"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC: 621.374.33(088.8)

PRIBYLOV, V. Ye.

"A Transistorized Key Operating Into an Inductive Load"

USSR Author's Certificate No 2732279 [sic], filed 27 Jan 69, published 28 Aug 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G293 P)

Translation: This Author's Certificate introduces a key which operates into an inductive load connected in the collector circuit of a transistor. To improve reliability and eliminate an auxiliary power supply, the device contains an additional transistorized key stage with inductance in the collector circuit, the main inductive load being connected through a semiconductor diode to the collector of the additional stage and to a power supply terminal.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 621.357.7.035.4:669.738.7(088.8)

AZHOGIN, F. F., LOGACHEVA, Z. V., PRIBYLOVA, L. I., VLASOVA, L. P., and AGEYEVA, N. I.

"An Electrolyte for Cadmium Plating"

Author's Certificate No 346390, filed 10 Sep 70, published 22 Aug 72 (from Referativnyy Zhurnal — Khimiya, No 8(II), 1973, Abstract No 8L307P)

Translation: An ammonium chloride electrolyte is patented for cadmium plating. It is improved in that in order to prevent the hydrogenation of the base metal, ethylene glycol is added, resulting in the following composition, in g/liter: $CdCl_2$,40-50; NH_4Cl,230-280; ethylene glycol,30-40, carpenter's glue,1-2; an optimum pH of the electrolyte of 2.5-3.5; D_k less than 2 amps/decimeter^2, and a theoretical yield of 100%. For example, samples from the steel EI-643 having a notch r=0.1 mm is plated with cadmium in our electrolyte having the following composition, in g/liter: $CdSO_4$,50; NH_4Cl,250; ethylene glycol, 30; carpenters glue, 2; at pH of 3.0 and a D_k 2 amps/decimeter^2 for a thickness of 10 microns. Without subsequent heating at a tension equal to 90% of the strength of the notched sample (the Stress equals 216 kg/m^2), the plated sample did not fracture after 200 hours.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR"

UDC 616.61-002.151-022.6-07:616.153.1:577.153.9-074

PRIBYLOVA, N. N., Chair of Faculty Therapy and Chair of Infections Diseases, Khabarovsk Medical Institute

"Serum Cholinesterase Activity in Patients with Hemorrhagic Fever with a Renal Syndrome"

Moscow, Laboratornoye Delo, No 1, 1970, pp 49-50

Abstract: Study of the dynamics of serum cholinesterase activity in 88 patients with hemorrhagic fever with a renal syndrome showed that cholinesterase activity decreased as the disease progressed. The degree of decrease in enzyme activity was directly proportional to the severity of the course of the disease. The test can be used as a means of evaluating the effectiveness of therapy.

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USSR

PRIBYSH, B. N., SUDAKOV, V. N.

"A Comment on a Theorem of V. S. Mikhalevich"

Zap. Nauch. Seminarov Leningr. Otd. Mat. In-ta AN SSSR [Writings of Scientific Seminars of Leningrad Division Mathematic Institute, Academy of Sciences, USSR], 1972, Vol 29, pp 14-17 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V183 by A. Novikov).

Translation: The problem is studied of sufficient statistics for a set of time-homogeneous random processes with independent increments, the measures of which are mutually absolutely continuous. The theorem of Mikhalevich (RZhMat, 1963, 5V168) gives a necessary and sufficient condition for these processes for the value of the process at the last moment in time to sufficient statistics. It is shown in this work that if only processes with purely continuous Poisson spectrum are studied, the value of the process at the last moment in time is always a sufficient statistics for them.

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RAND / R-766 / 5-NOV-73
Dec 1970

(4)

III. SHOCK WAVES IN LIQUIDS

Andriankin, E. I., V. K. Bobolev, and A. V. Dubovik. Collapse of an elliptic cavity and explosive initiation in a liquid layer under shock effect. ZhPMTF, no. 5, 1971; 78-85.

Analytical and experimental results are given on the effect of shock excitation of a combustible liquid volume. Criteria are developed for the threshold conditions under which a nominally spherical fluid volume shifts to an elliptical form, and on further compression develops into a cumulative jet; in the limit this results in detonation from adiabatic heating of gas evolved in the volume. Test data on shock generation of jets in liquid nitroglycerine are included, and show qualitative agreement with theoretical results.

Shtessel', E. A., K. B. Pribytkova, and A. G. Merzhanov. A numerical solution to the problem of a thermal explosion, with free convection taken into account. FGIV, no. 2, 1971, 167-178.

The authors cite previous works in which the effect of free convection on a gas explosion process is expressed in terms of the Rayleigh (Ra) and Frank-Kamenetsky (δ) criteria. The analysis is extended here to the case of liquid fuel combustion, and is presented as a supplement to earlier experimental work by Merzhanov and Shtessel' (FGIV, no. 1, 1971) in which an empirical correlation between Ra and δ was obtained. The model used assumes an ideal stationary fluid in a uniform semi-infinite vessel; gas evolution is neglected. The results are shown graphically, indicating the conditions under which convection will or will not affect the detonation process.

PRIBYTKOVA, K.B.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 536.46:533.6

SHTESSEL', E. A., AVERSON, A. E., PRIBYTKOVA, K. V.

"On the Effect of Natural Convection on the Ignition of Liquid Systems"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 24-29 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B932)

Translation: An approximate theoretical analysis is presented of the phenomenon of ignition considering natural convection. A layer of sufficiently great depth that is infinite in the horizontal direction is considered. Emission is carried out by heating from below under two types of boundary conditions: (a) at a constant temperature of the surface in the course of the process, and (b) under a constant thermal flow. The system of equations of motion, energy, and continuity is investigated. As a result of the physical assumptions made, it is possible to solve the problem by the method of consecutive approximations using the method of integral relationships. Analytical functions showing the lag time as a function of the Reynolds number characterizing the convection intensity and the Prandtl number are obtained for two types of boundary conditions. Several features in the combustion process involved in the natural convection developed are discussed. Authors' abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SYNTHESIS OF 5,ARYL,2,4,PENTADIENALS AND 5,ARYL,2,4,6,HEPTATRIENOIC ACIDS -U-

AUTHOR-(04)-DEMBROVSKIY, A.V., PRIBYTKOVA, L.G., GANUSHCHAK, N.I., VENGRZHANOVSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 964-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SAPONIFICATION, PHOSPHATE ESTER, BENZENE DERIVATIVE, AMINE DERIVATIVE, CARBOXYLIC ACID, CHLORINATED ORGANIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1317 STEP NO--UR/0366/70/006/005/0964/0967

CIRC ACCESSION NO--AP0134991

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

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UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 011

CIRC ACCESSION NO--AP0134991

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION INTHE COLD OF SC SUB6 H SUB4 CH:CHCH:CH SUB2 WITH POCL SUB3NEGATIVE HCONME SUB2 MIXT. IN TETRAHYDROFURAN GAVE 30-67PERCENT XC SUB6 H SUB4 CH:CHCH:CHCHO (I,X EQUALS H, P,ME,P,MEO,C,CL, OR P,CL). THE REACTION OF I WITH (ETO) SUB2 P(O)CHNACO SUB2 ET GAVE 61-96PERCENT XC SUB6 H SUB4 CH:CHCH:CHCH:CHCO SUB2 ET WHICH WAS SAPOND. TO THE CORRESPONDING ACID. FACILITY: CHERNIGOV. GOS. UNIV., CHERNIGOV, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

Photoelectric Effect

USSR UDC 621.383.52.029.6

GEORGIYEVSKAYA, Ye. A., ISTOMIN, A. N., KAMENSKIY, N. N., PRICHKO, Yu. V., FEDOTOV, Ya. A.

"High-Frequency Silicon Photodiodes With PIN-Junction Structure"

Moscow, Radiotekhnika i Elektronika, vol 16, No 11, Nov 71, pp 2232-2234

Abstract: Silicon photodiodes are described in which speed is increased at high inverse bias voltages by eliminating the diffusion time and reducing RC parameters. The diodes are made from high-resistance P-silicon (resistivity of 1 000-2 000 Ω·cm). Curves are given for the frequency response of the diodes for incident radiation on wavelengths of 0.63 and 0.91 μ at various supply voltages from 0 to 100 V. The spectral characteristics of the photodiode are given as well as a structural schematic. The proposed photodiodes can be used in high-quality optico-electronic equipment in combination with various radiation sources. Particularly promising is the use of these diodes in semiconductor devices in conjunction with gallium arsenide emitters. The authors thank M. Kh. Kollender for her assistance with preparation of the diodes. Two figures, bibliography of two titles.

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USSR

UDC: 621.383.52

KAMENSKIY, N. N., PRICHKO, Yu. V., and SKIBARKO, A. P.

"Dependence of Photodiode Sensitivity and Inertia on the Dimensions and Position of a Light Spot on the Light-Sensitive Area"

Kiev, Izvestiya VUZ--Radioelektronika, Vol 14, No 1, 1971, pp 72-75

Abstract: The results of investigations into the possibility of increasing the sensitivity and rapidity of action of photosensitive diodes with the use of a focusing system are given. In general, the sensitivity and inertia of the diode depend on the thickness of the photosensitive base, the surface recombination rate at the illuminated point on the base, and the absorption factor for a particular optical wavelength. Since the diffusion length of the minority carriers is much larger than the base thickness, the space recombination can be neglected. A relief diagram of the sensitivity and inertia values at the central part of the base in a type 1690 photodiode is shown; the light used to obtain these results had a wavelength of 0.63 μ, the diameter of the light spot was about 50 μ, and the distance between the centers of the relief squares was 100 μ. Curves are plotted for diode characteristics as functions of light spot diameter.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC: 621.315.592

GERASIMENKO, N. N., DVURECHENSKIY, A. V., KACHURIN, G. A., PRIDACHIN, N. B., SMIRNOV, L. S., Institute of Physics of Semiconductors, Siberian Department of the Academy of Sciences, Novosibirsk

"Radiation Annealing of Defects Formed During Ion Bombardment of Crystals"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 9, Sep 72, pp 1834--1835

Abstract: The authors investigate the recovery of gallium arsenide and silicon structures amorphized by bombardment with 40 keV argon ions. The annealing was accompanied by irradiation with 3.5 MeV electrons or 10 keV protons. The three procedures used for checking structural transformations are described. It was found that defects induced by argon ion bombardment were not removed by heating at 200-250°C without proton irradiation. A temperature of 500°C is required without the proton treatment. When proton bombardment is used, the lower temperature is sufficient for recovery of the nondefective structure. The authors thank S. I. Romanov for taking the electron-diffraction patterns of the surface of the specimens, and B. I. Vikhrev for measuring the electron paramagnetic resonance.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 042 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--LOW RESISTIVITY FILMS OBTAINED BY ION BOMBARDMENT ON SEMIINSULATING GALLIUM ARSENIDE -U-

AUTHOR--ZELEVINSKAYA, V.M., KACHURIN, G.A., PRIDACHIN, N.B., SMIRNOV, L.S.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL. 4, FEB. 1970, P. 317-320

DATE PUBLISHED----FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--POLYCRYSTALLINE FILM, ION BOMBARDMENT, GALLIUM ARSENIDE, CARRIER DENSITY, ELECTRIC CONDUCTIVITY, NEUTRON IRRADIATION, ELECTRON BOMBARDMENT, XENON, SELENIUM, KRYPTON, ZINC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1346 STEP NO--UR/0449/70/004/000/0317/0320

CIRC ACCESSION NO--AP0107819

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 . 042 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107819

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL STUDY IN WHICH CONDUCTING FILMS WERE SYNTHESIZED ON SEMIINSULATING GALLIUM ARSENIDE BY BOMBARDMENT WITH XENON, KRYPTON, SELENIUM, AND ZINC IONS. THE CARRIER CONCENTRATION IN THE FILM IS 5 TIMES 10 TO THE 16TH PER CU CM, THE MOBILITY IS 10 SQ CM-V SEC, AND THE THERMAL ACTIVATION ENERGY IS 0.07 EV. THE EFFECT OF THE DOSE RATE, THE ION ENERGY, AND THE SUBSTRATE TEMPERATURE ON THE FORMATION OF THE CONDUCTING FILM IS INVESTIGATED. WITH THE AID OF AN ETCHANT ACTING AT A RATE OF 5 TO 8 A-SEC, THE DISTRIBUTION OF THE FILM CONDUCTIVITY WITH DEPTH IS RECORDED. ON THE BASIS OF EXPERIMENTS ON ION BOMBARDMENT AND IRRADIATION OF SEMIINSULATING GAAS WITH REACTOR NEUTRONS AND ELECTRONS WITH AN ENERGY OF 3.5 MEV, IT IS CONCLUDED THAT AN INCREASE IN CONDUCTIVITY IS ATTRIBUTABLE MAINLY TO A MERGING OF THE BIAS PEAKS INTO A SINGLE FILM WHERE THE COMPENSATION CONDITIONS ARE NOT FULFILLED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 678.84.019.86

BELOVA, V. V., PRIDACHINA, N. N., POPOVA, A. I., and SERENKOV, V. I.

"Radiolysis of Polysiloxane Resin"

Moscow, Plasticheskiye Massy, No 3, 1971, pp 24-26

Abstract: Structural rearrangements occurring in solidified silicon organic resin under the influence of ionizing radiation were studied by IR spectroscopy, mass-spectroscopy, thermomechanical, and physicomechanical techniques. Polymethylsiloxane resin is formed by cohydrolysis of methyltrichlorosilane and dimethyldichlorosilane yielding cyclic polymers with silsesquioxane bonds. It was determined that radiation leads to further structuralization of already solidified polymer. This is due to the formation of new ≡Si-O-Si≡ bonds, methylene and ethylene bridges and changes in the cyclic structure pattern of the polymer. These polymers become more durable because of the disappearance of organic radicals and increase in the number of trimer cycles. Temperature increase during radiolysis enhances the rate and degree of these processes.

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Thermomechanical Treatment

USSR UDC 621.789-977:669.15-194.2

PRIDANTSEV, M. V., and IVANTSOVA, E. I.

"Optimal Degree of Deformation of Austenite During High-Temperature Thermomechanical Working of Low-Alloyed Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1970, pp 64-66

Abstract: The dependence of the optimal degree of deformation during high-temperature thermomechanical treatment of chrome-manganese-silicon steel on carbon content was determined on four melts of type 30KhGSA steel containing 0.29, 0.39, 0.48, and 0.58% carbon. Deformation by rolling was 30, 60, and 90%. The billets were austenitized at 1000°C, and hardened after deformation from 900°C. The mechanical properties were determined in specimens tempered at 200°C for one hour. The optimal degree of deformation was found to decrease with increasing carbon content in the steel. The dependence of ε_{opt} on carbon content allows the optimal degree of deformation of austenite to be determined for chromansil steel of any composition. A figure is presented illustrating the dependence of optimal degree of deformation on carbon content.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 031, UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HARDENING NIOBIUM ALLOYS BY THE PRECIPITATION OF REFRACTORY OXIDES -U-

AUTHOR-(03)-GRIGOROVICH, V.K., PRIDANTSEV, M.V., SHEFTEL, E.N.

P

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. OBRAB. MATER. 1970, (1), 103-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL OZIDE, PLASTICITY, NIOBIUM ALLOY, ZIRCONIUM ALLOY, HAFNIUM ALLOY, REFRACTORY METAL, METAL HEAT TREATMENT, MECHANICAL PROPERTY, METAL AGING, OXIDE REFRACTORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0630 STEP NO--UR/0472/70/000/001/0103/0107

CIRC ACCESSION NO--AP0105609

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0105609

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF AGING NB-ZR AND NB-HF ALLOYS CONTG. O WAS STUDIED TO FIND THE OPTIMUM HEAT TREATMENT PROCEDURES WHICH RESULT IN THE HIGHEST STRENGTH PROPERTIES. WITH AN INCREASE IN THE O CONTENT A HIGHER AGING TEMP. IS REQUIRED TO ACHIEVE THE HIGHEST STRENGTH PROPERTIES AND THE HARDENING EFFECT IS DECREASED OWING TO AGING. THE HARDENING PHASES IN THE RESP. ALLOYS ARE ZRO SUB2 AND HFO SUB2. A HEAT TREATMENT PROCEDURE IS PROPOSED WHICH PROVIDES FOR AN ENHANCED STRENGTH AND CONSERVES A SATISFACTORY PLASTICITY.

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USSR

UDC 547.397+595.7

DRABKINA, A. A., YEFIMOVA, O. V., TSIZIN, Yu. S., GAMPER, N. M., and PRIDANTSEVA, Ye. A., Institute of Chemical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy; All-Union Institute of Plant Protection

"Compounds Which Simulate the Effect of the Juvenile Insect Hormone. III. Synthesis of 3,11-Dimethyl-11-chlorodecen-2-oic Acid Ethyl Ester"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103, No 2, Feb 72, pp 457-459

Abstract: 3-11-Dimethyl-11-chlorododecen-2-oic acid ethyl ester (II) was synthesized for biological tests. Compound (II) shows the groups typical of the active analogs of insect juvenile hormone of (I).

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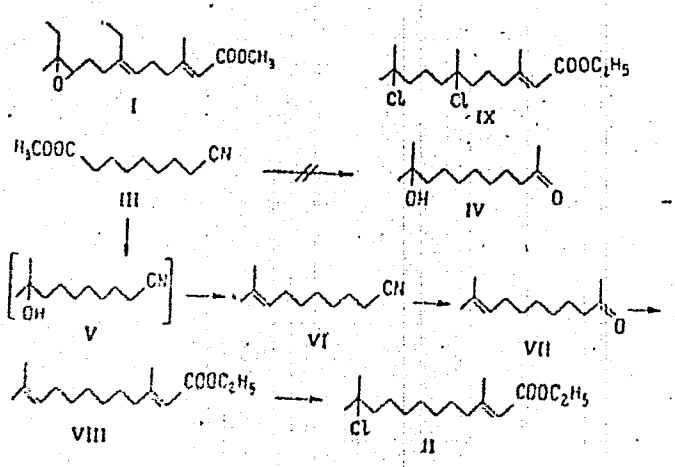
USSR

DRABKINA, A. A., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 457-459



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

DRABKINA, A. A., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72 pp 457-459

The synthesis is based on methyl 8-cyanooctanoate (III). It was assumed at first that ester (III) could be converted to hydroxy ketone (IV) with excess methylmagnesium iodide. However, even a reagent ratio of 1:10 failed to give the desired result. Careful selection of reaction conditions showed that ester (III) reacts with three moles of methylmagnesium iodide to form hydroxy nitrile (V) which is converted to unsaturated nitrile (VI) after dehydration without filtering. Reaction of (VI) with four moles of methylmagnesium iodide yields ketone (VII) which is converted to the diene ester (VIII) by the Whittig reaction. Compound (II) is obtained by bubbling hydrogen chloride through an alcohol solution of diene ester (VIII). Tests on mosquito larvae showed that (II) is as active physiologically as compound (IX), which is called "synthetic juvenile hormone."

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Dec 72

XII. EQUATIONS OF STATE

(2)

Pridatchenko, Yu. V., and Yu. I. Shmakov.
Rheological equations of state for weak polymer solutions with rigid ellipsoidal macromolecules.
ZhPMTF, no. 2, 1972, 125-129.

Results obtained by Shmakov and Taran (I-FZh, v. 18, no. 6, 1970) are generalized by taking macromolecular inertia and the effects of external electric and magnetic force fields into account when deriving rheological equations of state for weak polymer solutions with rigid ellipsoidal macromolecules and macromolecular Brownian motion. The effects of macromolecular inertia on the rheological properties of liquids are analyzed. Using Jeffery's expressions for flow perturbation caused by a suspended rigid ellipsoid in a viscous Newtonian fluid, the authors derive equations for the stressed state of liquid. From these, eight rheological constants are determined for equations describing the isothermal motion of an incompressible anisotropic fluid with a constant magnitude structural orientation vector. The ninth rheological constant is found by considering a special case (the absence of external force fields and a negligibly small particle inertia). Rheological equations of state are found by averaging Ericksen's tension tensors over the angular distribution function for the axis of rotation of an elliptical particle, and making use of the rheological constants. As an example, the Couette flow of a polymer solution with rigid ellipsoidal macromolecules in the absence of external force fields and rotational Brownian motion is analyzed. It is found that, in the presence of macromolecular inertia with or without macromolecular Brownian motion, weak polymer solutions of molecules, approximated by a rigid ellipsoid of rotation will exhibit non-Newtonian properties.

PRIDATCHENKO, Yu. V.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 621.314.57(088.8)

SKOROVAROV, V.YE., PRIDATKOV, A.G. [Mosk.fiz.-tekhn. in-t--Moscow Physicotechnical Institute]

"Method Of Regulation Of The Amplitude And Frequency Of The Output Voltage Of An Autonomous Current Inverter"

USSR Author's Certificate No 259256, filed 9 Sept 66, published 24 Apr 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B511P)

Translation: A method of regulation is proposed for the amplitude and frequency of the output voltage of an autonomous current inverter, in which for an increase of the stability and speed of response of the regulating processes, the control signals are synchronized in phase with the output voltage of the inverter and the control pulses are regulated with respect to frequency. 4 ill. I.R.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 621.382.3

PEREL'MAN, B.L., PRIDOROGIN, V.M.

"Temperature Dependence Of Transmission Coefficient Of The Current Of Silicon Planar Transistors With Small Injection Levels"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Issue 24, Moscow, "Sov.radio," 1970, pp 13-26 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B235)

Translation: The dependence of the transmission coefficient of the current of silicon transistors on the temperature is analyzed, taking into account the recombination currents in the body and on the surface of the space charge region of the emitter junction. 4 ill. 7 ref. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

(3)

UDC: 614.253:378.661

DEONTOLOGY IN THE SYSTEM OF MEDICAL EDUCATION

[Article* by F.M. Priduvalov, R.P. Chernega, V.A. Abrosimov, Chair of Marxist-Leninist Philosophy, Odessa Medical Institute imeni N.I. Pirogov; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 9, 1972, submitted 22 November 1971, pp 66-67]

Deontology has undergone a specific stage of inception in the system of medical education or, more likely, a stage of initial development, acquiring the status of a pedagogic science. This is typical not only for our VUZ. The discussions on the pages of this journal reflect understandable concern as to what to do with the "illegitimate child"? While there is agreement, in principle, that a Soviet physician must be informed about deontology and that its place in the system of medical education must be "legalized," which is also our view, there are special differences between the participants of the discussions which deal with who would do this best and in what pedagogic forms.

In the opinion of Professor B.D. Petrov, it would be purposeful to have the course on deontology organizationally attached to the chair of history of medicine. We believe that such an approach would lead to consideration of deontology only in the historical aspect, without sufficient theoretical and philosophical substantiation. This could be reduced to demonstration of a brilliant gallery of outstanding scientists and, to a lesser extent, to disclosure of the moral content of science itself. What is beautiful in the behavior codeof physicians, "great and small," could overshadow the objective bases of their moral duty.

At the same time, N.G. Karlsen and I.I. Kosarev believe that deontology must be taught on the chair of social hygiene and public health organization. But this chair has its own tasks, and the spectrum of its medical aspects is limited. So that it could hardly be in a position to solve, by itself, the problem of teaching deontology in the diverse branches of medicine. There are deontological distinctions in surgery, internal medicine, obstetrics, gynecology, forensic medicine, and others, so that it would be hardly purposeful to summarize information about deontology on the chair of social hygiene and public health organization.

*Published for the purpose of discussion.

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27 Oct 72

PRIDUVALOV, F.M.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

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USSR UDC 612.46.014.43

SULTANOV, F. F., and PRIGARINA, L. P., Institute of Regional Medicine, Academy of Sciences, ~~Turkmen SSR, Ashkhabad~~

"Changes in Renal Function After Exposure to High Ambient Temperatures"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, pp 62-64

Abstract: Dogs with exteriorized ureters were exposed to the sun's rays or kept in a thermal chamber (44 to 45°) for one hour, after which various indexes of renal function were determined. Overheating significantly reduced renal plasma flow, glomerular filtration, urea clearance, tubular reabsorption of water, and excretion of electrolytes, K in particular (mainly because of decreased glomerular filtration). A comparison of the changes in renal function after the two types of overheating were quantitative rather than qualitative in character. It appears then that the kidneys are actively involved in the compensatory-adaptive reactions to high ambient temperatures. By altering the magnitude of glomerular filtration and tubular reabsorption of water the kidneys save on the water lost in the effort to control hyperthermia while intensifying the excretion of sodium and potassium.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 621.396.67.215.(02)

PRIGODA, B. A., KOKUNKO, V. S.

Obtekateli antenn letatelnykh apparatov. (Aircraft Radomes), Moscow, Masinostroyeniye Press, 1970, 288 pp (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8B87 K)

Translation: In this paper, the calculational and design principles of aircraft radomes are presented. The transmission of electromagnetic energies through various dielectric media is investigated, and methods of manufacturing the radomes with the characteristic of the basic high-frequency dielectric materials are presented. Recommendations are made with respect to calculating and designing the radomes. Problems con ected with aerodynamicheating of the radomes occurring during supersonic flight in dense layers of the atmosphere are elucidated. Procedures and means of testing and controlling the radomes and compensation for distortions of the electromagnetic energy passing through the radome walls are discussed. There are 18 illustrations, 16 tables and an eight-entry bibliography.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 616.988.25-022.395.42-084(-21)

CHUDINOV, P. I., NETSKIY, G. I., CHERNUKHA, A. D., YEVSTIGNEYEVA, N. S., PASTUKHOVA, A. N., SHCHEGLOVA, Ye. Ye., and PRIGORODOV, V. I., Omsk Scientific Research Institute of Natural Focus Infections, Ministry of Health RSFSR, and Novosibirskaya Oblast Sanitary Epidemiological Station

"Prevention of Tickborne Encephalitis in a Large City"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 5, 1971, pp 588-591

Abstract: The rapid growth of industrial centers in Western Siberia near endemic regions of tickborne encephalitis has increased the incidence of this disease among some urban populations. For example, in Novosibirsk, a city of approximately half a million people located on the Ob River, four cases were reported in 1955, 108 in 1962, and 141 in 1966. The city is located close to a number of densely wooded, heavily tick-infested areas often visited by hikers, vacationers, etc. However, the number of cases was reduced to 74 in 1969 mainly as a result of systematically dusting the forests most frequented by Novosibirsk residents with DDT (30 to 50 kg of 10% dust per hectare) and by selective vaccination of groups most vulnerable to tickborne encephalitis (geologists, regular hikers, etc.). It was not deemed necessary to provide mass vaccinations.

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MEDICINE

Epidemiology

USSR UDC 911.3.616.988.25 (571.14)

CHERNUKHA, A. D., CHUDINOV, P. I., and PRIGORODOV, V. I.

"Results of a Study of Tickborne Encephalitis Epidemiology among Novosibirsk Inhabitants"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection of works), Vyp. 2. Omsk, 1970, pp 29-30 (from RZh-Meditskinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.57)

[No abstract]

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 911.3:616.99:576.895.42(571)

NETSKIY, G. I., BUSYGIN, F. F., PRIGORODOV, V. I., FEDOROVA, T. N., and SHAYMAN, M. S.

"Landscape and Epidemiological Regional Classification of Territories in Relation to Obligate Transmissible Diseases Carried by Ticks, and Reasons for Planned Prophylaxis of Epidemic Outbreaks"

V sb. Materialy XV Vses. sezda epidemiologov, mikrobiologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Meeting of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of Works), Moscow, 1970, pp 98-99 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.54)

Translation: According to an accumulation of collected data, Western Siberia can be preliminarily divided into the following territorial epidemiological zones in relation to specified infectious diseases: central taiga, southern taiga, aspen-birch subtaiga forests, mountainous-taiga, forest-steppe, and steppe. The landscape epidemiological regions of tickborne encephalitis are distributed over all zones, except the steppe. The steppe and the forest-steppe are characterized in this classification as regions of Asian tickborne

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METSKIY, G. I., et al., RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.54)

rickettsiosis. As far as Omsk hemorrhgic fever is concerned, the landscape epidemiological regions are divided between the forest-steppe zones of the Omsk, Novosibirsk, Tyumensk, and Kurgansk districts.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 621.311.25:531.781

DRANCHENKO, B. N., and PRIGOROVSKIY, N. I.

"Investigation of Stresses in Main Circulation Pipelines of the Novovoronezh Atomic Electric Power Station"

V Sb. "Issled. Temperatur. Napryazheniy" [In the Collection "Investigations of Thermal Stresses"], Moscow, "Nauka," 1972, pp 183-208 (from Referativnyy Zhurnal, No 10, Oct 72, 50. Yadernyye Reaktory. Single Issue. Abstract No 10.50.58)

Translation: Main results of tensometric investigations on models, test beds, and natural constructions are presented which were carried out when projecting and during the period of the nuclear reactor start-up at the atomic electric power plant. The pipeline characteristics in connection with the carried out investigation, the method of experimental investigation of deformations, stresses, and temperatures, and also the main investigation results under stationary and nonstationary operating conditions are examined. An analysis is presented of the main results of measurements in connection with a strength evaluation of pipeline components and characteristics of the stressed state of pipelines depending on operation conditions. Demonstrated applications of models and investigations of natural blocks made it possible to select the schema and construction of main pipelines when

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DRANCHENKO, B. N., and PRIGOROVSKIY, N. I., V Sb. "Issled. Temperatur. Napryazheniy," "Nauka," 1972, pp 183-208

projecting with accounting for developing stresses. Two tables, fourteen illustrations, eight bibliographical references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 621.039.524:531.781

BORTKEVICH, V. I., MIKHALEV, Yu. K., PRIGOROVSKIY, N. I., and KHURSHUDOV, G. Kh.

"Full Scale Stress Investigations in Reactor Vessels of Atomic Electric Power Stations"

V Sb. "Issled. Temperatur. Napryazheniy" [In the Collection "Investigations of Thermal Stresses"], Moscow, "Nauka," 1972, pp 176-182 (from Referativnyy Zhurnal, No 10, Oct 72. 50. Yadernyye Reaktory. Single Issue. Abstract No 10.50.67)

Translation: Results are presented of tensometric investigations of nuclear reactor vessels of powerful atomic electric power plants. The investigations were carried out during the initial period of operation, they made possible an evaluation of developing stresses and temperatures depending on operating conditions. Characteristics of the state of stress and of the temperature change in the vessel in transient and steady state operating conditions are demonstrated. Recommendations based on results of full scale tensometering are given for the selection of operating conditions. Three illustrations, two tables.

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JPRS 59208
6-73

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X-8. EXPERIMENTAL STUDY OF THE DISTRIBUTION OF THE ADMIXTURES IN MULTILAYERED FILM STRUCTURES OF GALLIUM ARSENIDE GROWN BY THE METHOD OF LIQUID EPITAXY

[Article by A. A. Burybin, A. A. Zakharov, I. V. Kostyreva, N. K. Nedev, V. M. Prigorovskiy, Leningrad; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 136]

This paper contains a discussion of the results of an experimental study of the admixture distribution in film structures of GaAs of the n^+-n-i, n^+-n-n^{++}, p-n-i type and others grown from the melts-solutions using forced cooling and using a temperature gradient. The conditions of epitaxial growth of the films are the following: the saturation temperature of the solution-melt is 800° to 900°C, the cooling rate is 1-5 deg/min, the temperature gradient is 2-10 deg/mm. Tin, germanium and zinc were used as the alloying admixtures. The distribution of the admixtures in the structures obtained was investigated by the known volt-farad and sonde methods and also using the chemical decoration procedure developed for gallium arsenide. The research demonstrated that depending on the conditions and the growth regimes, sharp transitions of the admixture concentration are obtained between the layers and also structures with intermediate high-resistance and low-resistance layers. It was discovered that when using the temperature gradient method, a more uniform distribution of the admixtures is obtained with respect to the thickness of the layers. The measurement results obtained by different methods agree quite well with each other.

PRIGOROVSKIY, V.M.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC: 513.88+517.948

PRIGORSKIY, V. A.

"On the Similarity of Chains of Projectors in Hilbert Space"

V sb. Mat. issledovaniya (Mathematical Research--collection of works), T. 5, vyp. 3, Kishinev, Academy of Sciences of the Moldavian SSR, 1970, pp 207-209 (from RZh-Matematika, No 5, May 71, Abstract No 5B769)

Translation: The following theorem is proved: Let $\mathfrak{G}$ be an arbitrary bordered chain of projectors, $\mathfrak{R}$ be an orthogonal chain, and $\psi(q) = P$ be a mutually single-valued mapping of the chain $\mathfrak{G}$ on the chain $\mathfrak{R}$ which preserves order. If there exists a constant $C\,(0<C<1)$ such that for any bordered partition $\{Q_i\}_0^n$ of chain $\mathfrak{G}$ and arbitrary vector $f\in\mathfrak{H}$ the inequality

$$\sum_{k=1}^{n} \|\Delta P_k(\Delta P_k - \Delta Q_k)f\|^2 < C\|f\|^2$$

is satisfied, then chain $\mathfrak{G}$ is similar to an orthogonal chain. Author's abstract.

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UNCLASSIFIED PROCESSING DATE--09OCT70

1/2 029

TITLE--METABOLIC BREAKDOWN OF BENZO(A)PYRENE BY CELLS OF DIFFERENT MAMMALS IN VITRO AND THE TOXIC EFFECT OF POLYCYCLIC HYDROCARBONS ON THESE CELLS

AUTHOR-(05)-BELITSKIY, G.A., VASILYEV, YU.M., IVANOVA, O.YU., LAVROVA, N.A., PRIGOZHINA, YE.L.

COUNTRY OF INFO--USSR

SOURCE--VOP. ONKOL. 1970, 16(2), 53-8

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDROCARBON, METABOLISM, TOXICOLOGY, CAT, CELL PHYSIOLOGY, EMBRYOLOGY, LEUKOCYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--09DEC70

2/2 029

CIRC ACCESSION NO--AP0103455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAT CELLS SENSITIVE TO THE TOXIC ACTION OF HYDROCARBONS ACTIVELY METABOLIZED BENZO(A)PYRENE (I). METABOLISM WAS SLOWER IN PIG AND CAT CELLS WHICH WERE MORE RESISTANT TO THE TOXIC ACTION OF I AND 7,12,DIMETHYLBENZ(A)ANTHRACENE. NORMAL EMBRYONIC FIBROBLASTS CELLS IN VITRO AND LEUKOCYTES FROM THE PERIPHERAL BLOOD OF HEALTHY HUMANS WERE ALMOST INSENSITIVE TO THE TOXIC ACTION OF THESE HYDROCARBONS AND METABOLISM OF I DEVELOPED MORE SLOWLY. THE SENSITIVITY OF CELLS TO THE TOXIC ACTION OF THE HYDROCARBONS SEEMS TO DEFINITELY CORRELATE WITH THEIR ABILITY TO METABOLIZE THESE COMPDS.

FACILITY: INST. EXP. CLIN. ONCOL., MOSCOW, USSR.

UNCLASSIFIED

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USSR UDC 632.95

PRIKAZCHIKOVA, L. P., RYBCHENKO, L. I., KURILENKO, K. K., CHERKASOV, V. M., CHEREPENKO, T. I.

"Insecticidal and Fungicidal Activity of Certain Derivatives of Pyrimidine-Carboxylic Acids, Methyl and Styryl Pyrimidines"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 89-91 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N473)

Translation: Results are presented from tests under laboratory conditions of derivatives of pyrimidine carboxylic acids, methyl and styryl pyrimidines. The majority of the tested compounds are weak insectofungicides. The 2,6-dichloro-4-methylpyrimidine 100% suppresses Alternari radicina, Aspergillus niger, Fusarium oxysporium, Venturia inaequalis and Helminthosporium. On replacement of the Cl atoms by OH, the fungicidal activity drops significantly; 2-styrylpyrimidine inhibits the growth of fungus mycelium in a concentration of 0.1 and 0.05% by 100%; 4-methyluranyl in a concentration of 1% causes 67% death of houseflies, and 5-bromo-2-methylprimidine, 100%.

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USSR

UDC 632.95

KURILENKO, L. K., CHERKASOV, V. M., PRIKAZCHIKOVA, L. P., RYBCHENKO, L. I., CHEREPENKO, T. I.

"Insecticidal and Fungicidal Activity of 4-N-substituted 5-nitro-6-aminopyrimidine and 6,8,9-substituted Adenine"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 91-93 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N472)

Translation: The test results indicate that the derivatives of purine (I) and pyrimidine (II) exhibit significant insecticidal activity; 4-NH_2-5-NO_2-6-PhNH-II and 8-cyclohexyl-substituted and 8-chlorophenyl-substituted I, and the 8-methylkinetine isomer cause a 90-100% death rate of houseflies.

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USSR UDC 528.422.024.5:531.787.2

PRIKHODA, A.G. and FINKEL'SHTEYN, E.I.

"Application of New Optical Microbarometer Type OMB-3P"

Moscow, Geodeziya i Kartografiya, No 4, 1971, pp 45-49

Abstract: The OMB-3P is an improved aneroid altimeter for geodesic and geophysical surveys. Its specifications are: instrument error ± .02 mb [millibars] at up to 20 mb, 60-80 mb spread without range switching, ocular scale divisions of .03-.04 mb each, weight 3.1 kg, and dimensions 145 x 134 x 300 mm. The instrument can be adjusted for mountain usage for a spread of 400 mb within one range setting, ocular scale divisions of .20 mb and an instrument error of ± .05 mb. The altimeter is a two-section aneroid unit connected below a spiral-ribbon spring mounted along a vertical axis. The lower end of the spring is immersed in a cylinder containing damping fluid. The upper end of the spring is fixed to a range-setting screw. A rotatable mirror is attached to the center of the spring. An optical system illuminates the mirror (requires an external power source) and projects the angular position of the mirror to the instrument panel to provide a direct measurement of atmospheric pressure in terms of mirror rotation. The entire mechanism is hermetically sealed in a Dewar flask except for the intake tube. Two hundred units have been in field use since 1968-1969.

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UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 015

TITLE--LOW TEMPERATURE RADIOLYSIS OF AQUEOUS ALKALINE SOLUTIONS -U-

AUTHOR--PRISTUPA, A.I., PRIKHIDKO, I.N., SHARPATYI, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM.; NO. 2, 488-91 (FEB 1970)

DATE PUBLISHED----FEB70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOLYSIS, AQUEOUS SOLUTION, POTASSIUM COMPOUND, HYDROXIDE, EPR, GAMMA RADIATION

CONTROL MARKING--NO RESTRICTIONS

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CIRC ACCESSION NO--AP0107135

UNCLASSIFIED

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2/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107135

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RADIOCHEMICAL PROPERTIES OF VITREOUS KOH SOLUTIONS (10 M) WERE STUDIED AT 770EGREESK OVER A WIDE RANGE OF DOSES. THE EPR METHOD WAS USED TO DETERMINE THE EFFECTS OF PRIME60 CO-GAMMA RAYS ON THE ACCUMULATION AND YIELD OF E SUBSTABILIZED, O PRIME NEGATIVE, AND H IN KOH SOLUTIONS AT 8.3 TIMES 10 PRIME3 TO 2.2 TIMES 10 PRIME7 RAD DOSES. STEP: LINE CURVES WERE DEVELOPED FOR O PRIME NEGATIVE AND H ACCUMULATION AS A FUNCTION OF ABSORBED DOSES.

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USSR UDC 621.315.592:546.28

LITOVCHENKO, V.G., LYSENKO, V.S., PRIKHODENKO, V.I., SHUL'MAN, A.YE., KAZAROV, R.YE., STADNIK, A.V.

"Effect Of Structural Factors Of Monocrystalline Silicon Films On Their Surface Properties"

Poluprovodn. tekhn. i mikroelektronika. Resp. mezhved. sb. (Semiconductor Technology And Microelectronics. Republic Interdepartmental Collection), 1972, Issue 7, pp 38-40 (from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9B82)

Translation: A comparative study is made of a number of volumetric characteristics which depend on the defectiveness of the volume of Si films grown on sapphire substrates (mobility of charge carriers and others), and of the surface-sensitive characteristics (bending of zones, density of fast traps, and others). It is shown that the electrical properties of the surface of strongly defective films depend on the volume structure. 4 ref. Summary.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC: 539.216.22:546.28

LITOVCHENKO, V. G., LYSENKO, V. S., PRIKHODENKO, V. I., SHUL'MAN, A. Ye., KAZAROV, R. Ye., STADNIK, A. V., Institute of Semiconductors, Academy of Sciences of the UkrSSR

"Effect of Structural Factors of Single-Crystal Silicon Films on Their Surface Properties"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika, Resp. Mezhved. Sb., No 7, 1972, pp 38-40

Abstract: A comparative study is made of a number of volumetric characteristics which depend on the volumetric imperfection of silicon films grown on sapphire substrates (mobility of the charge carriers, etc.), as well as surface-sensitive characteristics (zone flexure, density of fast traps, etc.). It is shown that the electrical properties of the surface of strongly imperfect films depend on the volumetric structure.

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USSR

UDC 621.314.61 (088.8)

PRIVALOV, A.I., OSOKIN, YE. I., PRIKHOD'KO, A. YA., DAVIDOV, P.D., LASAREV, I.A., TSYPLYAYEV, M.S., ALEKSANDROV, I.V., SHARIPO, V.I.

"Multiphase Rectifier Using Controlled [Semiconductor] Rectifiers"

USSR Author's Certificate No 262250, filed 29 Nov 66, published 29 June 70 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B576P)

Translation: A circuit is proposed for control of a 3-phase bridge semicontrolled rectifier [vypryamitel']. The control circuit contains an auxiliary bridge noncontrolled rectifier, a relaxation oscillator for triple frequency using a dynistor, 3 auxiliary thyristors, and 3 output pulse transformers. The relaxation oscillator supplies pulses to the gates of the auxiliary thyristors. The anodes of these thyristors are connected with the primary windings of the pulse transformers. The second terminals of these windings are switched in to phases of the voltage for inherent [sobstvennyy] needs, from which is also supplied the noncontrolled bridge rectifier of the relaxation oscillator. The cathodes of the auxiliary thyristors are connected at a common point and are connected across a resistor to the negative terminal of the noncontrolled 3-phase rectifier. The secondary windings of the pulse transformers are connected with the gates of the power thyristors. 1 ill.
L.R.
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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

PRIKHOD'KO, I. N.

TECHNICAL TRANSLATION

FSTC-HT-23-734-72

ENGLISH TITLE: Nonlinear Heat Conduction with nonstationary conditions

FOREIGN TITLE: Nelineynaya teploprovodnost' pri nestatsionarnykh granichnykh usloviyakh

AUTHOR: I. N. Prikhod'ko

SOURCE: Inzhenerno fizicheskiy zhurnal, Vol 19, No 5, 1970.

Translated for FSTC by Leo Kanner Associates, Redwood City, Ca. (Sokoloff)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--REFLECTION OF THE STRUCTURAL SIMILARITY OF SALTS IN THE MOLAR VOLUME OF FUSED SALT MIXTURES -U-

AUTHOR-(03)-MARKOV, B.F., PRISYAZHNYY, V.D., PRIKHODKO, G.P.

P

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(3), 251-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--INORGANIC SALT, MULTICOMPONENT CHEMICAL MIXTURE, THERMAL EFFECT, MANGANESE CHLORIDE, CALCIUM CHLORIDE, CESIUM CHLORIDE, LITHIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0361 STEP NO--UR/0073/70/036/003/0251/0253

CIRC ACCESSION NO--AP0137465

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

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2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0137465 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLES OF A AND B IN D SUBT EQUALS A MINUS BT, WHERE D IS THE D. AT T (DEGREESC), FOR MIXTS. OF MNCL SUB2 WITH CACL SUB2, CSCL, AND LICL ARE GIVEN FOR TEMPS. OF 600-787DEGREES, 540-729DEGREES, AND 656-850DEGREES, RESP. GRAPHS ARE ALSO GIVEN FOR THE EXCESS MOL. VOL. VS. COMPN. FOR THESE MIXTS. AND THE ANALOGOUS ONES CONTG. MGCL SUB2 (IN PLACE OF MNCL SUB2). THE SHAPES OF THE GRAPHS FOR THE MNCL SUB2 AND MGCL SUB2 MIXTS. ARE VERY SIMILAR. THE LICL MIXTS. DO NOT DEVIATE FROM ADDITIVIYT. WITH CACL SUB2, THE EXCESS MOL. VOL. IS NEG. AT ALL CONCNS. THIS IS ATTRIBUTED TO DESTRUCTION OF BULKY POLYMERIC FORMS OF MNCL SUB2 AND MGCL SUB2. WITH CSCL, NEG. VALUES ARE ONLY OBTAINED AT CONCNS. SMALLER THAN 0.2 MOLE FRACTION CSCL. THERE IS A POS. MAX. IN EXCESS MOL. VOL. AT SIMILAR TO 0.4 MOLE FRACTION CSCL.

FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MOLAR VOLUME OF STANNOUS CHLORIDE ZINC CHLORIDE SYSTEM MELTS -U-

AUTHOR--PRIKHODKO, G.P.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 173-4.

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TIN CHLORIDE, ZINC CHLORIDE, SPECIFIC DENSITY, THERMAL EFFECT, MOLECULAR WEIGHT, SPECIFIC VOLUME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2113 STEP NO--UR/0073/70/036/002/0173/0174

CIRC ACCESSION NO--AP0125697

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125697

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING VALUES FOR THE COEFFS. IN THE RELATION, D EQUALS ALPHA MINUS BT, WHERE D IS D. AND T IS TEMP. (DEGREESC), FOR THE SNCL SUB2,ZNCL SUB2 SYSTEM ARE REPORTED, THE TEMP. RANGE FOR MOST OF THE VALUES IS 265-350DEGREES (MOLE FRACTION ZNCL SUB2, ALPHA, AND B TIMES 10 PRIME3 GIVEN): 1.0, 2.684, 0.506; 0.9, 2.819, 0.652; 0.8, 2.922, 0.703; 0.7, 3.022, 0.747; 0.6, 3.116, 0.791; 0.5, 3.222, 0.854; 0.4, 3.321, 0.916; 0.3, 3.424, 1.000; 0.2, 3.513, 1.058; 0.1, 3.640, 1.255; 0.0 (I.E., SNCL SUB2), 3.717, 1.300. MOLAR VOLS. OF MIXTS. ARE LESS THAN THOSE CALCD. FROM MOLE FRACTIONS ON THE MOLAR VOLS. OF THE 2 COMPONENTS. THIS IS ATTRIBUTED TO DESTRUCTION OF THE ASSOCD. STRUCTURE OF ZNCL SUB2. AT 350DEGREES, THERE IS A MAX. AT 0.8 MOLE FRACTION ZNCL SUB2 IN THE DEVIATION OF ELEC. COND. OVER THAT CALCD. FROM COMPN. FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--LOW TEMPERATURE RADIOLYSIS OF AQUEOUS SOLUTIONS OF DEOXYRIBONUCLEIC ACID -U-

AUTHOR-(04)-SHARPATYY, V.A., PRISTUPA, A.I., PRIKHIDKO, I.N., SULTANKHODZHAYEVA, M.A.

COUNTRY OF INFO--USSR

P

SOURCE--IZV. AKAD. NAUK SSSR. SER. KHIM. 1970, (3), 702-5

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, AQUEOUS SOLUTION, RADIOLYSIS, LOW TEMPERATURE EFFECT, EPR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0479 STEP NO--UR/0062/70/000/003/0702/0705

CIRC ACCESSION NO--AP0131116

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

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2/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131116

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM EPR SPECTRA IT WAS SHOWN THAT RADIOLYSIS OF AQ. SOLNS. CONTG. DNA UNDER ALK. AND ACIDIC CONDITIONS RESULTS IN PRODUCTS THAT TAKE PART IN DECOMPN. OF DNA; ALSO IDENTIFIED WERE THE RADICALS OF A BIOPOLYMER THAT IS FORMED IN SUCH REACTIONS. AT 77DEGREESK DNA WAS SHOWN TO REACT WITH THE REDUCING COMPONENT OF THE WATER RADIOLYSIS MOIETY. THE RADIOCHEM. YIELDS OF RADICALS FROM AQ. SOLNS. OF DNA AND GLUCOSE WERE TABULATED, OVER A RANGE OF CONCNS. IT WAS SHOWN THAT THE REDUCING COMPONENT OF RADIOLYSIS (AQ. ELECTRONS) BEHAVES DIFFERENTLY IN RESPECT TO DNA OR GLUCOSE IN THE SOLN. THE LATER TENDS TO STABILIZE THE ELECTRON IN THE MATRIX AND IN ITS REACTIONS, WHILE THE H ATOMS ALONG WITH ADDN. TO DOUBLE BONDS IN THE THYMINE BASE MAY ALSO REACT AT 77DEGREESK WITH THE SUGAR FRAGMENT OF DNA IN A REACTION OF THE TYPE: RH PLUS H YIELDS R PLUS H SUB2; I.E. SIMILAR TO REACTION OF HO RADICAL AND CARBOHYDRATE MOL. IN FROZEN, AQ. SOLN. AT HIGHER TEMPS. THAN 77DEGREESK. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 621.371.25

GUSEV, V. D., and PRIKHOD'KO, L. I., Chair of Wave Processes

"Fluctuations in the Direction of Propagation of Scattered Waves in Reflection by a Layer With Random Inhomogeneities"

Moscow, Vestnik Moskovskogo Universiteta, Seriya III -- Fizika, Astronomiya, Vol 12, No 2, Mar-Apr 71, pp 152-157

Abstract: The article considers the problem of finding the distribution function and statistical characteristics of the phase derivative of a field reflected by an inhomogeneous plasma layer (of the ionosphere type).

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USSR

UDC 546.27'171.1+546.621'171.1

PRIKHOD'KO, L.I., and SAMSONOV, G.V. (Kiev Polytechnic Institute)

"Effect of High-Temperature Annealing on the Properties of Boron and Aluminum Nitrides"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 7, No 2, 1971, pp 231-233

Abstract: A study was made of the effect of high-temperature annealing at 2000°C for 5 to 20 hours on boron nitrides and at 1900°C for 5 to 10 hours on aluminum nitrides. The raw BN powder was obtained by reduction of boron anhydride by carbon in a nitrogen atmosphere. AlN was obtained by nitriding aluminum powder. Chemical stability (interaction with water) before and after annealing, and the change in particles size after annealing were determined. Structural changes during heating were studied by the X-ray method and the results are presented in graphs. It is shown that powders, after annealing at 1600°C, weakly react with water, although a certain increase in particles size and in pycnometric density was observed in BN together with structure ordering. The annealing of BN at 2000°C leads to structure disordering, resulting in deteriorating properties.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 022

UNCLASSIFIED

TITLE--DETERMINATION OF THE ABSORPTION COEFFICIENT AT HIGH TEMPERATURES -U-

PROCESSING DATE--30OCT70

AUTHOR-(02)-PRIKHODKO, L.V., BAGDASAROV, KH.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, FEB. 1970, P. 264-269

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ABSORPTION COEFFICIENT, HIGH TEMPERATURE EFFECT, SPECTROPHOTOMETRIC ANALYSIS, QUARTZ, THERMOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0913

STEP NO--UR/0368/70/012/000/0264/0269

CIRC ACCESSION NO--AP0107442

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 022

CIRC ACCESSION NO--AP0107442 UNCLASSIFIED PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A METHOD FOR DETERMINING THE ABSORPTION COEFFICIENTS OF MATERIALS AT HIGH TEMPERATURES ON THE BASIS OF THE RELATIVE EMISSION FROM TWO PLANE PARALLEL SAMPLES OF DIFFERENT THICKNESSES. THE EMISSION FROM TWO EQUAL TEMPERATURE SAMPLES IS DIRECTED INTO DIFFERENT CHANNELS OF A TWO CHANNEL SPECTROPHOTOMETER. ASSUMING THAT THE BEAM IS ATTENUATED ACCORDING TO THE LAMBERT-BOUGUER LAW IN THE SAMPLE AND ACCOUNTING FOR MULTIPLE REFLECTIONS AT THE SAMPLE SURFACE, AND EXPRESSION IS DERIVED WHICH RELATES THE SAMPLE'S TRANSMISSION FACTOR TO THE RECORDED TRANSMISSION OF THE MEASUREMENT DIAPHRAGM. EXISTING SPECTROPHOTOMETERS CAN BE USED IN THE PROPOSED MEASUREMENTS AT TEMPERATURES ABOVE 1000 DEG C. EXPERIMENTAL DATA ARE GIVEN FOR MELTED QUARTZ.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 621.43

ZLOTIN, G. N. and PRIKHOD'KO, M. S., Candidates of Technical Science, and MAKAROV, A. A., Graduate Student, Volgograd Polytechnical Institute

"Production of Inert Gases from Engine Exhaust Gases"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, 1971, pp 111-115.

ABSTRACT: This article presents experimental data from studies of a method of producing inert gas media from diesel exhaust gas, plus several calculation dependences characteristic for the method and a comparison of calculated and experimental data. The method is based on direct burning of liquid fuel in a stream of diesel exhaust gases. The operating process involves two stage combustion of the fuel. The first stage is evaporation of the fuel in a four chamber, followed by flame burning of the gaseous products as they mix with a highly vortexed stream of diesel exhaust gases. The study showed the genuine possibility of production of an inert gas medium by this method. The calculation method developed produces results allowing it to be used for further study of the process.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 018 UNCLASSIFIED

TITLE--USE OF VECTOR POLAROGRAPHY FOR STUDYING FUSED SALTS -U- PROCESSING DATE--30OCT70

AUTHOR-(03)-DELIMARSKIY, YU.K., TUMANOVA, N.KH., PRIKHODKO, M.U.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(4), 556-61

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FUSED SALT, POLAROGRAPHIC ANALYSIS, PLATINUM ELECTRODE, LITHIUM CHLORIDE, POTASSIUM CHLORIDE, CADMIUM CHLORIDE, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1125

STEP NO--UR/0364/70/006/004/0556/0561

CIRC ACCESSION NO--AP0121684

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 018

UNCLASSIFIED

CIRC ACCESSION NO--AP0121684 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. OF CDCL SUB2 (SMALLER THAN OR EQUAL TO 0.3 WT.PERCENT) AT A 0.5 MM DIAM. PT WIRE ELECTRODE AT 500DEGREES IN THE 1:1 KCL:LICL MOLTEN SALT WAS STUDIED BY VECTOR POLAROGRAPHY. THE CONCN. EFFECT ON PEAK HEIGHT WAS LINEAR FOR CONCNS. FROM 10 NEGATIVE PRIME3 TO 0.4 WT.PERCENT; HENCE, VECTOR POLAROGRAPHY CAN BE USED TO DET. CD PRIME2 POSITIVE IN KCL-LICL. THE TEMP. COEFF. FOR THE PEAK HEIGHT (FROM 500-600DEGREES) WAS 2PERCENT AND THE ACTIVATION ENERGY 12.7 KCAL-MOLE. FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 532.529.533.6

CHERNYY, I. M., PRIKHOD'KO, N. A., and MOKEYEV, Yu. G., Institute of Hydromechanics of the Academy of Sciences of the Ukrainian Soviet Socialist Republic

"To the Theory of Gas-Hydraulic Engine Installations"

Kiev, Gidromekhanika, No 19, 1971, pp 15-24

Abstract : The hydro-thermodynamic principles of the theory of the gas-hydraulic reaction engine of high speed vessels with gas-turbine engine in the capacity of generator gas producer are discussed by reference to the scheme of a waterjet installation. On the basis of cited correlations, an analysis of the propulsive coefficient is presented with due regard for the principal internal losses of the engine. A formula characterizing the total efficiency η of the waterjet installation is deduced. The effect of a great number of parameters on the value of η is demonstrated and, particularly, the effect of the mixing coefficient is discussed and illustrated. It is concluded that under actual conditions the mixing with outboard water can result in an increase of the pull by up to 1.5—2 times at speeds of up to 50 m/sec. By further increase of speed, the relative gain in pull decreases. Three illustr., 24 formulas, nine biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

UDC 547.754.756.759.07

KOST, A. N., SOLOMKO, Z. F., PRIKHOD'KO, N. M., and TERENT'YEV, A. P. (deceased)
Moscow State University Imeni M. V. LOMONOSOV, Dnepropetrovsk State University

"Chemistry of Indole. XXIV. Synthesis of 1-Acetyl-6-methyl-8-keto-2,3,7,8-tetrahydro-1H,9H-1,4-diazepine-[2,3-f]-indole"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 71, pp 787-788

Abstract: To 1.91 g of 1-acetyl-5,6-diaminoindoline in 50 ml dry xylene, 1.52 ml of acetoacetate in 5 ml xylene is added dropwise with heating. The reaction mixture is heated for one hour with continuous removal of water. After cooling, a solid product -- 1-acetyl-6-methyl-8-keto-2,3,7,8-tetrahydro-1H,9H-1,4-diazepino-[2,3-f]-indole (I) is obtained, which after repeated recrystallization from methanol melts at 223.5-224.5°. Another route to (I) consists of indoline reaction with acetoacetate to form ethyl ester of β-[(1-acetyl-6-aminoindolinyl-5)-amino]crotonic acid, which then reacts with sodium ethoxide to yield (I). Heating (I) in 2N sulfuric acid gives 2-methyl-5-acetyl-6,7-dihydroimidazo-[2,3-f]-indole, m.p. 328-329°.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 012

UNCLASSIFIED

TITLE--DETERMINATION OF THE OPERATING CHARACTERISTICS OF THE PILOT BEARINGS OF HYDROTURBINES -U-

PROCESSING DATE--23OCT70

AUTHOR-(05)-KVITNITSKIY, YE.I., POLTAVSKIY, YU.D., PRIKHODKO, O.B., TODOROV, A.D., OSTAPENKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO. 2, 1970, PP 10-11

DATE PUBLISHED-------70

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

TOPIC TAGS--HYDRAULIC EQUIPMENT, SLIDE BEARING, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1640

STEP NO--UR/0114/70/000/002/0010/0011

CIRC ACCESSION NO--AP0120394

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 012

UNCLASSIFIED

CIRC ACCESSION NO--AP0120394 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORETICAL FUNDAMENTALS FOR HYDRODYNAMIC MULTIPLE BUSHING SLIDE BEARINGS ARE INVESTIGATED FOR THE CASE OF THEIR STATIC LOAD. SIMILAR BEARINGS ARE USED AS GUIDE SUPPORTS OF HYDRAULIC UNITS. CONCRETE RESULTS ARE PRESENTED FOR THE DESIGN OF THE PILOT BEARING OF A HYDROTURBINE, WHICH IS INSTALLED AT THE MAIN HYDROELECTRIC POWER STATION OF THE VAKHSHSKIY CASCADE.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

Hydrobiology

USSR

UDC 581.526.325:51

MENSHUTKIN, V. V., and PRIKHOD'KO, T. I.

"Model Investigation of Vertical Distribution and Production of Phyloplankton"

Kiev, Gidrobiologicheskiy Zhurnal, No 2, Vol 7, Mar/Apr 71, pp 5-10

Abstract: The article describes a mathematical model for vertical distribution and production of phyloplankton on a digital computer. Input information consists of water surface illumination, water temperature distribution by depth and with time, and the initial concentration of biogenic elements. The investigation produces a dynamic picture of phyloplankton production in the total water supply, as well as the vertical distribution of phytoplankton biomass and biogenic concentration conforming to direct observation data on these factors.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

172 019

UNCLASSIFIED

TITLE--SIMULATION OF A POPULATION OF PLANKTONIC CRUSTACEANS WITH THE AID OF AN ELECTRIC COMPUTER -U-

PROCESSING DATE--02OCT70

AUTHOR-(02)-MENSHUTKIN, V.V., PRIKHODKO, T.I.

COUNTRY OF INFO--USSR

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 341-347

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MODEL, CRUSTACEA, PLANKTON, FOOD REQUIREMENT, FOOD, COMPUTER APPLICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1278

STEP NO--UR/0213/70/010/002/0341/0347

CIRC ACCESSION NO--AP0109362

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STATISTICAL MODEL OF A POPULATION OF PLANKTONIC CRUSTACEANS WAS REALIZED ON A DIGITAL COMPUTER. THE MODEL WAS USED TO STUDY THE DEPENDENCE OF NUMBERS, BIOMASS, PRODUCTION AND STRUCTURE OF THE POPULATION UPON THE CONDITIONS OF FEEDING. THE EFFICIENCY OF THE PRODUCTION PROCESS IS MAXIMAL WHEN THE QUANTITY OF FOOD CORRESPONDS OF FOOD REQUIREMENTS OF THE POPULATION. THE EFFICIENCY BECOMES LOWER AT FOOD SURPLUS OR DEFICIENCY.

FACILITY: INSTITUT EVOLYUTSIONNOY FIZIOLOGII I BIOKHIMII AN SSSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UDC 533.6.011.5

USSR

PRIKHOD'KO, V. D., and SIZOV, A. M., Volgograd, Leningrad

"On Approximate Calculation of Flow Parameters at Interaction of Supersonic Jets"

Moscow, Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 168-170

Abstract: A study was made of an approximate method of calculation of the parameters of a compound air jet outflowing from four nozzles with interaction of individual jets on the initial gas-dynamic section. Considered is an outflow into a flooded space at subcritical flow conditions with associated interference shock wave. A calculation schema is presented for the coefficient of losses in total pressure as the gas moves through shock waves developing by interaction of jets. The distribution of the Mach number on the axis of the compound jet is evaluated. The comparison of experimental and calculated data shows a sufficient coincidence. Two figures, six formulas, three bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFLUX OF RAREFIED GAS MIXTURES FROM OPENINGS -U-

AUTHOR-(04)-BOCHKAREV, A.A., KOSINOV, V.A., PRIKHODKO, V.G., REBROV, A.K.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 653-660

DATE PUBLISHED----APR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RAREFIED GAS, GAS PRESSURE, MOLECULAR KINETICS, FREE MOLECULAR FLOW, MULTICOMPONENT CHEMICAL MIXTURE, CARBON DIOXIDE, HELIUM, EXPANDING GAS, FLOW VELOCITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1382 STEP NO--UR/0170/70/018/000/0653/0660

CIRC ACCESSION NO--AP0125030

UNCLASSIFIED

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2/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125030

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE EFFLUX OF A GAS MIXTURE, WHOSE COMPONENTS DIFFER GREATLY IN MOLECULAR WEIGHTS, FROM AN OPENING OVER A WIDE RANGE OF PRESSURES. IT IS SHOWN THAT FOR A MIXTURE EXPANDINUNDER FLOW CONDITIONS CORRESPONDING TO THE TRANSITION FROM CONTINUOUS TO FREE MOLECULAR FLOW, A PRONOUNCED DIFFERENCE BETWEEN THE VELOCITIES OF THE MIXTURE COMPONENTS MAY BE OBSERVED. CONSEQUENTLY, THE CONCEPT OF DISCHARGE COEFFICIENTS OF THE MIXTURE COMPONENTS IS INTRODUCED. FORMULAS FOR CALCULATING THE DISCHARGE COEFFICIENTS FOR MOLECULAR FLOW CONDITIONS ARE DERIVED, AND NUMERICAL RESULTS FOR A MIXTURE OF HELIUM WITH CARBON DIOXIDE ARE OBTAINED. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT TEPLOFIZIKI, NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 008

TITLE--CONTINUOUS LEVEL MEASUREMENT OF BULK MATERIALS -U-

AUTHOR-(02)-ZAVRAZHNYY, A.I., PRIKHODKO, V.P.

COUNTRY OF INFO--USSR

SOURCE--MEKH. I AVTOMAT. PROIZ. (USSR), NO. 12, P. 17-19, 1969

DATE PUBLISHED--------70

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

TOPIC TAGS--MEASUREMENT, REFRACTORY MATERIAL, POTENTIOMETER, DEPTH INDICATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1786 STEP NO--UR/0118/70/000/012/0017/0019

CIRC ACCESSION NO--AP0133691

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

2/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133691

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIBES A HOPPER LEVEL GAUGE IN USE IN A REFRACTORY MATERIALS FACTORY WHICH OPERATES SATISFACTORILY WITH MATERIAL HAVING A UNIT SIZE OF UP TO 10 MM AND A MOISTURE CONTENT OF UP TO 12PERCENT AT AMBIENT TEMPERATURES BETWEEN 0 AND 25DEGREESC. IT CONSISTS OF A PROBE, A SUSPENSION SYSTEM, A FAN AND A POTENTIOMETER. THE PROBE COMPRISES TWO LENGTHS OF RUBBERIZED CORD FABRIC PLIES BOLTED TOGETHER AND WITH SOME OF THE CENTRE PLIES REMOVED TO FORM TWO DIAPHRAGMS. A HIGH RESISTANCE WIRE SPIRAL IS WOUND ROUND ONE OF THE DIAPHRAGMS OVER ITS WHOLE LENGTH, AND THE CHANGE IN RESISTANCE IN THE SPIRAL WHEN THE MATERIAL IN THE HOPPER PRESSES THE TWO DIAPHRAGMS TOGETHER ACTS AS THE OUTPUT SIGNAL OF THE GAUGE. THE FAN CREATES A PRESSURE OF 10-15 MM WAT. COL. INSIDE THE PROBE TO MAINTAIN THE SPACE BETWEEN THE DIAPHRAGMS WHEN THEY ARE UNLOADED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC: 621.783

SHUBIN, R. P., PRIKHOD'KO, V. S.

"Satisfaction of Technological Requirements for Modern Heating Furnace Designs"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 34-36.

Abstract: Requirements placed on heating furnaces include: maintenance of the required temperature mode with minimum deviations; sealing of the heating space in order to allow controlled atmospheres to be used; capability of direct quenching of parts with regulated temperature or cooling in a protective medium; and maximum automation of the control of all elements of the technological process. Designs of modern furnaces meeting these requirements, primarily manufactured in the USA, Japan, Britain and West Germany, are very briefly described.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UDC 539.163

USSR

DZHELEPOV, B. S., POPOVA, T. I., PRIKHODTSEVA, V. P., and TSARITSYNA, L. G.

" γ -Radiation of ^{65}Ga"

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Fizicheskaya, Vol XXXV, No 8, 1971, pp 1575-1581

Abstract: Using a Ge(Li)-detector with a sensitive capacity of ~33 cubic centimeters, the authors studied the gamma-ray spectrum of $^{65}Ga(T_{1/2} = 15.2$ minutes). They used the accelerator at the Laboratory of Nuclear Reactions, Joint Institute for Nuclear Research, with boron ions having an energy of 40 million electron volts. Although the authors selected the reaction $^{56}Fe(^{11}B,2n)^{65}$ as their source of ^{65}Ga because it does not produce very large admixtures of the undesirable ^{66}Ga, they did not succeed in eliminating ^{66}Ga completely. In a number of cases this made it more difficult to identify weak lines in the region above 800 kilo electron volts. The authors succeeded in determining the energies and intensities of 24 γ-lines; 21 of these lines were associated with the disintegration of ^{65}Ga. They also computed the intensities of the gamma rays in percents of disintegrations. Finally, they compared their results with those cited in several other articles on the same topic, discussing the similarities and differences in some detail.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--16OCT70

1/2 016

TITLE--DECAY OF GERMANIUM 66 -U-

AUTHOR-(04)-DZHELEPOV, B.S., MOZZHUKHIN, A.V., POPOVA, T.I., PRIKHODTSEVA, V.P.

P

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 29-41

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVE DECAY SCHEME, GERMANIUM ISOTOPE, GAMMA SPECTRUM, GAMMA SPECTROMETER, FORBIDDEN TRANSITION, BETA RADIATION, IRON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0229 STEP NO--UR/0048/70/034/001/0029/0041

CIRC ACCESSION NO--AP0105305

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 016

CIRC ACCESSION NO--AP0105305

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAMMA SPECTRUM OF GE IRRADIATED BY P AND PURIFIED BY THE DISTN. OF GECL SUB4 WAS MEASURED BY GE(LI) DETECTORS AND A 4096 CHANNEL ANALYZER. SINCE INTENSE GAMMA RAYS FROM PRIME69 GA, PRIME75 GA, AND PRIME67 GA, AND HIGH COMPTON BACKGROUND INTERFERED WITH INDENTIFICATION OF WEAK GAMMA LINES OF PRIME66 GA, THE PRIME56 FE(PRIME12 C, 2N) PRIME66 GE REACTION WAS ALSO USED. IN TOTAL, 44 GAMMA LINES WERE OBSERVED OVER THE 40-2000 KEV RANGE. THE PRIME66 GE DECAY SCHEME IS PRESENTED. QUANTUM CHARACTERISTICS OF THE PRIME66 GA LEVELS ARE DISCUSSED AS WELL AS THE PRIME66 GE(0 PLUS) YIELDS PRIME66 GA(0 PLUS) BETA TRANSITION. ALTHOUGH THE LATTER IS FORBIDDEN ACCORDING TO ISOBARIC SPIN, A RELATIVELY LOW LOG FT (5.7) WAS FOUND.

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USSR

DZHELEPOV, B. S., MOZZHUKHIN, A. V., POPOVA, T. I., and PRIKHODTSEVA, V. P.

"Ge^{66} Decay"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 1, Jan 70, pp 29-41

Abstract: The γ-spectrum of Ge^{66} was measured with a Ge(Li) detector with sensing volumes of 5 and 9 cm^3 and a 4096-channel analyzer. All lines observed by Ricci, et al were observed except the γ-line 405 kev. In all, 44 lines were observed, of which 26 were definitely established as belonging to Ge^{66}. The intensities of Ge^{66} γ-rays were determined on the basis of the ratio of the intensities γ 381 (Ge^{66})/ /γ 1039 (Ge^{66}) as measured in given time intervals and the known intensity of γ1039 in % decays. A level diagram was constructed for Ga^{66}. The quantum characteristics of Ga^{66} levels are discussed.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--NEUROLOGICAL DISTURBANCES IN PATIENTS HAVING PRIMARY HYPOTHYROIDISM -U-

AUTHOR-(02)-KLYACHKO, V.R., PRIKHOZAN, V.M.

COUNTRY OF INFO--USSR

SOURCE--PROBL ENDOKRINOL 16(2): 24-29. ILLUS. 1970.

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEUROLOGY, THYROID GLAND, NERVOUS SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605015/811 STEP NO--UR/0502/70/016/002/0024/0029

CIRC ACCESSION NO--AP0140560

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--04DEC

2/2 022

CIRC ACCESSION NO--AP0140560

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CLINICO NEUROLOGICAL EXAMINATION WAS CARRIED OUT IN 81 PATIENTS SUFFERING FROM PRIMARY HYPOTHYROIDISM; THE INCIDENCE OF DISTURBANCES OF THE CENTRAL AND THE PERIPHERAL NERVOUS SYSTEM WAS ESTABLISHED. DYNAMIC OBSERVATION OF THE PATIENTS AGAINST THE BACKGROUND OF EXPRESSED CLINICAL PICTURE, AND DURING REMISSION, CAUSED BY THE ADMINISTRATION OF TRIIODOTHYRONINE, DEMONSTRATED THAT SOME NEUROLOGICAL SYMPTOMS WERE ASSOCIATED WITH FUNCTIONAL DISTURBANCES (BRADIPHRENIA, APATHY, SOMNOLENCE, LACK OF FACIAL EXPRESSION, BRADYKINESIA, VOLTMAN'S SYMPTOM, PARASTHESIAS), AND SOME WITH ORGANIC LESIONS (HEARING IMPAIRMENT, PATHOLOGICAL REFLEXES, ANISOREFLEXIA, REDUCTION OF THE ACHILLES REFLEX). THE INCIDENCE OF ORGANIC SYMPTOMATICS CORRELATED WITH THE DURATION OF HYPOTHYROIDISM AND THE PATIENTS' AGE. FACILITY: INST. EXP. ENDOCRINOL. CHEM. HORMONE, ACAD. MED. SCI. USSR, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE E.S.R. LINE SHAPE FOR THE IMINOXYL RADICAL IN HIGH VISCOSITY MEDIA -U-

AUTHOR-(05)-ALEXANDROV, I.V., IVANOVA, A.N., KORST, N.N., LAZAREV, A.V., PRIMOZHENKO, A.I.

COUNTRY OF INFO--USSR

SOURCE--MOLECULAR PHYS. (GB), VOL. 18, NO. 5, P. 681-91 (MAY 1970)

DATE PUBLISHED----MAY70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRON SPIN RESONANCE, IMINE, FREE RADICAL, CALCULATION, VISCOUS FLUID, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0640 STEP NO--UR/0000/70/018/005/0681/0691

CIRC ACCESSION NO--AP0111833

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 017

IRC ACCESSION NU--AP0111833

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE E.S.R. LINE SHAPE OF THE IMINOXYL RADICAL IN VISCOUS LIQUIDS WAS INVESTIGATED AT SEVERAL TEMPERATURES. THE RESULTS ARE INTERPRETED BY THEORETICAL CALCULATION OF THE LINE SHAPE AT AN ARBITRARY VALUE BY USING A DIFFUSION MODEL FOR THE MOTION OF THE MOLECULES (11 REFS.). FACILITY: ACAD. SCI. USSR., MOSCOW.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--02OCT70

1/2 011

TITLE--HEAT CONDUCTIVITY OF A TWO LAYER WALL FOR TIME VARIABLE HEAT TRANSFER COEFFICIENT AND AMBIENT TEMPERATURE -U-

AUTHOR--PRIKHUKKO, I.M.

P

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, FEB. 1970, P. 323-327

DATE PUBLISHED----FEB70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--STRUCTURAL METAL PLATE, THERMAL CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0765 STEP NO--UR/0170/70/018/000/0323/0327

CIRC ACCESSION NO--AP0108966

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 011

CIRC ACCESSION NO--AP0108966

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE HEAT CONDUCTION PROBLEM FOR A THERMALLY INSULATED METAL PLATE FOR TIME VARIABLE BOUNDARY CONDITIONS OF THE THIRD KIND. A SOLUTION TO THE PROBLEM IS OBTAINED WITH THE AID OF A GREEN'S FUNCTION AND A SPECIAL BILINEAR SERIES EXPANSION IN THIS FUNCTION.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--09OCT70

1/2 037

TITLE--THE ANTIFRICTION PROPERTIES AND WEAR RESISTANCE OF THE HEAT RESISTANT PLASTIC FENILON -U-

AUTHOR-(04)-TROFIMOVICH, A.N., PRIKTODKO, O.G., FOMICHEV, I.A., SOLODOVNIKOV, N.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, VESTNIK MASHINOSTROYENIYA, NO 2, 1970, PP 50-51

DATE PUBLISHED--------70

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

TOPIC TAGS--WEAR RESISTANCE, HEAT RESISTANCE, POLYAMIDE RESIN, FRICTION TEST, HIGH TEMPERATURE EFFECT, MACHINE INDUSTRY/(U)FENILON POLYAMIDE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0122/70/000/002/0050/0051

PROXY REEL/FRAME--1993/0889

CIRC ACCESSION NO--AP0113732

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UNCLASSIFIED PROCESSING DATE--09OCT70

2/2 037

CIRC ACCESSION NO--AP0113732

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOW HEAT RESISTANCE OF POLYMERS RESTRICTS THEIR APPLICATION AS ANTIFRICTION MATERIALS AT FRICTION NODES OF MACHINES. RECENTLY A NUMBER OF HEAT RESISTANT POLYMERS HAS BEEN DEVELOPED, WHICH RETAIN THEIR BASIC PROPERTIES AT 250-300DEGREESC AND HIGHER. AMONG SUCH MATERIALS ARE AROMATIC POLYAMIDES, A REPRESENTIVE OF WHICH IS FENILON, ITS VITRIFICATION TEMPERATURE IS 280DEGREESC. IT IS PROCESSES BY PRESSING INTO A PLASTIC WITH SUFFICIENTLY HIGH PHYSICAL AND MECHANICAL PROPERTIES. AN INVESTIGATION WAS MADE OF THE ANTIFRICTION PROPERTIES AND HEAT RESISTANCE OF FENILON UNDER CONDITIONS OF NORMAL AND INCREASED TEMPERATURES FOR VARIOUS FRICTION CONDITIONS IN ORDER TO DETERMINE THE POSSIBILITIES OF ITS APPLICATION IN FRICTION NODES OF MACHINES. FENILON MANIFESTED A COMPARATIVELY SAMLL AMOUNT OF WEAR UNDER TEMPERATURE CONDITIONS IN WHICH LESS HEAT RESISTANT POLYMER PLASTICS CANNOT FUNCTION. IN SPITE OF THE INCREASED WEAR WITH A HIGHER TEMPERATURE, THE SAMPLE REMAINED HARD, WITH NO SIGNS OF VOLUMETRIC DEFORMATION, OR OTHER SYMPTOMS OF HEAT DAMAGE. THE CONDUCTED TESTS INDICATE THAT FENILON CAN FIND APPLICATION AS A MATERIAL FOR FRICTION NODES OF HEAVILY LOADED MACHINES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UDC 517.955.214.4

USSR

PRILEPKO, A. I. (Institute of Mathematics Siberian Department Academy of Sciences USSR)

"Inverse Problems of Generalized Magnetic Potentials"

Minsk, Differentsial'nyye Uravneniya (Differential Equations), Vol VI, No 1, 1970, pp 27-38

Abstract: A unique solution is sought for the inverse problem of a generalized magnetic potential representing the sum of the potentials of distributed masses by means of a general linear elliptical operator of the second order with variable coefficients. The fundamental integral functionals are given and used to prove the necessary and sufficient conditions of equality for the magnetic moments of two bodies with variable densities. These conditions are then extended to the case in which the external and internal magnetic potentials are simultaneously equal.

A general theorem is proved for the unique determination of the shapes and densities of the two bodies. The generalized potentials and densities are

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USSR

PRILEPKO, A. I., Differentsial'nyye Uravneniya (Differential Equations), Vol VI, No 1, 1970, pp 27-38

calculated from the differences in symmetry of the two bodies.

Orig. art. has 9 refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

UDC 621.384.664

USSR

GALYAYEV, N. A., GOLOVINA, N. I., GRACHEV, M. I., GRIDASOV, V. I., GUBRIYENKO, K. I., YEREMENKO, Ye. V., ZAPOL'SKIY, V. N., ZELENOV, B. A., KOTOV, V. I., KUZNETSOV, V. S., MERKER, E. A., MYZNIKOV, K. P., PUCHUGIN, V. A., PRILEPIN, A. A., SELEZNEV, V. S., SEREBRYAKOV, B. A., KHODYREV, Yu. S., and CHEPEGIN, V. N.

"Proton Beam With an Impulse of Up to 70 Gev/s Elastically Dispersed Inside a Target"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 7, 1972, pp 1437-1445

Abstract: This paper discusses the operation of a channel built into the French liquid-hydrogen Mirabelle chamber for the accelerator of the Institute of High-Energy Physics (IFVE). The function of the channel is to form pure beams of pi and k mesons, and antiprotons, in a broad range of impulse magnitudes under the action of a high-frequency separator. The secondary particles are generated on the inside of a target placed in the path of a proton beam diverted from the accelerator with an energy of 70 Gev. By using a fast system for aiming the proton beam at the target, together with a kicker magnet in the channel, the required number of particles passing through the chamber can be provided. The optical system of the channel is described with the

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USSR

GALYAYEV, N. A., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 7, 1972, pp 1437-1445

aid of diagrams of two possible variants; the beam aiming system and the particle dosage for the bubble chamber are also explained. The authors thank R. M. Sulyayev, P. F. Yermolov, A. M. Moiseyev, M. I. Solov'yev, I. A. Danil'chenko, Ye. A. Parshin, V. M. Kolesnik, A. N. Aleyev, V. D. Rudko, and V. M. Gorshkov for their assistance.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

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USSR

UDC 621.384.634

ALEKSANDROV, I. A., FRACHEV, M. I., GUBRIYENKO, K. I., YERMENKO, YE. V., KOTOV, V. I., NEKRASOV, A. N., PRILEPIN, A. A., PICHUGIN, V. A., RSAYEV, R. A., SAMOYLOV, A. V., SELEZNEV, V. S., SEREBRSAKOV, B. A., KHANAMIRYAN, A. YE., and KHODYREV, YU. S.

"Negative Particle Channel With Momentum up to 60 Gigaelectron Volts/Second"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 29-34

Abstract: This article contains a description of a channel for transporting negative particles generated in an internal accelerator target with momentum up to 60 fifaelectron volts/second and an accelerated proton energy of 70 gigalectron volts. The channel is designed so that for an accelerated proton energy of 70 gigaelectron volts it can be adjusted to momentum in the range of 40-60 gigaelectron volts/second. On reducing the energy of the accelerated protons, the channel can be adjusted to lower momentum. The lower limit corresponds to an accelerated proton energy of 20 gigaelectron volts and is equal to 11.4 gigaelectron volts/second.

The optical system of the channel and its characteristics

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

ALEKSANDROV, I. A., et al., Atomnaya Energoya, Vol 29, No 1, Jul 70, pp 29-34

are presented. The limiting solid capture angle of the secondary particles by the channel is 32 microsteradians. The best resolution with respect to momentum is 0.3 percent without decreasing the pacture angle. The channel was investigated primarily using a secondary beam with a momentum of p = 50 giga-electron volts/second. The procedure for adjusting the channel and the calculated data are described. The differences between the calculated operating conditions of the elements and the conditions after adjustment together do not exceed the errors of the fringing field of the accelerator, the magnetization curve, and the curve for calibrating the bypasses of the magnet. On the whole, the beam parameters agree well with the calculated data.

A detailed diagram of the channel layout is presented, and graphs are presented for the radial position of the targets and the production angle as functions of the momentum of the secondary particles, the optical system of the channel and path of the beams in the horizontal and vertical planes, the momentum

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR

ALEKSANDROV, I. A., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 29-34

resolution of the channel, the beam profile with momentum of 50 gigaelectron volts/second in the parallel section and slit width of the aperture collimators of ±20 mm and the pulse collimator ±6mm, the beam profile with momentum of 50 gigaelectron volts/second in the final representation on including the lens doublet, and the beam profile with momentum of 50 gigaelectron volts/second in the final representation on including a lens triplet.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC: 517.944

PRILEPKO, A.I.

"Concerning the Solubility of the Inverse Problem of a Volumetric Potential of Variable Density for a Body Close to a Given One"

Moscow, Sibirskiy Matematicheskiy Zhurnal, No 6, 1970, pp 1321-1332

Abstract: In the article is presented a solution of the inverse problem of methaharmonic potential in the following formulation: there is sought the body T_1, such that is external metaharmonic potential ($\gamma = 0$), of a given variable density μ, is equal outside the body T_1 to the given metaharmonic function H; function H diminishes at infinity as the metaharmonic potential and is close, in the sense of a certain functional matrix, to the external metaharmonic potential $U(x; T, \mu)$ of the given body T of variable density μ. The existence and the uniqueness of the solution of the indicated problem is proved, and the method of actually finding it is given. 10 bibliographical entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202520019-8

USSR UDC 547.831+661.52

SHEYNKMAN, A. K., PRILEPSKAYA, A. N., KUCHERENKO, A. P., BARANOV, S. N.

"Direction of Quaternization of Six-Membered Nitride Heterocycles Containing the Dialkylaminophenyl Radical"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVIII, No 6, 1972, pp 589-594

Abstract: It is known that the cause of the chromaticity of pyridine and benzopyride salts is frequently the formation of complexes with charge transfer [E. M. Kosover, Novyye problemy fizicheskoy organicheskoy khimii, Mir Press, Moscow, 36-94, 1969]. Accordingly, the conclusions of D. I. Gamaise, et al. [Chem. and Ind., 1645, 1967] were checked on various six-membered heterocycles containing the n-dialkylaminophenyl radicals in the α and γ positions. Thus, a study was made of the direction of quaternization under various conditions of bases (I) and also 2-n-dialkylaminophenyl quinolines (II), 2-(1'-alkyl-1',2',3',4'-tetrahydroquinolinyl-6')-quinolines (III) and 9-n-dialkylaminophenylacridines (IV). In the reaction of 2-n-dialkylaminophenylquinolines and their analogs with alkyl halides at 80-150°, the following quaternary salts were obtained: 4-(n-dialkylaminophenyl)-pyridinyl, 2(n-dialkylaminophenyl)quinolinyl, 1-methy-6-(quinolyl-2')-1, 2, 3, 4-tetrahydroquinolinyl, 9-n-(dialkylaminophenylacridinyl). Substitutions are presented for the ring R' and the extraring nitrogen atom R and the anions X. Synthesis procedures, physical and chemical characteristics and yields are presented for eight compounds.

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USSR UDC 621.7.011

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"Effect of Diffusion Due to Heating on the Strength of Joints Between Layers of Bimetals"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 1, 1971, pp 101-105

Abstract: The primary difficulty in producing and working with steel+aluminum, steel+titanium, aluminum+copper, and other bimetals is a decrease in tensile strength and a greater scatter in tensile strength data following the heating of these bimetals or their exposure to a higher temperature on welding the layers. Described here is a model based on the coagulation of excess vacancies in the weld-metal zone. The model is designed to explain the above changes. Use is made of a relationship between relative strength ($0<\beta>1$) and temperature and heating duration. The results of a microfractographic study conducted in parallel are in agreement with the model for measuring the strength of the bimetal. It is suggested that the reduction in strength and the lamination of the dissimilar metals is due to supersaturation with diffusible vacancies in the contact area.

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UDC 621.374.5 (088.8)

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"Magnetostrictive Transducer For Delay Lines"

USSR Author's Certificate No 296154, filed 25 Feb 69, published 9 Apr 71 (from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2G241P)

Translation: A magnetostrictive transducer for a delay line is proposed, which contains a winding with a few loops connected with an acoustic line, a matching transformer, and an acoustic damper. With the object of an increase of the product of the transmission coefficient by the power in the band of the frequencies being transmitted, the transducer winding is made in the form of two adjacent sections situated at the acoustic line and connected across the corresponding matching transformers into the circuit of an electromagnetic delay line. In order to decrease the dissipation inductance and widening of the band of the frequencies being transmitted, the step-down windings of the transformers are made in the form of cylindrical rods with a disk bulge [utolshchenyy] in the middle part and with the cores of the step-up windings at the ends placed in cup-shaped cavities connected electrically with the ends of the rod, and in so

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TRIFONOV, V. V. et al, USSR Author's Certificate No 296154

doing a section of the winding of the transducer is connected between the edge of each cup-shaped cavity and the disk. With the object of increasing the efficiency, sections of the winding are made in the form of solenoids and each section -- in the form of two adjoining coils of an insulated wire, the diameter of which is equal to the internal diameter of the solenoid. The alignment of the acoustic line in the latter is accomplished with the aid of bushings /vtulka/ located at the ends of the winding, and the transformer, magnet, and acoustic damper are attached to a common housing.

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UDC 621.396.677.012.12

MINKOVICH, B. M., PRILEPSKIY, Ye. D.

"Sum and Difference Radiation Patterns with Minimum Fringe Radiation"

Moscow, Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1374-1384

Abstract: This article contains an investigation of sum and difference radiation patterns of linear and circular apertures with minimum fringe radiation or with maximum proportions of power within the limits of the main lobe. The solution is presented in terms of spheroidal functions the asymptotics of which made it possible to obtain analytically simple expressions both for the radiation patterns and for the amplitude distribution.

Significant improvement in the structure of the fringe radiation is achieved when building antennas with radiation patterns which are optimal in the sense of maximum radiated power within the limits of the main lobe or minimum fringe radiation. When solving problems related to this concept as applied to sum and difference radiation patterns of linear (rectangular with separating amplitude distribution) and round apertures, the solutions obtained are compared, and patterns close to optimal described by expressions of the type

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MINKOVICH, B. M., et al, Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1374-1384

$\Lambda_{1/2}(\sqrt{v^2 - B^2})$, which can be especially useful in engineering practice, are found. Fourier and Hankel transformations from the amplitude-phase distribution are used to express the patterns. Graphs of the difference functions and quasioptimal patterns of the round aperture and the corresponding amplitude distributions are presented for values of B from 0 to 5.

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