TECHNICAL TRANSLATION

FSTC-HT-23-2015-72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV, SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: L. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY IMENI T.G. SHEVCHENKO

Translated for FSTC by ACSI

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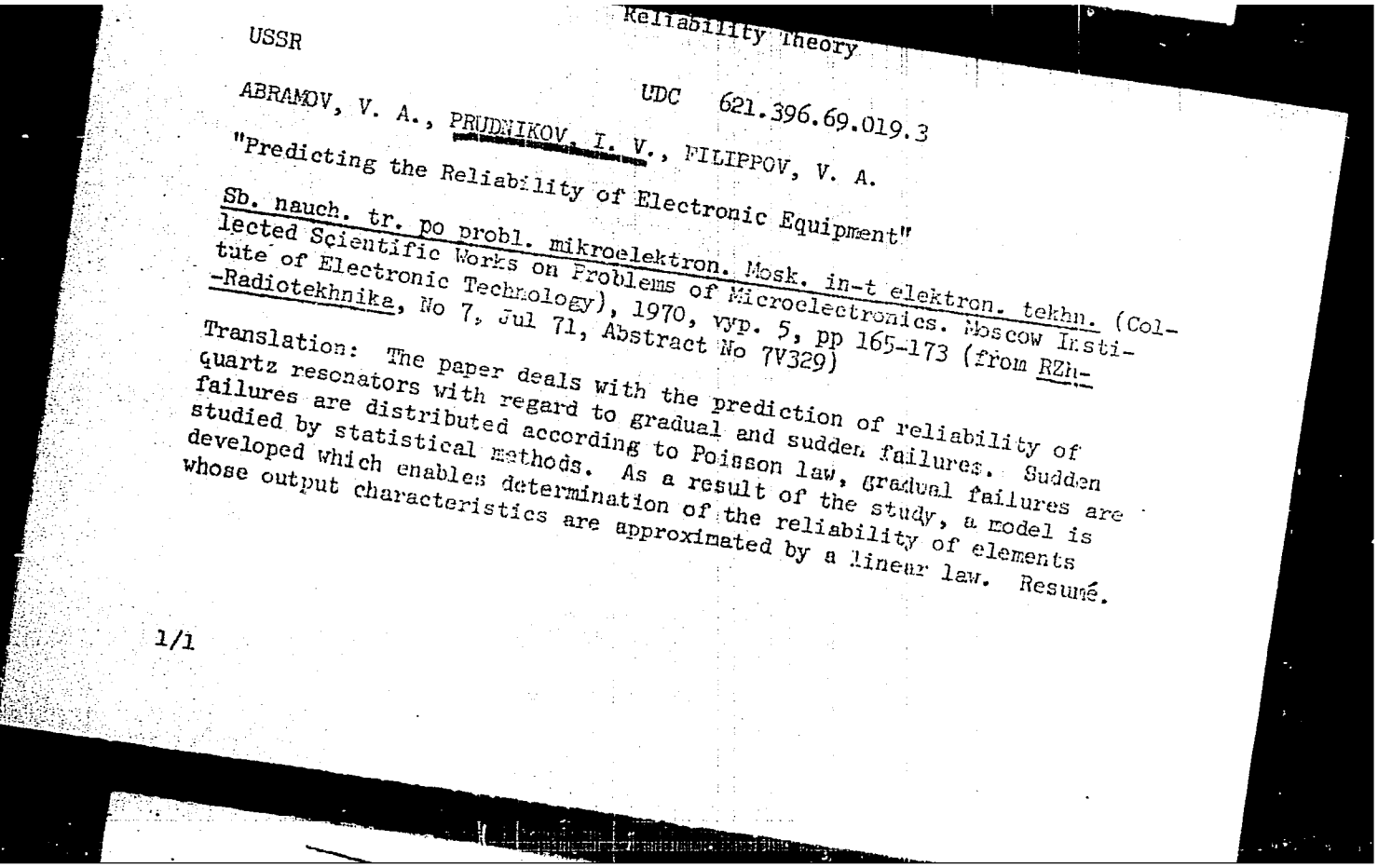

USSR

Reliability Theory

UDC 621.396.69.019.3

ABRAMOV, V. A., PRUDNIKOV, I. V., FILIPPOV, V. A.

"Predicting the Reliability of Electronic Equipment"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics. Moscow Institute of Electronic Technology), 1970, vyp. 5, pp 165-173 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7V329)

Translation: The paper deals with the prediction of reliability of quartz resonators with regard to gradual and sudden failures. Sudden failures are distributed according to Poisson law, gradual failures are studied by statistical methods. As a result of the study, a model is developed which enables determination of the reliability of elements whose output characteristics are approximated by a linear law. Resumé.

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USSR

Refrigeration, Air-Conditioning, Cryogenic

UDC: 621.541

ROMANENKO, N. T., Doctor of Technical Sciences, Professor, PRUDNIKOV, S. N., Candidate of Technical Sciences, KULIKOV, Yu. F., Engineer, Moscow Higher Technical Academy imeni N. E. Bauman

"Pneumatic Damping in Pneumatic Cryogenic Equipment"

Moscow, Izvestiya VUZov: Mashinostroyeniye, No 7, 1973, pp 83-87

Abstract: The paper gives the results of a theoretical and experimental study of pneumatic valve drives aimed at developing drives with a predetermined law of speed variation and actuation time. It is shown that when special deceleration devices are used it is possible to reduce the speed of valve seating and to obtain the proper actuation time. Analytical expressions are found for approximate determination of the speed of the pneumodrive piston.

1/1

USSR

UDC 543.42

PANICHEV, N. A., PRUDNIKOV, Ye. D., TURKIN, Yu. I., SHVEDOVA, I. V.

"Scintillation Method of Recording in the Atom Absorption Method of Spectral Analysis"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol XVIII, No 5, 1973, pp 772-776

Abstract: The scintillation method of recording in the atom absorption technique for spectral analysis is based on recording the absorption pulses of the analytical line caused by evaporation in an atomizing source of individual particles the composition of which includes a defined element. In the example of analyzing Zn, Cd, Cu, Pb, He, and Au the possibility of direct analysis of these elements in powdered samples by blowing them into an air-acetylene flame in an oxygen stream with a relative sensitivity of 10^{-5} to 10^{-6}% is demonstrated. A study was made of the effect of the number of particles containing the defined element on the efficiency of the scintillation recording. The method is highly promising for evaluating the form of the concentration distribution of the elements in the sample composition and analysis of an object with a nonuniform concentration (rocks, industrial aerosols). A block diagram of the experimental device and the tabulated experimental data are presented.

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USSR

PANICHEV, N. A., et al., Zhurnal Prikladnoy Spektroskopii, Vol XVIII, No 5, 1973, pp 772-776

A comparison of the detection limits of the scintillation method of recording in the emission and atom absorption methods of analysis performed for Cu and Ag also showed that the latter is more sensitive. The result is explained by the higher level of spectral noise for measuring emission radiation by comparison with the number of nonselective absorption pulses.

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FLAME SPECTROPHOTOMETRIC MICRODETERMINATION OF TRACES OF LITHIUM, RUBIDIUM, AND CESIUM -U-

AUTHOR-(02)-PRUDNIKOV, YE.D., SHAPKINA, YU.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 250-2

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TRACE ANALYSIS, LITHIUM, RUBIDIUM, CESIUM, FLAME SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1901 STEP NO--UR/0075/70/025/002/0250/0252

CIRC ACCESSION NO--AP0118863

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118863

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS WERE DEVELOPED FOR THE FLAME SPECTROPHOTOMETRIC MICRODETN. OF 5 TIMES 10 PRIME NEGATIVE5PERCENT LI SUB2 O, RB SUB2 O, AND CS SUB2 O FROM 10-MG SAMPLES AND DOWN TO 5 TIMES 10 PRIME NEGATIVE4PERCENT OF LI SUB2 O, RB SUB2 O, AND CS SUB2 O IN 1-G SAMPLES. DECOMP. 1-10-MG SAMPLES IN A MIXT. OF H SUB2 SO SUB4 AND HF (1 DROP 1:1 H SUB2 SO SUB4 AND 1.5-2.0 ML HF), EVAP. TO DRYNESS, AND CALCINE. LEACH THE RESIDUE IN 0.5 ML 1:1 HCL AND 10 ML H SUB2 O, FILTER, AND DIL. TO 50 ML WITH H SUB2 O. DET. LI, RB, AND CS ON A FLAME PHOTOMETER WITH A DIFFRACTION MONOCHROMATOR AND COMPARE WITH SAMPLES CONTG. 0.1-0.0001 MUG LI, RB, AND CS-ML. USE AS BUFFER A SOLN. CONTG. 100 MG NACL AND 25 MG KCL-ML. THE ERROR IS 3-5PERCENT AT A ELEMENT CONCN. OF 0.1-1.0PERCENT, 10-15PERCENT AT A CONCN. OF 0.01-0.001PERCENT AND 20-30PERCENT AT A CONCN. OF 10 PRIME NEGATIVE3-10 PRIME NEGATIVE4PERCENT. FACILITY: LENINGRAD STATE UNIV., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 535.215.1

ARSEN'YEVA-GEYL', A.N., PRUDNIKOVA, G.V.

"Photoemission From Thin Layers Of Aluminum"

Uch. zap. LGU (Scientific Annals, Leningrad State University), 1970, No 354, pp 27-30 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A8)

Translation: The optical transparency and spectral distribution of the quantum yield of Y photoemission of thin layers of Al as a function of the thickness of the layers was investigated in sealed-off devices in a vacuum of $\sim (1 \div 5) \times 10^{-9}$ mm of mercury. The monotonic increase of Y was obtained during growth of thickness of the Al layer and attainment of maximum Y with a thickness identical for all frequencies ($\sim 600°$). The depth of the photoelectron yield was determined to be $\sim 650 \pm 30$ Å. The work function of Al was measured; it was equal to 4.22 ev and did not depend on the thickness of the layer. The effect was investigated of vacuum conditions on the photoemission characteristics: it was discovered that with a pressure of 10^{-5} mm of mercury Y decreased and did not grow during an increase of the thickness of the layer with saturation at the same thickness and at a constant magnitude of the work function (4.21 ev). The reason for this phenomenon was not determined. 3 ill. 6 ref. N.S.

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AA0047079 Prudvibl'okh, I. A. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

1/70

241700 FILM THICKNESS CHECK RIG to control it during its application on cathode (13) from atomizer (15) has on the same rotating holder as the cathode a transparent indicator (3). The film thickness on the latter is compared with that on a reference indicator by a photoelectronic system which is actuated periodically by lamp (1) switched on by pick-up (11). When the required film thickness has been reached, the atomizer is cut off.
26.1.68 as 1214955/25-28. I.A.PRUDVIBLOKH et alia.
LVOV POLYTECHNIC (25.8.69) Bul 14/18.4.69. Class 42b
Int.Cl.G 01 b.

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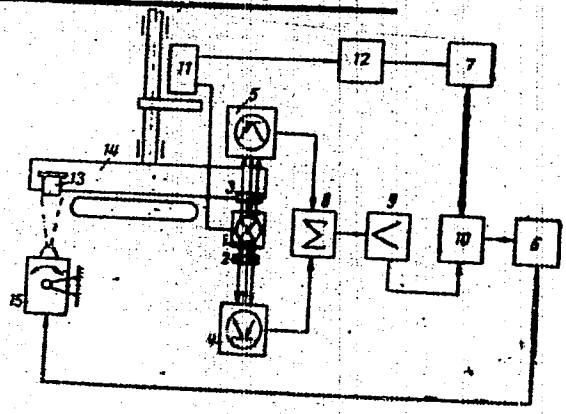
18

19790550

AA0047079

AUTHORS: Prudviblokh, I. A.; Greben', Yu. I.; Kedra, Yu. V.; Marets, V. M.; Traube, L. V.; Urahskiy, G. A.; Soroka, B. P.

L'vovskiy Politekhnicheskiy Institut



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19790551

AA0046284 UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

241701 FILM THICKNESS CHECK METHOD uses a short-pulse illumination of a reference sample and of an indicator but the start of the measurment is delayed until the differential signal has reached its maximum value. Once started, the measurement is continued until the differential signal changes its polarity and the atomizing process is then stopped.

26.1.68 as 1214954/25-28. YU.V.KEDRA & I.A.PRUDNI-BLOKH. LVOV POLYTECHNIC (25.8.69) Bul T4/18.4.69. Class 42b. Int.Cl.G 01 b.

L'vovskiy Politekhnicheskiy Institut

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19781432

1/2 042 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE EFFECT OF IRRADIATION ON THE PROPERTIES OF WELDS IN HIGH ALLOY STEELS -U-

AUTHOR-(05)-VOTINOV, S.N., KAZENNOV, YU.I., AGAPOVA, N.P., PALCHUK, N.YU., PROKHOROV, V.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 3, 1970, PP 4-6

DATE PUBLISHED--------70

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

TOPIC TAGS--HIGH ALLOY STEEL, ALLOY DESIGNATION, MECHANICAL PROPERTY, BIBLIOGRAPHY, IRRADIATION, NUCLEAR METALLURGY, WELD JOINT, METAL TEST, WELDING/(U)OKH16N15M3B STAINLESS STEEL, (U)OOKH16N15M3B STAINLESS STEEL, (U)OKH20N40B STAINLESS STEEL, (U)1KH13M2BFR STAINLESS STEEL, (U)UMD5 STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1303 STEP NO--UR/0135/70/000/003/0004/0006

CIRC ACCESSION NO--AP0123262
UNCLASSIFIED

2/2 042 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123262

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MECHANICAL PROPERTIES WERE DETERMINED OF SAMPLES CUT OUT FROM THE METAL OF WELDS IN 00KH16N15M3B, 0KH16N15M3B, 0KH20N40B, AND 1KH13M2BFR STEELS FOLLOWING IRRADIATION WITH A DOSE OF 2.8 TIMES 10 PRIME21 NEUTR,CM PRIME2 AND 4.3 TIMES 10 PRIME21 NEUTR,CM PRIME2 (E LARGER THAN OR EQUAL TO 1 MEV) AT A TEMPERATURE OF ABOUT 100DEGREESC. TESTS WERE CARRIED OUT USING UMD-5 BREAKING MACHINES AT 20, 350, AND 650DEGREESC IN THE AIR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INCREASING GYROTRON EFFICIENCY AT THE FUNDAMENTAL GYRORESONANCE BY WAY OF CORRECTING THE MAGNETOSTATIC FIELD DISTRIBUTION -U-

AUTHOR-(03)-GLUSHENKO, V.N., KOSHEVAYA, S.V., PRUS, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV VUZ. RADIOELEKTRONIKA, VOL. 13, JAN. 1970, P. 12-17

DATE PUBLISHED----JAN70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--MAGNETIC RESONANCE, GYRO, MAGNETORESISTANCE, TRANSVERSE MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/0142 STEP NO--UR/0452/70/013/000/0012/0017

CIRC ACCESSION NO--AP0110108

UNCLASSIFIED

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0110108 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY OF A PHASE METHOD OF INCREASING GYROTRON EFFICIENCY AT FUNDAMENTAL GYRORESONANCE, BASED ON THE USE OF AN MAGNETOSTATIC DIRECTIVE FIELD WHICH VARIES ALONG THE LENGTH OF THE INTERACTION SPACE. IT IS SHOWN THAT THE MAXIMUM TRANSVERSE ELECTRONIC EFFICIENCY OF A GYROTRON WITH CORRECTED MAGNETOSTATIC FIELD DISTRIBUTION IS ABOUT 70PERCENT. THE MAXIMUM ELECTRONIC EFFICIENCY OF AN EXPERIMENTAL GYROTRON REACHED 40PERCENT, DEMONSTRATING THAT THE DEVICE OPERATED IN A NONOPTIMAL REGIME. THE OPTIMAL REGIME COULD BE ACHIEVED BY INCREASING THE VOLTAGE (WHICH WAS NOT FEASIBLE DUE TO TECHNICAL CONSIDERATIONS) OR BY USING LONGER RESONATORS. THE BEST IMPROVEMENTS IN EFFICIENCY WERE OBTAINED WHEN THE MAXIMUM OF THE SUPPLEMENTARY MAGNETOSTATIC FIELD WAS 0.7L FROM THE FRONT OF THE RESONATOR, WHERE L IS THE RESONATOR LENGTH.

UNCLASSIFIED

USSR

UDC 539.3

PRUSAKOV, A.P. (Dnepropetrovsk Structual Engineering Institute)

"Nonlinear Equations of the Curvature of Mildly Sloping Multilayer Shells"

Kiev, Prikladnaya Mekhanika, No 3, 1971, pp 3-8

Abstract: Nonlinear equations of the curvature of a mildly sloping multilayer shell, consisting of an arbitrary number of transversally isotropic layers, on the basis of the variational principle of E. Reissner, with account taken of transverse sheer deformations of the layers are obtained. The hypothesis of straight normals was not used, it being assumed that the stress distribution with respect to the thickness of the shell corresponds to the classic solution, and for tangential shifts of all the alyers a linear law of change with respect to thickness was adopted. The order of the system of the basic equations of curvature of a multilayer shell does not depend upon the number of layers. 1 figure, 8 bibliographic entries.

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USSR

UDC 539.3

RASTERYAEV, Yu. K., and PRUSAKOV, A. P.

"Cross Bend of Nonsymmetrical Multilayer Sandwich Plates"

Kazan', Izvestiya VUZ, Aviatsionnaya Tekhnika, No 4, 1970, pp 49-56

Abstract: Equations describing the flexure of thin multilayer plates of nonsymmetrical construction are derived using the variational method and taking into account the deformation of the layer transverse displacement. The boundary conditions for various cases of edge fastening are obtained from the variational equation. The law of stress distribution in the case of a cylindrical plate flexure, which was found by using the hypothesis of nondeformable normals, is being applied for determining the tangential stresses τ_{xy} and τ_{yz} across the multilayer plate. By introduction of new functions of forces and displacements the initial system of five equations for the plate flexure is reduced to a system of three equations. The results of the solution of these equations for the case of a three layer plate of symmetrical construction are compared with those obtained by various other theories. 52 formulas, 2 tables.

1/1

USSR

UDC 620.186.5:669.14

VORONINA, T. I., PEL'TS, E. I. and PRUSAKOV, B. A.

" Phase Recrystallization of Steel at Heating"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 62-63

Abstract: An investigation was made of two steels (types 40 and 50) to confirm an earlier-proposed recrystallization scheme. The structure of overheated steels after repeated heating at 50 degrees/min changes substantially and depends greatly on the microstructure developing at overheating. After repeated heating, sections resembling the initial overheating grain in magnitude and shape are clearly visible. The assumed diameter of the real austenite grain formed during repeated heating at a magnification of 100 is 40-50 times smaller than the diameter of the sections observed at a magnification of 5. The real grains increase with increasing repeated heating temperature, but even after a 28-hr holding time, they remain substantially smaller than the initial overheating grains. A metallographic study of sections at large magnifications did not show any sign of boundaries in places corresponding to the grain boundaries at small magnification. This suggests that the sections observed are not grains, but rather, "pseudograins". This is confirmed by the results of a study of the microstructure formed, during the repeated heat treatment, in the preliminarily overheated and water-cooled type 40 steel. The

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USSR

VORONINA, T. I., et al., Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 62-63

"pseudograins" are sections with a grain-oriented martensite, which selectively reflect light after etching, thus producing the appearance of coarse grains in the steel. If the martensite orientation is destroyed (at third tempering) the pseudograins also disappear. 7 references.

2/2

KRUSAKOV, G.

Leningrad Svetlana Electronic Instru Assoc

[illegible]

first of all, for the sake of clarity, allow me to briefly describe the Svetlana association. The association was established in 1962 and is a unified production-administrative complex which includes five experimental design bureaus, and two pilot plants. Our geographical distribution is as follows: three plants are located in Leningrad and two in Novgorodskaya Oblast, one branch in Karelia, and two in Volgogradskaya Oblast. The association turns out more than 400 descriptions of electronic instruments and exports them to 40 countries of the world.

The years 1962-1965 were a time of extremely rapid reconstruction and technical requipping for Svetlana, while the association's transition to the new system of planning and economic stimulation (one of the first in the country) opened broader opportunities for further development of production and resolution of social problems.

It is well-known that it was at Svetlana in 1966 that the country's comprehensive plan of social development in the country was worked out. Its aim was to harmoniously combine the interests of the state, the enterprise, and each worker. And the period of its operation, 1966-1970, fitted almost completely within the framework of the eighth five-Year Plan.

The social development plan appeared as a result of collective thought, since it contains proposals made by Svetlana workers at meetings of party and management

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JPRS 55557
27 Mar 72

USSR

UDC 541.11

PRUSAKOV, V. N., SOKOLOV, V. B., and CHAYVANOV, B. B.

"Reaction of Xenon Difluoride with Halogen Pentafluorides"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLV, No 5, 1971, pp 1102-1105

Abstract: The method of differential thermal analysis was used to study the binary systems XeF_2-ClF_5 and XeF_2-BrF_5. The experimental technique and the synthesis of XeF_2 and ClF_5 are described. The phase diagram of the XeF_2-ClF_5 system shows that these components do not react or dissolve in each other and in pure chlorine pentafluoride, a phase transition is observed in the solid state at -134°C. The phase diagram of the XeF_2-BrF_5 system shows that a congruently melting compound with the composition $XeF_2 \cdot 2BrF_5$ (dystectic point at 23°C) and one incongruently melting compound with the composition $XeF_2 \cdot 9BrF_5$ (pritectic point at -37°C) are formed in the system. The phase separation and solution mechanisms are described. The maximum solubility of Xenon difluoride in bromine pentafluoride does not exceed 11.2 moles per 1,000 grams of pentafluoride.

Binary systems of XeF_2-IF_2, XeF_2-BrF_2 and XeF_2-ClF_5 were also studied and the mechanism of formation and dissociation of the compounds $XeF_2 \cdot IF_5$ and $XeF_2 \cdot 2BrF_5$ is discussed briefly.

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USSR

YEZHOV, V. K., PRUSAKOV, V. N., and CHAYVANOV, B.B.

UDC: 541:123

"The Physico-Chemical Properties of Heavy Metal Fluoride Mixtures"

Moscow, Atomnaya energiya, Vol 28, No 6, Jun 70, p 497

Abstract: This is the fourth article on the fusibility curve of the xenon difluoride-uranium hexafluoride system. The authors used the differential thermography method for studying the fusibility curve of the XeF_2-UF_6 system. The obtained diagram shows a mixture with unlimited mutual solubility of the components in the liquid state and crystallization of chemical compounds without solid solution formation. The diagram shows one dystetic point corresponding to the formation of the congruently fusible $XeF_2 \cdot UF_6$ compound of stoichiometric composition. The melting point of this compound is 120± 5°C. An evaluation of the stability of $XeF_6 \cdot UF_6$ showed that the degree of dissociation of the $XeF_2 \cdot UF_6$ does not exceed 20 percent within its melting temperature range. A schematic representation of the structure of $XeF_2 \cdot UF_6$ is given.

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USSR

PRUSAKOV, V. N., and YEZHOV, V. K.

UDC: 541.123

"The Physico-Chemical Properties of Heavy Metal Fluoride Mixtures"

Moscow, Atomnaya energiya, Vol 28, No 6, June 1970, p 496

Abstract: This is the third article on the subject with emphasis on the state diagram of the uranium hexafluoride-niobium pentafluoride system. The authors studied the liquid-vapor and liquid-solid states of equilibrium of the uranium hexafluoride-niobium pentafluoride system. Experimental data showed that a region of limited mixing exists at 0.23-0.74 mol. fraction concentration of UF_6. The upper critical temperature of stratification is 122 ± 2°C. The presence of an area of stratification was checked visually. The composition and eutectic point determined by extrapolation of the experimental data are 0.75 mol. fractions of UF_6 and 51.0 ± 0.5°C. The uranium hexafluoride-niobium pentafluoride system complies with the Pauli rule in the region of low niobium pentafluoride concentrations. Elsewhere the system shows a positive deviation from ideal behavior. The experimental results are in agreement with the theory of isometric solutions. Third-order Van Laar equations can be used for describing the $UF_6 - NbF_5$ system.

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USSR

UDC 631.547.04

PRUSAKOVA, L. D., IGNAT'YEV, A. D., and GORSHKOV, A. I., Institute of Plant Physiology, Academy of Sciences USSR, and First Moscow Medical Institute

"Residues of Chlorocholine Chloride in Wheat and Their Toxicological Significance"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 6, 1971, pp 56-58

Abstract: The authors made a long-term sanitary and toxicological study to determine residues of chlorocholine chloride (CCC) in treated wheat crops and to establish their safety limit for human and animal health. In 1967-1969 field tests, CCC residues were analyzed in the grain and straw of two varieties of winter wheat (wheat-wheat grass hybrid 186 and Mironovskaya 808). It was found that there are no residues of CCC in the grain of wheat treated with doses up to 4 kg/ha, but that in the case of combined treatment with CCC and 2,4-D there are slight residues approximating the limits detected by chemical analysis, including a method as sensitive as thin layer chromatography. The 2,4-D apparently delays somewhat the breakdown of CCC in plants, thus promoting the appearance of insignificant residues. Recommendations for the use of CCC in agriculture must be strictly observed so as to obtain the maximum production effect and at the same time assure the absence of harmful impurities in treated crops.

1/1

USSR

UDC 666.113.431.47.32-31.28

BLINOV, V. A., UDOVENKO, N. G., NIKULIN, V. KH., PRUSAKOVA, L. M., SOKOLINSKIY, A. G., ORLOV, V. N., VYSOTSKAYA, Z. I., and CHERNYSHEV, A. V.

"Glass for Ultrasonic Delay Lines"

USSR Author's Certificate No 366156, Filed 26 Jun 70, Published 16 Jan 73 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar (a) 73, Claim No 1453164/29-33)

Translation: A glass for ultrasonic delay lines, including SiO_2, ZnO, BaO, K_2O, is distinguished by the fact that, in order to obtain stable acoustic properties it contains the above components in the following amounts, weight %: SiO_2 49-65; ZnO 5-25, BaO 10.5-30; K_2O 6-25, and furthermore Sb_2O_3 0.05-3.

1/1

Epidemiology

USSR

UDC 576.851.71+576.858.73].097.2.077.34

GOL'DIN, R. B., PRUSAKOVA, Z. M., and SHAKHANINA, K. L., Military Medical Academy imeni S. M. Kirov, Leningrad, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Detection of Rickettsial and Ornithosis Antigens in Indirect Hemagglutination Test by Means of Erythrocytes Chemically Combined With Polycondensed Immune Globulins. Report I: Use of Sensitized Erythrocytes Prepared With Boron-fluoride Bis-Diphenlydiazonium for Rapid Detection of Agents of Tickborne Rickettsioses

Moscow, Voprosy Virusologii, No 3, May/Jun 70, pp 366-371

Abstract: A new modification of the indirect hemagglutination reaction for rapid detection of rickettsial and ornithosis antigens has been developed. The results of tests and comparative evaluation of red blood cell (RBC) preparations were presented. RBC preparations were made by conjugation of erythrocytes with polycondensed globulins of rabbit sera immune to Dermacentor sibiricus, D. rickettsi and other agents of tickborne rickettsiosis. 4,4-bis-diphenyldiazonium boronfluoride, a pure, highly stable bifunctional compound providing standard conditions for making RBC preparations was used for poly-condensation of immune globulins and chemical conjugation with formalinized

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USSR

GOL'DIN, R. B., et al, Voprosy Virusologii, No 3, May/Jun 70, pp 366-371

RBC. All batches of RBC preparations made according to this method were strictly group-specific. No nonspecific reactions were observed with extracts from organs of noninfected animals. The sensitivity of the indirect hemagglutination reaction was 300-500 times higher than that of the complement fixation reaction and 20-30- and 10-50 times higher than that of the indirect hemogglutination inhibition reaction (with RBC sensitized with rickettsial antigen), and fluorescent antibody technique, respectively.

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1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DETECTION OF RICKETTSIAL AND ORNITHOSIS ANTIGENS IN INDIRECT HEM AGGLUTINATION TEST BY MEANS OF ERYTHROCYTES CHEMICALLY COMBINED WITH

AUTHOR-(03)-GOLDIN, R.B., PRUSAKOVA, Z.M., SHAKHANINA, K.L.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 366-371

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RICKETTSIA, ORNITHOSIS, ANTIGEN, ERYTHROCYTE, TICK, HEMAGGLUTINATION INHIBITION TEST, TICK, FLUORESCENT ANTIBODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0666 STEP NO--UR/0402/70/000/003/0366/0371

CIRC ACCESSION NO--AP0126401

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610002-6"

2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126401

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW MODIFICATION OF INDIRECT HA TEST FOR RAPID DETECTION OF RICKETTSIAL AND ORNITHOSIS ANTIGENS WAS DEVELOPED. THE PAPER PRESENTS THE RESULTS OF TRIALS AND COMPARATIVE EVALUATION OF RED BLOOD CELL (RBC) PREPARATIONS MADE BY CONJUGATION OFERYTHROCYTES WITH POLYCONDENSED GLOBULINS OF RABBIT SERA IMMUNE FOR D. SIBIRICUS, D. RICKETTSII AND OTHER AGENTS OF TICK BORNE SPOTTED FEVERS. FOR POLYCONDENSATION (CHEMICAL "SEWING") OF IMMUNE GLOBULINS AND THEIR CHEMICAL CONJUGATION WITH FORMALINIZED RBC 4,4,8ISDIPHENYLDIAZONIN BOROFLUORIDE WAS USED WHICH WAS A PURE, HIGHLY STABLE BIFUNCTIONAL COMPOUND PROVIDING STANDARD CONDITIONS FOR MAKING RBC PREPARATIONS. ALL BATCHES OF RBC PREPARATIONS MADE ACCORDING TO THIS METHOD WERE STRICTLY GROUP SPECIFIC. THEY GAVE POSITIVE CROSS REACTIONS WITH ANTIGENS OF RICKETTSIA BELONGING TO THE GROUP OF AGENTS OF TICK BORNE SPOTTED FEVERS AND AT THE SAME TIME DID NOT INTERACT WITH ANY OF HETEROLOGOUS RICKETTSIA OR BACTERIA. NO NONSPECIFIC REACTIONS WERE OBSERVED WITH EXTRACTS FROM THE ORGANS OF UNINFECTED ANIMALS EITHER. AT THE SAME TIME IT WAS SHOWN THAT UTILIZATION OF THESE RBC PREPARATIONS INSURED IN OUR EXPERIMENTS HIGH SENSITIVITY OF INDIRECT HA TEST. ITS SENSITIVITY WAS 300-500 FOLD HIGHER THAN THAT OF CFT AND 20-30 AND 10-50 FOLD HIGHER THAN THAT OF INDIRECT HI TEST (WITH RBS SENSITIZED WITH RICKETTSIAL ANTIGEN) AND FLUORESCENT ANTIBODY TECHNIQUE, RESPECTIVELY.

FACILITY: VOYENNO-MEDITSINSKAYA AKADEMIYA IMENI S. M. KIROVA, LENINGRAD, I INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII IMENI N. F. GAMALEI AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--EFFECT OF CHROMIUM ALLOYING ON ELECTRON STRUCTURE AND ORDERING IN NI SUB3 MN ALLOY -U-

AUTHOR-(04)-FADIN, V.P., RYABYSHKINA, G.A., PANIN, V.YE., PRUSHINSKIY, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 44-51

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--ELECTRON STRUCTURE, CHROMIUM ALLOY, NICKEL ALLOY, MANGANESE ALLOY, MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1916 STEP NO--UR/0139/70/013/002/0044/0051

CIRC ACCESSION NO--AT0114356

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AT0114356

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF PARAMETERS WHICH CHARACTERIZE THE STATE OF THE ALLOYS (RESISTANCE R, INTERNAL INDUCTION SATN., B SUBS, ABS. THERMAL EMF. S) AND OF THE NEUTRON DIFFRACTION DIAGRAMS WAS USED TO DET. THE EFFECT OF CR ALLOYING ON THE STRUCTURE OF THE D BAND AND ON THE ORDERING PROCESSES. THE ADDN. OF CR DECREASES THE VALUES OF B SUBS FOR THE DISORDERED ALLOY AS WELL AS THE CHANGE IN B SUBS UPON ORDERING. THUS, THE ANTIFERROMAGNETIC INTERACTION OF THE ATOMS IN THE MN-CR PAIRS IS GREATER THAN IN THE MN-MN PAIRS. THE NEUTRON DIFFRACTION DATA SHOW THAT EVEN FOR SMALL AMTS. OF CR (SIMILAR TO 9 AT PERCENT) A HIGH DEGREE OF LONG RANGE ORDER IS ESTABLISHED IN THE ALLOY. THE VALUES OF R ARE GREATER IN THE ORDERED THAN IN THE DISORDERED ALLOY DUE TO THE INCREASE IN THE D. OF THE ELECTRON STATES IN THE 3D BAND OF THE ORDERED ALLOYS RESULTING IN AN INCREASED PROBABILITY FOR THE SCATTERING OF THE 4S ELECTRONS IN THE 3D BAND. THE VALUE OF S EQUALS F(R) INDICATES THAT THERE IS A CLOSED FERMI SURFACE IN BOTH THE DISORDERED AND ORDERED ALLOYS FOR LOW CR CONCNS. (SMALLER THAN 6 AT. PERCENT) AND AN OPEN FERMI SURFACE FOR HIGHER CONCNS. FOR ALLOYS WITH LOW CR CONCNS. THE MODEL WITH A RIGID 3D BAND IS APPLICABLE. LARGER CONCNS. PERTURB THE STRUCTURE OF THE 3D BAND. FACILITY: SIB. FIZ.-TEKH. INST. IM. KUZNETSOVA, TOMSK, USSR.

UNCLASSIFIED

Acc. Nr: AT0047569 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR0139

92841n Nature of the acceleration of ordering processes during the alloying of Ni_3Mn with iron, cobalt, and chromium. Prushinskii, V. V.; Panin, V. E.; Fadin, V. P.; Lotkov, A. I. (Sib. Fiz.-Tekh. Inst. im. Kuznetsova, Tomsk, USSR). *Izv. Vyssh. Ucheb. Zaved., Fiz.* 1970, 13(1), 13–8 (Russ). Ordering processes of alloying were studied of $Ni_3(Mn, M)$ alloys, where M = Fe, Co, or Cr. The study reveals that the basic reason for the acceleration of the ordering processes in the alloys is the change of the mechanism of ordering from homogeneous in Ni_3Mn to heterogeneous in ternary alloys. HMJR

REEL/FRAME 19791135

USSR

UDC: 621.375.026

PRUSLIN, V. Z. and MOROZOVA, G. N.

"Optimization of Signal Input Levels in TWT Amplification"

Moscow, Radiotekhnika, No 9, 1972, pp 86-88

Abstract: It is sometimes necessary, in a traveling wave tube amplifying the signal of several communications lines, that the signal/noise ratio for all the lines be the same. To achieve this, a special law for the frequency distribution of signal inputs is chosen. The purpose of this paper is to find such an optimum law. The authors begin their search with the solution for the nonlinear differential equations of a TWT operating in a mode of low nonlinearity with several unmodulated signals applied to its input. The law is obtained and the coefficients in it found through the use of an electronic digital computer. The results are given of an experiment performed to calculate the signal/noise ratio for all signals with these coefficients specified, and to choose the optimum values of these coefficients -- i.e., the values at which the difference between the maximum and minimum signal/noise values is a minimum.

1/1

USSR

UDC 621.030

PRUSOV, I.A.

"On Probability of Brittle Failure of Plates"

Minsk, Vestsi Akedemii Navuk BSSR, Seryya Fizika-Teknichnykh Navuk, No 3,1971, pp 25-27

Abstract: The brittle failure of a rectangular plate subject to bending in two perpendicular directions is analyzed. The probability of such a failure is given assuming that the probability of failure with bending in each of the two directions is known from experiment.

Also formulae are derived for the probability of such failure taking into account the size of the plate and the duration of loading.

In case of nonuniformly loaded plate the formulae for a uniformly loaded plate are applied to an element of the plate and then integrated over its surface.

1/1

USSR

UDC 537.533.3+537.534.3:621.38.032.269

PRUSOV, I. A., and ROMANIV, L. Ye.

"On the Problem of Calculating the Field of Axisymmetric Magnetic Lenses"

Teor, elektrotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Theoretical Electrical Engineering, Republic Interdepartmental Scientific-Technical Collection), 1970, No 9, pp 101-104 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh681)

Translation: A method is proposed for calculating the field of axisymmetric armored magnetic lenses which is based on reducing the given problem to the problem of determining the scalar magnetic potential. The case is considered in which $\mu = \infty$ (μ is the magnetic permeability of the magnet). It is shown that at $\mu = \infty$ the solution of the boundary value problem is based on representing the scalar field ϕ_1 by the potential of a simple layer of several sources of the field, the densities of which are assumed to be given on a certain surface S' located a small distance h from the surface of the magnet. The problem reduces to an integral Fredholm equation of the first order which is solved by the method of collocations. Authors abstract.

1/1

USSR

UDC 536.24:532.526

PRUSOV, V. A., Kiev Civil Aviation Engineering Institute

"Flow Pattern and Friction Coefficient at the Outlet of the Nozzle Discharging a Semiopen Turbulent Stream With a Symmetric Velocity Profile"

Kiev, Gidromekhanika, Akademiya Nauk Ukrainskoy SSR, No 21, 1972, pp 27-33

Abstract: The article describes the experimental investigation of the two dimensional flow of air along a wall. The wall consisted of a 300 mm wide plate. This plate also formed the bottom side of the convergent nozzle. The static pressure was measured by a hole in the plate. The total pressure was measured by a hole covered with a razor blade, the edge of the blade being at 0.04 mm above the plate. The distance from the nozzle to the hole was varied by sliding the plate in and out of the nozzle.

The velocity profiles were obtained by means of a total pressure probe.

The friction was calculated by an empirical formula giving the shear stress at the wall as a function of density, viscosity, half-thickness of the razor blade (h = 0.04 mm) and dynamic pressure (difference between the total and static pressures).

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USSR

PRUSOV, V. A., Gidromekhanika, Akademiya Nauk Ukrainskoy SSR, No 21, 1972, pp 27-33

Graphs of static pressure, boundary layer thickness and shear stress versus the nondimensional distance from the nozzle are presented.

2/2

USSR

UDC 771.537.61

PRUSS, P. Kh., Candidate of Sciences, MATSIYEVICH, L. V., IVANOV, A. M., MODEL', N. M., MUZYCHENKOV, M. S., and SKACHKOVA, Ye. V.

"The Interference Resolvometer 'LIR-1'"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 9, Sep 72, pp 30-34

Abstract: The technical characteristics, operating principle, and design of the first industrial sample of a displayed automatic device, the laser interference resolvometer LIR-1, are described by reference to its optical schema and photographs of the control desk and principal blocks. The resolvometer was developed according to the technical assignment of the State Optical Institute by the Krasnogorsk Mechanical Plant for the determination of resolutions of photographic materials in the 440--2960 mm^{-1} range. A laser of the LG-36A type (λ =6328 Å) is used as light source. The LIR-1 is a two-beam interferometer in which interference bands with sinusoidal distribution of brightness develop by interaction of two flat waves. It is designed for operation under laboratory conditions. Visual or diffraction methods can be used for the evaluation of exposed and processed resolvograms. Tests of a series of high-resolution photofilms yielded a value of the resolving ability which can be characterized as R > 2700 mm^{-1}, because all frequency groups up to the limiting, were reproduced. Values of R for high-resolution films are presented. Four illustr., one table, twelve biblio. refs.
1/1

Adsorption

USSR

UDC 546.633:543.544.6

SHATSKIY, V. M., KRIVENKO, S. V., KOMISSAROVA, L. N., REBIKH, G. F., PRUTKOVA, N. M., KESLER, YA. A., and TVOROGOV, V. A., Chair of Inorganic Chemistry

"Synthesis of Novel Phosphorus Containing Sorbents and the Study of the Sorption of Scandium on Them"

Moscow, Vestnik Moskovskogo Universiteta, Vol 13, No 6, Nov-Dec 72, pp 653-658

Abstract: Optimal conditions for scandium sorption and separation from iron have been determined on a pilot-plant scale. A specific sorbent was used in the process. It was the product of the copolymerization of styrene with divinylbenzene phosphorylated with PCl_3 and subsequently hydrolyzed with alcoholic potassium hydroxide solution. The optimal conditions for the separation process on this sorbent are as follows: the sorption is carried out from a 0.1 N H_2SO_4 solution; a 7% ammonium fluoride solution is used for the desorption; under these conditions in one "sorption-desorption" cycle the iron is isolated practically completely. Repetition of the desorption process with a fresh portion of the desorbent removed 92% of scandium. This sorbent may be used for the concentration of scandium out of the solutions with high iron content. In addition to iron this method also separates all mono- and divalent elements, rare earth elements and other impurities from scandium.

1/1

USSR UDC 546:65+549.544.6+547.466

MARTYNENKO, L. I., KUPRIYANOVA, G. N., and PRUTKOVA, N. M., Moscow State University imeni M. V. Lomonosov

"Nonionic Exchange Sorption of Monoiminodiacetates of Rare Earth Elements on a Cation Exchange Resin"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 1, Jan 72, pp 214-217

Abstract: Chemical and spectrographic analysis of the composition of eluates formed during passage of iminodiacetic acid [IMDA] through a cation exchange resin in the rare earth element form showed that separation of rare earth elements occurs at the expense of mono and diiminodiacetates. Absorption of IMDA by the cation exchange resin in the process of the ion exchange separation is not due to cation exchange sorption but to the appearance of nonionic exchange forces. The input of such a sorption to the separation of rare earth elements may be considerable. Analysis of the mixtures of rare earth elements in the cation exchange resin phase in the equilibrium and in the elution solutions shows that the composition of the adsorbed complex differs from the composition of analogous mixtures in other phases. The adsorbed complex may participate actively in the process of the ionic exchange.

1/1

PRUTKIN V.P.

SD: JPRS 59219
14 Jul 73

OBTAINING EPITAXIAL SILICON FILMS WITH THE APPLICATION OF HYDROGEN OF HIGH PURITY AND STUDYING THE ADMIXTURE DISTRIBUTION PROFILE

[Article by Yu. A. Baynov, A. L. Shimaltinkina, A. S. Lysovich, V. P. Prutkin, Noncrystallicheskiy Kremniy; Novosibirsk, Protsessy Rosta i Struktura Part 2, 1973, pp 85-92]

The distribution profile of the admixtures in the epitaxial layers plays the decisive role in insuring the given operating characteristics of the semiconducting devices.

The requirement on obtaining precision profiles is intensified sharply in connection with microminiaturization and the technology of solid state circuitry.

On the other hand, the nature of the admixture distribution in the epitaxial layers provides rich information permitting the discovery of the mechanism of the interaction of the admixtures with the growing crystal.

In practice, the admixture distribution depends on the effect of many chemical-physical factors among which the principal ones are the effect of many electrics in the gas phase, the capture and displacement of admixtures during the growth process, the phase equilibria and the diffusion over the surface and in the solid state.

There are several papers devoted to the admixture distribution during epitaxial growth [1-3, 5, 6]; however, in them the most important question is not investigated — the distribution of the film in the body connected with purposeful alloying from the gas phase in the growth process.

Prove [1] investigated the admixture distribution in the film-substrate system for the case where the alloying admixture was evaporated from the solid phase and then was again crystallized from the vapor-gas mixture.

In the indicated paper a study was made of a distribution profile of the admixtures on the basis of the diffusion theory in the solid state, and special experiments were performed with antimony and boron. The author

USSR

UDC 621.165+621.438.018

OGLOBLIN, G. A., PRUTKOVSKIY, Ye. N., PAKSHIN, A. V., and OZEROV, V. I.

"Investigation of the Efficiency of Steam-Gas Plants With Different Modes of Discharging Gases Into the Boiler"

Tr. Sev.-Zap. Zaoch. Politekhn. In-ta [Works of the Northwestern Correspondence Polytechnic Institute], No 19, 1972, pp 36-40 (from Referativnyy Zhurnal, No 10, Oct 72. 49. Turbostroyeniye. Single Issue. Abstract No 10.49.28)

Translation: The suggested method simplifies the analysis of thermal efficiency of steam-gas plants (SGP) with discharging under conditions of partial loads. The efficiency reduction on load reduction of SGP becomes less intensive with increase of the gas temperature t_3 before the gas turbine, but at $t_3 >$ 1200 °C the load reduction effects an efficiency increase of SGP. The shielding of the combustion chamber of the gas stage by steam superheating heat surfaces increases the efficiency of SGP and increases it the more the lower the load of SGP. Two illustr., six biblio. refs.

1/1

USSR

UDC: 621.762.32:539.219

DOROFEYEV, Yu. G., ZHERDITSKIY, N. T., PRITSAKOV, V. T., MURAL', V. V. LAMKOV, K. K., Novocherkassk Polytechnical Institute

" Effect of Thermomechanical Treatment on Diffusion of Carbon in Steel Produced by Dynamic Hot-Pressing"

Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 36-39.

Abstract: Studies were performed using specimens produced by pressing with subsequent heating and dynamic hot-pressing at 1100°C with holding at this temperature for 20 minutes. After the holding, dynamic hot-pressing was performed at 1100, 1000, 900, and 800°C in a die heated to 600°C with subsequent rapid cooling of the specimens in water. The diffusion of carbon occurred in a rarefied gas medium, using C^{14} as a label. It was found that with high-temperature deformation with shock loads and subsequent hardening, recrystallization processes are suppressed. Therefore, relief of hardening due to elimination of dislocation imperfections occurs incompletely, and the structure of the material has high internal stresses and dislocation

USSR

DOROFEYEV, Yu. G., ZHERDITSKIY, N. T., PRUDTSAKOV, V. T., MURAL', V. V., LAMKOV, K. K., Novocherkassk Polytechnical Institute, Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 36-39.

density and low mosaic block dimensions. The increase in dislocation density reduces the diffusion of mobility of the carbon atoms, resulting from their capture by structural defects, the concentration of which increases with decreasing dynamic hot-pressing temperature.

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AA0044778

Soviet Inventions Illustrated, Section II Electrical, Derwent, UR 0482

1/70

238649 ELECTROMECHANICAL PROGRAMMED UNIT WITH REMOTE PROGRAMME ALTERATION by variation of the length of the programme cycles. It employs a synchronous motor and ratchet devices for setting the cycle lengths, also graduated (step-by-step) motors. In order to shape long and short-term commands, there is added a graduated motor linked to a servo mechanism bearing a profiled cam which is rigidly fixed to the ratchet wheel. This is connected via a pawl to the synchronous motor shaft. Also added is a short-term-command servo mechanism with expanding cams mounted across the diameter of the ratchet wheel. This mechanism is linked via a pawl to the setter mechanism for cycle length.

6.2.68 as 1215550/18-24. E.V.PRUTSKOV et alia. NORTH CAUCASUS "TSVETMETAVTOMATIKA" SPECIAL DES.BUR.(21.7.69) Bul 10/10.3.69. Class 21c. Int.Cl.G 05f.

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19771583

AA0044778

AUTHORS: Prutskov, Ye. V.; Zaretskiy, L. S.; Pakov, N. V.;

Severo-Kavkazskiy Filial Spetsial'nogo Konstruktorskogo Byuro "Tsvetmetavtomatika"

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19771584

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MICROSTRUCTURE OF IRON POWDER MOULDINGS IN RELATION TO THE MOULDING METHOD -U-

AUTHOR-(04)-DOROFEYEV, YU.G., KRITIN, O.I., ZHERDITSKY, N.T., PRUTSKOV, V.T.

COUNTRY OF INFO--USSR

SOURCE--PORoshkovaya Met., Apr. 1970, (4), 39-43

DATE PUBLISHED--------70

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

TOPIC TAGS--IRON POWDER, POWDER METAL MOLDING, POWDER METAL PROPERTY, GRAIN STRUCTURE, INTERNAL STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0635 STEP NO--UR/0226/70/000/004/0039/0043

CIRC ACCESSION NO--AP0134397

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134397

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MICROSTRUCTURE OF FE POWDER MOULDINGS PRODUCED UNDER STANDARD STATIC AND DYNAMIC CONDITIONS WAS STUDIED AND CORRELATED WITH THE PARAMETERS OF THE MOULDING PROCESS. THUS MATERIALS SUBJECTED TO STATIC AND DYNAMIC MOULDING PROCESSES MAY DIFFER CONSIDERABLY IN MICROSTRUCTURE AND PHYSICOMECHANICAL PROPERTIES, EVEN IF THE FINAL POROSITY IS OF THE SAME ORDER. THESE DIFFERENCES ARE ATTRIBUTED TO DIFFERENCES IN THE STRESS AND STRAIN DISTRIBUTION IN AND BETWEEN THE INDIVIDUAL GRAINS AS CONFIRMED BY HARDNESS MEASUREMENTS.

UNCLASSIFIED

USSR

PRUUDEN, Yu. I.

"APROKS, a Specialized, Problem Oriented Language"

Algoritmy i Algoritmich. Yazyki [Algorithms and Algorithmic Languages -- Collection of Works], No 5, Moscow Acad. Sci. USSR Computer Center, 1971, pp 79-93, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V511 by the author).

Translation: A description is presented of a specialized programming language, APROKS, designed for linguistic modeling of the operation of digital program controlled gas-cutting machines. The language is oriented to the consumers (technologists) and is therefore very simple. The APROKS language translator is programmed for Minsk computers.

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UDC 621:669.018.25.620.178.16

KHRUSHCHOV, M. M., BABICHEV, M. A., BERKOVICH, YE. S., KOZYREV, S. P., KRAPOSHINA, L. B., PRUZHANSKIY, L. YU.

Iznosostoykost' i struktura tverdykh naplavok (Wear Resistance and Structure of Hard Surfacing), Moscow, Mashinostroyeniye Press, 1971, 95 pp

Translation of Foreword: Application of hard wear-resistant surfacing to face the working surfaces of machine parts is one of the very efficient methods of increasing the service life of the parts. The problems of expedient selection of the surfacing materials as a function of the operating conditions of the parts, just as the problems of the technological methods of surfacing, have not been sufficiently clarified. Many surfacing alloys are known, and it is of practical interest to compare their properties under identical test conditions, in particular when testing for abrasive wear.

The book contains discussions of the results of laboratory testing of surfacing materials for abrasive wear, impact bending strength, hardness, and microhardness of the structural components. The results of a study of the microstructure are also presented. These studies were performed by the authors of the book at the Wear Resistance Laboratory of the State Scientific Research Institute of Mechanical Engineering.

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KHRUSHCHOV, M. M., et al., Iznosostoykost' i struktura tverdykh naplavok, Moscow, Mashinostroyeniye Press, 1971, 95 pp

The last chapter contains a discussion of the research data of a number of Soviet authors on the operational and laboratory comparative tests for abrasive wear of different surfacing materials applied to parts with different operating conditions.

The book is a reference manual for the properties of various surfacing materials during abrasive wear.

The abrasive wear tests on the Kh4-B machine were performed by M. A. Babichev, on the NK machine by Ye. S. Berkovich, for hydroabrasive wear by S. P. Kozyrev, and for impact toughness by L. Yu. Pruzhanskiy. A microstructural study and a microhardness test were performed by L. B. Kraposhina. The work was coordinated by M. M. Khrushchov.

Translation of Table of Contents

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KHRUSHCHOV, M. M., et al., Iznosostoykost' i struktura tverdykh naplavok, Moscow, Mashinostroyeniye Press, 1971, 95 pp

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USSR

KHRUSHCHOV, M. M., et al., Iznosostoykost' i struktura tverdykh naplavok, Moscow, Mashinostroyeniye Press, 1971, 95 pp

4/4

1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ALLOYS FOR HARD FACING PARTS OF EARTH MOVING MACHINES -U-

AUTHOR-(03)-BELIKOVA, N.A., GRINBERG, N.A., PRUZHANSKIY, L.YU.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 37-38

DATE PUBLISHED-------70

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

TOPIC TAGS--HARD ALLOY, IRON ALLOY, CHROMIUM NICKEL ALLOY, NICKEL CHROMIUM ALLOY, WEAR RESISTANCE, EARTH HANDLING EQUIPMENT, BULLDOZER, BORON INTENSIFIED STEEL, ALLOY STEEL, IMPACT STRENGTH, NICKEL CONTAINING ALLOY, WELD FACING, METAL SURFACING, WEAR RESISTANT METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0918 STEP NO--UR/0129/70/000/003/0037/0038

CIRC ACCESSION NO--AP0133007

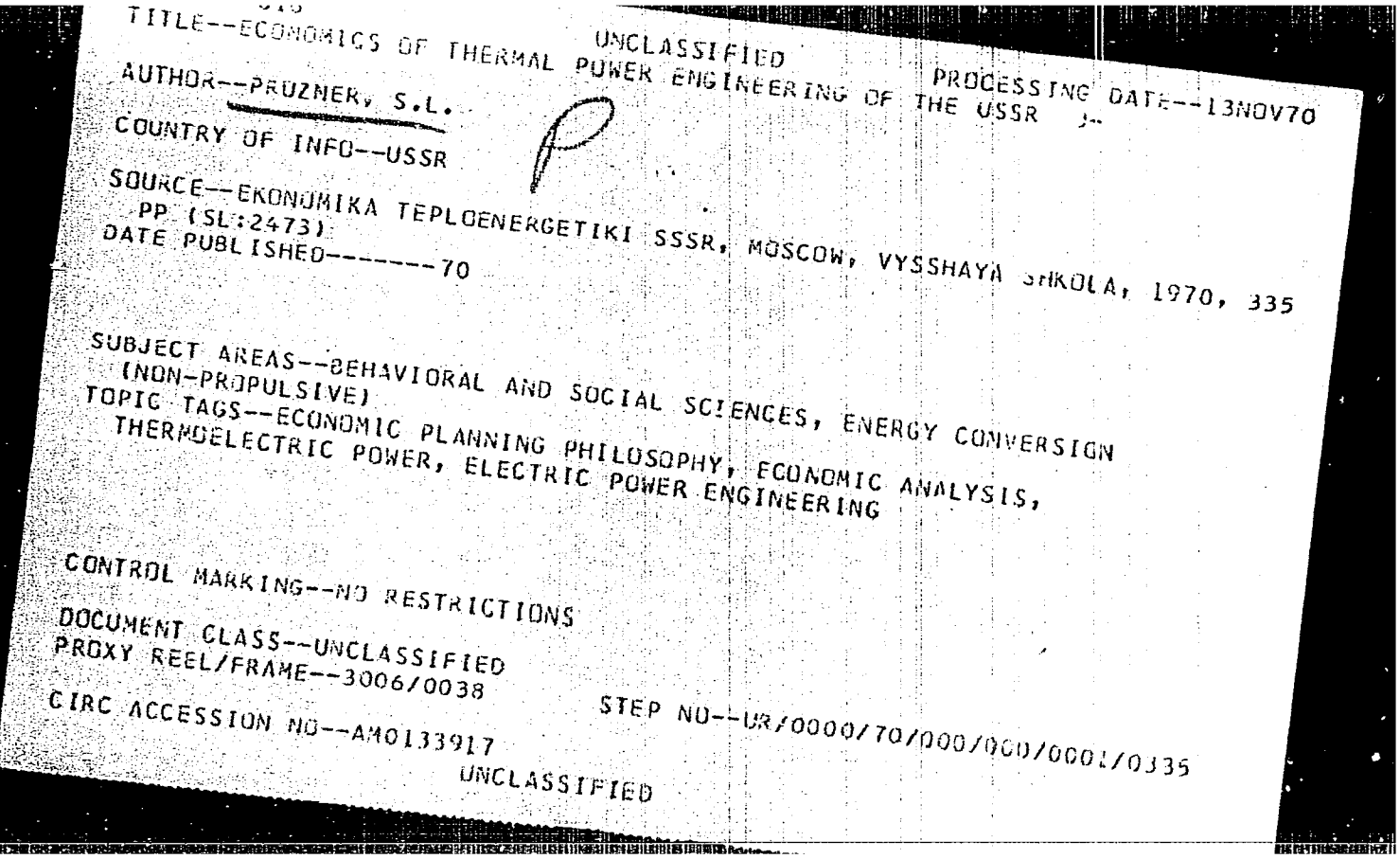
UNCLASSIFIED

2/2 038 UNCLASSIFIED

CIRC ACCESSION NO--AP0133007 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE CHEMICAL COMPOSITION AND MICROSTRUCTURE OF A NUMBER OF FE-CR-NI ALLOYS USED FOR THE HARD FACING OF EARTH MOVING MACHINERY ON THEIR WEAR RESISTANCE AND IMPACT STRENGTH BETWEEN MINUS 60 AND MINUS 27DEGREESC WAS STUDIED. IN GENERAL INCREASING THE NI CONTENT REDUCED THE COLD SHORTNESS THRESHOLD; HOWEVER, MORE THAN 5PERCENT OF NI ALSO REDUCED THE WEAR RESISTANCE OWING TO THE CORRESPONDING RISE IN AUSTENIT CONTENT. THE ADDITION OF 8 SHARPLY REDUCED THE IMPACT STRENGTH, INDEPENDENT OF THE STRUCTURAL CHARACTERISTICS.

UNCLASSIFIED



UNCLASSIFIED

TITLE--ECONOMICS OF THERMAL POWER ENGINEERING OF THE USSR

AUTHOR--PRUZNER, S.L.

COUNTRY OF INFO--USSR

SOURCE--EKONOMIKA TEPLOENERGETIKI SSSR, MOSCOW, VYSSHAYA SHKOLA, 1970, 335 PP (SL:2473)

DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--ECONOMIC PLANNING PHILOSOPHY, ECONOMIC ANALYSIS, THERMOELECTRIC POWER, ELECTRIC POWER ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

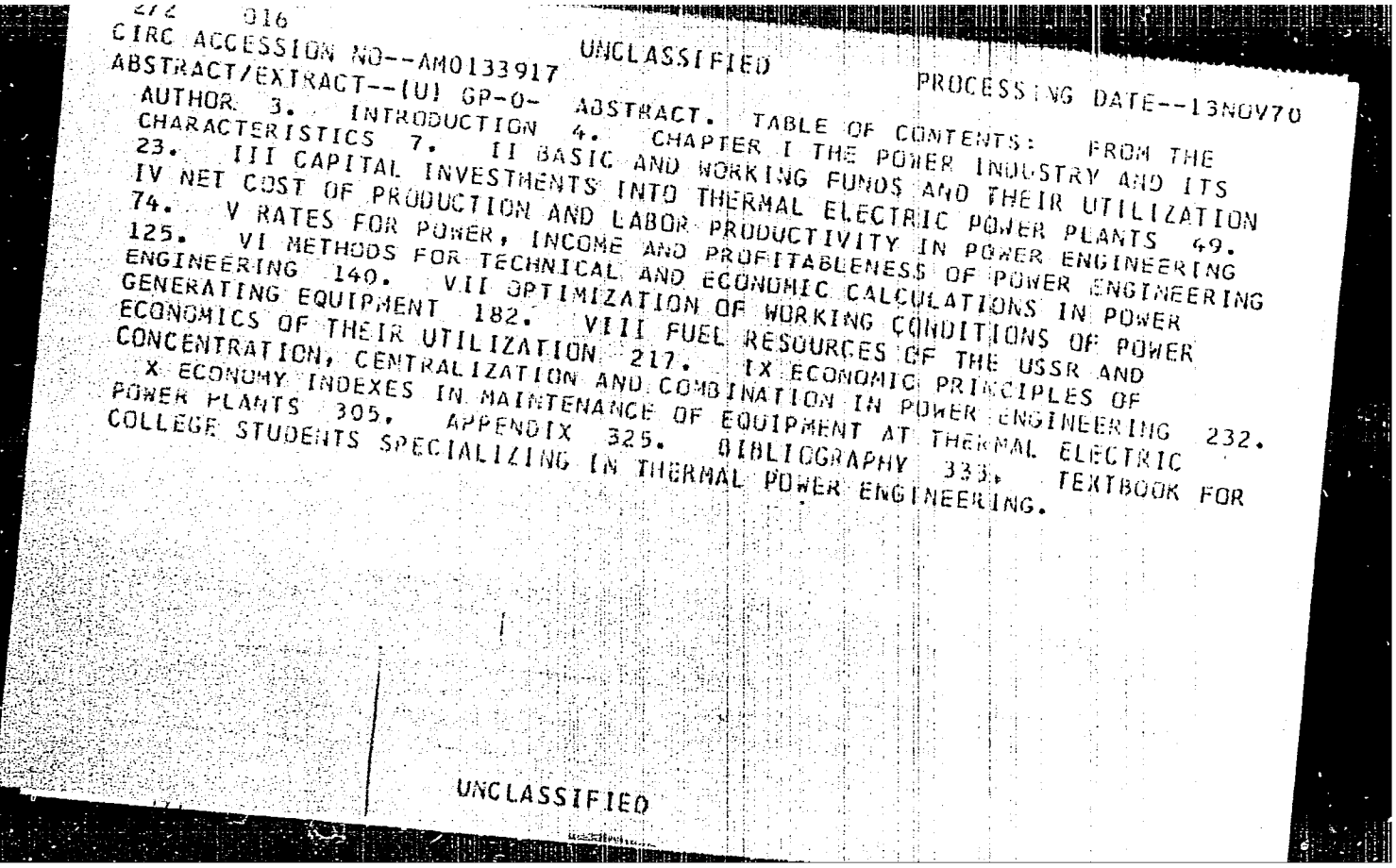
PROXY REEL/FRAME--3006/0038

STEP NO--UR/0000/70/000/000/0001/0335

CIRC ACCESSION NO--AM0133917

UNCLASSIFIED

PROCESSING DATE--13NOV70



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CIRC ACCESSION NO--AM0133917 UNCLASSIFIED PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: FROM THE AUTHOR 3. INTRODUCTION 4. CHAPTER I THE POWER INDUSTRY AND ITS CHARACTERISTICS 7. II BASIC AND WORKING FUNDS AND THEIR UTILIZATION 23. III CAPITAL INVESTMENTS INTO THERMAL ELECTRIC POWER PLANTS 49. IV NET COST OF PRODUCTION AND LABOR PRODUCTIVITY IN POWER ENGINEERING 74. V RATES FOR POWER, INCOME AND PROFITABLENESS OF POWER ENGINEERING 125. VI METHODS FOR TECHNICAL AND ECONOMIC CALCULATIONS IN POWER ENGINEERING 140. VII OPTIMIZATION OF WORKING CONDITIONS OF POWER GENERATING EQUIPMENT 182. VIII FUEL RESOURCES OF THE USSR AND ECONOMICS OF THEIR UTILIZATION 217. IX ECONOMIC PRINCIPLES OF CONCENTRATION, CENTRALIZATION AND COMBINATION IN POWER ENGINEERING 232. X ECONOMY INDEXES IN MAINTENANCE OF EQUIPMENT AT THERMAL ELECTRIC POWER PLANTS 305. APPENDIX 325. BIBLIOGRAPHY 333. TEXTBOOK FOR COLLEGE STUDENTS SPECIALIZING IN THERMAL POWER ENGINEERING.

UNCLASSIFIED

USSR

UDC 681.327.11

VOROB'YEV, A. D., KUDRYAVTSEVA, A. A., PRYADKIN, A. M., PATS, V. B., SHAMURINA, R. Z.

"Mosaic Printer"

Moscow, Otkrytiya izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 17, May 72, p 159

Translation: Patent No. 339925, class G 06k 15/02 was granted for a mosaic printer containing a mechanism for feeding paper and ribbon, a carriage, and a unit of metal tapes insulated from one another and placed in a magnetic field. The ends of the tape are connected to an excitation unit. The printer is distinguished by the fact that a fulcrum is fastened to it on the carriage at an angle to the metal tape unit located on the opposite side of the paper in order to increase the speed of the device.

1/1

PRYADKIN K.K.

RMJ / K'Yev/S-MKP-1/3
Dec 72

(3)

Pryadkin, K. K., R. V. Mitin, and N. N. Klimov.
Electrodeless discharge in xenon at pressures to 40 atm. IN:
Fizika plazmy i problemy upravlyayemogo termoyadernogo
sinteza. Kiyev, Izd-vo Naukova dumka, no. 1, 1971,
226-230.

Fig. 1. Sketch of discharge chamber with external support. 1 - lower flange; 2 - stable metallic coil; 5, 11, 13 - nut; 6, 15 - observation ports; 7 - HF generator; 8 - teflon seal; 9 - quartz seal; 10 - teflon insulator; 12 - upper flange; 14 - projection camera; 16 - tightening ring; 17 - connection pipe.

Electrodeless high-frequency discharges in xenon at pressures to 40 atm were studied and the possibility of generating such discharges at still higher pressures was demonstrated. A fractional radiant energy loss in the overall discharge energy balance was determined as a function of discharge power and chamber pressure within the interval of 0.1 - to 40 atm. The maximum radiated power achieved at pressures of 5 to 40 atm was about 3.5 kw and the maximum light flux was about $1.5 \cdot 10^5$ l. Two discharge chamber structures were used: a thick-walled quartz chamber cooled by air or water, and a water-cooled chamber with an external support, illustrated in Fig. 1. Experimental procedures are outlined and results are plotted.

USSR

UDC 533.9

MUTIN, R. V., PRYADKIN, K. K., ZVYAGINTSEV, A. V., Khar'kov Physicotechnical Institute of the Academy of Sciences UkrSSR

"On the Effect of a Magnetic Field on an Electrodeless Discharge Plasma"

Moscow, Teplofizika Vysokikh Temperatur, No 6, Nov/Dec 70, pp 1142-1148

Abstract: The results of an experimental study of the effect of rotation of an electrodeless high-frequency discharge plasma at high pressure in an external constant magnetic field are presented. In previous experiments by the authors the effect of a magnetic field on a stationary electrodeless high-frequency discharge in inert gases at a pressure of 0.5-2 at was investigated; the shape of the discharge observed at such pressures and sufficiently high levels of the high-frequency power under the action of the magnetic field transforms into a toroidal shape, and this toroidal plasmoid has its own magnetic properties: it rotates in a homogeneous field and pulls in when in a nonhomogeneous magnetic field. It was shown that rotation of the plasma is observed when the plasma is created by closed circular currents flowing in the plane perpendicular to the magnetic field (H-discharges) and is not observed in E-discharges (a high-frequency discharge without closed currents).

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USSR

MUTIN, R. V., et al., Teplofizika Vysokikh Temperatur, No 6, Nov/Dec 70, pp 1142-1148

It is hypothesized that the effects observed are caused by partial rectification of the closed high-frequency currents, but the experiments described here show that it cannot explain all phenomena observed, although this one cause may play a decisive role. The nature of the dependence of the frequency of rotation of the discharge on the nature of the gas (Ne, Ar, Kr, Xe), the magnetic field strength, and the pressure (in the range 0.5-2 at) are described in detail. The reason for the rotation is explained on the basis of the theory of electrophoresis in a gas discharge plasma. It is shown that the application of this theory to this phenomenon is valid, since it is possible to explain the reason for the rise of an uncompensated force, the direction of rotation of the gas, and the nature of the dependence of the rate of rotation on pressure, magnetic field, and type of gas.

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1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--REFRACTORY MIXTURE FOR LINING THE IRON TROUGHS OF BLAST FURNACES -U-

AUTHOR-(05)-PRYADKO, V.M., KOTOV, K.I., MAGALA, V.S., ZHAK, A.M., TKACH, I.T.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,135

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

DATE PUBLISHED--09MAR70

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

TOPIC TAGS--BLAST FURNACE, REFRACTORY MATERIAL, METALLURGIC PATENT, TECHNICAL STANDARD/(U)GOST TSMTU446954 REFRACTORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1060 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130095

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0130095

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REFRACTORY MIXT. CONTG. A FILLER AND BINDER HAS THE FOLLOWING COMPN. (IN KG-M PRIME3): CRUSHED HIGH ALUMINA BRICK (PARTICLE SIZE FRACTION 0.15-5 MM) 500-600, CRUSHED HIGH ALUMINA BRICK (PARTICLE SIZE 5-10 MM) 900-1000, CRUSHED ALUMINA BRICK (PARTICLE SIZE SMALLER THAN 0.09 MM) 400-500, FE FREE ZR (ACCORDING TO GOST TSMTU 4469 54) 200-50, AND 80PERCENT PHOSPHORIC ACID 180-200 L.-M PRIME3. FACILITY: ONEPROPETROVSK CONSTRUCTION ENGINEERING INSTITUTE AND PETROVSKII, G. I. METALLURGICAL PLANT, ONEPROPETROVSK.

UNCLASSIFIED

USSR

UDC 620.194.8

KRALASHOV, A. V., and PRYAKHIN, I. I., Kiev Institute of Civil Aviation Engineers

"Cyclic Strength of an Aluminum Alloy in Jet Fuel Oils at Different Temperatures"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 10, No 1, 1974, pp 24-27

Abstract: Aluminum alloy D16A-T (4.2% Cu, 1.6 Mg, 1.5 Mn, 0.3 Fe, and 0.5% Zn; tensile strength-42 dyne/mm^2, yield strength-30 dyne/mm^2, and elongation--16%) was tested for corrosion fatigue in jet fuels T-1, TS-1, and T-7. Alloy samples were tested in air at 20° C, and in each fuel at 20, 60, and 90° C under a cyclic stress of 90 cpm for 10^6 cycles. Test results showed that the fatigue strength of D16A-T is less in the fuels than in air and decreases with increased temperature. At high stresses the corrosion - fatigue strength of the alloy at 60 and 90° C is almost independent of fuel grade, whereas at lower stresses there is a dependence on fuel grade. In all cases the fatigue strength of the alloy was highest in fuel T-7, followed by TS-1, and T-1. Five figures, one table, nine bibliographic references.

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USSR

UDC 620.194.8

KARLASHOV, A. V. and PRYAKHIN, I. I., Kiev Institute of Civil Aviation Engineers

"Increasing the Corrosion-Fatigue Strength of an Aluminum Alloy by Treating the Medium With a Magnetic Field"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 4, 1973, pp 23-26

Abstract: aluminum alloy D16A-T containing (in %): 4.2 Cu, 1.6 Mg, 1.5 Mn, 0.3 Fe, 0.5 Zn; tensile strength of 42 dyne/mm^2, yield strength of 30 dyne/mm^2 and elongation of 16%, was studied as to its fatigue strength in mediums of fresh water, 3% NaCl and fuel oil T-7 which were subjected to a magnetic field and not subjected to the magnetic field. It was found that at a stress level of 12 dyne/mm^2 the number of cycles to failure in fresh water was increased by 67% when the magnetic field was applied; at 8 dyne/mm^2 in 3% NaCl this value increased by 62%; and in fuel oil T-7 at a stress level of 11 dyne/mm^2--28%. Thus, magnetic treatment of corrosive media renders a substantial effect on the corrosion-fatigue strength and long-time strength of alloy D16A-T with the long-time strength increasing more intensively than the maximum fatigue strength. 3 figures, 7 bibliographic references.

1/1

USSR

FRANTSUZOV, M. M., PRYAKHIN, S. N.

"One Method of Compact Recording of Information"

Uch. Zap. Gor'kov. Un-t [Scientific Writings of Gor'kiy University], 1973, No 146, pp 76-78 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V637).

Translation: One method of compact recording of information is studied, in which punching of initial data is performed directly from the document, and versions of operation with this representation of data are demonstrated.

1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COMPUTING BEDS FOR OPEN TYPE PRESSES BY THE GRID METHOD -U-

AUTHOR-(02)-PRYAKHIN, V.A., TKACHEV, G.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KUZNECHNO-SHTAMPOVICHNOYE PROIZVODSTVO, NO 2, 1970, PP 28-29

DATE PUBLISHED--------70

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

TOPIC TAGS--PRESS, COMPUTER APPLICATION, ELASTICITY, STRESS, MODEL/(U)BESM2M ELECTRONIC COMPUTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0268 STEP NO--UR/0182/70/000/002/0028/0029

CIRC ACCESSION NO--AP0100776

UNCLASSIFIED

2/2 , 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100776

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS USE, AS THEIR BASIS FOR COMPUTING THE BEDS OF THE TITLE, THE PLANAR PROBLEM OF ELASTICITY THEORY. THEY DETERMINE THE STRESSES IN THE BED BY THE GRID METHOD, BY CONSIDERING THE BED'S SUPPORTING SHEETS TO BE PLATES WHOSE CONTOURS CONINCIDE WITH THE BED. THE COMPUTATION IS MADE FOR A WELDED STEEL BED OF THE DIMENSIONS GIVEN IN AN ACCOMPANYING DIAGRAM SHOWING THE BED SECTIONED OFF BY THE HORIZONTAL AND VERTICAL LINES OF THE GRID. IN THIS GRID METHOD, A SYSTEM OF LINEAR ALGEBRAIC EQUATIONS IS SOLVED INSTEAD OF HAVING TO SOLVE THE FUNDAMENTAL FOURTH ORDER DIFFERENTIAL EQUATION OF THE PLANAR PROBLEM. THESE EQUATIONS WERE SOLVED WITH THE ELECTRONIC COMPUTER BESM-2M. CONCLUSIONS DRAWN ARE THE FOLLOWING: THERE IS NO PLANAR DISTRIBUTION OF STRESSES FOR THE ELEMENTS OF THE BED; THE STRESSES COMPUTED BY THE GRID METHOD PERMIT A MORE COMPLETE ESTIMATE, AND DIFFER ONLY SLIGHTLY FROM THOSE EXPERIMENTALLY DETERMINED; THE USE OF COMPUTERS PERMITS WIDE USE OF THE GRID METHOD BY ORGANIZATIONS FOR DESIGNING PRESS BEDS.

UNCLASSIFIED

USSR

PRYAKHIN, V. K., Engineer, RAZINTSEV, V. I., Engineer, and DANILOV, F. M., Candidate of Technical Sciences

"Investigation of the Stability of a Hydraulic Servo Motor With Direct Feedback"

Moscow, Izvestiya Vysshykh Uchebnykh Zavedeniy, Mashinostroyeniye, No 5, 1972, pp 77-80

Abstract: The method of harmonic linearization is used to study a loaded hydraulic servo motor with direct feedback. The conditions of stability of the servo motor are determined, with account taken of compressibility of the working fluid, as well as the parameters of the servomechanism and the load. 8 references.

1/1

172 035 UNCLASSIFIED

TITLE--EXPERIMENTAL STUDY OF THE AREA RATIO OF STATOR AND ROTOR LATTICES OF SUPERSONIC STAGES -U-

PROCESSING DATE--16OCT70

AUTHOR-(02)-PRYAKHIN, V.V., PAVLOVSKIY, A.Z.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, TEPLOENERGETIKA (THERMAL POWER), 1970, NO 1, PP 81-83

DATE PUBLISHED--------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--SUPERSONIC FLOW, TURBINE ROTOR, TURBINE STATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/1730

STEP NO--UR/0096/70/000/001/0081/0083

CIRC ACCESSION NO--AP0051518

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0051518

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE PRESENTED OF AN EXPERIMENTAL STUDY OF THE RATIO OF THE FLOW AREAS OF ROTOR AND STATOR LATTICES OF SUPERSONIC STAGES. THE CRITICAL FLOW PHENOMENA IN STAGES OF THIS TYPE ARE ANALYZED. ONE TABLE, FIVE FIGURES, THREE REFERENCES.

UNCLASSIFIED

PRYAKHIN Ye. A.

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Acc. Nr.: AP0042566 Ref. Code: UR0293

Gamma Quanta with Energy Greater than 50 MeV in Cosmic Radiation

(Abstract: "Measurements of Fluxes of Gamma Quanta with Energies Greater than 50 MeV in Primary Cosmic Radiation on the 'Kosmos-208' Artificial Earth Satellite," by L. S. Bratolyubova-Tsulukidze, N. L. Grigorov, L. F. Kalinkin, A. S. Melioranskiy, Ye. A. Pryakhin, I. A. Savenko and V. Ya. Yufarkin; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 136-139)

The artificial earth satellite "Kosmos-208" carried a telescope of Cerenkov counters with radiators of Plexiglas and lead glass, surrounded by a scintillator for protection against the background of charged particles, for measuring the fluxes of cosmic γ-quanta with energies greater than 50 MeV. There is a dependence between the counting rate of γ-quanta and geographic latitude, probably related for the most part to imitations of γ-radiation by charged particles. The article gives the values of the total intensities of γ-quanta for the high and equatorial latitudes. The latter data, interpreted as the upper limits of the fluxes of primary γ-rays, are $(1.0\pm0.4)\cdot10^{-4}$, $(6\pm3)\cdot10^{-5}$ and $(1.0\pm1.0)\cdot10^{-5}$ $(cm^2 \cdot sec \cdot sterad)^{-1}$ for $E\gamma \geqslant 50$, 90 and 146 MeV respectively. Within the limits of error these results agree with the data obtained using the artificial satellite OSO-III.

Reel/Frame

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ADHESIVE BASE ON SKS 50K LATEX -U-

AUTHOR-(04)-KIZBER, S.A., KALMYKOVA, Z.P., PRYAKHINA, E.A., GONSOVSKAYA, T.B.

COUNTRY OF INFO--USSR

SOURCE--POLIGRAFIYA 1970, 1, 36-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ADHESIVE, LATEX, STYRENE/(U)SKS50K STYRENE RUBBER, (U)SKS30SHR STYRENE RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0887 STEP NO--UR/0543/70/001/000/0036/0037

CIRC ACCESSION NO--AP0134616

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WITH ADHESIVES PREPD. FROM SKS 50K LATEX (I) INDICATED THAT THEY COULD BE USED FOR BOOK BINDING, AND THAT I IS A GOOD SUBSTITUTE FOR SKS 30SHR LATEX. THE PHYS. PROPERTIES OF SKS 50K ADHESIVES WERE DETD.

UNCLASSIFIED

UDC: 669.245

USSR

RYABTSEV, L. A., PRYAKHINA, L. I., and IGNATOV, D. V. , Moscow

"High-Temperature Oxidation Resistance of Nickel-Base Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 190-191

Abstract: There is little if any information on the oxidation of multi-component nickel-base alloys with oxidizability as a function of alloying. The purpose of this study was to determine changes in the high-temperature oxidation of nickel-base alloys at 900° C as a function of open-air oxidation time and an increasing number of alloying elements. Three- Ni-Al alloys, with 3, 10, and 13.3 wt.% aluminum were selected for the study. It was found that the high-temperature oxidation resistance of the γ'-solid solution based on Ni_3Al (13.3% Al) in Ni-Al alloys is considerably higher than that of the γ-solid solution (3 wt.% Al) due to the formation of dense oxide films of spinel-type γ-Al_2O_3 and $NiAl_2O_4$. The presence of the γ'-phase in two-phase (γ+γ') alloys causes higher oxidation resistance

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USSR

RYABTSEV, L. A., et al, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 190-191

(at high temperatures). Subsequent addition of chromium (10 wt.%) and titanium (2 wt.%) results in a higher oxidation resistance of the nickel alloy with 6 wt.% Al. The further addition of alloying elements such as tungsten, molybdenum, and niobium has no appreciable effect on high-temperature oxidation resistance.

2/2

USSR

UDC 669.292.5'24'71.013.13

MYASNIKOVA, K. P., PONOMAREVA, L. F., PRYAKHINA, L. I., and MARSHAKOV, I. K., Moscow, Voronezh

"Study of the $NiAl_3$-VAl_3 and Ni_2Al_3-V_5Al_8"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 186-189

Abstract: Microstructural, x-ray structural and thermal analysis were made to study the phase equilibria in $NiAl_3$-VAl_3 and Ni_2Al_3-V_5Al_8. It is demonstrated that in the solid state, the alloys of both sections have a two-phase structure, the phase components of which are the initial compounds. The polythermal section of the $NiAl_3$-VAl_3 cross section has three fields of primary crystallizations: L + Ni_2Al_3, L + Val_3, and L + V_5Al_8. Fusion of the $NiAl_3$ compound in the entire concentration interval is incongruent in nature. The combined crystallization of the phases Ni_2Al_3 and V_5Al_8 in the 20-80 at.% V_5Al_8 interval occurs according to the eutectic type. The peritectic nature of the formation of the compounds Ni_2Al_3 and V_5Al_8 results in the presence of two three-phase areas on the polythermal section. The mutual replacement of nickel and vanadium atoms has little

USSR

MYASNIKOVA, K. P., et al., Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 186-189

influence on increasing the hardness of alloys, due to the similarity of their atomic radii. The absolute value of hardness of alloys in the Ni_2Al_3-V_5Al_8 cross section is 2,5 times greater than the hardness of alloys in the $NiAl_3$-Val_3 cross section.

2/2

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--SOME PHYSICO CHEMICAL PROPERTIES OF ALLOYS IN THE SECTION WITH 90 WT. PERCENT TUNGSTEN OF THE TUNGSTEN, MOLYBDENUM, NIOBIUM, TANTALUM

AUTHOR-(02)-PRYAKHINA, L.I., OZHIMKOVA, O.V.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. AKAD. NAUK SSSR, METALLY, MAR.-APR. 1970, (2), 224-227.

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, TUNGSTEN ALLOY, TANTALUM ALLOY, NIOBIUM ALLOY, MOLYBDENUM ALLOY, SOLID SOLUTION, HIGH TEMPERATURE EFFECT, METAL HARDNESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1442 STEP NO--UR/0370/70/000/002/0224/0227

CIRC ACCESSION NO--AP0130375

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130375

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NUMBER OF PHYSICO CHEMICAL PROPERTIES OF W, MO, NB, TA ALLOYS CONTG. W. 90 WT.PERCENT WERE STUDIED. THUS THE DENSITY VARIED BETWEEN 17 AND 18.5 G-CM PRIME3, DEPENDING ON THE EXACT COMPOSITION. MICROANALYSIS OF THE ALLOYS CONFIRMED THAT THEY HAD SOLID SOLUTION STRUCTURES. THE REPLACEMENT OF MO BY NB AND-OR TA RAISED THE HARDNESS AT 20 DEGREESC FROM 340 TO 400 KG-MM PRIME2. THREE COMPONENT W,NB,TA ALLOYS HAD THE GREATEST HOT HARDNESS AT 1100 DEGREESC.

UNCLASSIFIED

USSR

UDC 622.245.428

KIRPICHENKO, B. I., KLYAVIN, R. M., SHARIPOV, A. U., and PRYANOV, P. A., Volga-Ural Branch of the All-Union Scientific Research Institute of Geophysical Exploration Methods, and the Bashkir Scientific Research and Planning Institute of the Petroleum Industry

"Influence of the Strength of Cement Rock on the Form of Acoustic-Logging Cementograms"

Moscow, Bureniye, No 5, 1972, pp 25-28

Abstract: Acoustic-logging cementograms, recorded during a period of relative stabilization of the process of cement-rock formation, indicate a relationship between the amplitude of the longitudinal waves A_p and the strength of the cement block. It is shown that the form of acoustic-logging cementograms made during measurements in the period of hardening of the cement solution and the start of fixation of the cement block depends upon the time between the moment of measuring and the end of cementation of the well, and determination of the quality of the cement ring on the basis of measurements during this period is possible only with knowledge of the dynamics of the acoustic values which characterizes the specific state of the hardening mixture in the well under given conditions. 3 figures. 1 table.

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1/2 024 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--SPECIFICITY OF SEROLOGICAL REACTIONS BASED ON SERUM BACTERICIDITY -U-

AUTHOR-(05)-RUKHADZE, E.Z., LEVI, M.I., TENDETNIK, YU.YA., PRYAMUKHINA, N.S., VYDRINA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLGOII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3, PP 63-68

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SEROLOGIC TEST, DYSENTERY, TYPHOID FEVER ANTIGEN, SALMONELLA TYPHIMURIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1487 STEP NO--UR/0016/70/000/003/0063/0068

CIRC ACCESSION NO--AP0109547

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECIFICITY OF BACTERIOLYSIS REACTION WAS STUDIED ON A MODEL OF THE CAUSATIVE AGENTS OF DYSENTERY, TYPHOID FEVER AND TYPHIMURIUM. REACTIONS OF BACTERIOLYSIS AND OF BACTERIOLYSIN NEUTRALIZATION WERE DESCRIBED. SPECIFICITY OF BACTERIOLYSIS PHENOMENON WAS DEMONSTRATED BY THE REACTION OF BACTERIOLYSINS, WHEREAS REACTION OF BACTERIOLYSIN NEUTRALIZATION CAN BE RECOMMENDED FOR DETECTION OF SMALL AMOUNTS OF COMPLETE ANTIGENS OF VARIOUS BACTERIA.

UNCLASSIFIED

Acc. Nr: AP0036817

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 57-63

A STUDY OF POSTINFECTIOUS IMMUNITY ON A NATURAL MODEL OF PARATYPHOID DISEASE OF RABBITS CAUSED BY S. TYPHIMURIUM

N. S. Pryamukhina, L. I. Krasnoproshina

A paratyphoid process pathogenetically similar to human typhoid fever was reproduced by oral infection of rabbits with S. typhimurium. The data obtained confirmed the materials of other authors and our previous data. Production of antibody-forming cells was traced. Immunological reconstruction of lymphoid tissue proved to be generalized, but the extent of participation of individual lyphoid organs in this process was unequal. The greatest correlation was observed between the content of antibody forming cells and the bacteriolysin level.

D. M.

b

USSR

UDC 621.382.3

BRYANIKOV, V.S., EL'STING, O.G.

"Some Results Of An Experimental Investigation Of The Low-Frequency Noise Of Low-Powered Transistors"

Kazan. aviats. in-ta (Kazan Aviation Institute), 1970, Issue 104, pp 112-115 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B211)

Translation: The block diagram is described of a unit for measurement of the spectral density G(f) of the low-frequency noise of a transistor. One hundred Type P416A transistors were investigated. Measurements of G(f) were conducted in the range from 20 Hz to 20 kHz with the identical regime: U_k = 8 v, I_k = 5 ma. The experimentally obtained G(f) for all the transistors show that $G(f) = 1/f^{\delta}$ with $f < f_1$, where f_1 is the frequency of inflexion of the function G(f); δ is a parameter. With $f > f_1$, the magnitude G is constant. The statistical distribution of the absolute value G(f) shows that for the majority of Type P416A transistors the spectral density of the power at a 20 Hz frequency with I_k = 5 ma and U_k = 8 v lies in the limits $10^{-13} \div 10^{-12}$ v^2/Hz. 3 ill. 2 ref. G.R.

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1/2 030 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--RELIABILITY PREDICTION OF TRANSISTORS -U-

AUTHOR--PRYANIKOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ RADIOELEKTRONIKA (USSR), VOL. 13, NO. 1, P. 99-102, JAN. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., METHODS AND EQUIPMENT

TOPIC TAGS--RELIABILITY, TRANSISTOR, LOW FREQUENCY, NOISE MODULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1722 STEP NO--UR/0452/70/013/001/0099/0102

CIRC ACCESSION NO--AP0136963

UNCLASSIFIED

2/2 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0136963 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIBES A METHOD FOR PREDICTING THE RELIABILITY IN ACCORDANCE WITH OPERATION AT LOW FREQUENCIES. LARGE BATCHES OF TRANSISTORS ARE MEASURED TO DETERMINE THEIR PERFORMANCE WITH TIME; THIS YIELDS THE PREDICTION PARAMETERS G SUBI WHICH INDICATES THE POTENTIAL RELIABILITY OF TRANSISTORS WITHIN THE SPECTRAL NOISE DENSITY AT 20 HZ. SUBSEQUENTLY, G SUBI(T) AND FAILURE RATES ARE WORKED OUT. A COMPARISON MADE WITH RESULTS OBTAINED BY OTHER METHODS SHOW GOOD AGREEMENT. BRIEF SAMPLED TESTS OF TRANSISTORS, MEASURING THEIR LOW FREQUENCY NOISE PERFORMANCE, ENABLES STATISTICAL PREDICTION OF THEIR RELIABILITY TO BE MADE.

UNCLASSIFIED

USSR

UDC 669.14.018.821

NEL'KUNOV, I. N., KLYUYEV, M. M., PRYANISHNIKOV, I. S., PIVOBAROVA, L. I., and SHCHEGLOVA, R. I., Elektrostal' Plant

"Properties of Steels Alloyed with an Excess of Nitrogen"

Moscow, Stal', No 8, Aug 73, pp 749-752

Abstract: The properties of some standard steels were investigated in which nitrogen was added in amounts which exceeded the theoretical limits of its solubility under ordinary conditions. The specific steels studied were: EP222 (Kh21G7AN5), EP618 (Kh25N12AR), EP731 (OOOKh19G10N7AM2), EI835 (Kh25N16G7AR), and EP310 (1Kh15N5AM2). The chemical composition of these steels is given. It was shown that in the process of plasma-arc remelting from the gas phase a greater saturation of the metal with nitrogen is achieved than under conditions of using nitrided ferroalloys. Steel from ingots weighing 400 kg had satisfactory properties, especially increased strength with acceptable ductility. The quantitative effect of nitrogen was investigated and its mechanism refined. Four figures, two tables.

1/1

USSR

UDC 669.18-412:621.746.753

PIRKULOV, V. G., TAGER, L. P., PRYANISHNIKOV, I. S., FILIPPOV, A. F., and KLYUYEV, M. M., Elektrostal' Plant and Moscow Institute of Steel and Alloys

"Producing Charging Ingots From Metal-Abrasive Wastes of Heat-Resistant Alloys"

Moscow, Stal', No 8, Aug 73, pp 724-725

Abstract: The technology of concentrating the wastes from grinding a heat-resistant nickel-base alloy using electrical separators with corona discharge has been developed. The engineering modes were determined that provide the production of rich metallic concentrates with a metal content of almost 90% (mixture of oxidized metallic chip and alumina). The enriched concentrate was remelted in an experimental 50-kg induction furnace on a charging block with a resulting quality that satisfied specified requirements for smelting of heat-resistant alloys. Three figures, four bibliographic references.

1/1

AA0040651 PRYANISHNIKOV T.S. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

240726 ELECTROSLAG REMELTING in a syphon bottom pouring operation: the consumable electrode is inserted so that its base is clear of the bottom by one third of the slag bath depth. Voltage is applied and the molten slag syphoned into the mould, or else imported via a tundish and orifice in the bottom of the mould. The slag rises and makes the circuit. The idea is to raise the slag sharply and thus avoid any skull or crusting on the mould bottom or walls. Once the slag reaches project height, syphoning stops and remelting proceeds normally.

5.3.66 as 1060334/22-2. PATON.B.E.et al.E.O.PATON ELECTROWELDING INST. (26.8.69) Bul 13/1.4.69.
Class 18b. Int.Cl.C 21 c.

19750234

AA0040651

AUTHORS: Paton, B. Ye.; Medovar, B. I.; Latash, Yu. V.; Dudko, D. A.; Yemel'yanenko, Yu. G.; Klyuyev, M. M.; Pryanishnikov, I. S.; Laktionov, V. S.; Butskiy, V. N.; and Kosyrev, L. K.

Ordena Trudovogo Krasnogo Znameni Institut Elektrosvarki imeni E. O. Patona

19750235

2/2

1/2 033 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--TECHNOLOGICAL TREATMENT OF A MOLTEN METAL BY POWDERED MATERIAL -U-

AUTHOR-(05)-SIMONOV, V.I., KOSYREV, L.K., FILIPPOV, A.F., PRYANISHIKOV, I.S., KABANOVA, N.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. METAL. 1970, 13(1) 52-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LIQUID METAL, CALCIUM FLUORIDE, CALCIUM OXIDE, PHOSPHORUS CONTAINING ALLOY, STEEL, POWDER METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0962 STEP NO--UR/0148/70/013/001/0052/0055

CIRC ACCESSION NO--AT0105831

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0105831

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPHOSPHORIZATION OF STEEL CONTG. P 0.03-0.1, C 0.12-1.09, AND MN 0.07-0.15 WT. PERCENT WAS CARRIED OUT IN A 40 KG INDUCTION FURNACE WITH BASIC CRUCIBLE BY MEANS OF A POWDER OF CAO AND CAF SUB2 (RATIOS 9:1, 4:1, AND 3:1) BLOWN THROUGH THE MOLTEN METAL IN A GAS SUSPENSION. NO INCREASE IN N OR O CONTENT WAS OBSD.; ON THE CONTRARY, THE GAS CONTENT OF THE METAL DECREASED DURING THE BLOWING WITH THE POWDERS. THE BEST DEPHOSPHORIZATION CONDITIONS WITH CAO-CAF SUB2 MIXTS. OCCURRED WITH THE MIXT. CAO:CAF SUB2 EQUALS 4:1 AND THE WORST AT A RATIO 3:1. THE ADDN. OF FEO TO THESE MIXTS. DID NOT INCREASE THE DEPHOSPHORIZATION DEGREE; HOWEVER, THE REPLACEMENT OF A PART OF THE CAO BY BAO IMPROVED THE DEPHOSPHORIZATION, SO THAT WITH CAO-BAO-CAF SUB2 EQUALS 3:1:1 THE FINAL P CONCN. WAS 0.008-0.005 WT. PERCENT.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PYRROMECAINE ANESTHESIA DURING INSTRUMENTAL DIAGNOSTIC INVESTIGATIONS IN PATIENTS WITH PULMONARY PATHOLOGY -U-

AUTHOR-(05)-KUZIN, M.I., PRYANISHNIKOVA, N.T., OSIPOVA, N.A., KHADZHYEVA, S.N., GUZNOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 58-62

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHETIC, DIAGNOSTIC METHODS, RESPIRATORY SYSTEM DISEASE, LUNG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605003/D09 STEP NO--UR/0531/70/000/006/0058/0062

CIRC ACCESSION NO--AP0139541

UNCLASSIFIED

2/2 020 UNCLASSIFIED

CIRC ACCESSION NO--AP0139541 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CLINICAL TRIALS OF PYRROMECAINE, A NEW SOVIET MADE LOCAL ANESTHETIC, EFFECTED IN 102 PATIENTS WITH SURGICAL PULMONARY PATHOLOGY DEMONSTRATED THIS PREPARATION CAPABLE OF PRODUCING AN EFFECTIVE ANESTHESIA OF THE RESPIRATORY TRACT, ENSURING PERFORMANCE OF COMPLICATED DIAGNOSTIC PROCEDURES (BRONCHOGRAPHY, BRONCHOSPIROGRAPHY). AS REGARDS ITS POTENCY AND QUICKNESS OF ANESTHETIC ACTION PYRROMECAINE IS SUPERIOR TO NOVOCAINE AND IS EQUAL TO DICAINE. SIDE EFFECTS OF THE PREPARATION ARE INSIGNIFICANT.

FACILITY: KAFEDRA FAKUL'TETSKOY KHIRURGII I MII I. M. SECHENOVA, INSTITUT FARMAKOLGII, MOSKVA.

UNCLASSIFIED

USSR

UDC 615.781

CHERKASOVA, Ye. M., PRYANISHNIKOVA, N. T., BOGATKOV, S. V., and YERKOMAYSHVILI, G. S., Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov, Institute of Pharmacology and Chemotherapy, Academy of Medical Sciences, USSR

"Advance in the Chemistry of Anesthetics (1961-1971 Decade)"

Moscow, Uspekhi Khimii, Vol 42, No 10, Oct 73, pp 1892-1919

Abstract: A review with 411 references covering the more important studies on the chemistry of anesthetics in the past decade. Anesthetics represented by various classes of organic compounds are discussed: esters of amino-alcohols, aminoamides, aminoacid amides, aminoketones, and other mono-functional representatives. The structure-activity relationship is stressed. Considerable coverage is given to the literature data on the mechanism of action.

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DEGREE OF IONIZATION AND ACTIVE FORM OF ANESTHETICS -U-

AUTHOR--PRYANISHNIKOVA, N.T.

COUNTRY OF INFO--USSR

SOURCE--KHIM. FARM. ZH. 1970, 4(1), 35-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHESIA, TERTIARY AMINE, IONIZATION, HYDROGEN ION CONCENTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0360 STEP NO--UR/0450/70/004/001/0035/0039

CIRC ACCESSION NO--AP0121048

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121048

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CATIONS AND UNIONIZED MOLS. OF ANESTHETICS (TERTIARY AMINES) INFLUENCE DIFFERENTLY THE NA PRIME POSITIVE TRANSPORT THROUGH THE NERVE MEMBRANE. THE PH OF MEDIUM INFLUENCES NOT ONLY THE DEGREE OF IONIZATION OF THE SUBSTANCE, BUT ALSO THE CATIONS AND ANIONS OF THE RECEIVERS. THE CHARGED GROUPS OF RECEIVERS PARTICIPATE BY THE SUBSTANCE RECEIVER BINDING. THE STUDY OF IONIZATION DEGREE OF ANESTHETICS AND THE IDENTIFICATION OF THESE ACTIVE FORMS IS IMPORTANT FOR THE MECHANISM OF ACTION AS WELL AS FOR THE SYNTHESIS OF NEW ANESTHETICS. THE NATURE OF THE ACTIVE FORM OF 12 VARIOUS ANESTHETICS IS EXAMD. THE ANESTHETIC ACTIVITY OF THE SUBSTANCES WAS VERIFIED IN FROGS.

FACILITY: NAUCH. ISSLED INST. FARMAKOL. KHIMOTER., MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED

TITLE--EFFECT OF LOCAL ANESTHETICS ON THE MONOMOLECULAR LAYERS OF NERVE TISSUE LIPIDS -U-

PROCESSING DATE--16OCT70

AUTHOR--PRYANISHNIKOVA, N.T.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 178-82

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHESIA, LIPID, NERVE TISSUE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0180

STEP NO--UR/0390/70/033/002/0178/0182

CIRC ACCESSION NO--AP0119176

UNCLASSIFIED

2/2 021 UNCLASSIFIED

CIRC ACCESSION NO--AP0119176 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANESTHETIZING ACTIVITY OF LOCAL ANESTHETICS IN RABBITS DEPENDED DIRECTLY ON THEIR ABILITY TO PENETRATE THE MONOMOL. LAYER OF LIPIDS IN THENERVE TISSUE IN VITRO. THE ABILITY OF 12 TESTED COMPDS. TO PENETRATE DECREASED IN THE FOLLOWING SEQUENCE: 3-DIETHYLAMINO-1, 2-DIMETHYLPROPYL P-ISOBUTOXYBENZOATE-HCL, 3-DIETHYLAMINO-1,2-DIMETHYLBUTYL P-ALKOXYBENZOATE-HCL 1,2,5-TRIMETHYL-4-PHENYL-4-PIPERIDYL PHENOXYACETATE-HCL, SOVOCAINE, 1,2,5-TRIMETHYL-4-PHENYLPIPERIDYL BETA PHENOXYPROPIONATE-HCL, DICAINE, COMPOUND LL-25, COMPOUND LL-10, COCAINE, TRIMECAINE, EXCAINE, AND NOVOCAINE.

FACILITY: INST. FARMAKOL. KHIMIOTER., MOSCOW, USSR.

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