

USSR

BARKETOV, E. S., et al., Zhurnal Analiticheskoy Khimii, Vol XXV,
No 3, Mar 70, pp 440-444

It was found that the anion-exchange resins which contained ethylene-diamine groups had the strongest complexing capability. These have a comparatively high capacity for cations, which they sorb from very dilute solutions (less than $10^{-3}N$). In addition, macroporous resins of this type showed more intense sorption kinetics than those of gel structure.

UNCLASSIFIED PROCESSING DATE--2008/10/10
TITLE--EFFECT OF THE ION COMPOSITION OF ANION EXCHANGERS ON THE ADSORPTION
OF CATIONS -U-
AUTHOR--(03)-KOPYLOVA, V.D., SALDAUZE, K.M., ASAMBADZE, G.D.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1074-9
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ANION EXCHANGE RESIN, ADSORPTION, POLYETHYLENE, AMINE
DERIVATIVE/(U)AN31 ANION EXCHANGE RESIN, (U)EDELON ANION EXCHANGE RESIN,
(U)ANZF ANION EXCHANGE RESIN, (U)AV16 ANION EXCHANGE RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/2031 STEP NO--UR/0078/70/015/004/1074/1079
CIRC ACCESSION NO--AP0132288
UNCLASSIFIED

014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132268
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EXPTS. WERE MADE ON POLYETHYLENE
POLYAMINE ANION EXCHANGERS AN-31, EDE-10P, AN-2F, AND AV-16. INCREASED
CONCN. OF THE HYDRATE FORM OF THE AMINO GROUPS IN THE EXCHANGERS CAUSES
INCREASED ADSORPTION OF CATIONS DUE TO THE EQUIL R SUB3 NH PRIME POSITIVE
PLUS HOH IN EQUILIBRIUM R SUB3 N, HOH PLUS H PRIME POSITIVE. FORMATION
OF COORDINATION COMPLEXES BETWEEN CATIONS AND AMINO GROUPS CAUSES A
MARKED DECREASE OF SOLN. PH.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF SOLVENT NATURE ON THE ANION EXCHANGER ADSORPTION OF
CATIONS -U-
AUTHOR--KOPYLOVAVALOVA, V.D.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2),
197-203
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ANION EXCHANGE RESIN, ORGANIC SOLVENT, COPPER, COMPLEX
COMPOUND, ZINC, SILVER, ION/(U)DEVELOP ION EXCHANGE RESIN, (U)AV16 ION
EXCHANGE RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0802 STEP NO--UR/0153/70/013/002/0197/0203
CIRC ACCESSION NO--AT0132900
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132900

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM STUDIES OF THE SORPTION OF CU PRIME² POSITIVE, ZN PRIME² POSITIVE, AND AG PRIME POSITIVE BY ANION EXCHANGERS EPE, IOP AND AV,16 (SALT FORMS) FROM SOLNS. IN H SUB² O, MECH, ETOH, PROH, ME SUB² CO, AND MIXTS. OF H SUB² O AND THE ORG. SOLVENTS, IT IS CONCLUDED THAT INCREASING THE DIELEC. COND. OF THE SOLVENT (1-0), LEADS TO INCREASED SORPTION OF CATIONS BY THE ANION RESINS. FOR EXAMPLE, IN THE SORPTION OF CU PRIME² POSITIVE BY EDE, IOP (NO SUB³ PRIME NEGATIVE FORM), THE SORPTION INCREASES FROM 0.9 TO 33 MEQIV. PER G AS THE SOLVENT COMPN. IS VARIED FROM 0 TO 80PERCENT PROH IN H SUB² O, AND LESSER INCREASES IN SORPTION ARE NOTED WITH ME SUB² CO, ETOH, AND MECH IN PLACE OF PROH. FROM PURE SOLVENT, SORPTION IS SHARPLY DECREASED. THE INCREASE IN SORPTION IS ATTRIBUTED BOTH TO MOL. SORPTION AND TO COMPLEX FORMATION. FACILITY: MOSK. KOOP. INST., MOSCOW, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--KINETICS OF CATION ADSORPTION FROM SOLUTIONS OF LOW CONCENTRATIONS
BY ANION EXCHANGERS BASED ON POLYETHYLENEPOLYAMINES -U-
AUTHOR--(05)--ASAMBADZE, G.D., KOPYLOVA, V.D., SALDADZE, K.M., GINTSBERG,
E.G., KOVARSKAYA, B.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 257
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ANION EXCHANGE RESIN, COPPER, COBALT, NICKEL, CATION,
POLYETHYLENE, POLYAMINE, DIFFUSION COEFFICIENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0473 STEP NO--UR/0076/70/044/001/0257/0257
CIRC ACCESSION NO--AP0107079
UNCLASSIFIED

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2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--A0107079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF CU PRIME2 POSITIVE, CO PRIME2 POSITIVE, OR NI PRIME2 POSITIVE CATIONS ON THE TITLE EXCHANGER BELOW 25DEGREES IS GOVERNED BY THE DIFFUSION RATE INTO THE EXCHANGER GRAINS. ABOVE 35DEGREES AND GREATER THAN OR EQUAL TO 0.001M CATION CONC. THE DIFFUSION INTO THE EXCHANGER GEL PARTICLES IS THE PREDOMINANT FACTOR. THE DIFFUSION COEFFS. ARE 4.57 TIMES 10 PRIME NEGATIVE9, 5.27 TIMES 10 PRIME NEGATIVE9, OR 6.4 TIMES 10 PRIME NEGATIVE9 CM PRIME2-SEC FOR CU PRIME2 POSITIVE, OR N PRIME2 POSITIVE, RESP.

UNCLASSIFIED

USSR

UDC 621.762:661.885:546.23

KOPYLOVA, V. P. and NAZARCHUK, T. N., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Decomposition of Powders of Group IV-VI Transition Metal Disilicides During Analysis

Kiev, Poroshkovaya metallurgiya, No 3, 1972, pp 71-74

Abstract: The study deals with the composition of the gaseous decomposition products of group IV-VI transition metal disilicides by alkaline reagents as well as with finding the optimum reagent for maximum reproducibility. The use of sodium hydroxide, sodium carbonate, sodium peroxide, and fusions with a mixture of sodium carbonate and zinc oxide entails explosions and flashes that are attributed to the liberation of hydrogen and carbon monoxide. The most efficient decomposition of disilicides occurs by fusion with non-dehydrated sodium hydroxide in nickel crucibles. The fusion is nonviolent and is not followed by explosions or flashes since the melting temperature is about 300°C. The nickel of the crucible does not react with the molten sodium hydroxide and causes no loss of fusion. (2 tables, 5 bibliographic references)

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USSR

UDC 620.193.01

ARENSBURGER, D. S., KOPYLOVA, V. P., PEREPELKIN, A. V., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"Porous Metal-Ceramic Titanium-Based Alloys"

Poroshkovaya Metallurgiya, No 1, 1972, pp 48-52.

Abstract: Problems of the production and corrosion resistance of titanium alloys with molybdenum, chromium, and palladium are studied. A preliminary estimate is presented of the possibility of producing complexly alloyed powders of these alloys by hydrogenation and grinding of the alloys. Metal ceramic alloys such as $Ti_{20}Mo_5Cr_{0.2}Pd$, sintered at $1,400^{\circ}C$, have high resistance to hot and concentrated solutions of hydrochloric and nitric acid and can be used as a basis for the production of permeable materials. Hydrogenation and subsequent dehydrogenation of sintered specimens of multicomponent alloys of titanium allow the production of coarsely ground, complexly alloyed powders.

1/1

USSR

UDC 669.295.046.43

RUBAN, N. N., DAVYDOVA, T. YA., CHERNYSHOVA, T. A., KOPYLOVA, YE. A.,
KOLDOBSKAYA, K. F.

"Solubility of Titanium Tetrachloride in Melts of Alkali and Alkaline-Earth Metals"

O rastvorimosti chetyrekhkloristogo titana v rasplavakh shchelochnykh i shchlochno-zemel'nykh metallov, Institute of Metallurgy and Beneficiation, Kazakh SSR Academy of Sciences, Alma-Ata, 1970, 88 pp, ill, 11-entry bibliography (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G227DYeP)

Translation: The results of studying $TiCl_4$ solubility in melts made up of a mixture of chlorides of alkali and alkaline earth metals, which has significance in the processes of chlorinating raw material containing Ti and when purifying $TiCl_4$, are discussed. The solubility of $TiCl_4$ depends little on the temperature or the composition of the solvent. It depends to some extent on the duration of the experiments. According to infrared spectroscopic and petrographic analysis data, the solubility of $TiCl_4$ in a melt of chlorides of alkali and alkaline earth metals is directly related to the presence of residual water in it. There are 6 illustrations, 5 tables, and an 11-entry bibliography.

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Titanium

USSR

UDC 669.295.053.4

KOPYLOVA, YE. A., RUBAN, N. N.

"Problem of Removing Oxygen-Containing Products of Hydrolysis From Industrial Titanium Tetrachloride"

Sb. tr. Vses. mezhvuz. nauch. konferentsii po teorii protsessov tsvetn. metallurgii (Collected Works of the All-Union Interuniversity Scientific Conference on the Theory of Processes in Nonferrous Metallurgy), Alma-Ata, 1971, pp 203-206 (from RZh-Metallurgiya, No 7, Jul 1971, Abstract No 7G239)

Translation: The polymer form of $TiOCl_2$ dissolved in $TiCl_4$ was established spectroscopically. The polymer nature of these solutions explains their capacity for stable supersaturation and the formation of incompressible structured suspensions and solid-like masses. The solutions, suspensions, and gels of $TiOCl_2$ - $TiCl_4$ are considered as lyophilic colloidal systems. The selected hydrolysis of $TiOCl_2$ in solutions, suspensions, and gels is established. There are 2 illustrations and an 8-entry bibliography.

1/1

USSR

UDC 621.3.087.5 ①

VINOGRADOV, YE. A., KOPYLOVSKIY, B. D.

"Receiver-Recorder for High-Resistance Photoreceivers"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 115-117

Abstract: A receiving and recording system for operation of high-resistance photoreceivers is described. The system is constructed completely from transistors, and in order to reduce the noise level the input stage executed from a field-effect transistor is placed in a cryostat. The noise reduced to the input is 10^{-7} volts/hertz^{1/2} with a resistance of the bolometric element of $5 \cdot 10^6$ ohms at 5° K. The threshold sensitivity attained is 10^{-12} watts/hertz^{1/2} for $S = 10^5$ volts/watt and $\epsilon = 1$. The circuit diagram of the amplifying channel, the block diagram of the receiving and recording device and the frequency-amplitude characteristic of the narrow band amplifier are presented and analyzed.

Synchronous detection of the signal is realized by a mechanical breaker using the RP-5 polarized relay; to decrease the delay time of the relay, its winding is fed rectangular pulses. The reference voltage for the synchronous detector is taken from the photoresistor with subsequent amplification and shaping. The switching time for the contacts does not exceed 1-2 milliseconds. The signal from the synchronous detector goes to two RC₁ integrators with step regulation of the effective pass band of the amplifier from 1 to $7 \cdot 10^{-3}$ hertz.
1/2

USSR

VINOGRADOV, YE. A., et al., Pribery i Tekhnika Eksperimenta, No 5, 1972, pp 115-117

To obtain a high transfer coefficient of the integrator and for matching with the low-resistance input of the EPP-09 pen recorder, a balanced DC amplifier of field-effect transistors is used in the circuit.

2/2

1/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXCITON THERMAL REFLECTION IN CADMIUM TELLURIDE -U-

AUTHOR--(04)-BALASHOV, A.A., IVANOV, V.S., KOPYLOVSKIY, B.D.,
STOPACHINSKIY, V.B.
COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(5), 869-72

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITON, HEAT REFLECTION, CADMIUM TELLURIDE, SINGLE CRYSTAL,
SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0891

STEP NO--UR/0449/70/004/005/0869/0872

CIRC ACCESSION NO--AP0136325

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136325

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMOREFLECTANCE SPECTRA OF N-TYPE CDTE SINGLE CRYSTALS WITH FREE CARRIER CONCN. OF SIMILAR TO 4.5 TIMES TO PRIME15-CM PRIME3 WERE STUDIED AT 80-140DEGREEK. THE EXCITON EFFECTS MUST BE TAKEN INTO ACCOUNT IN THE INTERPRETATION OF THE EXPTL. DATA, ESP. AT THE LOW END OF THE TEMP. RANGE STUDIED. THEORETICAL ANAL. OF THE SHAPE OF THE THERMOREFLECTANCE SPECTRUM DUE TO EXCITONS SHOWS GOOD QUAL. AGREEMENT WITH THE EXPTL. RESULTS. FACILITY: FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

VAVILOV, V. S., IVANOV, V. S., KOPYLOVSKIY, D. B., STCPACHINSKIY,
V. B.

"Methods of Studying Thermal Reflection in Semiconductors"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 6, June 1970, pp 1678-
1681

Abstract: Research on the thermal reflection spectra of GaAs at a temperature of about 500°K and CdTe at about 80°K as carried out. Various methods of effecting temperature modulation as well as the system for recording $\Delta R/R$ are described. In the thermal-reflection spectrum of GaAs, with the use of a CO₂-based laser for temperature modulation, $\Gamma_{15/2} \rightarrow \Gamma_1$, $\Lambda_3 \rightarrow \Lambda_1$, $L_3 \rightarrow L_1$ optical transitions were observed. On the basis of the example of CdTe it is shown that at low temperatures, in the analysis of thermal-reflection spectra, electron-hole interaction must be taken into account.

1/1

Industrial

USSR

UDC 539.374

KOPYLOVSKIY, KH. I., and KVANTUN, V. B.

"Deformation of the Material During the Drawing of a Round Rod"

Tr. Irkutsk. Politekh. In-ta (Works of the Irkutsk Polytechnic Institute), No 65, 1971, pp 29-34 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V441 by Ye. M. Tret'yakov)

Translation: In the article are presented the results of an experimental investigation of the deformation of a blank; these results were obtained by the net-point method during the drawing of a round copper rod. A coordinate network with a spacing of 0.5 mm was applied by a corundum needle to the polished meridional surface of a detachable sample that was subjected to drawing with lubrication and with reduction by 15%. Graphs of change of the linear dimensions and angles of the initial coordinate network along the flow lines were constructed. Curves of change of the deformation-rate tensor components along the flow lines are presented, and the character of deformation of the sample during drawing is discussed.

1/1

1/3, 012 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--KINETICS AND MECHANISM OF DESULFURIZATION DURING THE SINTERING OF
FLUXED PELLETS -U-
AUTHOR--(03)--BORTS, YU.M., KOPYRIN, I.A., GAVRIN, E.G.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 34-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--PELLETIZATION, DESULFURIZATION, SINTERING FURNACE, METALLURGIC
FLUX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1365 STEP NO--UR/0148/70/013/002/0034/0038
CIRC ACCESSION NO--AT0120161
UNCLASSIFIED

2/3 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AFO120161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF LITERATURE DATA AND LAB EXPTS., THE MECHANISM OF THE REMOVAL OF S DURING OXIDIZING FIRING OF FLUXED PELLETS FROM 2 CONTG. CONCS. CAN BE REPRESENTED BY THE FOLLOWING: (1) REACTIVE DIFFUSION OF S IN THE PARTICLE OF THE CONC.; (2) ADSORPTION OF O AND SO₂ AT THE SURFACE OF THE FE AND CA OXIDES; (3) SULFURIZATION OF THE METAL OXIDES AND THE SULFIDES DURING THEIR INTERACTION WITH S GASES, WITH THE FORMATION OF INTERMEDIATE COMPLEXES AND SULFATES; (4) INTERACTION OF THE SULFATES WITH AL₂O₃, SiO₂, AND Fe₂O₃, WITH THE FORMATION OF ALUMINATES, SILICATES, AND FERRITES OF CA AND OF SO₂; (5) DESORPTION OF SO₂ FROM THE SURFACE OF THE SOLID PARTICLES; (6) MOL. DIFFUSION OF SO₂ AND O BETWEEN THE SOLID PARTICLES AND IN THE MAIN FILM OF THE GAS AT THE SURFACE OF THE PELLET. THE RATE OF THE REACTIVE DIFFUSION DEPENDS ON THE CONC. GRADIENT OF S IN THE PARTICLE OF THE CONC. CONSEQUENTLY, THE S CONTENT IN THE FIRED PELLETS DEPENDS ON THE UNIFORMITY OF THE DISTRIBUTION OF THE PYRITE BETWEEN THE PARTICLES OF THE CONC., ON THE COARSENESS OF THE PARTICLES OF THE CONC., AND ON THE TOTAL S CONTENT IN IT. MUCH MORE IMPORTANT THAN THESE, HOWEVER, IS THE EFFECT OF THE FIRING TEMP. ON THE RATE OF DESULFURIZATION OF THE PELLETS. INCREASING THE FIRING TEMP. FROM 400 TO 1200 DEGREES LEADS TO A SIGNIFICANT SPEEDING UP OF THE REACTIVE DIFFUSION, AND CONSEQUENTLY IN A SHORTENING OF THE INDUCTION PERIOD.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

3/3 012

CIRC ACCESSION NO--AT0120161

ABSTRACT/EXTRACT--THE CBSO. LINEAR DEPENDENCE BETWEEN THE LOGARITHM OF THE AV. RATE DURING 10 MIN FIRING AND THE INVERSE TEMP. VALUE POINTS TO AN EXPONENTIAL RELATION BETWEEN THE RATE OF REMOVAL OF S AND THE FIRING TEMP. WITH INCREASING TEMP., THE RATE OF OXIDN. OF S INCREASES. AT 400-600DEGREES, THE SULFURIZATION PROCESS OF CAO DOES NOT EXERT A STRONG EFFECT ON THE DESULFURIZATION RATE AND IS DETD. BY THE MOL. DIFFUSION OF SO SUB2. THE DESULFURIZATION RATE AT 500 AND 600DEGREES IS HIGHER THAN AT 400DEGREES. THE STAGES OF THE DESULFURIZATION PROCESS OF FLUXED PELLETS DURING OXIDIZING FIRING ARE DISCUSSED. FACILITY: CHELYABINSK. NAUCH.-ISSLED. INST. MET., CHELYABINSK, USSR.

UNCLASSIFIED

USSR

UDC: 669.162.12:622.782.004.12

KOPYRIN, I. A., PERMINOV, N. I., and BORTIS, YU. M.

"Influence of Magnesium on the Properties of Fluxed Iron Ore Pellets"

Izv. VUZ, Chernaya Metallurgiya, No 6, 1970, pp 28-32

Abstract: A study was made of the effect of substituting dolomite for limestone in pellets manufactured of finely grained SSGOK concentrates with (CaO + MgO): $SiO_2 = 1.34$. It was established that the replacement of limestone by dolomite facilitates an increase in the rate of desulfuration and a decrease in the temperature of the beginning of active desulfuration of the pellets. Due to the lower quantity of fluid mobile melt, oxidation of Fe_3O_4 in pellets with dolomite occurs more rapidly and is possible right up to $1200^\circ C$. The process of oxidation and desulfuration can be combined in a single zone of high temperatures, whereas pellets with limestone must be oxidized in a zone of moderate temperatures (not over $1100^\circ C$). The presence of free lime (up to 0.5%) and its hydration cause intensive breakage of pellets with limestone in the moist atmosphere. Under the same conditions for dolomite pellets, no free lime is detected and they lose their strength to a lesser extent when stored exposed to the air. With increasing MgO in the pellets, the softening temperature increases from 1065 to $1160^\circ C$. From the standpoint of improvement of slag properties, it is more expedient to introduce dolomite into the pellets than into the agglomerate. 4 illustrations; 2 tables; 12 biblio. refs.

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1/2 007 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF FERRIC OXIDE ON THE DECOMPOSITION OF CALCIUM AND
MAGNESIUM SULFATES DURING THE ROASTING OF FLUXED PELLETS -U-
AUTHOR--(04)-BORTS, YU.M., KOPYRIN, I.A., FUSAKOV, L.N., LENEV, L.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 7-11
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SULFATE, PELETIZATION, MAGNESIUM COMPOUND, IRON OXIDE, CALCIUM
SULFATE, CALCINATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1984/0168 STEP NO--UR/0370/70/000/001/0001/0011
CIRC ACCESSION NO--AP0054964
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054964

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PELLETS FROM THE MIXTS. FE SUB2 0
SUB3: CASO SUB4 EQUAL 4 AND FE SUB2 0 SUB3:, MGSO SUB4 EQUAL 4(WT.
RATIO) WERE CALCINED IN AN AIR STREAM. REACTIONS WITH CASO SUB4 AND
MGSO SUB4 STARTED GREATER THAN 1200 AND 1000DEGREES, RESP.

UNCLASSIFIED

USSR

KOPYSHEV, V.P. (Moscow)

"A Thermodynamic Model of a Dense Fluid"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1971,
pp 119-122

Abstract: A basis is provided for an approximate equation of state of dense fluid; in this equation of state, the pressure is entirely determined by the relationship of the volume to the pressure at 0°K . Consideration is given to some generalizations (account is taken of the gravitational forces of the atoms and to the presence of mixtures). 2 figures, 1 table, 7 bibliographic entries.

1/1

USSR

KOPYSITSKIY, T. I.

"The Problem of Realization of the Method of Regression Analysis of Primary Components in Control Computers"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1972, No 1, pp 66-68 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V718, by the author).

Translation: The requirements for algorithms when they are realized in various systems are outlined; certain considerations are presented on possible versions of realization of a method of regression analysis of the primary components and comparative evaluation of these versions.

USSR

UDC 620.193.43

BULER, P. I., TOPORISHCHEV, G. A., YESIN, O. A., KOPYSOV, V. A.,
and LEPINSKIKH, V. B., Ural Polytechnic Institute "Izheni"
S. M. Kirov

"Anodic Behavior of Nickel in Melted Sodium Tetraborate"

Moscow, Zashchita Metallov, Vol 19, No 2, Mar-Apr 73, pp 196-198

Abstract: The anodic oxidation of nickel in melted sodium tetraborate was investigated in air at 800-900 °. The anodic polarization of Ni (curves $\Delta\varphi - i$) was determined under galvanostatic and potentiostatic conditions. The current efficiency of Ni was defined from the anodic mass decrease and the current efficiency of O from the volume of separated gas. The anodic dissolution of Ni in bivalent form ($\text{Ni}(\text{metal}) = \text{Ni}^{2+} + 2e$) with 80-85% current efficiency is characterized principally by the initial part of the polarization curves. Followed by concentrating polarization, the anodic dissolution of Ni leads to the development of a passivating film. The latter, gaining a hole conductivity, becomes the outer surface of the electrode on which the discharge of oxygen ions is realized. Together with this process, a partial oxidation proceeds of bivalent to trivalent Ni on the oxide-electrolyte boundary. Three figures, eight bibliographic references. 1/1

KOPYT, N. Ya.

UDC: 378.661+614:37](439)

TRAINING OF PHYSICIANS AND SOME PROBLEMS PERTAINING TO TEACHING SOCIAL HYGIENE AND PUBLIC HEALTH ORGANIZATION IN THE HUNGARIAN PEOPLE'S REPUBLIC

Article by Docent Ya.S. Mindlin, N.Ya. Kopyt, Candidate of Medical Sciences, U.S. Lyakhovich (Moscow); Moscow, Советское здравоохранение, Russian, No 3, 1972, submitted 9 September 1971, pp 44-49]

In the last few years interest has heightened considerably in problems dealing with higher and, in particular, medical education. Among the many problems that exist, methodological issues, optimization and improvement of the educational process are prominent. From this point of view it is very important to summarize the know-how of different countries in the area of training specialists and working out methodological problems. In the present article, on the basis of personal knowledge and of the literature, we discuss some issues in doctor training in the Hungarian People's Republic and the distinctive features in teaching social hygiene and public health organization, in which much importance is attributed in the system of higher medical education.

In the postwar period, there has been improvement in Hungary not only of quantitative indices of physician training (there were about 12 doctors per 10,000 population in 1938, versus 23.7 in 1970), but also of its organization and content. Until 1951, physicians and pharmacists were trained in the medical faculties of universities. In 1951, the faculties were converted into independent medical universities (medical institutes) and transferred to the jurisdiction of the Ministry of Health. At the present time, there are four medical universities, in Budapest, Szeged, Debrecen, and Pecs, and an institute for the advanced training of physicians in Budapest. There are pharmaceutical and dental faculties at the medical universities in Budapest and Szeged, and only therapeutic ones in Debrecen and Pecs.

The reforms of 1950 and 1961 were instrumental in raising the level of higher medical education, specifically, thanks to the 1950 reform, a standard curriculum and syllabus were established and the educational discipline was improved. Several new disciplines were added, some of which were taught independently (biology, microbiology, histology, biochemistry, pathophysiology,

USSR

KOPYT, N. Ya.

Opyt organizatsii Mediko-sanitarnoy pomoshchi rabochim sovkhozov (The Practice of Organization of Medical-Sanitary Aid for Sovkhoz Workers)

Moscow, "Meditsina" 1971, 120 pp.

Translation: Annotation: This monograph describes a new experiment in the organization of medical sanitary help provided to sovkhoz workers on the production territorial principle, introduced for the first time in the rural areas of Tul'skaya Oblast.

On the basis of a great deal of material in the concrete investigation of the activity of medical institutions, of working conditions and sick rate with temporary loss of work capacity of sovkhoz workers, the author provides convincing arguments about the value of adopting this principle in the operation of rural therapeutic and prophylactic institutions.

In the work an attempt has been made to analyze the sick rate with temporary loss of work capacity not only as related to the nature of medical aid, but also as related to working conditions and some family-living factors.

The monograph includes five chapters, a supplement, and an index of Soviet literature, as well as 19 tables and 8 illustrations.

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USSR

KOPYT, N. Ya., "Meditsina" 1971, 120 pp

The publication is designed for practicing physicians and public health organizers.

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Mechanization and automation of agricultural production - the most important factors in raising labor productivity and improving sanitary conditions	21
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KOPYT, N. Ya., "Meditsina" 1971, 120 pp

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USSR

KOPYT, N. Ya., "Meditsina" 1971, 120 pp

Chapter V Some prospects for the further development of medical-
sanitary aid for sovkhos workers

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92
103
118

4/4

USSR

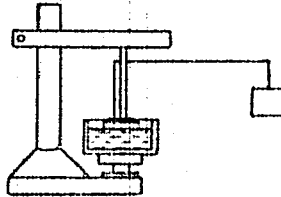
UDC: 531.715.2 531.717.53

SHATALOV, V. F., KOPYTIN, A. M., PONARIN, N. S., KOMISSAROV, V. T.

"A Method of Determining the Extent of a Destroyed Layer in Semiconductor Plates"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329374, Division G, filed 7 Apr 70, published 9 Feb 72, p 151

Translation: This Author's Certificate introduces a method of determining the extent of a destroyed layer in semiconductor plates. The procedure consists in etching the surface of the plate in an electrolyte and measuring the parameters of plates. As a distinguishing feature of the patent, the method is designed for increased inspection productivity. A strain gauge is used for determining the greatest deformation of the plate during the etching process.



1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THE INFLUENCE OF TORAZID ON THE LIPID METABOLIC RATE IN HEALTHY
RABBITS AND IN RABBITS WITH EXPERIMENTAL ATHEROSCLEROSIS IN FLAT AND
AUTHOR--KUCHUK, E.M., KOPYTIN, B.M.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR
3, PP 76-78
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIPID METABOLISM, RABBIT, ATHEROSCLEROSIS, BLOOD PLASMA,
LIVER, HEART, CHOLESTEROL, BILIRUBIN, PSYCHOPHARMACLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/0839

STEP NO--UR/0219/70/059/003/0076/0078

CIRC ACCESSION NO--AP0052273

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0052273

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 30 DAY LONG COURSE OF IPRAZID ADMINISTRATION (2 MG-KG) HAD LITTLE EFFECT ON LIPIDS OF THE BLOOD PLASMA, LIVER AND AORTA OF HEALTHY RABBITS, BUT IN RABBITS WHICH RECEIVED CHOLESTEROL FOR 75 DAYS IT LOWERED SIGNIFICANTLY THE CONCENTRATION OF CHOLESTEROL AND TOTAL LIPIDS IN THE ABOVE CITED TISSUES AND ALSO ALLEVIATED AORTIC ATHEROSCLEROSIS BOTH IN FLAT AND ALPINE COUNTRY. IPRAZID TENDED TO RAISE THE LEVEL OF NON ETHERIFIED FATTY ACIDS IN THE BLOOD PLASMA AND IN 4 OUT OF 27 RABBITS WITH ATHEROSCLEROSIS IT CAUSED HYPERBILIRUBINEMIA.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ELECTRON CAPTURE AT THE 2 PLUS LEVEL IN ARSENIC,72, ARSENIC,74, AND
RUBIDIUM,84 -U-
AUTHOR-(02)-KOPYTIN, I.V., BATKIN, I.S.
COUNTRY OF INFO--USSR *K*
SOURCE--YAD. FIZ. 1970, 11(3), 533-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--ELECTRON CAPTURE, NUCLEAR ENERGY LEVEL, CALCULATION, RUBIDIUM
ISOTOPE, ARSENIC ISOTOPE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1054 STEP NO--UR/0367/70/011/003/0533/0536
CIRC ACCESSION NO--AP0110744
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110744

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR THE TRANSITIONS 2 MINUS YIELDS 2 PLUS, EXACT CALCNS. GAVE EPSILON KAPPA-BETA POSITIVE VALUES OF 0.065-0.116, 1.45-2.48, AND 4.18-4.70 FOR PRIME72 AS, PRIME74 AS, AND PRIME84 RB, AND EPSILON L-EPSION KAPPA VALUES OF 0.104, 0.103, AND 0.112. THE FIGURES WERE DISCUSSED AND COMPARED WITH EXPTL. DATA AND VALUES OBTAINED BY APPROXNS. FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED

I/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ONCE FORBIDDEN BETA DECAY TO COLLECTIVE LEVELS OF SPHERICAL NUCLEI
AT 72 IS SMALLER THAN OR EQUAL TO A IS SMALLER THAN OR EQUAL TO 86 -U-
AUTHOR--(02)-KOPYTIN, I.V., BATKIN, I.S.
COUNTRY OF INFO--USSR K
SOURCE--YAD. FIZ. 1970, 11(2), 342-54
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--FORBIDDEN TRANSITION, BETA DECAY, NUCLEAR ENERGY LEVEL,
CALCULATION, BETA SPECTRUM, MATRIX ELEMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1048 STEP NO--UR/0367/70/011/002/0342/0354
CIRC ACCESSION NO--AP0110738
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--A0110738

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ONE FORBIDDEN BETA DECAYS TO THE GROUND STATE AS WELL AS TO THE 1ST COLLECTIVE 2 POSITIVE STATE OF SPHERICAL NUCLEI ARE CONSIDERED. WITHIN THE FRAMEWORK OF THE THEORY OF FINITE FERMI SYSTEMS THE REDUCED NUCLEAR MATRIX ELEMENTS ARE CALCD. FOR NUCLEI IN THE MASS NO. INTERVAL 72 IS SMALLER THAN OR EQUAL TO A IS SMALLER TO OR EQUAL TO 86. THE SHAPES OF THE SPECTRA AND THE REDUCED LIFETIME FT ARE CALCD. A DETAILED COMPARISON IS MADE WITH EXPTL. RESULTS. THE PRESENT METHOD OF CALCN. DESCRIBES SATISFACTORILY THE PROPERTIES OF THE NUCLEI IN THE REGION INVESTIGATED. FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ENTHALPY OF BEH SUB2 FORMATION -U-
AUTHOR-(03)-AKHACHINSKIY, V.V., ~~KOPYTIN, L.M.~~ SENIN, M.D.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 28 (3), 245-7 *K*
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--BERYLLIUM COMPOUND, HYDRIDE, ENTHALPY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1576 STEP NO--UR/0089/70/028/003/0245/0247
CIRC ACCESSION NO--AP0120355
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120355

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENTHALPY OF FORMATION OF SOLID
BEH SUB2 AT 298DEGREESK (DELTA H SUBF298DEGREES) CALCD. FROM DATA ON THE
HEATS OF DISSOLN. OF METALLIC BE AND BEH SUB2 IN 5PERCENT HCL, IS
NEGATIVE 4.60 PLUS OR MINUS 0.17 KCAL-MOLE.

UNCLASSIFIED

USSR

UDC 551.573

BUKATY, V. I., ~~KOPYTIN, Yu. D.~~, POGODAYEV, V. A., KHMELEVTSOV, S. S.,
CHISTYAKOVA, L. K., Institute of Atmospheric Optics of the Siberian
Department of the Academy of Sciences USSR, Siberian Physicotechnical
Institute imeni V. D. Kuznetsov at Tomsk State University

"The Light-Reactive Motion of Aerosol Particles Acted on by Optical
Radiation"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 41-44

Abstract: A study of the motion of water droplets of an aerosol under the
action of optical radiation is described. It is noted that in the radiation
heating of a water droplet, the dimensions of which are considerably
greater than the wavelength of the radiation, the radiation process has a
highly asymmetric character due to anisotropy of the light field in the
droplet. The asymmetry of the evaporation process leads to the appearance
of a resulting force from the outflow of evaporated material and causes
"light-reactive" motion of the droplet in the optical field. An expression
is obtained for the light-reactive force, taking into account the refracting
properties of the spherical surface. Experimental studies were conducted

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USSR

BUKATY, V. I., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 41-44

with drops fastened at the end of a vertically placed grid. The breaking away of drops was slight and was considered in finding the rate of light-reactive motion from the equation for force oscillations of a physical pendulum. The coefficient of elasticity of the grid was determined experimentally on the basis of the oscillation period measured. The initial and final dimensions of the droplet were recorded with a SKS-1M motion picture camera. A type GOR-0.2 ruby laser was used as an activating source for the light pulse energy of 0.15 joule. Calculations of velocities caused directly by light pressure and the action of radiometric forces on the part of the gas medium showed that their effect on the dynamics of the water particles was slight for the values of the parameters used in the experiment. The experimental and theoretical results agreed satisfactorily.

2/2

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USSR

UDC 669.71.018.9.4 ³

TSABROV, N. D., VINOBUROV, N. D., MARCHENKO, A. M., PECHENEV, V. S., KOPYTOV, G. A., VOL'KHIN, G. D., BERNISHTEYN, G. G.

"Experiment in Operating a Vacuum Mixer"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul VILSa (Light Alloy Technology. Scientific and Technical Bulletin of the VILS), 1970, No 5, pp 26-31 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G206)

Translation: The application of a vacuum mixer for evacuating liquid alloys based on aluminum is expedient and has a number of advantages over the methods used earlier: the gas saturation of the metal is reduced appreciably; the technological plasticity of the ingots is increased; an increase in the casting rate by 10-15% is possible; and the number of defects during ultrasonic control of the products is reduced sharply. The schematic of the mixer and its operation are described. There are 4 illustrations and 1 table.

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AA0046998

KOPYTOV G.A.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

244570

TEEMED METAL REFINER FOR SEMICONTINUOUS
CASTING PLANT employs a labyrinth tube

2/70

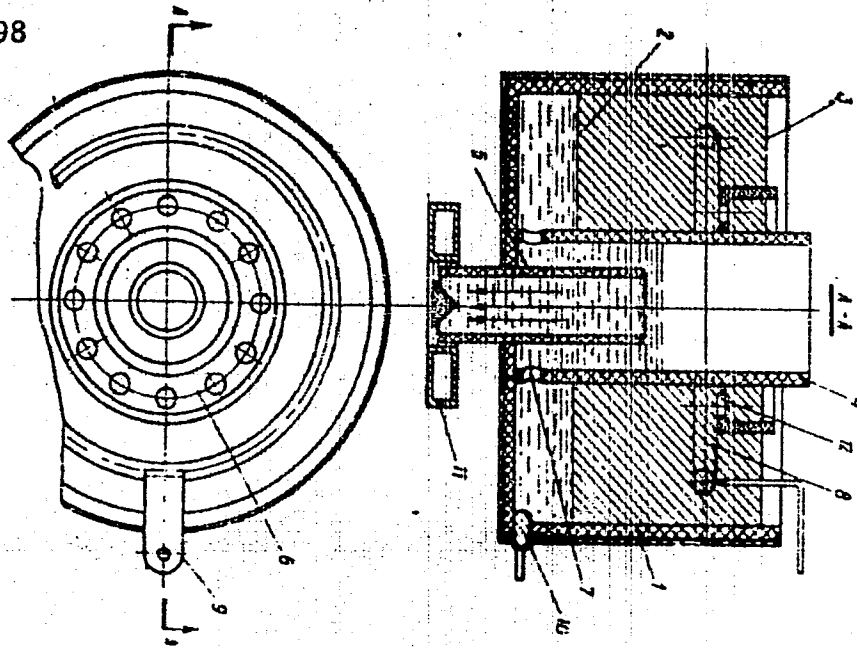
composed of refractory cylinders (4) just rising above the flux bath and another cylinder (5) concentrically enclosed in (4). The upper part of cylinder (4) has an annular funnel which breaks up the metal flow and holes (7) at its base allow the refined metal through to the portioner. Metal is filled to level (2) and flux to level (3) so that no flux reaches the dispense part between the cylinders (4,5). Metal is filled to the funnel (6) and then runs through the flux via holes (12) so that at level (2) metal and flux separate due to their differing specific gravities. Now the metal passes through holes (7) into the mould. The level in cylinder (4) is such that metal entering cylinder (5) cannot be further oxidised as it remains under the cover or blanket of the oxide film on the meniscus in cylinder (4).

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15.2.68 as 1219023/22-2 KOPYTOV, G.A. (8.10.69)
Bul. 18/28.5.69. Class 31b², Int. Cl. B 22d.

19790415

AA0046998



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19790416

USSR

UDC 538.30

BAGROV, V. G., BORDOVITSYN, V. A., and KOPYTOV, G. F.

"Radiation Indicatrix of an Arbitrarily Moving Charge"

Tomsk, Izvestiya VUZ--Fizika, No 6, 1972, pp 86-91

Abstract: Noting that the most important characteristic of radiation is the full power of its instantaneous output, this paper theoretically investigates the angular distribution of the radiation power without making any particular assumptions regarding the nature of the moving charge producing it. For this investigation a point charge of specified magnitude moving along a specified trajectory and having specified velocity and acceleration values is considered. Although this problem has been repeatedly investigated, the results of such investigations related to particular cases of charge motion and did not dwell on the difference between the power and the intensity of the radiation. These defects are remedied in the present paper. The authors are associated with the S. M. Kirov Polytechnical Institute at Tomsk.

1/1

- 100 -

USSR

UDC 539.1.01

GROV, V. G., BORDOVITSYN, V. A., KOPYTOV, G. F., Tomsk Polytechnical
Institute imeni S. M. Kirov

"On the Wave Zone of Radiation"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 30-33

Abstract: A criterion for the formation of a wave zone of radiation of an arbitrarily moving charge is discussed. It is noted that the notion of a wave zone plays a fundamental role in the theory of charge radiation but that a strict criterion for the formation of a wave zone did not exist for a long time; and the problem was discussed only for the particular case of radiation arising in the motion of a charge in a circle (synchrotron radiation). The instantaneous angular distribution of the radiation power of a charge is discussed in order to investigate in detail the appearance of a wave zone of radiation at a given distance from the charge. It is shown that the criterion for the formation of a wave zone in the general case of an arbitrarily moving ultrarelativistic charge is not different from the corresponding criterion for synchrotron radiation. It is noted that this fact is not unexpected and agrees with the conclusions of many authors relative to the general laws of radiation of ultrarelativistic charges.

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BAGROV, V. G., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika,
No. 3, 1972, pp 30-33

The integral criterion for any velocities coincides exactly with the
angular criterion in the particular case of a hyperbolically moving charge.

2/2

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USSR

UDC 669.71.472

ORLOV, A. I., KOPYTOV, YE. A., YELSHIN, V. V., ZEL'BERG, B. I.

"Study of the Possibility of Continuous Measurements of the Alumina Concentration in Cryolite-Alumina Melts by the Conductometric Method"

Obogashch. i metallurgiya polezh. iskopayemykh -- V sb (Beneficiation and Metallurgy of Minerals -- collection of works), Irkutsk, 1970, pp 109-110 (from RZh-Metallurgy, No 4, Apr 71, Abstract No 4G160)

Translation: The basis for the conductometric procedure is the principle of measuring the specific resistance of the cryolite-alumina melt by the magnitude of the voltage drop in the electrode-melt-electrode section with a defined value of the alternating current. The specific resistance varies significantly as a function of the physico-chemical state of the melt. For melts with a cryolite ratio of 1.7, a dependence of the variation of the specific resistance as a function of the Al_2O_3 concentration is observed for frequencies of 250-3,000 hertz. With an increase in the melt temperature, the extremum shifts toward the low-concentration side. With an increase in alternating current frequency from 250 to 3,000 hertz, the specific resistance decreases under other equal conditions. With an increase in the cryolite ratio from 1.7 to 2.85, the conductivity of the melt increases.

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Acc. Nr.:

AP0032016

Ref. Code: UR 0475

PRIMARY SOURCE: *Vrachebnoye Delo, 1970, Nr 1, pp 72-75*

SUMMARY

EFFECT OF COMPLEX TREATMENT ON THE STATE OF THE CARDIO-VASCULAR SYSTEM IN PATIENTS WITH DIABETES MELLITUS

A. S. Yefimov, A. F. Litvinenko and Yu. P. Koputov (Kiev)

Electrocardiography, arterial sphygmography, polycardiography, mechanocardiography, capillaroscopy, capillarography, electrothermometry were used in examination of the cardio-vascular system in patients with diabetes mellitus. Such complex examination makes it possible to carry out early diagnosis of myocardial involvement and angiopathias, even before their clinical manifestations. Functional tests enable to determine the degree of cardio-vascular involvement.

It was found that complex treatment resulted in improvement of the state of the cardio-vascular system in patients with diabetes mellitus only in cases of functional disorders. The abovementioned instrumental methods of examination are valuable for the control of the efficiency of treatment.

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UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--LINKING OF POLARIZATION TRACES WITH THOSE OF ACOUSTIC STIMULI AT THE LEVEL OF MOTOR CORTEX UNITS -U-
AUTHOR--(02)--KOPYTOVA, F.V., RABINOVICH, N.YA.

K

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP 153-162

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEURON, ACOUSTIC EFFECT, CEREBRAL CORTEX, RABBIT, ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1982/0722

STEP NO--UR/0247/70/020/001/1253/0162

CIRC ACCESSION NO--AP0052181

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--APG052181

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. REACTIONS OF 110 NEURONS OF THE MOTOR CORTEX TO ACOUSTIC STIMULI WERE INVESTIGATED IN ALERT RABBITS BEFORE, DURING AND AFTER THEIR POLARIZATION THROUGH AN EXTRACELLULAR ELECTRODE. TWO ACOUSTIC STIMULI WERE USE, ONE OF WHICH WAS REPEATEDLY APPLIED DURING THE POLARIZATING (POSITIVE), AND THE OTHER WAS USED NOT MORE THAN ONCE OR TWICE (NEGATIVE). OF THE 72 NEURONS WHICH REACTED TO BOTH STIMULI DURING THE POLARIZATION, 24 CELLS (ABOUT 33PERCENT) RESPONDED IN AFTER EFFECT ONLY TO THE POSITIVE STIMULUS. THUS, LINKING OF POLARIZATION TRACES WITH THOSE OF THE SENSORY STIMULUS TAKES PLACE AT THE NEURONAL LEVEL. IT IS ASSUMED THAT THE FORMATION OF THIS STABLE CONNECTION IS FURTHERED BY SYNAPTIC INFLUENCES OF OTHER UNITS OF THE SYSTEM INTERACTING WITH THE GIVEN CELL AS WELL AS THE ACTIVITY OF POLARIZED DENDRITES AND PRESYNAPTIC ENDINGS.

UNCLASSIFIED

USSR

UDC 678.84-419.8:677.521].01:53

PAKHOMOV, V. I., KOPYTOVA, L. B., and SHMIDT, N. A.

"Thermostable Organosilicon Glass Textolite SMF-50"

Moscow, Plasticheskiye Massy, No 7, Jul 70, p 20

Abstract: Glass textolite SMF-50 is obtained by pressing cloth impregnated with organosilicon resin MF-50. The glass cloth brands used for impregnation are ASTT (b)-S, T, TS-8/2-250. Glass textolite SMF-50 possesses good thermostability, as well as stability of mechanical and dielectric indices under elevated temperatures. It can be used as an electric insulating and structural material in the radio and electrical engineering industry.

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Acc. Nr:

AP0048798

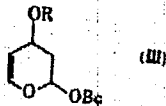
Abstracting Service:
CHEMICAL ABST.

K1170

Ref. Code:

ZIRO366

90198j Synthesis of ethers based on 2-alkoxy- Δ^4 -dihydropyrans. Likhoshesterov, V. M.; Kopytova, L. P.; Krivosheya, A. N. (USSR). *Zh. Org. Khim.* 1970, 0(1), 180-2 (Russ). The bromination of 2-butoxy-2,3-dihydropyran (I) with *N*-bromosuccinimide in benzene gave a rather unstable 4-bromo deriv. (II) of I, which formed tars in the presence of peroxides, amines, Mg, or during heating. However, II reacted with ROH (R =



Et, Pr, or iso-Pr) contg. KOH to give 4-alkoxy-substituted derivs. (III) of I.

CPJR

REEL/FRAME
19800561

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Acc. Nr:

AP0051926

L. P. KOPYTOVSKAYA

Ref. Code: UR-0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 35-38

EFFECT OF ADRENALECTOMY AND NARCOSIS ON THE ANAPHYLACTIC REACTION

M. A. Bogdanova, L. P. Kopytovskaya

Institute of Experimental Medicine, Academy of Medical Sciences of the USSR, Leningrad

Removal of both adrenal glands in mice enhanced the sensitivity of the animals to the systemic anaphylactic reaction: minimal lethal doses of the immune serum was 80 times as low as in the control. Removal of but one adrenal gland produced no effect. Administration of cortizone restored the sensitivity of adrenalectomized animals to the normal level. In the adrenalectomized animals local reactions were less pronounced than in the control. Cortizone decreased the frequency of positive reactions. Deep ether narcosis during administration of "antimice" serum did not affect the development of general and local reactions of this type.

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REEL/FRAME
19820409

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1/4 018 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RESEARCH TO ORDER -U-
AUTHOR--KOPYTUG, V. K
COUNTRY OF INFO--USSR
SOURCE--PRAVDA, MAY 16, P. 3. 950 WORDS
DATE PUBLISHED--16MAY70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--CONTRACT R AND D, ACADEMY OF SCIENCE R AND D, HIGHER EDUCATION
INSTITUTE R AND D, R AND D FACILITY MANAGEMENT, R AND D CAPITAL
INVESTMENT, CHEMISTRY, R AND D COOPERATION, R AND D MANPOWER
UTILIZATION, PERSONNEL MANAGEMENT, HEAD INSTITUTE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0529 STEP NO--UR/9012/70/000/000/0003/0003
CIRC ACCESSION NO--AN0122657
UNCLASSIFIED

2/4 018

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AN0122657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PERCENTAGE THAT OUTLAYS FOR EQUIPMENT TAKE UP IN EXPENDITURES FOR THE DEVELOPMENT OF SCIENCE IS RATHER LARGE, AND IT WILL CONTINUE TO GROW. AS MAN PENETRATES THE SECRETS OF NATURE, INCREASINGLY SOPHISTICATED AND OFTEN MORE COSTLY INSTRUMENTS AND INSTALLATIONS ARE REQUIRED. THE LABOR PRODUCTIVITY OF SCIENTISTS NOW DEPENDS IN LARGE PART ON THE PROVISION OF UP-TO-DATE RESEARCH FACILITIES. ...THE HIGH COST OF EQUIPMENT FOR THE INTEGRATED UTILIZATION OF PRESENT-DAY RESEARCH METHODS IN CHEMISTRY COMPELS US TO BE CONCERNED ABOUT ENSURING ITS MULTISHIFT OPERATION IN ALL CASES. IN LARGE COLLECTIVES, SO-CALLED CENTRALIZED PHYSICAL METHODS GROUPS, WHICH ACT AS CONCENTRATION POINTS FOR THESE EXPENSIVE INSTRUMENTS AND FILL ORDERS FROM ALL THE INSTITUTE'S LABORATORIES, OFTEN SERVE AS A WAY OUT OF THIS SITUATION. BUT VERY HIGHLY SKILLED SPECIALISTS ARE NEEDED FOR SUCH GROUPS. IT IS DIFFICULT TO "HOLD ONTO" THEM, IF THE TASKS ASSIGNED TO THEM ARE SOLELY IN THE SPHERE OF SERVICES. AS THE EXPERIENCE OF OUR INSTITUTE AND A NUMBER OF OTHER ACADEMIC INSTITUTES SHOWS, THE BEST RESULTS ARE ACHIEVED WHEN SERVICE GROUP SPECIALISTS ARE GIVEN THE OPPORTUNITY TO TAKE A DIRECT PART IN ACCOMPLISHING THE BASIC SCIENTIFIC TASKS OF THE COLLECTIVE. WITH THIS SORT OF COMBINATION AND CENTRALIZATION, SCIENTIFIC EQUIPMENT CAN BE SUCCESSFULLY USED WITH A HIGH DEGREE OF EFFICIENCY.... BUT WHAT THEN ARE THE LARGE NUMBER OF SMALL LABORATORIES AND DEPARTMENTS OF HIGHER EDUCATIONAL INSTITUTIONS TO DO? THE CREATION OF CENTRALIZED SERVICE GROUPS IS SIMPLY BEYOND THEIR POWERS.

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UNCLASSIFIED

PROCESSING DATE—20NOV7C

CIRC ACCESSION NO—AN0122657

ABSTRACT/EXTRACT—BUT IF THEY DO NOT MAKE USE OF THE ENTIRE ARSENAL OF NEW FACILITIES, THE EFFECTIVENESS OF THEIR RESEARCH WILL DIMINISH. THIS CAN DO DEFINITE DAMAGE TO CHEMISTRY AS A WHOLE. THE DIFFICULTIES THAT ARISE CAN BE OVERCOME BY SETTING UP SPECIAL ECONOMICALLY ACCOUNTABLE LABORATORIES FOR THE SYSTEMATIC SERVICING OF MANY SMALL RESEARCH COLLECTIVES AT ONCE. EVIDENTLY IT WOULD BE ADVISABLE TO ORGANIZE THESE LABORATORIES UNDER MAJOR SCIENTIFIC INSTITUTIONS THAT HAVE CENTRALIZED GROUPS FOR INSTRUMENTAL RESEARCH METHODS. THIS WILL MAKE IT POSSIBLE TO RECRUIT SPECIALISTS WHO ARE CAPABLE OF ENSURING THE UNINTERRUPTED MULTISHIFT OPERATION OF THE STOCK OF INSTRUMENTS, THE HIGH QUALITY OF THE WORK PERFORMED AND THE PROVISION OF CONSULTATION SERVICES ON THE APPLICATION OF THE LATEST METHODS TO THE SOLUTION OF CHEMICAL PROBLEMS. WITH THE AIM OF PERFECTING THE STRUCTURE AND ORGANIZATIONAL FORMS OF THESE LABORATORIES, OUR INSTITUTE OF ORGANIC CHEMISTRY HAS ALREADY BEGUN TO PROVIDE SERVICES FOR THE RESEARCH INSTITUTIONS OF SIBERIA AND THE FAR EAST ON THE BASIS OF ECONOMIC CONTRACTS. THE NUMBER OF INTERESTED ORGANIZATIONS IS VERY GREAT. THIS CAN BE JUDGED BY THE LARGE NUMBER OF APPLICATIONS FOR RESEARCH WORK THAT HAVE BEEN SUBMITTED TO THE CHEMISTRY INSTITUTES OF THE U.S.S.R. ACADEMY OF SCIENCES' SIBERIAN DIVISION. THE ORGANIZATION OF ECONOMICALLY ACCOUNTABLE LABORATORIES WILL MAKE IT POSSIBLE TO SATISFY SUCH REQUESTS WITHOUT DETRIMENT TO THE ACADEMIC INSTITUTES' OWN RESEARCH. OUTLAYS WILL BE RELATIVELY SMALL AND WILL BE RECOVERED VERY QUICKLY, THANKS TO A SHARP INCREASE IN THE EFFICIENCY OF THE UTILIZATION OF EQUIPMENT.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

4/4 018

CIRC ACCESSION NO--AN0122657

ABSTRACT/EXTRACT--THE ECONOMIC RESULTS OF THIS ORGANIZATION OF THE WORK
WILL UNDOUBTEDLY PROVE TO BE GREAT. EVEN MORE IMPORTANT HOWEVER, WILL
BE THE BENEFIT THAT SOVIET CHEMISTRY DERIVES BY RAISING THE WORK OF ALL
RESEARCH COLLECTIVES TO THE LEVEL OF THE LEADING INSTITUTES.

UNCLASSIFIED

UDC 621.791:620.192.7

USSR

KASATKIN, B. S., SOTCHENKO, V. P., KORAB, G. N., PETRUKHA, V. YE.,
MASLENKOV, YU. A., and BELOV, A. S.

"Device for Studying Slow Deterioration of Welded Joints"

Kiev, Avtomaticheskaya Svarka, No 3, Mar 71, pp 74-75

Abstract: This is a brief report on a device developed and manufactured at the Institute of Electric Welding imeni Ye. O. Paton for studying slow deterioration of welded joints. It automatically holds a given load on the specimen and changes it in accordance with a preset program. The specimens can be welded in the longitudinal and transverse directions with respect to the loading axis manually or automatically under flux and in shielding gases. A schematic and the basic parameters of the device are presented.

L/1

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE ETAP-2 ELECTRONIC TACHOMETER -U-
AUTHOR--(02)-KORABELNIKOV, A.A., RAMIN, YE.L. K
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 2, 1970, OO 16-17
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--TACHOMETER, PULSE SIGNAL, IGNITION MECHANISM/(U)ETAP2
TACHOMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1999/1220 STEP NO--UR/0113/70/000/002/0016/0017
CIRC ACCESSION NO--AP0123184

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123184

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ELECTRONIC TACHOMETER IS DESCRIBED. ITS BASIC PRINCIPLE OF OPERATION INVOLVES THE REGISTRATION OF THE NUMBER OF ELECTRIC PULSES IN THE IGNITION SYSTEM. THIS NUMBER IS A MULTIPLE OF ENGINE CRANKSHAFT RPM. ORIGINAL ARTICLE: TWO FIGURES.

UNCLASSIFIED

USSR

UDC 621.438.001

TUNAKOV, A. P., and KORABEL'NIKOV, A. Z.

"Method of Calculation of Characteristics and Induction Coefficients of Gas Turbines"

Kazan', IVUZ Aviatsionnaya Tekhnika, No 4, 1971, pp 141-145

Abstract : The described method of calculation of characteristics of gas turbines, developed by the Kazan' Aviation Institute, is characterized by a considerable lower number of allowances than usually. By this method, characteristics of practically any gas turbine can be calculated: single-stage and multistage turbines, axial-flow turbines, peripheral and centrifugal turbines, turbines with and without branch pipes, and turbines with "locking" in any blade rim or in the jet nozzle. All main types of turbine losses are considered, including losses in nozzles with due regard for the effect of angles of attack and reduced speed value, leakage losses, disk losses, etc. The moment of origination of locking is determined with accounting for nozzle losses. The described method was programmed together with the calculation method of induction coefficients on the electronic digital computer "Ural-2". Three illustr., four formulas, six biblio. refs.

1/1

172 023 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--TRUE AND SEEMING PARADOXES OF ACUTE APPENDICITIS -U-

AUTHOR--KORABELNIKOV, I.D.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP
46-48

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, DIGESTIVE SYSTEM DISEASE, PERITONIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0648

STEP NO--UR/0589/70/104/003/0045/0048

CIRC ACCESSION NO--AP0102634

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS REPORTED THAT THE INCIDENCE OF APPENDECTOMIES IN THE CITY OF CHELYABINSK WITHIN THE RECENT 8 YEARS WAS REDUCED ON ACCOUNT OF MARKED REDUCTION OF A NUMBER OF OPERATIONS FOR SIMPLE APPENDICITIS. THUS, SURGERY WAS EVIDENTLY INDICATED IN NOT LESS THAN FOUR FIFTH OF CASES. THE MORTALITY FROM ACUTE APPENDICITIS DID NOT INCREASE. TERMS OF THE OPERATION SINCE THE MOMENT OF HOSPITALIZATION WERE IDENTICAL IN ALL FORMS OF APPENDICITIS. WITHIN THE RECENT YEARS ABOUT A HALF OF DIED PATIENTS WERE PERSONS OVER 60 YEARS OF AGE. AS PREVIOUSLY, THE MAIN CAUSE OF DEATH WAS PERITONITIS, DEVELOPED PRIOR TO SURGERY DUE TO LATE TERMS OF HOSPITALIZATION.

UNCLASSIFIED

K. V. KORABELNTRKOV
Acc. Nr: AP0052090 Ref. Code: UR0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiiatrii imeni
S. S. Korsakova, 1970, Vol 70, Nr 3
pp 399-408

FACTOR ANALYSIS IN STUDIES WITH THE USE OF RATING
PSYCHOPATHOLOGICAL SCALES

B. V. Iovlev, M. M. Kabanov, O. M. Kallnin, B. D. Kurvasarskiy
K. V. Korabelnikov

The presentation deals with the possibilities of using rating psychopathological scales in the evaluation of problems of rehabilitation of mental patients. The authors report and analyze the data of factor analysis in schizophrenia, depressive states, obtained with the aid of computers. The results demonstrate that it is possible to use factor analysis for the study of interconnections of psychopathological symptoms as well as of correlations between psychopathological and biological indices.

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19820628

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USSR

UDC 615.217.24.092:616-008.922.1.04

KORABLEV, M. V., LUKIYENKO, P. I., and SPAS, V. V., Chairs of Pharmacology and Hospital Surgery, Grodno Medical Institute, Grodno

"The Antihypoxic Activity of Apressin"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 1, Jan/Feb 73, pp 72-75

Abstract: Apressin (1-hydrazinophthalazine HCl), on being injected to rats and mice subcutaneously 60 min before the experiment, protected the animals from death resulting from hypoxia on reduction of the air pressure in a chamber to a level at which all control animals died. Injections of apressin increased by 48% the rate of survival of rats with circulatory hypoxia of the brain produced by tying up the carotid arteries. Apressin in a dose of 6 mg/kg increased the resistance of the heart and brain of rabbits to hypoxia produced by stopping for 5 minutes artificial respiration that was applied on exclusion of natural respiration by the administration of diplacin. The bioelectric activity of the brain was preserved in the experimental animals for a length of time greater by 52% than that for control animals. On being administered prophylactically per os to patients with gastrointestinal ulcers subjected to surgery, apressin prevented in 57% of cases the development of hypoxia during 1/2

USSR

KORABLEV, M. V., et al., Eksperimental'naya Khirurgiya i Anesteziologiya, No 1,
Jan/Feb 73, pp 72-75

endotracheal ether-oxygen anesthesia. Under the effect of the drug, the concentrations of lactic and pyruvic acids in the blood of the patients decreased.

2/2

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USSR

UDC 599.323.4 Clethrionomys: 591.134+577.95

KORABEL'NIKOV, V. M., Chair of Zoology, Leningrad Agricultural Institute

"Dependence of Growth and Postembryonic Development of the Common Red-Backed Vole *Clethrionomys glareolus* Schreb. on the Size of the Brood"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 3, 1972, pp 464-466

Abstract: The experimental data obtained show distinct differences in the length of the body, the body weight, and the weight of some of the internal organs (heart, liver) between specimens from small broods and those from large broods of the common red-backed vole. The body length of animals from small broods averaged 90 mm and from large broods, 71 mm after 40 days. After 30 days the weight of animals from small broods was about 20 g compared to about 12 g for those from large broods. After 40 days the length of the tail in animals from small broods was about 45 mm compared with 39 for animals from large broods. In bar graphs of the ratio of the weight of the heart to the total body weight, the values were about 0.1% higher in animals from the smaller broods for ages to 40 days. Values ranged from 0.4 to 0.7%; the smallest difference, about 0.01% was seen at the age of 1-2 days. A similar graph for the liver showed that for animals from small broods the ratio of liver weight to total body weight was about 1% greater than for animals from 1/2

EQUIPMENT

K Measuring, Testing, Calibrating

USSR

UDC 528.517

ZARUBIN, B. I., KORABLEV, D. P., KOTKOV, A. V., CHERNIVCHAN, T. V.

"Experience in the Operational Use of the TD-2 Phototelemeter"

Moscow, Geodeziya i Kartografiya, No 8, 1970, pp 13-19

Abstract: Series production of the TD-2 surveying and geodetic phototelemeter was started in 1969. This instrument differs from the TD-1 phototelemeter only with respect to small design improvements. Experimental specimens of the TD-type phototelemeter have been tested in operation. The results of these tests are generalized and analyzed in the article. The TD-2 phototelemeter is extremely simple in design and is reliable in operation, and can be recommended for measuring initial triangulation sides up to 10-12 km long.

USSR

SADYGA, V. I. and KORABLEV, N. M.

"Estimation of Information Content of Variables During Identification of a Complex Object"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 27, pp 67-70 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V202)

Translation: The problem of selection of the most significant factors, information on which would be sufficient for defective control of a dynamic object, is studied. The information measure of uncertainty of the process of floatation based on two control channels is calculated.
Author' view

1/1

Inorganic Compounds

USSR

UDC: 661.143

KORABLEV, N. M., CHLENOV, V. A.

"Effect of Heat-Exchange Conditions on the Process of Formation of Zinc Sulfide Phosphors"

Sb. nauch. tr. VNII luminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Substances), 1971, vyp. 6, pp 82-87 (from RZh-Khimiya, No 15, Aug 72, Abstract No 15L185)

Translation: The rate of the process of formation of zinc sulfide phosphor compositions, which is determined by the duration of nonstationary heating of the charge to the calcining temperature in a stationary layer, may be considerably increased by using heat treatment of the charge in an isothermal vibration-fluidized bed. In addition, carrying out the process in a vibration-fluidized bed gave phosphors with more uniform luminescent properties.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--DEVICES FOR TESTING ELECTRIC INSULATION BY ELEVATED VOLTAGE AND FOR
THE CONTROL OF WHOLENESS OF THE DISRUPTIVE FUSE -U-
AUTHOR--KORABLEV, V.P.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, PROMYSHLENNAYA ENERGETIKA, NO 4, 1970, PP 22-24
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--INSULATED WIRE, ELECTRIC MEASURING INSTRUMENT, ELECTRONIC
INDUSTRY, ELECTRIC FUSE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFEL/FRAME--1987/1422 STEP NO--UR/0094/70/000/004/0022/0024
CIRC ACCESSION NO--AP0104736
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104736

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVICES AND NETWORKS DEVELOPED BY SOYUZHIMPROMENERGO, WHICH PERMIT CARRYING OUT RESPECTIVE TESTS AND CHECKS, ARE DESCRIBED. THESE DEVICES MAY BE MANUFACTURED BY ENTERPRISES THEMSELVES. FOUR ILLUSTRATIONS.

0123

UNCLASSIFIED

USSR

UDC 537.533.2+537.534

SHUL'MAN, A. R., KORABLEV, V. V., MOROZOV, YU. A., KHOMUTINNI-KOVA, V. A.

"Investigation of the Variation, with Temperature of the Coefficients of Secondary Electron Emission and Inelastic Reflection of Electrons of Germanium Oxide Single Crystals"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute), 1970, No 311, pp 17-19 (from RZh-Fizika, No 12 (1), Dec 70, Abstract No 12Zh660)

Translation: The coefficient of secondary electron emission σ was investigated in the primary electron energy range U_p 50-2000 eV for SiO_2 single crystals. Samples with the faces (110) or (001) on the surface were investigated. Both samples showed a variation with temperature σ close to that described by Dekker theory. The coefficient of inelastic reflection is independent of temperature in the range of temperatures studied (from room to 350° C). Authors abstract.

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SECONDARY ELECTRON EMISSION OF SILICON DIOXIDE SINGLE CRYSTALS -U-
AUTHOR-(03)-SHULMAN, A.R., KORABLEV, V.V. MOROZOV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(2), 666-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SILICON DIOXIDE, SECONDARY ELECTRON EMISSION, SINGLE CRYSTAL
PROPERTY, CRYSTAL ORIENTATION, ELECTRON BEAM, ELECTRON ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0060 STEP NO--UR/0181/70/G12/002/0666/0668
CIRC ACCESSION NO--AP0105157

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105157

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINGLE CRYSTAL PLATES OF SiO₂ SUB2 CUT FROM NATURALLY GROWN, TRANSPARENT SINGLE CRYSTAL WITH ALPHA QUARTZ STURCTURE WERE INVESTIGATED. THE DEPENDENCE OF THE COEFF. OF SECONDARY ELECTRON EMISSION SIGMA ON THE ANGLE OF INCIDENCE OF PRIMARY ELECTRONS PHI FOR VARIOUS ENERGIES OF PRIMARY ELECTRONS E SUBP IS GIVEN. THE CURVES ARE SHIFTED VERTICALLY 1 WITH RESPECT TO THE OTHER. EACH CURVE IS CHARACTERIZED BY A SERIES OF MAX. AND MIN.; THE POSITIONS OF THE MAX. COINCIDE WITH THE MAIN CRYSTALLOGRAPHIC DIRECTIONS. A FINE STRUCTURE IS OBSD. STARTING WITH E SUBP SIMILAR TO 300 EV. DEPENDENCE IS ALSO GIVEN OF SIGMA ON EP AT VARIOUS PHI IN THE E SUBP RANGE 20-2000 EV. THESE CURVES HAVE A NON MONOTONIC CHARACTER AND VARIATION IN THE ANGLE OF INCIDENCE CHANGES THE SHAPE OF THE CURVE. FACILITY: LENINGRAD. POLITEKH. INST. IM. KALININA, LENINGRAD, USSR.

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SECONDARY ELECTRON EMISSION OF MOLYBDENUM SINGLE CRYSTALS -U-
AUTHOR--(03)-SHULMAN, A.R., KORABLEV, V.V., HOROZOV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 758-62
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--SECONDARY ELECTRON EMISSION, SINGLE CRYSTAL PROPERTY,
MOLYBDENUM, CRYSTAL ORIENTATION, ELECTRON ENERGY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1967 STEP NO--UR/0181/70/012/003/0758/0762
CIRC ACCESSION NO--AP0105041
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTL. INVESTIGATION WAS CARRIED OUT OF THE SECONDARY EMISSION CHARACTERISTICS FOR THE (111) AND (102) FACES OF SINGLE CRYSTAL MO. THE SHAPE OF THE CHARACTERISTICS WHICH DESCRIBE DEPENDENCES OF THE COEFFS. OF SECONDARY ELECTRON EMISSION AND INELASTIC REFLECTION ON THE ENERGY OF PRIMARY ÉLECTRONS AND THE MAX. VALUES OF THESE COEFFS. ARE DIFFERENT FOR SPECIMENS WITH DIFFERENT CRYSTALLOGRAPHIC FACES ON THE SURFACE. THE ANGULAR DEPENDENCES OF THE SECONDARY EMISSION CHARACTERISTICS AT PRIMARY ELECTRON ENERGIES OF 100-2000 EV WERE STUDIED. THE RESULTS OBTAINED ARE EXPLAINED IN TERMS OF THE THEORY OF CHANNELING. FACILITY: LENINGRAD. POLITEKH. INST. IM. KALININA, LENINGRAD, USSR.

UNCLASSIFIED

KORABLEV, Yu. A.

Radar

GURVA

SO: JPKS 56143
01 June 1973

UDC 629.1.025.02.027

SPEED CHARACTERISTICS OF
IRC SYSTEMS WITH INTERRUPTED PULSE REPELITION PERIOD

Yu. A. Korablev, Candidate of Technical Sciences
Introduction
V. P. 239

In communication radar, in order to reduce the disturbing effect of signals reflected from local objects and objects reflecting (passive noise), interrupted communication systems (ICS) have found broad application. For a constant pulse repetition rate, the speed characteristics of the IRC systems have deep troughs at the points corresponding to the Doppler frequency shifts which are multiples of the pulse repetition rate of the radar of interest in reference [1]. In order to reduce the depth of the troughs in the speed characteristics, in practice radar operating modes with variable repetition rate are widely used. The calculated functions defining the speed characteristics with a variable repetition rate are very involved. This consideration leads to the required speed characteristics.

Below, a study is made of the problem of the formation of the speed characteristic and the possibility of using the geometrical method of construction to determine the required parameters of the interrupted repetition period.

IRC Systems with Single Subtraction

As is known from reference [1], the operating principle of the IRC systems with single subtraction consists in determining the amplitude difference of two pulses following each other.

The pulse amplitude at the IRC system input is determined by the Doppler frequency phase ϕ at the time of irradiation of the target, and therefore, the relative magnitude of the output signal

$$A = \frac{1}{2} (1 + \cos \phi)$$

(1)

USSR

UDC 624.072.6:624.075

KORABLEV, Yu. D., Gor'kiy

"Strength of a System Consisting of Two Concentric Rings Connected by Radial Couplings Under Even Loads"

Problemy Prochnosti, No 11, 1971, pp 35-37.

ABSTRACT: The problem of the stability of a system consisting of two concentric rings connected by radial couplings under even loading is solved by an energetic method; in order to determine the deformation energy of the system, it is necessary to consider both the bending deformation energy and the shear deformation energy. The critical force value produced by solving the equation differs from the critical force value determined by the Levy formula in that a term is present considering the influence of the radial couplings including the single shear angle. 3 Figures; 4 Biblio. Refs.

1/1

- 78 -

1/2 034 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE USE OF INTESTINAL TRANSPLANT FOR REVASCLARIZATION AND
REINNERVATION OF ORGANS OF THE URINARY SYSTEM IN CHILDREN -U-
AUTHOR--(03)-DOLETSKIY, S.YA., KOROLKOVA, I.A., KORABLEVA, L.K.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 4, PP 140-145
DATE PUBLISHED-----70

K

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PEDIATRICS, TISSUE TRANSPLANT, KIDNEY, LARGE INTESTINE, SMALL
INTESTINE, HYPERTENSION, SURGERY, IMMUNITY, TISSUE REGENERATION, ORGAN
REGENERATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1983/1235

STEP NO--UR/0531/70/000/004/0140/0145

CIRC ACCESSION NO--AP0054130

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--APO054130

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ENTERO AND COLORENOPEXY WAS CARRIED OUT IN CHILDREN SUFFERING FROM NEPHROGENIC HYPERTENSION ASSOCIATED WITH CHRONIC PYELONEPHRITIS, WHERE THE PRINCIPAL PATHOGENETIC CHAIN WAS ISCHEMIA OF THE RENAL TISSUE DEVELOPING AS THE RESULT OF NEPHROSCLEROSIS. THE USE OF A GRAFT FROM THE LARGE INTESTINE IN THIS GROUP OF PATIENTS IS MORE ADVANTAGEOUS THAN THAT FROM THE SMALL INTESTINE DUE TO THE GREATER SURFACE OF THE OPENED SEGMENT, THIS ENABLING WITHOUT DIFFICULTY TO COVER THE WHOLE KIDNEY. THE SECOND GROUP COMPRISED CHILDREN WITH NEUROGENIC DISORDERS OF URINATION AS THE RESULT OF CENTRAL OR AUTONOMIC DISTURBANCES OF VESICAL INNERVATION. THE AUTHORS OPERATED 33 CHILDREN WHO WERE SUBJECTED TO 41 OPERATIONS OF ENTERO OR COLOPEXY, OF THIS NUMBER 14 PATIENTS WITH NEPHROGENIC HYPERTENSION AND 16, WITH NEUROGENIC URINARY BLADDER. A DETAILED DESCRIPTION OF THE TECHNIQUE OF DEMUCOSATION OF THE INTESTINAL GRAFT ON THE OPENED SEGMENT IS GIVEN. THE RESULTS OBTAINED IN BOTH GROUPS OF PATIENTS ARE SUFFICIENTLY PROMISING, THIS GIVING GROUNDS FOR HOPE OF WIDER USE OF THE REFERRED TO TECHNIQUE, CONSIDERING THE IMMATURETY OF TISSUES AND ORGANS OF THE CHILDS ORGANISM, CAPABLE OF INTENSIVE REGENERATIVE PROCESSES.

UNCLASSIFIED

USSR

UDC 519.281

~~KORABLIN, M. A.~~

"One Representation of Certain Algorithms of Stochastic Approximation"

Radioelektron. v nar. Kh-ve SSSR. Ch. 2 [Radioelectronics in the National Economy of the USSR, Part 2 -- Collection of Works], Kuybyshev, 1970, pp 270-275, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V171).

NO ABSTRACT.

1/1

USSR

UDC 519.281

USSR

UDC 621.391.1:519.2:621.372.54

KLOVSKIY, D. D., KORABLIN, M. A.

"A Method for Detecting Recurrent Radio Signals under Conditions of a Priori Indeterminacy"

Radioelektronika v nar. kh-ve SSSR, Ch.1 -- V sb. (Radio Electronics in the National Economy of the USSR. Part 1 -- collection of works), Kuybyshev, 1970, pp 14-27 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A38)

Translation: This article contains a discussion of a method of synthesizing a device for synchronous detection of recurring radio signals optimal in the sense of Bayes risk for unknown a priori probability densities of the individual signal parameters. A detection algorithm is constructed. The lower bound of the probability of correct detection is determined. There are 3 entries in the bibliography.

1/1

USSR

IVANENKO, V. I., KOLESNIK, V. V., KORABTSOV, A. A.

"An Enterprise with Continuous Technology as an Object of Control"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1972, No 1, pp 41-49 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V674, by the authors).

Translation: The problem of construction of an automated control system for an enterprise with continuous technology is studied from the standpoint of the priority of the main production process. Using decomposition resulting from the structure of the basic production complex, the authors establish the interrelationship between models, criteria and tasks performed at each level in the hierarchy of the ACS.

1/1

- 94 -

USSR

UDC 621.391.2

KORADO, V.A.

"Optimal Signal Detection Against a Background of Noise With Unknown Parameters Considering Limited Probability of False Alarm"

Moscow, Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1419-1427

Abstract: This article contains an investigation of the problems of synthesizing optimal maxmin detectors for signals against a background of noise with unknown parameters in the presence of a given upper bound for the probability of false alarm. It is demonstrated that when detecting gaussian random signals with known or unknown intensity and deterministic signals with unknown intensity, the corresponding detectors are equivalent to the maxmin detectors with fixed probability of false alarm. For the case of deterministic signals with known intensity (completely deterministic and with unknown initial phase and polarity) the optimal decision rules, structures of the detectors and formulas for calculating their characteristics are obtained.

It is pointed out that the detection problems investigated in this paper illustrate the practical effectiveness of applying maxmin criteria and criteria connected with them for finding optimal detectors with both types of restrictions on the false alarm probability. The effectiveness of the minimax approach in solving more complex detection problems is confirmed, for example, by the existence of a minimax decision rule for the problem of detecting a determinis-

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USSR

KORADO, V.A., Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1419-1427

tic signal (signals) of unknown form and intensity (intensities) against a background of gaussian noise of unknown intensity possibly in the presence of additional deterministic noise components with unknown intensities. This problem reduces to the known problem of checking the generalized linear hypothesis.

2/2

- 55 -

USSR

UDC 547.26'118

ATAVIN, A. S., TROFIMOV, B. A., GAVRILOVA, G. M., and KORATAYEVA, I. M.
Irkutsk Institute of Organic Chemistry, Siberian Branch, Acad. Sc. USSR

"Cyclization Occurring During Homolytic Addition of Dialkyl Phosphites to
Divinyl Ethers of vic-Diols"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 804-810

Abstract: It has been shown that dialkyl phosphites reacted with divinyl ethers of ethylene glycol, 1,2-propylene glycol, and 2,3-butylene glycol in presence of benzoyl or tert-butyl peroxides or azoisobutyronitrile produce methyl substituted 2-(dialkylphosphonemethyl)-1,4-dioxanes rather than the expected β -alkoxyethyl phosphates. In addition to these 1:1 cyclic addition products, phosphorus-containing oligomers were obtained in 35-100% yield, depending on the ratio of the reagents. In general, the main course of the addition of dialkyl phosphites to divinyl ethers of vicinal diols under homolytic conditions is the telomerization of ethers.

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USSR

UDC 621.382.3

BARNEM, R. D., HOLONYAK, N. N., KORB, G. V., MAKSI, G. M., SAYFERS, D. R.,
WOODHAUSE, D. B., and ALFYEROV, Zh. I.

"AlGaAsP Solid Solutions and Injection Lasers With Two Heterojunctions On
Their Base"

Fizika i tekhnika poluprovodnikov, Vol 6, No 1, January 1972, pp 97-102

Abstract: The solid solutions $Al_yGa_{1-y}As_{1-x}P_x$ ($y = 0.0-0.2$; $x = 0.0-0.2$) are obtained by the fluid epitaxy method. The dependence is considered of the width of the forbidden band of the solid solutions on the compound and the dependence of the concentration of phosphorous in the epitaxial layers of AlGaAsP on the growth temperature is investigated. Injection lasers are obtained with the two heterojunctions $n-Al_yGa_{1-y}As_{1-x}P_x-p-Al_yGa_{1-y}As_{1-x}P_x$ and $p-Al_yGa_{1-y}As_{1-x}P_x-p^+-Al_yGa_{1-y}As_{1-x}P_x$ with threshold currents $\approx 10^4$ A/cm² at room temperature. The authors thank D.V. Bird and F.V. Williams (Monsanto, St. Louis) for the substrate and for technical assistance -- K.A. Cool, B.L. Marshall, M. Stone, and Yuri Moroz. University Of Illinois, Urbana, Illinois, USA; Physicotechnical Institute imeni A.F. Ioffe, AS, USSR, Leningrad. Received by editors 28 June 1971. 6 fig. 14 ref.

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USSR

UDC 621.377.622.322.2.037.733

KORBASHOV, Yu. M., and RYZHKOV, V. I.

"A Procedure for Accessing a Memory Device"

USSR Author's Certificate, No 279704, Filed 7 Mar 68, Published 24 Nov 70
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B205 P)

Translation: A procedure for accessing a memory device is proposed. The procedure involves recording all "digits" in the memory unit, sequential read-out, and regeneration of information. In order to record, in the matrix, information which is arranged in a checkerboard form, the signals which have been read and which have positive or negative polarity are gated.

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USSR

UDC 536.46:533.6

KORREYNICHEV, O.P., SHMELEV, K. S., TATEVOSKYAN, A. V.

"A Model of Combustion Catalysis for Single-Component Fuel (As Applied to Aluminum Perchlorate)"

Fiz. gorennya i vzryva (Physics of Combustion and Explosion), 1972, Vol. 8, No. 3, pp 378-388 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B961)

Translation: According to the proposed model catalyzer particles are suspended in a gas flow and simultaneously there occurs a homogeneous reaction in the gas and a heterogeneous reaction on particles of the catalyzer. An expression is given for the supplementary flow of heat to fresh material due to catalytic reaction for the case when the latter occurs in a kinetic regime according to a first order equation. An expression is given for the effective constant of the catalytic reaction. Also considered is the case when catalyzer particles are located on the surface of a hot charge. A two-zone combustion model of aluminum perchlorate is postulated and the increase in combustion rate due to the introduction of the catalyzer is calculated numerically within the framework of this model. N. N. Bakhman.

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USSR

UDC: 51

KORBUT, A. A., OVSIYEVICH, B. L., OGANESYAN, L. A., PITTEL', B. G., Leningrad Department of the Central Mathematical Economics Institute, Academy of Sciences of the USSR

"Concerning V. V. Kolbin's Survey 'Stochastic Programming'"

Po povodu obzora V. V. Kolbina "Stokhasticheskoye programmirovaniye" (cf. English above), Leningrad, 1971, 12 pp, ill. (No 4000-72 Dep.) (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V443 Dep.)

Translation: It is shown that V. V. Kolbin's survey "Stochastic Programming" (RZh-Mat, 1970, 6V529) is mostly plagiarized from Zellmer's papers (G. Zellmer, "On Formulating Problems in Linear Stochastic Optimization", Math. und Wirtschaft., Band 6, Berlin, 1969, pp 11-44; Wiss. Z. Hochsch. Oekonomie, Berlin, 1968, No 2, pp 163-169; No 4). The numerous inaccuracies and errors of the survey are analyzed. In particular, mention is made of gross errors in lemma 1.1, in the corollary of lemma 1.2, in lemmas 5.1, 5.2 and 5.4, and in theorems 5.1, 6.1 and 8.1. Authors' abstract.

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USSR

KORBUT, A. A.

"Global Functions of Usefulness for Games in Normal Form"

Teoriya Igr [Games Theory -- Collection of Works], Yerevan, 1973,
pp 204-205 (Translated from Referativnyy Zhurnal Kibernetika, No 10,
1973, Abstract No 10V456)

Translation: A generalization of certain results of Kemen and Thompson
(RZHMat, 1960, 10680) to cover the case when the usefulness functions
of the players depend on the wins of the other players.

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USSR

KORBUT, A. A.

"Systems Theory or Mathematics?"

Issled. Sistem. Materialy Vses. Simpoz. [Systems Research. Materials of All-Union Symposium], Moscow, 1971, pp 202-210, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V638 unsigned).

Translation: An informal polemic note.

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USSR

KORBUT, B. A.; NAGORNIY, Yu. I. (Zaporozh'ye Machine Building Institute)

"Stability of a Spherical Shell with an Elastic Core"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR: Mekhanika; November-December, 1972; pp 26-31

ABSTRACT: In the article the authors study the stability of a closed, spherical shell with a core under a uniform external pressure. An exact model making use of the general equations of elasticity theory and an approximate model making use of one equation in elasticity theory are presented. The cases of a solid core, a core with a cavity, and a core having a shell or solid body inside of it are examined.

The calculations indicate that the deformation of the core is satisfactorily described by the approximate model.

The article includes 21 equations and two figures. There are six bibliographic references.

USSR

UDC 539.3

KORBUT, B. A.

"Natural Vibrations of a Cylindrical Shell With Elastic Filler"

Kazan', Izvestiya VUZ, Aviatsionnaya Tekhnika, No 4, 1970, pp 137-141

Abstract: Natural axisymmetrical vibrations of a closed cylindrical shell with a compact (no hole) elastic filler are studied. Vibrations frequencies and forms are determined for various elastic filler constants, as well as at various modes of shell-filler bonds. The filler is simulated by an isotropic elastic body, the motion of which is described in cylindrical coordinates by general equations of the three-dimensional theory of elasticity. These equations are supplemented by the boundary conditions on the end faces, and conditions of coupling with the shell. Equations of the shell and filler motion together with conditions of their coupling and the corresponding boundary conditions make it possible to solve the contact problem of natural vibrations of the shell-filler system. The results presented in graphs show that the effect of the mode of shell-filler coupling manifests differently for the lower and upper frequencies, and depends on the filler density. The frequency is affected mostly by the filler resistance

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USSR

KORBUT, B. A., Izvestiya VUZ, Aviatsionnaya Tekhnika, No 4, 1970, pp 137-141

to radial, but not to axial, deformations. Its dependence on the magnitude of the filler Poisson coefficient is presented in a table, which shows that the natural vibration frequencies increase with the Poisson coefficient. An approximate formula for the lower frequency of axisymmetric vibrations is generalized for the case of a shell with a filler. 18 formulas, 5 figures, 1 table, 3 references.

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USSR

UDC:629.7.036.3.002.2

SEMAKOV, L. A., KORCHAGIN, G. N.

"The Problem of Oscillations of a Two-Phase Stream in a Long Interelectrode Gap During Electrochemical Dimensional Working of Metals"

Tr. Kazan. Aviats. In-ta [Works of Kazan' Aviation Institute], 1973, No 152, pp 59-65 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 9, 1973, Abstract No 9.34.96)

Translation: A hypothesis is stated of analogy of oscillations of a two-phase stream in steam-generating and interelectrode channels, the analogue of heat flux being current passing through the electrolyte. Equations are produced for the dynamics of a two-phase stream in an interelectrode channel in Lagrange coordinates, allowing the difficulty of solution of equations in partial derivatives with respect to coordinate and time to be avoided. The condition of constant pressure drop in the channel is used as a boundary condition. This condition seems natural, since with electrochemical dimensional working the interelectrode channel is one parallel branch of the system which feeds the electrolyte. The characteristic equation and transfer function of the channel are produced.

1 Figure; 5 Biblio. Refs.

Resume

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