S/861/62/000/000/017/022
B125/B108

AUTHORS: Akhiyezer, A. I., Faynberg, Ya. B., Selivanov, N. P., Stepanov, K. N., Pakhomov, V. I., Kovalev, O. V., Khizhnyak, N. A., Gorbatenko, M. F., Bar'yakhtan, V. G., Shamshanov, A. A.

TITLE: Linear electron accelerators for high energies

SOURCE: Teoriya i raschet lineynykh uskoriteley, sbornik statey. Fiz.-tekhn. inst. AN USSR. Ed. by T. V. Kukoleva. Moscow, Gosatomizdat, 1962, 243 - 309

TEXT: This paper, finished in 1955, is a voluminous report on the most important results obtained at the Fiziko-tekhnicheskiy institut AN USSR (Physicotechnical Institute AS UkrSSR) between 1948 and 1955 as to the proper choice of an accelerating system and its optimum parameters as well as on the dynamics of the electrons inside the accelerator. One of the most efficient systems is the π/2 traveling wave type accelerator segmented by annular metal disks (designed by V. V. Vladimirskiy). The calculation of such a waveguide with the Walkinshow-Brillouin method (J. Appl. Phys., 20, 634 (1949)) is demonstrated. The radial motion of the electrons in a Bev-accelerator under the action of terrestrial magnetism and gravity should be

Card 1/2

compensated by the combined magnetic fields of rectilinear currents and a small number of electromagnets. In such a case, detectors are necessary indicating the displacement of the beam by the fields of the correcting magnets. Owing to the great length of linear accelerators, an additional radial focusing on the principal section is necessary. In the first section and in the injector this will be achieved by strong longitudinal magnetic fields. In the principal section radial focusing can be achieved by short magnetic lenses (diameter 50 cm) producing a longitudinal magnetic field of ~1000 oe/cm, or by a system of four-pole lenses. Both systems can reduce the beam radius at the output of the accelerator to 0.5 cm. There are 1 figure and 18 tables.

PAKHOMOV, V.I.; STEPANOV, K.N.

Emission of low-frequency waves by ions and electrons in a magnetoactive plasma. Zhur.eksp.i teor.fiz. 43 no.6:2153-2165 D '62. (MIRA 16:1)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.
(Magnetohydrodynamics) (Plasma (Ionized gases)) (Waves)

ACCESSION NR: AT4036039 S/2781/63/000/003/0017/0036

AUTHORS: Pakhomov, V. I.; Stepanov, K. N.

TITLE: Radiation of low-frequency waves by ions and electrons in a magnetoactive plasma

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3, Kiev, Izd-vo AN UkrSSR, 1963, 17-36

TOPIC TAGS: magnetoactive plasma, plasma electromagnetic wave, plasma ion oscillation, plasma electron oscillation, Cerenkov radiation, bremsstrahlung, cyclotron radiation, plasmoid

ABSTRACT: Cyclotron radiation of ions having a velocity of the order of the average thermal velocity of the plasma ions is considered.

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ACCESSION NR: AT4036039

In addition, the Cerenkov radiation of electrons in the low-frequency region is considered. The intensity of radiation is determined with allowance for cyclotron absorption of the emitted waves by the plasma ions and the Cerenkov absorption by the plasma electrons. The radiating and absorbing ability of the plasma and the equilibrium intensity of radiation in these frequency regions are also determined. The expressions obtained for the intensity of radiation of an individual particle can be used also to estimate the intensity of radiation of charged-particle plasmoids moving through a plasma. If the plasma dimensions are smaller than the radiated wavelength, then the intensity of radiation becomes proportional to the square of the number of particles in the plasmoid (coherent radiation of the plasmoid). In the case of low frequencies, which is considered in this article, the wavelength is large and therefore the radiation can be coherent even at relatively large plasmoid dimensions. "In conclusion the authors are deeply grateful to A. I. Akhiyezer and V. F. Aleksin for a discussion of the work

Card 2/3

ACCESSION NR: AT4036039

and for useful advice. Orig. art. has: 50 formulas.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 21May64	ENCL: 00
SUB CODE: ME, NP	NR REF SOV: 011	OTHER: 000

Card 3/3

L 17180-63 EWT(1)/EWG(k)/EDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/
IJP(C)/SSD Pz-4/Pi-4/Po-4/Pab-4 AT S/0185/63/008/005/0595/0597

ACCESSION NR: AP3000239

82
79

AUTHOR: Pakhomov, V. I.

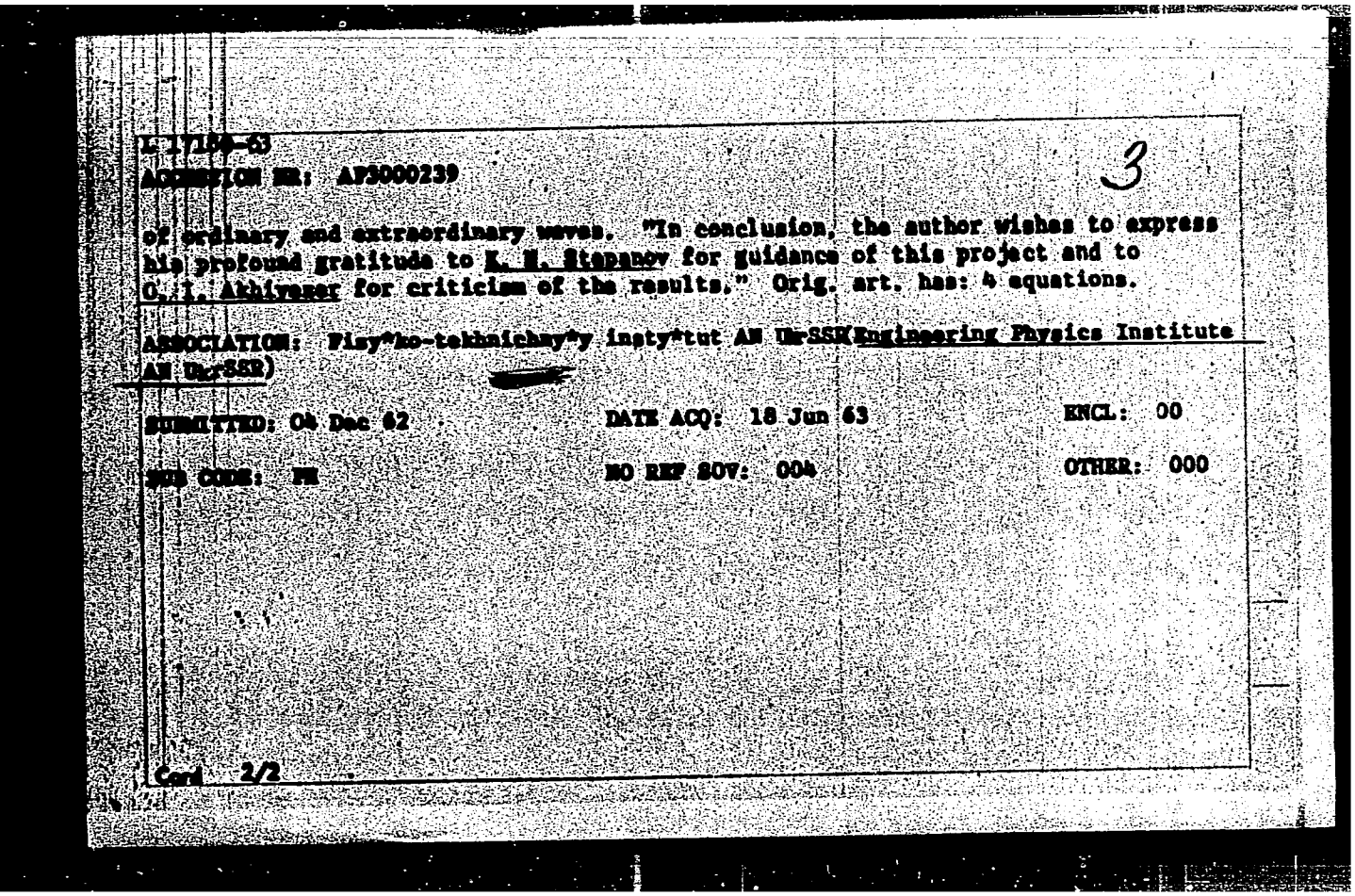
TITLE: Radiation of "acoustic" wave in a cyclotron by ions of nonisothermal plasma

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 595-597

TOPIC TAGS: acoustic wave, nonisothermal plasma, Alfven velocity, cyclotron, radiation intensity, ion

ABSTRACT: "Acoustic," ordinary, and extraordinary waves can propagate in a strongly nonisothermal plasma (T sub e greater than T sub i). When Alfven velocity v sub A is much greater than the velocity of sound in the plasma v sub s, the refraction index of the "acoustic" wave is much greater than the refraction index of ordinary and extraordinary waves. Therefore it can be expected that under these conditions the intensity of radiation of an "acoustic" wave in a cyclotron by a ion moving in the plasma exceeds considerably the radiation intensity of ordinary and extraordinary waves. The author shows that when v sub A is greater than v sub s for the s-th harmonic, the radiation intensity of the "acoustic" wave is a cyclotron beyond a certain order of magnitude is greater than the radiation intensity

Card 1/2



L 17189-63
ACCESSION NR: AP3000239

3

of ordinary and extraordinary waves. "In conclusion, the author wishes to express his profound gratitude to K. N. Stepanov for guidance of this project and to G. I. Akhiyezer for criticism of the results." Orig. art. has: 4 equations.

ASSOCIATION: Fiz*ko-tekhnicheskiy inst*tut AN UkrSSR (Engineering Physics Institute AN UkrSSR)

SUBMITTED: 04 Dec 62 DATE ACQ: 18 Jun 63 ENCL: 00

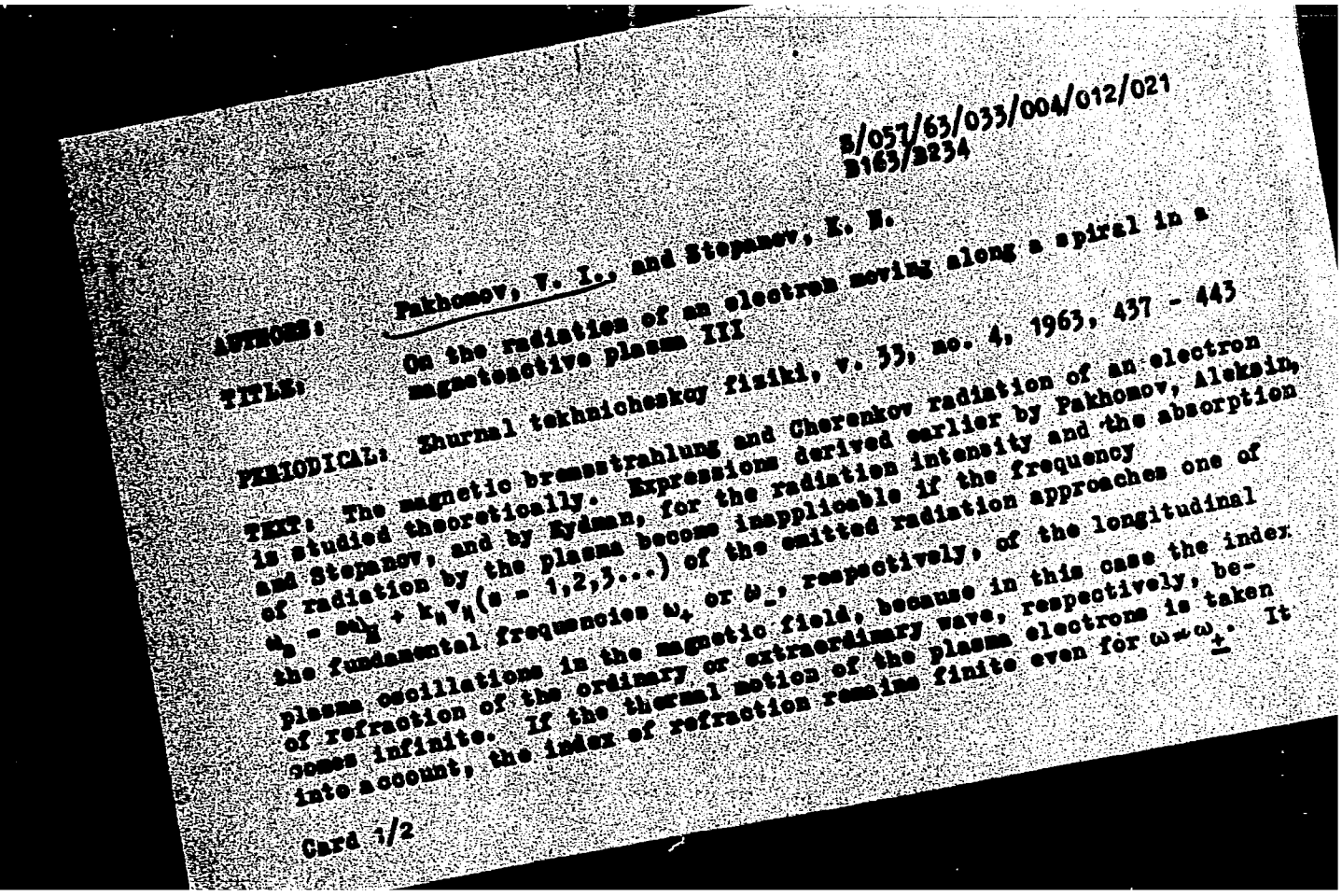
SUB CODE: PH NO REF SOV: 004 OTHER: 000

Card 2/2

PAKHOMOV, V.I.; STEPANOV, K.N.

Radiation of an electron moving along a spiral in a magneto-active plasma. Part 2. Zhur.tekh.fiz. 33 no.1:43-50 Ja '63. (MIRA 16:2)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Kahr'kov.
(Plasma (Ionized gases)) (Electrons) (Radiation)



S/057/63/033/004/012/021
B163/B234

AUTHORS: Pakhomov, V. I., and Stepanov, K. N.

TITLE: On the radiation of an electron moving along a spiral in a magnetoactive plasma III

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, 1963, 437 - 443

TEXT: The magnetic bremsstrahlung and Cherenkov radiation of an electron is studied theoretically. Expressions derived earlier by Pakhomov, Alekain, and Stepanov, and by Eydman, for the radiation intensity and the absorption of radiation by the plasma become inapplicable if the frequency $\omega_s = s\omega_H + k_\parallel v_\parallel$ ($s = 1,2,3\ldots$) of the emitted radiation approaches one of the fundamental frequencies ω_+ or ω_-, respectively, of the longitudinal plasma oscillations in the magnetic field, because in this case the index of refraction of the ordinary or extraordinary wave, respectively, becomes infinite. If the thermal motion of the plasma electrons is taken into account, the index of refraction remains finite even for $\omega = \omega_\pm$. It

Card 1/2

On the radiation of an electron... S/057/63/033/004/012/021
B163/B234

is shown that in the case of double resonance the intensity of the magnetic bremsstrahlung of electrons whose velocity is of the order of the mean thermal velocity v_T of the plasma electrons, is increased by the factor $(c/v_T)^{s+1}$ ($s = 3,4...$) as compared with the radiation intensity in the vacuum, where c is the velocity of light. For the Cherenkov radiation ($s = 0$) of "fast" particles it is found that the total radiation losses of a nonrelativistic particle moving along a spiral are finite. There are 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR, Kharkov (Physico-technical Institute of the AS UkrSSR, Kharkov)

SUBMITTED: April 4, 1962

Card 2/2

ACCESSION NR: AP4009916 S/0057/64/034/001/0016/0022

AUTHOR: Pakhomov, V.I.

TITLE: On radiation by ions traversing a non-isothermal magnetized plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.1, 1964, 16-22

TOPIC TAGS: plasma, non-isothermal plasma, magnetized plasma, plasma emittance, Larmor frequency harmonics, Alfven waves, magneto-acoustic waves, magnetic bremsstrahlung, ion radiation, plasma Cerenkov radiation

ABSTRACT: An involved expression for the dielectric tensor of a magnetized plasma in which the electron temperature greatly exceeds the ion temperature is written without reference or discussion. Additional terms that become important when the frequency is near a harmonic of the ion Larmor frequency are given, and the dispersion equation deduced from this dielectric tensor is written. The electromagnetic field of an ion moving in a helical path through the magnetized plasma is quoted from an earlier publication (V.I.Pakhomov,V.F.Aleksin and K.N.Stepanov,ZhTF,31,1170, 1961). From these equations the intensity of radiation from the moving ion is deduced. In the neighborhood of the Larmor frequency, the expression obtained is valid

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ACC.NR: AP4009916

only for fast ions, but it is valid also for slow ions at harmonics of this frequency. The radiation intensity from the moving ion is averaged over a Maxwell distribution, and the resulting contribution of magnetic bremsstrahlung to the emittance of the plasma at harmonics of the Larmor frequency is given. The dispersion equation is tractable in two limiting cases: when the Alfven velocity exceeds the velocity of sound, and when the frequency is much less than the ion Larmor frequency. In the former case there are three solutions, two corresponding to Alfven waves and one, with large refractive index, corresponding to the "sonic" waves. An expression for the intensity of radiation of "sonic"waves at harmonics of the Larmor frequency is obtained. This is averaged over the Maxwell distribution to give the contribution of the "sonic" waves to the emittance of the plasma at harmonics of the Larmor frequency. The intensity of the "sonic" waves is found to be greater than that of the ordinary and extraordinary waves by approximately the factor $(v_A/v_s)^{2s+1}$, where v_A is the Alfven velocity, v_s is the "sonic" velocity, and s is the index of the harmonic. Radiation by fast ions at frequencies small compared with the Larmor frequency is discussed. Expressions are given for the intensities of Alfven waves and magneto-acoustic waves radiated by the Cerenkov process. "In conclusion, the author conveys his deep gratitude to K.N.Stepanov for guidance in the work and to A.I. Akhiyezer for discussion of the results." Orig.art.has: 37 formulas and 1 figure.

Card 2/2

L 07402-67 EWT(1) IJP(c) GD/AT
ACC NR: AT6020582 (N) SOURCE CODE: UR/0000/65/000/000/0186/0189

AUTHOR: Dolgopolov, V. V.; Pakhomov, V. I.; Stepanov, K. N.

ORG: none

TITLE: On electron radiation in a plasma-magnetic field boundary layer

SOURCE: AN UkrSSR. Vysokochastotnyye svoystva plazmy (High frequency properties of plasma). Kiev, Naukovo dumka, 1965, 186-189

TOPIC TAGS: thermonuclear power, plasma magnetic field, electron radiation, boundary layer plasma, cyclotron frequency

ABSTRACT: The energy radiated by electrons in the region of a plasma near the plasma-magnetic field is calculated. The calculation is made for a low density plasma contained by a strong magnetic field such as in a thermonuclear reactor. The computation includes the effect of the anomalous skin thickness which differs from the case of dense plasma. When cyclotron radiation wavelength corresponds to stabilizing oscillation of the plasma and Doppler broadening (of the order of cyclotron frequency) is included, the intensity of the cyclotron radiation emitted by the plasma is given by the equation

$$I \sim I(\omega)\omega_B \sim \frac{\omega_B^3 v_e T}{4\pi^2 c^3} \sim \frac{e^3 n_0^{3/2} T^3}{c^6 m^{1/2}}.$$

Card 1/2

L 07402-67

ACC NR: AT6020582

When the plasma polarization is accounted for, the intensity of cyclotron radiation decreases by a ratio of electron rest mass energy to plasma temperature. It is also shown that cyclotron radiation is smaller (by the same ratio) than the bremsstrahlung radiation. These relations hold provided no generation of plasma waves occurs. Orig. art. has: 8 formulas.

SUB CODE: 20/ SUBM DATE: 19Nov65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

L 44370-66 EWT(m)/EWP(j)/T/EWP(v) IJP(c) RM/WW

ACC NR: AP6023060 (A) SOURCE CODE: UR/0191/66/000/004/0018/0019

AUTHOR: Pakhomov, V. I.; Bazhenova, T. S.

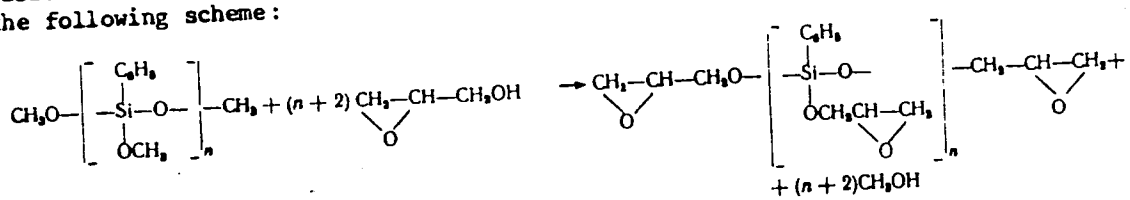
ORG: none

TITLE: Alkyl-(aryl)-glycidoxysilanes and siloxanes

SOURCE: Plasticheskiye massy, no. 4, 1966, 18-19

TOPIC TAGS: adhesive, epoxy plastic, silane, siloxane, organosilicon compound

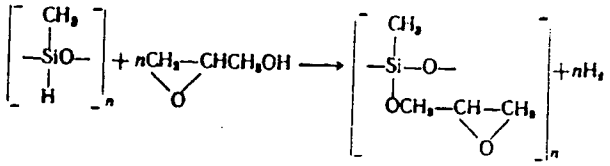
ABSTRACT: Several alkyl-(aryl)-glycidoxysiloxanes were synthesized by two methods: (I) ester interchange of glycidols of silicoorganic oligomers and monomers containing methoxy-groups connected with silicon atom; (II) substitution of hydrogen in hydridoalkylsilanes and hydridoalkylsiloxanes by glycidooxy-groups. Method I is represented by the following scheme:



UDC: 678.84

Card 1/2

Method II is represented by the following scheme



The ester interchange reaction was carried out in a still of distillation column. The reaction started at 80-100°C and was completed in 0.5-1.5 hours at 130°C. In the presence of 0.1% KOH or 0.1-1.0% triethanolamine or oxyquinoline, the yields were 75-100%. The percentages of epoxy-groups, silicon, and the degree of ester interchange are tabulated. The hydrogen substitution reaction started at room temperature in the presence of 0.01-0.001% KOH. The reaction product was a liquid resin with 2500 cP viscosity, 30% epoxy-groups, and 22% silicon. The various alkyl-(aryl)-glycidoxysilanes and siloxanes prepared by either method adhered well to glasses and metals. They are recommended for use as cements or cement components. Orig. art. has: 1 table, 2 formulas.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 003

FILIMONOV, A.A.; LOMOVA, L.G.; SUVOROV, V.S.; PAKHOMOV, V.I.; SONIN, A.S.

Generation of the second harmonic in potassium iodate single crystals. Kristallografiia 10 no.2:255-256 Mr-Ap '65. (MIRA 18:7)

L 9255-65 EWI(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c)

ACCESSION NR: AP5010798 UR/0057/65/035/004/0618/0622

AUTHOR: Makhnenko, L.A.; Pakhomov, V.I.; Stepanov, K.N. 32 B

TITLE: On high-frequency focusing in linear accelerators 19

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 618-622

TOPIC TAGS: linear electron accelerator, traveling wave electron accelerator, high frequency field, reflected wave, stabilization

ABSTRACT: The authors calculate the focusing effect in a traveling wave linear accelerator of a reflected wave propagating in the opposite direction to the electron motion. The reflected wave is found to improve the focus both with respect to phase and with respect to radial motion. The improvement in phase stability is shown to be negligible in the relativistic case and to be significant in the nonrelativistic case only when the equilibrium phase is close to $\pi/2$. The radial focusing is improved at all energies. The radial focusing effect of the backward traveling wave is equivalent to that of a uniform longitudinal magnetic field of which the strength is of the order of the wave amplitude. The radial focusing effect was verified experimentally by directing a divergent beam (divergence angle

Card 1/2

L 49255-65

ACCESSION NR: AP5010798

0.001 rad) of 5 MeV electrons down a 3.6 m long septate wave guide. When a wave of amplitude 56 kV/cm was directed up the waveguide, the average current increased by a factor 1.8. There was no accelerating wave traveling down the waveguide in these experiments. Orig. art. has: 32 formulas.

ASSOCIATION: None

SUBMITTED: 26Jun64 ENCL: 00 SUB CODE: NP

NR REF SOV: 007 OTHER: 002

Card 2/2

SUKHOVA, L.A.; PAKHOMOV, V.I.; LUKOSHKINA, L.A.; KHEYKER, D.M.

Use of tagged atoms for the investigation of the processes of waterproofing asbestos cement with sodium methyl and ethyl silicone. Trudy NIIAsbesttsementa no.10:91-102 '59. (MIRA 16:8)
(Asbestos cement) (Waterproofing)

PAKHOMOV, Vasiliy Ivanovich

[Protecting the health of troops and first aid in combat] Okhrana zdorov'ia voinov i pervaia pomoshch' v boiu. Moskva, Voen.izd-vo, 1960. 207 p. (MIRA 13:8)
(MEDICINE, MILITARY)

PAKHOMOV, V.N.; POZHIDAYEV, A.V.; DENISOV, B.D.

Defects in air switches for electric arc furnaces. Prom. energ. 18 no.11:10-13 N '63. (MIRA 16:12)

PAKHOMOV, V.N., inzh.

Accounting for injuries from electricity and noncompliances with safety engineering regulations. Prom.energ. 20 no.12:21-23 D '65. (MIRA 18:12)

PAKHOMOV, V.P.; PURESKIN, N.P.

Color vision thresholds and color vision stability in persons suspected of having glaucoma and in patients with the initial phase of glaucoma. Vest. oft. 76 no.1:24-26 Ja-F'63. (MIRA 16:6)

1. Kafedra oftal'mologii (nachal'nik - prof. V.L. Polyak) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(GLAUCOMA) (COLOR BLINDNESS)

FAKHOMOV, V.P.

PHASE I BOOK EXPLOITATION SOV/4598

Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass

Issledovaniya v oblasti termoreaktivnykh plastmass (Investigations in the Field of Thermosetting Plastics) Moscow, Goskhimizdat, 1959. 98 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agencies: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii; Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass.

Ed.: V. N. Yur'yev; Tech. Ed.: Ye. G. Shpak.

PURPOSE: This book is intended for chemical engineers and technicians, and research chemists interested in thermosetting plastics.

COVERAGE: The collection contains 11 articles which reflect some Soviet efforts and achievements in synthesizing plastics with special physicochemical properties, i.e., water-, acid-, heat-, and arc-resistance. No personalities are mentioned. References given are mainly Soviet and English, with several French and German and accompany the articles.

AVAILABLE: Library of Congress (TP986.A2[illegible]68)

Card 3/3

[illegible]/rm/fal
1-5-61

BELINOVA, N.A.; PLATE, A.F.; ZALKINA, G.F., STERIN, Kh.Ye.; LUKASHINA, V.M.; PAKHOMOV, V.P.; BEREZKIN, V.G.

Isomeric transformations of unsaturated hydrocarbons of the bicyclo (2,2,2) heptane series in the presence of calcium amide and an aluminocommonium catalyst. Zhur.org.khim. 1 no.3:506-513 Mr '65. (MIRA 18:5)

1. Moskovskiy tonkoy khimicheskoy tekhnologii, Institut neftekhimicheskogo sinteza AN SSSR i Komissiya po spektroskopii AN SSSR.

BEREZKIN, V.G.; PAKHOMOV, V.P.; ALISHOYEV, V.R.; STAROBINETS, L.L.; MARKOVICH, Z.P.; SEDOV, L.N.

Some new methods of studying polymeric compounds by gas chromatography. Vysokom.soed. 7 no.1:185-187 Ja '65.

(MIRA 18:5)

L 16188-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM
ACCESSION NR: AP4045007 S/0065/64/000/009/0066/0068

AUTHOR: Mirzayanov, V. S.; Berezkin, V. G.; Proskurneva, Ye. G.; Pakhomov, V. P.

TITLE: Preparation of highly purified ethylene

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 9, 1964, 66-68

TOPIC TAGS: ethylene, purified ethylene, ethylene purification, pure ethylene yield, displacer chromatography, gas carrier, ethylene desorption, ethylene impurity, solid impurity, ethylene purifying equipment

ABSTRACT: A new method based on displacer chromatography without a gas carrier has been used to obtain ethylene with no more than 0.001% impurities at a 60% yield. The chromatographic column is filled with ethylene (55 liter) then comes the displacer, a CO_2 current, which desorbs the pure ethylene. The first ethylene portions containing poorly adsorbing impurities (O_2, N_2, CO, CH_4, etc) are discarded; the pure ethylene collects in the container. Solid impurities, C_3-C_4 with higher Henry coefficients than ethylene, which form a general zone of

Card 1/2

L 16188-65
ACCESSION NR: AP4045007

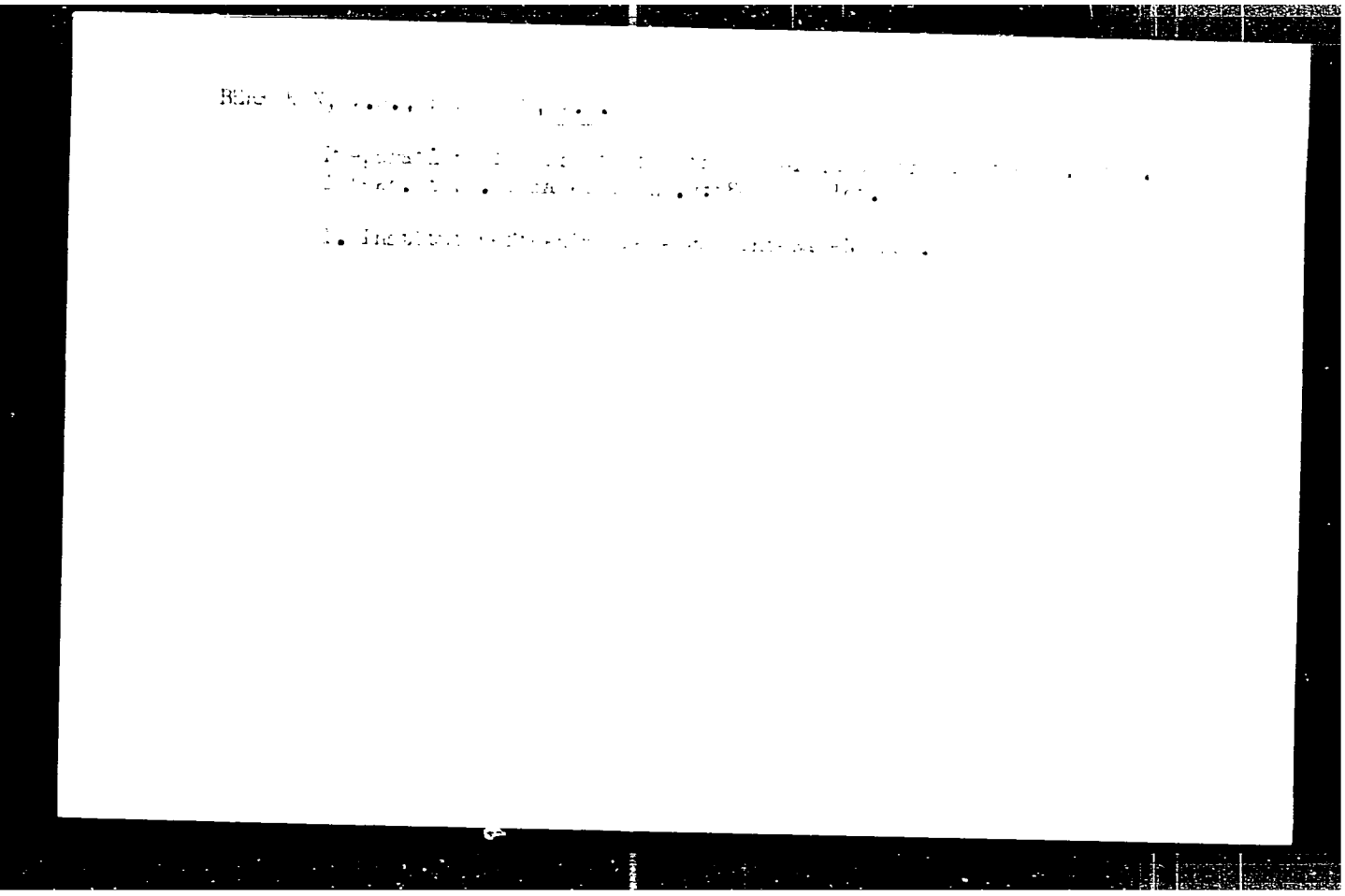
solid impurities near the mouth of the column, will move beyond the front of the displacer upon CO_2 addition. The equipment is figured; tables and charts present the results. "Prof. A. A. Zhukhovitski helped the authors in carrying out this work." Orig. art. has: 4 figures and 1 table

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: OC NO REF SOV: 003 OTHER: 003

Card 2/2



L 19360-66 EWT(m)/EWA(d)/EWP(t) MJW/JD/WB

ACCESSION NR: AT5012205 UR/3078/64/028/000/0091/0104

AUTHOR: Pakhomov, V. S.; Zaretskiy, Ye. M.; Klinov, I. Ya. (Doctor of technical sciences, Professor)

TITLE: Influence of the temperature and concentration of nitric acid solutions on the steady-state potentials of type Kh17 stainless steels

SOURCE: Moscow. Institut khimicheskogo mashinostroyeniya. Trudy, v. 28, 1964. Korroziya khimicheskoy apparatury (Corrosion of chemical apparatus), 91-104

TOPIC TAGS: stainless steel, steel corrosion, nitric acid corrosion, steady state potential, chromium steel, electrode potential, steel passivation / Kh17 steel

ABSTRACT: The behavior of chromium stainless steels Kh17, Kh17N, 1Kh17N2, and Kh17N5 and steel Kh18N9T (for comparison) was studied in solutions of 5, 10, 20, 40, and 58 wt. % HNO_3 at 20, 40, 60, 80, and 100C. The apparatus designed and constructed for the measurement of the steady-state potentials is fully described. The kinetic curves of the electrode potentials of spontaneous dissolution in nitric acid solutions shift monotonically toward the positive side with time. The time required for the establishment of steady-state potentials decreases with increasing acid concentration and rising temperature. A similar relationship was

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L 19360-66

ACCESSION NR: AT5012205

observed for the establishment of constant corrosion rates of these steels. In 5-20% HNO_3, the steady-state potentials of the steels become more positive (noble); in 58% HNO_3, they become slightly less positive. In passing from dilute to concentrated HNO_3 solutions, the ennobling influence of temperature on the potentials declines. In the region of transpassivation, a lesser influence of temperature on the potentials was noted than in the region of passivation. A mechanism is proposed which accounts for these differences in the influence of temperature. Orig. art. has: 8 figures and 4 tables.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IC

NO REF SOV: 017 OTHER: 010

Corrosion 44,55,18

Card 2/2 BC

L 38520-65 EWT(m)/EWP(b)/T/EWA(d)/EWP(t) JW/MJW/JD/HW/WB

ACCESSION NR: AP5007136 S/0314/65/000/002/0031/0035

32
31
B

AUTHOR: Pakhomov, V. S. (Engineer); Zaretskiy, Ye. M.; Klinov, I. Ya.

TITLE: Influence of the temperature of the aggressive medium on the corrosion behavior of Kh17-type stainless steel

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 2, 1965, 31-35

TOPIC TAGS: stainless steel, steel corrosion, nitric acid, corrosion temperature, Arrhenius equation / Kh17 steel

ABSTRACT: The influence of the temperature of nitric acid solutions of various concentrations (5, 10, 20, 40, and 58%) on the corrosion of Kh17, Kh17N, 1Kh17N2, and Kh17N5 steels was investigated. The tests were carried out at 20, 40, 60, 80, and 100C, and lasted 5, 10, 25, 50, 100, 200, 300, and 400 hrs. It was found that the rate of the corrosion process reaches a steady value in all cases, but that the time necessary to reach this constant rate varies with the conditions and kind of steel. Graphs were plotted for the influence of nitric acid concentration on the corrosion rate of the various steels at the various temperatures for a testing time of 400 hrs. A particularly sharp increase in corrosion rate

Card 1/2

L 38520-65

ACCESSION NR: AP5007136

with rising temperature was observed above 60C. The temperature dependence of the corrosion rate of all steels in solutions of all concentrations was found to obey the Arrhenius equation

$$\log K = A - \frac{E}{2.303R} \cdot \frac{1}{T},$$

where K is the corrosion rate, A is a constant, E is the activation energy, R is the gas constant, and T is the temperature of the corrosive medium in degrees Kelvin. The average effective activation energies of the corrosion processes in the range of 20 to 100C were determined for each type of steel. Orig. art. has: 12 figures, 2 formulas and 2 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, GC

NO REF SOV: 019 OTHER: 010

Card 2/2

PAKHOMOV, V.T.

Accumulated experience in manufacturing curing chambers for the vulcanization of 12.00-18 tire casings by means of a 6-inch extrusion machine at the Moscow Tire Factory. Kauch.i rez. 19 no.4:42-45 Ap '60. (MIRA 13:12)

1. Moskovskiy shinnyy zavod.
(Moscow--Tires, Rubber)

GOROKHOV, V.V.; PAKHOMOV, V.T.; LEYBCHIK, S.G.

Tire 5.60-15 with removable tread rings and a radial spacing of cord threads in the carcass designed for the "Moskvich-407" automobile. Kauch.i rez. 19 no.9:49-53 S '60. (MIRA 13:10)

1. Moskovskiy shinnyy zavod.
(Tires, Rubber)

MALIKOV, F.P.; LAZAREV, G.S.; PAKHOMOV, V.V.

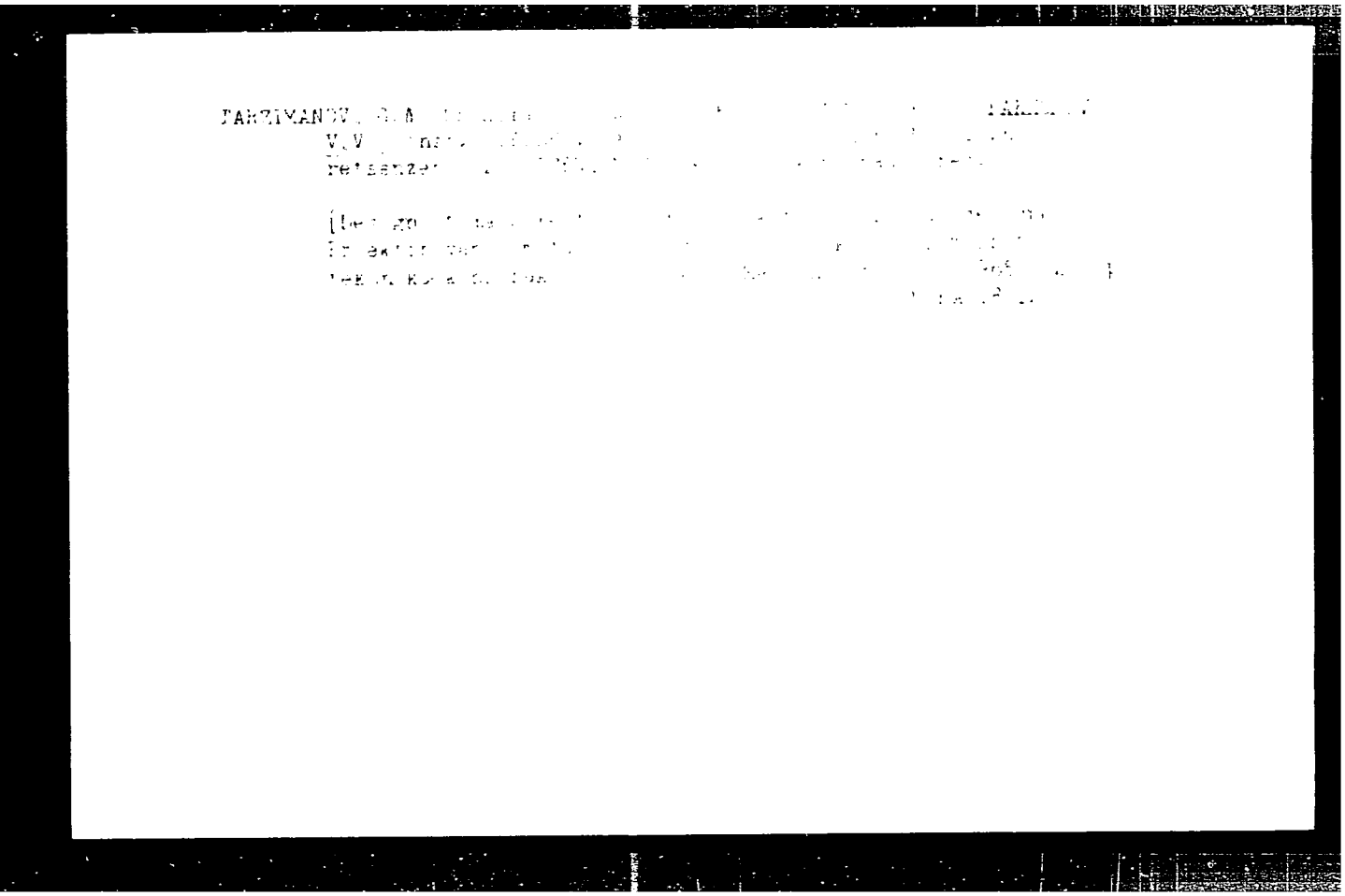
New units for cooling metal-cutting tools. Mashinostroitel' no.9:33-34 S '63. (MIRA 16:10)

(Metal-cutting tools—Cooling)

KARPACHEV, P.S., starshiy prepodavatel'; PAKHOMOV, V.V., inzh.

New method of applying viscous mastics on shoe parts. Nauch.trudy MTILP no.18:147-154 '60. (MIRA 15:2)

1. Kafedra mashin i apparatov legkoy promyshlennosti Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Shoe machinery)



L 24822-66 EWT(d)/EWT(m)/EWP(v)/EWP(j)/T/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6
ACC NR: AP6006955 IJP(c) (N) WW/RM SOURCE CODE: UR/0381/65/000/006/0061/0068

AUTHORS: Lange, Yu. V.; Filimonov, S. A.; Shishkina, N. V.; Pakhomov, V. V.; Veremeyenko, S. V.; Fyrkov, B. Ye.

ORG: none

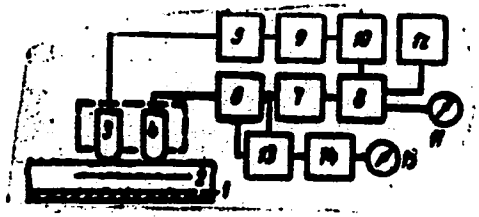
TITLE: UVFD-1 defectoscope for controlling multilayered structures and nonmetallic parts

SOURCE: Defektoskopiya, no. 6, 1965, 61-68

TOPIC TAGS: defectoscope, diagnostic instrument, electric device, electronic circuit /UVFD-1 defectoscope

ABSTRACT: The block diagram and detailed electric circuitry of a UVFD-1 defectoscope are given. Referring to Fig. 1,

Fig. 1. Block diagram of a UVFD-1 defectoscope.



Card 1/2 UDC: 620.179.16

L 24822-66

ACC NR: AP6006955

the defectoscope consists of: 1 - metallic base, 2 - nonmetallic film deposit, 3 - emitting oscillator, 4 - receiving oscillator, 5 - generator to feed power to the vibrator, 6 - amplifier, 7 - shaper, 8 - phase-measuring circuit, 9 - phase regulator, 10 - shaper, 11 - needle indicator, 12 - relay instrument, 13 - detector for automatic regulating of amplification, 14 - amplitude measuring device, and 15 - indicator. The instrument has four types of scanner heads that operate on a frequency range 25--60 kcycle. A sketch is included for one such scanner head connected to the instrument by a coaxial cable. The instrument weighs 11 kg and is portable. It is used in conjuction with automatic recorders and is very useful for controlling nonmetallic film deposits on metallic bases and for identifying defects between the joints of multilayer structures. Orig. art. has: 4 figures.

SUB CODE: 14, 09/ SUBM DATE: 16Jun65/ ORIG REF: 005

Card 2/2

ACC NR: AP7005141 SOURCE CODE: UR/0126/66/022/004/0640/0640

AUTHOR: Pakhomov, V. Ya.; Kunakov, Ya. N.; Kachur, Ye. V.; Layner, D. I.

ORG: Scientific Research and Design and Planning Institute of the Rare Metals Industry (Nauchno-issled. i proektnyy institut redkometallicheskoy promyshlennosti)

TITLE: The effect of microinhomogeneity on the critical points of superconducting alloys

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 4, 1966, 640

TOPIC TAGS: critical point, superconducting alloy, lattice defect, grain structure, homogenization heat treatment, cast alloy

ABSTRACT: The effect of a homogenization anneal on the critical current density of Nb-46% Ti and alloy-2 was studied. The purpose of this heat treatment was to eliminate intercrystalline liquation which exists in the as-cast alloys. It is known that the Lorentz force can cause a creep of magnetic current that may result in the loss of superconductivity. Different types of metallic defects (inhomogeneities, dislocations, internal stresses, etc.) may act as stabilizers against the creep. For the experiments, 40-gram ingots were melted in a radiant arc furnace with tungsten electrodes in a purified helium atmosphere and homogenized in a vacuum furnace at 1500°C. The homogenized ingots were cold reduced into 0.25 mm diameter samples. All samples

UDC: 537.312.62

ACC NR: AP7005141

had similar cold reductions. Critical current densities were measured in a transverse magnetic field of 16 kilooersted at 4.2°K. The critical current density was given as a function of ingot homogenization time which ranged from 1 to 5 hours. In both alloys, the critical current density was lowered by homogenization. The critical current density for Nb-46% Ti decreased linearly from about $1.8 \cdot 10^4$ a/cm^2 in the as-cast condition to about 10^4 a/cm^2 after 5 hours of ingot homogenization. Alloy-2 dropped sharply from $2 \cdot 10^4$ a/cm^2 to about 10^4 a/cm^2 after 1 hour of ingot homogenization, and remained constant thereafter. All of the samples had a similar dislocation density of 10^{11}-10^{12} cm^{-2}, characteristic of severely deformed metals. The microstructure of as-cast ingots showed intercrystalline liquation, which decreased as a function of homogenization time. After 5 hours at 1500°C, almost all of the liquation was absent in both alloys. Analogous results were obtained in the alloys Nb-75% Zr and 65 BNT in which the critical current density after homogenization changed from $1.3 \cdot 10^4$ and $2 \cdot 10^4$ to $7.8 \cdot 10^3$ and $1.2 \cdot 10^3$, respectively. Orig. art. has: 1 figure.

SUB CODE: 20,11/ SUBM DATE: 02Feb66/ OTH REF: 001

Card 2/2

AKHTYRSKIY, N.P., inzh.; NOVOSELOV, G.P., inzh.; PANFILOV, [illegible]
PAKHOMOV, V.Ya., inzh.

Complex 3.3 Kr. a.c. traction substation. Transp. str. 14, no.11:9-13 N '64. (MIRA 18:3)

ANDREYEV, V.P.,polkovnik,; BORISOV, D.S., polkovnik,; YEVTUSHENKO, A.F., polkovnik,; ZHELEZNYKH, V.I.,dots., kand. tekhn. nauk, general-leytenant inzhenernykh voysk, otv. red.; TSIRLIN, A.D., doktor voyennikh nauk, general-polkovnik inzhenernykh voysk, red.; NAZAROV, K.S., dots., general-polkovnik inzhenernykh voysk v ostavke,red.; BADANIN, B.V., polkovnik v zapase,red.; BABUSHKIN, K.N.,polkovnik, red.; TSEGLKO, P.G.,polkovnik, red.; YEMEL'YANOV, P.A.,polkovnik, red.; DROZHZHINOV, Ye.G.,polkovnik,red.; PAKHOMOV, V.Ya., polkovnik, red.; SMIRNOV, V.V.,polkovnik, red.; GORCHAKOV, A.D., podpolkovnik, red.; MEDNIKOVA, A.N., tekhn. red.

[Engineers of the Soviet Army in important operations of the Great Patriotic War; a collection of articles] Inzhenernye voiska Sovetskoi armii v vazhneishikh operatsiiakh Velikoi Otechestvennoi voiny; sbornik statei. Moskva, Voen. izd-vo M-va obor. SSSR, 1958. 309 p. (MIRA 11:12)

(World War, 1939-1945--Engineering and construction)

SAVITSKIY, Ye.M.; BARON, V.V.; KARASIK, V.R.; AKHMEDOV, S.Sh.; PAKHOMOV, V.Ya.; BYCHKOVA, M.I.

Producing a high magnetic field with the aid of a niobium-zirconium alloy. Prib. i tekh. eksp. 8 no.1:182-183 Ja-F '63. (MIRA 16:5)

1. Fizicheskiy institut AN SSSR.
(Magnetic fields) (Niobium-zirconium alloys)

PAKHOMOV, V.Ya., inzh.; PENZIN, L.I.; ARKHIPOV, L.P.; SHILOV, A.S., starshiy prepodavatel'

The mercury-arc rectifier has been installed outside the traction substation. Elek. i tepl. tiaga 6 no.11:12-13 N '62. (MIRA 16:1)

1. Zamestitel' nachal'nika Barabinskogo uchastka energosnabzheniya (for Penzin). 2. Nachal'nik tyagovoy podstantsii Kozhurla (for Arkhipov). 3. Omskiy institut inzhenerov transporta (for Shilov). (Mercury-arc rectifiers) (Electric railroads--Substations)

MOCHENOV, I.G., kand.tekhn.nauk; DMITRIYEVSKIY, G.V.; PANFIL', L.S.; PAKHOMOV, V.Ya.; VOLKOV, N.N.

Efficiency of voltage regulation at the tractive substations. Zhel.dor. transp. 46 no.11:72-75 N '64. (MIRA 18:1)

1. Glavnyy spetsialist Glavnogo upravleniya elektrifikatsii i energeticheskogo khozyaystva (for Dmitriyevskiy). 2. Nachal'nik sluzhby elektrifikatsii i energeticheskogo khozyaystva Zapadno-Sibirskoy dorogi (for Panfil'). 3. Glavnyy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Zapadno-Sibirskoy dorogi (for Pakhomov).

PAKHOMOV, V.Ya.

Conference on the generalization of practices in the use of automation in traction substations. Elek.i tepl.tiaga 6 no.1:29 Ja '62. (MIRA 15:1)

1. Glavnyy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Zapadno-Sibirskoy dorogi (for Pakhomov).
(Electric railroads--Substations) (Automatic control)

L 12460-65 EWT(1)/FCC AFETR GW S/2599/64/000/041/0023/0050
ACCESSION NR: AT4046358

AUTHOR: Sakali, L. I. (Candidate of geographical sciences); Pakhomov, V. Ye.

TITLE: Turbulent heat exchange in the Ukraine and Moldavia

SOURCE: Kiyev. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy*, no. 41, 1964. Voprosy* teplovogo i vodnogo balansa (Problems of heat and water balance), 23-50

TOPIC TAGS: atmospheric temperature gradient, atmospheric boundary layer, atmospheric turbulent heat, atmospheric heat exchange

ABSTRACT: The methods used and the results obtained from computing turbulent flow of heat in the surface boundary layer of the atmosphere, based on standard meteorological observations, is discussed. An analysis is given of the factors responsible for the distribution of turbulent heat exchange in the Ukraine and Moldavia (radiation balance of the underlying surface, stratification of the surface boundary layer, wind velocity, roughness of the underlying surface, and such indirect factors as the latitude of the observation station, time of year, cloudiness, humidity, and soils). Orig. art. has: 9 figures and 6 tables.

Card 1/2

L 12460-65
ACCESSION NR: AT4046358

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (Ukrainian Scientific Research Hydrometeorological Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 018 OTHER: 000 ATD PRESS: 3125

Card 2/2

(AKHOMOV, Ya.D.)

BAKAYIN, V.P.; BUBOK, K.G.; BUGAREV, L.A.; BUNIN, A.I.; VOROB'YEV, K.V.
DROZDOV, V.V.; DOROKHOV, M.S.; ZUBRILOV, S.V.; IGNAT'YEV, L.A.
KARGOPOLOV, I.G.; KLUSHIN, D.N.; KOMAROV, A.M.; KURILOV, M.S.;
LOMAKO, P.F.; MIKULENKO, A.S.; MIKHAYLOV, M.M.; NEMTINOV, B.A.;
OL'KHOV, N.P.; OSIPOVA, T.V.; PAKHOMOV, Ya.D.; PLAKSIN, I.N.;
PODCHAYNOV, S.F.; PUSTYL'NIK, I.I.; ROZHKOV, I.S.; SAVARI, Ye.A.;
SHMYRIN, A.P.; SPIVAKOV, Ya.N.; STRIGIN, I.A.; SUSHENTSOV, S.N.;
SYCHEV, P.S.; TROITSKIY, A.V.; USHAKOV, K.I.; KHARLAMOV, A.Ye.;
SHEMYAKIN, N.I.

Nikolai Konstantinovich Chaplygin. TSvet. met. 28 no.2:57-58
Mr-Ap '55. (MIRA 10:10)
(Chaplygin, Nikolai Konstantinovich, 1911-1955)

21(1)

AUTHORS: Meyerson, G. A., Sokolov, D. D., Mironov, N. F., Bogorad, N. M., Pakhomov, Ya. D., L'vovskiy, D. S., Ivanov, Ye. S., Shmelev, V. M. SOV/89-5-6-3/25

TITLE: Beryllium (Berilliy)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 6, pp 624 - 630 (USSR)

ABSTRACT: The production of beryllium in the USSR is carried out by the following methods:

1) Electrolysis of Na_2BeF_4 or of a mixture of $2BeO.5BeF_2$ with barium fluoride. The beryllium obtained is not of high value either quantitatively or qualitatively.

2) Electrolysis of a mixture of molten beryllium and sodium chlorides. By this method Be with the following impurities is obtained:

Fe	0.01 to 0.02 %	Cu	0.02 to 0.07 %
Mn	0.001 %	Si	0.01 %
Ni	0.02 to 0.05 %	Cr	< 0.003 %

Card 1/5

3) Reduction of beryllium fluoride with metallic magnesium. The purity of the beryllium produced in this manner is characterized by the following impurities:

Fe	0.08 to 0.10 %	Mn	0.01 to 0.02 %
Al	0.02 to 0.03 %	Cu	0.003 to 0.005 %
Si	0.01 to 0.03 %	Ni	0.003 to 0.005 %

4) Vacuum distillation.

The beryllium produced in this manner is the purest of all and contains only the following impurities:

Fe	0.005 %	Ni	0.003 %
Al	0.003 %	Cr	0.005 %
Cu	0.004 %	Mn	0.002 %

The production of metal-ceramic single parts is characterized by the following methods and parameters:

a) By Vacuum hard-pressing (10^{-2} to 10^{-3} torr) it is possible to produce large single parts or parts having a maximum density of 1.85 g/cm^3 and being of fine-grained structure as

well as having mechanical properties that are equal in all directions. At 1120-1150° C the amount of pressure applied amounts to from 50 to 30 kg/cm^2.
b) Hot-pressing in air requires increased pressure values of from 100 to 150 kg/cm^2.
c) For the production of single parts of great density and strength hot-pressing is carried out in metal press molds in air at from 550 to 600° C and at a pressure of 4-5 t/cm^2.
d) Production of single parts with a density of from 1.75 to 1.82 g/cm^3: Beryllium powder is pressed with 10-15 t/cm^2 pressure, annealed in a vacuum at 1180-1200° C, and is then subjected to subsequent treatment at normal temperature and a pressure of 10-15 t/cm^2 or at 500-550° C and at a pressure of 8-10 t/cm^2.
The properties of beryllium vary within a large domain in dependence on purity and structure (according to B. A. Sidorov and M. I. Stepanov, collaborators at the laboratory of N. N. Davidenkov). The results obtained by means of mechanical

investigations show that the latter depend to a considerable extent on processing and on the condition of the surface. Beryllium parts are easy to grind. The refractoriness of beryllium in air is very high. After annealing for several hundred hours at 500° C it does not decay. At 1000° C, however, the surface begins to be covered with a thick and soft oxide layer already after one hour. The stability of beryllium with respect to water is quite satisfactory. Technical beryllium contains various inclusions also after the first vacuum-casting, which, above all, cause the leakage of gas. In order to avoid this it is advisable to combine vacuum-casting with simultaneous centrifuging (Ye. S. Ivanov, V. M. Shmelev).

A crucible of beryllium oxide is evacuated up to 1.10^{-4} torr after having been filled with pieces of beryllium and closed by means of a beryllium-oxide stopper. The crucible is heated to a temperature of 800-900° C. The furnace is filled now with argon (30-50 torr) and the metal is heated to a temperature of 1450-1470°. The crucible is kept at this temperature for five minutes, after which its contents is emptied into a rotating graphite mold. The single beryllium parts produced in this

manner attain a density of from 1.82 to 1.84 g/cm^3, which indicates that only very few inclusions exist in the cast individual parts. There are 5 figures, 1 table, and 4 references, 1 of which is Soviet.

SUBMITTED: August 19, 1958

BAZILEVICH, [illegible] V. [illegible]AKHOMOV, Ye. A.

Investigating conditions of [illegible] turns. Stal' [illegible] [illegible] MIRA [illegible]
[illegible] F '64.

1. Nauchno-issledovatel'skiy institut po problemam Kurskoy magnitnoy anomalii i Nizhne-Tagil'skiy metallurgicheskiy kombinat.

MILLER, V.Ya.; BAZILEVICH, S.V.; RAVIKOVICH, I.M.; KHUDOROSHKOV, I.P.; Prinimali uchastiye: Vernikovskiy, K.B.; SOTNICHENKO, A.S.; PAKHOMOV, Ye.A.; BUNEYEVA, O.K.

Production of fluxed sinter using a high basicity siner as flux. Stal' 22 no.12:1057-1060 D '62. (MIRA 15:12)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki poleznykh iskopayemykh.
(Sintering)

PAKHOMOV, Ye.M., kand.tekhn.nauk; SARATOVSKIY, F.G., kand.tekhn.nauk

Calculating the optimal distribution of the size of stripping operations according to years with the use of linear programming. Izv. vys.uchev.zav.:gor.zhur. 7 no. 4:50-53 '64. (MIRA 17:7)

1. Institut gornogo dela imeni A.A.Skochinskogo.

VINITSKIY, K.Ye., kand.tekhn. nauk; PAKHOMOV, Ye.M.

Optimum criteria and methods of determining the productive capacity of mining enterprises. Nauch. soob. IGD 22:122-127 '63. (MIRA 17:5)

PAKHOMOV, Ye., M., Cand. Tech. Sci. (diss) "Investigation of Methods of Uncovering and Systems of Open Working of Iron Ore Deposits of KMA [Kursk magnetic anomaly]," Moscow, 1961, 16 pp. (Moscow Mining Inst.) 150 copies (KL Supp 12-61, 272).

MEL'NIKOV, N.V.; SIMKIN, B.A., kand.tekhn.nauk; PAKHOMOV, Ye.M., gornyy inzh.

Possibilities of open-pit mining of rich ores and iron quartzites in the Kuznetsk Magnetic Anomaly. Gor. zhur. no. 1:22-25 Ja '61. (MIRA 14:1)

1. Institut gornogo dela AN SSSR, Lyubertsy, Moskovskoy obl.
2. Chlen-korrespondent AN SSSR (for Mel'nikov).
(Kursk Magnetic Anomaly--Iron mines and mining)
(Strip mining)

SIMKIN, B.A., kand.tekhn.nauk; MEDVEDEV, L.A.; PAKHOMOV, Ye.M., gornyy inzh.; SHIBANOV, V.I., gornyy inzh.

Open-cut mining of "Stoylenskoye" and "Yuzhno-Lebedinskoye" deposits. Gor.zhur. no.9:14-19 S '60. (MIRA 13:9)

1. Institut gornogo dela AN SSSR, Lyubertsy, Moskovskoy oblasti.
(Kursk Magnetic Anomaly) (Strip mining)

PAKHOMOV, Ye.M., kand.tekhn.nauk

A method of computing the optimum output of an open-cut mine by its overburden. Nauch.soob.IGD 24:105-109 '65.
(MIRA 18:10)

PAKHOMOV, Ye.V., kand. tekhn. nauk

Calender distribution of mining work volume in the planning of strip mines as an objective for mathematical programming. Izv. vys. ucheb. zav.; gor. zhur. 8 no.2:77-83 '65. (MIRA 18:5)

1. Vsesoyuznyy zaochnyy politekhnicheskiy institut.

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, p 464 (USSR) SOV/81-59-14-5[illegible]

AUTHOR: Pakhomov, Ye.V.

TITLE: The Stalingrad Oil Refinery and the Production of Synthetic Materials

PERIODICAL: Stalingr. prom-st' (Sovnarkhoz Stalingr. ekon. adm. r-na), 1958, Nr [illegible], pp 3 - 7

ABSTRACT: The principal production schedule of the Stalingrad Oil Refinery is given for the period ending in 1964, from which it is evident that on the basis of plant oil gases and unsaturated hydrocarbons (ethylene, propane-propylene, butane-butylene, etc.) it will be possible to organize the production of ammonia, fertilizers, fibers, plastics, synthetic alcohols and acids, polyethylene resins and many other synthetic materials.

G. Margolina

Card 1/1

PAKHOMOV, Yevgenii Vasil'yevich; KLEYMENOVA, K.F., redaktor; TROFIMOV, A. V. tekhnicheskiy redaktor.

[Electric desalting of petroleum; manual for operators and assistant operators] Elektrообessolivanie nefti; posobie dlia operatorov i pomoshchnikov operator. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1955. 94 p. (V pomoshch' novym kadram neftianoi promyshlennosti) (MLRA 8:8)
(Petroleum--Refining)

PAKHOMOV, Yu.

Locating and eliminating faults in magnetic tape recorders. (MIRA 15:8)
Radio no.8:50-52 Ag '62.
(Magnetic recorders and recording)

PAKHOMOV, Yu.

Detection and elimination of faults in magnetic tape recorders.
Radio no.1:51-53 Ja '62. (MIRA 15:1)
(Magnetic recorders and recording--Repairing)

AUTHOR: Pakhomov, Yu. SOV/107-58-2-30/32

TITLE: Equipment for Remote Acoustical Apparatus (Apparatura dlya vynesennykh akusticheskikh sistem)

PERIODICAL: Radio, 1958, Nr 2, p 59-60 (USSR)

ABSTRACT: The author describes briefly some types of AM and FM tuners used in the US, Switzerland and West Germany. There are six drawings and one diagram.

1. Electronic equipment--Design

Card 1/1

PAKHOMOV, Yu.

UM-50 amplifier with increased power output. Radio no.8:53-54 Ag '63. (MIRA 16:9)
(Amplifiers (Electronics))

PAKHOMOV, Yu.

Improvement of the operation of the amplifier of the "Lauza-2" magnetic tape recorder. Radio no.12:50 D '61. (MIRA 14:12)
(Magnetic recorders and recording) (Amplifiers (Electronics))

AUTHOR: Fakhomov, Yu. SOV-107-58-8-50/57

TITLE: Amplifiers Without an Output Transformer (Usiliteli bez vykhodnogo transformatora)

PERIODICAL: Radio, 1958, Nr 8, pp 59-60 (USSR)

ABSTRACT: The article lists several systems for matching the output circuit of an amplifier or receiver to the loudspeaker without using an output transformer. The problems have been widely studied abroad since the output transformer is one of the main sources of phase shift at high frequencies, which limits the degree of permissible negative feedback and, through that, the quality of the sound reproduction. There are 6 sets of circuit diagrams.

1. Amplifiers--Circuits 2. Transformers--Performance

Card 1/1

PAKHOMOV, Yu.

Attachment to a reference signal generator for measuring L and C. Radio no.6:53-54 Je '64. (MIRA 17:10)

107-57-3-30/64

AUTHOR: Pakhomov, Yu. (Moscow)

TITLE: Self-Constructed Prods for Instruments (Samodel'nyye shchupy k priboram)

PERIODICAL: Radio, 1957, Nr 3, p 30 (USSR)

ABSTRACT: Flexible colored vinyl-insulated wire is recommended for leads. Prods can be made from a section of bicycle wire spoke soldered to the lead with a piece of heavy rubber insulation slipped over the spoke and the solder. The simplest way of obtaining heavy rubber insulation is to strip it from a piece of automobile ignition cable. Instead of a heavy rubber sleeve, the shell of a mechanical plastic pencil can be used; a part of the internal mechanism of the pencil should be removed. The other end of the lead should be equipped with a plug. Plugs of 4-mm diameter are commercially available. Plugs of 2-3 mm diameter can be made out of an appropriate tube base. Provision of one or two alligator clips for convenience in working is also recommended. There are six figures in the article.

Card 1/1

LAKHOMOV, Yu.

"New Soviet printed transformers," Radio, No 11, pp 55-56, 1953. Moscow.

SO: W-30847, 13 Aug 1954.

USSR/ Electronics - Measuring instruments

Card 1/1 Pub. 89 - 32/40

Authors : Pakhomov, Yu.

Title : A device for measuring nonlinear distortions

Periodical : Radio 10, 48-50, Oct 1954

Abstract : A device for measuring nonlinear distortions of radio sets and amplifiers is described. In substance, this device is a combination of a suppression-filter and a simple voltmeter of the type used by radio amateurs. The theoretical principles of the measuring device, including a formula for determining the distortion-factor, are set forth. Instructions for tuning, scale graduation and preliminary checking of the instrument are given and the successive operational steps indicated. Illustration; circuit diagram; drawings.

Institution: .....

Submitted: .....

Pakhomov, Yu.

107-57-6-51/57

AUTHOR: Pakhomov, Yu.

TITLE: Modern Mechanical Sound Recording. In the foreign countries. (Sovremennaya mekhanicheskaya zvukozapis'. Za rubezhom)

PERIODICAL: Radio, 1957, Nr 6, pp 58-61 (USSR)

ABSTRACT: The following Western items and constructions are described:
Noise reduction in phonograph records;
Long-playing records, including microrecording and supermicrorecording;
Record players of various types;
An automobile-type record player;
Tefiphone, that is, a phonograph with an endless-loop tape.
There are six figures.

AVAILABLE: Library of Congress

Card 1/1

Pakhomov, Yu

VASIL'YEV, L.; PAKHOMOV, Yu.

Tape recorder with pushbutton control. Radio no.11:56-59 N '57.
(MIRA 10:10)
(Magnetic recorders and recording)

PAKHOMOV, Yu.

A tube millivoltmeter. Radio no.12:60-62 D '54. (MIRA 8:1)
(Millivoltmeter)

PAKHOMOV, Yu. (Moskva)

Homemade clearance gauges for measuring instruments. Radio no.3:30 Mr '57. (MLRA 10:5)

(Measuring instruments)

PAKHOMOV, Yu.

"The MP-4, A Fireman's Instrument," Yu. Pakhomov

Radio, No 4, pp 48-49

Describes a simple volt-ohmmeter which can be used to measure dc voltages from 0.2 to 300 v with an accuracy of ± 3%, ac voltages with frequencies from 50 to 7,000 cps in the same voltage range, and resistances from 10 ohms to 0.1 megohm with an accuracy of ± 8%.

PAKHOMOV, Yu.

Amplifier operating on micro-currents. Radio no.10:40-41 O'55.
(Amplifiers, Electron-tube) (MLRA 9:1)

PAKHOMOV, Yuriy Dmitriyevich; SOBOLEVSKIY, A.G., red.; VORONIN, K.P., tekhn.red.

[Magnetic tape recorders manufactured abroad] Zarubezhnye magnitofony. Moskva, Gos.energ.izd-vo, 1961. 167 p. (Massovaia radiobiblioteka, no.393)

(MIRA 14:5)

(Magnetic recorders and recording)

STAROVOYIT, N. G. - PAKHOMOV, Yu. I.

Peat Industry

Work organization of a mechanized peat enterprise. Mekh. trud. rab. 7 no. 2, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

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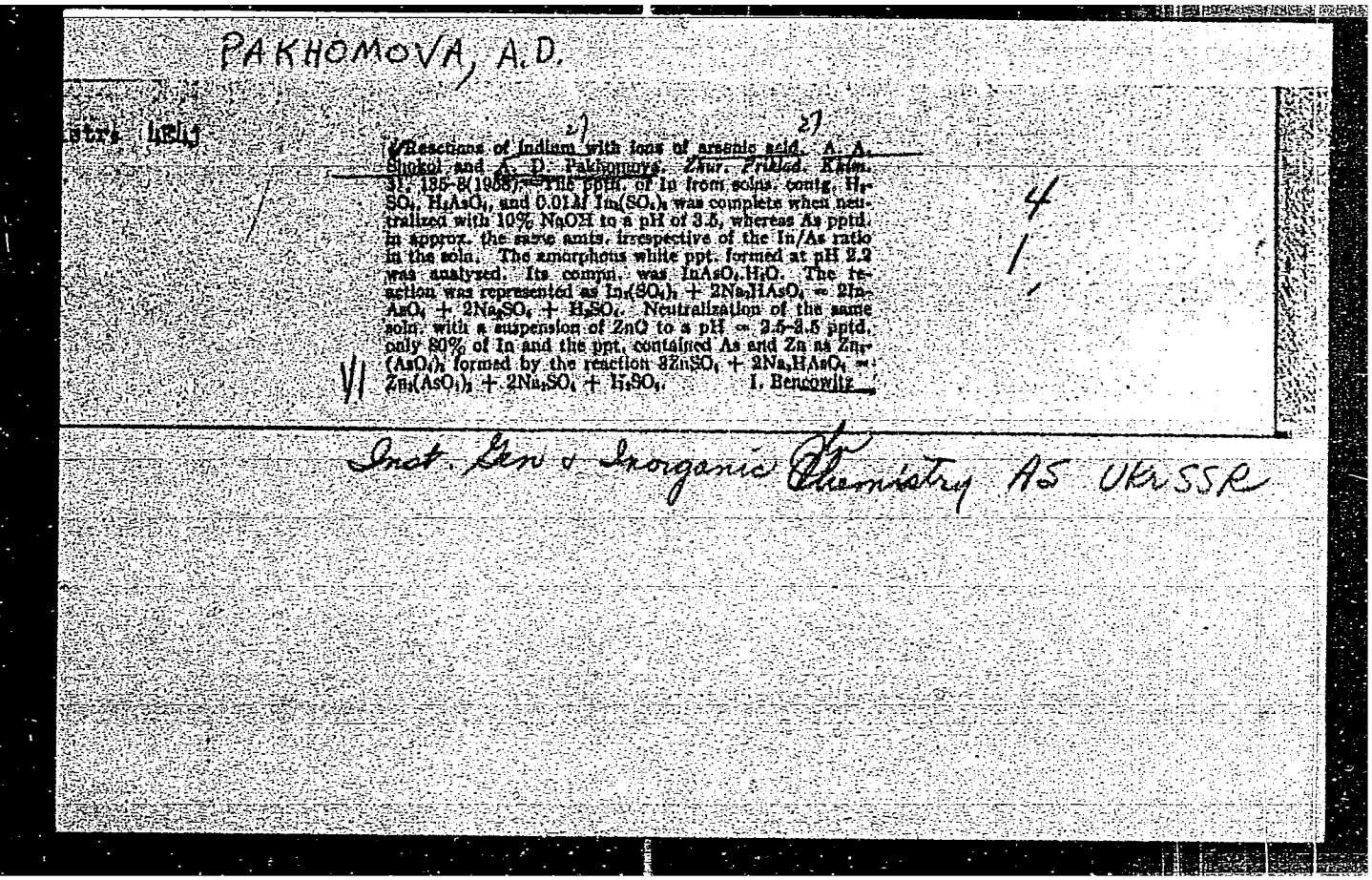

PAKHOMOVA, A.D.

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Reactions of indium with ions of arsenic acid. A. A. Shukol and A. D. Pakhomova. *Zhur. Prikład. Khim.* 31, 135-8(1958).—The pptn. of In from solns. contg. H_2SO_4, H_3AsO_4, and 0.01 *M* $In_2(SO_4)_3$ was complete when neutralized with 10% NaOH to a pH of 3.5, whereas As pptd. in approx. the same amts. irrespective of the In/As ratio in the sols. The amorphous white ppt. formed at pH 2.2 was analyzed. Its compn. was $InAsO_4.H_2O$. The reaction was represented as $In_2(SO_4)_3 + 2Na_2HAsO_4 = 2InAsO_4 + 2Na_2SO_4 + H_2SO_4$. Neutralization of the same soln. with a suspension of ZnO to a pH = 2.5-3.5 pptd. only 80% of In and the ppt. contained As and Zn as $Zn_3(AsO_4)_2$ formed by the reaction $3ZnSO_4 + 2Na_2HAsO_4 = Zn_3(AsO_4)_2 + 2Na_2SO_4 + H_2SO_4$. I. Bencowitz

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TITLE: Production of High Purity Metallic Thallium by the Amalgamation Method

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ABSTRACT: The object of the investigation described in the present paper was to explore the possibilities of using the amalgamation method for the preparation of high purity thallium. The amalgam process, when used for extracting thallium from solutions obtained by decomposition of thallium concentrates, makes it possible to simplify the existing technique, while the high purity of the metal is ensured by the application of anodic oxidation of the obtained amalgams. In the experiments carried out by the present authors, a 2% Cd amalgam was obtained by cementation of a solution resultant from leaching and industrial hydrated concentrate containing (g/l): 1.0 Tl, 0.6 As and 50 H_2SO_4. The recovery of thallium in the amalgam amounted to 90%, decreasing to 70% when the process was repeated. The thallium content in the amalgam obtained after double cementation did not exceed 2%. No satisfactory results were obtained when the acidity of the

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cemented solution was reduced to 5 g/l of free sulphuric acid; high proportion of arsenic, iron and other impurities present in the solution resulted in rapid conversion of mercury to slag. This showed that cadmium amalgam can be used for cementation of thallium from purified solutions only. Better results were obtained when solutions, resultant from decomposition of bichromate concentrate, were used. In cementation of thallium with cadmium amalgams from solutions obtained by decomposition of a solution of pure thallium bichromate, recovery of 95 to 97% can be attained, the degree of utilization of cadmium being 80%. The results of experiments in which the effect of the acidity of the solution on cementation of thallium with a 5% Cd amalgam was studied (volume of the solution - 100 ml; duration of the treatment - 6 hr) are reproduced in Table 1 under the following headings: Tl, Cd and H_2SO_4 content (g/l) in the starting solution; quantity (g and %) of Tl, transferred into the amalgam; quantity (g) of Cd (a) spent on thallium and (b) gone into the solution; useful consumption (%) of cadmium;

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application of the amalgam (first time, second time, etc). It will be seen that, on average, 95% thallium was extracted in the amalgam; when the free H_2SO_4 content in the solution was reduced from 13.1 to 3.9 g/l, the degree of utilization of cadmium increased from 57 to 93%. In the experiments in which the amalgam was re-used five times, the thallium content in the amalgam reached 7%, the degree of utilization of cadmium amounting to 65%. In the next series of experiments, decomposition of the obtained amalgam (containing 2% Tl, 0.5% Cd) with solutions of various oxidizing agents, was studied; in each experiment 2 ml of the amalgam was treated with 10 ml of the solution and the results are reproduced in Table 2 under the following headings: the oxidizing agent (5% $Hg_2(NO_3)_2$, 0.1 mol $Fe_2(SO_4)_3$, ditto, 0.1 mol $FeCl_3$, ditto), duration of the treatment, minutes; quantity (g) of Tl and Cd found in the solution after cementation; the potential, E, (v) of the amalgam (after cementation) referred to normal hydrogen electrode. (In the experiment marked with an asterisk, the amalgam was converted into

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paste.) All the investigated substances, with the exception of ferric chloride, secured full decomposition of the amalgam; for practical reasons, it is expedient to use for this purpose the iron sulphate solution. The anodic oxidation of the amalgam was carried out in an electrolyte containing 60 g/l NH_4OH and 90 g/l NH_4Cl, pure mercury being used as the cathode. The results of the electrolysis of 56.25 g of a 5% thallium amalgam are reproduced in Table 3 under the following headings: duration of the treatment, minutes; voltage, v; current density, amp/dm^2; the anode potential, E, (v) in respect to normal hydrogen electrode. The change of the anode potential with time was gradual; the electrolysis was terminated when a white deposit (thallium chloride) appeared on the anode surface. The products of electrolysis contained: thallium amalgam (anode) - 4.975% Tl (corresponding to 99.5% of the thallium content) and 0.025% Cd; cadmium amalgam (cathode) - 0.45% Cd and 0.011% Tl; electrolyte - less than 0.001% Tl and 0.025% Cd. Thus, it was shown that practically all

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cadmium can be extracted from thallium amalgam by electrolysis in an ammonia-chloride electrolyte. The flow sheet of the process used in the large-scale experiments on the extraction of thallium from bichromate concentrate is reproduced in Fig 1. The bichromate concentrate was obtained from the solution after decomposition of 5.7 kg of industrial hydrated cake. From the resultant solution, containing 6 g/l Tl and 4 g/l H_2SO_4, thallium was extracted by room temperature cementation with a 5% Cd amalgam; 1 kg of the amalgam (re-used five times) was used for 10.5 l of the solution. The typical results obtained are reproduced in Table 4 under the following headings: application of the amalgam (first, second time etc); duration (hr) of the cementation; proportion of Tl (% of the initial content) remaining in the solution after cementation. The obtained amalgam contained 8.44% Tl, 2.6% Cd, lead, tin, bismuth, copper and other impurities. For the preparation of high purity metal it is advisable to use a more concentrated amalgam. If electrolysis is used for this purpose and if

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an electrolyte is employed in which the potential of cadmium is more negative, a cadmium-free amalgam will be obtained; the more positive metallic impurities will remain in the "primary" amalgam. Curves plotted in Fig 2 illustrate the relationship between potential of the cadmium and thallium amalgams and the metal content (at -%) in the electrolytes for the following cases: 1 - cadmium amalgam in an electrolyte containing 2 mol NH_4OH and 1 mol $(NH_4)_2SO_4$; 2 - cadmium amalgam in an electrolyte containing 0.5 mol NH_4OH and 1 mol $(NH_4)_2SO_4$; 3 - thallium amalgam in an electrolyte containing 0.5 mol NH_4OH and 1 mol $(NH_4)_2SO_4$. It will be seen that increasing concentration of ammonia in the electrolyte, the potential of the cadmium amalgam is shifted towards the more positive values. Fig 3 shows the polarization curves of anodic decomposition of: 1 - an amalgam containing 7 at-% thallium in an electrolyte containing 0.5 mol NH_4OH, 1 mol $(NH_4)_2SO_4$ and 0.01 mol Tl_2SO_4; 2 - an amalgam containing 5 at-% cadmium in an electrolyte containing 0.5 mol NH_4OH,

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1 mol $(NH_4)_2SO_4$, and 0.01 mol $CdSO_4$; 3 - an amalgam containing 5 at-% cadmium in an electrolyte containing 2 mol NH_4OH, 1 mol $(NH_4)_2SO_4$, and 0.01 mol $CdSO_4$. These curves show that dissolution of cadmium takes place mainly in the initial stages of the process; in the electrolyte containing 2 mol NH_4OH, the polarization curve of the anodic decomposition of the cadmium amalgam is shifted towards the more negative values of the potential.

Fig 4 shows the polarization curves of cathodic deposition for the following cases: 1 - thallium on mercury from an electrolyte containing 0.5 mol NH_4OH, 1 mol $(NH_4)_2SO_4$, and 0.1 mol Tl_2SO_4; 2 - thallium on amalgam containing 7 at-% thallium from an electrolyte of the same composition; 3 - thallium on amalgam containing 40 at-% thallium from the same electrolyte; 4 - cadmium on amalgam containing 40 at-% thallium from an electrolyte containing 0.5 mol NH_4OH, 1 mol $(NH_4)_2SO_4$, and 0.1 mol $CdSO_4$; 5 - cadmium on mercury from an electrolyte containing 2 mol NH_4OH, 1 mol $(NH_4)_2SO_4$, and 0.1 mol $CdSO_4$; 6 - cadmium on amalgam containing 40 at-% thallium from the same electrolyte. It will be

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seen that in the case of the electrolyte containing 0.5 mol NH_4OH, the shift of the cadmium potential in relation to thallium is not sufficiently large; the current density permissible in this electrolyte (stirred at the rate of 60 rev/min) decreased from 1.2 to 0.5 amp/dm^2 as the thallium concentration in the amalgam increased; when an electrolyte containing 2 mol NH_4OH is used, the shift of the potential is larger, which makes it possible to use higher current density (1.2 amp/dm^2). The diluted thallium amalgam was concentrated by electrolysis in which mercury cathode and ammonia-sulphate electrolyte (0.5 mol NH_4OH, 1 mol $(NH_4)_2SO_4$) were used, the resultant amalgam contained 32.8% thallium, 5.6% cadmium and other impurities, the thallium content in the electrolyte being 0.27 g/l. The results of the potential measurements carried out during this operation are given in Table 5 under the following headings: quantity of electricity, amp-hr; cathode and anode potentials (v) relative to normal hydrogen electrode

Card 8/10 The impurities were removed from the concentrated amalgam

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by anodic polarization in an electrolyte consisting of 0.1 mol trilon B in 1.0 N solution of NaOH, at the current density of 0.5 amp/dm^2. The bulk of the impurities was removed at room temperature until thallium ions appeared in the electrolyte; the process was then continued for 3 to 4 hr at 60 to 70°C, the electrolyte being stirred at the rate of 200 rev/min; the quantity of thallium passing into the solution during this operation amounted to 10 to 20 g/l. The purified amalgam was then subjected to anodic dissolution carried out under the following conditions: cathode - platinum; electrolyte - 40 to 70 g/l $TlClO_4$, 60 to 120 g/l $NaClO_4$, 1% $N_2H_4 \cdot H_2SO_4$, 0.04 to 0.1% sodium salt of carboxymethyl-cellulose; pH equal 2 - 3; speed of stirrer - 60 rev/min. The most dense deposits were obtained at the cathode current density of 0.3 to 0.6 amp/dm^2. To reduce the quantity of mercury in the cathodic deposit, hydroxylamine was added to the electrolyte to reduce the dissolved oxygen which, by oxidizing mercury, promotes its transfer into the electrolyte. The process was carried

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till the thallium content in the amalgam was 1%. 80.3 g of metallic thallium (equivalent to 95.5% yield) was obtained in this manner. The results of spectrographic analysis (< 0.0001% Cd, 0.0001% Pb, 0.0001% Cu, 1.10^{-5}% Hg, iron, zinc, tin and aluminium not detected) confirmed that high purity (99.999%) thallium can be prepared by the method described. There are 4 figures, 5 tables and 7 references, 4 of which are Soviet and 3 German.

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Discussion on L.Shotter's article "New method of reinforcing graft in keratoplasty." Vest.oft. 32 no.5:41-42 S-O '53. (MLRA 6:10)

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