. It can also be useful to postgraduates and students specializing in the given field.

There are 90 tables, 164 illustrations and an 88-entry bibliography.

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SMIRNOV-ALYAYEV, G. A., et al., Experimental'nyye issledovaniya v obrabotke metallov davleniyem, Mashinostroyeniye, 1972, 360 pp


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SMIRNOV-ALYAYEV, G. A., et al., Experimental'nyye issledovaniya v obrabotke metallov davleniyem, Mashinostroyeniye, 1972, 360 pp


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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DESINTOXICATION ACTION OF THE HOME MADE PREPARATION OF SL MOLECULAR POLYVINYL ALCOHOL IN INFECTIOUS HEPATITIS -U-

AUTHOR-(03)-KRYLOVA, O.M., SMIRNOVA, .A., KHLEBNIKOVA, I.M.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 19-22

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, POLYVINYL ALCOHOL, DETOXICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1168 STEP NO--UR/0504/70/042/005/0019/0022

CIRC ACCESSION NO--AP0123145

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123145

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF THE USE OF THE SOLUTION OF LOWMOLECULAR POLYVINYL ALCOHOL IN 95 CHILDREN WITH INFECTIOUS HEPATITIS OF MODERATE AND SEVERE FORMS WI TH SHARPLY EXPRESSED INTOXICATION SYNDROME. THE RESULTS OBTAINED SHOWED THAT LOW MOLECULAR POLYVINYL ALCOHOL IN INTRAVENOUS ADMINISTRATION IN A DOSE OF ABOUT 1000 ML (3-5 DAY COURSE TREATMENT) MADE A RAPID AN D EADY DESINTOXICATION EFFECT: BY THE 4TH DAY FROM THE ONSET OF ITS USE SIGNS OF INTOXICATION FULLY DISAPPEARED IN 96PERCENT OF THE PATIENTS. IN MORE THAN A HALF OF THE CONTROL GROUP (55 OUT OF 100) THESE SI S STILL REMAINED BY THE 10TH DAY. THE CLINICAL OBSERVATIONS CONDUCTED MAKE IT POSSIBLE TO RECOMMEND THIS PREPARATION IN THE ACUTE STAGE OF INFECTIOJS HEPATITIS WITH A VIEW OF DESINTOXICATION. FACIL IT: KAFEDRA INFEOTSIONNYKH BOLEZNEY LENINGRAD. SANITARNO-GIGIYENICH. MEDITSINSKOGO INSTITUTA NA BAZE BOL'NITSY IM. S. P. BOTKINA AND LABORATORIYA POLIMEROV LENINGRAD. INST. GEMATOLOGII I PERELIVANIYA KROVI.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

APO036438 Ker, Code: UR 0213

PRIMARY SOURCE: Okeanologiya, 1970, Vol 10, Nr 1, pp 30-39

A. I. SMIRNOVA

# HEAT TRANSFER BY CURRENTS IN THE NORTH ATLANTIC

Summary

A method for computing the advective heat transfer from the distribution of temperature and current velocities has been used.

A preliminary estimation of the terms in the equation of heat balance in water has been made and the final formula for computing advection has been obtained.

Advection has been determined in the 0 to 200 m layer for 5° squares. Temperature and current velocity fields have been inferred from the average data for many years. Charts showing the distribution of the seasonal advection averages in the North Atlantic are presented.

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USSR

UDC 536.42

ALYMOV, A. V., LAUKHIN, V. N., RABIN'KIN, A. G., and SMIRNOVA, A. S., Institute of Chemical Physics of the Academy of Sciences USSR

"Device for the Investigation of Phase Transitions Pressurized up to 40 kbar in a 2—400 °K Interval"

Moscow, Pribory i Tekhnika Eksperimenta, No 1, Jan-Feb 72, pp 185—187

Abstract: A press designed for the investigation of superconductivity, compressibility, and phase transitions of first and second type of different materials under pressures up to 40 kbar is described by reference to its layout. The design of the press makes it possible to change the load on specimens smoothly and reversibly from 0 to 2.5—3 tons in a 2—400 °K temperature interval. Unlike the generally in magnetic measurements under pressure used beryllium bronze, the high-pressure chamber and punches are made of the new 40KhNYu non-magnetic dispersion-hardening material (HRC 59—60, tensile strength up to 200 kg/mm$^2$). The

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

ALYMOV, A. V., et al., Pribory i Tekhnika Eksperimenta, No 1, Jan-Feb 72, pp 185-187

pickups of the device register changes in the length of specimens by changing load or temperature, the developed power of the press, and the susceptibility of the specimen under pressure by changing temperature. The phase transition curves of the RbI salt under pressure at 293, 77, and 4.2 °K are shown. Four illustr., one biblio. ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

SMIRNOVA, A. S.

"Principles of Comparing Data in an Automated 'Factographic' Information Retrieval System"

Moscow, Nauchno-Tekhnicheskaya Informatsiya -- Seriya 2: Informatsionnyye Protsessy i Sistemy; July, 1970; pp 35-7

ABSTRACT: Automation of retrieval of data on ore deposits necessitates the availability, in a "factographic" information retrieval system, of a system of formal criteria which establish the various degrees of similarity between ore deposit characteristics. The degrees of similarity are formalized by correspondence levels. The information elements are compared only by these levels. The correspondence criterion in each level is defined by the method of presenting those terms denoting the characteristics of the deposits. For simple terms the correspondence levels are established by those lexical relations which are given in the information language. For complex terms (represented by a semantic code) the correspondence levels are assigned algorithmically, by a body of rules.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR

SMIRNOVA, A. S., Moscow, Nauchno-Tekhnicheskaya Informatsiya -- Seriya 2: Informatsionnyye Protsessy i Sistemy; July 70, pp 35-37

The retrieval criterion in the system is content-based, with reference to a specific geologic demand. It coincides with the correspondence criterion for that level which is adopted as a valid similarity in the case.

The article was submitted for publication November 5, 1969.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 669.15'24'26'28.001.5

GULYAYEV, A. P., SMIRNOVA, A. V., and USTIMENKO, M. YU.

"Influence of Aging on Properties, Structure, and Phase Composition of 0KhN40MDTYu (EP543) Alloy"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 102-108

Translation: The influence of the temperature of the end of deformation and subsequent heat treatment on the structure and mechanical properties of EP543 high-strength corrosion-resistant alloy is studied. Investigation of the mechanical properties demonstrated that a decrease in the temperature of the end of deformation, cooling after deformation in air (catathermic aging), and additional isothermic aging lead to a significant increase in the strength properties of the alloy. 3 figures; 2 tables; 6 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 620.196.2.001.5

POSYSAYEVA, L. I., SMIRNOVA, A. V., and BRODOVA, V. N.

"The Nature of Intercrystalline Corrosion in Low-Carbon Fe-Cr-Ni-Mo Austenitic Steel"

Spetsial'nyye Stali i Splavy (Special Steels and Alloys -- Collection of Works), No 77, Metallurgiya Press, 1970, pp 86-92

Translation: A study is made of type 00OKh20N20M4 austenitic steel with various degrees of stabilization by niobium. The primary excess phases in the steel without niobium are chromium carbides; in the incompletely stabilized steel -- the $\sigma$ phase, NbC and dispersion chromium carbides such as $Me_{23}C_6$; in the stabilized steel -- the $\sigma$ phase and NbC.

It is established that the steel without niobium and the incompletely stabilized steel are inclined to intercrystalline corrosion (ICC) in extraction phosphoric acid.

The reason for the appearance of ICC is the formation of finely dispersed eutectic-type chromium carbides such as $Me_{23}C_6$ which, separating on the grain boundaries and in the boundary zones, cause a sharp chromium impoverishment of sectors of the solid solution immediately adjacent to the carbide particles. 2 figures; 1 table; 2 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UDC 669.15.018.8:620.196.2

USSR

POSYLAYEVA, L. I., SMIRNOVA, A. V., and BRODOVA, V. N.

"The Nature of Intercrystalline Corrosion in Low-Carbon Fe-Cr-Ni-Mo-Austenitic Steel"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 86-92 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I595 by authors)

Translation: Austenitic steel of the type 00Kh20N20M4 with varying degree of niobium stabilization was studied. The principal excess phases in steel without Nb are chromium carbides; in understabilized steel, the sigma phase, NbC, and dispersed chromium carbides of the type $Me_{23}C_6$; in stabilized steel, the sigma phase and NbC. It was found that steel without Nb and understabilized steel are susceptible to intercrystalline corrosion in wet-process phosphoric acid. The reason for the appearance of intercrystalline corrosion is the formation of finely dispersed eutectic-type chromium carbides of the type $Me_{23}C_6$, which, precipitating out on the grain boundaries and in the boundary zones, cause sharp chromium depletion of solid-solution regions directly adjacent to the carbide particles. Two illustrations. One table. Bibliography with two titles.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 029

TITLE--THEORETICAL PRINCIPLES OF RAILROAD AUTOMATION AND TELEMECHANICS. SECOND EDITION, REVISED AND SUPPLEMENTED. TEXTBOOK FOR STUDENTS OF

AUTHOR-(05)-BRYLEYEV, A.M., BOSIN, M.I., PEREBOROV, A.S., SMIRNOVA, A.V., EYLER, A.A.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKIYE OSNOVY ZHELEZNODOROZHNOY AVTOMATIKI I

REFERENCE--REFERATIVNYY ZHURNAL AVTOMATIKA, NTELEMEKHANIKA I VYCHISLITEL'

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--AUTOMATION, TELEMETRY EQUIPMENT, RAILWAY TRANSPORTATION, MONOGRAPH, TRANSDUCER, ELECTRIC RELAY, RELIABILITY, COMMUNICATION SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0778 STEP NO--UR/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AR0126469

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UNCLASSIFIED PROCESSING DATE--27NOV70

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CIRC ACCESSION NO--AR0126469

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS TEXTBOOK CONSISTS OF 23 CHAPTERS. 1. GENERAL CHARACTERISTICS, INDICATORS AND REQUIREMENTS PLACED ON AUTOMATION, TELEMECHANICS, AND COMMUNICATIONS ELEMENTS. 2. TRANSDUCERS. 3. TYPES OF RELAYS AND THEIR ACTUATING PARTS. 4. ELECTROMAGNETIC DC RELAYS. 5. TRANSIENT PROCESSES IN ELECTRO MAGNETIC RELAYS. 6. POLARIZED RELAYS. 7. AC RELAYS. 8. MAGNETIC ELEMENTS. 9. LOGICAL CONTACTLESS ELEMENTS. 10. BOOLEAN ALGEBRA. SYNTHESIS OF COMBINATION AUTOMATA. 11. SYNTHESIS OF FINITE AUTOMATA. 12. PRINCIPLES OF SELECTION. 13. PRINCIPAL UNITS OF TELEMECHANICAL SYSTEMS. 14. PROBLEMS OF INTERFERENCE STABILITY IN REMOTE CONTROL AND REMOTE SIGNALLING SYSTEMS. 15. TELEMETRY. 16. TYPES OF AUTOMATION. 17. PRINCIPLES OF AUTOMATIC CONTROL. 18. STATIC CHARACTERISTICS OF LINEAR ELEMENTS AND SYSTEMS. 19. DYNAMICS OF LINEAR AUTOMATIC CONTROL SYSTEMS. 20. EQUATIONS OF COMPONENTS AND AUTOMATIC CONTROL SYSTEMS. 21. STABILITY. 22. SYNCHRONOUS COMMUNICATIONS SYSTEMS. 23. RELIABILITY OF ELEMENTS AND SYSTEMS OF RAILROAD AUTOMATION AND TELEMECHANICS. 254 ILLUSTRATIONS, 61 TABLES.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ALUMINUM NITRIDES IN CARBON STEEL -U-

AUTHOR--SMIRNOVA, A.V., ULYANINA, I.YU., VINOGRAD, M.I.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 57-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ALUMINUM NITRIDE, CARBON STEEL, ALUMINUM CONTAINING STEEL, ALLOY DESIGNATION, ELECTRON MICROSCOPY, NITROGEN CONTAINING STEEL, NITRIDE, NONMETALLIC INCLUSION, SOLID SOLUTION, GRAIN GROWTH/(U)08YU ALUMINUM CARBON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1292 STEP NO--UR/0129/70/000/002/0057/0059

CIRC ACCESSION NO--AP0106073

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UNCLASSIFIED PROCESSING DATE--11SEP70

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CIRC ACCESSION NO--AP0106073

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ELECTRON MICROSCOPIC STUDY OF OBYU STEEL WITH VARIOUS CONCNS. OF AL AND N WAS USED TO DETN. THE SHAPE AND SIZE OF THE NITRIDE PHASE WITH DEPENDENCE ON HEAT TREATMENT, TO EXPOSE THEIR DISTRIBUTION IN THE BULK OF THE SOL. SOLN. AND THEIR CRYSTALLOGRAPHIC NATURE. THE DISPERSED AL NITRIDE INCLUSIONS HAVE PLATELET AND ROD SHAPES, THE LATTER OBSD. FOLLOWING ANNEALING. THE NITRIDE PHASES ARE LOCATED IN THE BULK OF FERRITE GRAINS AND HAVE A HEXAGONAL LATTICE WITH PARAMETERS A 3.11, C 3.98 ANGSTROM. THE INHOMOGENEOUS DISTRIBUTION OF THE NITRIDE PHASE IN THE BULK OF THE METAL, IS DUE TO THE STRONG GRAIN SIZE DIFFERENCE. IN THOSE PARTS WHERE AL NITRIDE IS SMALL, THE GRAINS ARE COARSE. DISSOLN. OF THE NITRIDE PHASE WITH INCREASING TEMP. PROMOTES THE GRAIN GROWTH OF AUSTENITE.

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USSR UDC 656.25.001(047)

BRYLEYEV, A. M., BOSIN, M. I., PEREBOROV, A. S., SMIRNOVA, A. V., EYLER, A. A.

"Theoretical Principles of Railroad Automation and Telemechanics. Second Edition, Revised and Supplemented. Textbook for Students of Railroad Transport Institutes"

Teoreticheskiye Osnovy Zheleznodorozhnoy Avtomatiki I Telemekhaniki (English version above) (from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Tekhnika, No 2, 1970, Abstract No 2A652K by I. Sh.)

Translation: This textbook consists of 23 chapters. 1. General characteristics, indicators and requirements placed on automation, telemechanics, and communications elements. 2. Transducers. 3. Types of relays and their actuating parts. 4. Electromagnetic DC relyas. 5. Transient processes in electro-magnetic relays. 6. Polarized relays. 7. AC relays. 8. Magnetic elements. 9. Logical contactless elemnts. 10. Boolean algebra. Synthesis of combination automata. 11. Synthesis of finite automata. 12. Principles of selection. 13. Principal units of telemechanical systems. 14. Problems of interference stability in remote control and remote signalling

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BRYLEYEV, A. M., et al., Teoreticheskiye Osnovy Zheleznodorozhnoy Avtomatiki I Telemekhaniki (from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Tekhnika, No 2, 1970, Abstract No 2A652K by I. Sh.)

systems. 15. Telemetry. 16. Types of automation. 17. Principles of automatic control. 18. Static characteristics of linear elements and systems. 19. Dynamics of linear automatic control systems. 20. Equations of components and automatic control systems. 21. Stability. 22. Synchronous communications systems. 23. Reliability of elements and systems of railroad automation and telemechanics. 254 illustrations, 61 tables.

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1/2 017 PROCESSING DATE--04DEC70

TITLE--COMBINED TREATMENT OF CANCER OF THE RECTUM -U-

AUTHOR-(04)-PAVLOV, A.S., SIMAKINA, E.P., KHRUSCHOV, M.M., SMIRNOVA, E.S.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 5, PP 67-74

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CANCER, COLON, SURGERY, RADIOTHERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0134 STEP NO--UR/0531/70/000/005/0067/0074

CIRC ACCESSION NO--AP0129390

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CIRC ACCESSION NO--AP0129390

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROBLEMS CONCERNED WITH THE COMBINED TREATMENT OF CANCER OF THE RECTUM IN PRIMARY ESTABLISHED INOPERABILITY AND IN OPERABLE PATIENTS ARE DISCUSSED. ON THE BASIS OF 85 OBSERVATIONS THE AUTHORS EMPHASIZE THE PRINCIPAL DIFFERENCE OF METHODICAL APPROACHES IN THE TREATMENT OF THESE TWO GROUPS OF PATIENTS. BASING UPON AN ANALYSIS OF OPERATIVE COMPLICATIONS, CHARACTER OF THE COURSE OF THE POSTOPERATIVE PERIOD, MACRO AND MICRO MORPHOLOGICAL CHANGES OF THE PREPARATIONS REMOVED, IT IS UNDERLINED THAT CONDITIONS OF BETTER (SIMILARITY) OF OPERATIONS AND IRRADIATION IN OPERABLE RECTAL CANCER ARE ASSOCIATED WITH THE TECHNIQUE OF IRRADIATION. PREFERENCE IS GIVEN TO DAILY IRRADIATION (500 RAD) FOR A PERIOD OF FOUR DAYS AND SUBSEQUENT OPERATION ON THE 4TH-6TH DAY AFTER THE END OF IRRADIATION.

FACILITY: NI ONKOLOGICHESKIY INSTITUTA IM. P. A. GERTSENA I KAFEKRA KLINICHESKOY PAKIOLOGII TSIU.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ELECTRICAL CONDUCTIVITY OF COMPLEX ZIEGLER CATALYSTS AND THEIR ACTIVITY IN OLEFIN REACTIONS -U-

AUTHOR-(04)-OBESHCHALOVA, N.V., SMIRNOVA, G.A., FELDBLYUM, V.SH., TURYAN, YA.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 270-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRIC CONDUCTIVITY, ALKENE, COMPLEX COMPOUND, CATALYST ACTIVITY, ISOMERIZATION, ORGANOALUMINUM COMPOUND, NICKEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1396 STEP NO--UR/0079/70/040/002/0270/0275

CIRC ACCESSION NO--AP0116843

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116843

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SYSTEM OF ET SUB3 AL SUB2 CL SUB3 WITH NI DI-TERT-BUTYLBENZOATE IN PHCL SOLN. AND CONTG. AN EXCESS OF AL RELATIVE TO NI THE RELATION IS SYMBOLIC OF CATALYTIC ACTIVITY FOR ISOMERIZATION OF 2,METHYL,1,PENTENE TO ELEC. COND. WITH 5 FOLD OR GREATER EXCESS OF AL OVER NI THE COND. OF THE SYSTEM IS GREATER THAN FOUND FOR A LARGE EXCESS OF RALCL SUB2, BUT THE CATALYTIC ACTIVITY IS ABSENT. THE SAME INVERSE EFFECT WAS OBSERVED AFTER THERMAL TREATMENT OF THE CATALYST. THE SYSTEM OF ET SUB3 AL SUB2 CL SUB3 NICL SUB2 SHOWED A SYMBATIC RELATION AMONG CONCN. OF NI, COND., AND CATALYTIC ACTIVITY IN PROPYLENE DIMERIZATION; TREATMENT WITH H RAISED THE COND. AND CATALYTIC ACTIVITY. COND. MAY BE USED AS THE INDEX OF CATALYTIC ACTIVITY ONLY IN CASE OF LARGE EXCESS OF THE ALRCL COMPONENT RELATIVE TO NI SALTS. THIS RULE IS LOST WHEN THE RATIO OF AL TO NI IS LOWERED OR BECAUSE OF HEAT TREATMENT; THIS IS CAUSED BY THE FACT THAT COND. IS THE RESULT OF DISSOCN. OF BOTH ACTIVE CATALYST PARTICLES AS WELL AS OTHER COMPLEXES THAT MAY BE PRESENT. FACILITY: NAUCH.-ISSLED. INST. MONOMEROV SIN. KAUCH., YAROSLAVL, USSR.

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Acc. Nr: AP0044153 Ref. Code: UR 0244

PRIMARY SOURCE: Voprosy Pitaniya, 1970, Vol 29, Nr 1, pp 67-71

# THE EFFECT OF DIFFERENT METHODS OF STORAGE AND HEAT PROCESSING ON THE LIPIDS IN THE MUSCLES OF THE MIRROR CARP

Aman Mokhamed El-Bastavizi, G. A. Smirnova (Moscow)

Summary

By employing thin-layer Woelm TLC silica-gel chromatography the qualitative and quantitative composition of the mirror carp muscles was studied with the fist stored under different conditions (live, chilled and frozen) and also during its heat processing by routine method and with the use of new SHF-cabinet technology. Live, chilled and cooked fish was found not to show any difference in composition of the lipids component, it manifesting itself in quantitative correlation of the lipids fractions only. Long storage of frozen fish under relatively mild conditions (—15°C) was attended by changes in the quantitative correlation of individual classes of lipids. At this juncture the content of free fatty acids, monoglycerides and stearines increased materially, whereas the amount of triglycerides diminished. As contrasted to the routine method cooking of fish in the SHF-cabinet was not only more advantageous economically (the cooking time being cut down by as much as 3 times), but also helped to maintain proper quality and quantity of the fish lipids.

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UDC 547.241

RAZUMOV, A. I., SAVICHEVA, G. A., ZYKOVA, T. V., SOKOLOV, M. P., SMIRNOVA, G. G., LIORBER, B. G., SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Reactivity and Structure of Phosphorylated Carbonyl Compounds. 8. NMR and IR Spectra of Arylalkoxyphosphinylacetaldehydes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2164-2167

Abstract: In a continuation of the previous study of dialkoxyphosphorylacetaldehydes, tautomerism in alkoxyarylphosphorylacetaldehydes (I) was studied on the theory that an aryl substituent at the P atom may affect the aldol-enol equilibrium. Measurements of the P-31 chemical shift in compounds I hinted at a shift in equilibrium toward the enol form. This was confirmed by NMR spectra of 20% I solutions in carbon tetrachloride: the NMR band of α-ethylenic proton revealed the presence of the enol form. The IR spectra of nondiluted I compounds indicated simultaneous existence of two enol forms: B with intermolecular and

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RAZUMOV, A. I., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2164-2167

C with strong intramolecular hydrogen bonds in addition to aldol form. The IR spectra of 5-20% I solutions in carbon tetrachloride reflected a sequential shift toward the aldol form with increasing dilution, so that practically only the aldol form existed in the 5% solutions. The IR spectral data showed that in triethylamine solutions of I, in contrast to carbon tetrachloride solutions, the equilibrium shifts toward the B chelated enol form which incorporates triethylamine.

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Acc. Nr: AP0038687

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PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol 17, Nr 1, pp 49-53

Ref. Code: UR 0726

# PHYSIOLOGICAL ACTIVITY OF PHENOLIC COMPOUNDS EXTRACTED FROM APPLES

Surgucheva, M. P.; Smirnova, G. G.; Zaprometov, M. N.

*Scientific Research Horticulture Institute of Nonchernozem Region, Moscow, and K. A. Timiriazev Institute of Plant Physiology, USSR Academy of Sciences, Moscow*

The growth activity of (—) epicatechin, dimer of (—) epicatechin and leucocyanidin and also of quercitrin as the chief components of the phenolic complex isolated from green apples (Pepin Shafranny variety) was tested. Besides wheat coleoptiles, which are the classical object for physiological activity tests, sprouts of isolated embryos from stratified apple seeds were used. This permits one to study the effect of phenolic compounds on hypocotyl growth and root formation. The growth stimulation activity of apple phenolic compounds is not the same. Stimulation of growht of wheat coleoptiles by equimolar solutions of phenolic compounds did not exceed 38% over that in the control. One of the most oxidized flavonoids, flavonol quercitrin, stimulated growth of wheat coleoptiles to a greater extent than growth of apple shoots. The effect of phenolic compounds on growth of tissues of apple sprouts was greater, the stimulation exceeding 70%.

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Representatives of the most reduced flavonoid groups — (—) epicatechin and dimer of (—) epicatechin and leucocyanidin exhibited the highest activity. The problem of participation of phenolic compounds in regulation of growth processes is discussed.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

SMIRNOVA, G. I.

CHANGES IN OXYGEN CONSUMPTION BY THE HUMAN BODY UNDER THE INFLUENCE OF RESTRICTED DIET, HYPOKINESIA AND CENTRIFUGE ACCELERATIONS

/Article by G. I. Smirnova, Moscow, Aktual'nye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 242-247/

We carried out three series of investigations in which 18 healthy males in the age group 23-36 years participated. During 15 days of the experimental period (EP) the subjects were on a standard diet with a reduced calorie content (1,800 Cal/day), consisting of preserved and sublimated foods. During the control period (CP) and during the recovery period (RP) the subjects consumed ordinary foods (daily caloric content about 2,700 Cal).

Six of the subjects in the first series were confined to a hospital without a special restriction of motor activity. During the second and third series (six persons in each series) the investigated persons during the 15 days of the EP adhered to a bedrest regime with a rigorous restriction of motor activity. In addition, in the third series prior to the onset and after ending of the bedrest regime the subjects were exposed to transverse accelerations on a centrifuge (8 g with maintenance at this level for 120 sec).

During the first series the oxygen consumption was studied on a spirograph operating on oxygen once or twice during the CP; after a day in the EP and on the second day during the RP. During the second and third series the investigations were made on the 1st-3d, 8th-10th, 13th-15th days of the EP. The oxygen consumption ($VO_2$) and release of carbon dioxide ($VCO_2$) were registered using a "Spirolit" instrument, respiration rate (RR) and minute volume of respiration (MVR) using a dry gas counter.

The changes in RR, MVR, and RV (respiratory volume) in

JPRS 56,499
14 July 72



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UDC 612.766.1-06:613.24

KAKURIN, L. I., PURAKHIN, YU. N., GEORGYEVSKIY, V. S., KATKOVSKIY, B. S., VYSOTSKIY, V. G., CHEREPAKHIN, M. A., USHAKOV, A. S., LARICHEVA, K. A., PETUKHOV, B. N., IVANOV, P. P., MACHINSKIY, G. V., MIKHAYLOV, V. M., POMETOV, YU. D., and SMIRNOVA, G. I.

"Locomotor Activity of Man Kept on a Reduced Food Ration"

Moscow, Voprosy Pitaniya, No 3, May/Jun 1971, pp 7-12

Abstract: The combination of drastic limitation in locomotor activity with reduction to a low-calorie diet (down to basal metabolism) was studied in six healthy men 24-35 years of age who were confined to bed for a number of days under conditions of hypokinesia. Pronounced changes were observed in the functions of the cardiovascular, respiratory, nervous, and muscular systems of the body. Tabular data were collected on physiological tremor of closed yes, maximum physical work fitness, muscle tone dynamics, and the cardiovascular system in the orthostatic position. Asthenia of the nervous system and a slowing down of the biopotentials in the cerebral cortex were observed. Likewise, it was noted that hypokinesia caused disturbances in body coordination and statics. The pulse rate increased and the arterial pulse pressure was

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KAKURIN, L. I., Voprosy Pitaniya, No 3, May/Jun 1971, pp 7-12

reduced in persons subjected to the orthostatic test. Three persons reached a state of near collapse. These changes were attributed to a significant recuction in the compensating actions of the blood circulation. It was found that after about 10 days, the observed changes gradually decreased in the test subjects. This regression was largely of a functional character and was linked to the "detraining" of the various systems of the body. The authors believe that the severity of the changes in the body functions is directly proportional to the degree of hyperkinesia to which the tested persons were subjected. It is proposed that maintenance of homeostasis requires a certain level of motor activity even with a low-calorie ration.

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1/3 024 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CONDITIONS FOR PRODUCTION AND ISOLATION OF VALINOMYCIN, A REGULATOR OF CELL MEMBRANE PERMEABILITY -U-

AUTHOR-(04)-SMIRNOVA, G.M., BLINOVA, I.N., KOLODITSKAYA, T.A., KHOKHLOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 387-392

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIBIOTIC DRUG EFFECT, STREPTOMYCES, CELL MEMBRANE, FLUID PERMEABILITY, DRUG PRODUCTION, CONTINUOUS CULTURE, CHEMICAL PURIFICATION/(U)VALINOMYCIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1362 STEP NO--UR/0297/70/015/005/0387/0392

CIRC ACCESSION NO--AP0115332

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CIRC ACCESSION NO--AP0115332 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS FOR BIOSYNTHESIS OF VALINOMYCIN BY STREPTOMYCES SPECIES PRL 1642 UNDER PILOT PLANT CONDITIONS WERE DEVELOPED. A METHOD OF SERIAL TITRATION AGAINST CANDIDA ALBICANS WAS PROPOSED FOR DETERMINATION OF VALINOMYCIN CONTENT IN SAMPLES TAKEN DURING THE CULTURE GROWTH AND THE ANTIBIOTIC ISOLATION. SAMPLES OF THE FERMENTATION BROTH WERE ACIDIFIED WITH HYDROCHLORIC ACID TO PH 2.3-2.5, THE PRECIPITATE WAS WASHED AND EXTRACTED TWICE WITH ETHANOL, THE VOLUME OF THE EXTRACT WAS ADJUSTED WITH DISTILLED WATER TO 70 PER CENT. THE COMPOSITION OF THE FERMENTATION MEDIUM WAS THE FOLLOWING (IN PER CENT), CORN STEEP LIQUOR 0,5 (DRY WEIGHT), AMMONIUM SULFATE 0,4, GLUCOSE 1, STARCH 1.5, SODIUM CHLORIDE 0.5, CALCIUM CARBONATE 0.5. THE TIME OF FERMENTATION IN 45-, 100- AND 500-LITER FERMENTORS WAS 4 TO 5 DAYS. THE AVERAGE CONTENT OF THE ANTIBIOTIC IN 1 LITER OF THE MEDIUM WAS ABOUT 40 MG. THE ACTINOMYCETE DEVELOPMENT PROCEEDED IN 2 STAGES. THE ANTIBIOTIC PRODUCTION WAS OBSERVED IN THE 2ND STAGE, WHEN FRAGMENTATION OF THE MYCELIUM TOOK PLACE. VALINOMYCIN WAS ISOLATED BY 3-4 FOLD EXTRACTION OF THE MYCELIUM WITH ETHANOL, FOLLOWED BY PURIFICATION WITH BUTYLACETATE, SATURATED SOLUTION OF SODIUM BICARBONATE AND CARBON TETRACHLORIDE. AFTER THAT THE SUBSTANCE WAS ELUTED IN AN ALUMINA COLUMN BY CARBON TETRACHLORIDE AND THEN BY ITS MIXTURE WITH ABSOLUTE ETHANOL. ACTIVE FRACTIONS WERE EVAPORATED, DISSOLVED IN ETHER AND THE SOLUTION WAS PASSED THROUGH A COLUMN WITH ACTIVATED CHARCOAL AND CELITE 545. VALINOMYCIN WAS CRYSTALLIZED FROM HEXANE.

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3/3 024

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CIRC ACCESSION NO--AP0115332 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--A COLOURLESS CRYSTALLINE SUBSTANCE WITH A MELTING POINT OF 185-186DEGREES, ACTIVE AGAINST CANDIDA ALBICANS IN A DOSE OF 0.1 MUG-ML WAS OBTAINED. FACILITY: INSTITUTE FOR CHEMISTRY OF NATURAL SUBSHTANCES OF ACADEMY OF SCIENCES OF THE USSR, MOSCOW.

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USSR

UDC: 8.74

SMIRNOVA, G. N.

"Problems of Using a Formalized Language for Constructing Informational Models in Designing Automated Control Systems"

V sb. Teoriya i praktika sbora, peredachi i obrabotki ekon. inform. (Theory and Practice in the Collection, Transmission and Processing of Economic Information--collection of works), Moscow, 1971, pp 202-211 (from RZh--Kibernetika, No 4, Apr 72, Abstract No 4V539)

Translation: A document-forming language which is an expansion of a formal-operator language is considered for possible use as a formalized language for describing information models in the design of automated control systems. It is pointed out that the document-forming language accounts for hierarchy in the organizational structure of the automated control system when dealing with data processing in its subsystems. All operators of the language are divided into the following groups: operators of the structural language; operators of computational type; operators of cumulative type; procedural operators. An informational model of solution of the problem of determining the requirements of a sector for material resources is described in the document-forming language. V. Mikheyev.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 040 UNCLASSIFIED

TITLE--HYDROXYETHYL CYANOETHYL CELLULOSE -U- PROCESSING DATE--23OCT70

AUTHOR-(05)-KATALEVSKAYA, I.V., YERMILOVA, I.I., SMIRNOVA, G.N., KHIN, N.N., PROKOFYEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 23-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--HYDROXYL RADICAL, CELLULOSE RESIN, CYANIDE, CHEMICAL SYNTHESIS, POLYMER, TRANSITION TEMPERATURE, PLASTIC FILM, TENSILE STRENGTH, DIELECTRIC PROPERTY, ADHESION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0673 STEP NO--UR/0191/70/000/002/0023/0025

CIRC ACCESSION NO--AP0119581

UNCLASSIFIED

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2/2 040 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS AND PHYSICOCHEM. PROPERTIES OF THE TITLE POLYMER (I) (USED AS A BINDER FOR ELECTROLUMINOPHORS) WERE STUDIED. THE MOST EFFECTIVE METHOD OF PREPG. I INVOLVED CYANOETHYLATION OF TECH. HYDROXYETHYL CELLULOSE (II) (3.5 MOLES OF CH SUB2:CHCN-ELEMENTARY UNIT OF II) AT 30DEGREES FOR 3 HR. I HAD A GLASS TRANSITION TEMP. OF SIMILAR TO 40DEGREES AND A VISCOELASTIC TRANSITION TEMP. OF 100DEGREES. COLORLESS AND TRANSPARENT FILMS WERE PREPD. FROM SOLNS. OF I. THE FILMS EXHIBITED HIGH TENSILE STRENGTH, RELATIVE ELONGATION AT BREAK, AND GOOD DIELEC. PROPERTIES, AND WERE READILY BONDED TO GLASS, METALS, AND OTHER MATERIALS.

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1/2 008 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SIALOGLYCOLIPIDS OF THE STARFISH DISTOLASTERIAS NIPON. STRUCTURE OF THE OLIGOSACCHARIDE CHAIN -U-

AUTHOR-(04)-KOCHETKOV, N.K., ZHUKOVA, I.G., SMIRNOVA, G.P., BOGDANOVSKAYA, T.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 358-61, CHEM

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STARFISH, LIPID, FRACTIONATION, CHROMATOGRAPHIC SEPARATION, SILICA GEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1489 STEP NO--UR/0020/70/191/002/0358/0361

CIRC ACCESSION NO--AT0130418

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 006 UNCLASSIFIED

CIRC ACCESSION NO--AT0130418 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) SP-0- ABSTRACT. CHROMATOG. ON SILICA GEL AND ACID HYDROLYSIS WERE USED ALONG WITH METHANOLYSIS AND METHYLATION WITH MEL TO SHOW THAT THE STARFISH YIELDS AT LEAST 3 GLYCOLIPIDS (A, B AND C) WHICH ON METHANOLYSIS YIELD PHYTOSPHINGOSINE AND ME ESTERS OF HIGHER FATTY ACIDS. A AND C CONTAIN ONLY D GLUCOSE WHILE C CONTAINS D GULCOSE AND D GALACTOSE, IN EQUAL AMTS. PARTIAL STRUCTURES ARE DEFINED.

FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 029

UNCLASSIFIED

TITLE--PHOTOMETRIC CHARACTERISTICS OF WHITE TITANIUM ENAMELS IN RELATION TO COOKING AND FIRING CONDITIONS -U-

PROCESSING DATE--23OCT70

AUTHOR-(03)-ZASUKHINA, L.Z., SMIRNOVA, G.P., PEYZNER, B.Z.

COUNTRY OF INFO--USSR

SOURCE--STEKLO KERAM. 1970, 27(2), 27-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TITANIUM, ENAMEL, PHOTOMETRIC ANALYSIS, OPTIC BRIGHTNESS, MATERIAL TESTING EQUIPMENT/(U)FB2 PHOTOELECTRIC BRIGHTOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1258

STEP NO--UR/0072/70/027/002/0027/0029

CIRC ACCESSION NO--AP0116720

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 029 UNCLASSIFIED

CIRC ACCESSION NO--AP0116720 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOTOMETRIC CHARACTERISTICS OF A LARGE NO. OF TI ENAMELS OF KNOWN COMPNS. AS WELL AS AS A NO. OF OTHER COATINGS WERE STUDIED, BOTH OF DOMESTIC AND OF FOREIGN ORIGIN. THE MEASUREMENTS WERE MADE WITH A PHOTOELEC. BRIGHTOMETER FB-2, AND THE BRIGHTNESS COEFF. WAS MEASURED. FROM THE DATA OBTAINED IT FOLLOWS THAT THE DIFFUSE REFLECTION COEFF. CANNOT SERVE AS THE INDICATOR FOR THE WHITENESS OF ENAMEL COATINGS. THE CHARACTERISTICS OF SOME OF THE BEST DOMESTIC AND FOREIGN ENAMELS ARE NOTED. THE COLOR CHARACTERISTICS OF TI ENAMELS WERE MEASURED ALSO ON PLATELETS PREPD. FRLM FRITS OBTAINED FROM VARIOUS DOMESTIC AND FOREIGN FIRMS. IT IS OBVIOUS THAT THE HIGH WHITENESS AND THERMAL STABILITY OF THE COLOR INDEXES OF ENAMEL COATINGS CAN BE ACHIEVED ONLY BY A COMPLEX OF MEASURES: HIGH QUALITY RAW MATERIALS, STRICT CONTROL OF THE PRODUCTION CONDITIONS OF THE ENAMELS, AND THE FIRING CONDITIONS OF THE COATINGS. THERMAL STABILITY OF PHOTOMETRIC CHARACTERISTICS OF TI ENAMELS CAN BE ACCOMPLISHED BY THE INTRODUCTION OF CERTAIN STABILIZING MICRO ADDNS. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

Acc. Nr. AP0055644 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code UR0460

111878y Stereospecific polymerization of trimethylsilyl methacrylate by butyllithium. Andreev, D. N.; Krasulina, V. N.; Mikhailova, N. V.; Nekrasova, T. I.; Novoselova, A. V.; Smirnova, G. S. (Inst. Vysokomol. Soedin., Leningrad, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(2), 125-6 (Russ). The polymn. of $H_2C:CMeCO_2SiMe_3$ (I) in the presence of BuLi gave 90-100% of the corresponding polymer (II), which is extremely hygroscopic and is hydrolyzed by air moisture. Ir and NMR spectroscopy of poly(methacrylic acid) (III), obtained by the mild hydrolysis of II, showed that ≤65% of all segments are isotactic. The polymn. of I is recommended as a convenient method for the prepn. of isotactic III.

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REEL/FRAME 19840946

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--USE OF SODIUM HYDROSULFITE DURING ACRYLAMIDE POLYMERIZATION FOR ELECTROPHORESIS -U-

AUTHOR-(02)-SHLYAKHOVENKO, V.A., SMIRNOVA, I.A.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELO 1970, (5), 311.

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROPHORESIS, ACRYLAMIDE, POLYMERIZATION, CATALYST, SODIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605015/001 STEP NO--UR/9099/70/000/005/0311/0311

CIRC ACCESSION NO--AP0140587

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 018

CIRC ACCESSION NO--AP0140587

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACRYLAMIDE, METHYLENEBIS(ACRYLAMIDE), AND CYANOGUM,41 PREPN. WERE POLYMD. IN THE PRESENCE OF 1.7 TIMES 10 PRIME NEGATIVE3 M K SUB2 S SUB2 O SUB8 AND 9.7 TIMES 10 PRIME NEGATIVE3 M NA SUB2 S SUB2 O SUB4. THE EXCESS OF THE CATALYST AND DECOMPN. PRODUCTS WERE REMOVED BY PASSING ELEC. CURRENT THROUGH THE GEL PRIOR TO ELECTROPHORESIS. FACILITY: LAB. LEIKOZOV, KIEV. NAUCH. ISSLED. INST. EKSP. KLIN. ONKOL., KIEV, USSR.

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UDC 591.392

USSR

SMIRNOVA, I. B. and LATSIS, R. V., Institute of Biological Development, ~~Academy of Sci~~ences USSR, Moscow

"Role of Thiols in Alteration of Radiosensitivity of Dividing Sea Urchin Eggs"

Moscow, Doklady Akademii Nauk SSSR, No 1, 1972, pp 254-256

Abstract: Artificially fertilized sea urchin (Strongilocentrotus nudus) eggs developing in fresh seawater were irradiated (1500 rad) in different stages of mitosis. The number of surviving eggs was found to be highest among those exposed in the metaphase and lowest among those exposed in the telophase-prophase. The thiol level was also highest in the metaphase and lowest in the telophase-prophase. In another experiment, sea urchin eggs were kept in 1% ether for 30 minutes. They remained in the same stage of mitosis as when they were first placed in the solution. Transfer to fresh seawater, however, resulted in gradual restoration of division. Irradiation of eggs kept in seawater and ether solution affected the radiosensitivity of both egg masses equally. The changes in thiol level of the eggs kept in ether were paralleled by the changes in degree of radiosensitivity. Thus, alteration of radiosensitivity during embryogenesis is causally related to fluctuations in the content of endogenous thiols.

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UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 015

TITLE--KINETIC METHOD FOR DETERMINING TRACE AMOUNTS OF OSMIUM BY USING IODIDE OXIDATION BY BROMATE IN AN ACID MEDIUM -U-

AUTHOR-(03)-ALEKSEYEVA, I.I., SMIRNOVA, L.B., YATSIMIRSKIY, K.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 539-43

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TRACE ANALYSIS, IODIDE, OXIDATION, BROMATE, OSMIUM, METAL CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0464 STEP NO--UR/0075/70/025/003/0539/0543

CIRC ACCESSION NO--AP0126216

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE---20NOV70

2/2 015

CIRC ACCESSION NO--AP0126216

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HIGHLY SENSITIVE METHOD WAS DEVELOPED FOR OS (VIII) DETN. ON THE BASIS OF ITS CATALYTIC ACTION IN THE REACTION BETWEEN I PRIME NEGATIVE AND BRO SUB3 PRIME NEGATIVE IN AN ACID MEDIUM. OS (VIII) REACTS WITH I PRIME NEGATIVE TO FORM AN ACTIVE COMPLEX, WHICH LATER REACTS WITH BRO SUB3 PRIME NEGATIVE. MAX. CATALYTIC ACTION OF OS EXISTS AT PH 2.8-4.5. CU, CO, NI, FE, AND AL, 100 FOLD AMTS., DO NOT INTERFERE IN OS DETN. FACILITY: MOSCOW INST. FINE CHEM. TECHNOL., MOSCOW, USSR.

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UDC 577.391

USSR

SMIRNOVA, I. E. and LATSIS, R. V., Institute of Developmental Biology, Academy of Sciences USSR, Moscow

"Changes in the Radiosensitivity and in the Content of SH-Groups in the Early Embryogenesis of the Loach (Misgurnus fossilis)" (Submitted by Academician B. L. Astaurov)

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 4, 1970, pp 915-916

Abstract: The relationship between the endogenous thiol content and the radiosensitivity of developing roe of Misgurnus fossilis was studied. Beginning with the appearance of the first cleavage groove (60-70 min after fertilization), samples of the roe were taken every 5 min up to 145 min after fertilization. A part of the sample was irradiated with X-rays in a dose of 1000 r, while another part was subjected to histochemical investigation to determine the content of SH-groups. The embryos that survived after irradiation were counted 24 hr after fertilization. The rate of survival was low after irradiation in stages in which the content of SH-containing proteins was low (60-70, 105-110, and 135-145 min after fertilization), and high in stages in which the content of these compounds was high. There was a linear relationship between the percentage of roe grains surviving after irradiation and the content of protein SH-groups in them. Analogous relationships between the content of endogenous compounds in the hematopoietic tissue of mice and rats and the survival

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USSR

SMIRNOVA, I. B., and LATSIS, R. V., Doklady Akademii Nauk SSSR, Vol 192, No 4, 1970, pp 915-916

of these animals after irradiation, and between the content of thiol compounds and the resistance of tumor cells to radiation has been established.

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UDC 542.938.546.791.4

USSR

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 $HClO_4$ 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 $H_2O$ 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 $U^{4+}$ ion were also carried out. Both measurements of the nuclear magnetic resonance, which gave information of the exchange of $H_2O$ 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 $U^{4+}$ ions, indicated that in the pH range studied (0 - 1.97) hydrolysis of the $U^{4+}$ ions proceeded by the reaction $U^{4+} + H_2O$ $UOH^{3+} + H^+$. The constant of formation of the monohydrate complex $UOH^{3+}$ was $0.052 \pm 0.003$.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EQUILIBRIUMS IN SOLUTIONS OF NITRIC AND PERCHLORIC ACIDS -U-

AUTHOR-(03)-KLYGIN, A.YE., SMIRNOVA, I.D., ZAVRAZHNOVA, D.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2) 294-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITRIC ACID, PERCHLORIC ACID, AQUEOUS SOLUTION, NMR SPECTRUM, EQUILIBRIUM CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0904 STEP NO--UR/0078/70/015/002/0294/0298

CIRC ACCESSION NO--AP0053828

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 017

CIRC ACCESSION NO--AP0053828

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUIL. OF AQ. HNO SUB3, HCLO SUB4 AND MIXTS. OF HNO SUB3-HCLO SUB4 WERE DETD. BY USING NMR. FOR HNO SUB3, THE EQUIL. CONSTS. (K) AT 0, 25, AND 70DEGREES ARE 3.17 TIMES 10 PRIME NEGATIVE9, 2.36 TIMES 10 PRIME NEGATIVE9, AND 1.46 TIMES 10 PRIME NEGATIVE9, RESP. FOR HCLO SUB4, K IS 2.37 TIMES 10 PRIME NEGATIVE2 AND 2.26 TIMES 10 PRIME NEGATIVE2 AT 0 AND 25DEGREES, RESP. DELTA H AND DELTA S OF ACID DISSOCN. ARE 2.08 TIMES 10 PRIME3 CAL-MOLE AND 46.56 CAL-MOLE DEGREE FOR HNO SUB3 AND 3.02 TIMES 10 PRIME2 CAL-MOLE AND 8.56 CAL-MOLE DEGREE FOR HCLO SUB4, RESP.

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UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 015

TITLE--COMPLEXING IN THE COPPER II, ETHYLENEDIAMINETETRAACETIC ACID, WATER SYSTEM -U-

AUTHOR-(04)-LEKAYE, V.A., KLYGIN, A.YE., SMIRNOVA, I.D., KOLYADA, N.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1294-300

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENEDIAMINE, COPPER COMPLEX, SPECTROPHOTOMETRIC ANALYSIS, NMR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0923 STEP NO--UR/0078/70/015/005/1294/1300

CIRC ACCESSION NO--AP0136354

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 015

CIRC ACCESSION NO--AP0136354

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEXING IN THE CU(II),EDTA, (H SUB4 L), H SUB2 O SYSTEM WAS STUDIED BY SPECTROPHOTOMETRIC AND NMR RELAXATION METHODS. THE FORMATION CONST. OF CUHL, AND ITS DEPROTONATION CONST., (DETD. BY THE N. P. KOMAR'S METHOD, 1954) ARE 76 TIMES 10 PRIME8 AND 1.14 TIMES 10 PRIMENEGATIVE3, RESP.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SPECTROPHOTOMETRIC STUDY OF COMPLEXING IN AN IRON,III,NITRATE,NITRIC ACID,WATER SYSTEM -U-

AUTHOR-(05)-KLYGIN, A.YE., SMIRNOVA, I.D., NIKOLSKAYA, N.A., KOLYADA, N.S., LEKAYE, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 753-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, IRON COMPLEX, NITRATE, NITRIC ACID, AQUEOUS SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/2028 STEP NO--UR/0078/70/015/003/0753/0756

CIRC ACCESSION NO--AP0132285

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 017

CIRC ACCESSION NO--AP0132285

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRESENCE OF FE PRIME3 POSITIVE, FE(NO SUB3) SUB3 .HNO SUB3 (I), AND FE(NO SUB3) SUB3 .3HNO SUB3 (II) IN FE(NO SUB3) SUB3 HNO SUB3 H SUB2 O SYSTEM WAS CONFIRMED SPECTROPHOTOMETRICALLY. MOLAR ABSORPTION COEFFS. OF I AND II AT 390, 400, AND 410 M MU ARE GIVEN. CONSTS. OF I AND II FORMATION ARE IN THE REGION OF 10 PRIME NEGATIVE2 AND 10 PRIME NEGATIVE3, RESP.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SPECTROPHOTOMETRIC STUDY OF THE COMPLEXING OF RARE EARTH ELEMENTS IN NITRATE SOLUTIONS -U-

AUTHOR-(05)-KLYGIN, A.YE., SMIRNOVA, I.D., KOLYADA, N.S., MALKINA, YE.N., GERTSEVA, A.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 622-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NITRATE, NITRIC ACID, RARE EARTH METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1608 STEP NO--UR/0078/70/015/003/0622/0628

CIRC ACCESSION NO--AP0112602

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112602

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HNO SUB3 SOLNS. OF LN (ND, PR, EU, DY, HO, ER, AND YB) NITRATES CONTAIN LN PRIME3 POSITIVE, LN(NO SUB3) SUB3 .HNO SUB3, AND LN(NO SUB3) SUB3 .3HNO SUB3. COMPLEXING IN LN PRIME3 POSITIVE-HNO SUB3-H SUB2 O SYSTEMS WAS DETD. SPECTROPHOTOMETRICALLY AND FORMATION CONSTS. WERE CALCD. BY THE LEAST SQUARES METHOD. THE MECHANISM OF LN PRIME3 POSITIVE EXTN. BY BU SUB3 PO SUB4 FROM HNO SUB3 SOLN. IS DISCUSSED. IT IS ASSUMED THAT AT THE CONDITIONS WHERE LN(NO SUB3) SUB3 .HNO SUB3 FORMS AT THE HIGHEST YIELD, THE DISTRIBUTION COEFF. D OF LN PRIME3 POSITIVE HAS THE LOWEST VALUE. THE MARKED INCREASE OF D AT HNO SUB3 CONCNS. LARGER THAN 5M IS DUE TO THE FORMATION OF LN(NO SUB3) SUB3 .3HNO SUB3 WHICH IS EXTD. BY BU SUB3 PO SUB4.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110007-5

USSR UDC 632.951:595.786

NOVOZHILOV, K. V., SMIRNOVA, I. M., and GOLUBEV, T. I., All-Union Institute for the Protection of Plants

"Possible Use of Organophosphorus Preparations in the Protection of Wheat against Grain Cutworm and Wheat Thrips"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 3, 1971, pp 38-41

Abstract: Most effective in the protection of wheat against grain cutworm and wheat thrips were chlorophos, methylnitrophos, and metaphos. The effectiveness of these compounds against eggs of the above pests was established in the laboratory. Chlorophos and metaphos (at a concentration of 1.35%) were most effective against insect eggs in a series of field tests. Also determined, were chlorophos and methylnitrophos residues on mature wheat plants. Another test series was run to determine the effectiveness of these compounds at lower concentrations (0.5 and 1%) against caterpillars of the grain cutworm. Methylnitrophos and chlorophos were found to be most active against older caterpillars. It was concluded that both methylnitrophos and chlorophos can be safely used for grain to protect wheat against caterpillars of the grain cutworm.

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"Study of the Fine Structure and Recrystallization of SAP-1 Sheets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1971, pp 13-15

Abstract: The fine structure of a powder, as well as the structure and texture of SAP-1 sheet (Sintered Aluminum Powder) were studied. The zone of coherent scattering and the magnitude of microdeformations were determined by the method of harmonic analysis of the Roentgen (111) line and (222) matrix shapes. With increasing degree of deformation the magnitude of the coherent scattering zone of cold rolled sheets (7.8% $Al_2O_3$) increases and this is related to the heating of the material in rolling. It follows from this that not only the distance between oxide particles, but also the magnitude of aluminum matrix blocks affect positively the strength properties of SAP-1 sheets. The results of a study of the advantageous orientation of sheets, deformed at 80% and annealed at 250-630°C with aging from 15 min to 10 hours are presented.

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ABRAMOVICH, G. N., KUZ'MICH, V. B., SEKUNDOV, A. N., SMIRNOVA, I. P.,
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"Experimental and Theoretical Study of a Supersonic Jet Near a Wall in an Accompanying Supersonic Flow"

Moscow, Izv. AN SSSR: Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp 25-32

Abstract: Experiments were done in a supersonic ($M = 2-4$) continuous action wind tunnel. A flat jet was blown in along a plate located in the middle of the working section of the tunnel through a specially shaped nozzle with an output section 2 mm high and a throat 0.8-0.9 mm high. The end of the nozzle was 80 mm away from the sharpened leading edge of the plate. The plate was 200 mm wide and 400 mm long. Two modes of flow were considered. The Mach number in the initial section of the jet for both modes was $M_1 = 2.18$. The Mach number of the accompanying flow, the static pressure in the working section of the tunnel, and the Reynolds number determined with respect to the height of the nozzle and the oncoming flow parameters were respectively: $M_2 = 2.7$, $p = 38.6$ mb,

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ABRAMOVICH, G. N. et al., Izv. AN SSSR; Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp 25-32

Re = 15 500 for the first mode, and $M_2 = 3.8$, p = 18.1 mb, Re = 17 800 for the second mode. The stagnation temperature in the jet and the accompanying flow was about 300°K. The velocity distribution was determined with respect to the fields of dynamic pressures found by means of an ordinary gauge with transverse dimension of 0.35 mm. Vent holes were used for measuring the static pressure on the plate. The concentration in the supersonic flow was measured by a method based on determining the thermal conductivity of the mixture flowing through the gauge as a function of concentration. Non-self-similar isobaric flow was numerically calculated in the boundary layer approximation using the equation for turbulent viscosity as the closure relation. A comparison of the experimental and theoretical results showed that the proposed analytical method is applicable to description of turbulent compressed flows.

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TITLE--ADRENOCORTICAL STEROID HORMONE METABOLITES IN THE URINE OF PATIENTS WITH PULMONARY CARCINOMA -U-

AUTHOR-(02)-SMIRNOVA, K.D., LAZAREV, N.I.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN VIEW OF THE RISE IN MORTALITY REFERABLE TO LUNG CANCER, THIS PROBLEM IS ACQUIRING PARTICULAR URGENCY. DETERMINATION OF THE ETIOLOGY OF THIS DISEASE IS THUS FAR PURSUED IN EXPERIMENTAL INVESTIGATIONS IN THE ASPECT OF RECOGNITION OF THE ETIOLOGICAL ROLE OF AIR POLLUTION BY PRODUCTS OF INCOMPLETE COMBUSTION OF SOLID, LIQUID AND GAS FUEL, AS WELL AS OF SMOKING AND WORKING UNDER ADVERSE CONDITIONS. HOWEVER, IF WE CONSIDER THAT ACCORDING TO CLINICAL DATA 8-9 OUT OF EVERY TEN VICTIMS OF LUNG CANCER ARE MEN, WE CANNOT TOTALLY RULE OUT THE POSSIBLE ROLE OF STEROID HORMONES, THE DISTINCTIVE FEATURES OF THEIR METABOLISM AND SECRETION. OUR PURPOSE WAS TO INVESTIGATE THE METABOLITES OF STEROID HORMONES OF THE ADRENAL CORTEX (FIRST OF ALL HYDROCORTISONE AND DEHYDROEPIANDROSTERONE) IN THE URINE OF LUNG CANCER PATIENTS.

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