"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

UDC 669.245'26:539.43

FROLOV YU. P., KLYPIN A. A.

"Some Methods of Hardening Heat-Resistant Alloys based on Ni and Cr"

Tp. Mo k. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp 228, pp 25-42 (from RZh-Metallurgiya, No 4, Apr 72, Abstract 41732)

Translation: Thermomechanical treatment including post-deformation annealing preceding aging increases the level of high-temperature strength of EI437A alloy. By segregating the carbides along the grain boundaries it is possible to increase the high-temperature strength. The best properties are obtained for a combination of both types of treatment. The possibility of hardening a number of Ni-Cr alloys by preliminary jacketing at an increased stress level and working temperatures is demonstrated. The optimal stress level of the preliminary jacketing was found for certain materials. 11 illustrations and a 17-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 669.018.44

FROLOV, YU. P., KARYAKINA, N. V.

"Variation of the Structure and Properties of High-Alloy Alloys after Prolonged Aging"

Tp. Mosk aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp 228, pp 43-50 (from RZh-Metallurgiya, No 4, Apr 72, Abstract 4I739)

Translation: A study was made of a high-alloy heat-resistant alloy whose chemical composition corresponded to technical specifications. Heat treatment was carried out under the following conditions: quenching from 1220° for four hours, cooling in the air, quenching from 950° for two hours, cooling in the air, aging at 980°, 25, 100, 200, and 500 hours. After aging, the structure and properties of the alloy were investigated. It was demonstrated that during the process of prolonged aging of the alloy at 980°, structural transformations take place which are connected with coagulation of the hardening phase, variation of the amount and composition of the carbide phases, and variation of the grain boundary structure. Oxidation of the surface of the specimens takes place, and the depth of the oxidized layer depends linearly on the aging time. Accordingly, the short-term strength and stress-rupture strength drop for smooth specimens and vary with respect to the complex law for notched samples. 6 illustrations and a 3-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EFFECT OF NOTCHES AND TRANSIENT OVERLOADS ON THE LONG TERM STRENGTH -U-

AUTHOR-(02)-KLYPIN, A.A., FROLOV, YU.P.

F

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, APR. 1970, P. 89-91

DATE PUBLISHED----APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HIGH STRENGTH STEEL, STEEL HEAT TREATMENT/(U)KH18N9T STEEL, (U)KH77TLU STEEL, (U)EL481 STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0114 STEP NO--UR/3663/70/002/000/0089/0091

CIRC ACCESSION NO--AP0123886

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123886

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF TRANSIETN OVERLOADS ON THE LONG TERM STRENGTH OF STEELS KH18N9T, KH77TLU, AND EL-481 USING NOTCHED AND SMOOTH SAMPLES. SPECIAL ATTENTION IS GIVEN TO THE EFFECT OF HEAT TREATMENT ON THE SENSITIVITY TO NOTCHES AT HIGH TEMPERATURES. FACILITY: MOSKOVSKIT AVIATSIONNYI INSTITUT, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

UDC 536.46+662.217

USSR

FROLOV, YU. V., DUBOVITSKIY, V. F., KOROTKOV, A. I., KOROSTELEV, V. G., Moscow

"Convective Combustion of Porous Explosives"

Novosibirsk, Fizika goreniya i vzryva, Vol 8, No 3, 1972, pp 368-378

Abstract: A study was made of some of the steps in the development of the process of combustion of porous systems of limited length. The experiment in the development of convective combustion was carried out primarily in a constant-pressure device with a free volume of two liters equipped with a peephole for optical recording of the process, a series of electric leads for the thermocouples and a piezoelectric pressure-sensitive sensor. A mixed condensed stoichiometric system of polystyrene and ammonium perchlorate was used. The general nature of the development of the combustion processes along the length of the porous sample as a function of its length with different porosity is plotted. Under other equal conditions, the general level of the propagation rate of the convective combustion increases as the porosity of the specimen increases. Under the effect of a critical pressure drop it is possible to isolate three characteristic regimes in which the predominant one is: a) the filtration process (the initial segment of the charge); b) the process of development of convective combustion and c) the effect of creating a counter pressure as a result of compression of the filtered gas filling the pores in advance. The presence and

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USSR.

FROLOV, YU. V., et al., Fizika goreniya i vzryva, Vol 8, No 3, 1972, pp 368-378

commensurableness of the indicated regimes depends primarily on the length, porosity and physical-chemical properties of the sample and also on the initial pressure drop in the pores and the surrounding volume.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 536.45+662.32

FROLOV, YU. V., POKHIL, P. F., and LOGACHEV, V. S. (Moscow)

"Inflammation and Combustion of Powdered Aluminum in High-Temperature Gaseous Media and the Composition of Heterogeneous Condensed Systems"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 8, No 2, Jun 72, pp 213-236

Abstract: The article gives a brief survey of Soviet scientific studies published in the last three or four years on peculiarities of the mechanism for the inflammation and combustion of metal particles (especially aluminum) and the effect of the latter on the combustion of condensed systems. The following areas are covered:

1. The study of the process of the inflammation and combustion of individual metal particles in a high-temperature gaseous oxidizing medium.

2. The study of peculiarities of the mechanism for the combustion and inflammation of powdered metal particles in the combustion products of condensed fuel-oxidizer systems.

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FROLOV, YU. V., et al., Fizika Goreniya i Vzryva, Vol 8, No 2, Jun 72, pp 213-236

3. The study of the principal regularities in the enlargement (agglomeration) of powdered metal particles on (or near) the burning surface of ballistic or mixture powders with increased concentration (up to 25 percent) of the metallic additive.

4. Detection of the principal directions of the effect of powdered metals on the combustion rate of mixture condensed fuel-oxidizer systems.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 536.46:533.6

FROLOV, Yu. V., KOROTKOV, A. I., LEYPUNSKIY, O. I., POKHIL, P. F.

"Burning of Aluminum in the Composition of Heterogeneous Condensed Systems"

V sb. Fiz. Aerodispersn. sistem. Vyp. 3 (Physics of Aerodisperse Systems --collection of works, No 3), Kiev, Kiev University, 1970, pp 126-137 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B805)

Translation: A brief survey is presented of previously completed works on burning of aluminum. Work on studying burning of the metal and the principles which govern burning of metallized heterogeneous condensed compositions is done on a semiclosed installation and in a constant-pressure device. The pressure interval is 10-100 atmospheres. The authors consider the effect which various factors (pressure, agglomeration, etc.) have on burning of aluminum in a composition of condensed systems. An experimental formula is derived for determining the time of burning of aluminum particles $\tau_b = 0.67d^{1.5}/a_c^{0.9}$, where d is the diameter of the particles in microns; a_c is the relative concentration of oxygen-containing active compounds H_2O+CO_2 in percent. Bibliography of thirteen titles. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 629.7.036.54-66:536.46

FROLOV, Yu. V. and TSIGANOV, S. A.

"The Ignition and Combustion of Aluminum in Mixtures With Ammonium Perchlorate"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972--Sbornik(11th All-Union Conference on Problems of the Evaporation, Combustion, and Gas Dynamics of Dispersed Systems, 1972--Collection of Works), 1972, p 40 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 1, 1973, Abstract No 1,34.156. Resume)

Translation: In the work, experimental data are presented with regard to the length of time aluminum particles are present on the combustion surface of a specimen and the mixture system of ammonium perchlorate (AP) polymethylmethacrylate (PMMA), the speed of their movement within the flame tongue, the change of the reaction zone -- the zones of luminescence of the individual particles -- with time. For intensification of the combustion of aluminum particles in the composition of the mixture systems of AP with an organic fuel, use was made of the method of "enveloping" the aluminum particles by AP particles. The combustion of dual mixtures of AP - aluminum is discussed. It is shown that the presence of aluminum shifts the lower limit of AO combustion into a region of higher pressures (50-80 technical atmospheres).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

FROLOV, Yu. V. and TSIGNAOV, S. A., 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972--Sbornik, 1972, p 40

The supplementary introduction of a combustion catalyst (2% Cu_2O) into the mixture intensifies the process of the ignition of aluminum particles in the flame tongue. This effect is linked to the supplementary heat release in the reaction of Cu_2O oxidation which takes place immediately after the stage of preliminary decomposition of the AP. A consequence of early ignition of the aluminum particles is a decrease of the lower limit of stable AP combustion ($p < 10$ physical atmospheres) with respect to pressure, an increase of the rate of combustion of the mixture, and a decrease of the degree of aluminum-particle agglomeration on the combustion surface of the specimen.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ON THE PERIOD OF DISPENSORY FOLLOW UP OF SUBJECTS WITH TAENIARCHYNCUS SAGINATUS INFESTATION -U-

AUTHOR--FROLOVA, A.A.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL 39, NR 1, PP 108-109

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PARASITIC DISEASE, DRUG EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1548 STEP NO--UR/0358/70/039/001/0108/0109

CIRC ACCESSION NO--AP0101624

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101624

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED AT LENGTH 59 RELAPSES OF INVASION IN PATIENTS WITH TAENIARHYNCHOSIS AFTER UNSUCCESSFUL TREATMENT WITH DICHLOSALE. IN 18 PATIENTS ELIMENATION OF PROGLOTTIDES OF BEEF TAPEWORM BEGAN AGAIN ONLY IN 3 AND ONE-HALF TO 4 MONTHS (THE POSSIBILITY OF REINVASION WAS RULED OUT), IN THE OTHERS, AT SOME EARLIER INTERVALS. THESE 18 CASES PROMPTED A RECOMMENDATION TO INCREASE THE PERIOD OF DISPENSARY FOLLOW UP OF PATIENTS WITH BEEF TAPEWORM INVASION TO 4 AND ONE-HALF MONTHS FROM THE TIME OF THEIR TREATMENT WITH DICHLOSALE INSTEAD OF A PREVIOUS 3 MONTH PERIOD. SUBSEQUENTLY IT WOULD BE EXPEDIENT TO STUDY THE EFFECT OF DIFFERENT ANTHELMINTHIC DRUGS ON THE TIME OF REGENERATION OF T. SAGINATUS STROBILA.

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USSR UDC 632.95

ALIMOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., ZUBOVA, G. M., IRANDOVA, I. I., KERBABYEV, E. B., NEKLESOVA, I. L., STREL'NIKOVA, G. N., and FROLOVA, A. I.

"Insecticidal Properties of O-Methyl-O-Dichlorovinyl-N-Dimethyl Amidophosphate"

Tr. VNII dezinfektsii i sterilizatsii (Works of the All Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 68-73 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18N423)

Translation: The substance of formula $(MeO)Me_2NP(O)OCH{=}CCl_2$ (I) has strong contact, fumigation and intestinal action at the instant of application on houseflies, bedbugs and red cockroaches; the agent is not as strong as other organophosphorus insecticides with respect to mosquitoes. The most active form for application to a glass surface is a water emulsion prepared from compound I with OP-7 (1:1) and a solution in acetone. An alcohol solution is considerably less active. An investigation is made of the larvicidal activity of compound I. The insecticide has no residual effect. T. A. Belyayeva.

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USSR UDC 632.95

ALIKOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., IRANDOVA, I. I., KERBABAYEV, E. B., NEKLESOVA, I. D., STERL'NIKOVA, G. N., FROLOVA, A. I.

"Insecticidal Properties of Methyl-O-Ethyl (Carbethoxymethyl) Dithiophosphonate"

Tr. VNII dezinfektsii i sterilizi. (Works of the All-Union Scientific Research Institute of Dininfection and Sterilization), 1971, vyp, 21, t. 2, pp 73-76 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18R427)

Translation: The results of experiments in studying the insecticidal activity of $Me(EtO)P(S)SCH_2COOEt$ (I) (boiling point 89-92°C/0.02, $n^{20}D$ 1.5220) show that the compound has a fumigation effect and some contact action, but less than chlorophos. When applied to absorptive surfaces, the chemical is completely ineffective against household insects. Compound I has fumigatory activity against houseflies and is a larvicide against maggots. T. A. Belyayeva.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 615.849.114.015.3

FROLOVA, A. V., TIMOV, A. A., and VOLOSHKO, E. N., Moscow Scientific Research Rentoeno-Radiological Institute, Ministry of Health RSFSR

"Qualitative Composition of Radiation at Depth in an Irradiated Medium"

Moscow, Meditsinkaya Radiologiya, Vol 16, No 3, Mar 71, pp 75-77

Abstract: Since ionizing radiation is widely used in medicine and biology, it is of importance to determine its composition at some depth of the irradiated medium (tissue, for instance). To determine changes in the qualitative composition of a radiation beam with the depth of the irradiated medium, a phantom-dosimeter was developed by the authors, which allows one to determine simultaneously the dose field and the qualitative composition of the irradiation as a function of the thickness of the medium. The device contains two scintillation pickups, one of which consists of CsI, the other one consists of a scintillating plastic based on polystyrene containing PTP, POPOP and ZnS(Ag) additions. Each pickup was a cylinder 2 mm in diameter and 2 mm long. The relationship of the readings of each of the pickups to the qualitative composition of the irradiation differed. The sample cell was a rectangular plexiglas vessel 12 x 12 x 17 cm which could be filled with any liquid. A polyethylene film served as a window (55 mm diameter) for the

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

FROLOVA, A. V., et al., Meditsinkaya Radiologiya, Vol 16, No 3, Mar 71, pp 75-77

incoming radiation beam. The instrument was used to measure the dose field along the axis of the irradiation beam and to measure the thickness of the medium at which the radiation beam had lost half its intensity. Water and myogenic tissue were used as tissue-like media for the measurement of long-wavelength radiation. The data reported in this paper can be used for calculations of absorbed x-ray doses, in cases when it is necessary to consider the dependence of the conversion coefficients from roentgen to rads on the effective energy of the radiation.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 615.849.1.015.25

KUZNETSOVA, L. A., RYBAKOV, N. I., FROLOVA, A. V., and KOLOTILOVA, V. G., Moscow Scientific Research Institute of Roentgenology and Radiology

"Radioprotective Properties of Bis(2-Aminoethyl) Disulfide Dihydrobromide in the Longwave Band of X-Ray Irradiation"

Moscow, Meditsinskaya Radiologiya, Vol 15, No 12, 1970, pp 7-11

Abstract: The dose decrease factor (DDF) of the radioprotector bis(2-aminoethyl) disulfide dihydrobromide was determined using as a test the induction of prophage development in lysogenic bacteria. Suspensions of a 4-hour bacterial culture of E. coli K-12 (λ) in physiological saline were exposed to x-rays (100 to 800 r) with an effective energy of 35.7 kev. All the doses of the radioprotector used (0.01, 0.005, 0.001 M) markedly reduced the yield of phage particles in the irradiated lysogenic culture. The mean value of the DDF for the 0.005 M concentration (derived from 4 experiments) was 2.1 ± 0.94. This value remained constant within the limits of experimental error in the entire range of irradiation doses. Another series of experiments showed that the DDF for longwave x-ray irradiation in the energy region of 10.3 to 35.7 kev is independent of the effective energy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--DETERMINATION OF ABSORBED DOSES OF LONG WAVE ROENTGEN RADIATION WITH THE AID OF TISSUE EQUIVALENT PLASTIC SCINTILLATORS -U-

AUTHOR-(03)-FROLOVA, A.V., KOLTILOVA, V.G., KRONGAUZ, A.N.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 4, PP 57-61

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PLASTIC, SCINTILLATOR, RADIATION DOSIMETRY, RADIUM, RADIOTHERAPY, X RAY MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0956 STEP NO--UR/0241/70/015/004/0057/0061

CIRC ACCESSION NO--AP0109113

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109113

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER DEALS WITH PROBLEMS OF USING TISSUE EQUIVALENT SCINTILLATORS FOR DETERMINING THE ABSORBED ENERGY AND DISTRIBUTION OF ABSORBED DOSES OF LONG WAVE ROENTGEN RADIATION. IT IS SHOWN THAT THE RATIO BETWEEN THE VALUE OF ABSORBED ENERGY AND THE TECHNICAL EFFICIENCY OF THE SCINTILLATOR IS DETERMINED BY A NUMBER OF PARAMETERS. THE AUTHORS GIVE THE VALUES OF THESE PARAMETERS FOR SOME RADIATION REGIMES USED IN RADIUM THERAPY. FACILITY: MOSKOVSKIY N-I RENTGENORADIOLOGICHESKIY INST. MINISTERSTVA ZDRAVOOKHRANENIYA RSFSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 669.71.472

TSYPLAKOV, A. M., SENIN, V. N., TIMCHENKO, B. I., IKRIN, G. YE., PROLOVA, E. B.

"Aluminum Electrolyzer with Consumable Pins"

Tr. Vses. n.-i. i proyekta. in-ta alyumin., mana. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 75-84 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G158)

Translation: An experimental electrolyzer with a current strength of 130 kiloamps with consumable pins manufactured from 1[illegible] x 7 x [illegible] tubes was tested. Replacement of the extractable steel pins by consumable copper pins permitted the mean voltage to be decreased by 286 millivolts as a result of which the yield of aluminum per kilowatt-hour was increased by 5.5 grams. The current efficiency was increased by 1.25%. Improvement of the anode quality by lowering the thermal load and absence of rearrangement of the pins led to a reduction in the consumption of the anode mass by 67 kilograms/ton of aluminum and a reduction in the removal of carbon-carrying froth by 43 kg/ton as a result of which the consumption of F salts was reduced by 24 kg/ton.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

TSYPLAKOV, A. N., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 71, pp 75-84

The copper material balance indicating that 89% of the copper goes into the aluminum is presented. The nonrecoverable losses of copper are ~ 4%. There are 3 tables, 1 illustration and an 8-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--TEMPERATURE DEPENDENCE OF THE DAVYDOV SPLITTING IN ANTHRACENE -U-

AUTHOR--KURIK, M.V., PIRYATINSKIY, YU.P., POPEL, O.M., FROLOVA, E.K.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 2, PP 8-3-806

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TEMPERATURE DEPENDENCE, ANTHRACENE, PHOTOCONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0221 STEP NO--GE/0030/70/037/002/0803/0806

CIRC ACCESSION NO--AP0106877

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2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106877

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DAVYDOV SPLITTING FOR PHOTOCONDUCTIVITY AND ABSORPTION IN ANTHRACENE HAS BEEN MEASURED IN A WIDE TEMPERATURE RANGE. A PHENOMENOLOGICAL THEORY IS DEVELOPED WHICH EXPLAINS QUALITATIVELY THE OBSERVED REGULARITIES.

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UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 014

TITLE--TEMPERATURE DEPENDENCE OF THE DAVYDOV SPLITTING IN ANTHRACENE

AUTHOR--KURIK, M.V., PIRYATINSKIY, YU.P., POPEL, O.M., EROLOVA, E.K.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 2, PP 8-3-806

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TEMPERATURE DEPENDENCE, ANTHRACENE, PHOTOCONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0221 STEP NO--GE/0030/70/037/002/0803/0806

CIRC ACCESSION NO--AP0106877

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2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106877

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DAVYDOV SPLITTING FOR PHOTOCONDUCTIVITY AND ABSORPTION IN ANTHRACENE HAS BEEN MEASURED IN A WIDE TEMPERATURE RANGE. A PHENOMENOLOGICAL THEORY IS DEVELOPED WHICH EXPLAINS QUALITATIVELY THE OBSERVED REGULARITIES.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

UDC 621.355.8.035.2

USSR

KUZ'MIN, YU. A., MASHEVICH, M., UFLYANP, N. YU., and FROLOVA, F. P.

"The Influence of Cobalt on the Characteristics of the Nickel-Oxygen Laminar Electrodes, Operating in a Zincate Electrolyte"

Sb. rabot no khim. istochnikam toka. Vses. n.-n akkumulyator, in-t (collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries), Vyp 7, 1972, pp 163-167 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L245 by V. S. Levinson)

Translation: The possibility was examined for the construction of Nickel-Zinc batteries using a nickel-oxygen electrode having laminated structure with specific characteristics close to those of nickel-cadmium and nickel-iron batteries. The introduction of the 3% impurity of cobalt in the form of a solution of $CoSO_4$ into the active part of the cathode contributes to the increase in depth of discharge, and in long range cycles to the depth of discharge of the electrode, owing to which the time of operation of the batteries reached 70-80 cycles and the average voltage was 40% greater than the voltage of the nickel-cadmium and nickel-iron batteries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 518:512.25

MEGLINSKIY, V. V., and FROLOVA, G. I.

"Use of Electronic Computers in Solving the Problem of Bending an Anisotropic Plate With an Opening, Supported Along Its Edges"

Saratov, Vychisl. metody i programmir. -- Sbornik (Computational Methods and Programming -- Collection of Works), No 4, Saratov Univ. Pub. House, 1970, pp 46-55 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B904, by I. Shelikhova)

Translation: A numerical method of solving the problem of bending a thin anisotropic elliptical plate with an elliptical opening, supported on its edge and bent under the action of constant-intensity moments applied along its edge, is presented. By means of functions of generalized complex variables, the solution of the problem reduces to the solution of an infinite system for linear algebraic equations with complex coefficients. The results of numerical calculations on a Ural-2 computer, in which a specialized interpreting system was employed for computations with complex numbers, are discussed. These numerical calculations revealed the substantial effect of the material's anisotropy on the stress-strain state of the plate.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 621.396.6.049.75.002

GRINSHTEYN, E. Sh., NESTERENKO, Yu. F., FROLOVA, I. S.

"Making Multilayered Printed-Circuit Boards With Protruding Leads"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry--collection of works), vyp. 4, Moscow, 1972, pp 36-38 (from RZh--Radiotekhnika, No 8, Aug 72, Abstract No 8V328)

Translation: A technological process is worked out for making multilayered printed-circuit boards with protruding leads. The technique gives boards with high operational reliability and enables 100% tracing with automated design of multilayered printed-circuit boards without human interference. Resumé.

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USSR

ROMASHOV, V. M., et al, Poroshkovaya Metallurgiya, No. 9, Sep 70, pp 80-86

tables in the original article, suggest that the melting temperature of nickel boride is higher than that indicated by earlier researchers. An equilibrium diagram in the high boride domain of the Ni-Sm-B ternary system is proposed.

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USSR

UDC: 621.785:661.65

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

ROMASHOV, V. M., TIMOFEYEVA, N. I., FROLOVA, K. I., and ROMANOVICH, I. V., Moscow

"Interaction of Nickel With Samarium Hexaboride and Boron"

Kiev, Poroshkovaya Metallurgiya, No. 9, Sep 70, pp 80-86

Abstract: This study involved 99.7% pure carbonyl nickel powder and samarium hexaboride. The latter was obtained by the reaction $2Sm_2O_3+30B \rightarrow 4SmB_6+3B_2O_2$. Alloys of both powders were subjected to x-ray diffraction and microstructure analyses, microhardness measurements of phase components, and quantitative analyses of both nickel and samarium. The interaction of nickel with samarium hexaboride indicates a dissociation of the latter to form SmB_4. Depending on the nickel and hexaboride ratio in the initial mixtures, nickel borides are formed. Data on thermal and x-ray structure analyses of nickel and samarium hexaboride alloys, given in

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--FINE MOSAIC STRUCTURE OF NATIVE GOLD CRYSTAL GRAINS ELECTRON MICROSCOPE DATA -U-

AUTHOR-(03)-PETROVSKAYA, N.V., FROLOVA, K.YE., PLYASHKEVICH, L.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 433-5 (MINERAL)

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GOLD, ELECTRON MICROSCOPY, MINERAL DEPOSIT, SINGLE CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1046 STEP NO--UR/0020/70/191/002/0433/0435

CIRC ACCESSION NO--AT0119913

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119913

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FINE MOSAIC STRUCTURE WAS STUDIED WITH SAMPLES OF NATIVE AU FROM BALEISK AREA (TRANSBAIKALIA) AND AGATOVSK DEPOSIT (OKHOTSK-CHUKOTKA VOLCANIC BELT). THE BALEISK AND AGATOVSK DEPOSIT AU CONTAINED 21.67-2.14 AND 44.70-5.87PERCENT AG, RESP., WITH TRACES 2PERCENT CU, FE, SE, HG, AND SB. SINGLE CRYSTALS OF BALEISK AU HAD A COMPLEX STRUCTURE CORRESPONDING GENERALLY TO THE TYPICAL MOSAIC (BLOCK) STRUCTURE OF CRYSTALS. FINE GRAINS OF EARLY AU CONSISTED OF VERY FINE (0.2-1 MU) SUBINDIVIDUALS, SO CALLED BLOCKS. THEY HAD ISOMETRIC SHAPE OFTEN CLOSE TO OCTAHEDRAL. THE FINE ZONES OF SOME OTHER AU, MORE EASILY ETCHABLE BY AQUA REGIA, WERE PRESENT BETWEEN THESE SUBINDIVIDUALS. THESE ZONES CONSISTED OF PARTICLES GREATER THAN OR EQUAL TO 1-10 AS SMALL AS MOSAIC BLOCKS. THE AG RICH AU FROM AGATOVSK DEPOSIT CONSISTED OF IRREGULAR DENDRITIC SEGREGATIONS IN A FINE GRAINED QUARTZ. THEY HAD SHARPLY EXPRESSED MOSAIC STRUCTURE OF THE GRAINS. THE MOSAIC BLOCKS, WHICH ARE USUALLY SMALL IN CENTRAL PARTS OF SEGREGATIONS (0.2-0.3 MU), BECOME LARGER (1-2 MU) TOWARDS THE PERIPHERY. IN PLACES, THEY BECOME MUCH LONGER, ACQUIRING DIRECTION SUBPARALLEL TO THE GRAIN BOUNDARY. FACILITY: INST. GEOL. RUD. MESTOROZHD., PETROGR., MINERAL. GEOKHIM., MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

UDC 629.78.015.4

MOSTOVOY, A. S., MINORANSKIY, E. I., CHURAKOV, A. A., FROLOVA, L. K.

"Theoretical Determination of Durability of A Specimen in Extension and Compression"

Tr. Kuybyshev. Aviats. In-t. [Works of Kuybyshev Aviation Institute], No 48, 1971, pp 222-230, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 2, 1972, Abstract No 2.41.185 from the Resume).

Translation: This work presents a mechanism of fatigue rupture, according to which the specimen is looked upon as a set of discrete fiber elements, exerting no pressure on each other. The linear theory of adding of fatigue damage is applied to an individual fiber. With this approach, the accumulation of damage in a fiber is determined by its stressed state, studied considering its loading history. The dependence of stress in the fiber on the rupture number of cycles, the fatigue curve for a crack, can be produced experimentally. Appearance of the first microcrack is interpreted as rupture of the most highly stressed fiber. Thus, if the time corresponding to the development of a crack is known and the process of crack propagation is described, the durability of the specimen can be calculated. 7 Figures; 2 Tables; 3 Biblio. Refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

UDC 539.43

MOSTOVOY, A. S., KOZLOV, A. A., FROLOVA, L. K., CHURAKOV, A. A., Kuybyshev

"Determination of Durability of Structural Elements on the Basis of Certain Concepts Concerning the Mechanism of Fatigue Rupture"

Problemy Prochnosti, No 3, 1972, pp 21-27.

Abstract: A method is presented for calculating the fatigue durability of a structural element of an aviation product manufactured of 1Kh18N10T steel. The mechanism of fatigue rupture is described by integral equations for the derivatives which are the inverse of the rates of propagation of cracks along selected coordinates. Integration of the derivatives produced yields the crack propagation time. The durability is calculated with programmed loading using damage curves produced by calculating durability with harmonic loading. The results of calculation of durability of the structural element with harmonic and programmed loads are compared with experimental results. The correspondence is quite satisfactory.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 541.127 + 546.799

FROLOVA, L. M., TIMOFEYEV, G. A., and RYKOV, A. G.

"Kinetics of the Reaction of Uranium(IV)-Heptunium(VI) in Tributyl Phosphate Solutions"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 867-868

Abstract: Results are reported of the study of reaction kinetics of the oxidation of uranium(IV) with neptunium(VI) ions. All of the reactions examined in TBP solutions showed that a change in the effective reaction rate constant with changing composition of the solvent is due to the change in entropy of activation. Going from aqueous solutions to the solutions of TBP only the apparent characteristics of the reaction are changed, not the energetic properties. It would seem that the reaction mechanism in water solutions and in TBP is identical.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

UDC 541.127 + 546.791.4

RYKOV, A. G., FROLOVA, L. M., and TIMOFEYEV, G. A.

"Investigation of the Oxidation-Reduction Reactions of Actinide Elements. XXIV. Kinetics of the Reaction Uranium(IV)-Iron(III) in Aqueous Isopropanol Solutions"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 875-876

Abstract: The reaction rate of uranium(IV)-iron(III) is higher in aqueous isopropanol solution than in aqueous methanol or ethanol. The logarithm of the effective rate constant is related to the intensity of a band with charge transfer in the absorption spectrum of the cation oxidizer Fe^{3+}. The reduction-oxidation rate depends on the donor ability of the solvent -- the rate is higher with decreasing effective ionization potential of the solvent.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

FROLOVA, M. A.

JPRS 55569
19 Mar 72

UDC: 616.12-089.843

CURRENT PROBLEMS DEALING WITH HEART TRANSPLANTATION

[Article by V.I. Burakovskiy, Ya.L. Raspoport, M.A. Frolova, G.E. Fal'kovskiy, Institute of Cardiovascular Surgery imeni A.N. Bakuleyev, USSR Academy of Medical Sciences, Moscow; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 2, 1972, pp 77-85]

Heart transplantation, a method of treating patients with advanced cardiac pathology that does not respond to any of the presently known therapeutic and surgical methods, is experiencing a critical period.

Today, much depends on whether modern science will be able to catch up to the flight of surgical fantasy or whether the mysteries of tissue incompatibility will bury it in oblivion without making man's age-long dream come true.

The ethical aspects confronting scientists are quite vast, but they do not determine the present status of the problem. At the present time in most countries of the world appropriate laws have been issued dealing with the legal aspects of this operation. The question of whether or not to perform a heart transplant, which is strictly a theoretical one for sociologists and demographers, becomes a purely practical one when it involves a concrete patient who is dying before the eyes of a team of experienced cardiosurgeons.

The visible coolness toward the operation on the part of the vast majority of surgeons is not due to a question of principles, but rather because theoretical aspects of transplantation have not been worked out sufficiently. After performing several more or less successful operations and becoming convinced of the feasibility of the surgical technique, most leading cardiosurgeons have returned to experimentation and have undertaken the complex investigation of the chief issues in transplantology.

Tables 1, 2, and 3 submit data on heart transplants performed (Bergan, 1970) as of March 1971.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE MECHANISM OF IMMUNOGENESIS IN VACCINATION WITH S PRIMED MUTANTS OF SALMONELLAE AND SHIGELLAE, REPORT II. NONSUSCEPTIBILITY OF MICE TO S.

AUTHOR-(05)-SERGEYEV, V.V., FROLOVA, M.A., PROTASOVA, O.V., YELKINA, S.I., SHUSTER, B.YU.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5, PP 126-130

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, SHIGELLA, BACTERIA MUTATION, IMMUNIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0141 STEP NO--UR/0016/70/000/005/0126/0130

CIRC ACCESSION NO--AP0114537

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN COMPARING THE IMMUNOGENIC PROPERTIES THE AUTHORS FOUND THE VACCINE PREPARED FROM THE LIVE S PRIMED CULTURE OF S. ENTERITIDIS BACTERIA TO BE MORE EFFECTIVE IMMUNOLOGICALLY THAN THE VACCINE MADE OF KILLED BACTERIA OF A VIRULENT STRAIN. ALONG WITH INTENSE SPECIFIC IMMUNITY, ORAL IMMUNIZATION WITH S PRIMED MUTANT ALSO PRODUCED THE DEVELOPMENT OF NONSPECIFIC RESISTENCE. IMMUNOLOGICAL RECONSTRUCTION OF CELLS OF THE RETICULOENDOTHELIAL SYSTEM AND OF THE INTESTINE WAS ESTABLISHED BY THE REACTION OF CELLULAR PASSIVE SKIN ANAPHYLAXIS. FACILITY: MOSCOW INSTITUT VAKTSIN I SYVOROTOK IM. MECHNIKOVA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

Microbiology

USSR

UDC 575.111:575.24:576.858

FROLOVA, M. M., ZASUKHINA, G. D., and RAPOPORT, I. A., Institute of Poliomyelitis and Viral Encephalitides, Academy of Sciences USSR, and Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Variability of Chikungunya Virus. II. Characteristics of Induced Mutagenesis in Plaque Mutants of Chikungunya Virus"

Moscow, Genetika, No 9, 1971, pp 169-174

Abstract: Plaque mutants of Chikungunya virus differed in sensitivity to the inactivating effect of the mutagens ethyleneimine and chloroethyleneimine. For example, the small-plaque mutant was 10 times more resistant than the large-plaque mutant. The yield of variants differing in virulence for mice varied with the dose of the particular alkylating agent used. High concentrations of ethyleneimine produced the maximum number of mutants pathogenic for mice, but low concentrations of chloroethyleneimine were required for the same effect. Neither agent induced mutations affecting the size of the plaques.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 576.858.25.095.6.095.18:615.217.32

ZASUKHINA, G. D., FROLOVA, M. M., and LEVKOVICH, Ye. N., Institute of Poliomyelitis and Virus Encephalitis, Academy of Medical Sciences USSR, Moscow

"Investigation of the Effect of Guanidine on the Replication of Chikungunya Virus"

Moscow, Voprosy Virusology, No 6, Nov/Dec 70, pp 735-736

Abstract: The inhibitory effect of guanidine on variants of the Chikungunya virus was studied. One variant (S^+) included 10-13% of platelets 3-4 mm in diameter and the remainder 1-mm platelets. The second variants (S^-) was homogeneous (1-mm platelets) and stable in passages in chick embryo tissue cultures. The two variants were affected differently by various guanidine concentrations. Guanidine increased the number of platelets formed by both variants in old tissue cultures, perhaps as a result of the effect of guanidine on the antivirus activity of interferon. The effect of guanidine on platelet size is regarded as being related to the characteristics of virus replication in the presence of guanidine.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 008 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--VISCOUS MAGNETIZATION OF MAGNETITE AS A STRUCTURE SENSITIVE PARAMETER OF HETEROGENEOUS GRAIN STRUCTURE -U-

AUTHOR--FROLOVA, O.M.

F

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, FIZ. ZEMLI 1970, (2), 113-17

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--MAGNETITE, MAGNETIZATION, MINERAL, DEMAGNETIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0204 STEP NO--UR/0387/70/000/002/0113/0117

CIRC ACCESSION NO--AP0115908

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 008 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115908

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE "VISCOUS" REMANENT MAGNETIZATION OF SPECIMENS DEMAGNETIZED IN AN ALTERNATING FIELD WAS MEASURED IN A 5-OE FIELD IN SUCCESSIVELY INCREASING PERIODS OF 1 TO 6 TIMES 10 PRIME5 SEC WITH 2-3 MIN INTERMISSIONS. THE DATA WERE EVALUATED FOR PLOTTING SQUARE ROOT I SUBRV EQUALS F(LOG T). THE SHAPES OF SUCH CURVES PERMIT SENSITIVE DISCRIMINATION BETWEEN INDIVIDUAL MAGNETIC MINERALS, GRAIN BY GRAIN. FACILITY: FIZ. FAK., MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

UDC 547.341

USSR

PUDOVIK, A. N., KHUSAINOVA, N. G., and FROLOVA, T. I.

"1,3-Bipolar Addition of N-Phenylsydnone to Esters of Propynylphosphonic and Propynylthiophosphonic Acids and to Diphenylpropynylphosphine Oxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,420-2,424

Abstract: 1,3-Bipolar addition to phosphorus-containing acetylenes is not well known. Cycloaddition was achieved by running the indicated reactions at 130-150° for 10-12 hrs. N-Substituted phosphonpyrazoles were obtained in yields of 65-80%. 1-Phenyl-3-diphenylphosphinoxide-4-4methylpyrazole and four different 1-phenyl-3-dialkyloxy(thio)phosphono-4-methylpyrazoles were obtained. Yields, formulas, physical constants, etc., for these are given.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 041 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CONCENTRATION DEPENDENCE OF PHYSICAL PROPERTY ANOMALIES DURING ANTIFERROMAGNETIC TRANSFORMATION IN IRON MANGANESE ALLOYS -U-

AUTHOR-(03)-BOGACHEV, I.N., YEGOLAYEV, V.F., FROLOVA, T.L.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(2), 358-63

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--PHYSICAL PROPERTY, MANGANESE ALLOY, AUSTENITE, FERROMAGNETIC MATERIAL, ANTIFERROMAGNETIC MATERIAL, NEEL TEMPERATURE, ELASTIC MODULUS, MAGNETIC STRUCTURE, INTERNAL FRICTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0935 STEP NO--UR/0126/70/029/002/0358/0363

CIRC ACCESSION NO--AP0121537

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 041 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANOMALIES WERE STUDIED DURING THE ANTIFERROMAGNETIC TRANSFORMATION INTO AUSTENITE FOR ALLOYS CONTG. 14-38PERCENT BY WT. MN. THE ALLOYS CONTG. LESS THAN 27PERCENT BY WT. MN WERE SUBJECTED TO STABILIZING TREATMENT TO AVOID THE EFFECT OF THE EPSILON PHASE ON THE TEMP. DEPENDENCE. AS THE MN CONCN. DECREASES, THE ANOMALIES IN THE NORMAL ELASTIC MODULUS, THE INTERNAL FRACTION, AND THE COEFF. OF LINEAR EXPANSION AT THE NEEL POINT INCREASE. THIS IS APPARENTLY RELATED TO THE COMPLEX MAGNETIC STRUCTURE OF THE AUSTENITE: THE SUPERPOSITION OF THE CLOSE RANGE FERROMAGNETIC INTERACTION ON THE LONG RANGE ANTIFERROMAGNETIC ORDER. THIS IS CONFIRMED BY THE APPROX. COINCIDENCE IN THE CRIT. CONCNS. FOR THE MN, AT WHICH FERROMAGNETIC INTERACTION BETWEEN THE MN ATOMS BECOMES POSSIBLE AND ANOMALIES IN THE PHYS. PROPERTIES DEVELOP. FACILITY: URAL. POLITEKH. INST. IM. KIROVA, SVERDLOVSK, USSR. .

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NONRADIATIVE TRANSFER OF ELECTRONIC EXCITATION BETWEEN ANTHRACENE AND NAPHTHACENE IN A NAPHTHALENE CRYSTAL -U-

AUTHOR-(02)-KURIK, M.V., FROLOVA, YE.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 585-8

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ABSORPTION SPECTRUM, LUMINESCENCE SPECTRUM, NAPHTHALENE, ANTHRACENE, CRYSTAL STRUCTURE, EXCITED STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0845 STEP NO--UR/0048/70/034/003/0585/0588

CIRC ACCESSION NO--AP0124510

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSICN NO--AP0124510

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION AND LUMINESCENCE SPECTRA WERE STUDIED AT 77DEGREESK, TO DET. THE PROBABILITY OF THE NONRADIATIVE TRANSFER IN NAPHTHALENE CRYSTALS WITH EQUAL AMTS. OF ANTHRACENE (DONOR) AND NAPHTHACENE (ACCEPTOR). THE LUMINESCENCE KINETICS SHOWS THAT THE PROBABILITY PARAMETER OF THE NONRADIATIVE TRANSFER P SUBDA CAN BE DETD. IN A STEADY STATE FROM THE FORMULA I SUB2 OVER I SUB1 EQUALS TAU P SUBDA, WHERE TAU IS THE RELAXATION TIME, I SUB1 IS THE INTENSITY OF LUMINESCENCE OF ANTHRACENE AT 412.5 NM, AND I SUB2 IS THE INTENSITY OF LUMINESCENCE OF NAPHTHACENE AT 532.7 NM. THE EXPTL. CURVE IN OVER I SUB1 OVER I SUB2 VS. IN R NEGATIVE PRIME1 GAVE A R NEGATIVE PRIME2.2 DEPENDENCE, FOR R EQUALS 3.6-51.2 NM (R EQUALS AV. DISTANCE BETWEEN NEIGHBORING ACCEPTOR AND DONOR MOLS.). AT 4-300DEGREESK, I SUB2 OVER I SUB1 DECREASES MONOTONICALLY WITH DECREASING TEMP.; THIS INDICATES THE PRESENCE OF PROCESSES IN WHICH THE LATTICE VIBRATIONS PLAY A ROLE. THUS, THE TRANSFER OF ELECTRONIC EXCITATION BETWEEN THE IMPURITY ANTHRACENE AND NAPHTHACENE MOLS. IN THE CRYSTAL LATTICE OCCURS WHEN R IS SMALLER THAN R NEGATIVE PRIME6 (AS IT FOLLOWS FROM THE THEORY) DUE TO THE PARTICIPATION OF LATTICE PHONONS IN THE TRANSFER. FACILITY: INST. FIZ., KIEV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 621.385

AKIMOV, Yu. A. and FROMBERG, A. B.

"Electrovacuum Instrument Complex for Investigating Fast Processes"

Moscow, Izmeritel'naya tekhnika, No 3, 1972, pp 3-5

Abstract: This is a review article dealing with the results of achievements by Soviet scientists in the area of scientific instrument design for the period of 1958-1970. The scientists named are L. I. Andreyeva, V. P. Yegorov, S. A. Kaydalov, V. A. Nefed'yev, A. A. Ryzhov, and A. I. Yuzhin. Among the achievements indicated by the article are electronic-vacuum instruments for recording fast processes, such instruments as the ELU-09, ELU-10, and ELU-19, used as converters for recording gamma and x-rays; the ELU-FT, ELU-F5, ELU-F9, and others, which are fast electron multipliers; photoelements with broad-band coaxial output for recording and measuring laser pulsed light beams. A table of photoelectric devices of the FEK series is given presenting the rise time, output current intensity at 1 kV and 2 kV anode voltages, and maximum output current intensity for input light pulses. It is mentioned that the Karl Zeiss firm in East Germany manufactures the SKP series of controlled photoelectronic multipliers, the best of which have resolution times (pulse rise times) of 2.5

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USSR UDC: 621.385

AKIMOV, Yu. A., et al, Izmeritel'naya tekhnika, No 3, 1972, pp 3-5

ns and output current intensities of as much as 2 A. A photograph of some of these devices is also given.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 621.373.421.13(088.8)

NARODITSKIY, I. A., FROMBERG, E. M., KUZNETSOV, V. A.

"A Device for Regulating Temperature"

USSR Author's Certificate No 286368, filed 17 Mar 69, published 12 Jan 71 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D352 P)

Translation: A temperature controller is proposed which contains a temperature pickup, converter, pulse-duration modulator, and power amplifier. In order to obtain high long-term temperature stability, the device includes a self-excited oscillator with precision quartz resonator, and a self-excited oscillator with a quartz temperature resonator. These self-excited oscillators are connected through a mixer to the input of the discriminator. V. P.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 621.375.82

LYUBIMOV, V. V., ORLOVA, I. B., FROMZEL', V. A.

"Effect of Nonhomogeneity of Population Inversion on the Transverse Structure of Oscillations in Solid-State Lasers"

V sb. Kvant-elektronika (Quantum Electronics -- Collection of Works), No 3, Moscow, "Sov. radio," 1972, pp 94-96 (from RZh-Fizika, No 1, Jan 73, Abstract No 1D881)

Translation: The effect of nonhomogeneity of population inversion, occurring during spiking operation, on the transverse structure of the radiation field of a laser was investigated on the basis of geometrical optics. The condition for the small effect of the nonhomogeneity of inversion in a direction perpendicular to the axis of the resonator on the radiation properties was obtained. The transverse structure of neodymium-glass laser radiation was investigated for various types of effects of inversion nonhomogenity. Authors' abstract.

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/2 044 UNCLASSIFIED PROCESSING DATE--30OCT70

TLE--ISOLATION OF A LONGITUDINAL OSCILLATION MODE IN SOLID STATE LASERS
-U-

THOR-(05)-GALAKTICNOVA, N.M., GARKAVI, G.A., YEGOROVA, V.F., MAK, A.A.,
FROMZEL, V.A.

UNTRY OF INFO--USSR

URCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, APR. 1970, P. 751-758

TE PUBLISHED----APR70

BJECT AREAS--PHYSICS

PIC TAGS--SOLID STATE LASER, RESONATOR, SINGLE MODE LASER, LUMINESCENCE
SPECTRUM, LINE BROADENING, LASER PUMPING, NEODYMIUM GLASS

NTROL MARKING--NO RESTRICTIONS

CUMENT CLASS--UNCLASSIFIED

UXY REEL/FRAME--2000/1225 STEP NO--UR/0051/70/028/000/0751/0758

RC ACCESSION NO--AP0124879

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

/2 ... 044 UNCLASSIFIED PROCESSING DATE--30OCT70

RC ACCESSION NO--AP0124879

STRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYTICAL DETERMINATION OF THE CONDITICNS UNDER WITH A SOLID STATE LASER WITH A COMPLEX RESONATOR WILL OPERATE IN A SINGLE AXIAL MODE (CCNDITIONS UNDER WHICH NO OTHER AXIAL MODES CAN BE EXCITED BECAUSE OF THEIR LARGE LOSSES). THE ANALYSIS IS PERFORMED FOR ACTIVE MEDIA VARYING IN THE NATURE OF LUMINESCENT LINE BROADENING, ANC ABOVE THRESHOLD PUMPING POWERS. THE INFLUENCE OF THE NATURE OF LUMINESCENT LINE BROADENING ON THE SELECTIVE CHARACTERISTICS OF A RESCNATOR CONTAINING A FABRY PEROT ETALON IS EXAMINED, SHOWING THAT INHOMOGENEOUS BROADENING MAKES IT DIFFICULT TO OBTAIN A SINGLE AXIAL MODE. THE THEORETICAL RESULTS ARE VERIFIED BY EXPERIMENTS PERFORMED WITH A PULSED NEODYMIUM GLASS LASER AT ABOVE THRESHOLD PUMPING POWERS.

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(3)

USSR

UDC 539.181.1

GOL'DANSKIY, V. I., Corresponding Member of the USSR Academy of Sciences, DZHURAYEV, A. A., YEVSEYEV, V. S., OBUKHOV, Yu. V., ROGANOV, V. S., FRONTAS'YEVA, M. V., KHOLODOV, N. I., Institute of Chemical Physics, USSR Academy of Sciences

"Atomic Capture of Negative Mesons in Compounds Containing Hydrogen"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 2, 11 Jul 73, pp 316-318

Abstract: An attempt is made to find possible underlying regularities in the distribution of negative muons between the individual groups Z_mH_n and atoms Z' in substituted hydrogen-containing organic compounds and in hydrogen-containing compounds in general of the type $Z_mH_nZ'_k$ or $Z_mH_vZ'_kH_v$. A table is given summarizing the relative probabilities of capture of μ^--mesons by hydrocarbon and hydrogen-containing groups and by aromatic rings in compounds with ionic bonds, in alkyl chlorides, and in phenyl halides.

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USSR

UDC 547.446+547.447

FOKIN, A. F., KOMAROV, V. A., DAVYDOVA, S. M., FROSINA, K. V., and ABDUL-GANIYEVA, Kh. A.

"Preparation of Difluoronitroketones"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 6, Jun 71, pp 1165-1167

Abstract: The difluoronitroalcohols (I) were prepared by reacting difluoronitromethane with aldehydes in the presence of K_2CO_3: $O_2NCHF_2 + RCOH$ $O_2NCF_2C(OH)HR$ (I; R = Me, Et, Pr, Ph). By oxidizing compounds I with chromic acid, the difluoronitroketones $O_2NCF_2C(=O)R$ (II; R = Me, Et, Pr, Ph) were obtained. The difluoronitroketones were distillable colorless liquids. As distinguished from nitroperfluoroacetone, the only fluoronitroketone known hitherto, which does not form either a semicarbazone or 2,4-dinitrophenylhydrazone, II (R = Me) formed a 2,4-dinitrophenylhydrazone (m. p. 122°). II (R = Me), on which the reactions of the CO group of compounds II were studied, formed a cyanohydrin (m. p. 38°, b. 73°/6 mm) on being acted upon by HCN in the presence of NaCN. Bromination of II (R = Me) in concentrated H_2SO_4 yielded the monobromopropanone $O_2NCF_2C(=O)CH_2Br$ and the dibromopropanone $O_2NCF_2C(=O)CHBr_2$. The properties of the new compounds that have been prepared are listed. The yields of II in the preparation from I were 51-85%.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 715.015(092) Grosman

(feature)

"YU. S. FROSMAN: His Sixieth Birthday"

Moscow, Farmakologiya i Toksikologiya, No 5, Vol XXXIV, Sep-Oct 71, p 637

Abstract: Former instructor at the Vinnitsa and Tashkent medical institutes, YU. S. GROSMAN taught at the Odessa Medical Institute since the end of World War II, where he is now associate professor of pharmacology; he also set up the Ivano-Frankov Medical Institute in the same city, and lectures there.

GROSMAN is head of the pharmacology department of the Perm Medical Institute, where he directs research being done in vitamin therapy and in the search for new biologically active compounds. He has produced some 70 medical works, and been a frequent contributor to international and Soviet symposiums on pharmacological and physiological subjects.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 536.46

FROST, V. A., YUMASHEV, V. L., Moscow

"Investigation of Powder Extinction in a Model of Combustion With Variable Surface Temperature"

Novosibirsk, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 3, May/Jun 73, pp 92-100

Abstract: The paper gives the speed of unsteady burning of powder with a pressure drop as calculated by numerical integration of the equations of unsteady burning theory with regard to variation of the surface temperature of the k-phase. When pressure drops are steep and of considerable magnitude extinction is observed, and it is not necessary to introduce any special extinction conditions. The change in burning rate during extinction is smooth.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC: 550.834:622.241

FROYMOVICH, B. N., POMERANTS, L. I., GERASIMOV, N. N., UR'YASOVA, L. I., All-Union Scientific Research Institute of Geophysical Prospecting Methods; Special Design Office of Electrical Measuring Instruments

"A Method of Measuring the Apparent Resistance of Rocks"

Moscow, Otrkytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, 1970, p 71, patent No 261590, filed 24 Nov 66

Abstract: This Author's Certificate introduces a method of measuring the apparent resistance of rocks on alternating current by means of an electromagnetic mirror ratiometer-insert in a light-beam oscilloscope. The procedure consists of sending the signal of apparent resistance to the measurement loop of the ratiometer, and part of the supply current to the current loop of the ratiometer. As a distinguishing feature of the patent, measurement accuracy is improved by rectifying the measurement signal of the apparent resistance and the fraction of the supply current before feeding them to the ratiometer loops.

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FTD/FTC /HT-23-248-73

DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
220 SEVENTH STREET NE.
CHARLOTTESVILLE, VIRGINIA 22901

In Reply Refer to:
FSTC HT-23-248-73
DIA Task No. T70 23-01

Date: November 3, 1972

TRANSLATION

ENGLISH TITLE: RHEOLOGICAL CHARACTERISTICS OF GREASES AND THE MAIN PRINCIPLES OF THEIR MOVEMENT IN TUBES

FOREIGN TITLE: REOLOGICHESKIYE KHARACTERISTIKI PLASTICHNYKH SMAZOK I OSNOVNYYE ZAKONOMERNOSTI IKH DVIZHENIYA V KRUGLYKH TRUBAKH

AUTHOR: A.I. Nakorchevskiy, G.B. Froyshteter, and Yu. L. Ishchuk

SOURCE: NEFTEPERERABOTKA I NEFTEKHIMIYA, RESPUBLIKANSKIY MEZHVEDOMSTVENNYY SBORNIK No. 4, 1971, Kiev, Naukova Dumka Pub. House, pp. 81-89

LANGUAGE: Russian

TRANSLATOR: Universal Language Services, Inc.

REQUESTOR: SMUFA

FROYSHTETER, G.B.

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(3)

Greases are classified as non-Newtonian fluids with the simultaneous manifestation of properties of a Bingham plastic and a pseudo-plastic fluid, in terms of their main rheological characteristics. In this respect, the Shvedov-Bingham equation

$$\tau = \tau_y + \mu_p \cdot \dot{\gamma}, \qquad (1)$$

is the applicable rheological equation of greases, where τ is the tangential stress corresponding to the velocity and shear γ; τ_y is the creep limit; and μ_p is the so-called plastic viscosity, which in the general case is not constant, but depends on the shear rate.

There are nearly no specific proposals on the analytic expression of the relation $\mu_p = \varphi(\dot{\gamma})$. If we follow the approach of obtaining the simplest approximating function for the rheological curve of greases (an essential advantage), then the power function

$$\tau = \tau_y + k \cdot \dot{\gamma}^n, \qquad (2)$$

where k, n are the rheological constants, wholly corresponds to this requirement.

The objections formulated by M. Reyner [3] and called by him objections of "dimensionality", "infinity", and "zero" characterize functions (2) as power functions in general. As for the objections of "dimensionality" (the dimension of k is a function of the exponent n), for engineering applications it is not of substantial importance. Since movement in practical conditions is realized at relatively small shear rates, the "infinity" objection (that is, the requirement of the transformation of the rheological equation into Newton's law as $\gamma \to \infty$) is not restricting for formula (2). Let us dwell in somewhat closer detail on the "zero" objection.

If one determines the plastic viscosity according to functions (1) and (2)

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1/2 046 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF MOTION ENERGY DISSIPATION ON HEAT TRANSFER WITH LAMINAR FLOW OF NON NEWTONIAN FLUIDS IN CIRCULAR TUBES -U-

AUTHOR-(02)-FROYSHTETER, G.B., SMORODINSKIY, E.L.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 68-76

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, LAMINAR FLOW, FLUID FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0687 STEP NO--UR/0170/70/018/001/0068/0076

CIRC ACCESSION NO--AP0121348

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 046 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121348

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIG. 1. VARIATION OF LOCAL NU NUMBER ALONG TUBE LENGTH (SOLID LINES M EQUALS 2; DASHED LINES, M EQUALS 5. FIGURES NEAR CURVES, VALUES OF BETA). FIG. 2. LENGTH OF INITIAL THERMAL SECTION L SUBHT AGAINST PARAMTER BETA. FIG. 3. MEAN BAR NU NUMBER VARIATION ALONG TUBE LENGTH OF M EQUALS 2 (SOLID LINES, BY FORMULA (16); DASHED, BY (18); FIGURES NEAR CURVES, VALUES OF BETA). FIG. 4. LIMIT VALUE OF BETA 5PERCENT ACCOUNTING FOR ENERGY DISSIPATION (SOLID LINES, BY FORMULA (16); DASHED, BY (18); FIGURES NEAR CURVES, VALUES OF M). SUMMARY. AN ANALYTIC SOLUTION TO THE PROBLEM OF HEAT TRANSFER IN A LAMINAR FLOW OF NON NEWTONIAN FLUIDS IN CIRCULAR TUBES WITH ACCOUNT FOR MOTION ENERGY DISSIPATION IS OBTAINED. THE RELATIONSHIPS BETWEEN THE LENGTH OF THE INITIAL THERMAL SECTION AND DISSIPATIVE FACTOR ARE PRESENTED AND IT IS ESTABLISHED THAT THE DECREASE IN THE INITIAL LENGTH WITH INCREASING BETA IS VALID ONLY WITHIN CERTAIN RANGES OF BETA VARIATION.

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USSR UDC: 621.791.008.1

FRUMIN, I. I.

"Twenty-Third Congress of the International Welding Institute"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 75-77

Abstract: The regular Twenty-Third Congress of the International Welding Institute (IWI) was held from 12-18 July 1970 in Lausanne, Switzerland. The Soviet delegation included I. A. Antonov, V. V. Ardentov, I. A. Bachelis, N. A. Grevtsev, A. A. Yerokhin, G. N. Kotov, V. N. Kryukovskiy, Ye. F. Kuzin, B. D. Malyshev, G. A. Nikolayev, N. N. Prokhorov, I. D. Rakhmanov, N. N. Rykalin (head of delegation), V. N. Samoshkin, M. M. Timofeyev, V. I. Trufyakov, I. I. Frumin, Yu. V. Khankin, M. Kh. Shorshorov, and S. B. Yakobashvili. The Soviet experiment involving welding in space was lauded by the President of IWI as the greatest achievement of this year.

Of great interest was the report by M. P. Anuchkin, K. I. Zaytsev, and V. D. Tarlinskiy concerning requirements for the quality of welded

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USSR

FRUMIN, I. I., Avtomaticheskaya Svarka, No 11, Nov 70, pp 75-77

main pipelines. An analysis was made of the properties of the parent metal and welded joints as determined by the design and climatic conditions of the structure and operation of the pipelines. Methods of preventing cracks, avalanche destruction of pipelines, and means of controlling these phenomena were discussed.

V. N. Zemzin presented a report entitled "Selection of Materials for Welded Structures of Heat and Power Stations." The author discussed rational temperature regions for using alloy steels, behavior (at high-temperatures) of structures from different grades of steels under cyclic stresses, occurrence of brittle failures in chromium-molybdenum-vanadium steels, and the occurrence and prevention of weld-affected cracks.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--OPTIMUM PLANNING OF THE CASTING OF ALUMINIUM IN THE PRODUCTION ELECTROLYSIS DEPARTMENT -U-

AUTHOR--FRUMIN, D.M.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METALLY, FEB. 1970, (2), 27-29

DATE PUBLISHED--------70

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

TOPIC TAGS--ALUMINUM, METAL CASTING, MATHEMATICAL ANALYSIS, ELECTROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0192 STEP NO--UR/0136/70/000/002/0027/0029

CIRC ACCESSION NO--AP0123961

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123961

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INEFFICIENCES IN THE PRESENT DAY TECHNIQUES OF CASTING AL IN THE ELECTROLYSIS SHOP ARE ANALYSED AND DISCUSSED ON THE BASIS OF A MATHEMATICAL PLANNING TECHNIQUE. A SERIES OF EQUATIONS IS DERIVED FOR OPTIMIZING THE MIXING AND CASTING CONDITIONS FOR THE METAL. A MIXING AND CASTING TECHNIQUE BASED ON THESE EQUATIONS IS NOW BEING TESTED IN PRACTICE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 669.018.25:620.18

RYABTSEV, I. A., GOLOVASHCHUK, A. I., and FRUMIN, I. I., Electric Welding Institute imeni Ye. O. Paton

"Structure and Wear Resistance of High-Carbon Cr-Ti Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74, pp 46-48

Abstract: The combined effect of carbon, titanium, and chromium on the abrasive wear resistance of alloys was studied for the purpose of selecting a highly wear-resistant deformable alloy for the cladding layer in a wear-resistant bimetallic sheet. The iron-base alloys studied were U25Kh6M, U25Kh6T2M, U25Kh6T4M, U25Kh6T8M, U25T8M, U20Kh6t4M, and U30Kh6T4M, containing about 6% Cr and 2-8% Ti with 1% Mo. The best combination of hardness and wear resistance properties was exhibited by alloys U20Kh6T4M and U25Kh6T4M because they had an austenite-carbide or austenite-martensite-carbide structure and more than 30% retained austenite. The other alloys either had less than 30% retained austenite and too large a quantity of titanium carbides with improper proportions of TiC in combination with complex carbides M_7C_3 and $M_{23}C_6$. Two figures, two tables, eight bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 536.421.1:669.15.58-196

FRUMIN, I. I., KAS'YAN, V. V., GOLOVASHCHUK, A. I., GRABIN, V. P., and KHARTSEV, I. A., Electric Welding Institute imeni Ye. O. Paton of the Academy of Sciences UkrSSR

"Determination of the Heating Temperature In Rolling High-Carbon Chrome-Titanium Steels"

Moscow, Stal', No 6, Jun 73, pp 546-548

Abstract: The temperatures of beginning fusion of eight high-carbon chromium steels with and without titanium were investigated with the help of a high-temperature microscope. The heating temperature in rolling or forging of ingots of high-carbon alloyed steels weighing up to 50 kg must be 10-20°C below the temperature of beginning fusion. For ingots of higher weight, considering possible development of liquation phenomena, the heating temperature must be somewhat lower. Titanium, hindering the development of a readily fusible ledeburite eutectic, in high carbon chromium steels raises their fusion temperature and extends the temperature range of deformation. The eutectic consists mainly of chromium carbides. The presence of carbon in the investigated steels lowers the fusion temperature and raises the quantity of ledeburite eutectic. Four figures, two tablels three bibliographic references. 1/1

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR UDC 621.791:669.01.825

MARKIN, Yu. V., FRUMIN, I. I., Ye. O. Paton Electric Welding Institute

"Heat-Resistant Alloys for Surfacing Internal Combustion Engine Valve Faces"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 72, pp 49-51.

Abstract: This work reports on the development of a sealing surface of dense rolled metal for internal combustion engine exhaust valves, with the surface of the valve face produced not by ordinary surfacing, but rather by welding of a ring of heat-resistant deformable alloy to the valve. A group of heat-resistant dispersion-hardened nickel alloys was studied for this use. Alloy EI437B could probably be used for valves in lightly-loaded engines; for valves operating at 800°C, alloy VZh101 is most suitable. Valves reinforced with EI437B alloy operated 270 hours in a "Moskvich-408" engine, as opposed to 21-72 hours life for standard production valves. Motorcycle valves with VZh101 alloy lasted almost twice as long as series-produced valves made of type EP303 steel.

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Miscellaneous

USSR UDC 621.785.1

FRUMIN, YE. I.

"Heating of Steel in Synthetic Slags"

Kiev, Nagrev Stali v Sinteticheskikh Shlakakh, Izd-vo Tekhnika, 1973, 132 pp

Translation of Annotation: The author describes new heating media, synthetic slags, intended for utilization as liquid heat carriers in the heat treatment of finished steel products, their physical, physico-chemical, and thermophysical properties. The technological features of the slags are examined in constrast to the properties of melted salts. The author gives the types of special furnace-baths and the heating conditions in the melts. He gives practical recommendations for the industrial utilization of the slags and the furnaces. He shows the possible regions of application of the slag melts. The book is intended for technicians in plants and scientific institutions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

USSR

FRUMIN, YE. I., Nagrev Stali v Sinteticheskikh Shlakakh, Izd-vo Tekhnika, 1973, 132 pp

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USSR

FRUMIN, YE. I., Nagrev Stali v Sinteticheskikh Shlakakh, Izd-vo Tekhnika, 1973, 132 pp

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USSR

FRUMIN, YE. I., Nagrev Stali v Sinteticheskikh Shlakakh, Izd-vo Tekhnika, 1973, 132 pp

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YUZVENKO, Yu. A., ZHUDRA, A. P., FRUMIN, Ye. I., and GAVRISH, V. A., Ye. O.
Paton Electric Welding Institute

"Features of Gas-Abrasive Wear of Composite Alloys"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 1972, pp 35-38

Abstract: Composite alloys were studied which were produced by a method involving separate introduction of hard particles of ground eutectic alloy of tungsten monocarbide and semicarbide into the multicomponent binder. Solidification produces a single or multiple-phase alloy, cementing the particles introduced before crystallization. The gas-abrasive wear of composite alloys consisting of a matrix and specially introduced grains of cast tungsten carbide occurs selectively and depends linearly on the test time. Wear of alloys decreases with increasing wear-resistant phase grains. With low and moderate angles of attack (10-30°), wear of the alloys decreases as matrix hardness increases to HV 350-400, while further increases in hardness have little influence on wear. With cast tungsten carbide grain diameters of about 2 mm, wear depends little on properties of the matrix or angle of attack.

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1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SELECTIVE SEPARATION OF NICKEL AND COBALT FROM AMMONIA SOLUTIONS BY FRACTIONAL PRECIPITATION -U-

AUTHOR-(04)-KRASKOVSKIY, G.I., LESHCH, I.YU., FRUMINA, L.M., SHNEYERSON, YA.M.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(3), 32-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SEPERATION, AMMONIA, AQUEOUS SOLUTION, COBALT, NICKEL, CHEMICAL PRECIPITATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1900 STEP NO--UR/0136/70/043/003/0032/0033

CIRC ACCESSION NO--AP0132162

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UNCLASSIFIED PROCESSING DATE--13NOV70

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CIRC ACCESSION NO--AP0132162

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INCONSISTENCY IN THE DATA ON THE PPTN. OF NI AND CO FROM HN SUB3 SOLNS. BY DISTN. IS ATTRIBUTED TO THE SIMULTANEOUS PRESENCE OF SOME FORMS OF CO AMMINES: CO PRIME2POSITIVE HEXAAMMINE, PENTAAMMINE, AND AMMINE. THE BEHAVIOR DURING REMOVAL OF NI AND CO BY DISTN. OR EVACUATION AT 20, 40, 60, AND 80DEGREES IS SHOWN. THE MOST EASILY DECOMPO., DURING DISTN., ARE THE CO PRIME2POSITIVE COMPLEXES, FOLLOWED BY NI COMPLEXES, CO PRIME3POSITIVE PENTAMMINE, AND FINALLY CO PRIME3POSITIVE HEXAAMMINE. THE LAST IS SUFFICIENTLY STABLE, IN THAT BELOW 40DEGREES, NO NOTICEABLE PPTN. OF CO DURING DISTN. WAS OBSD. THESE DIFFERENCES IN STABILITY OF THE AMMINES IS THE BASIS FOR EXPTS. ON THE SEPN. OF CO AND NI.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EXPERIMENTAL DETERMINATION OF THE HEAT OF FORMATION OF IRIDIUM, IV, HYDROXIDE -U-

AUTHOR-(04)-LESHCH, I.YU., SHNEYERSON, YA.M., RUBEL, I.G., FROMINA, L.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1695-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HEAT OF FORMATION, CALORIMETRY, IRIDIUM COMPOUND, HYDROXIDE, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1405 STEP NO--UR/0078/70/015/006/1695/1696

CIRC ACCESSION NO--AP0135079

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2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 17-21DEGREES, THE HEAT OF FORMATION OF IR(OH) SUB4 FROM (IRCL SUB6) PRIME2NEGATIVE SUB(AQ) AND 4OH PRIMENEGATIVE SUB(AQ) IS MINUS 177.3 KCAL-MOLE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PROTOLYTIC REACTIONS AND ANALYTICAL PROPERTIES OF PHENYLANTHRANILIC ACID -U-

AUTHOR-(04)-FRUMINA, N.S., PETRIKOVA, K.G., TREGUB, YE.G., PLETNEV, S.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 434-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ABSORPTION SPECTRUM, PROTON, AMINE, BENZOIC ACID, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1127 STEP NO--UR/0075/70/025/003/0434/0439

CIRC ACCESSION NO--AP0128554

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CIRC ACCESSION NO--AP0128554

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXISTENCE LIMITS OF MOL. AND IONIZED FORMS OF PHENYLANTHRANILIC ACID (I) WERE ESTABLISHED BY STUDYING THE ABSORPTION SPECTRA OF I. THE REDOX POTENTIAL OF I WAS MEASURED OVER A WIDE ACIDITY RANGE AND ITS CHANGE IN RELATION TO THE PROTOLYTIC I REACTIONS WAS ESTABLISHED. DURING PROTONATION, THE P ELECTRONS OF THE N ATOM ARE IMMOBILIZED, RESULTING IN A CHANGE IN THE SPECTRUM. COMPARISON OF THE SPECTRA OF PH SUB2 NH AND I INDICATE THAT THE LONG WAVE BAND IN THE SPECTRUM OF THE LATTER IS LINKED TO THE PRESENCE OF AN ELECTRON ACCEPTOR SUBSTITUENT, THE CARBOXYLIC GROUP, AND THE GRADUAL DISAPPEARANCE OF THIS BAND DURING PROTOLYSIS INDICATES A CHANGE IN THE ELECTRON DISTRIBUTION IN THE MOL. AS A RESULT OF THE FORMATION OF A 2ND ELECTRON ACCEPTING GROUP (PROTONIZED N). THE SOLY. DATA AND ABSORPTION SPECTRA WERE USED TO CALC. THE ACID DISSOCN. AND THE PROTONATION CONSTS. OF I: PK SUBDISSOLN. 3.99 PLUS OR MINUS 0.028 AND PK SUBPROT MINUS 1.35 PLUS OR MINUS 0.065, RESP. FACILITY: SARATOV STATE UNIV., SARATOV, USSR.

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FRUMKIN, A. N.

UDC: 541.6

CURRENT STATE OF INVESTIGATIONS OF ORGANIC SEMICONDUCTORS

[Article by Academician A. N. Frumkin and Doctor of Chemical Sciences B. E. Davydov; Moscow, Vestnik Akademii Nauk SSSR, Russian, Vol 41, No 10, October 1971, pp 33-37]

Systematic investigations in the area of organic semiconductors started mainly after World War II and were stimulated by the search for new technically suitable semiconducting materials. A definite stimulus was given by the work of A. Szent-Gyorgyi, who pointed out that many biological objects are organic semiconductors. As it was made clear, a number of processes in living organisms, for example, photosynthesis and color vision, can be described within the framework of a semiconductor model, and therefore investigation of phenomena taking place in organic semiconductors ought to help in solving fundamental biological problems.

A new stage in the development of organic semiconductors is connected with the successes of polymer science, in particular the chemistry and physical chemistry of polyconjugated systems and polymer complexes with charge transfer. On that path prospects of creating materials combining semiconductor and valuable structural properties are being opened up.

By now a number of methods have been developed for the obtaining of organic semiconductors, ways to deliberately change their properties have been found, and physical effects characterizing them have been discovered and are being studied. The results of that work permit designating the main directions of the further development of investigations and the practical use of organic semiconductors.

To make the essence of the problem clearer, one should dwell on the main properties of organic semiconductors — a broad class of organic substances which have electronic conductivity: molecular crystals of aromatic substances, dyes, complexes with charge transfer, and polymers with conjugated bonds.

JPRS 54678
10 Dec 1971

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1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--HYDROGEN EVOLUTION FROM ALKALINE SOLUTIONS ON METALS OF HIGH OVERVOLTAGE -U-

AUTHOR-(03)-FRUMKIN, A.N., KORSHUNOV, V.N., BAGOTSKAYA, I.A.

COUNTRY OF INFO--USSR

SOURCE--ELECTROCHIM. ACTA 1970, 15(2) 289-301

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HYDROGEN, INDIUM, AMALGRAM, CURRENT DENSITY, CHEMICAL REACTION MECHANISM, ELECTROCHEMISTRY, GALLIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0279 STEP NO--UK/0000/70/015/002/0289/0301

CIRC ACCESSION NO--AP0053266

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CIRC ACCESSION NO--AP0053266

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. H EVOLUTION FROM ALK. SOLNS. ON HG AT PH IS LESS THAN 10 IS DUE TO H ION DISCHARGE AND AT PH IS GREATER THAN 10 TO A CHEM. INTERACTION OF THE INTERMEDIATELY FORMED AMALGAMS OF ALKALI METALS WITH WATER. NO WATER MOL. DISCHARGE WAS OBSERVED TO OCCUR AT AN APPRECIABLE RATE. ON THE CONTRARY, ON A GA ELECTRODE AT PH IS GREATER THAN 10, H EVOLUTION IS DUE ENTIRELY TO WATER MOL. DISCHARGE. INDIUM AMALGAMS ARE AN INTERMEDIATE CASE, SINCE H EVOLUTION AT LOW C.DS. FOLLOWS THE ELECTROCHEM. MECHANISM AND AT HIGH C.DS. THE CHEM. MECHANISM. THE DETN. OF THE DEPENDENCE OF H OVERVOLTAGE ON SOLN. COMPN. SHOWS THE EXISTENCE OF THE SPECIFIC ADSORPTION OF CS PRIME POSITIVE IONS, AS WELL AS OF CATIONS OF ALK. EARTH METALS ON GA AND IN AMALGAM SURFACES.

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1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ADSORPTION OF LITHIUM AND CESIUM CATIONS ON PLATINUM -U-

AUTHOR-(03)-PETRIY, O.A., FRUMKIN, A.N., SHCHIGOREV, I.G.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 400-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, LITHIUM, CESIUM, PLATINUM ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1135 STEP NO--UR/0364/70/006/003/0400/0404

CIRC ACCESSION NO--AP0121694

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121694

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF LI PRIME POSITIVE AND CS PRIME POSITIVE ON PLATINIZED PT ELECTRODE WAS INVESTIGATED AT 20 PLUS OR MINUS 1DEGREE BY THE ADSORPTION CURVE, CHARGING CURVE, AND POTENTIOMETRIC METHODS. ADSORPTION WAS MEASURED IN ACID (H SUB2 SO SUB4 PLUS LI SUB2 SO SUB4, H SUB2 SO SUB4 PLUS CS SUB2 SO SUB4, HBR PLUS LIBR, HBR PLUS CSBR), AND THE ALK. (LIOH, CSOH) SOLNS. DISPLACEMENT OF H PRIME POSITIVE IONS FROM THE ELECTRODE BY CS AND LI IONS WAS NOTED WHEN A CORRESPONDING EXCESS OF THE LATTER WAS PRESENT IN SOLN. AS WELL AS A GREATER ABILITY TO ADSORPTION OF CS PRIME POSITIVE THAN LI PRIME POSITIVE WAS OBSERVED. ALONG WITH INCREASE OF THE SP. ADSORPTION ON GOING FROM LI PRIME POSITIVE TO CS PRIME POSITIVE, THE CHARGING CURVES BECOME LESS REVERSIBLE UPON POLARIZATION OF THE ELECTRODE TO 0.8-0.9 V. IN THE LIMITS OF THE H REGION, THESE CURVES ARE PRACTICALLY REVERSIBLE, WHICH DENOTES DIFFERENCES IN THE BINDING FORCE OF O WITH PT IN THE PRESENCE OF LI PRIME POSITIVE AND CS PRIME POSITIVE.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CONCEPT OF ELECTRODE CHARGE AND THE LIPPMANN EQUATION -U-

AUTHOR-(03)-FRUMKIN, A.N., PETRY, O.A., DAMASKIN, B.B.

COUNTRY OF INFO--USSR

F

SOURCE--ELEKTROKHIMIYA, APR. 1970, 6, (4), 614-630

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, ELECTRODE, SURFACE PROPERTY, POLAROGRAPHIC ANALYSIS, PLATINUM ELECTRODE, MERCURY, THALLIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1283 STEP NO--UR/0364/70/006/004/0614/0630

CIRC ACCESSION NO--AP0134957

UNCLASSIFIED

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2/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134957

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PRINCIPLES UNDERLYING THE CONCEPT OF THE CHARGE OF AN ELECTRODE AND ITS RELATION TO THE LIPPMANN EQUATION ARE DISCUSSED WITH SPECIAL REF. TO THE CASES OF PT AND TL-HG ELECTRODES. IT SI SHOWN THAT A DISTINCTION MUST BE DRAWN BETWEEN THE TOTAL CHARGE ENTERING INTO THERMODYNAMIC RELATIONSHIPS AND THE FREE CHARGE ASSOCIATED WITH A PARTICULAR MODEL OF THE ELECTRIC DOUBLE LAYER ON THE ELECTRODE SURFACE. EXPRESSIONS FOR THE TOTAL CHARGE OF SUCH SYSTEMS ARE GIVEN FOR CASES IN WHICH THE L. EQUATION IS SATISFIED, AND THE RESULTS ARE APPLIED TO THE QUESTION OF ELECTROCAPILLARY PHENOMENA OBSERVED UNDER POLAROGRAPHIC CONDITIONS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ELECTROCAPILLARY PROPERTIES OF A GALLIUM INDIUM ALLOY -U-

AUTHOR-(02)-POLYANOVSKAYA, N.S., ERUMKIN, A.N.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2), 246-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EUTECTIC MIXTURE, GALLIUM ALLOY, INDIUM ALLOY, POTASSIUM CHLORIDE, SODIUM COMPOUND, CHLORATE, PHENOL, ALCOHOL, QUINONE, AQUEOUS SOLUTION, ELECTROCAPILLARY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1863 STEP NO--UR/0364/70/006/002/0246/0249

CIRC ACCESSION NO--AP0115682

UNCLASSIFIED

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2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0115682

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROCAPILLARY PROPERTIES OF THE 2-COMPONENT EUTECTIC GA-IN ALLOY WITH M.P. AT 15.73DEGREES AND CONTG. 16.7 ATOM PERCENT IN WERE INVESTIGATED. THE ALLOY WAS OBTAINED BY DISSOLVING IN OF 99.999PERCENT PURITY IN GA OF 99.9998PERCENT PURITY. ELECTROCAPILLARY CURVES WERE TAKEN OF THIS LIQ. ALLOY IN N SOLNS. OF KCL, KI, K SUB2 SO SUB4, AND NACLO SUB4 AND IN N KCL SOLN. CONTG. ADDNS. OF ORG. SUBSTANCES: ISOAMYL ALC., PHENOL AND HYDROQUINONE. A GREAT SIMILARITY WAS NOTED BETWEEN THE PROPERTIES OF THE GA-IN ALLOY AND THOSE OF HG, ESP. WITH RESPECT TO THE DOUBLE LAYER STRUCTURE, AS WELL AS SIGNIFICANT DIFFERENCES IN THE PROPERTIES WITH RESPECT TO PURE GA.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ADSORPTION OF IONS AND ATOMS ON PLATINUM GROUP METALS -U-

AUTHOR-(02)-FRUMKIN, A.N., PETRIY, O.A.

COUNTRY OF INFO--USSR

SOURCE--ELECTROCHIM. ACTA 1970, 15(2) 391-403

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL, ADSORPTION, HYDROGEN, ELECTROLYTE, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0289 STEP NO--UR/0000/70/015/002/0391/0403

CIRC ACCESSION NO--AP0053274

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2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053274

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENT METHODS OF DEDUCING THE BASIC EQUATION OF THE THERMODYNAMIC THEORY OF ELECTROCAPILLARITY FOR H ADSORBING METALS ARE COMPARED. THE RELATIONS THAT DET. THE VALUE OF THE ISOELEC. POTENTIAL SHIFT UNDER DIFFERENT CONDITIONS, AS WELL AS THE VALUE OF THE DEPENDENDENCE OF THE POTENTIAL ON THE SOLN. PH, THE FREE CHARGE REMAINING CONST., WERE DEDUCED AND EXPTL. VERIFIED. QUANT. FORMULAS ARE GIVEN FOR THE CONTRIBUTIONS OF ATOMS AND IONS TO THE SETTING UP OF THE P.D. AT THE METAL ELECTROLYTE SOLN. INTERFACE.

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1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--IONIZING RADIATION INCREASES THE YIELD OF MUST -U-

AUTHOR-(02)-FRUMKIN, M.L., NAKHMEDOV, F.G.

COUNTRY OF INFO--USSR

SOURCE--VINODEL. VINOGRAD. SSSR 1970, 30(1), 53-4

DATE PUBLISHED-------70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--COBALT ISOTOPE, GAMMA IRRADIATION, IONIZING RADIATION BIOLOGIC EFFECT, FOOD IRRADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0371 STEP NO--UR/0505/70/030/001/0053/0054

CIRC ACCESSION NO--AP0127952

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200820014-2

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127952

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE CARRIED OUT WITH KABERNE, SAPERVI, MORASTEL', AL'BIL'O, AND KOKUR SPECIES OF GRAPES WITH OR WITHOUT TREATMENT WITH PRIME60 CO GAMMA RAYS. IRRADN. SIGNIFICANTLY INCREASED THE YIELD OF MUST (9.2PERCENT), EVIDENTLY BY REDUCING THE FIRMNESS OF THE SKIN OF THE GRAPES, DISRUPTED THE CONTACT BETWEEN THE SKIN AND THE PULP, DESTROYED PECTIN AND PROTOPECTIN PLASTIDS, AND CHANGED THE STRUCTURE OF PROTOPLASM, THUS INCREASING IN CELL PENETRATION AND THE EXIT OF JUICE. ACCORDING TO ORGANOLEPTIC ANALYSES, WINES FROM IRRADIATED GRAPES WERE AS GOOD AS OR BETTER THAN CONTROL WINES, ESP. THEIR AROMA AND COLOR. FACILITY: VSES. NAUCH.-ISSLED. INST. KONSERV. OVOSCHCHESUSH. PROM., MOSCOW, USSR.

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USSR UDC 389.0:621.37/.39

VALITOV, R. A., BURDUN, G. D., FRUMKIN, V. D.

"Metrological Work in the Field of Radio Electronics in the Soviet Union"

Moscow, Izmeritel'naya Tekhnika, No 5, May 70, pp 5-13

Abstract: The article is a survey of important methods and facilities for precision measurement worked out by metrological institutes for use as standards in the field of radio measurements. Measurements of frequency, voltage, power, current strength, attenuation, noise and so forth are considered.

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1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SUBJECTIVE ESTIMATES OF THE FREQUENCY OF ELEMENTS OF A TEXT AND THE PROBABILISTIC PREDICTION OF VERBAL BEHAVIOR -U-

AUTHOR--FRUMKINA, R.M.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY PSIKHOLOGII, 1970, NR 3, PP 76-85

DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--VERBAL BEHAVIOR, PSYCHOMETRY, MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0800 STEP NO--UR/0402/70/000/003/0076/0085

CIRC ACCESSION NO--AP0126485

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MODEL IS PROPOSED, ACCORDING TO WHICH IN HUMAN VERBAL MECHANISMS THERE EXISTS A PROBABILISTIC ORGANIZATION OF ELEMENTS OS SPEECH IN ACCORDANCE WITH THEIR FREQUENCY IN INDIVIDUAL VERBAL EXPERIENCE. DATA OBTAINED ARE INTERPRETED IN TERMS OF THIS MODEL. IT WAS FOUND THAT THE SUBJECTS DISTINGUISH ELEMENTS OF SPEECH BY PROBABILITIES. A PSYCHOMETRIC PROCEDURE IS PROPOSED PERMITTING AN EVALUATION OF THE FREQUENCY OF ELEMENTS OF A TEXT ON THE BASIS OF SUBJECTS' JUDGEMENTS. A HYPOTHESIS THAT THE PREDUCTION OF VERBAL BEHAVIOR BASED ON THE SUBJECTIVE ESTIMATES OF FREQUENCIES IS MORE PRECISE THAN THE PREDICTION BASED ON THE OBJECTIVE ESTIMATES IS DISCUSSED. A SHORT DESCRIPTION IS GIVEN OF THE EXPERIMENT IN WHICH THE SUBJECTIVE ESTIMATES OF THE FREQUENCY OF WORDS BY THE METHOD OF SUCCESSIVE INTERVALS ARE OBTAINED. FACILITY: INSTITUT YAZYKOZNANIYA AN SSSR, MOSKVA.

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