

USSR

UDC 669.552

GOROKHI, A. V., and KISAKOV, L. N.,

Petrograficheskiy Analiz Protssesov v Metallurgii (Petrographic Analysis of Processes in Metallurgy), Moscow, "Metallurgiya," 1973, 200 pp

Translation of Annotation: This book reviews the many years of petrographic study of the authors in the area of high-temperature reduction of metals. For example, studies of the features of the behavior of mineral compounds during electro- and metallic thermal treatment together with phenomena occurring during the melting of metals related to scum formation and the reforming and destruction of refractory materials in metallurgical furnaces show the possibility of using petrographic methods in the study of mechanisms of different metallurgical processes. The basic thrust of this book is directed toward the elucidation of principles of the evolution of mineral compounds in reducing conditions.

The book is intended for specialists working in areas of metallurgy, chemical technology, experimental technology, mineralogy, and petrology, and also for teachers and students in universities. 126 illustrations, 41 tables, 204 references

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PHYSICAL PROPERTIES OF CALCIUM OXIDE TITANIUM DIOXIDE SILICON
DIOXIDE, ALUMINUM OXIDE, MAGNESIUM OXIDE SLAGS CONTAINING 15PERCENT
AUTHOR--(04)-ZHILO, N.L., GRUZDEV, YU.A., GOROKH, A.V., PERSHINA, R.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 65-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CALCIUM OXIDE, ALUMINUM OXIDE, MAGNESIUM OXIDE, SILICON
DIOXIDE, TITANIUM DIOXIDE, SLAG, FLUID VISCOSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1812

STEP NO--UR/0370/70/003/001/0065/0069

CIRC ACCESSION NO--AP0118776

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118776

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPN. VISCOSITY AND COMPN. FUSIBILITY DIAGRAMS FOR EXPTL. DATA AT 1400 AND 1500DEGREES WERE CONSTRUCTED FOR THIS SYSTEM. AN INCREASE IN THE CAO:SIO SUB2 RATIO IN THE TI SLAGS DECREASES THE VISCOSITY; THIS EFFECT IS GREATER AT LOW TIO SUB2 CONC. INCREASING THE TIO SUB2 CONC. IN THE SLAGS TO A CERTAIN LIMIT, DEPENDING ON THE CAO:SIO SUB2 RATIO, REDUCES THE VISCOSITY OF THE MELTS. ABOVE THIS LIMIT THE SLAG VISCOSITY RISES DUE TO CRYSTN. PROCESSES. THE GREATEST REDN. IN VISCOSITY WITH INCREASE IN TIO SUB2 CONC. OCCURS IN THE SLAGS WITH DECREASED CAO:SIO SUB2 RATIOS.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--KINETICS OF ETHANOL OXIDATION ON AN IRON MOLYBDENUM CATALYST -U-

AUTHOR--YEV MENENKO, N.P., GOROKHAVATSKIY, YA.B. G

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 130-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHANOL, CATALYTIC OXIDATION, IRON, MOLYBDENUM, METHANOL,
CHEMICAL KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0202

STEP NO--UR/0195/70/011/001/0130/0133

CIRC ACCESSION NO--AP0106858

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106858

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF ETOH OXIDN. ON A
FE-MO CATALYST WAS STUDIED AT 180-240DEGREES. AT 200DEGREES, THE RATE
CONST. OF THE OXIDN. WAS 1.68 TIMES 10 PRIME7 MOLE-L. HR. THE
ACTIVATION ENERGY IS 14.9 KCAL-MOLE. THE STUDY REVEALS THAT THE
KINETICS OF ETOH OXIDN. IS ANALOGOUS TO THAT MEOH OXIDN.

UNCLASSIFIED

USSR

UDC 612.89+612.766.1:796

YAKOLEV, N. N., CHAGOVETS, N. R., and GOROKHOV, A. L., Sector of Biochemistry,
Leningrad Scientific Research Institute of Physical Culture

"The Significance of the Sympatho-Adrenal System at Rest and During Adaptation
to Muscle Activity"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 7,
1972, pp 1,132-1,137

Abstract: Intact white rats, rats given either adrenaline or sympatholysin, and rats which had undergone bilateral abdominal sympathectomy were subjected to daily physical training in the form of swimming for periods increased each day. Determinations of glycogen, creatine phosphate, lipid phosphate, nor-adrenaline, phosphorylase, and glycogen synthetase in muscle tissue and of adrenaline and noradrenaline in blood were made prior to swimming, immediately thereafter, and at various periods at rest. The results indicate that the sympathoadrenal system controls not only catabolic processes during work but also anabolic processes at rest. It exerts trophic adaptive effects in the formation of muscle response to activity, in addition to adjusting the nature and intensity of metabolic processes in muscle tissue to the functional demands at any given moment.

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UDC 612.89

GOROKHOV, A. L., Biochemistry Sector, Leningrad Scientific Research Institute of Physical Culture

"Activity of the Sympathetic-Adrenal System After Physical Exertion as a Function of the Degree of Adaptation"

Leningrad, Fiziologicheskij Zhurnal SSSR imeni I. M. Sechenov, Vol 56, No 7, 1970, pp 1002-1007

Abstract: Studies were conducted on animals to determine epinephrine and norepinephrine levels in plasma, and on athletes to determine excretion of epinephrine, norepinephrine, dopa, dopamine, and vanillyl mandelic acid after physical exertion. The results showed that the systematic adrenal system (SAS) is more reactive in trained bodies than in the untrained organism. Brief, intensive muscular activity (swimming) produced higher blood catecholamine levels in trained rats than in untrained animals. In trained athletes (e.g. sprinters, rowers, maximum or sub-maximum exertion increased the excretion of catecholamines, dopa, dopamine, and vanillyl mandelic acid in the urine to a much greater degree than in the controls and was characterized by greater activity of the adrenal link of the SAS. Marathon running and walking (i.e., sports in which muscular exertion is more sustained

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GOROKHOV, A. L., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 56, No 7, 1970, pp 1002-1007

and more evenly paced) increased the excretion of the substances studied to a somewhat lesser degree and activated the sympathetic link of the SAS. Emotional excitement before the start of an athletic event markedly increased the activity of the SAS, particularly the adrenal link.

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GOROKHOV, A.M.

JPRS 59308
6-73

VIII-5b. OBTAINING HOMOGENEOUS SOLID SOLUTIONS OF Ca_xIn_{1-x} AS FROM A MELT
[Article by Y. A. Selivanov, G. A. Smalova, A. M. Gorokhova, V. N. Chuplikey, Tomsk; Novosibirsk, III Sibirskiy po Fiziko-Khimiya, Rossiya, I Sibirskiy Poluprovodnikoviy Kristalloy, Fizika, Krasnoyarsk, 12-17 June 1972, p 100]

At the present time studies have been made of the structural and electrical properties of single crystals of the solid solution Ca_xIn_{1-x} . As depending on the crystallization conditions from the melt, it is demonstrated that the structural nonuniformity of solid solutions caused by nonuniform distribution of indium and nonuniform nature of the crystallization and exhibited in nonuniform distribution of the dislocations, in the presence of low-angle inter- faces and other defects, has an essential effect on the electrical properties of the material and is holding up practical use of it in a number of semiconductor devices. As a result of complex studies of the structure, composition and electrical and optical properties of single crystals of solid solutions obtained by various procedures from the melt and subjected to different methods of temperature annealing, the conditions were determined which permit reduction of the microinhomogeneity of the alloy to a minimum. It was established that the effect of the alloying dispersion causing electrophysical properties is directly dependent on the crystallization and homogenization conditions of the solid solutions. The basic optimal conditions of eliminating the disorderliness in the alloy lattice based on $A_{1/2}$ are presented.

Acc. Nr:

AP0052532

Abstracting Service:
CHEMICAL ABST.5-70

Ref. Code:

4A 0031

G

104293a Standardization of a platinum catalyst. Sokol'skaya
A. M.; Gorokhov, A. P.; Ryabinina, S. A. (USSR). *Vestn.
Akad. Nauk Kaz. SSR* 1970, 26(2), 66-7 (Russ). The content of
cations of alkali metals in PtO₂ must be detd. exactly in order to
prep. a catalyst that is optimal for a given type of chem. bond.
The degree of PtO₂ purification can be controlled by the electro-
chem. potential of Pt-black. The potential varies inversely with
the cation content. The hydrogenation rate of compds. with
various types of chem. bonds is a function of the potential of the
Pt black. The washing is speeded up by a flow-type app.
During the process batches of 0.1 g PtO₂ are taken, reduced with
H₂, and the potential is detd. in relation to a SCE. L. Holl

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1/2 006 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DATA ON ANALYSES OF STANDARD GECHRONOLOGICAL SAMPLES -U-

AUTHOR--(05)-AFANASYEV, G.D., BRANDT, S.B., BAGDASARYAN, G.P., GUROKHGV,
I.M., GUKASYAN, R.KH.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. GEOL. 1970, (4), 104-11

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GECHRONOLOGY, POTASSIUM ARGON DATING, LEAD ISOTOPE, ABSOLUTE
AGE, EARTH CRUST AGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0411

STEP NO--UR/0011/70/000/004/0104/0111

CIRC ACCESSION NO--AP0137502

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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0137502

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ARE GIVEN ON ANAL. OF
 GEUCHRONOL. STDS. OF THE SOVIET UNION FOR K-AR AND RB-SR METHODS AND
 SEVERAL MINERALS OF PRECAMBRIAN PEGMATITE USES AS STD. FOR THE Pb
 ISOTOPIC METHOD OF ABS. AGE DETN. THEY SHOWED A GOOD AGREEMENT WITH
 CONTROL ANAL. MADE IN VARIOUS LABS. OF THE U.S.S.R. AND BY THE LAB. AT
 BERN, SWITZERLAND. THE RESULTS OF STUDY OF GEUCHRONOL. STD. BY VARIOUS
 METHODS INDICATE THAT THE VALUES OF CONSTS. OF PRIME40 K AND PRIME87 RB
 DECAY APPROVED BY 13 SESSIONS OF THE COMMISSION ON ABS. AGE DETN. (FOR
 K: λ_{40K} EQUALS 0.0557 TIMES 10 PRIME NEGATIVE9 PER YR AND
 λ_{87Rb} EQUALS 0.472 TIMES 10 PRIME NEGATIVE9 PER YR; FOR RB
 λ_{87Rb} EQUALS 1.39 TIMES 10 PRIME NEGATIVE11 PER YR), SHOULD BE USED
 IN PRACTICAL WORK UNTIL MORE CERTAIN VALUES FOR THESE CONSTS. ARE DETD.
 EVERY WORK ON THE ABS. AGE DETN. SHOULD BE ACCOMPANIED BY PRIMARY ANAL.
 DATA ON THE CONTENT OF PARENTAL AND DERIVATED DECOMP. PRODUCTS AND BY
 THE VALUES OF CONSTS. USED DURING AGE CALC. FACILITY: INST.
 GEOL. RUD. MESTOROZH., PETROGR., MINER. GEOKHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--STATISTICAL ACCURACY OF A STANDARD MOON AZIMUTHAL SEMI CUBIC
TELESCOPE FOR SOLAR COSMIC RAYS -U-
AUTHOR--GOPEKHOV, L.L.
COUNTRY OF INFO--USSR
SOURCE--MORPHOLOGY OF THE QUIET AND PERTURBED IONOSPHERE (MORFOLOGIIA
SPKOTINGI I VOZMUSHCHENNOI IONOSFERI). (A70-36034 18-13) ALMA-ATA,
DATE PUBLISHED-----70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES, NAVIGATION
TOPIC TAGS--MOON, AZIMUTH, TELESCOPE, COSMIC RAY, SOLAR RADIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----F070/605029/B10 STEP NO--UR/0000/70/C01/C00/0127/0131
CIRC ACCESSION NO--AT0141685
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2/2 028

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0141685

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DETERMINATION OF THE RMS FLUCTUATION ERROR OF AN AZIMUTHAL SEMICUBIC TELESCOPE, ON THE BASIS OF RECORDINGS OF THE INTENSITY OF THE MUON COMPONENT OF COSMIC RAYS, PERFORMED OVER A PERIOD OF 12 HR AT AVERAGING INTERVALS OF 3 MIN. IN THE EXPERIMENT, MUONS WERE RECORDED SIMULTANEOUSLY BY SEVERAL IDENTICAL TELESCOPES. THE RMS FLUCTUATION ERROR OBTAINED IS FOUND TO DIFFER ONLY SLIGHTLY FROM THE THEORETICAL ERROR, BOTH FOR VERTICAL AND INCLINED DIRECTIONS.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--POTASSIUM AND CESIUM HYDROXIDES STUDIED BY AN ELECTRON IMPACT
METHOD. ENERGIES OF DISSOCIATION OF POTASSIUM HYDROXIDE AND CESIUM
AUTHOR--(03)--GOROKHOV, L.N., GUSAROV, A.V., PANCHENKOV, I.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1) 269-70

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MASS SPECTRUM, ELECTRON BOMBARDMENT, THERMAL EFFECT,
IONIZATION POTENTIAL, HEAT OF DISSOCIATION, CESIUM COMPOUND, POTASSIUM
COMPOUND, HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1983/0306

STEP NO--UR/0076/70/044/001/0269/0270

CIRC ACCESSION NO--AP0053291

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053291

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MASS SPECTROMETRIC ELECTRON IMPACT METHOD WAS USED TO REFINE THE DISSOCN. ENERGIES OF KOH AND C₂SOH. THRESHOLD POTENTIALS LEADING TO IONS FROM THE REACTIONS K YIELDS K PRIME POSITIVE, KOH YIELDS K PRIME POSITIVE, KOH YIELDS KOH PRIME POSITIVE, K SUB2 (OH) SUB2 YIELDS K SUB2 OH PRIME POSITIVE, K SUB2(OH SUB2) YIELDS K SUB2 O PRIME POSITIVE, C₂SOH YIELDS CS PRIME POSITIVE, AND C₂SOH YIELDS C₂SOH PRIME POSITIVE WERE 4.3, 7.8, 7.5, 7.8, 7.6, 7.6, AND 7.4 EV, RESP. THE DISSOCN. ENERGIES OF KOH AND C₂SOH WERE 80 AND 86 KCAL-MOLE, RESP. THE DIFFERENCE BETWEEN THOSE 2 VALUES WAS ALSO CONFIRMED BY MEASUREMENT OF THE EQUIL. CONST. FOR THE REACTION CS PLUS KOH YIELDS K PLUS C₂SOH AT 795-1044DEGREES; A VALUE OF 7.6 KCAL-MOLE WAS OBTAINED. THE IONIZATION POTENTIAL OF K SUB2 O IS 4.6 EV AND THE TEMP. OF ATOMIZATION OF CS SUB2 O IS 130 KCAL-MOLE.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DEOXIDATION OF CARBON AND LOW ALLOY OPEN HEARTH STEELS -U-

AUTHOR--(03)-YAVOYSKIY, V.I., TUONG, V.M., GOROKHOV, L.S.

COUNTRY OF INFO--USSR

SOURCE--SAL' 1970, 30(3), 228-33

DATE PUBLISHED-----70

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

TOPIC TAGS--LOW ALLOY STEEL, CARBON STEEL, NONMETALLIC INCLUSION, FERROUS
LIQUID METAL, STEEL DEOXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1994

STEP NO--UR/0133/70/030/003/0228/0233

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Z/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118953

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMATION OF NONMETALLIC INCLUSIONS DIRECTLY AFTER ADDN. OF AL AND SI TO MOLTEN METAL, ABOVE ITS LIQUIDUS, AND BETWEEN ITS LIQUIDUS AND SOLIDUS WAS CALCD. THERMODYNAMICALLY BY USING EQUATIONS $\log K_{\text{SUB SI}} = \log ((\text{SI}) (\text{ALPHA O}) \text{PRIME})$ EQUALS MINUS $(27860-T)$ PLUS 10.28 AND $\log K_{\text{SUB Al}} = \log ((\text{Al}) \text{PRIME}^2 - (\text{ALPHA SUBO}) \text{PRIME}^3)$ EQUALS MINUS $(82580-T)$ PLUS 33.96 BY ASSUMING THAT EQUIL. CONST. OF THE DEOXIDN. REACTION HOLD DOWN TO SOLIDUS TEMP. AND THAT DIFFUSION PROCESS IN LIQ. METAL IN INGOT MOLDS ASSURE MASS EXCHANGE NECESSARY FOR NONMETALLIC FORMATION. THE RESULTS WERE CHECKED BY O ACTIVITY AND O CONTENT DETNS. OF OPEN HEARTH PRODUCTION HEATS. THE FORMATION OF THE LATTER 2 GROUPS OF NONMETALLICS CAN BE GREATLY REDUCED BY THE USE OF THE PERMISSIBLE MAX. OF THE DEOXIDIZER IN THE FURNACE OR LADLE AND PROTECTING THE STREAM OF METAL FROM SECONDARY OXIDN. CONVENTIONAL STIRRING SPEEDS THE REMOVAL OF AL SUB2 O SUB3 CONTG. INCLUSIONS, WHICH CAN BE VERY FAST, AND RETARDS RISING OF SILICATES. THE ORDER OF DEOXIDIZERS ADDN. IN THE FURNACE DOES NOT AFFECT THE EXTENT OF DEOXIDN. AND ONLY SLIGHTLY AFFECT THE RATE OF NONMETALLIC REMOVAL.

UNCLASSIFIED

USSR

UDC 621.372.85

GOROKHOV, M. N.

"Fastening Stiffening Elements on the Walls of Waveguide Housings"

Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry),
vyp. 2, Moscow, 1971, pp 60-61 (from RZh-Radiotekhnika, No 7, Jul 71,
Abstract No 7B180)

Translation: The paper proposes a new technique for fastening auxiliary structural elements to the walls of a waveguide housing (it is recommended that welding be done by the electrical resistance method). The introduction of this new technique will result in considerable savings. One illustration, bibliography of seven titles. Resumé.

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USSR

UDC 533.99

BAZAKUTSA, V. A., MOSKALETS, V. F., RUDAKOV, N. S., GOROKHOV,
M. P.

"Some Results of an Investigation of a Plasmatron Intended for
Plasma-Chemical Reactions"

Minsk, V sb. Vopr. fiz. nizkoterperturn. plasmy (Problems of
the Physics of Low Temperature Plasma -- Collection of Works),
"Nauka i tekhn.," 1970, pp 421-424 (from RZh-Elektronika i yeye
primeneniye, No 2, February 1971, Abstract No 2A343)

Translation: An investigation is made of electrical arcing in
a transverse low-frequency magnetic field, based on a plasmatron
with combined stabilization of the arc by a vortex flow of gas
and the magnetic field. The voltampere characteristics of the
discharge are obtained. 2 illustrations. Summary.

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Analysis and Testing

USSR

UDC 548.0:539.27

GEGUZIN, Ya. Ye., MARKUS, A. M., and GOROKHOV, M. V., Khar'kov State University

"On Protonography 'by Transparency' of Single-Crystal Films"

Moscow, Kristallografiya, Vol 17, No 4, 1972, pp 783-787

Abstract: Features of a new method for analyzing the structure of crystals and their defects are discussed. The method "pass-through" is based on the study of the shadow and the channeling effects of protons passing through the crystalline lattice. Experimental data are reported which must be taken into account for obtaining "geometrical" information. The latter provides a clarification of features of "pass-through" protonography. Under optimum conditions, the energy of the primary beam W_0 and the thickness of the film d are correlated in the form $d = \alpha W_0 / \varphi$, where φ = magnitude of specific losses of protons in the film substance and α is a dimensionless factor $\alpha \leq 1$. Experiments in which single-crystal films 6000-8000 Å thick were exposed to a collimated beam of protons are discussed. Five figures, seven bibliographic references.

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USSR

GOROKHOV, S. A. and LUTFULLAYEV, Kh. S.

"Automatic Construction of Alphabet-Frequency Dictionaries"

Nauch.-Tekhn. Inform. Sb. Vses. In-t Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of the All-Union Institute for Scientific and Technical Information], 1973, Ser 2, No 2, pp 28-32 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V690).

Translation: An algorithm is suggested for automatic construction of an alphabet-frequency dictionary, based on the principle of successive division of an initial file of information into nonintersection subsets with subsequent formation of a dictionary within the limits of each subset individually.

The algorithm described in the article for construction of an alphabet frequency dictionary has been broadly used for the solution of problems related to the initial formation and further alteration of information retrieval languages in the process of functioning of the "Neft'" ["Petroleum"] automatic information retrieval system.

Authors' view

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1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--MINERAL FORMATION IN KIMBERLITES AT THE EXPERIMENTAL CONDITIONS OF
HIGH PRESSURES AND TEMPERATURES -U-
AUTHOR--DAVYDCHENKO, A.G., LISITSYNA, YE.YE., BEZRUKOV, G.N., GOROKHOV,
S.S.
COUNTRY OF INFO--USSR
SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 1 (121), PP 129-135
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--MINERAL FORMATION ANALYSIS, HIGH TEMPERATURE, HIGH PRESSURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0880 STEP NO--UR/0210/70/000/001/0129/0135
CIRC ACCESSION NO--AP0104316
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104316

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KIMBERLITE FROM THE MIR PIPE WAS UNDERGONE BY THE EFFECT OF HIGH TEMPERATURES (UP TO 1400-1500DEGREESC) AT THE PRESSURE 10 AND 25 KBAR IN THE WATER PRESENCE. THE FORSTERITE, DIOPSIDE, CALCITE, TITANOMAGNETITE ARE ESTABLISHED TO BE FORMED AT THE TEMPERATURES BELOW THE MELTING TEMPERATURE, AT 25 KBAR PRESSURE PYROPE RECRYSTALLIZATION IS POSSIBLE. THE COOLING OF KIMBERLITE MELT LEAD TO FORSTERITE AND GLASS FORMATION. BY THE LOCATION OF PYROFILLITE INTO REACTIONAL CAMERA AT THE PRESSURE OF 25 KBAR AND TEMPERATURE ABOVE 800-900DEGREESC ALMOST FULL RECRYSTALLIZATION OF SOURCE MATERIAL INTO GARNET TAKES PLACE, THE GARNET IS CLOSE TO PYROPE IN COMPOSITION.

UNCLASSIFIED

UDC 621.582.333.34

USSR

BURKHANOV, SH.D., BASHIROV, A.M., GARSHEININ, V.V., GOROKHEV, V.A., RODOV, V.I.

"Investigation Of The Causes For Breakdown Of Thyristors During Operation In A Pulse Regime"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices In Electrical Communications Technology--Collection Of Works), Moscow, "Svyaz", 1970, pp 145-157 (From RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B246)

Translation: It is shown that loss of efficiency of a thyristor in a pulse regime results as a consequence of burning through in the p-n-p-n structure of a channel 0.1--0.3 mm in diameter, while one of the possible causes for this is thermal generation of the carriers. 9 ill. 10 ref. S.A.

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Photoelectric Effect

UDC 621.385.53

USSR

GOROKHOV, V.A.

"Transients During Turn-On Of Light-Activated Thyristor"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Issue 24, Moscow, "Sov.radio," 1970, pp 99-110 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B341)

Translation: The factors are considered which control the switching process of light-activated thyristors [fototiristor] during the effect of a short light pulse. A computation is performed of the pulse characteristic of a light-activated thyristor and the pulse turn-on voltage under conditions where the injection coefficient of the junctions depends on the current through the junctions. It is shown that in light-activated thyristors with two such bases, the increase of the anode current is proportional to that produced by the thickness of the base. The computed results are confirmed by experimental data obtained on the light activated transistor equivalent of a light-activated thyristor.
4 ill. 1 table. 8 ref.

1/1

1/2 035 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EXPERIMENTAL STUDY OF THE DISTRIBUTION OF MOBILE CARRIERS IN THE
BROAD BASE OF AN ENCLOSED P-N-P-N STRUCTURE -U-
AUTHOR-(03)-BASHIROV, A.M., GOROKHOV, V.A., RODOV, V.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 350-2
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--THYRISTOR, RADIATION INTENSITY, CARRIER DENSITY, PN JUNCTION,
VOLT AMPERE CHARACTERISTIC, RECOMBINATION RADIATION, NEUTRON IRRADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0068

STEP NO--UR/0449/70/004/002/0350/0352

CIRC ACCESSION NO--AP0105163

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISTRIBUTION OF THE RADIATION INTENSITY FROM A THYRISTOR CROSS SECTION WAS DETD. PHOTOGRAPHICALLY IN A DIRECTION PERPENDICULAR TO THE PLANES OF THE P-N JUNCTIONS TO DET. THE CONCN. DISTRIBUTION OF THE MOBILE CARRIERS. THE INTENSITY DISTRIBUTION CURVES WERE OBTAINED FOR 3 DIFFERENT C.DS. FOR THYRISTORS WITH A RESIDUAL VOLTAGE OF SIMILAR TO 1 V. THE INTENSITY CURVE HAS 2 MAX., THE LOWER ONE CORRESPONDING TO THE CENTRAL P-N JUNCTION AND THE HIGHER TO THE EMITTER BELONGING TO THE N BASE. THE DECREASE IN INTENSITY IN THE CENTER OF THE N BASE INDICATES THE PRESENCE OF A MIN. IN THE CONCN. DISTRIBUTION OF THE MINORITY CARRIERS. AS THE C.D. INCREASES, THE INTENSITY DISTRIBUTION CURVES SHIFT IN PARALLEL TOWARD HIGHER INTENSITIES, INDICATING AN INCREASE IN THE CONCN. OF THE MINORITY CARRIERS IN THE BROAD BASE. CURVES OBTAINED FOR A RESIDUAL VOLTAGE OF 3 V SHOW THAT THE DIFFUSION PATH (LIFETIME) IS LESS AT HIGHER VOLTAGES. THE LIFETIME DECREASES WITH AN INCREASE IN THE INJECTION LEVEL. THE INTENSITY WAS MEASURED FOR THE RECOMBINATION RADIATION BEFORE AND AFTER IRRADN. WITH FAST NEUTRONS. THE DISTRIBUTIONS OF THE RECOMBINATION RADIATION INTENSITY IN THE IRRADIATED SAMPLES IS SIMILAR TO THAT 3 V, INDICATING THAT THE CHANGE IN THE LIFETIME BROUGHT ABOUT BY RADIATION DEFECTS AFFECTS THE RESIDUAL VOLTAGE. THE CONCLUSIONS AGREE WITH THE CALCD. DATA (V. KUZ'MIN, 1963).

USSR

UDC 541.64:536.4

FEDOTOVA, O. YA., GOROKHOV, V. I., PARESISHVILI, O. I., KARETNIKOV, G. S.,
and KOLESNIKOV, G. S. (deceased), Moscow Chemical Technological Institute
Imeni D. I. Mendeleev

"Study of the Thermal Degradation and Thermal Oxidation of Phosphorus Con-
taining Polyimides"

Moscow, Vysokomolekularnyye Soyedineniya, Vol 14, No 6, Jun 72, pp 1256-1265

Abstract: A study has been carried out on thermal and thermal-oxidative degradation of polyimides using the model reaction of the anhydride of di-(3,4-dicarboxyphenyl)-phenylphosphine oxide with various aromatic diamines. It has been shown that the thermal stability of phosphorus containing polyimides depends on the thermal stability of the imide cycle, whose stability in turn depends on the structure of the diamino. The low molecular weight products of thermal degradation consist of hydrogen, CO, CO₂, benzene, methane, ammonia, water, and traces of ethylene. Using EPR method, it was shown that in the solid products of thermal and thermal oxidation degradation the rate of the accumulation of paramagnetic centers depends on the structure of the diamine radical. Increasing concentrations of paramagnetic

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USSR

FEDOTOVA, O. YA., et al, *Vysokomolekularnyye Soyedineniya*, Vol 14, No 6,
Jun 72, pp 1256-1266

centers in the polymer lead to higher thermal degradations. Resistance to thermal oxidative degradation depends on the structure of diamine used in the synthesis of polyimides: introduction of compounds with polyconjugated systems results in a sharp increase in the oxidation rate of the polymer.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--THERMAL AND OXIDATIVE THERMAL DEGRADATION OF AROMATIC AND AROMATIC
ALIPHATIC POLYAMIDES AND POLYUREAS -U-

AUTHOR--(05)-FEDOTOVA, O.YA., CHIBISOVA, YE.I., KOLESNIKOV, G.S., GOROKHOV,
V.I., KOVARSKAYA, B.M.

COUNTRY OF INFO--USSR

G

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(1) 26-30

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DEGRADATION, OXIDATIVE DEGRADATION, POLYAMIDE
COMPOUND, POLYUREA, DIAMINE, ORGANIC ISOCYANATE, COPOLYMERIZATION,
POLYMER CROSSLINKING, POLYCONDENSATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1195

STEP NO--UR/0459/70/012/001/0026/0030

CIRC ACCESSION NO--AP0104561

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104561

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYAMIDES (PREPD. BY INTERFACIAL POLYCONDENSATION) AND POLYUREAS (PREPD. BY COPOLYMN. OF DIAMINES WITH DIISOCYANATES SUCH AS HEXAMETHYLENE DIISOCYANATE), E.G., POLY(DITOLYL,METHANEFUMARAMIDE) (I), POLY(DITOLYL-N,N'-DIETHYLFUMARAMIDE) (II), POLY(DITOLYLMETHANE-N,N'-DIETHYLADIPAMIDE) (III), POLY(DITOLYLMETHANEHEXAMETHYLENEUREA) (IV) AND POLY(DITOLYLMETHANEFUMARAMIDE) (I), POLY(DITOLYL-N,N'-DIETHYLFUMARAMIDE) TOLYLMETHANE MOIETY IS DERIVED FROM 4,4'-METHYLENEDI-O-TOLUIDINE OR FROM 4,4'-METHYLENEBIS(N-ETHYL-O-TOLUIDINE)) WERE DEGRADED AT 200-320DEGREES, I, II, AND III WERE MORE STABLE THAN IV OR V. I AND II EXHIBITED HIGHER THERMAL STABILITY THAN III. THE OXIDN. OF POLYAMIDES AND POLYUREAS (BASED ON A PRIMARY DIAMINE) WAS ACCOMPANIED BY CROSSLINKING. CO, CO SUB2, H SUB2 O, AND ACH (IDENTIFIED BY POLAROGRAPHY AND CHROMATOG.) RESULTED FROM THE OXIDATIVE THERMAL DEGRADATION OF THE CITED POLYMERS.

UNCLASSIFIED

USSR

UDC 621.396.6-181.5

BELOVA, G. F., GOROKHOV, V. N., KUZ'MIN, V. A., MOCHALKINA, O. R.

"Hybrid Neuristor Lines Based on PNP Structures"

Kiev, IVUZ Radioelektronika, Vol 14, No 11, Nov 71, pp 1312-1318

Abstract: The paper presents the results of development and investigation of two kinds of neuristor lines based on planary PNP structures: with coupling between elements over two common base regions, and over a single base. The principal electrical characteristics are measured as a function of the structure, the values of the passive elements and the mode of operation of the neuristors. It is found that the rate of propagation of a pulse in the neuristor line depends on the amplitude of the pulse and the external capacitance, and is independent of the load impedance. Pulse velocity in lines with two common bases is $2-5 \cdot 10^4$ m/s, while the corresponding speeds for lines with a single base are 800-1200 m/s. The rate of propagation in lines with a single common base is practically independent of the spacing between elements. When the diameter of the emitter in the N^+ region is doubled, the pulse velocity increases by a

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USSR

BELOVA, G. F. et al., IVUZ Radioelektronika, Vol 14, No 11, Nov 71, pp 1312-1318

factor of 1.4 in lines of both types. The refractor period for lines of both types is the same -- 3 us for a load impedance of 10 k Ω and zero capacitance. The refractor length is equal to 6 cm for a line with two common bases, and 0.2 cm for a line with a single common base. Pulse amplitude is determined by supply voltage and load impedance. The maximum possible pulse amplitude for elements separated by 110 μ is 3 V. The proposed neuristors can be comparatively easily made in integrated form as they can operate without external capacitances at load impedances of 10-20 k Ω . Six figures, bibliography of four titles.

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USSR

UDC 669.71.042.6

KUZNETSOV, K. I., GENISARETSKIY, M. A., ~~GOROKHOV, V. P.~~, SKUCHILOV, A. I.,
SHCHEGLOV, D. A., FIRSOV, V. M., KOZLOV, K. A.

"Development and Assimilation of Continuous Casting of Large Aluminum Ingots"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], 1970, No. 6, pp. 91-93. (Translated from Referativnyy Zhurnal Metal-lurgiya, No. 5, 1971, Abstract No. 5 G139 by G. Svodtseva).

Translation: The equipment and technology for casting large T-shaped ingots (I) of Al weighing 1 t were developed in 1963-1964 at the SMK (expansion unknown -- possibility: Siberian Metallurgical Combine). In 1969-1970, about 10,000 tons of large I were processed. The use of these I by metallurgical plants to replace the 15-kg I provides for: 1) complete elimination of manual labor in all loading and unloading operations from casting of I at the manufacturer to charging in the melting furnaces of metallurgical plants; 2) reduction in labor consumption by consumers during unloading of I from railroad cars by a factor of 4 by using lift trucks; 3) halving of storage area requirements; 4) reduction in labor consumption involved in transportation of I from railroad car to casting shop by 1.3 times; 5) reduction in labor consumption during charging into furnace by a factor of 2; 6) reduction in requirements for charging boxes by 40%; 7) reduction in melting time by 10-15%; 8) improvement of quality of metal of I

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USSR

UDC 669.71.042.6

KUZNETSOV, K. I., GENISARETSKIY, M. A., GOROKHOV, V. P., SKUCHILOV, A. I.,
SHCHEGLOV, D. A., FIRSOV, V. M., KOZLOV, K. A., Tekhnol. Legkik Splavov.
Nauchno-tekhn. Byul. VILSa, 1970, No. 6, pp. 91-93.

as a result of decreased gas content and increased metal purity with continuous casting. The ratio of the surface area of large I to volume is 6 times lower than that of 15 kg I as a result of which the charge includes less oxide film, which also improves the quality of the metal.

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USSR

UDC: 621.397:621.396.61(088.8)

PETRAKOV, A. V., GOROKHOV, V. P., KLEVALIN, V. A.

"A Method of Measuring the Stability of a Television Transmitting Tube Raster"

USSR Author's Certificate No 283333, filed 28 Jun 68, published 3 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6G177 P)

Translation: A method is proposed for measuring the stability of the raster of a television transmitting tube by transmitting a test-pattern image on the target of the tube and measuring the parameters of the video signal. To simplify the equipment when measuring the stability of the raster with respect to lines, the image of the test pattern is projected in the television transmitting tube in the form of vertical lines, and the difference in the number of video pulses in the same line at different times is measured. A modification of this method of measurement is also proposed which is distinguished by the fact that the equipment is simplified when frame stability of the raster is measured by projecting an image on the target of the TV transmitting tube in the form of triangles in contrasting colors, the centers of the altitudes being located at the boundaries of the raster, and measuring the difference in the lengths of video pulses in the same lines at different times.

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USSR

UDC 669.71.018.9.4

LIVANOV, V. A., KUZNETSOV, K. I., and GOROKHOV, V. P.

"Influence of Technological Factors on the Purity of Aluminum Melts"

Tr. Mosk. aviats. tekhnol. in-ta (Works of Moscow Aviation Technological Institute), 1970, vyp. 71, pp 81-88 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No G236 by authors)

Translation: The authors studied the character of the reaction of hydrogen with aluminum oxides during the smelting of alloys under industrial conditions and showed the feasibility of refining aluminum and its alloys to assure the production of high-purity metals. The refining technology consists of letting hydrogenated melts stand in the furnace with the subsequent injection of nitrogen into them in a mixer. Two illustrations.

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USSR

UDC 669.71.41

LIVANOV, V. A., GOROKHOV, V. P., KOLACHEV, B. A., KOFMAN, L. M., and SKUCHILOV, A. I.

"Filtration of Aluminum Melts Through Aluminum Oxide With Simultaneous Degasification by Neutral Gases"

Tr. Mosk. aviats. tekhnol. in-ta (Works of Moscow Aviation Technological Institute), 1970, vyp. 71, pp 88-93 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 G230 by authors)

Translation: The article presents a theoretical estimate of the quantity of neutral gas which must be passed through a melt in order to decrease the gas content a given number of times. The theoretical calculations agree well with the experimental data obtained during the degasification of aluminum with neutral gases and nitrogen. The gas content of aluminum is decreased especially effectively when aluminum is filtered through Al_2O_3 with simultaneous degasification by neutral gases. Two illustrations. One table. Bibliography of four titles.

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Aluminum and Its Alloys

UDC 669.71.018.9.4

USSR

GOROKHOV, V. P., GUSEV, A. F., OSADCHIY, V. A., RYZHOV, I. V.,
and ZHALNIN, I. A.

"Special Machine for Manufacture of Large -Area Power Switch-
boards With a Considerable Number of Holes"

Rekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Technology
of Light Alloys -- Scientific and Technical Bulletin of All-Union
Institute of Light Alloys), 1970, No 5, pp 130-131 (from RZh-
Metallurgiya, No 3, Mar 71, Abstract No 3 G166 by G. SVOYTSEVA)

Translation: A table-model special machine for the manufacture
of perforated power switchboards used in the refining of aluminum
alloys by the injection of nitrogen and argon has been manufac-
tured and put into production. The machine makes possible the
high-efficiency drilling of holes 0.3 to 0.5 mm in diameter in
graphite, steel, and titanium up to 5 mm in thickness.

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USSR

UDC 669.716:621.777.2

BARANCHIKOV, V. M., GLEBOV, Yu. P., GOROKHOV, V. S., DENISOV, S. M.,
ZAKHAROV, M. F., MILORADOVA, O. N., KHARENKO, V. F., and TSAREV, V. I.

"Development and Investigation of the Process of Pressing Rods and Shapes
of Aluminum Alloys with Lubricant Without Press-Residue"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970,
pp 129-137, resume

Translation: A number of problems related to the investigation of the process
of pressing aluminum alloys with lubricant and the investigation of mechanical
properties, macrostructure, and geometric dimensions of products are discussed.
Technological-economical data on the process are presented. Five figures, nine
tables, seven bibliographic references.

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USSR

UDC 536.243.2+536.483

VISHNEV, I. P., VINOKUR, Ya. G., SHAPOSHNIKOV, V. A., GOROKHOV, V. V.

"Influence of Pressure on Bubble Boiling Crisis of Helium-1 in Vertical Channels"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 5, 1972, pp 1,090-1,092.

Abstract: The purpose of this work was to determine the first critical heat flux for helium boiling in vertical channels under conditions of natural circulation and on the surface of a vertical cylinder in a large volume at other than atmospheric pressures. During each experiment, the heat flux was increased until the wall temperature began to rise sharply. The heat flux corresponding to this moment was taken as the critical heat flux. The author's found that the first critical heat flux in liquid helium depends on vapor content and flow rate, and also on the ratio of absolute dimensions of the channel within the limits $0 < L/d < 15$, and suggests an equation for the calculation of q_{cr1} at distance x from the entry to a verti-

cal channel at atmospheric pressure. When the pressure is other than atmospheric, the factors above must be supplemented by the density of helium vapor and heat of evaporation at the pressure used. A formula is presented which can describe the process at various pressures. Experimental and calculated data agree satisfactorily.

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USSR

UDC 539.216.2:538.116

GOROKHOV, Ye. A., KARABANOVA, V. P., and POPOV, V. I., Irkutsk Pedagogical Institute

"Effect of Perpendicular Anisotropy on the Structure of Domain Boundaries in Thin Ferromagnetic Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1287-1290

Abstract: Titanium alloys (Ti-3Al-7Mo-11Cr and Ti-3Al-13V-11Cr) were investigated by electron microscopy after being heated to 1100° C and cooled in water or air. Chemical composition of the two alloys was, respectively (in %): 3.23 Al, 10.4 Cr, 7.2 Mo, 0.16 Fe, 0.13 Sr, 0.08 O₂, 0.008 H₂, 0.04 N₂ and 0.040 C; 2.85 Al, 10.64 Cr, 13.15 V, 0.34Fe, 0.10 Si, 0.09 O₂, 0.003 H₂, 0.01 N₂, and 0.021 C. The samples were annealed in the form of bars with a cross section of 15 x 15 mm and foil with a thickness of 0.25 mm. After soaking at 1100° C for 1 hour the samples were air cooled and the gas-saturated surface layer removed. The removed foil was annealed in quartz ampules (10⁻³ mm Hg) containing titanium chips. Gas analysis of the foils after heat treating showed (on the average) 0.12% oxygen, 0.04%

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USSR

~~GOROKHOV, Ye. A.~~, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70,
pp 1287-1290

carbon, 0.02% nitrogen, and 0.012% hydrogen. From this experiment it was found that in beta-titanium alloys, after annealing at 1100° C, stacking faults are formed in the process of cooling with segregation of a phase with an FCC lattice and lattice period of $a = 4.25 \text{ \AA}$. It is most probable that this phase is a titanium compound with interstitial elements: oxygen, carbon, and nitrogen.

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USSR

UDC: 8.74

~~GOROZHOV, Yu. P.~~ and SOKOLOV, G. A.

"A Problem in Defining the Prophylaxis Mode"

Moscow, V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technique and Programming--collection of works) No 7, 1972, pp 149-160 (from RZh--Matematika, No 8, 1972, Abstract No 8V604)

Translation: The authors consider two problems connected with defining a prophylaxis mode which departs least from "uniformity" in accordance with an accepted criterion. Authors' abstract

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USSR

UDC: 8.74

GOROKHOV, Yu. P., SOKOLOV, G. A.

"On the Problem of Determining a Preventative Maintenance Schedule"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 149-160 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V604)

Translation: The paper deals with two problems involved in determining a preventative maintenance schedule which deviates the least from a "uniform" schedule in the sense of an assumed criterion. Authors' abstract.

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USSR

UDC: 62-531

NOVOSELOV, B. V., KOBZEV, A. A., GOROKHOV, Yu. S., BALABOLOV, G. A.
and POTAPOV, A. M.

"Servo System of Combined Control"

USSR Author's Certificate No 280613, filed 30 May 69, published
1 Dec 70 (from RZh-Avtomatika, telemekhanika i vychislitel'naya
tekhnika, No. 12, 1971, Abstract No 12A167P)

Translation: The proposed device is distinguished from the known ones by its additional self-tuned block, whose output is connected to the inputs of both differentiators, one of the inputs being tied directly to the output of the first differentiator, the other being connected through a switch. Also, the system differs in that there is an additional connection to the output of the compensating device of the second low-frequency filter, and connected to its output is a third differentiator whose output is joined to the input of the switch; there is also a connection between the second differentiator of the compensating device and a relay block, with still another differentiator connected to its input. The differentiator input is tied to the output of the first differentiator. Resume

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USSR

UDC 681.33

GOROKHOV, Yu. S., and TREL', G. V.

"A Device for Modeling the Efficiency of Mechanical Transmissions"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 345495, Division G, filed 23 Jul 70, published 14 Jul 72, p 180

Translation: This Author's Certificate introduces a device for modeling the efficiency of mechanical transmissions. The device contains a four-diode bridge, resistors, inverting adder amplifiers, and diodes. As a distinguishing feature of the patent, the device is simplified and the class of problems which can be solved is extended by making the following modifications: The first and second inputs of the device are connected through the first and second resistors to the input of the first adder amplifier. Connected to this same input through the four-diode bridge are the power supply, the second input of the device, the outputs of the second adder amplifier with a diode in the feedback circuit, and the third adder amplifier. The second and third adder amplifiers are connected in series. The inputs of the four-diode bridge and the inputs of the second and third adder amplifiers are connected through the third, fourth, and fifth

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USSR

GOROKHOV, Yu. S., and TREL', G. V., Otkrytiya, Izobreneniya, Promyshlennyye
Obraztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 345495,
Division G, filed 23 Jul 70, published 14 Jul 72, p 180

resistors to the first input of the device and through the fifth, sixth,
and seventh resistors to the input of the inverting amplifier, which is
connected to the output of the device.

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- 64 -

Computers: Analog

USSR

UDC: 621.523.8

NOVOSELOV, B. V., GOROKHOV, Yu. S., POTAPOVA, L. D.

"A Computer Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 318959, Division G, filed 7 Feb 70, published 28 Oct 71

Translation: This Author's Certificate introduces a computer device which contains three parallel-connected narrow-band filters, each consisting of two integrators, a multiplier, and a scaling element. As a distinguishing feature of the patent, in order to determine the resonance frequency and the attenuation parameter of irregular signals, the scaling element is placed at the input of the filters, and the multiplier is incorporated into each filter with its input connected to the output of one integrator, while the multiplier output is connected to the inputs of the other integrator. Connected to the output of each narrow-band filter is a series circuit made up of a squarer and an averaging device. In addition, the computer device contains two adders, a divider, a main multiplier, a square

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USSR

NOVOSELOV, B. V. et al., Soviet Patent No 318959

root extractor, and an integrator, which are connected in such a way that the outputs of the averaging devices in the filters for the side frequencies are joined to the inputs of one adder whose output is connected to the input of the integrator. The integrator is connected through the square root extractor to the multipliers in the narrow-band filters, while the output of the averaging device in the filter on the main frequency is connected to an input of the other adder. A second input of this adder is connected to the first input of the divider. The second input of the divider is connected to the output of the averaging device in the filter on the main frequency. The divider output is connected to one input of the main multiplier, and the other multiplier input is connected to the integrator output.

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USSR

UDC 681.333

GOROKHOV, YU. S., MEDYAKOV, I. N., and TREL', G. V.

"Differential Gear Modeling Device"

USSR Authors' Certificate No 341051, Cl. G 06g 7/64, filed 26 Nov 70, published 5 Jun 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 18, 5 Jun 72, p 185)

Abstract: The device contains diodes, resistors, and operational amplifiers. To increase modeling accuracy and enlarge the class of problems that can be solved, it contains kinematic chain models whose outputs are connected to the input of the summing amplifier and to the outputs of the device. One of the summing amplifier outputs is connected to a series-connected integrating amplifier and inverting amplifier; the other summing amplifier output is connected to one of the inputs of the computing amplifier; the other input, to the output of the inverting amplifier, to whose feedback is connected a four-diode bridge; and the computing amplifier output is connected to the kinematic chain models, the first inputs of which are connected to the inputs of the device.

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USSR

UDC 62-531

NOVOSELOV, B.V., KOZLEV, A.A., GOROKHOV, Yu.S.

"Combines Tracking Drive"

USSR Authors' certificate, 21c, 46/50 (G05f), No 259227, Filed 22/06/68,
Published 6/05/70 (Translated from Referativnyy Zhurnal Avtomatika, Teleme-
khanika i Vychislitel'naya Tekhnika, No 1, 1971, Abstract No IA280P)

Translation: A combined tracking drive is suggested which contains a base loop with a comparison element; a primary self-tuning loop with a differentiator connected to the output terminal; a multiplier, integrator, and comparison element; a second self-tuning loop with an integrator and multiplier, the input of which is connected to the comparison element of the base loop; and a relay unit. In order to minimize the mean square error in processing a suddenly shifting signal, a signal changing with constant rate and acceleration, or a sinusoidal signal at various frequencies, two series-connected differentiators, a dividing device, root extraction device, second relay unit, integrator, multiplier, and adder are included, connected to the input

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USSR

NOVOSELOV, B.V., et al., USSR Authors' certificate, 2lc, 46/50 (G05f), No 259227, Filed 22/06/68, Published 6/05/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, 1971, Abstract No 1A280P)

of the base loop, with the input of the integrator connected to the output of the comparison element of the base loop; the input of the first additional differentiator is connected in parallel to the differentiator of the first self-tuning loop, the first relay unit, the divider, the multiplier of the first self-tuning loop, and the adder of this loop, connected to the base loop; the input of the second additional differentiator is connected to the second relay unit and the inputs of the additional multiplier and adder; the output of the second additional differentiator is connected to the second input of the first relay unit and the integrator of the second self-tuning unit; the output of the root extracting device is connected to the third input of the first relay unit, which is connected to the integrator of the first self-tuning loop.

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USSR

G

UDC 651.8:621.791.7

GOROKHOV, YU. V., Engineer

"Fourth Far East Conference on Welding"

Moscow, Svarochnoye Proizvodstvo, No 5, May 70, p 59

Abstract: This article discusses the Fourth Far East Conference on Welding, held in Khabarovsk from 22 to 24 October 1969. The conference was devoted to the discussion of improvement and development of welding. Some 120 specialists took part in the conference and 26 papers and reports on the general question of welding and special features of its development in the Far East were heard.

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1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ADSORPTION OF SURFACE ACTIVE IONS ON RHODIUM --U-
AUTHOR--(03)-BALASHOVA, N.A., GOROKHOVA, N.T., DAVYDOVA, ZH.A.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA MAR. 1970, 6, (3), 436-440
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--RHODIUM, SURFACE ACTIVE AGENT, ION, ADSORPTION, BROMIDE,
BIBLIOGRAPHY, ELECTRODEPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0416 STEP NO--UR/0364/70/006/003/0436/0440
CIRC ACCESSION NO--AP0124167

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF SURFACE ACTIVE IONS, PARTICULARLY CD PRIME2 POSITIVE (FROM CDSO SUB4 SOLUTIONS) AND BR PRIME NEGATIVE (FROM NABR SOLUTIONS), ON THE SURFACE OF A RH ELECTRODE (FORMED BY ELECTRODEPOSITING RH ON PT) WAS STUDIED AND CORRELATED WITH THE ZERO CHARGE POTENTIALS IN THE CORRESPONDING ELECTROLYTES. THE RELATIVELY INTENSIVE ADSORPTION OF CD PRIME2 POSITIVE AND BR PRIME NEGATIVE IONS ON THE RH SURFACE (AS COMPARED WITH NA PRIME POSITIVE AND SO SUB4 PRIME2 NEGATIVE FROM NA SUB2 SO SUB4) AND THE SLOWNESS OF THEIR AD AND DESORPTION, AS WELL AS THE ZERO CHARGE CHARACTERISTICS, ALL POINTED TO THE EXISTENCE OF A CHEMISORPTIVE TYPE OF ADSORPTION.

UNCLASSIFIED

GORKHOVA V.A.

AA0052692

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

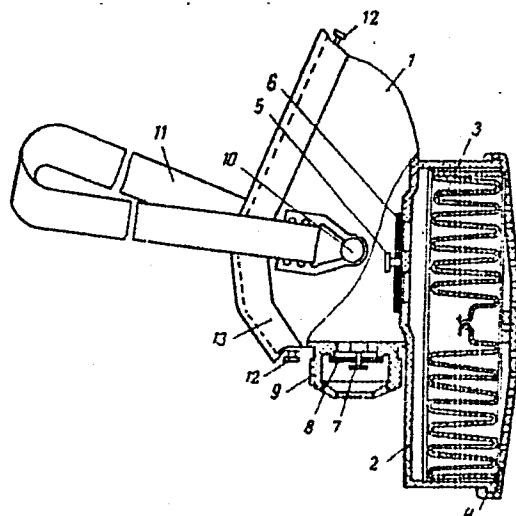
241228 RESPIRATOR, consists of a half-(face)-mask,
a container 2 which holds the filtering
device, replaceable filtering element 3 and cover 4,
pin 5 for holding the valve 6 on the inlet, and the
pin 7 for holding the valve 8 on the outlet, which
is also fitted with a sanitary compartment 9. Studs
10 fasten the headband 11 to the face-mask, whilst
studs 12 fasten the replaceable face-band to the
edges of the mask. The pins 5, the sanitary compartment
and the studs are all made in one piece with the
face mask and the body of the filter-chamber. This
reduces the number of separate components which go
into the make up of the respirator. 27,5.68. as
1242796/31-16. I.S KOSTYUCHENKO et al.
(22.8.69.) Bul.13/1.4.69. Class 61a. Int.Cl. A62b.

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19821479

Acc. Nr.: AA0052692



Kostyuchenko, I. S.; Olontsev, V. F.; Akulov, V. A.; Gorokhova, V. A.

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REEL/FRAME
19821480

Bd

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USSR

UDC 632.95

LUKANIKA, V. S., BEZUSLYY, S. F., MEL'NIKOV, K. N., IVANOVA, S. M., GORONKOVA,
V. V., KOSTYUKOVA, K. I., and KURBATOVA, T. I.

"Emulsifiable Concentrate of 5,4'-Dichlorosalicylanilide -- An Effective
Molluscicide"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection
of works), vyp 1, Moscow, 1970, pp 61-65 (from Khim-Zhizniya, No 13, 10 Jul 72,
Abstract No 137193 by I. Pil'menshteyn)

Translation: The use of 5,4'-dichlorosalicylanilide (I) in the form of a
10-percent emulsion concentrate (EC) increases its molluscicidal activity
8-9 fold over that of an ammonia solution. I is 800-900 times more effective
than CuCO_3 . At a $1:19 \cdot 10^3$ dilution I provides 100% destruction of molluscs.
In the applied concentration I is harmless for warm-blooded animals and
grass cover. There is no change in the physicochemical properties and molluscicidal
activity of the EC of I when it is stored in an airtight container for
two years. The 10% EC of I is recommended for application in agriculture
in doses of 1-5 kg/ha.

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- 63 -

USSR

UDC 536.664+541.183.12

NEKRYACH, YE. F., GOROKHOVATSKAYA, N. V., SAMCHENKO, Z. A., KURILENKO, O. D.
"Sorption-Thermochemical Study of Hydration of Macroporous KU-23 Sulfocation
Exchange Resin"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVIII, No 6, 1972, pp 581-586

Abstract: The sorption and thermochemical methods were used to study the hydration of macroporous KU-23 sulfocation exchange resin in hydride and four salt forms (Li^+ , Na^+ , K^+ , Ca^{2+}). The thermodynamic functions of the sorbed water were defined on the basis of the data obtained, and study was made of the nature of their variation during the hydration process. On the graphs of the differential entropy, there are three sections corresponding to different hydration mechanisms. The results of the studies are compared with data obtained earlier for the KU-cation exchange resin.

A study was made of the 20° isotherms of the sorption of water vapor taken on a vacuum sorption device with spring-quartz scales, the heats of wetting by water defined in an adiabatic calorimeter and the thermodynamic functions of the water sorbed by the ion forms of the macroporous KU-23 sulfocation exchange resin. The procedure for preparing and performing the measurements was described previously [M. Dubinin, et al., Fiziko-khimicheskiye osnovy protivogazovogo dela, Moscow, 1939; A. V. Dumanskiy, et al., Ukr. khim. zh., No 26, 389, 1960].

1/1

USSR

UDC 541.183.5

GOROKHOVATSKAYA, N. V., NEKRYACH, YE. F., and KURILENKO, O. D., Institute of Colloidal Chemistry and Chemistry of Water, Ukrainian Academy of Sciences

"Sorption of Water Vapor by the Strong-Acidic Cationite KU-5"

Kiev, Ukrainskiy Khimicheskii Zhurnal, Vol XXXVII, No 8, 71, pp 785-789

Abstract: Hydration of the KU-5 sulfocationite, apart from immediate practical importance, is of definite theoretical interest. Comparison of the sorption properties of corresponding saline forms of KU-5 and KU-2 having the same fixated ions ($--SO_3H$) but different matrices will evidently show the effect which chemical structure of the skeleton and certain physico-chemical parameters of the ionite have on interaction between water molecules and active centers of the ionite.

The K^+ , Na^+ , Li^+ , Ca^{2+} , Mg^{2+} and Al^{3+} forms of commercial KU-5 were tested, completeness of substitution being judged by the Al^{3+} form (analytical determination of amount of Al in the initial solution and following passage through the resin).

Water-vapor isotherms for KU-5 were similar in shape to those of other high-hydrophylic substances (initial sharp rise followed by more moderate rise
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USSR

GOROKHOVATSKAYA, N. V., et al., Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVII, No 8, 1971, pp 785-789

and final sharp rise). Evidently a monolayer of adsorbed water molecules is first formed at the most active centers, followed by hydration of less active centers and finally by capillary condensation of the vapor, accompanied by swelling of the ionite. Graphic representations of data obtained are included.

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Ion Exchange

USSR

UDC 536.664 + 541.183.12

NEKRYACH, YE. F., GOROKHOVATSKAYA, N. V., SAMCHENKO, Z. A., and KURYLENKO, O. D., Institute of Colloidal Chemistry and Chemistry of Water, Academy of Sciences, UkrSSR

"Hydration Thermodynamics of a Strong Acidic Cation Exchange Resin KU-5"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 38, No 10, Oct 71, pp 1013-1017

Abstract: Results of sorption-thermochemical determinations and analysis of thermodynamical functions of water adsorbed by the cation exchange resin KU-5 are reported. The K^+ , Na^+ , Li^+ , Ca^{2+} , Mg^{2+} , and Al^{3+} forms of the resin were studied and the data were calculated from sorption and thermochemical determinations carried out at 20° . It has been established that the graphs of function magnitudes related to the quantity of the adsorbed water reflect the hydration process laws which are connected with the nature of fixed and exchange ions. Analogously to other investigated cation exchange resins, the most informative are the functions $E_G = f(x)$; from them it is possible to get qualitative estimates on the input of various types of interactions to the total hydration energy.

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USSR

UDC 621.311.42:621.316.1

~~COROKHOVLE, D. I.~~, MAKSIMOV, V. I., PARSADANYAN, V. V., TRAKHTENBERG, M. I.

"Six-Ten Kilovolt Transformer Substation for Municipal Electric Power Networks"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Municipal Electric Power Supply -- Collection of Works), Leningrad, Energiya Press, 1970, pp 222-225 (from RZh-Elektrotehnika i Energetika, No 3, Mar 71, Abstract No 3Ye80)

Translation: At Kishinev, a 630 kilovolt-ampere dual-transformer substation developed on the basis of the standard design No 407-3-52 (KSK-32-630) has been introduced. This substation is designed for application in areas where there are low buildings with high load density and responsible consumers. The buses are sectionalized on the 6-10 kilovolt-ampere side. This makes it possible to execute dual-wire circuits.

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- USSR

UDC 615.324:595.421:615.281

PODEBOROV, V. M., STEPANCHONOK-RUDNIK, G. I., and GOROKHOVSKAYA, I. N.,
Laboratory of Transmitters, Division of Infections With Natural Foci, Institute
of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical
Sciences USSR, Moscow

"Antibacterial Activity of the Organs and Tissues of Ixodoidea Ticks. II."

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 5,
Sep/Oct 72, pp 577-581

Abstract: It was established that the hemolymph and intestinal contents of hungry and engorged blood-sucking ticks *Alveonassus lahorensis* exerted a strong bactericidal action on *Streptococcus pyogenes*, *Corynebacterium diphtheriae*, and *Neisseria meningitidis*. The antibacterial action of the intestinal wall and of tissue homogenates (those of the tracheal complex, muscles, and nerve ganglion) of the ticks on these microorganisms was weak. The contents of the intestine of hungry ticks had a weak bactericidal activity towards *Erysipelothrix insidiosa*. The intestinal contents of hungry ticks generally exerted a stronger antibacterial action than those of engorged ticks. The hemolymph, intestinal contents, intestinal wall, and homogenates of the tracheal complex, muscles, and nerve ganglion did not exhibit an antibacterial activity towards

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Cardiovascular Diseases

USSR

UDC 616.127-005.8:613.13+312.2]-02:
613.13

GOROKHOVSKIY, B. I., DMITRIYEV, A. A., LOKSHINA, P. L., and REMIZOV, G. A.,
First Aid Institute imeni N. V. Sklifosovskiy, Moscow University imeni M. V.
Lomonosov, Interdepartmental Meteorological Laboratory, and First Aid Station,
Moscow

"Influence of Environmental Factors on Morbidity and Mortality Rates for
Myocardial Infarct"

Moscow, Sovetskaya Meditsina, No 4, 1971, pp 105-109

Abstract: Analysis of over 5,000 cases of myocardial infarct and acute coronary insufficiency in Moscow revealed a definite correlation between the morbidity and mortality rates of these diseases and various meteorological and geophysical factors. Sharp changes in atmospheric pressure in winter resulted in a rise in the mortality rate the same day to 194% of the seasonal mean. A lowering of the mean diurnal temperature in summer by 5° or more increased mortality on the 2d day to 150% of the seasonal mean. Magnetic storms with a sudden onset increased mortality from acute coronary insufficiency and myocardial rupture to 165% three days later regardless of the time of year. Abrupt changes in temperature, solar activity, and so forth are believed to

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GOROKHOVSKIY, B. I., et al., Sovetskaya Meditsina, No 4, 1971, pp 105-109

impair the neuroregulatory apparatus and/or alter vascular tone, resulting in regional (coronary, cerebral) circulatory disorders. (The authors' analysis was based on the phase matching method whereby the day the phenomenon under study occurs is taken as zero, the preceding days as -1, -2, etc. and the subsequent days as +1, +2, etc.).

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- 30 -

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MYOCARDIAL INFARCTION AND DIABETES MELLITUS -U-
AUTHOR--GOROKHOVSKIY, B.I. G
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 123-132
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MYOCARDIUM, DIABETES MELLITUS, ATHEROSCLEROSIS, ANEURYSM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1901 STEP NO--UR/0497/70/048/005/0123/0132
CIRC ACCESSION NO--AP0129251
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129251

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR STUDIED 2545 PATIENTS WITH MYOCARDIAL INFARCTION, AMONG WHOM THERE WERE 204 (8.3PERCENT) PATIENTS WITH DIABETES MELLITUS. IN A PROTRACTED COURSE DIABETES MELLITUS WAS CONDUCIVE TO THE DEVELOPMENT OF SEVERE ATHEROSCLEROSIS. INCNCURRENCE OF DIABETES MELLITUS THERE WAS NOTED A GREATER INCIDENCE OF REPEATED AND TRANSMURAL MYOCARDIAL INFARCTION, ACUTE CARDIAC ANEURYSM AND RUPTURE OF THE CARDIAC MUSCLE. MYOCARDIAL INFARCTION OFTEN COMPLICATED THE COURSE OF DIABETES MELLITUS EVEN CAUSING THE DEVELOPMENT OF DIABETIC KETOACIDOSIS, WHICH IN TURN AGGRAVATED THE COURSE AND PROGNOSIS OF INFARCTION. AMONG PATIENTS SUFFERING FROM MYOCARDIAL INFARCTION WITH CONCOMITANT DIABETES MELLITUS THE MORTALITY WAS HIGHER (36.76PERCENT) THAN IN PATIENTS WITHOUT DIABETES MELLITUS (20.35PERCENT). IN PATIENTS SUFFERING FROM DIABETES MELLITUS IN THE PRESENCE OF TRANSMURAL MYOCARDIAL INFARCTION WITH A SUSCEPTIBILITY TO THE DEVELOPMENT OF ACUTE ANEURYSM ONE SHOULD EXERCISE GREAT CARE IN THE USE OF DIRECT ANTICOAGULANTS. PATIENTS SUFFERING FROM MYOCARDIAL INFARCTION WITH CONCOMITANT DIABETES MELLITUS, APART FROM A DIET, ARE SUBJECT TO TREATMENT WITH FRACTIONAL DOSES OF INSULIN UNDER CONTROL OF THE BLOOD AND URINARY SUGAR LEVEL; THE DOSAGE SHOULD BE SUFFICIENT FOR THE COMPENSATION OF DIABETES MELLITUS BUT SHOULD NOT CAUSE HYPOGLYCEMIA. IN COMPENSATED DIABETES MELLITUS, APART FROM A DIET, IN MYOCARDIAL INFARCTION THE AUTHOR RECOMMENDS TO EMPLOY SULFANILAMIDES.

FACILITY: 2-YA TERAPEVTICHESKAYA KLINIKA INSTITUTA SKOROY POMOSHCHI IM. N. V. SKLIFOSOVSKOGO.

UNCLASSIFIED

Acc. Nr: **AP0044613**

Ref. Code:
UR0497

PRIMARY SOURCE: *Klinicheskaya Meditsina*, 1970, Vol 48,
Nr 2 , pp 33-39

**THE DIFFERENTIAL DIAGNOSIS OF EXTERNAL RUPTURES
OF THE CARDIAC MUSCLE IN MYOCARDIAL INFARCTION**

Gorokhovskiy, B. I.

Summary

The diagnosis of external ruptures of the cardiac muscle is difficult since its clinical picture resembles that of dissecting aortic aneurysm, thromboembolization of the pulmonary artery, ventricular fibrillation, asystole. The author analyzed data concerning 340 patients with myocardial infarction which was complicated by rupture of the cardiac muscle, 55 patients with dissecting aortic aneurysm and 195 patients with thromboembolization of the pulmonary artery. Rupture of the cardiac muscle may be manifested by acute collapse, refractory to treatment, loss of consciousness, appearance of the syndrome of acute hemotamponade of the heart, preservation of the sinus rhythm. Dissecting aneurysm of the aorta is not preceded by chronic coronary insufficiency, prodrome; pain almost never irradiates into the upper extremities, the arterial pressure remains high until death of the patients, there appears a paradoxical pulse and slight anemization. In thromboembolization of the pulmonary artery there always develops a clinical picture of acute pulmonary heart. Ventricular fibrillation runs a painless course.

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REEL/FRAME
19771290

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USSR

UDC 632.951:633.11

ARESHNIKOV, B. A., KOGOSOVA, E. YA., GOROKHOVSKIY, N. A., and VOYCHUK, G. A.,
Ukrainian Scientific Research Institute of Plant Protection

"Effectiveness of Metathione Against the Stink bug [*Eurygaster*]"

Moscow, Khimiya v Sel'skom Khozyavstve, Vol 10, No 9, (119), 1973, pp 33-35

Abstract: Metathione exhibited a faster effect against bugs than chlorophos. With an elevation of air temperature the toxicity of this preparation increased, but the duration of its activity became shorter. Optimal doses of this agent have been determined to be: against the overwintered bugs -- 0.8 kg/hectare, against younger larvae -- 0.5 kg/hectare, and in case of more mature larvae -- from 0.6 to 0.8 kg/hectare. To destroy young larvae, the wheat should be treated with metathione towards the end of the blooming period, at the initial phase of the formation of caryopsis. More mature larvae can be controlled by applying the agent at the beginning of milky ripeness of the grain.

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USSR

UDC 8.74

GOROKHOVSKIY, S. S.

"Structure of the Data in the PROYeKT System"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 145-149 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V474)

Translation: A study was made of the data structure in the PROYeKT system. The basic means of giving the information about the designed device in the PROYeKT system is the language of the data. The algorithmic description including the descriptions of the variable functions, subroutines and the algorithm of functioning of the device is initial to the system. An algebraic interpretation of the data language is presented, that is, the basic classes of objects (the class of descriptions, the class of code expressions, the class of operators, and so on) are described. The basic classes of the objects of the data language are the components of a multibase algebra where the class of programs is the basic component of this algebra. The algebraic description of the device is a finite set of component objects in the data structure. When programming the design algorithms for the PROYeKT system, the most standard operations are the following operations on the component objects:

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USSR

UDC 8.74

GOROKHOVSKIY, S. S., Teoriya yazykov i metody postroyeniya sistem programmir., Kiev-Alushta, 1972, pp 145-149

a) shifting of the components from the description of one device to the description of another; b) comparison of the component objects; c) bypassing the component object; d) destruction of the components. It is demonstrated that in the design procedure in the PROYEKT system one of the most powerful design instruments is the operator for application of the relations.

2/2

1/2 020 UNCLASSIFIED
TITLE--COLORING OF MOLTEN GLASS -U-

PROCESSING DATE--20NOV70

AUTHOR--(05)--SEMENOV, N.N., AZAROVA, YE.M., PLAKSINA, A.M., TIMOSHENKO,
I.V., GOROKHOVSKIY, V.A.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,025
REFERENCE--OTKRYTIYA, IZOBRET., PROM. CBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL-PATENT, OPTIC PROPERTY, GLASS PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1802

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132088

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132068

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOLTEN GLASS WAS MIXED WITH A
METAL OR ALLOY MELT (INERT IN RELATION TO THE GLASS) HAVING A DIFFERENT
D., AND CONTG. AN ADDITIVE OF METALS, THE IONS OF WHICH COLOR THE GLASS.
FACILITY: SARATOV STATE SCIENTIFIC RESEARCH INSTITUTE OF GLASS.

UNCLASSIFIED

USSR

UDC 77

GOROKHOVSKIY, V. M., LEVIN, YA. A., SOTNIKOVA, I. P., RAKOVA, N. F.,
KARUNINA, V. V., GALIMOVA, A. M.

"Certain Photographic and Physicochemical Properties of 2- and 5-n-alkyl
Homologs of 4-oxo-6-methyl-1,2,4-triazole-(2,3a)-pyrimidine"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14,
pp 24-29 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1340)

Translation: Photographic and physicochemical properties of 2- and 5-n-alkyl derivatives of sta-salt with substitutes before C_7H_{15} in the second position and before C_9H_{19} in the fifth position. All these substances effectively stopped aging of the emulsion; their stabilizing activity decreased with concentration and there was also observed a greater dilution for a longer alkyl radical. The action of these substances on the emulsion at the time of introduction varied: an increase and a lowering of sensitivity or fogging were encountered, but with an increase in the length of the substitute the predominant effect became desensitization in combination with defogging, a property absent in sta-salt. A

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USSR

GOROKHOVSKIY, V. M., et al, Uspekhi nauchn. Fotogr., 1970, vol. 14, pp 24-29

study of the adsorption of sta-salt homologs on the Hg electrode by the oscillographic polarography method showed that as distinct from sta-salt, which does not have oxidation-reduction peaks and capacity jumps in the region limited by the anode wave of Hg-oxidation and reduction of the background homologs of sta-salt give desorption peaks in this region, the height of which rises with an increase in the length of the substitute and correlates well with their desensitizing effect. This correlation indicates that the deactivation of the sensitivity centers is greater as substances are adsorbed more intensively. A determination of acid dissociation constants of sta-salt homologs and the solubility products of their Ag-salts showed that both quantities drop with an increase in the length of the substitute and the latter must also lead to progressive desensitization. 16 references. Authors abstract.

USSR

UDC 771.534.5:771.537:535.241.6

GOROKHOVSKIY, Yu. N., Doctor of Sciences, GRIGOR'YEV, A. G., IVANOV, A. M.,
STEPOCHKIN, A. A.

"New Sensitometric Devices"

Optiko Mekhanicheskaya Promyshlennost', No 3, 1972, pp 43-50.

Abstract: A review is presented of new devices for measurement of the properties of black-white and color photographic materials and evaluation of photographic images on these materials. The devices covered include the SR-21 recording densitometer, the SR-22 reflecting goniodensitometer, the SR-25 universal densitometer, the MD-2M recording microdensitometer, the PP-48 automatic projection granulometer and the RP-2M projection resolver. Basic technical characteristics, structural diagrams and photographs are presented for all of these instruments.

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- 132 -

USSR

UDC 771.553:771.537.61

GAVRIK, V. V., ~~GOROKHOVSKIY, Yu. N.~~, and DAVYDKIN, I. M.

"Analytic Expression of the Frequency-Contrast Function of Photographic Materials"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 3 1972, pp 190-197

Abstract: On the basis of the study of a large volume of experimental results by the method of principal components, it was established that the frequency-contrast functions of black and white photographic materials can be described, with a mean-square error of less than 0.01, by the expansion $T = a + b(e^{-k\nu} - 1)$, where T is the coefficient of contrast transfer, while ν is the space frequency in mm^{-1} . It is shown that the basic differences of frequency-contrast functions are caused predominantly by changes of a parameter of this expression, namely K , which apparently characterizes the light-dispersion characteristics in the emulsion layer. Of the two other parameters, b apparently accounts for the influence of reflex halation. Possible causes of appearance of the variable parameter a are discussed. For a single-parameter description of the frequency-contrast function with a mean square error of about 2 mm^{-1} within the interval of values of the contrast transfer coefficient from 0.2 to 0.9, the function $\nu \approx -K \lg(0.88 T - 0.062)$ is proposed. 2 tables, 3 figures, 23 references.

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USSR

UDC: 535.853.673

GOROKHOVSKIY, Yu. N., Doctor of Sciences, GRIGOR'YEV, A. G., IVANOV, A. M.,
SOROKIN, V. P., STEPOCHKIN, A. A.

"A High-Sensitivity Recording Microdensitometer"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 11, Nov 70, pp 33-37

Abstract: The article is a description of the design and construction of an instrument developed by the authors -- the MD-2 high-sensitivity two-beam recording microdensitometer. The instrument is based on a compensation circuit with a single light source and a single photomultiplier as the receiver. The measuring element is a fixed gray scale placed in the same beam as the object to be measured. A diagram of the optical system is given as well as a block diagram of the densitometer as a whole. The machine output is a standard 275-mm chart recorder. The recording scale may be varied from 1:1 to 1:2000 in ten steps. The device can be used to measure optical densities up to 4.0 with a precision of ± 0.01 density unit on a field of 500 square microns or more. The authors thank A. P. Grammatin for calculating the optical system of the microdensitometer in his laboratory, and also A.A. Barentseva for her participation in testing the experimental model of the instrument.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--A PHOTODOSIMETER FOR TECHNICAL PHOTOMETRIC MEASUREMENTS -U-
AUTHOR--(03)-GAVRIK, V.V., GOROKHOVSKIY, YU.N., FREYVERT, A.M.
COUNTRY OF INFO--USSR
SOURCE--LENINGRAD, OPTIKO-MEKHANICHESKAYA PROMYSHLENNOST', NO 2, FEB 70,
PP 25-29
DATE PUBLISHED----FEB70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTOMETER, RADIATION INTENSITY, DOSIMETER, ILLUMINATION,
OPTIC MEASUREMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1581 STEP NO--UR/0237/70/000/002/0025/0029
CIRC ACCESSION NO--AP0118564
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118564

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF A SMALL SIZE DEVICE INTENDED FOR TECHNICAL PHOTOMETRIC MEASUREMENTS OVER A WIDE RANGE OF LIGHT FLUXES (10 PRIME6) AT MAXIMUM ILLUMINATION AND BRIGHTNESS (100,000 LX AND 20,000 NIT) INSTEAD OF A PHOTOMETER BENCH AND INDUSTRIAL CONTROL ADJUSTING DEVICES. RETICULATE ATTENUATORS OF LIGHT USED IN THIS PHOTODOSIMETER ARE SPECTRALLY NONSELECTIVE AND ARE DISTINGUISHED BY THE LONGEVITY.

UNCLASSIFIED

USSR

UDC:669.28:539.434

GORONKOVA, A. D. and MORGUNOVA, N. N., Central Scientific Research Institute for Ferrous Metallurgy

"Long-Term Strength of Molybdenum Alloys under Cyclical Heating"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1974, pp 18-22

Abstract: The influence of temperature and holding time at the maximum temperature of the cycle on the long-term strength of molybdenum alloys was studied. Both TSM-2A low alloy and TSM-3 two-phase alloy with carbide hardening were studied. Sheet specimens 1 mm thick were used for the tests. The specimens were tested at 1000-2300° C with constant holding at t_{max} of 5 sec and t_{max} of 1250, 1500 and 1750° C with holding times of 1-50 sec at t_{max} . The minimum temperature of each cycle was constant, 40° C. It was found that the long-term strength of molybdenum alloys under cyclical temperature changes was significantly lower than the long-term at constant temperature. The temperature interval of reduction of long-term strength for TSM-2A is 1500-2300° C, for TSM-3 it is 1000-1900° C. The critical holding time at the maximum temperature
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USSR

GORONKOVA, A. D., and MORGUNOVA, N. N., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1974, pp 18-22

of the cycle is 50 sec for both alloys. Apparently, the reduction in long-term strength of a solid-solution alloy such as TSM-2A results from the cyclical thermal stresses and relaxation conditions. The long-term strength of a two-phase alloy with carbide hardening may be significantly influenced by internal structural stresses arising upon thermal cycling.

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USSR

UDC 629.735.33.016

GOROSHCHENKO, L. B.

"Analytic Methods of Determining the Characteristics of Some Three-Dimensional Aircraft Maneuvers"

Kazan', Izvestiya Vvsshykh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1970, pp 124-131

Abstract: The article deals with approximate methods of determining the time, trajectory, and fuel consumption required for climbing (for descending) with a turn of constant radius when $H \geq 11$ km at a constant or vertical velocity, with unvarying operation of the engine. For maneuvers with a velocity change, approximate formulas are also presented for calculating this velocity change and for determining the values of the normal overloads which provide for a minimum of velocity loss in the maneuver of rising to dynamic altitudes. 4 figures.

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D. Programming and Theory of Mathematical Machines

USSR

GOROSHCHENKO, A. G. and MITULINSKAYA, M. A.

"Minimization of the Number of Simple and Complex Connections by the Method of Sectioning of a System"

Konstruirovaniye i Vnedreniye Novykh Sredstv Vychisl. Tekhn. T. 1 [Design and Introduction of New Computer Equipment. Part 1 -- Collection of Works], Kiev, 1971, pp 142-154 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V608).

Translation: The minimization of the number of simple and complex connections by sectioning of a model and an electrical schematic diagram is studied. The difference between systems with simple connections and systems with complex connections is that there is one matrix of connections for systems with simple connections, while systems with complex connections require more than one, since there are many versions of the complex connections to be replaced by an equivalent sequence of simple connections and each version has its own matrix. The method of composition of matrices of connections is formalized and can be extended to combined systems where in addition to electrical connections there are, for example, pneumatic, hydraulic, optical or

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Goroshchenko, A. G. and Mitulinskaya, M. A., *Konstruirovaniye i Vnedreniye Novykh Sredstv Vychisl. Tekhn. T. 1*, Kiev, 1971, pp 142-154.

other connections. It is noted that repeated application of the method for minimization of connections can achieve results closer to optimal, and sometimes even optimal results.

O. Belkin

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74179y Synthesis of a titanium-sodium double sulfate.
 Sidorenko, Ya. G.; Sidorenko, I. A. (Inst. Obshch. Neorg.
 Khim., Kiev, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 69-72
 (Russ). When NaCl or Na₂SO₄ was added to TiOSO₄ soln.,
 2Na₂SO₄·3TiOSO₄·6H₂O (I) sepd. as white needle-like crystals,
 with *n*_D 1.670 and *n*_A 1.549. In the presence of H₂SO₄ the sepd.
 double salt contained H₂SO₄ mols.: 2Na₂SO₄·3TiOSO₄·xH₂SO₄·
 yH₂O. I dissolves slowly in H₂O or mineral acids. HMJR

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TITLE--SYNTHESIS OF A TITANIUM AND SODIUM DOUBLE SULFATE

AUTHOR--GCROSHCHENKO, YA.G., SIDORENKO, I.A.

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GOROSHCHENKO, YA. G., and BELYAKOVA, YE. P.

"Conference on Titanium Chemistry and Technology"

Kiev, Ukrainskiy Khimicheskij Zhurnal, Vol 36, No 5, May 70, pp 520-521

Abstract: A Conference on Titanium Chemistry and Technology was held 16-19 December 1969 in Kiev at the Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR. Representatives of leading scientific establishments and enterprises of the titanium industry took part in the conference. The section on titanium-compound production technology devoted a great deal of attention to improvements in the sulfation process for various titanium raw materials and to expanding the raw material base for titanium pigment production by the sulfuric acid method. A number of papers dealt with methods of processing modified ilmenite, rutile, perovskite, sphene and other titanium concentrates into titanium dioxide pigment and fillers, the

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GOROSHCHENKO, YA. G., and BELYAKOVA, YE. P., *Ukrainskiy Khimicheskiy Zhurnal*, Vol 36, No 5, May 70, pp 520-521

preliminary preparation of ilmenite concentrates before acid treatment and research on the smelting of high-titanium slags.

A paper by V. N. SKOMOROKH discussed the production of titanium dioxide pigment at the Sumy Chemical Combine, including the possibility of creating new production methods based on the interaction of ilmenite with concentrated hydrochloric acid during heating (method developed at the Institute of General and Inorganic Chemistry). Papers by YA. M. LIPKES and T. A. YERMOLAYEV dealt with the chlorination method of producing titanium dioxide pigment. In this connection papers were presented on the state of titanium tetrachloride production technology in the USSR and abroad. A paper by YA. G. GOROSHCHENKO dealt with the hydrolysis of titanium sulfate. I. A. SHEKA reported on the production and properties of titanium selenites. Papers by I. N. BELYAYEV et al. (Rostov State University) covered the synthesis

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GOROSHCHENKO, YA. G., and BELYAKOVA, YE. P., *Ukrainskiy Khimicheskiy Zhurnal*, Vol 36, No 5, May 70, pp 520-521

and properties of metatitanates of bivalent metals with cadmium hafnate, the physicochemical properties of saturated solutions with the participation of titanyl oxalates.

M. L. SHOLOKHOVICH (Rostov State University) presented the paper, "Phase Equilibria Underlying the Growth of Single Crystals of Ferroelectric Substances From Molten Media." A. M. GOLUB et al. (Kiev State University) described results of a study of the interaction in the system $K_2TiF_6 - Sr(NO_3)_2 - K_2CO_3 - H_2O$. Representatives of the Institute of Biophysics and the Chelyabinsk Branch of the Institute of Mineral Pigments reported on ion-exchange properties of phosphate and hydroxide compounds of titanium. A paper by YU. K. BELIMARSKIY, as well as papers by representatives of Leningrad Mining Institute, described results of a study of fusibility curves, thermodynamic and electrochemical studies of systems containing fluorotitanates of al-

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GOROSHCHENKO, YA. G., and BELYAKOVA, YE. P., *Ukrainskiy Khimicheskiy Zhurnal*, Vol 36, No 5, May 70, pp 520-521

kali metals. V. N. ANDREYEVA and YE. B. GITMAN reported on a method for the preparation of fibrous compound based on titanium dioxide. M. V. SMIRNOV et al. reported on a study of the effect of the nature of cations on the passivation of titanium in molten carbonates of alkali metals. The interaction of titanium with silicon and boron nitrides and regularities in the structure formation of alloys based on titanium carbide were discussed in papers by staff members of the Institute for Problems in Metallography, Academy of Sciences Ukrainian SSR. M. I. AYVAZOV et al. (Institute of New Chemical Problems, Academy of Sciences USSR) reported on the synthesis and study of the compounds Ti_xN , where $x = B, Si, Ge$, and $TiMeO$, where $Me = Fe, Mn, Co$ and Ni . G. D. BOGOMOLOV et al. (Institute of Chemistry, Ural Branch of the Academy of Sciences USSR) discussed the synthesis and properties of titanium hydroxycarbides, hydroxynitrides, carbonitrides, M. N. DANCHEVSKAYA and YE. I. FIGUROVSKAYA (Moscow State

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COROSHCHENKO, YA. G., and BELYAKOVA, YE. P., Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 5, May 70, pp 520-521

University) the low-temperature evaporation of titanium from titanium dioxide.

Papers by A. T. PILIPENKO, et al., A. N. NESMEYANOV, et al., I. V. PYATNITSKIY, et al. (Kiev State University), and N. F. ZAKHARIN, et al. (Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR) dealt with the chemistry of complex compounds and the analytical chemistry of titanium.

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Goroshchenko, Ya. G.

Chemistry of Titanium (Khimiya titana) Kiev, Naukova Dumka, 1970, 414 pp
(SL:2071)

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The monograph dealing with the present state of titanium chemistry is based on a review of world literature and author's investigations...

It was written for scientists, college professors and engineers. It can be recommended also to college and post-graduate students.

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ULTRAVIOLET IRRADIATION, AND REMOVAL OF THE DIMERS DURING REPARATION IN
AUTHOR--(03)-SOYFER, V.N., MATUSEVICH, L.L., GORDUSHKINA, G.I.

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