USSR

KARAPETYAN, G. O.; RAABEN, E. L.; KHUDOLEYEV, A. G.

"Optical Absorption Spectra of Hexavalent Chromium in Nitrate Glasses"

Minsk, Zhurnal Prikladnoy Spektroskopii; January, 1971; pp 82-5

ABSTRACT: The optical absorption spectra of hexavalent chromium in glasses with a content of 50 $Mg(NO_3)_2 \cdot 50\ KNO_3$ are studied. By means of experimental data the molar extinction coefficient ε and the oscillator strength f for the observed absorption band at 27300 cm^{-1} are calculated. These are: $\varepsilon = 16200$, $f = 0.774$. The absorption band for 27300 cm^{-1}, in accordance with the oscillator strength and the diagram of the Ballhausen and Liehr molecular orbitals for the tetrahedral complex CrO_4^{2-} (J. Mol. Spectroscopy,

1/2

USSR

KARAPETYAN, G. O., et al, Zhurnal Prikladnoy Spektroskopii; January, 1971; pp 82-5

2, 342, 1958), is interpreted as corresponding to the orbital allowable transition $^1A_1 \rightarrow {}^1T_2$ with nonconnection $t_1(\pi)$ of the orbital with the antibonding orbital $e^*(\pi)$. It is shown that the degree of covalent bonding of the activator ligand in nitrate glasses is greater than in silicate glasses and that the π-bonds play a significant role in the complex CrO_4^{2-}.

The article includes two equations, one table, and two figures. There are 12 references.

2/2

RABADANOV, R.A.

JPRS 59263

6-73

3

V-13. EPITAXIAL FILMS OF ZINC OXIDE ON SAPPHIRE AND OTHER SUBSTRATES

[Article by S. A. Semiletov, R. A. Rabadanov, A. M. Bakaradova, Moscow; Poverkhnostnyye Yavleniya pri Protekanii Reaktsiy i Svoystva Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 64]

In the report results were presented which were obtained when studying the initial growth stages, the microrelief and the defect structure of monocrystalline films of zinc oxide on mica, sapphire, germanium and gallium arsenide. The films were grown by the method of chemical transport using the following reaction:

$$ZnO + H_2 = Zn + H_2O$$

The measurements of the electrical conductivity and the Hall effect and their temperature dependence permitted us to obtain information about the concentration of excess zinc atoms in the ZnO film and its dependence on the film orientation and growth rate.

In sufficiently thick layers (> 10 microns), the Hall mobility of the electrons is 160-180 cm^2/volt-sec, and the concentration is $2-6 \cdot 10^{16}$ cm^{-3} (for 300°K).

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURE AND PROPERTIES OF ZINC OXIDE SINGLE CRYSTAL LAYERS -U-

AUTHOR-(03)-RABADANOV, R.A., SEMILETOV, S.A., MAGOMEDOV, Z.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1431-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SINGLE CRYSTAL, ZINC OXIDE, ELECTRIC PROPERTY, HALL EFFECT, ELECTRON DIFFRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0955 STEP NO--UR/0181/70/012/005/1431/1436

CIRC ACCESSION NO--AP0133041

UNCLASSIFIED

2/2 017 UNCLASSIFIED

CIRC ACCESSION NO--AP0133041 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELEC. PROPERTIES AND THE PERFECTION OF THE STRUCTURE WERE INVESTIGATED OF SINGLE CRYSTAL FILMS OF ZNO GROWN FROM THE GASEOUS PHASE ON THE PLANES OF CLEAVAGE OF MICA, AL SUB2 O SUB3, PLATES WITH (0001) ORIENTATION, (1120), (1011), AND (1012), AND ON THE (0001) FACE OF ZNO SINGLE CRYSTALS. THE FILM STRUCTURE WAS RELATED TO CONDITIONS OF ITS GROWTH AND TO THE ORIENTATION AND TREATMENT OF THE SUBSTRATE. ELECTRON DIFFRACTION DIAGRAMS WITH KIKUCHI LINES AND BANDS, AND PHOTOMICROGRAPHS SHOW A HIGH PERFECTION OF THE OBTAINED FILMS. THE MOBILITY AND CONCN. OF ELECTRONS IN THE BETTER SPECIMENS AS MEASURED BY THE HALL EFFECT AT ROOM TEMP. AND THE LIQ. N TEMP. ARE 140 AND 400 CM PRIME2 V SEC AND 2.4 TIMES 10 PRIME16 AND 6 TIMES 10 PRIME15 CM PRIME NEGATIVE3. THE GIVEN METHOD FOR PREPG. ZNO FILMS ASSURES A HIGH GROWTH RATE (SIMILAR TO 8 MU-MIN) AND GOOD REPRODUCIBILITY.

FACILITY: INST. KRISTALLOGR, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 539.214;539.374

RABCHEVSKAYA, K. V.

"Geometry of the Change in Shape of a Circular Thin Plate Fastened Around the Edge Under Axisymmetric Deformation"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1972, No. 250, pp 45-48 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V476)

Translation: The continuous process of the change in the shape of a part under sheet stamping is considered as a topological (continuous and one-to-one) transformation. If the deformation tensor field of the part can be determined at any time t, the deformation process can be considered as a continuous transformation with respect to time of the Riemannian space given by the metric tensor field $G_{\alpha\beta}$ imbedded in a three-dimensional Euclidean space. It is also necessary to assign a second basic vector in the general case to achieve a Riemannian space in the form of a surface of a Euclidean space, however additional conditions are imposed on the transformation of the surface under axisymmetric deformation of the part. It is shown here that the external geometry of the surface is completely determined by the assignment of coefficients of

1/2

USSR

BABCHEVSKAYA, K. V., Tr. Mosk. aviats. in-ta, 1972, No. 250, pp 45-48

the metric surface tensor for the case of axisymmetric deformation of a thin circular plate rigidly fastened along the edge.

TITLE--EXPERIMENTAL STUDY OF THE INFLUENCE EXERTED BY THE DOSAGE OF A CHEMICAL ON THE INCIDENCE AND INTENSITY OF EXTRINSIC ALLERGY -U-

AUTHOR-(05)-ALEKSEYEVA, O.G., BARLOGOVA, S.G., DUYEVA, L.A., ZAGIDULIN, SH.Z., RABEN, A.S.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 6, PP 19-23

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALLERGIC DISEASE, SELECTIVE DRUG EFFECT, POISON EFFECT, MEDICAL EXPERIMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0675 STEP NO--UR/0391/70/000/006/0019/0023

CIRC ACCESSION NO--AP0131280

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610016-1"

2/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0131280
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DIRECT RELATION BETWEEN A SENSITIZING DOSAGE AND ALLERGIC EFFECT WAS BROUGHT INTO EVIDENCE FOLLOWING A STUDY OF EXTRINSIC ALLERGY TO 10 OCCUPATIONAL CHEMICAL ALLERGENS IN GUINEA PIGS. AS REGARDS THE MAJORITY OF ASSAY ALLERGENS THIS RELATIONSHIP DID NOT CONCERN THE AREA OF TOXIC DOSES, SINCE POISONING IMPEDES THE DEVELOPMENT OF EXTRINSIC ALLERGY. SOME WEAK ALLERGENS, HOWEVER, CAN PRODUCE AN INTENSIVE SENSITIZATION ALSO WHEN SUPERIMPOSED ON POISONING. A QUESTION IS RAISED AS TO THE PRACTICABILITY OF SETTING UP MAXIMUM PERMISSIBLE STANDARDS FOR CHEMICAL ALLERGENS BY REFERRING TO THEIR SPECIFIC EFFECT. FACILITY: INSTITUT GIGIYENY TRUDA I PROFZABOLEVANNIY AMN SSSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--HIGH ENERGY PHOTONS DURING THE ABSORPTION OF MUONS BY EMULSION NUCLEI -U-

AUTHOR-(03)-VAYSENBERG, A.O., KOLGANOVA, E.D., RABIN, N.V.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(4), 830-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HIGH ENERGY PARTICLE, PROTON, MUON, PARTICLE ABSORPTION, EMULSION, NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1074 STEP NO--UR/0367/70/011/004/0830/0839

CIRC ACCESSION NO--AP0136494

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610016-1"

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136494

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRUM OF RHO WITH ENERGIES E SUBP GREATER THAN OR EQUALS TO 25 MEV WAS INVESTIGATED, THE RHO BEING EMITTED FROM HEAVY NUCLEI OF AG, BR EMULSION DURING THE ABSORPTION OF STOPPED NEG. MUONS. THE NOS. OF THE FAST SECONDARY RHO PER ONE ABSORPTION ACT WERE (3.16 PLUS OR MINUS 0.34) TIMES 10 PRIME NEGATIVE 4 AND (4.7 PLUS OR MINUS 1.1) TIMES 10 PRIME NEGATIVE 5 FOR THE E SUBP VALUES GREATER THAN 25 AND GREATER THAN 40 MEV., RESP. THE BACKGROUND FROM THE PION STARS WAS CAREFULLY ANALYZED. THE BACKGROUND FROM 1 PRONG PION STARS WITH THE ENERGIES OF RHO GREATER THAN OR EQUALS TO 25 MEV AND GREATER THAN OR EQUAL TO 40 MEV DOES NOT EXCEED 8 AND 30PERCENT, RESP.

FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0051160 - Abstracting Service: - CHEMICAL ABST. 5-70 Ref. Code: UR0071

103506k Biological purification of waste waters during the production of baker's and nutrient yeasts. Savvina, A. P.; Rabina, V. D. (USSR). *Ferment. Spirt. Prom.* 1970, 36(1), 39-40 (Russ). A 2-chamber system procedure is outlined in which the waste water is subjected to a CH_4 fermentation at 35° and a pH of 7.2 in the 2nd stage, so that the BOD, which originally is 3000, will become lowered to 83 for the waste water from the fodder yeast production, and to 60 mg O/l. for the one from the baker's yeast plant.

Werner Jacobson

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REEL/FRAME
19811207

USSR

UDC 621.382.002

GERMAN, YU. I., YEVSEYEV, YU. A., KABAKOV, V.L., RABINERSON, A.L., CHESNOKOV, YU.A.

"Evaluation Of The Effectiveness Of Clamped Contact Connections For Semiconductor Power Devices During Operation In A Regime Of Pulse Overload By Forward Current"

Preobrazovatel'n. tekhnika. Inform. nauchno-tekhn. sb. (Converter Technology. Information Scientific-Technical Collection), 1970, No 3, pp 4-8 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B395)

Translation: In addition to the reduction of superheating, replacement of soldered contacts by clamped contacts relieves the silicon wafer from the thermoelectromotive forces, which makes it possible to increase its overload capacity. The effectiveness of Si-Cu and M-Cu clamped contacts of dissimilar fulfillment were evaluated in a regime of pulse overload by a comparison of the experimental and theoretical values of the temperature of superheating of a p-n junction in the process of cooling the structure after the action of an individual semisinusoidal pulse of forward current. The overload capacity of devices with clamped contacts for TT-2 thyristors was increased 1.4 times on the average in comparison with devices having soldered contacts and thermocompensators. 5 ref. G.I.

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1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--BUTADIENE NITRILE RUBBERS -U-

AUTHOR-(05)-FISHER, S.L., RADCHENKO, I.I., PERMINOV, A.M., PODOUBNYY, I.YA., RABINERZON, M.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 256,250

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

DATE PUBLISHED--17MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NITRILE RUBBER, CHEMICAL PATENT, COPOLYMERIZATION, BUTADIENE, ACRYLONITRILE, SOAP, FROST, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1789 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132055

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0132055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE RUBBERS ARE PRODUCED BY AQ. EMULSION COPOLYM. OF BUTADIENE WITH ACRYLONITRILE IN THE PRESENCE OF FREE RADICAL TYPE INITIATORS, EMULSIFIERS COMPRISING SOAPS OF CARBOXYLIC ACIDS, AND S-CONTG. REGULATORS OF THE MOL. WT. AND OF THE MOL. WT. DISTRIBUTION. TO IMPROVE THE FROST RESISTANCE OF THE RUBBERS, THE REGULATORS ARE INTRODUCED IN THE FORM OF AN EMULSION OR SUSPENSION CONSISTING OF PRODUCTS OF ALK. SAPON. OF THE REGULATOR SOLN. IN A FATTY ACID. THE EMULSION OR SUSPENSION IS ADDED IN UNEQUAL PORTIONS DURING THE COPOLYM. PROCESS.

UNCLASSIFIED

USSR

UDC: 8.74

1

BAKONIN, V. N., BALUYEV, A. N., BELOVA, K. M., KURKOV, V. L., RABINOV, V. N.

"Packet Processing System for the BESM-3M Computer"

V sb. Metody vychisleniy (Methods of Computations--collection of works), vyp. 7, Leningrad, Leningrad University, 1971, pp 139-147 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V538)

Translation: The authors consider an operational system for packet processing of a stream of small problems. The system is a development of the "Avtooperator" system worked out at the Computing Center of the Siberian Department of the Academy of Sciences of the USSR. In accordance with this system, a supervisory program is placed in the memory of the BESM-3M to control packet processing, and each problem of the packet is provided with an instruction written in a special language. The supervisory program reads each instruction and prints out the number and time of reception of the problem on the alphanumeric printer. The instruction is then verified, translated into the internal language, and execution begins. It is noted that the supervisory program can model both operations in accordance with the set of codes on the control panel register and on the halt register.

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USSR

BAKONIN, V. N. et al., Metody vychisleniy, vyp. 7, Leningrad, Leningrad University, 1971, pp 139-147

However, if commutation between external devices, changing of magnetic tapes and so forth is required, the supervisory program signals to the operator and prints out the appropriate request on the alphanumeric printer. When a situation arises in which a client's problem is interrupted, the supervisory program prints out standard information on this interruption, performs the next point of the instruction, and returns control to the program of the problem. After a new interruption, the supervisory program goes on to the next point if there has been no special instruction to interrupt this order. Taking the problem from the computer, the supervisory program records its number, the date and elapsed time in a special register, and prints out the time of day and the reason for the removal. Reasons may be: 1) completion of a job in accordance with instructions; 2) lapse of requested time; 3) a situation has arisen which is not provided for in the instructions. The operation of the computer in the packet processing mode is described. Instructions on the supervisory program are given.

2/2

1/2 013 UNCLASSIFIED

TITLE--DETERMINATION OF THE ENTHALPY OF WATER ELECTROCHEMICAL DESINTERGRATION -U-

PROCESSING DATE--13NOV70

AUTHOR-(02)-KHANAYEV, YE.I., RABININA, YE.P.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA KHIMICHESKIKH NAUK, 1970, NR 2, PP 157-159

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

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ENTHALPY, ELECTROCHEMISTRY, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0569

STEP NO--UR/0289/70/000/000/0157/0159

CIRC ACCESSION NO--AP0113460

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0113460

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENTHALPY OF WATER ELECTROCHEMICAL DESINTEGRATION WAS MEASURED BY MEANS OF METALLIC CALORIMETER, ELECTROLIZER WITHOUT DIAPHRAGM. FACILITY: INSTITUT NEORGANICHESKOY KHIMII SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

USSR

AFONIKOVA, N. S., DEGTYAREVA, V. F. LITVIN, YU. A., RABIN'KIN, A. G., SAKOV, YU. A.

"Superconductivity and the Structure of Titanium Alloys with Niobium Subjected to Hydrostatic Pressures of up to 120 kilobars"

Leningrad, Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1096-1101

Abstract: A study was made of the structure and superconducting properties of Ti alloys with 10-90 atomic percent Nb subjected to pressures of up to 120 kilobars. Radiographic analysis indicated that in alloys with 10 and 20 atomic percent Nb under the effect of 30 and 50 kilobars of pressure, respectively, an ω-phase is formed and retained after loading in the metastable state at P = 1 atmosphere. This is accompanied by a significant drop in T_c of the alloys. In an alloy with 10 atomic percent Nb after treatment at P = 120 kilobars in the metastable state, the structure of 1 ω-phase was recorded. The structure and lattice parameters of the ω-phase obtained as a result of the pressure or ordinary heat treatment are similar; however, the formation of the ω-phase during heat treatment leads to a rise in T_c. A study was made of the possible causes of the different effect on T_c of the processes of formation of the ω-phase under pressure or during heat treatment. In alloys with 30 and 40 atomic percent Nb, the P = 120 kilobar effect also caused a

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USSR

UDC 536.42

ALYMOV, A. V., LAUKHIN, V. N., RABIN'KIN, A. G., and SMIRNOVA, A. S., Institute of Chemical Physics of the Academy of Sciences USSR

"Device for the Investigation of Phase Transitions Pressurized up to 40 kbar in a 2—400 °K Interval"

Moscow, Pribory i Tekhnika Eksperimenta, No 1, Jan-Feb 72, pp 185—187

Abstract: A press designed for the investigation of superconductivity, compressibility, and phase transitions of first and second type of different materials under pressures up to 40 kbar is described by reference to its layout. The design of the press makes it possible to change the load on specimens smoothly and reversibly from 0 to 2.5—3 tons in a 2—400 °K temperature interval. Unlike the generally in magnetic measurements under pressure used beryllium bronze, the high-pressure chamber and punches are made of the new 40KhNYu non-magnetic dispersion-hardening material (HRC 59—60, tensile strength up to 200 kg/mm^2). The

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USSR

ALYMOV, A. V., et al., Pribory i Tekhnika Eksperimenta, No 1, Jan-Feb 72, pp 185-187

pickups of the device register changes in the length of specimens by changing load or temperature, the developed power of the press, and the susceptibility of the specimen under pressure by changing temperature. The phase transition curves of the RbI salt under pressure at 293, 77, and 4.2 °K are shown. Four illustr., one biblio. ref.

2/2

USSR

UDC: 537.312.62

RABIN'KIN, A. G., KLISHANOVA, L. A., PRONINA, L. N.

"Concerning the Effect of High-Pressure Treatment on the Phase Composition and Superconducting Properties of Zirconium-Niobium Alloys"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 141-147 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D551)

Translation: The paper presents the results of a study of the temperatures of transition to the superconducting state, critical fields and phase composition of alloys of zirconium with 2-40 atomic percent niobium after they have been subjected to high hydrostatic pressure treatment (35-65 kbar). It is found that just as in the case of pure zirconium, the application of high pressure leads to the formation of an ω-phase in alloys with 2-30 atomic percent niobium although the ω-phase is fixed by quenching only in alloys with 7-10 atomic percent niobium. The resultant high-pressure ω-phase is retained in the specimens after pressure relief, the quantity of ω-phase increasing considerably in alloys with 7-10 atomic percent niobium. Alloying of zirconium with niobium reduces the pressure at which the ω-phase arises as compared with pure niobium. In all cases, the formation of high-pressure ω-phase in the alloys or a reduction in its quantity lowers the T_k, widens the temperature range in which a transition to the superconducting state takes place, and reduces H_{k2}. One illustration, one table, bibliography of nine titles. Authors' abstract.

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USSR

UDC 669.296.5.293.018.5.537.312.62.669.98

RABIN'KIN, A. G., KLISHANOVA, L. A., PRONINA, L. N.

"The Influence of High-Pressure Working on Phase Composition and Superconducting Properties of Zirconium-Niobium Alloys"

Probl. Sverkhprovodyashch. Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp. 141-147. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I792 by the authors).

Translation: Results are presented from a study of the transition temperatures T_c, critical fields and phase composition of alloys of Zr with 2-40 at.% Nb after treatment by high hydrostatic pressure (35-65 kbar). As is the case for pure Zr, the application of high pressure results in the formation of an ω phase in alloys with 2-30 at.% Nb whereas during hardening the ω phase is fixed only in alloys with 7-10 at.%.Nb. The high-pressure ω phase is retained after removal of the pressure in the specimens, its quantity increasing significantly in alloys with 7-10 at.% Nb. Alloying of Zr with niobium decreases the pressure at which the ω phase is developed. In all cases the formation of the high-pressure ω phase in the alloys or an increase in its quantity causes a reduction in T_c, an expansion of the temperature interval over which the transition occurs, and a decrease in the value of H_{c2}. 1 fig; 1 table; 9 biblio refs.

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1/2 - 011 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--TANTALUM NONONITRIDE PREPARATION -U-

AUTHOR-(05)-NERZHANOV, A.G., BUTAKOV, A.A., SHEKHTMAN, V.SH., BOROVINSKAYA, I.P., RABINKIN, A.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,365

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

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TANTALUM COMPOUND, CHEMICAL PATENT, NITRIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1444 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126975

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126975

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CUBICALLY MODIFIED TA MONONITRIDE IS PREPD. BY HEATING TA IN N. FACILITY: FILIAL INSTITUTA KHIMICHESKOY FIZIKI AN SSSR.

UNCLASSIFIED

USSR

UDC 537.312.62(539.893)

RABIN'KIN, A. G., KLISHANOVA, L. A., and PRONINA, L. N.

"Influence of High Pressure Treatment on Phase Composition and Superconducting Properties of Zirconium-Niobium Alloys"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 141-147

Translation: Results are presented from a study of the transition temperature, critical fields, and phase composition of alloys of zirconium with 2-40 at.% Nb after they are subjected to high hydrostatic pressure (35-65 kbar).

It is demonstrated, that, as for pure Zr, the application of high pressure results in formation of an ω phase in the alloys with 2-30 at.% Nb, whereas annealing fixes the ω phase only in alloys with 7-10 at.% Nb. The high pressure ω phase formed is retained in the specimens after pressure removal, its quantity being significantly increased in alloys with 7-10 at.% Nb. Alloying of Zr with niobium decreases the pressure at which the ω phase develops in comparison to pure Zr. In all cases, the formation of the high pressure ω phase or the increase in its quantity causes a reduction in T_c, an expansion of the temperature interval over which the transition to the superconducting state occurs, and a decrease in the value of H_{c2}.

1 figure; 1 table; 9 biblio. refs.

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1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PROPERTIES OF HIGH CHROMIUM WEAR RESISTANT CAST IRONS -U-

AUTHOR-(02)-KANTENIK, S.K., RABINKIY, R.YA.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, (1), 33-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CAST IRON, IMPACT STRENGTH, TENSILE STRENGTH, HARDNESS, WEAR RESISTANT METAL, CHROMIUM ALLOY/(U)ICHKH16MT CAST IRON, (U)ICHKH28N2 CAST IRON, (U)ICHKH15MZ CAST IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1927 STEP NO--UR/0128/70/000/001/0033/0034

CIRC ACCESSION NO--AP0132189

UNCLASSIFIED

2/2 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0132189 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE KINDS OF WEAR RESISTANT CAST IRONS: ICHKH28N SUB2, ICHKH15MZ, AND ICHKH16MT (C 2.7-3.0, 3.0-4.0, 2.8-3.1, SI 0.7-1.4, MUCH LESS THAN 1.0, MUCH LESS THAN 1.0; MN 0.5-0.8, 0.5-0.9, MUCH LESS THAN 1.0; CR 28-30, 12-18, 15-17; NI 1.5-3.0, MINUS, MINUS; MO MINUS, 2.0-4.0, 1.0-1.5; AND TI MINUS, MINUS, 0.5-1.0 MT. PERCENT) WERE MELTED IN A BASIC FURNACE, DEOXIDIZED WITH FE-MN, AND IN CASE OF THE CAST IRON ICHKH16MT ALLOYED WITH TI. AFTERWARDS THE FLUIDITY SHRINKAGE, (LINEAR AND VOL.), BENDING AND IMPACT STRENGTHS, AND HARDNESS WERE DETD. THE LEAST SHRINKAGE AND BEST COMBINATION OF MECH. PROPERTIES AND ECONOMICAL ADVANTAGES HAD THE CAST IRON ICHKH16MT. THE CAST IRON ICHKH28N2 WAS LESS RESISTANT, WHILE THE CAST IRON ICHKH15MZ WAS LESS ECONOMICAL. TENSILE STRENGTH WAS (IN THE SAME ORDER AS ABOVE) 40.7, 42.9, 39.6; KG PER MM PRIME2. IMPACT STRENGTH WAS 0.44, 0.44, 0.48 KG-M PER CM PRIME2. HARDNESS WAS 555, 588, 600 HB KG PER MM PRIME2.

UNCLASSIFIED

USSR

UDC 669.71:621.789.004

RABINOVICH, A. Kh.

Termomekhanicheskaya Obrabotka Alyuminiyevykh Splavov (Thermomechanical Treatment of Aluminum Alloys), Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 161 pp

Translation of Annotation: An attempt was made to summarize in this book the accumulated material on thermomechanical treatment of aluminum alloys. This type of treatment is economical in many instances because it decreases the production cycle of items, is less labor-consuming, and requires fewer supplementary materials. Methods of combining deformation and heat treatment of aluminum alloys are also presented. The book is intended for engineers and technicians dealing with the improvement of mechanical properties of aluminum alloys and perfecting the technological processes of their treatment. There are 13 tables, 74 figures, and 89 references in the book. It was approved for publishing by the editorial board of the Bashkiriya NTO Office of the Machine-Building Industry.

Translation of Table of Contents:

USSR

RABINOVICH, A. Kh., Termomekhanicheskaya Obrabotka Alyuminiyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 161 pp

2/5

USSR

RABINOVICH, A. Kh., Termomekhanicheskaya Obrabotka Alyuminiyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 161 pp

USSR

RABINOVICH, A. Kh., Termomekhanicheskaya Obrabotka Alyuminiyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 161 pp

4/5

USSR

RABINOVICH, A. Kh., Termomekhanicheskaya Obrabotka Alyuminiyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 161 pp

5/5

AP0048482 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: 4R0070

105150p Pyroelectric effect and spontaneous polarization of gadolinium molybdate. Rabinovich, A. Z.; Sil'vonov, A. I. (USSR). *Kristallografiya* 1970, 15(1), 181–3 (Russ). Temp. dependence of the pyroelec. coeff. ($\gamma = dP_r/dT$) of $Gd_2(MoO_4)_3$ single crystals was measured at 145–170°. (P_r is the remanent polarization). The crystals were grown by the Czochralski method; disk-shaped samples were provided with vacuum-deposited Ag electrodes. The pyroelec. current exhibits a temp. hysteresis of 5–8° around the Curie temp. (T_c) of 159°. The character of the γ vs. temp. curve can be altered substantially but reversibly after cooling the sample from 170° under a polarizing field of ~5 kV/cm. This is attributed to the existence of 2 types of ferroelec. domains with different switching properties: certain domains cannot be switched by the elec. field. Temp. dependence of the P_r was obtained by integrating graphically the γ vs. temp. curves. The P_r is interpreted as being the sum of contributions from both types of domains.
P. Glogar

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REEL/FRAME
19800190

18 pt

USSR

UDC: 531.36.001.24

RABINOVICH, B. I.

"Amplitude Stabilization of Longitudinal Oscillations in a Container of Space Equipment"

Moscow, Izvestiya Akademii nauk SSSR -- Energetika i transport, No 5, 1972, pp 135-138

Abstract: The problem dealt with by this paper concerns oscillations along the longitudinal axis of a liquid-fueled rocket carrying space research equipment. The analytic method used is carried over from an earlier paper by the author named above, published in the same journal (Ob ustoychivosti prodol'nykh kolebaniy korpusa nositeley kosmicheskikh apparatov -- Stability of Longitudinal Oscillations in a Carrier of Space Equipment -- No 5, 1971) and considers a system of five equations describing small oscillations. The liquid in the fuel line is considered as a system with a single degree of freedom, and the container itself as a system with a finite number of degrees of freedom. As a result of this analysis, the areas of phase and amplitude stability and of dynamic instability can be plotted in the plane of the characteristic parameters of the object. It is found that the most effective means of

1/2

USSR

UDC: 531.36.001.24

RABINOVICH, B. I., Izvestiya Akademii nauk SSSR -- Energetika i transport, No 5, 1972, pp 135-138

ensuring amplitude stabilization is to reduce the oscillation frequency of the liquid in the fuel lines.

2/2

USSR

UDC 531.36

RABINOVICH, B. I., Moscow

"On Stability of Longitudinal Oscillations of the Body of Space Vehicle Carriers"

Moscow, Energetika i Transport, No 5, Sep-Oct 71, pp 104-107

Abstract: The disturbed motion in direction of the longitudinal axis of the body of carriers of space vehicles was investigated with due regard for oscillations of the liquid in fuel lines, the elastic deformation of the body, and dynamics of the power plant. The problem of dynamic stability of the closed system body-liquid-engine is formulated as a structural stability problem of a controlled member in the vicinity of two frequencies at which the instability of the system usually develops. The dynamic stability limits of the closed system in space are discussed by reference to a diagram plotted in dimensionless parameters on the basis of which a qualitative analysis of two instability cases is presented. In the first case, the instability starts on the frequency of natural oscillations of the liquid in the main of the oxidant and develops on the frequency of the first tone of natural oscillations of the body. In the

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USSR

RABINOVICH, B. I., Energetika i Transport, No 5, Sep-Oct 71, pp 104-107

second case, it starts and develops on a frequency close to the frequency of natural oscillations of the liquid in the main of the oxidant. One illustr., ten formulas, nine biblio. refs.

2/2

USSR

UDC 546.821'28:67

RABINOVICH, B. S., RADOVSKIY, I. Z., KOZLOV, F. N., SIDORENKO, F. A., and GEL'D, P. V., Ural Polytechnical Institute imeni S. M. Kirov

"Electrical and Magnetic Properties of TiSi and $TiSi_2$"

Moscow, Neorganicheskiye Materialy, Vol 6, No 12, Dec 70, pp 2202-2204

Abstract: The composition and structural characteristics of TiSi and $TiSi_2$ preparates were studied chemically, metallographically, roentgenographically, and densitometrically. The data produced confirmed the single-phase and stoichiometric nature of the silicides, as well as the great complexity of their lattices.

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UDC 546.821'28:67

RABINOVICH, B. S., RADOVSKIY, I. Z., KOZLOV, F. N., SIDORENKO, F. A., and GEL'D, P. V., Ural Polytechnical Institute imeni S. M. Kirov

"Electrical and Magnetic Properties of TiSi and $TiSi_2$"

Moscow, Neorganicheskiye Materialy, Vol 6, No 12, Dec 70, pp 2202-2204

Abstract: The composition and structural characteristics of TiSi and $TiSi_2$ preparates were studied chemically, metallographically, roentgenographically, and densitometrically. The data produced confirmed the single-phase and stoichiometric nature of the silicides, as well as the great complexity of their lattices.

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USSR

UDC 669.71.472(088.8)

BALDOVSKIY, L. A., VOLODCHENKO, V. O., GRECHUKHIN, N. V., MELIKYANTS, R. V., MITREYKIN, N. V., and RABINOVICH, B. V.

"Device for Sampling Melted Electrolyte"

USSR Author's Certificate No 271105, Filed 29/11/68, Published 19/08/70 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G145 P)

Translation: A device for sampling a melted electrolyte, including a spring-mounted perforated cup with a support rod, is presented. To increase the effectiveness of its operation the outer surface of the cup is wrapped with paper and contains a concentrically mounted cylinder, equipped with cells mounted on a spiral and fastened to the supporting rod by a quick-change joint such as a wedge.

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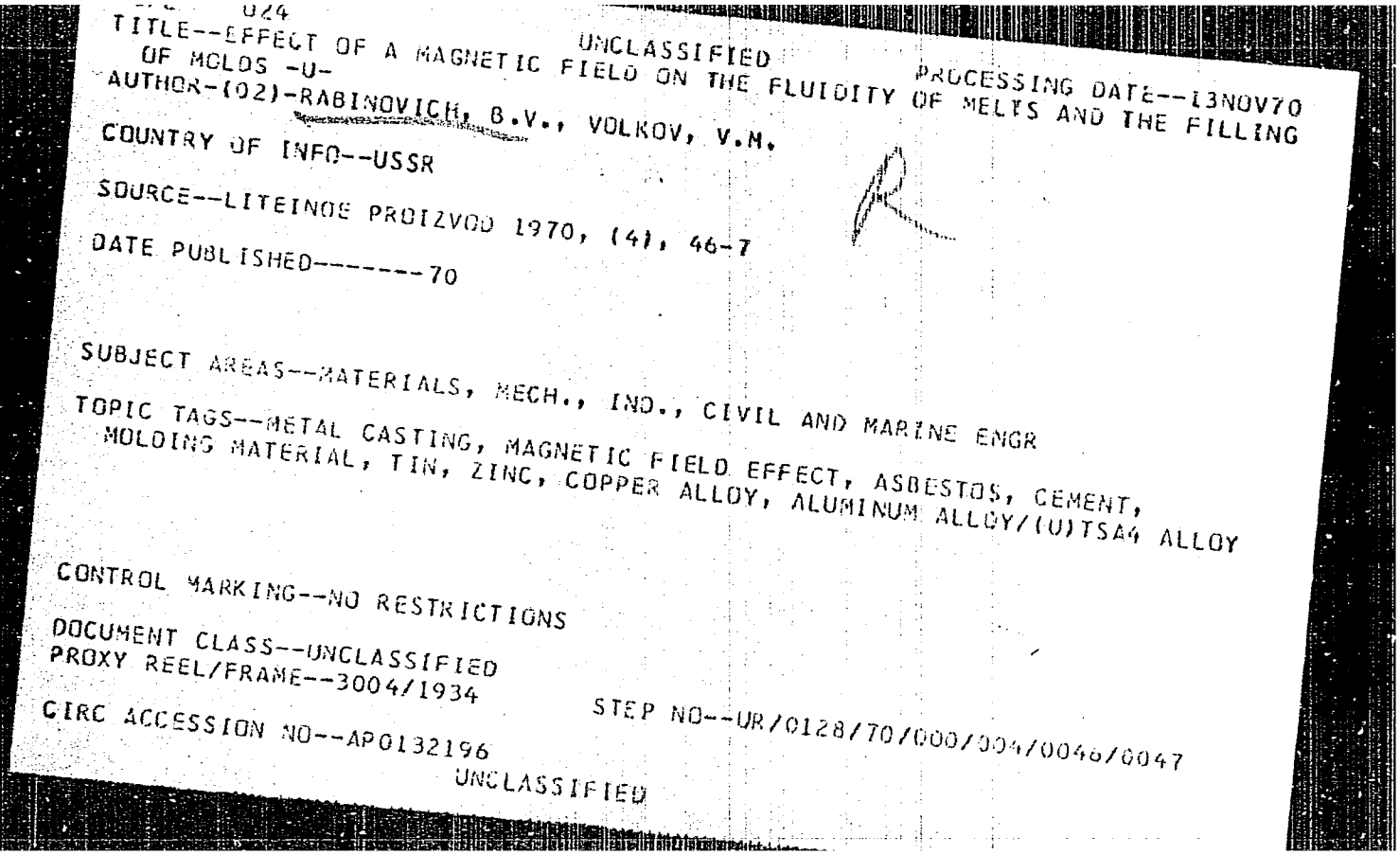


024 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EFFECT OF A MAGNETIC FIELD ON THE FLUIDITY OF MELTS AND THE FILLING OF MOLDS -U-

AUTHOR-(02)-RABINOVICH, B.V., VOLKOV, V.M.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD 1970, (4), 46-7

DATE PUBLISHED-------70

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

TOPIC TAGS--METAL CASTING, MAGNETIC FIELD EFFECT, ASBESTOS, CEMENT, MOLDING MATERIAL, TIN, ZINC, COPPER ALLOY, ALUMINUM ALLOY/(U)TSA4 ALLOY

CONTROL MARKING--NO RESTRICTIONS

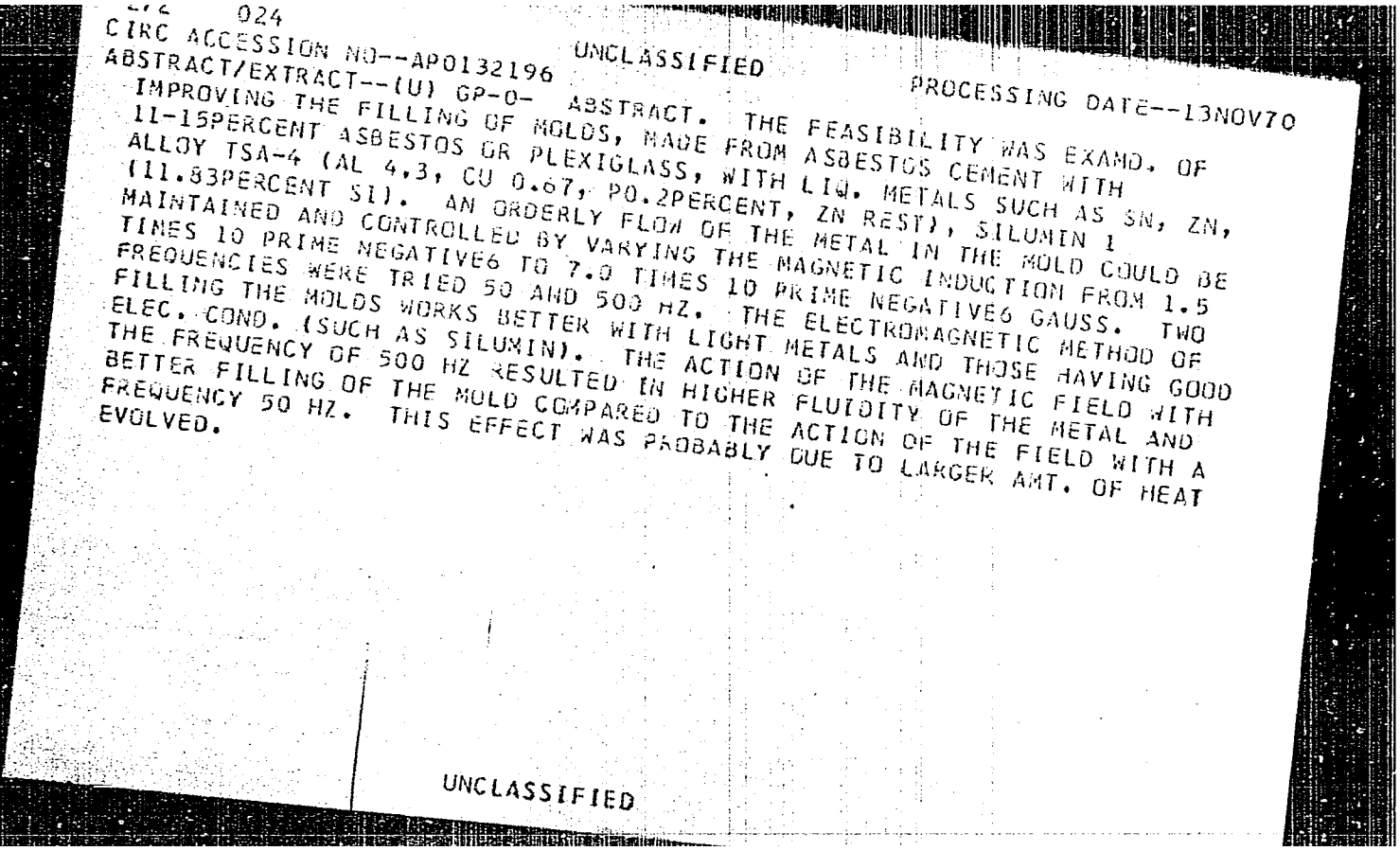
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1934

STEP NO--UR/0128/70/000/004/0046/0047

CIRC ACCESSION NO--AP0132196

UNCLASSIFIED



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CIRC ACCESSION NO--AP0132196 UNCLASSIFIED PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FEASIBILITY WAS EXAMD. OF IMPROVING THE FILLING OF MOLDS, MADE FROM ASBESTOS CEMENT WITH 11-15PERCENT ASBESTOS OR PLEXIGLASS, WITH LIQ. METALS SUCH AS SN, ZN, ALLOY TSA-4 (AL 4.3, CU 0.67, PO.2PERCENT, ZN REST), SILUMIN 1 (11.83PERCENT SI). AN ORDERLY FLOW OF THE METAL IN THE MOLD COULD BE MAINTAINED AND CONTROLLED BY VARYING THE MAGNETIC INDUCTION FROM 1.5 TIMES 10 PRIME NEGATIVE6 TO 7.0 TIMES 10 PRIME NEGATIVE6 GAUSS. TWO FREQUENCIES WERE TRIED 50 AND 500 HZ. THE ELECTROMAGNETIC METHOD OF FILLING THE MOLDS WORKS BETTER WITH LIGHT METALS AND THOSE HAVING GOOD ELEC. COND. (SUCH AS SILUMIN). THE ACTION OF THE MAGNETIC FIELD WITH THE FREQUENCY OF 500 HZ RESULTED IN HIGHER FLUIDITY OF THE METAL AND BETTER FILLING OF THE MOLD COMPARED TO THE ACTION OF THE FIELD WITH A FREQUENCY 50 HZ. THIS EFFECT WAS PROBABLY DUE TO LARGER AMT. OF HEAT EVOLVED.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610016-1"

USSR

CHERVONENKIS, Ya. M., RABINOVICH, D. M. UDC 621.316.019.3.003.1

"Problems of Technical-Economic Estimates of Municipal Network Reliability

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 204-207 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 304)

Translation: An effort is made at quantitative evaluation of the provisional losses from failure to deliver 1 kilowatt-hour in the residential sector of a city. The results of questioning a large number of residential consumers are used.

1/1

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L. UDC 8.74

"Problems of Classifying Computer Systems"

Novosibirsk, Vychisl. sistemy--sbornik (Computer Systems--collection of works), vyp. 48, 1971, pp 3-15 (from RZh-Matematika, No 1, Jan 73, abstract No 1V780 by V. Mikheyev)

Translation: A classification of computer facilities is considered in which three levels are distinguished which are, in turn, divided into stages. On the upper level, all computer facilities are classified according to their interdependence and also according to their structural (and programming) uniformity. On the middle level, stages of collectivization of the various devices in the computers which make up the system are distinguished. On the lower stage, all computer systems are divided according to the connections between the devices which are part of their make-up. A computer system is understood to mean any aggregate of computer facilities with more than one processor (including auxiliary processors) connected by data transmission lines and centrally controlled. A processor is defined as a set of computer equipment (in the simplest case a part of a digital computer) designed for

1/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

processing information (including programming information) provided in the algorithm for solution of a problem; this processing takes place after input of the initial data and the program for solution of the problem. An auxiliary processor is understood to mean a device designed for some kind of auxiliary data processing: editing input and output data, solving central control problems, etc. Computer systems are subdivided into: 1) indivisible computer facilities, and 2) systems of computers. Indivisible computer facilities are systems constructed on the basis of several processors (including auxiliary processors), none of which is capable of independent operation separate from the system. Systems of computers are computer facilities constructed on the basis of separate computers in which each of the machines making up the system is capable of autonomous operation. Each of these groups, in turn, is divided into: homogeneous systems and heterogeneous systems. A homogeneous system is defined as a computer facility made up of several identical processors (or computers), not counting auxiliary machines. A heterogeneous system is understood to mean a computer facility comprised of several processors (or computers) of different types, not counting auxiliary machines. Systems of homogeneous computers are divided into: a) systems of

2/4

• USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

computers with uniform software; b) systems of computers with differing software. Complexes are divided into two subclasses: a) complexes with computers oriented toward solution of problems of definite classes; b) complexes with computers oriented for different operating modes. All systems of computers are divided into two classes: multiprocessor (multicomputer) systems and single-processor systems. Single-processor systems are computer facilities with a single central processor or computer and one or more auxiliary processors (or computers which handle auxiliary data processing). On the next stage of classification, all systems are divided into two groups: with centralized access to the system by means of collectivized I/O devices; and with access to the system only through the external devices of the computers which comprise the system. The following groups of computer systems are differentiated with respect to the kinds of connections between computers (processors): 1) computer facilities with data-coupled computers (processors) in which the computers (processors) of the system can exchange only functional information; 2) computer facilities with computers (processors) connected only with respect to control. The first group is subdivided

3/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

into: oriented computer facilities if transmission of information is possible only on one side -- from one computer (processor) to another; centralized computer facilities if transmission of functional information is possible both ways; partially oriented computer facilities if the system includes both oriented and unoriented subsystems. The second group is subdivided into: directional computer facilities if control coupling is always oriented; nondirectional computer facilities if control connections are unoriented. Depending on the constancy of their make-up as well as functional and controlling connections, computer facilities are divided into: 1) computer facilities with a fixed structure (if the make-up, all connections, and their orientation remain unchanged during operation of the system); 2) computer facilities with variable structure (if the make-up of the system, the functional and controlling connections, and their orientation may vary during operation of the system). Bibliography of ten titles.

4/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L.

"Problems of Classification of Computer Systems"

Vychisl. Sistemy [Computer System -- Collection of Works], No 48, Novosibirsk, 1971, pp 3-15 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V780 by V. Mikheyev).

Translation: A classification of computer systems (CS) is studied, in which three "levels," are distinguished, divided, in turn, into stages. At the first level, all CS are classified according to their interdependence, as well as their structural (and program) homogeneity. At the middle level, stages of community of various computer devices included in the system are separated. At the lower level, all computer systems are divided as a function of the connections between the devices included in their composition. A computer system refers to any set of computer devices with more than one processor (including supplementary processors), connected by information transmission lines and controlled in a centralized manner. The processor means a set of computer equipment (in the simplest case, a portion of a digital computer) designed for processing of information (including program information) as called for by problem solving algorithms; this processing occurs after the initial data and problem solv-

1/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosibirsk, 1971, pp 3-15.

ing algorithm are input. A supplementary processor means a device designed for supplementary processing of information, such as: editing of input and output information, solution of dispatchers problems, etc. Computer systems are divided into: 1) indivisible CS; 2) systems of computers. Indivisible CS refer to systems based on several processors (including supplementary processors), when it is impossible for any of the processors to operate separately from the rest of the system. Systems of computers refer to CS based on individual computers, when independent operation of each machine included in the composition of the system is possible. Each of these groups in turn is divided into: homogeneous systems and heterogeneous systems. A homogeneous system refers to a CS, the composition of which includes several identical processors (or computers), not including supplementary processors. A heterogeneous system refers to a CS, including several processors (or computers) of different types, not counting supplementary processors. In systems of homogeneous computers, we distinguish: a) systems of computers with homogeneous software; b) systems of computers with heterogeneous software. Complexes include two subclasses: a) complexes with computers oriented toward the performance of tasks of definite types; b) complexes with computers oriented toward

2/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosibirsk, 1971, pp 3-15.

various operating modes. All computer systems are divided into two classes: multiprocessor (multi-machine) and single-processor systems. Single-processor systems consist of CS with central processor (or computer) and one or more supplementary processors (or machines performing supplementary information processing). In the next stage of classification, all systems are divided into two groups: with centralized access to the system through general input-output devices; with access to the system only through the computers included in the system. Systems can be divided into the following groups of computer systems according to types of connections between computers (processors): 1) CS with information connections between machines (processors), when the machines (processors) of the system can exchange only functional information; 2) CS with machines (processors) coupled only by control. The first group, in turn, is subdivided into: oriented CS, if transmission of functional information is possible only in one direction -- from one machine (processor) to another; nonoriented CS, if transmission of functional information is possible in both directions; partially oriented CS, if the system has both oriented and unoriented subsystems. The second group is divided into: directed CS, if the control couplings are always oriented; undirected CS, if the control couplings are oriented. Depending

3/4

USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosibirsk, 1971, pp 3-15.

on the constancy of the composition, as well as the functional and control connections, CS are divided into: 1) CS with constant structure (if in the process of functioning of the system, its compositions, all couplings and their orientation remain unchanged); 2) CS with variable structure (if the composition in the system and the functional and control couplings, as well as their orientations, can change during the functioning of the system). 10 Biblio. Refs.

4/4

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 034

TITLE--EFFECT OF TRAPS ON VOLT AMPERE CHARACTERISTICS OF A P,N,N PRIME POSITIVE DIODE DURING THE BIOMOLECULAR RECOMBINATION OF CARRIERS IN A

AUTHOR-(03)-KARAGEORGIYALKALAYEV, P.M., LEYDERMAN, A.YU., RABINOVICH, F.YA.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK UZB. SSR, SER. FIZ. MAT. NAUK 1970, 14(2), 47-52

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

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--ELECTRON TRAP, VOLT AMPERE CHARACTERISTIC, RECOMBINATION COEFFICIENT, SEMICONDUCTOR DIODE, CARRIER DENSITY, HOLE MOBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1016 STEP NO--UR/0166/70/014/002/0047/0052

CIRC ACCESSION NO--AP0124675

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE RRAPS ON THE CURRENT VOLTAGE CHARACTERISTIC OF THE STRUCTURE IS STUDIED ON THE CONDITION THAT THE RECIPROCAL VALUE OF THE HOLE LIFETIME, TAU PRIME NEGATIVE1 SUBP, INCREASES LINEARLY WITH NONEQUIL. HOLE CONCN. WHEN BIMOL. RECOMBINATION TAKES PLACE. THE TRAPPING OF CURRENT CARRIERS CAUSES AN INCREASE IN TH EBIMOL. RECOMBINATION COEFF. AND THUS A DECREASE IN MIN. HOLE CONCN. WHEN ALL TRAPS ARE FILLED, THE BIMOL. RECOMBINATION WITH TAU SUBP EQUALS 1-BN BECOMES UNIMOL., WITH TAU SUBP EQUALS 1-BN SUBT, WHERE N AND N SUBT ARE CONCNS. OF CARRIERS AND TRAPS, RESP. FACILITY: FIZ. TEKH. INST. IM. STARODUBTSEVA , TASHKENT, USSR.

UNCLASSIFIED

Pulse Techniques

UDC: 621.396.963.325(088.8)

USSR

ZAGIROV, U. G., SPOKOYNYY, M. M., RABINOVICH, G. L., YAKUSHEV, Zh. F.

"A Device for Reception of Pulse Radio Signals"

USSR Author's Certificate No 267708, filed 1 May 67, published 4 Aug 70 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D42 P)

Translation: The proposed device contains an antenna pickup of azimuthal marks, a reception module, a module for shaping a range origin pulse, a threshold stage, an accumulator, an indicator of operability of the reception channel, an input/output selector switch, and a pilot signal shaper which includes a pilot signal oscillator and a modulator. In order to keep a constant check on the working capacity of the receiving device directly from the mark on the display for the range and azimuth operator, the device is equipped with a stage for time coincidence of signals from the outputs of the threshold stage and the modulator of the pilot signal shaper; the modulator trigger pulses are sent from the azimuthal mark pickup through a switch whose controlling input is connected to the output of the channel for shaping the pulse of range origin through the delay line of the pilot signal shaper.

1/1

RABINOVICH G.L.

Acc. Nr: AA0108702 Ref. Code: UR 0482

Abstracting Service:

Soviet Inventions Illustrated, Section II Electrical, Derwent, 3/10

228073 TURNING ANGLE OF SHAFT can be corrected by rythmic and pulse forming network with following set-up. In the transistorised system shown here, the negative rythmic pulses are applied to the base of the transistor (1). Transistors (3) and (4) are shut when correcting pulse is absent. The temperature stabilisation of the transistor (4) is achieved by the resistor (5) and the stabiliser (8).

When the transistor (2) is excited by the rythmic pulses, the current is passing through the stabiliser (7), these pulses are formed in the transformer (9) and passed to the balance line (11).

When a negative pulse arrives to the base (3), it opens transistor (4), which shunts stabiliser (7). As a result in the transformer (9) is formed a pulse of a larger amplitude; this depends on the voltage of the stabiliser (7).

18

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REEL/FRAME
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AA0108702

To minimise distortion of the pulses there is dc. magnetisation of the core (9) which is regulated by the resistor (6).

Similar transformer (10) is used at the output of the line (11).

13.3.67. as 1139229/26-24, ANISHCHENKO, L.M. et al.
(2.7.69) Bul. 31/8.10.68. Class 21a, Int. Cl. H 03k.

AUTHORS: Anishchenko, L. M.; Yevsyukov, V. V.; Lopatin, V. A.; Rabinovich, G. L.; Sukhenko, P. V.

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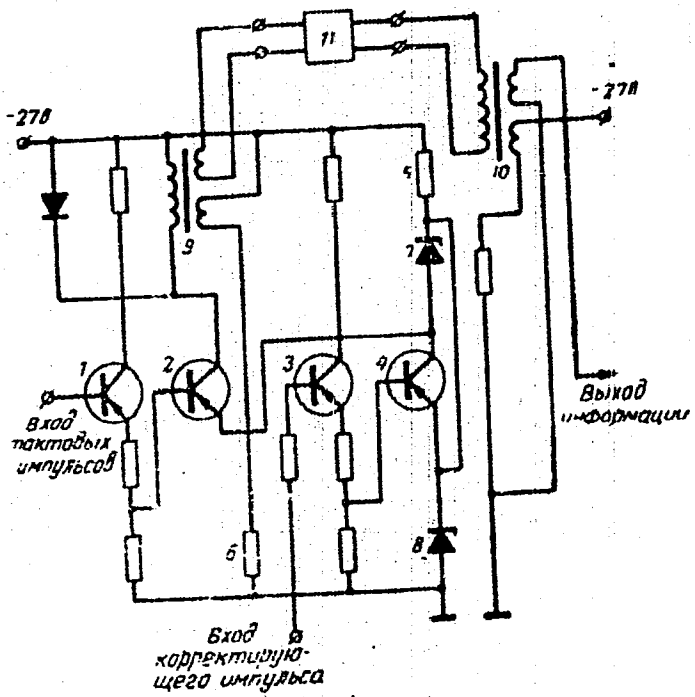

3/3

19900452

UDC: 621.396.963

USSR

LOPATIN, V. A., SOL'NIKOV, I. M., RABINOVICH, G. L., YAKUSHEV, Zh. F.

"A Device for Introducing Graphic Information Into Analog Azimuth-Range Indicators"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268514, filed 3 Apr 69, pp 43-44

Abstract: This author's certificate introduces a device for feeding graphic information into analog azimuth-range indicators. The unit contains an azimuth mark pickup and an interrogation pulse shaper which consists of a shaper control unit, shapers, a register for control of electronic keys, electronic keys and an interrogation pulse decoder. Also included in the device are an amplifier module, a code-to-time converter, a unit which shapes graphic information pulses, and a calibrated range mark pickup. As a distinguishing feature of the patent, the precision of plotting an electronic route map is improved and operation is made more convenient by adding a range code memory unit whose inputs are connected through the interrogation pulse shaper to the azimuth mark pickup, while the outputs are connected through the amplifier module to the record inputs of the code-to-time converter. Connected to the counter input of this converter is the output of the calibrated range mark pickup.

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1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SOME PROBLEMS OF TERMINOLOGY RELATED TO ESTIMATION OF QUALITY LEVEL -U-

AUTHOR-(02)-VENIAMINOV, YU.S., RABINOVICH, G.O.

COUNTRY OF INFO--USSR

SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 79-80

DATE PUBLISHED--------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--QUALITY CONTROL, INDUSTRIAL PRODUCTION, NATURAL LANGUAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/2034 STEP NO--UR/0422/70/000/002/0079/0080

CIRC ACCESSION NO--AP0100599

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 010

CIRC ACCESSION NO--AP0100599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CERTAIN PROBLEMS OF TERMINOLOGY ARE DISCUSSED THAT ARE RELATED TO THE PROBLEM OF QUALITY OF MATERIALIZED (THE PRODUCTS) AND NONMATERIALIZED OUTCOMES OF WORK, AS WELL AS THE PROCESS OF THE WORK PROPER.

89

UNCLASSIFIED

USSR

UDC: 621.317.757

GUREVICH, V. E., AGAPOV, G. V., BORUKHOVICH, A. P., DURETS, Ye. Ya., RABINOVICH, G. V., Leningrad Electrical Engineering Institute of Communications imeni Professor M. A. Bonch-Bruyevich

"An Analyzer of the Correlation Characteristics of a Pulse-Code Signal"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331322, Division G, Filed 6 Nov 69, published 7 Mar 72, p 134

Translation: This Author's Certificate introduces: 1. An analyzer of the correlation characteristics of a pulse-code signal in systems for data transmission by uniform codes. The analyzer contains a controllable delay unit, a coincidence circuit, a source of synchronizing pulses and a pulse counter. As a distinguishing feature of the patent, the device is designed for separate measurement of the correlation factor of two signal trains spaced by the same time interval but located in different places of the code groups. Connected between the output of the coincidence circuit and the input of the pulse counter is an additional coincidence circuit whose controlling input is connected through an additional controllable delay unit to the

output of the source of synchronizing pulses. 2. A modification of this analyzer distinguished by the fact that the effect which the degree of channel loading has on the result is eliminated by connecting a silent signal code group recognition unit to the input of the device. The output of the recognition device is connected through a channel time separation device to the inputs of threshold channel accumulators of a predetermined number of pulses and to the inputs of channel coincidence circuits. The channel time separation device is controlled from the source of synchronizing pulses. The controlling inputs of the channel coincidence circuits are connected to the potential outputs of the corresponding channel accumulators, and the output signals from the coincidence circuits are fed to the input of the silent signal control group counter, the input of each channel accumulator being connected through an inverter to the reset circuit of this accumulator. The pulse outputs of the channel accumulators are connected to the input of the counter for the total number of silence intervals.

2/2

Pulse Technique

USSR

UDC 621.374

AGAPOV, G. V. and RABINOVICH, G. V.

"Estimating the Interference Resistance of Real Storage Elements of Pulse Signals"

Moscow, Radiotekhnika, Vol 26, No 3, 1971, pp 53-57

Abstract: The authors propose a methodology for calculating a generating function for the probability of the first operation of a real storage element under the effect of any of a set of code groups which result in exceeding the threshold. This was achieved by introducing a concept on critical points for a set of code groups. The proposed methodology makes it possible to simplify significantly the procedure for calculating generating functions. The mean value and dispersion of the number of tests up to the first operation of the storage element which reacts to a set of code groups are reduced by approximately m and m^2 times for small values of p in comparison with the same characteristics in the case of an ideal storage element where p is the probability of the appearance of statistically independent, identical pulses of the input signal with a determined cadence interval. These results must be considered in estimating the interference resistance of real storage elements for pulse signals. Original article: one figure, 10 formulas, and seven bibliographic entries.

1/1

USSR

UDC: 621.373.431(088.8)

RABINOVICH, G. V., FEDOROV, G. V.

"A Generator Which Produces Series of Pulses With Controllable Intervals Within the Series"

USSR Author's Certificate No 263661, filed 26 Sep 68, published 5 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G182 P)

Translation: This Author's Certificate introduces an Oscillator which generates pulse trains with controllable intervals within a train. The device contains a self-oscillating multivibrator which sets the prf for a series, a dipp oscillator which determines the length of a pulse series and is connected to an AND circuit, and an accumulator device. To control the length of intervals within a series, an inhibit circuit is connected to the output of the AND circuit in parallel with the accumulator device. The input of the inhibit circuit is connected to the output of a slave multivibrator which is triggered by the output signal of the accumulator device.

1/1

USSR

UDC 621.373.43

RABINOVICH, G. V., FYODOROV, G. V.

"An Oscillator Which Generates Pulse Series with Controllable Intervals Between Pulses"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, 10 Feb 70, p 36, Patent No 263661, Filed 26 Sep 69

Translation: This Author's Certificate introduces an oscillator which generates pulse series with controllable intervals between pulses. The unit contains a self-oscillating multivibrator which sets the repetition frequency for the pulse series, a kipp oscillator which determines the duration of the pulse series and is connected to an AND circuit, and an accumulator. The oscillator differs because to control the duration of intervals within a series, a blocking circuit is connected in parallel with the accumulator to the output of the AND gate. The blocking input of this circuit is connected to the output of a slave multivibrator triggered by an output signal from the accumulator.

1/1

RABINOVICH, I.

Econ

PROBLEMS OF UTILIZATION OF FIXED CAPITAL DISCUSSED

[Article by V. Sollmanovskiy and I. Rabinovich, Candidates of Economic Sciences, Moscow, Material'no-tekhnicheskoye Snabzheniye, Russian, No 11, 1971, pp 23-30]

[illegible] studying the objective processes occurring in the area of the economy and organization of material and technical supply, in practice, all investigators note the high rates of growth of the volumes of warehouse development of warehouse supply is duo to many reasons, specifically, to an increase in the norms of through shipment, the attempt by enterprises to reduce production stocks, and a number of other factors. Nevertheless, the results of research conducted over a period of many years by NIIMS /Scientific Research Institute of Economics and Organization of Material and Technical Supply/, the Odessa Institute of Economics and Organization of the Ukrainian SSR Main Supply Administration and the Latvian SSR Main Supply Administration show that the proportion of economically justified importance. In the Ukrainian SSR Main Supply Administration the warehouse trade turnover increased from 2,401 million rubles in 1965 to 2,860 million rubles in 1970, that is, by 76 percent (in comparable prices), and 73 percent of all the workers of the system engaged in supply problems sell products from depots, warehouses, and terms of small-scale wholesale trade.

Therefore, it is natural that the development of the warehouse network and an increase in the efficiency of its operation are some of the central tasks of improving material and technical supply for production.

This problem can be solved successfully only with a high level of technical equipment of depots and warehouses, which should be transformed into fully mechanized enterprises.

On the whole, as a result of new construction and reconstruction, the warehouse area of the territorial bodies of the Ukrainian SSR Main Supply Administration in 1966-1970 increased by 281,000 square meters, or by 36 percent, including of closed warehouses, by 47 percent. The number of mechanized increased by 777 (by 135 percent) and fixed capital assets doubled.

As the material and technical base of supply and sales organizations is strengthened, the problem of the efficiency of capital investments and a rational utilization of the capacities put into operation becomes more and more acute.

Meanwhile, it should be noted that in the practical activity of supply and sales bodies insufficient attention is given to an analysis of the efficiency of the utilization of fixed capital. This very important subject is completely absent from the scientific literature on the sectoral economy. This problem must be now worked out in all of its basic aspects.

The experience gained in the reconstruction of various warehouses projects confirms the well-known principle of economic advantages of reconstruction over new construction. As a result of reconstruction 176,000 square meters of warehouse areas, or 62.6 percent of the total volume of commissioned projects, were commissioned in the territorial administrations of the Ukrainian SSR in 1956-1970, but only 22 percent of the total capital investments were spent on this.

Of course, reconstruction is not the only method of development, because in many cases its implementation is limited by the size of the site, the impossibility of providing the required motor access roads, or the location of a depot or a warehouse.

The growing demands of a region's enterprises for warehouse supply cannot be always met through reconstruction.

Therefore, before deciding where to assign capital investments, it is necessary to make an interrelated economic analysis of the possible change in the volumes and dynamics of the warehouse trade turnover, capital expenditures, and the expected increase in capacities within individual production and territorial complexes (republics, regions) and to compare the data obtained with the proposed production volumes in a given region (with due regard for possible shifts in the consumption structure and the relationship in the forms of deliveries) in the next 5 to 10 years).

A dynamic correspondence of the growth of the productive capital of supply organizations to an increase in the volume indices or their activity is an important economic parameter, which characterizes the advisability of the capital investments made. It is difficult to assume that they will fully coincide at all the stages of development, because the relationship of these indices is determined by a number of factors, the relationship of the intensiveness of the investment policy, the efficiency of the path, structural changes in the value of the output disposed of, so on. However, the community of the tendencies should be observed, quite clearly. It should be noted that considerable differences in the rates of growth of the volume indices and fixed capital are possible during individual periods. They are also observed now.

USSR

UDC 541.11 + 016.541

RABINOVICH, I. B., Doctor of Chemical Sciences, Chairman of the Organizational Committee

"The Second All-Union Symposium on the Thermodynamics and Thermochemistry of Heteroorganic Organoelemental Compounds and Polymers"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 3, Mar 71, pp 737-738

Abstract: In accordance with a decision of the Fourth All-Union Calorimetric Conference and the Scientific Council on Chemical Thermodynamics at the Presidium of the Academy of Sciences USSR, the Second All-Union Symposium on the Thermodynamics and Thermochemistry of Organoelemental Compounds and Polymers was held at Gor'kiy State University imeni N. I. Lobachevskiy on 25-29 May 70. Approximately 150 scientists and scientific workers from various cities of the USSR participated. An extensive progress report dealing with the chemistry of organometallic compounds was presented by Academician G. A. Razuvayev. V. P. Kolesov reported original results obtained in work at the Laboratory of Thermochemistry imeni Luginin, Moscow State University. The heats of combustion of 30 organofluorine compounds were determined and the heats of vaporization of these compounds were calculated. He also summarized data from the literature on 70 other organofluorine compounds. V. I. Tel'noy of the

USSR

RABINOVICH, I. B., Zhurnal Fizicheskoy Khimii, Vol 45, No 3, Mar 71, pp 737-738

Laboratory of Thermodynamics and Thermochemistry, Scientific Research Chemical Institute at Gor'kiy State University, reviewed thermochemical data on arene, cyclopentadienyl, and carbonyl compounds of transition metals, including original results obtained at his laboratory on cyclopentadienyl compounds of Ti and V and also a number of Cr bis-arenehalides. V. M. Kharchevnikova and I. B. Rabinovich of the same laboratory reported thermochemical data on Pt compounds. In a report by M. G. Kol'yakova and I. B. Rabinovich, experimental results obtained in determinations of the heats of combustion and formation of Si, Ge, and Ti alkylamines as well as of the energies of dissociation of the bonds of these elements with N were discussed. Tel'noy, Rabinovich, et al (Gor'kiy) and B. A. Salamatin, et al (Moscow) presented information on the thermochemistry Cr bis-arenehalides, compounds that are used for the production of Cr films. G. O. Shmyreva and R. M. Goloeova reviewed the thermochemistry of organoaluminum compounds, reporting a large amount of original data, obtained in work at Gor'kiy University. A report by V. N. Kostryukova, et al (also of the Laboratory of Thermodynamics and Thermochemistry at Gor'kiy State University) dealt with arylchlorosilanes. A. K. Fedorov and Yu. Kh. Shaulov (Moscow Institute of Electronic Machine Building) gave a paper on the

2/3

USSR

RABINOVICH, I. B., Zhurnal Fizicheskoy Khimii, Vol 45, No 3, Mar 71, pp 737-738

heats of combustion and formation of alkyl- and phenyloxygermanes. A series of reports was concerned with the thermochemistry of polymerization and of polymers. Some of these reports dealt with the thermodynamic probability of the polymerization of pyridine and quinoline and of the formation of parapolyphenylene from benzene. The problem in regard to these reactions has been so solved from the thermodynamic standpoint, but the reactions do not take place under ordinary conditions for kinetic reasons. The energy of chain conjugation has been determined experimentally at $\sim$90 and $\sim$40 kcal/mole for polypyridine and parapolyphenylene, respectively. The importance of studies in the field of thermally stable polymers was pointed out at the symposium. A resolution that was passed at the symposium recommended publication of a special journal on thermodynamics and thermochemistry and the holding of symposia on the subject every two years, separating the symposia dealing with organoelemental compounds from those on polymers.

3/3

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--HEAT CAPACITY OF POLYVINYL CHLORIDE, DIOCTYL PHTHALATE AND POLYVINYL CHLORIDE, DIBUTYL PHTHALATE SYSTEMS -U-

AUTHOR-(04)-MARTYNENKO, L.YA., RABINOVICH, I.B., OVCHINNIKOV, YU.V., MASLOVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 841-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ENTROPY, THERMODYNAMICS, POLYVINYL CHLORIDE, PHTHALATE, HEAT CAPACITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1381 STEP NO--UR/0459/70/012/004/0841/0848

CIRC ACCESSION NO--AP0135055

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT CAPACITY MEASUREMENTS CONDUCTED WITH MIXTS. OF POLY(VINYL CHLORIDE) (I),DIOCTYL PHTHALATE (II) AND DI,DI,2U PHTHALATE (III) AT 60-360DEGREESK INDICATED THAT THE SYSTEMS WERE MACROSCOPICALLY UNIPHASIAL. II AND III OCCURRED IN LIQ. AND VITREOUS STATES. AN EQUATION WAS DERIVED TO ACCOUNT FOR A DECLINE IN THE GLASS TRANSITION TEMP. AS A FUNCTION OF THE ESTER CONTENT. THE GLASS TRANSITION TEMP. AS A FUNCTION OF THE ESTER CONTENT. THE GLASS TRANSITION INTERVALS, HEAT CAPACITY, AND ENTROPY INCREMENTS (OF TRANSITION FROM THE LIQ. TO THE VITREOUS STATE) DEPENDED ON II AND III CONTENTS. THE BASIC THERMODYNAMIC FUNCTIONS WERE DETD. BY GRAPHICAL INTEGRATION. FACILITY: NAUCH.-ISSLED. INST. KHIM., GOR'K. GOS. UNIV. IM. LOBACHEVSKOGO, GORKI, USSR.

UNCLASSIFIED

USSR

UDC 621.892.8

PANOK, K. K., TRET'YAKOV, P. P., ZUSEVA, B. S., GRIGOR'YEV, P. F., KULIKOV, I. N., GLAVATI, O. L., GORDASH, Yu. T., RABINOVICH, I. L.

"New Aviation Oils with Dipole Type Additives"

Neftepererabotka i Neftekhimiya. Resp. Mezhved. sb. [Oil Refining and Petrochemistry, Republic Interdepartmental Collection], No 5, 1971, pp 38-41, (Translated from Referativnyy Zhurnal Aviatsiyonnye i Raketnye Dvigateli, No 12, 1971, Abstract No 12.34.9, from the Resume).

Translation: The results of studies of the physical, chemical and operational properties of a new aviation oil containing a Dipole-type additive by laboratory methods, and the results of 50 hours tests of this oil in a Type EU-82T one-cylinder installation indicate that this oil is significantly superior to Type MS-20 oil without additives, presently used for piston aviation engines, and is equal to and in some respects superior to aeroshell oil W-100, a foreign type. 3 Tables; 3 Biblio. Refs.

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USSR

UDC 547.1'118'122:621.892.009.6

GORDASH, YU. T., KHARCHENKO, L. S., RABINOVICH, I. L., BACHINSKIY, T. P., GUPALO, A. P., ZEMLYANSKIY, N. I., KOTOVICH, B. P., and MURAV'YEV, I. V., All-Union Scientific Research and Project and Design Institute of the Petroleum Conversion and Petrochemical Industry, Kiev

"Investigation of Sulfur-Containing Organophosphorus Compounds as Additives to Lubricating Oils"

Moscow, Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

Abstract: The effectiveness of derivatives of thiophosphoric acid as additives to lubricating oil was studied. Fifteen compounds of this type including O,O-dialkyl-S-alkyl dithiophosphates, O-diethylaminoethyl-S,S-dipropyl trithiophosphate, bis(O,O-diethyldithiophosphate)-benzylidene, bis(O-methyl-O-butylthiophosphone)disulfide, O-alkyl-S,S-dialkyl trithiophosphates, and S,S,S-tetraethyl tetrathiophosphate were synthesized for this purpose. The formulas and characteristics of these compounds are listed in a table. The effects of addition of the 15 compounds to oil DS-11 on the thermal oxidation stability of the oil, the corrosion of Pb plates, the over-all index of wear, the critical load of seizing, and the critical load of welding were determined and compared with those of additive DF-11 (Zn butyloctyl-

1/2

USSR

GORDASH, YU. T., et al., Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

dithiophosphate). The results of the tests showed that use of trialkyl tetrathiophosphates, bis(O,O-dialkylthiophosphone)disulfides, and O-dialkyl-aminoalkyl-S,S-dialkyl trithiophosphates as multifunctional additives to lubricating oils would be of advantage. The effects of the CCl_3 group in reducing wear and seizing of friction surfaces were confirmed by the results of tests on dithiophosphates containing an $-SC(=O)CCl_3$ group. The tests with O,O-difurfuryl-S-trichloroacetyl dithiophosphate indicated that this compound would be a good all-around additive for lubricating oils.

2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MULTIFUNCTIONAL ADDITIVE FOR LUBRICATING OILS -U-

AUTHOR-(05)-KHARCHENKO, L.S., GORELOV, S.A., GORDASH, YU.T., RABINOVICH, I.L., CHUSHKINA, R.D.
COUNTRY OF INFO--USSR

R

SOURCE--U.S.S.R. 264,578
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--LUBRICATING OIL, CHEMICAL PATENT, THIOL, PHOSPHATE ESTER, BENZENE DERIVATIVE, LUBRICANT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0084 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127711
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0127711

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. O, O DIALKYL S BENZOTHIAZOLYL THIOPHOSPHATE OR O, O DIALKYL SE BENZOTHIAZOLYL SELENOPHOSPHATE ARE USEFUL AS POLYFUNCTIONAL ADDITIVES IN LUBRICATING OILS.

UNCLASSIFIED

USSR

UDC 615.462.678.7

RABINOVICH, I. M.

Primeneniye Polimerov v Meditsine (Use of Polymers in Medicine), Leningrad, 1972, 198 pp

Translation:

Contents

1/2

USSR

RABINOVICH, I. M., Primeneniye Polimerov v Meditsine, 1972, 198 pp

2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--STRUCTURAL MECHANICS OF ELASTIC ROD SYSTEMS -U-

AUTHOR--RABINOVICH, I.M.

COUNTRY OF INFO--USSR

SOURCE--V SB. STROITEL'N. MEKHAN. V SSSR (CONSTRUCTION MECHANICS IN THE
REFERENCE--RZH-MEKHANIKA, NO 2, FEB 70, ABSTRACT NO 2VT74P 5-74
DATE PUBLISHED----FEB70

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

TOPIC TAGS--METAL ROD, STATE OF THE ART, BOX BEAM, STRUCTURAL STEEL, SOLID MECHANICS, METAL ELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1623 STEP NO--UR/0000/69/000/000/0005/0074

CIRC ACCESSION NO--AR0117025

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AR0117025

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SURVEY COVERS LITERATURE PUBLISHED IN THE USSR FOR THE PERIOD UNDER REVIEW ON GENERAL PROBLEMS OF THE THEORY OF CALCULATING ELASTIC ROD SYSTEMS, ON METHODS OF CALCULATING STATICALLY DETERMINABLE TWO AND THREE DIMENSIONAL SYSTEMS, ON CALCULATING INDIVIDUAL TYPES OF SYSTEMS (GIRDERS, BEAMS, ARCHES, FRAMES), ON EXACT AND VARIATIONAL METHODS OF STATIC CALCULATION OF STATICALLY NON DETERMINABLE SYSTEMS, ON THE THEORY OF OPTIMUM ROD SYSTEMS, SYSTEMS WITH UNIDIRECTIONAL BONDS, ON THE USE OF VARIOUS ANALOGIES.

UNCLASSIFIED

USSR

UDC 615.322:582.673.4

SALO, L. P., RABINOVICH, I. M., All-Union Scientific Research Institute of Medicinal Plants, Moskovskaya Oblast

"On the Pharmacognostic Study of Stephania Glabra Roxb. Miers"

Moscow, Farmatsiya, Vol 19, No 2, Mar/Apr 70, PP 32-36

Abstract: The authors describe the anatomy of the part of the herb Stephania glabra which grows above ground. The plant is a source of gindarin, which has sedative and hypotensive properties. Photomicrographs are included in the article to illustrate the various structures which are described. The following specific diagnostic characteristics are mentioned. In the stem is a ring of reinforcing (mechanical) tissue made up of sclerenchymatous fibers, sometimes including groups of grit cells in the pith ray region. The conductive bundles are circular with spral vessels having large pores and with fibrous tracheids. Fine prismatic crystals of calcium oxalate are observed in the parenchymatous cells of the cortex and the central axial cylinder. In the leaf, there are pimples on the upper and lower epidermis, and a crystalliferous lining made up of long prismatic crystals of calcium oxalate can be seen along the fine veins of the leaf.

1/1

USSR

VAVILIN, G. I., VASIL'YEV, A. V., IL'INA, T. B., KROPACHEV, V. A., LAVRENT'YEVA, Ye. M., RABINOVICH, I. M., and TRUKHMANOVA, L. B., Institute of High-Molecular Compounds, Academy of Sciences USSR; State Scientific Research Institute of Tuberculosis, Ministry of Health of RSFSR; Leningrad Scientific Research Institute of Antibiotics, Ministry of Medical Industry USSR

"Use of Polymers for Modification of Antibacterial Preparations"

Riga, Fiziologicheski i Opticheski Aktivnyy Polimernyye Veshchestva, "Zinatne," 1971, pp 175-180

Abstract: Antibacterial preparations were modified by forming strong chemical bonds with polymers, and by protective coatings. Mixtures of p-aminosalicylic acid (PASA), streptomycin and hydrazine of isonicotinic acid (HINA) with polyvinyl alcohol (PVA) and polyvinylpyrrolidone (PVP), gels of iodopolyvinyl alcohol, as well as polymer preparations with PASA and HINA were studied. Coating of streptomycin, PASA, and HINA were accomplished with acetylphthalylcellulose (APC) and with its ammonium salt (NH_4-APC). All prepared antitubercular preparations preserved their potency in vitro for not less than 1 year. Therapeutic properties of PASA, tubaside, and streptomycin with polymers were tested on dogs and guinea pigs. The long-lasting effect of preparations depended first of all on the polymer-carrier, its mol. wt.,

USSR

VAVILIN, G. I., et al., Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 175-180

and the method of administration into the animal organism. Best results were shown by polymers with mol. wt. of 50,000-60,000. Coating of tubaside, PASA, and streptomycin with APC and NH_4-APC eliminated some side effects, excessive production of gastric juices, increased tolerance by patients who could not take them without coatings, and prolonged effectiveness of all drugs tested. PASA pills with APC coating preserved their antimicrobial effect for 2 years (1.5 years for uncoated pills). Solubility of APC and NH_4-APC coatings in artificial gastric juices at pH 7.4 was 20 and 15 min, respectively, and 3 hr at pH 1.2. Some coated pills reached small intestine before being completely decomposed. NH_4-APC coatings were more penetrable by fluids than APC coatings.

2/2

1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CRITICAL OUTPUT OF SYNCHRONIC HIGH SPEED TURBOGENERATORS OF HIGHER FREQUENCY -U-

AUTHOR-(03)-RABINOVICH, I.N., SHUBOV, I.G., EYBSHITS, A.G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESTVO, NO 2, 1970, PP 69-72

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--HIGH FREQUENCY, SYNCHRONOUS GENERATOR, CIRCUIT PARAMETER, THERMAL EFFECT, VIBRATION STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1225

STEP NO--UR/0105/70/000/002/0069/0072

CIRC ACCESSION NO--AP0123189

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123189

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIMITATIONS ARE STUDIED WHICH ARE ASSOCIATED WITH THE DESIGN OF HIGH SPEED (N IS GREATER THAN 3,000 RPM) SYNCHRONIC GENERATORS OF HIGH FREQUENCY (FOR EXAMPLE 400 CPS). THESE LIMITATIONS CONSIST OF THE FOLLOWING: ELECTROMAGNETIC LOADS WHICH DETERMINE THE INDUCTIVE RESISTANCE AND OVERHEATING OF COILS DURING A GIVEN METHOD OF COOLING, LINEAR VELOCITY AT THE ROTOR PERIPHERY WHICH IS RELATED TO BANDAGE STRENGTH, AND THE ACTIVE LENGTH OF THE ROTOR WHICH DETERMINES MACHINE VIBRATION. VALUES ARE GIVEN FOR THE CRITICAL OUTPUT OF THE TURBOGENERATOR FOR A GIVEN RATE OF ROTATION AND THE STATED LIMITATIONS TAKEN INTO CONSIDERATION. ORIGINAL ARTICLE: FOUR TABLES.

UNCLASSIFIED

RAN / [illegible] 73
[illegible] 72

[illegible]INOVICH L. B.

Rabinovich, L. B. and G. N. Sechenov.
Heat transfer conditions from a surface to a fluidized layer under pressure.
I-FZh, v. 22, no. 5, 1972, 789-794.

The effect of temperature, pressure, and gas composition on surface heat transfer to a contiguous fluidized layer was studied within the temperature interval 150 to 1000° C and at pressures from 0.5 to 30 atm. The test facility consisted of a device for investigating heat exchange in a fluidized layer, comprising an externally heated electric furnace, a tubular cooler, a carrier-gas heater, and control and measurement instrumentation. Two units were used: one for heating the wall temperature to 150 to 400° C at up to 50 atm; the other for heating from 400 to 1000° C, to the same pressure. The wall temperature of the external apparatus was maintained at a constant level in each series of experiments. In the initial mixture, gas was coupled with a pulverized catalyst, using particle sizes of 0.40 - 1.0 mm.

Used as the fluidizing gas composition were an equal mixture of nitrogen and CO_2, and two mixtures of nitrogen, H_2 and CO_2: (a) CO_2 16%, N_2 55%, H_2 29%, and (b) CO_2 25-30%, N_2 35%, H_2 35-40%.

As the pressure was increased from 0 to 30 atm (i.e., with increasing gas flow G, kg/h) within the 120 to 260° C range, and other conditions being equal, the heat-exchange coefficient α increased, despite a decrease of the gas linear velocity. The maximum value of α was not attained in the investigated range of pressures and temperatures, since the experiments were conducted at relatively low gas-stream velocities within the ascending curve of α = f(G, P) where P = internal pressure.

USSR

UDC 537.533:666.22

KORTOV, V. S., Candidate of Sciences, GAPRINDASHVILI, A. I., RABINOVICH, L. V., Candidate of Sciences

"Exoelectron Emission of Polished Optical Glass"

Optiko Mekhanicheskaya Promyshlennost', No 12, 1972, pp 59-60.

Abstract: Results are presented from a study of the emission of a batch of glass (K108) subjected to deep and ordinary polishing. Exoelectron emission was measured in a vacuum of $5 \cdot 10^{-6}$ torr using a secondary electron multiplier as an electron detector. The pulling electric field was created by holding a grid carrying a positive potential of 10 v at a distance of 1 mm over the surface of the specimen. Measurements indicated electron emission with a peak at about 200°C. The exoelectron emission of polished glasses indicated that mechanical working creates metastable active centers on the surface. The polishing mode influences not only the number of defects formed on the surface but their physical nature as well.

1/1

Refractory Materials

USSR

UDC 666.76:620.1

BLUVSHTEYN, M. N. (deceased), ZYKOVA, Z. K. (All-Union Institute of Refractories), DAUKNIS, V. A., PERAS, A. Ya., YURENAS, V. L., YANULYAVICYUS, A. I. (Institute for Physical and Technical Problems of Power Engineering, Academy of Sciences Lithuanian SSR), and RABINOVICH, M. A. (Snigirevskiy Plant of Refractory Articles)

"Strength of Ultralight-Weight Refractories"

Moscow, Ogneupory, No 2, June 72, pp 43-47

Abstract: The Institute for Physical and Technical Problems, Academy of Sciences Lithuanian SSR has designed, built, and adapted for practical application an LV-1 set-up for testing the tensile, compressive, and bending strength of ultralight-weight refractories at temperatures up to 1200°C. A BV-662 inductance pickup is used for both measuring and recording the deformation values for the latter two types of stress tests. The test materials were ShLB-0,4 and ShLB-0,6 ultralight-weight refractory bricks. Curves are shown to illustrate the strength values of the bricks as a function of temperature and apparent density. There is only a slight variance in strength values up to 700-800°C. At 900°C there is a marked increase in strength for all types of load tests. At 1000-1100°C and higher

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USSR
BLUVSHTEYN, M. N., et al, Ogneupory, No 2, June 72, pp 43-47

the refractories begin to soften and change to viscoelastic state. The strength drops with an increase in temperature. (7 illustrations, 7 bibliographic references)

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--FEATURES OF PRODUCTION TECHNOLOGY AND MECHANISM OF PORE FORMATION IN LIGHT WEIGHT PERLITE GROG CERAMICS -U-

AUTHOR-(05)-FAIN, I.A., KAMENETSKIY, S.P., RABINOVICH, M.A., GRIGORYEV, I.V., MINKOV, D.B.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(2), 3-6

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FOAM, REFRACTORY MATERIAL, INDUSTRUAL PRODUCTION, POROSITY

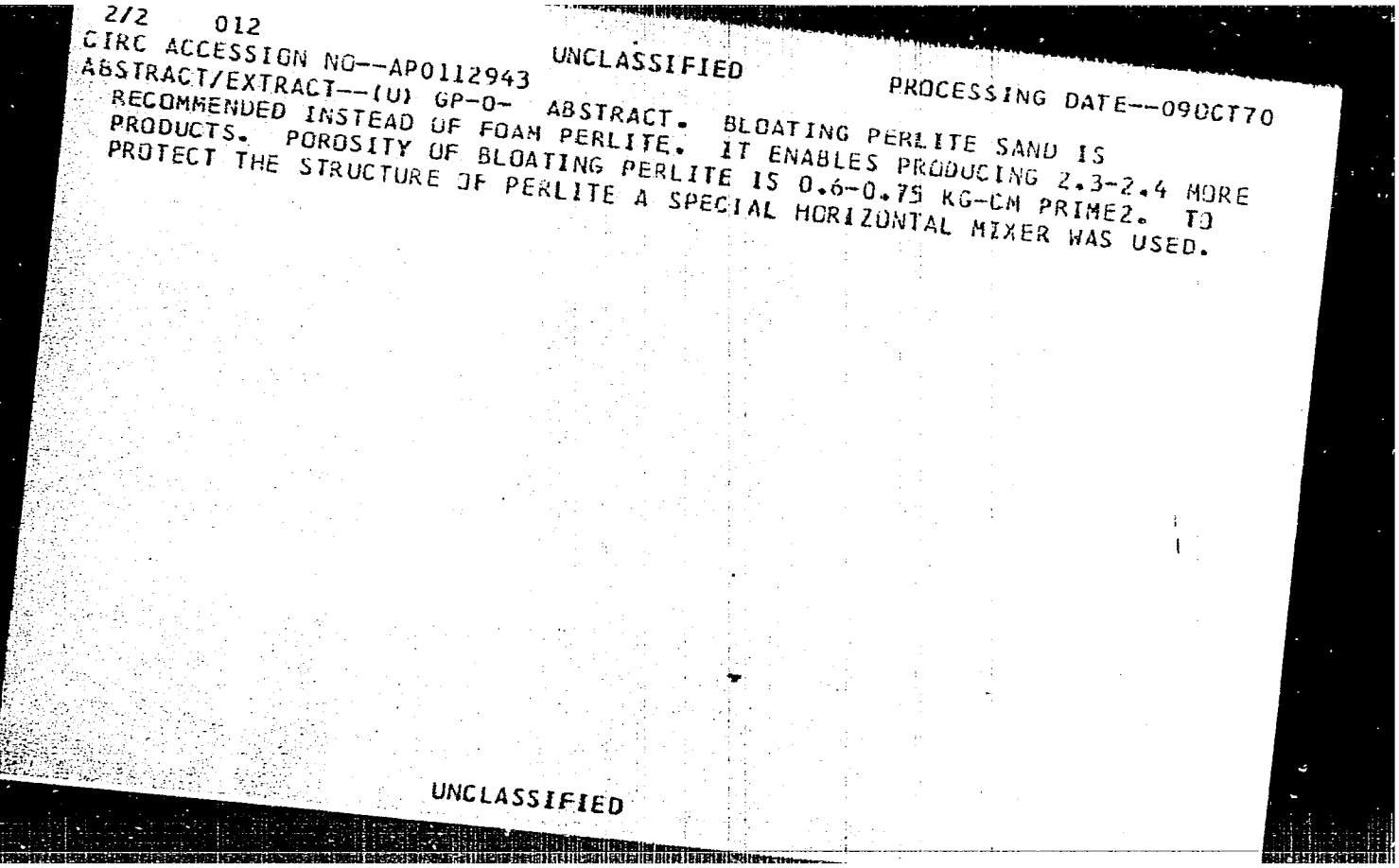
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1979 STEP NO--UR/0131/70/035/002/0003/0006

CIRC ACCESSION NO--AP0112943

UNCLASSIFIED



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CIRC ACCESSION NO--AP0112943 PROCESSING DATE--09OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BLOATING PERLITE SAND IS RECOMMENDED INSTEAD OF FOAM PERLITE. IT ENABLES PRODUCING 2.3-2.4 MORE PRODUCTS. POROSITY OF BLOATING PERLITE IS 0.6-0.75 KG-CM PRIME2. TO PROTECT THE STRUCTURE OF PERLITE A SPECIAL HORIZONTAL MIXER WAS USED.
UNCLASSIFIED

USSR

BAKHRAKH, V. P., RABINOVICH, M. G. UDC: 51

"Comparative Characteristics of Some Methods of Constructing a Basis Plan of a Distributive Problem in Linear Programming"

Tr. Leningr. inzh.-ekon. in-ta (Works of the Leningrad Engineering Economics Institute), 1972, vyp. 91, p 3-11 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V530)

[No abstract]

1/1

USSR

UDC: 621.372.22

VYSHKIND, S. Ya. and RABINOVICH, M. I.

"Parametric Wave Transformations in Active Media"

Gor'kiy, Izvestiya VUZ--Radiofizika, No 10, 1972, pp 1502-1508

Abstract: This paper examines nondegenerate, three-wave interaction in an active medium with quadratic linearity. It does not, however, consider the case when the nonlinearity is connected with the activity of the medium or when one of the waves has negative energy, as in plasma-beam systems. It is basically concerned with the dynamics of the transition mode, which is shown to be more effective, in many cases, for obtaining high parametrically generated wave amplitudes. The three-wave interaction is first considered in a semi-limited, active-reactive medium under the assumption that the pumping wave and a small priming wave for which the medium is active are applied at the limit. The process of frequency transformation is then examined in a combined medium for cases in which the chaotic wave phase approximation is valid. It is noted that the results of the computations are applicable to nonstationary interaction of space-uniform fields in the resonator. The authors express their thanks to A. V. Gaponov, G. I. Freydman, and V. M.

1/2

USSR

VYSHKIND, S. Ya., et al, Izvestiya VUZ--Radiofizika, No 10, 1972, pp 1502-1508

Fortus for their comments on the work.

2/2

USSR

UDC: 621.373.531(088.8)

BOGATYREV, Yu. K., RABINOVICH, M. I., The Radio Physics Scientific Research Institute Affiliated With Gor'kiy University

"A Pulse Generator"

USSR Author's Certificate No 270786, filed 22 Jun 67, published 11 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G211 P)

Translation: This Author's Certificate introduces a pulse generator based on an inductance-capacitance shaping line. The unit contains a tunnel diode and series-connected L-shaped links made up of an inductance and capacitance connected through voltage dividers to a power supply. To produce synchronized pulses of sequentially changing duration, and with sequentially changing polarity beginning at the middle of the line, the latter is shorted at both ends, and a tunnel diode is connected in each of its links in parallel with the inductance through one of the resistors in the voltage divider.

1/1

USSR

UDC 621.373.51:621.373.43

BOGATYREV, YU. K, RABINOVICH, M. I.

"Pulse Generator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, 12 May 70, p 34, Patent No 270786, Filed 22 Jul 67

Translation: This Author's Certificate introduces a pulse generator made of a shaping LC-line containing tunnel diodes and series-connected L-type inductance and capacitance elements connected via voltage dividers to a power supply. The generator is distinguished by the fact that in order to obtain synchronized pulses of sequentially varying length and beginning with the middle of the line and varying polarity, the line is shorted on both ends, and a tunnel diode is connected via one of the resistors of the voltage divider in each of its sections parallel to the inductance.

1/1

USSR

UDC 669.716:621.789

RABINOVICH, M. Kh., and YELAGIN, V. I.

"The Problem of High-Temperature Thermomechanical Processing of Aluminum Alloys"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 21-29, resume

Translation: Possibilities of high-temperature thermomechanical processing (HTTP) of aluminum alloys are discussed. Some experimental data on the effect of HTTP on the structure and mechanical properties of the AK6, V93, and AK4-1 alloys are presented. Eight figures, five bibliographic references.

1/1