L 08999-67

ACC NR: AP6012124

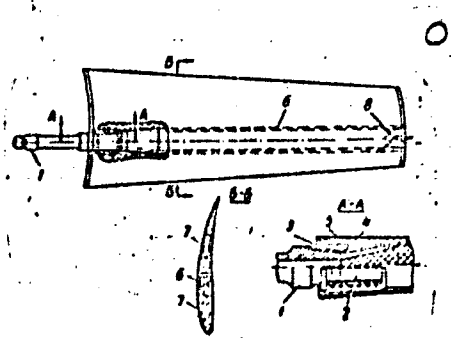


Fig. 1. 1 - shaft; 2 - disengaging coupling section; 3 - glass-reinforced plastic layer; 4 - tapered split bushing; 5 - subsequent layer of glass-reinforced plastic; 6 - power spar; 7 - auxiliary spars; 8 - disks

layer of plastic deposited on the framework to produce the operating profile of the blade. The blade framework includes a power spar and auxiliary spars which form (in the transverse cross section) the operating profile. The blade carries on its end part a set of balancing disks. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 12Feb65

Card 2/2 nst

ZAKHAROV, Mikhail Dmitriyevich; ABRAMOVICH, G.O., red.; KOLBICHEV, V.I., tekhn.red.

[Chelyabinsk in the seven-year plan] Cheliabinsk v semiletke. Izd.dop. i perer. Cheliabinsk, Cheliabinskoe knizhnoe izd-vo, 1960. 83 p. (MIRA 13:9)
(Chelyabinsk--Economic policy)

ZAKHAROV, M.F., kand.tekhn.nauk

Braking conditions with three-phase short circuit of small short-circuited asynchronous motors. Izv.vys.ucheb.zav.; energ. 3 no.3:56-62 Mr '60. (MIRA 13:3)

1. Ivanovskiy energeticheskiy institut imeni V.I.Lenina. Predstavlena elektromekhanicheskoy sektsiyey nauchno-tekhnicheskoy konferentsii.
(Electric motors, Induction)

ZAKHAROV, N. F., Engineer

"Braking by the Countercurrent of Squirrel-Cage Induction Motors." Sub 26 Jun51, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

ZAKHAROV, M.F., kand.tekhn.nauk; SMIRNOV, Yu.V., inzh.; SHKATOV, Ye.F., inzh.

New way of braking asynchronous short-circuited motors by the method of three-phase short-circuiting. Izv.vys.ucheb.zav.; energ. 3 no.4:40-46 Ap '60. (MIRA 13:6)

1. Ivanovskiy energeticheskiy institut imeni V.I.Lenina. Predstavlena elektromekhanicheskoy sektsiey nauchno-tekhnicheskoy konferentsii.

(Electric motors, Induction)

ZAKHAROV, M. F.

USSR/Engineering - Regulation

FD-1749

Card 1/2 : Pub. 10-8/12

Author : Belyayev, I. V. (docent); Borisov, V. A. (docent); Skurikhin, V. I.; Zakharov, M. F.; Krylov, M. A. (all Candidates of Technical Sciences)

Title : Discussion on the article "Development of Automatics and Telemechanics in the Fifth Five-Year Plan"

Periodical : Avtom. i telem., Vol. 16, 203-205, Mar-Apr 1955

Abstract : In a letter by a group of scientists from the Leningrad Electrical Engineering Institute, "Development of Automatics and Telemechanics in the 5th 5-Year Plan," published in No 2, 1953, ibid., a number of important questions were posed: The serial (mass) production of typical automatic and telemeter apparatuses for industry, agriculture, and sci-resinstitutions; expansion and teaching of specialists in the planning, designing, manufacturing, and exploitation of automatic and telemeter equipment; strengthening of connection between individual institutions and other organizations concerned with automatics and telemechanics. Actively engaged at Leningrad Electrical Engineering Institute in these problems are Professors N. K. Bogoroditskiy, D. V. Vasil'yev, S. A. Rinkevich, V. I. Ivanov, and others. Special courses already formed are: Principles of telemechanics, Principles of automatization, Regulation of electric drives, Electrical power stations, networks and systems, Relay protection and automatization of electrical power systems,

FD-1749

Card 2/2

Automatization of industrial processes, electrical equipping of industrial mechanisms, Electrification of enterprises, etc.

Institution : Ivanov Electric Power Institute im. Lenin [Ivanovskiy energeticheskiy institut im. V. I. Lenina]

Submitted : -

3

L 5192-66 EWP(e)/EWT(m)/EPF(c)/EWP(t)/T/EWP(t)/EWP(b)/EWA(h) JD/WW/DJ/WE

ACC NR: AP5024999 SOURCE CODE: UR/0286/65/000/016/0062/0062

AUTHORS: Uvarov, V. Ya.; Glebov, Yu. P.; Zhuravlev, F. V.; Yermanok, M. Z.; Rubin, Yu. L.; Zakharov, M. F.; Kochnova, G. P.; Sukhanova, M. F. 53 B

ORG: none

TITLE: Lubricant for heat treatment of metals. Class 23, No. 173869 [announced by the Organization of Mosgorsovnarkhoz (Organizatsiya mosgorsovnarkhoza)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 62

TOPIC TAGS: lubricant, metal heat treatment, mineral oil

ABSTRACT: This Author Certificate presents a mineral oil and graphite lubricant for heat treatment of metals. To prevent metals from sticking to the instrument, talcum and red lead are added to the lubricant. The talcum constitutes 10% by weight of the additive, and the red lead constitutes 8-25% by weight.

SUB CODE: FP/ SUBM DATE: 06Jul64

Card 1/1 UDC: 665.5

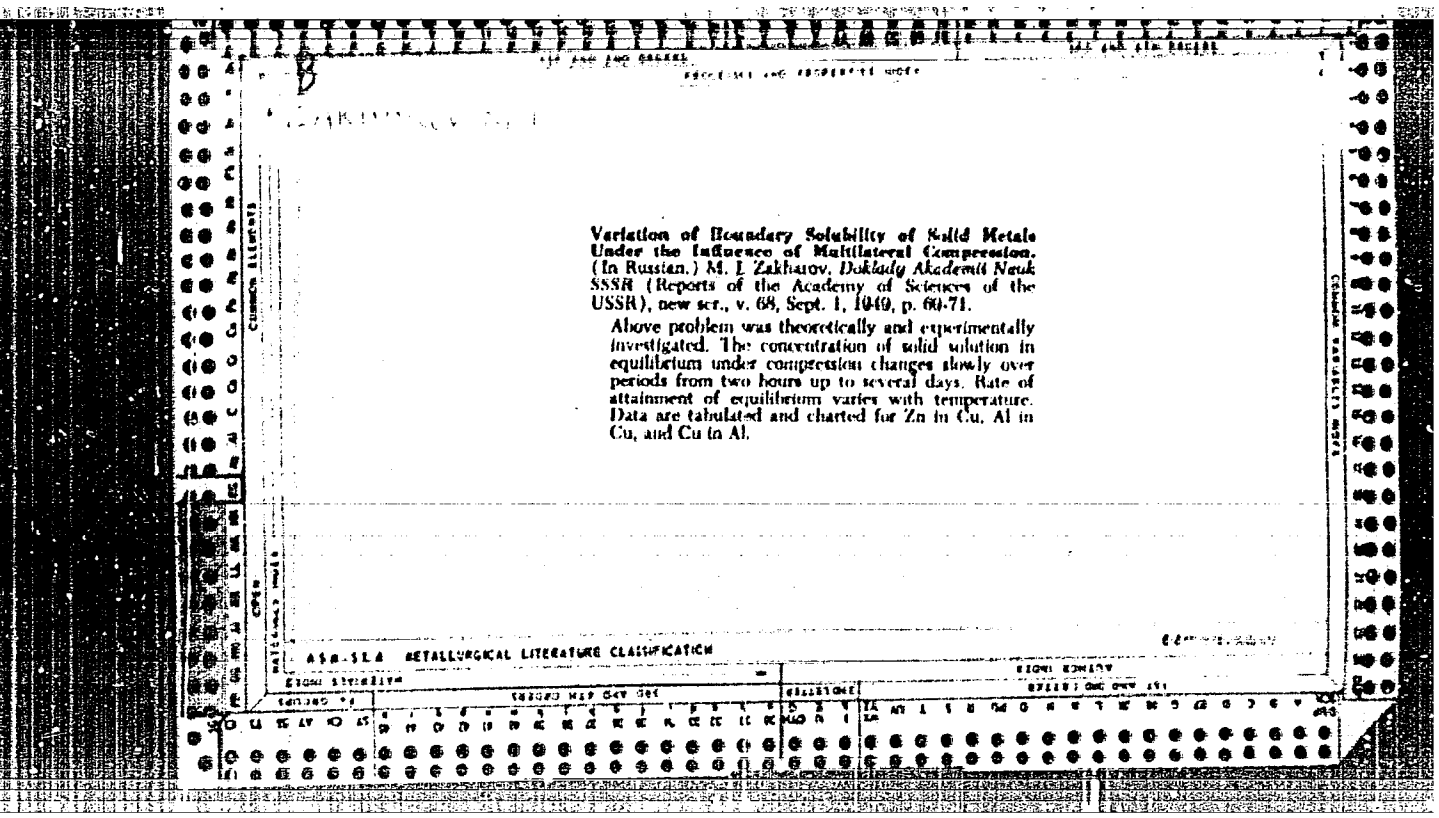
0901 0768

ZAKHAROV, M. G. and REVUT, I. B.

"Application of bituminous (asphalt) emulsion for the control of filtration in irrgation canals in the sands. p.117

Voprosy ispol'zovaniia vodnykh resursov Srednei Azii. Moskva, Izd. Akad. Nauk, 1954. 167pp. (Aralo-Kaspiiskaia Kompleksnaia Ekspeditsiia. Trudy. no. 3)

Agrophysical Institute of the All-Union Academy of Agriculture imeni Lenin.



Variation of Boundary Solubility of Solid Metals Under the Influence of Multilateral Compression. (In Russian.) M. I. Zakharov, *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 68, Sept. 1, 1949, p. 69-71.

Above problem was theoretically and experimentally investigated. The concentration of solid solution in equilibrium under compression changes slowly over periods from two hours up to several days. Rate of attainment of equilibrium varies with temperature. Data are tabulated and charted for Zn in Cu, Al in Cu, and Cu in Al.

ZAKHAROV, M.I.

POZDNYAKOV, V.Ya.; LEVSHIN, B.P.; ZAKHAROV, M.I.

Some advantages and disadvantages of the electric smelting of ores for matte. TSvet.met. 28 no.4:41-44 Jl-Ag '55. (MIRA 10:11)

1. Kombinat "Severonikel'."

(Smelting)

SOV/137-59-1-483

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 61 (USSR)

AUTHOR: Zakharov, M. I.

TITLE: Improving the Technology of Smelting of Cu-Ni Ores at the Severonikel' Kombinat (Uluchsheniye tekhnologii rudnoy plavki medno-nikelevykh rud na kombinate Severonikel')

PERIODICAL: Materialy Soveshchaniya po vopr. intensifik. i usoversh. dobychi i tekhnol. pererabotki medno-nikelevykh i nikelevykh rud. 1956 g. Moscow, Profizdat, 1957, pp 145-157

ABSTRACT: The presence of an infusible gangue with a high MgO content in sulfide Ni-Cu ores of the Severonikel' Kombinat impedes shaft-furnace smelting (S) operations and necessitates the addition of a large quantity of ferrous slags to the charge in order to dissolve the MgO. Increasing the melting point of waste slags made it possible to raise the temperature of the furnace, increase the MgO content of the slag, and, consequently, lower the quantity of converter slag introduced into the charge (from 50-60 to 25-30% of the weight of the ore fraction of the charge). As a result, the specific smelting of the ore increased by 28%, the coke consumption decreased by 60-65 kg/ton of

Card 1/2

Improving the Technology of Smelting of Cu-Ni Ores (cont.)

ore, and the content of Cu and Ni in the waste slags was reduced by 1.5 and that of Co by 2 times. The operating efficiency of electric ore-smelting furnaces was significantly improved by means of increasing the depth of the molten mass from 1400-1600 mm to 2500 mm (this included the increase in the height of the matte layer from 600-800 to 600-900 mm), which increased the time required for the settling of the slags, as well as by means of increasing the capacity of the furnace power transformers. A comparison of economic and production indices shows that, compared with electrosmelting, the cost of smelting of one ton of ore in a shaft-furnace is 70% higher; moreover, the extraction of Ni is more complete in the electrosmelting method. An increase in Si content in waste slags to 41-42% and a reduction in the amount of converter slags made it possible to reduce the content of Ni in the slags by 36% and the content of Cu and Co by 35 and 40%, respectively, in the period between 1945 and 1955.

Ye. Z.

Card 2/2

KHANUKAYEV, Aleksandr Nisanovich; ZAKHAROV, M.I., otv. red.; YEMOKIN, G.M., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.

[Energy of stress waves in breaking rocks by blasting]Energiia voln napriazhenii pri razrushenii porod vzryvom. Moskva, Gosgortekhizdat, 1962. 199 p. (MIRA 15:10)

(Blasting)

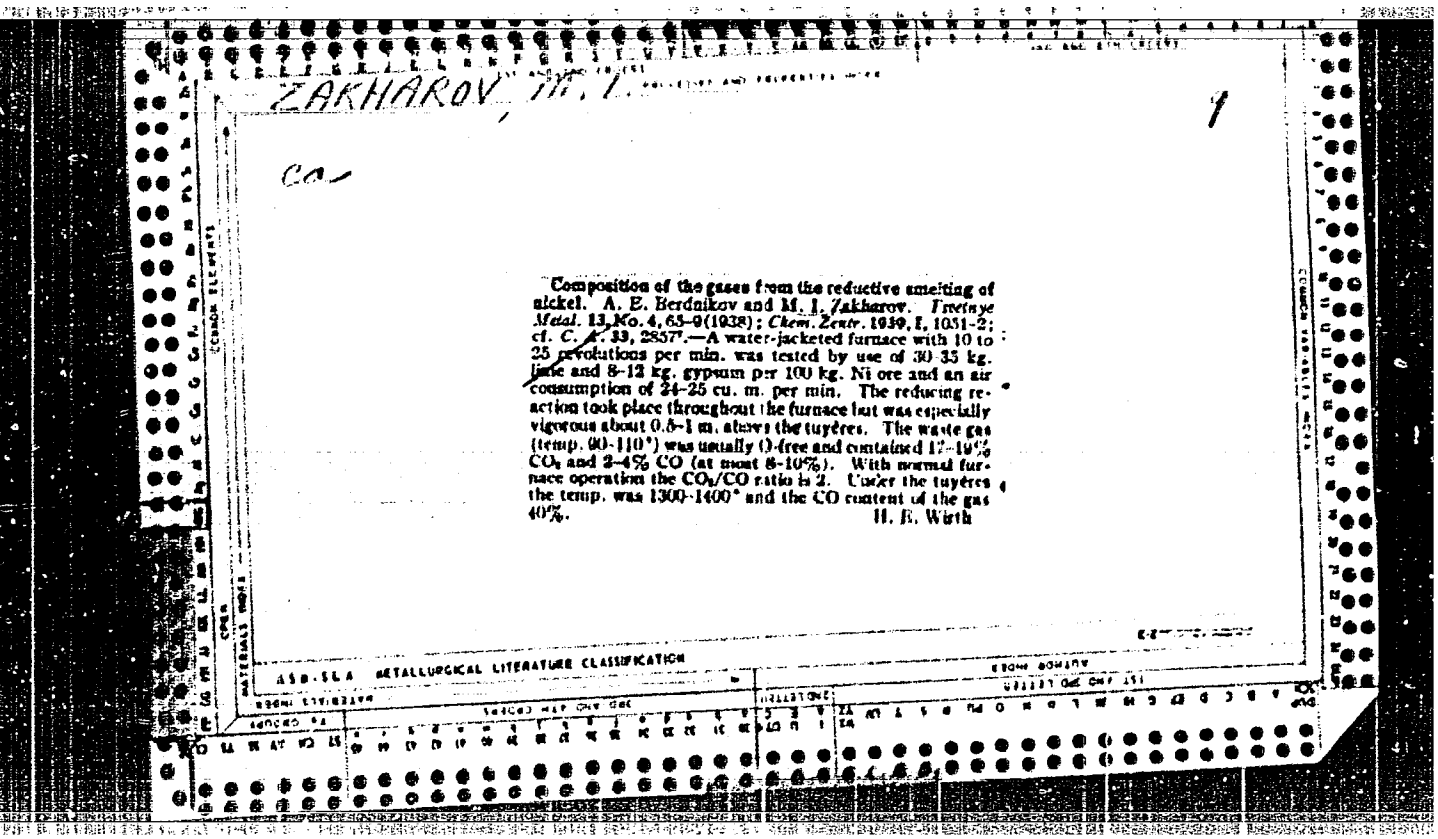
ZAKHAROV, M.I.

Physical therapy in case of hip fractures with intraosseous fixation by a metal rod. Sbor.nauch.trud.Kiev.okruzh.voen.gosp. no.4:81-86 '62. (MIRA 16:5)

(PHYSICAL THERAPY) (INTERNAL FIXATION IN FRACTURES)

AKMENTYN'SH, Ya.Ya.; BLEYVAS, I.M.; GEKKER, I.R.; ZAKHAROV, M.I.

Interaction of relativistic electrons with the electric field of an output cavity resonator of a transit klystron. Radiotekh. i elektron. 8 no.11:1901-1910 N '63. (MIRA 17:1)



ZAKHAROV, M. I.

1

CO-

Composition of the gases from the reductive smelting of nickel. A. E. Berdnikov and M. I. Zakharov. *Tsvetnye Metal.* 13, No. 4, 63–9 (1938); *Chem. Zentr.* 1939, I, 1051–2; cf. *C. A.* 33, 2857⁷.—A water-jacketed furnace with 10 to 25 revolutions per min. was tested by use of 30–35 kg. limestone and 8–12 kg. gypsum per 100 kg. Ni ore and an air consumption of 24–25 cu. m. per min. The reducing reaction took place throughout the furnace but was especially vigorous about 0.5–1 m. above the tuyères. The waste gas (temp. 90–110°) was usually O-free and contained 17–19% CO_2 and 2–4% CO (at most 8–10%). With normal furnace operation the CO_2/CO ratio is 2. Under the tuyères the temp. was 1300–1400° and the CO content of the gas 40%. H. E. Wirth

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAKHAROV, M.I.

Improving the flotation separation process of copper-nickel matte.
TSvet.met. 38 no.7:46-49 Jl '65. (MIRA 18:8)

ZAKHAROV, M.K.; POLESHCHUK, A.L.

Method of stereoscopic microphotography. Arkh. anat., Moskva 30 no.2: 90-91 Mar-Apr 1953. (CLML 24:3)

1. Of the Department of Histology (Head -- Docent R. S. Gorodinskaya), Khabarovsk Medical Institute.

ZAKHAROV, M.K.

Effect of the nervous system on cell division in the lingual epithelium. Arkh. anat. gist. i embr. 32 no.4:47-53 O-D '55. (MIRA 9:5)

1. Iz kafedry gistologii (zav. dots. I.A Alov) Khabarovskogo meditsinskogo instituta.

(CELL DIVISION,
tongue, eff. of lingual & sympathetic nerves section on)
(TONGUE, physiology,
eff. of lingual & sympathetic nerves section on cell division)
(SYMPATHETIC NERVOUS SYSTEM, physiology,
eff. of nerve section on lingual cell division)
(TONGUE, innervation,
eff. of section of lingual nerve on cell division)

ZAKHAROV, M.K.

The effect of mediators on processes of cell division. Biul.eksp. biol.med. 41 no.5:63-65 May '56. (MLRA 9:8)

1. Iz kafedry gistologii (zav. dotsent I.A.Alov) Khabarovskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR N.V.Chernigovskim.

(NERVES, physiol.
eff. of mediators on retinal mitosis in mice)
(RETINA, physiol.
eff. of mediators on mitosis in mice)

ZAKhAROV, M. K., Cand Med Sci — (diss) "The Effect of the Nervous System on the Mitotic Division of Cells," Khabarovsk, 1958, 16 pp, 200 copies (Khabarovsk State Medical Institute)(KL, 46/60, 127)

17(1)

AUTHOR: Zakharov, M. K. SOV/20-123-3-48/54

TITLE: The Effect of Adrenalin Upon Cell Division Under Conditions of the Elimination of Sympathetic Innervation (Vliyaniye adrenalina na deleniye kletok v usloviyakh desimpatizatsii)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 550-553 (USSR)

ABSTRACT: The role of the sympathetic nerve-system in the regulation of the cell movements is but insufficiently elucidated. A survey of publications (Refs 1-11) follows. The author used some other experimental models since the experiments with desympathization as such cannot give distinct results for other mechanisms of regulation act by compensation. The test object was the epithelium of the tongue of the cat. In the first series, the mitotic activity in the epithelium of the left and the right half of the tongue of normal animals was investigated, in the second series, this epithelium was examined after adrenalin application and in the third series the influence of adrenalin exercised upon the cell division in the epithelium of the tongue after a unilateral removal of the upper sympathetic cervical ganglium was investigated.

Card 1/3

The Effect of Adrenalin Upon Cell Division Under Conditions of the Elimination of Sympathetic Innervation

SOV/20-123-3-48/54

Adrenalin, as is known, is one of the most potent regulators of cell division. The results obtained suggest an increase in susceptibility of the cells preparing mitosis for the anti-mitotic effect of adrenalin. The variations of the cell reactions can be explained by two ways: a) This change of the reaction on desympathization may suggest a 2-phase character; after 5-6 days, the susceptibility to adrenalin decreases. b) The reduced decrease in mitotic activity on the desympathized part may be connected with a gradual spreading of the increased susceptibility to the intact side of the tongue. Without drawing definite conclusions, the author tends to assumption b). Anyway, the experiments described show that the sympathetic nerve-system plays a definite part in the regulation of the cell division. This role is apparently carried out by those exchange processes which effect mitosis. The reflex inhibition of the cell divisions is mainly connected with an increased adrenalin secretion by the suprarenal glands (Ref 1). There are 2 figures, 2 tables, and 11 references, 10 of which are Soviet.

Card 2/3

The Effect of Adrenalin Upon Cell Division Under Conditions of the Elimination of Sympathetic Innervation SOV/20-123-3-48/54

ASSOCIATION: Khabarovskiy gosudarstvennyy meditsinskiy institut (Khabarovsk State Medical Institute)

PRESENTED: July 17, 1958, by L. A. Orbeli, Academician

SUBMITTED: July 12, 1958

Card 3/3

ZAKHAROV, M.K.

Change in the mitotic activity of kidney epithelium in relation to the functional activity of the organ. Biul. eksp. biol. i med. 51 no.6:81-84 Je '61. (MIRA 15:6)

1. Iz kafedry gistologii (zav. - prof. I.A. Alov) Khabarovskogo meditsinskogo instituta (dir. - prof. S.K. Nechepayev). Predstavlena deystvitel'nym chlenom AMN SSSR N.A. Krayevskim.

(KIDNEYS)
(KARYOKINESIS)

BOYAR-SOZONOVICH, S.P.; ZAKHAROV, M.K.; KAMENYARZH, A.Ya.; REYNSBURG, A.M.; RYVKIN, V.L.

Development and application of new techniques for insulating the grooves of electrical machines using polymers. Energ. i elektrotekh. prom. no.1:31-34 Ja-Mr '63. (MIRA 16:5)

1. Odesskiy politekhnicheskiy institut (for Boyar-Sozonovich, Zakharov). 2. Odesskiy zavod stroitel'no-otdelochnykh mashin. (for Kamenyarzh, Reynsburg, Rybkin).
(Electric motors, Synchronous)

ZAKHAROV, MIKHAIL KONSTANTINOVICH, dotsent; BOYAR-SOZONOVICH, STANISLAV PAVLOVICH, dotsent; SHUSTER, ALEKSANDR YEFIMOVICH, inzh.

Method for mechanized arranging of the stator windings of converted asynchronous motors. Izv. vys. ucheb. zav.; elektromekh. 4 no.7:116-118 '61. (MIRA 14:7)

1. Kafedra elektricheskikh mashin Odesskogo politekhnicheskogo instituta (for Zakharov, Boyar-Sozonovich). 2. Odesskiy zavod stroitel'no-otdelochnykh mashin (for Shuster).
(Electric motors, Induction--Windings)

BOYAR-SOZONOVICH, S.P., kand.tekhn.nauk; ZABLONSKIY, K.I., kand.tekhn.nauk; ZAKHAROV, M.K., kand.tekhn.nauk; SHUSTER, A.Ye., inzh.

Reduction motors with general industrial design. Energ. i elektrotekh. prom. no.2:38-39 Ap-Je '65. (MIRA 18:8)

ZAKHAROV, M.K.; BOYAR-SOZONOVICH, S.P.; SHUSTER, A.Ye.; REYNSBURG, A.M.; KORKHOV, S.M.

Reducing electric motors of construction finishing machines. Stroi. i dor. mash. 10 no.8:17-19 Ag '65. (MIRA 18:9)

ZAKHAROV, M.K., kand. tekhn. nauk; BOYAR-SOZONOVICH, S.P., kand. tekhn. nauk; SHUSTER, A.Ye., inzh.; POL'SHINSKIY, V.M., inzh.

Reducing drum-type motors for driving belt conveyors. Energ. i elektrotekh. prom. no.4:41-42 O-D '65. (MIRA 19:1)

ACC NR: AR6025707 SOURCE CODE: UR/0196/66/000/004/I002/I002

AUTHOR: Zakharov, M. K.

TITLE: Calculating slot leakage in a-c electrical machines with concentrated windings

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 417

REF SOURCE: Elektromashinostr. i elektrooborudovaniye. Resp. mezhved. nauchno-tekhn. sb., vyp. 7, 1965, 19-28

TOPIC TAGS: electric ~~machine~~ motor, ac electric machine, alternating current

ABSTRACT: The calculation of slot leakage in the concentrated-winding machines (stepping motors, submersible motors, etc.) by using the conventional formulas results in substantial errors due to the fact that the magnetic field strength under adjacent teeth is different and the slot field is distorted asymmetrically. To avoid these errors, in the machines with single-layer windings, the field distortion in the slit and slot depth must be taken into account. In the machines with two-layer windings, in addition to the cross leakage, a longitudinal transformer-type leakage occurs in the slots containing different-phase coils. The slot-leakage permeance, in the two-layer concentrated-winding machines, can be calculated by using a formula suggested by the author. Five figures. Bibliography of 1 title. M. Agurskiy
[Translation of abstract]

Card 1/1 SUB CODE: 09

UDC: 621.3.013.5.001.24

ZAKHAROV, Mikhail L'vovich; KOLGANOV, I.P., red.; ZAYTSEVA, L.A., tekhn. red.

[State social insurance; a collection of official materials] Gosudarstvennoe sotsial'noe strakhovanie; sbornik ofitsial'nykh materialov. Moskva, Profizdat, 1963. 366 p. (MIRA 16:11)
(Insurance, Social)

ZAKHAROV, M.L.

Organizing of a campaign against industrial interference to radio and television reception. Vest. sviazi 22 no.12:19-20 D '62. (MIRA 16:1)

1. Nachal'nik Gosudarstvennoy inspektsii elektrosvyazi Ministerstva svyazi Belorusskoy SSR.
(Radio—Interference) (Television—Interference)

ZAKHAROV, M.N., vitse-admiral

The traditions of the Pacific Fleet are increasing. Mor. sbor. 48 no.8:17-21 Ag '65. (MIRA 18:8)

ZAKHAROV, M.N., vitse-admiral

Increase the effectiveness of military technical propaganda. Mor. sbor. 47 no.12:10-14 D '63. (MIRA 18:12)

1. Chlen Voyennogo soveta; nachal'nik politicheskogo upravleniya Tikhookeanskogo flota.

SLAVKO, I.A.; ZAKHAROV, M.O.

[Wood carving and fretwork] Rizʹba po derevu ta vypiliuvannia lobzikom. Kyiv, Radianʹska shkola, 1958. 115 p. (MIRA 12:12)
(Wood carving) (Fretwork)

LEVENKO, Petr Ivanovich; KHELEMSKIY, Moisey Aizikovich; ZAKHAROV, M.P., retsenzent; GRACHEV, A.V., red.; SHAPENKOVA, T.A., tekhn. red.

[New technological processes in leather manufacture] Novye tekhnologicheskie protsessy v kozhevennom proizvodstve. Moskva, Rostekhizdat, 1963. 159 p. (MIRA 16:9)
(Leather industry)

ZAKHAROV, M.P.

Continuous production lines in the Moscow Leather Factory. Kozh.-obuv.prom. 4 no.8:4-7 Ag '62. (MIRA 15:8)

1. Glavnyy inzhener Moskovskogo kozhevennogo zavoda.
(Moscow--Leather industry) (Assembly-line methods)

ZAKHAROV, M.P.

Dependence between the mean thickness and weight of 1 square meter of leather. Kozh.-obuv.prom. 5 no.4:25-27 Ap '63. (MIRA 16:5)

1. Glavnyy inzh. Moskovskogo kozhevennogo zavoda.
(Leather--Testing)

ZAKHAROV, N.P.

Modern techniques and progressive technology at the Moscow Hard Leather Factory. Leg.prom. 18 no.6:13-15 Je '58.
(MIRA 12:10)

1. Glavnyy inzhener Moskovskogo zavoda zhestkikh kozh.
(Moscow--Leather industry)

ZAKHAROV, M.P.

Tanning of semifinished products on a worm conveyer. Kozh.-obuv. prom. 3 no.6:24-27 Je '61. (MIRA 14:6)

1. Glavnyy inzhener Moskovskogo kozhevennogo zavoda.
(Tanning) (Conveying machine)

BAKAYEV, A.V.; GELLER, I. Kh.; DORIN, V.A.; ZAKHAROV, M.P.; NASLEDOV, D.N.; SOLOV'YEV, R.A.

Method for investigating potential distribution in selenium rectifying cells. Zav.lab. 27 no.10:1240-1242 '61. (MIRA 14:10)

1. Leningradskiy politekhnicheskiy institut im. M. I. Kalinina.
(Selenium—Electric properties)

MASLOV, I.G.; ZAKHAROV, M.P.; KHRENNIKOV, N.S.

Vapor-air mixture for conditioning leather. Leg.prom.15 [i.e.16] no.3: 25-27 Mr '56. (Leather industry) (MLRA 9:7)

ZAKHAROV, N. S., Cand Chem Sci — (diss) "Study of the oxidation process of ammonia on non-platinum catalysts at increased temperatures," Tomsk, 1960, 18 pp. 150 cop. (Tomsk State U im V. V. Kuybyshev) (KL, 45-60, 122)

S/190

AUTHORS: Kurin, N. P., Zakharov, M. S.

69677
S/153/60/003/01/039/058
B011/B005

TITLE: Investigation of the Oxidation Process of Ammonia in the Presence of Metallic Oxides at Increased Pressure

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol 3, Nr 1, pp 141-145 (USSR)

TEXT: By means of the dynamic method, the authors investigated the catalytic effect of many (16) metallic oxides at a pressure of 8 atm. Table 1 shows the maximum oxidation degrees (α) of ammonia at optimum temperatures (t_{opt}) and volume rate (v) measured at a steady state in the presence of different oxides. This table and figure 1 show that there is a certain relation between the oxidation degree from NH_3 to NO and the logarithm of the dissociation pressure P_{O_2} of the oxides used. Oxidation takes only place in the presence of such oxides the P_{O_2} of which lies between $10^{-19.5}$ and 10 atm. (except for Cr_2O_3). From these facts, the authors draw the conclusion that the oxygen of the crystal lattice of

Card 1/4

Investigation of the Oxidation Process of Ammonia in the Presence of Metallic Oxides at Increased Pressure

the oxide surface plays an important part in ammonia oxidation. Hence it appears further that active oxides must have such P_{O_2} values at which the reduction processes take place just as easily as the oxidation processes. The maximum oxidation degrees from NH_3 to NO were observed on oxides the elements of which have unfilled inner electron shells (MnO_2, V_2O_3, Co_3O_4, Fe_2O_3, NiO, Ni_2O_3, CuO, Cr_2O_3, and others). Among these, the best catalysts are mainly oxides of metals of the 4th and 5th period of the periodic system (according to Shchukarev, Ref 4). Active oxides of the NH_3-oxidation under pressure have a hole-type conductivity. Oxides having an n-type conductivity are either poorly active (TiO_2, ZnO) or inactive.

The authors arrive at the conclusion that in preparing the most active compound catalysts of the NH_3-oxidation, the activating additions must be chosen in such a way that the catalyst obtains a hole-type conductivity by the addition. The catalytic activity of the substances studied here is more dependent on their

chemical composition than on the surface dimensions. Thus, the specific surface of SnO_2 and WO_3 (Table 2) is larger than that of MnO_2 and Cr_2O_3. In spite of this fact, there was no NH_3-oxidation on the two former, whereas on the two latter NH_3 oxidized at 73.8 and 42.3%, respectively. The catalytic activity is also related with the color of the catalyst (Ref 4). The authors proved that only intensively colored oxides: MnO_2, Bi_2O_5, V_2O_3, Ni_2O_3, NiO, Cr_2O_3, CuO, PbO_2, and PbO are relatively good NH_3 catalysts under pressure. Finally, the authors proved by experiments that an addition of semiconductor with n-type conductivity (Al_2O_3) to a semiconductor with hole-type conductivity (Co_3O_4) reduces the NO-yield. Pressing such mixtures reduces the oxidation degree of NH_3 (Table 1). There are 4 figures, 2 tables, and 6 references, 5 of which are Soviet.

69677

Investigation of the Oxidation Process of Ammonia in the Presence of Metallic Oxides at Increased Pressure

S/153/60/003/01/039/058
B011/B005

ASSOCIATION: Tomskiy politekhnicheskiy institut im. S. M. Kirova; Kafedra tekhnologii neorganicheskikh veshchestv (Tomsk Polytechnic Institute imeni S. M. Kirov; Chair of Technology of Inorganic Substances)

SUBMITTED: January 22, 1959

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5 (2)

S/032/60/026/02/011/057
B010/B009

AUTHORS: Zakharov, M. S., Stromberg, A. G., Rodnova, G. G.

TITLE: Polarographical Determination of Manganese in Glasses

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 26, Nr 2, pp 153 - 154 (USSR)

ABSTRACT: A new method for the determination of manganese in special glass types containing considerable amounts of manganese was developed. Experiments showed that Mn^{2+} may be best determined polarographically in an ammonia - ammonium chloride solution. M. A. Shcherbachev (Ref 1) recommends that the latter solution be first added to the solution under investigation and the sodium sulfite added subsequently. The present authors, however, noted that in this case a partial precipitation of $MnO(OH)_2$ takes place. It was found that the sodium sulfite amount added affects the polarographic wave of Mn^{2+} (Figure), since Mn^{2+} forms a stabler complex with sodium sulfite than it does with ammonia. The working method given provides for the glass to be dissolved with NH_4F. In order to prevent precipitation of manganic acid

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Polarographical Determination of Manganese in Glasses

S/032/60/026/02/011/057
B010/B009

at the addition of ammonia, 1m Na_2SO_3 solution is added to the hydrochloric acid solution of the oxides. Subsequently, the mixture of 0.1 m NH_4OH, 0.25 m NH_4Cl, 0.25 m Na_2SO_3, and 0.025% of gelatine is added. The determination results obtained polarographically are in agreement with those obtained gravimetrically (Table). There are 1 figure, 1 table, and 1 Soviet reference.

ASSOCIATION: Tomskiy politekhnicheskiy institut (Tomsk Polytechnic Institute).
Tomskiy elektrolampovyy zavod (Tomsk Electric Bulb Plant)

Card 2/2

ZAKHAROV, M.S., STROMBERG, A.G.

Use of the EO-7 oscillograph for the polarographic determination of micro concentrations. Zav.lab. 26 no.5:632-633 '60.
(MIRA 13:7)

(Oscillograph) (Microchemistry)

STROMBERG, A.G.; ZAKHAROV, M.S.; GOR'KOVYIH, V. Ye.; ZAICHKO, L.F.

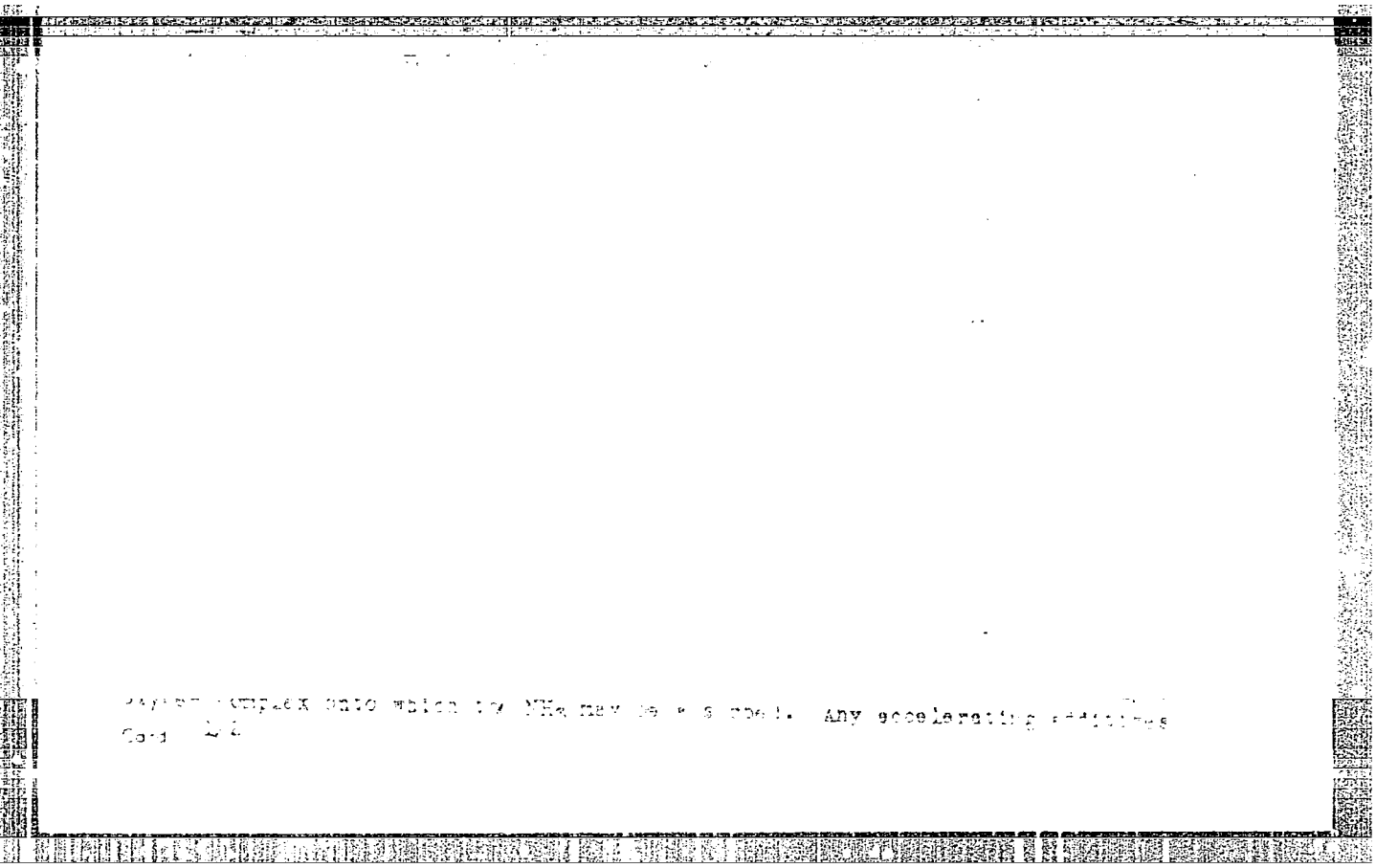
Determination of the ultramicroimpurities of zinc, lead, and copper in high purity tin by amalgam polarography. Zav.lab. 27 no.5:517-521 '61. (MIRA 14:5)

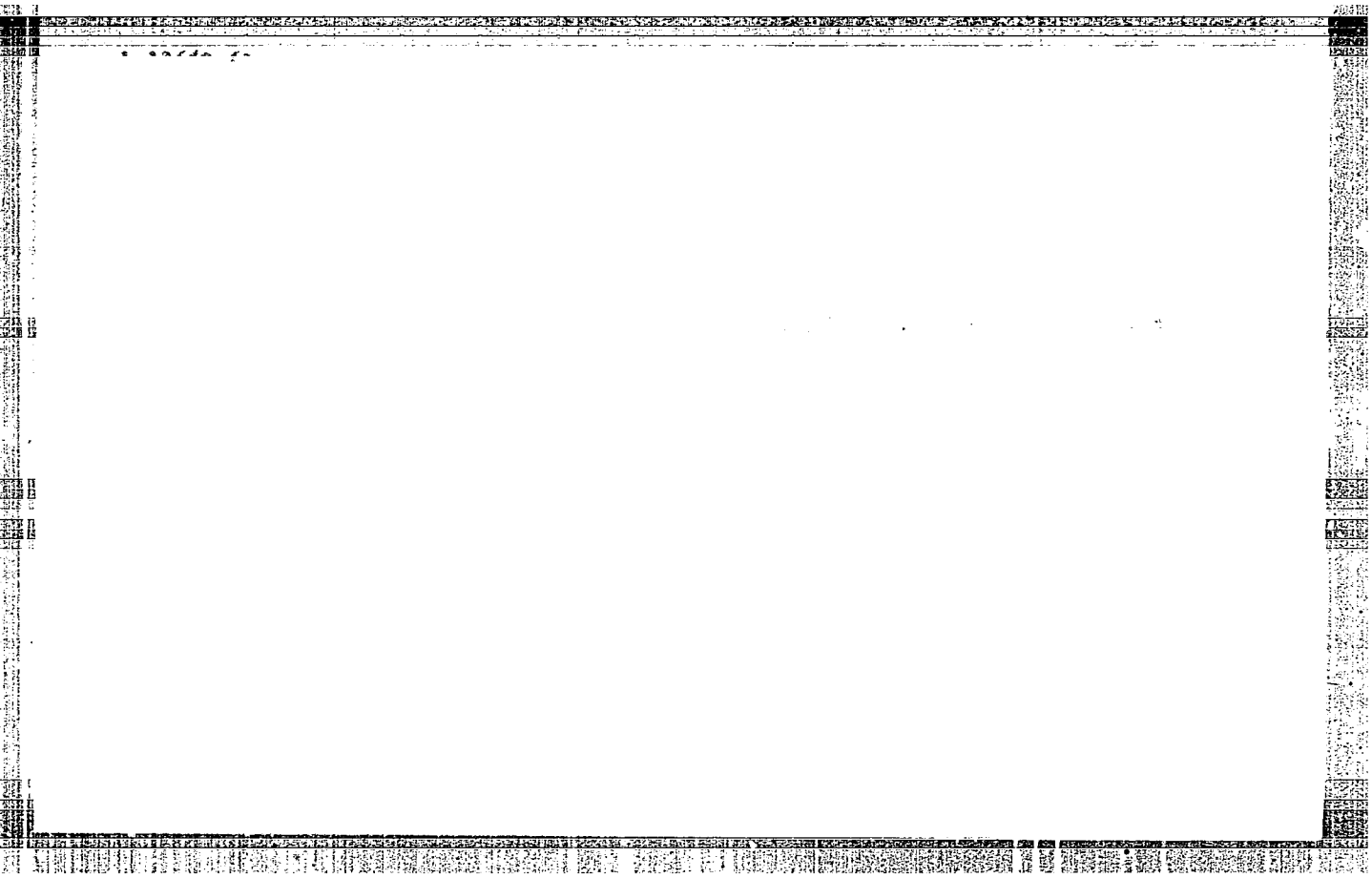
1. Tomskiy politekhnicheskiy institut.
(Zinc—Analysis) (Lead—Analysis) (Copper--Analysis)

ZAKHAROV, M. S.; STROMBERG, A. G.; STROMBERG, A. G.

Possibility of a repeated determination on a stationary mercury drop in determining ultramicroimpurities. Zav.lab. 28 no.1:13-15 '62. (MIRA 15:2)

1. Tomskiy politekhnicheskiy institut.
(Metals--Analysis) (Electrodes, Dropping mercury)





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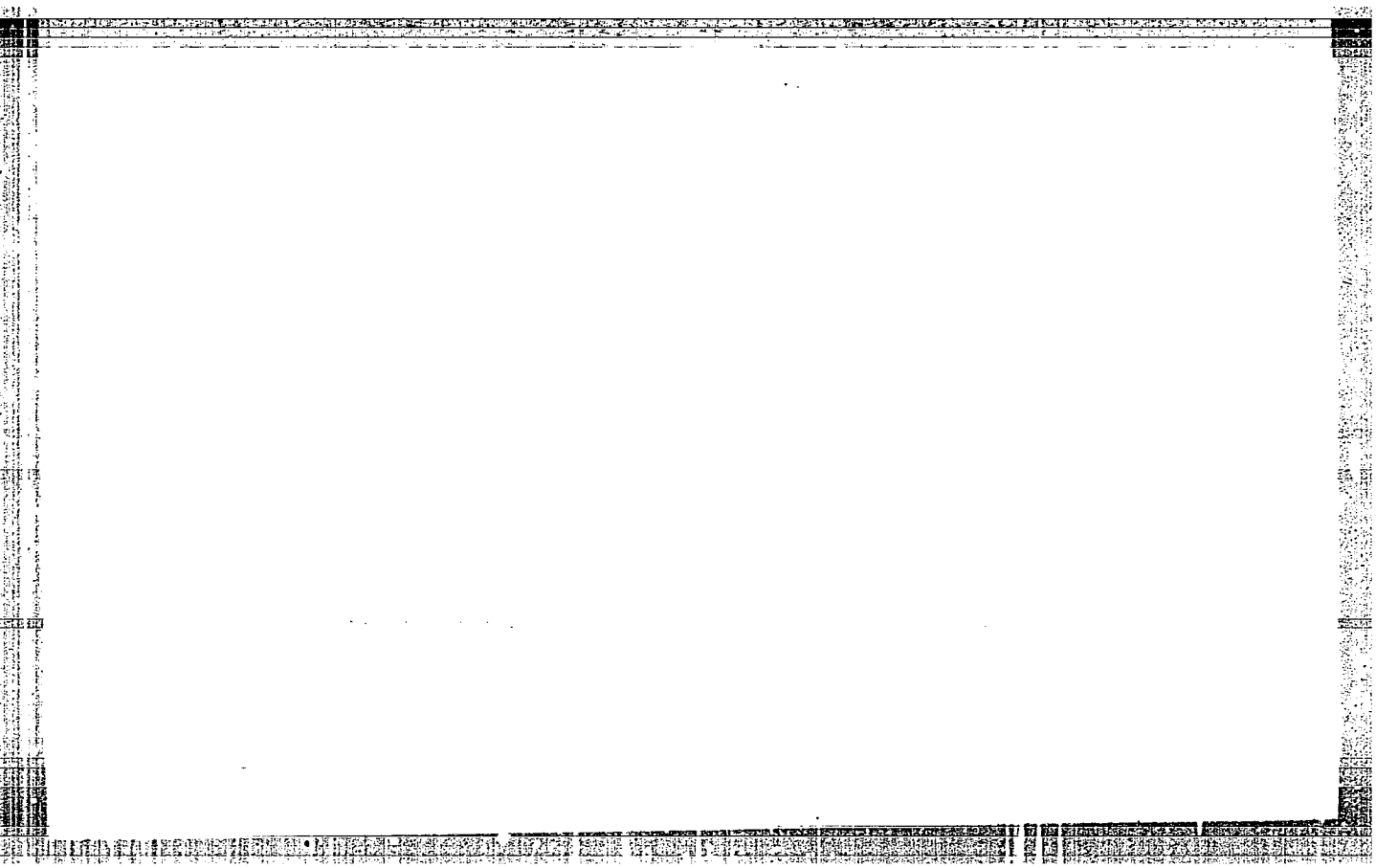


APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963520013-1"

STROMBERG, A.G.; ZAKHAROV, N.S.

Increasing the sensitivity of the method of analysis polarography with accumulation on a stirred mercury drop. Metod. anal. khim. issl. i prepar. no.4:16-22. '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut (TPI).

STROMBERG, A.G.; ZAKHAROV, M.S.; SVORODINOV, V.S.; PICHUGINA, V.I.

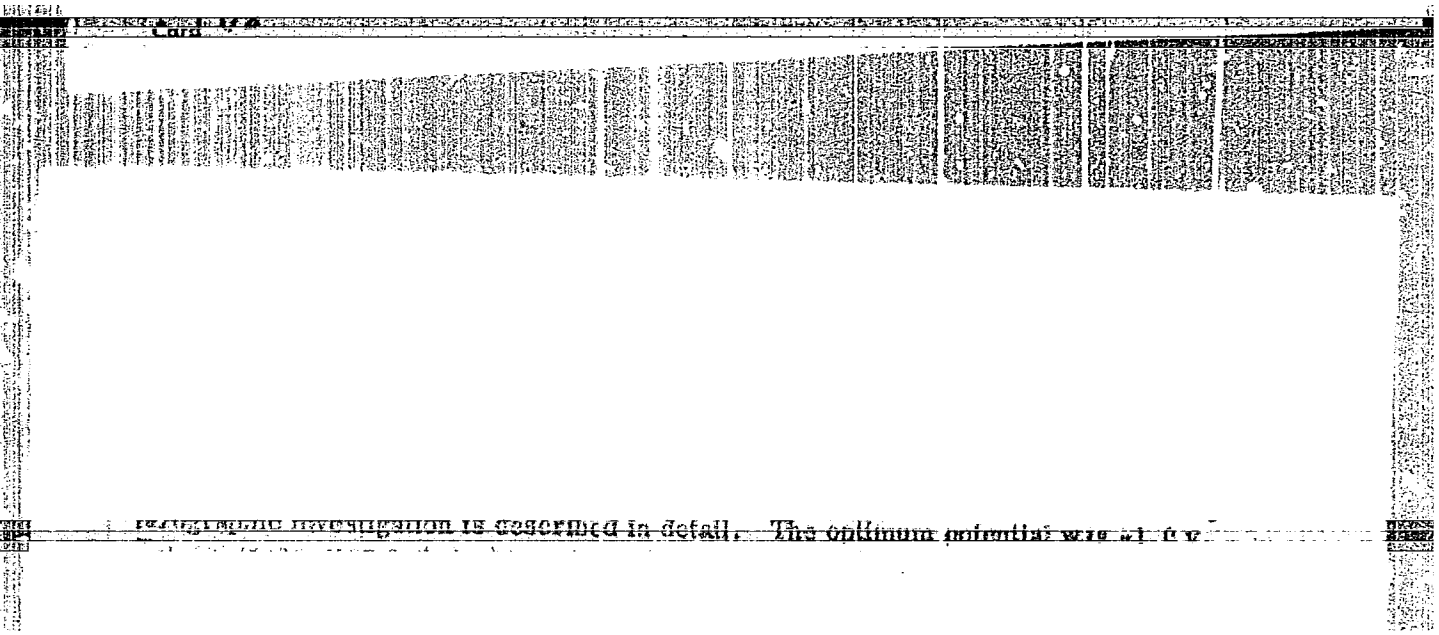
Determination of bismuth, copper, lead, indium, and zinc in tin. Metod. anal. khim. reak. i prepar. no.5/6:72-79 '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

ZAKHAROV, M.S.

Method of amalgam polarography with accumulation on the stationary mercury electrode. Polarographic behavior of gallium. Zhur. anal.khim. 18 no.4:450-453 Ap '63. (MIRA 16:6)

1. Tomsk Polytechnical Institute.
(Gallium—Analysis) (Polarography) (Electrodes, Mercury)



ACCESSION NR: AP4041679 S/0153/64/007/002/0184/0188

AUTHOR: Stepanova. O. S., Zakharov, M. S., Trushina, L. F., Aparina, V. I.

TITLE: Investigation of intermetallic compounds of gallium and germanium with copper and of gold with cadmium by the accumulated mercury polarographic method

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 7, no. 2, 1964, 184-188

TOPIC TAGS: gallium copper intermetallic compound, germanium copper intermetallic compound, gold cadmium intermetallic compound, CdAu, GaCu, $GeCu_2$, polarography, accumulated mercury electrode, stationary mercury electrode, solubility product

ABSTRACT: Intermetallic compounds of Ga and Cu, Ge and Cu, and Cd and Au were studied to determine their composition. Type 7-77-4b polarograph with an electrolyser, which was described by A.G. Stromberg, M.S. Zakharov, L.F. Zaichko (Zavodsk. laboratoriya, 27, 517 (1961)), was used in the investigation. The following electrolytes were used: for Ga-Cu, 0.1M KCl + 0.1M sodium salicylate;

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ACCESSION NR: AP4041679

for Ge-Cu, 0.2M Na_2CO_3 + 0.025M complexon III; and for Au-Cd, 0.1M $(NH_4)_2SO_4$. The Cd, Ga and Ge concentrations were of the order of 10^{-4} mol/l. The anodic peaks for Cd, Ga and Ge disappeared when [Au] : [Cd] = 1, [Cu] : [Ga] = 1 and [Cu] : [Ge] = 3, respectively, indicating the intermetallic compounds CdAu, GaCu and $GeCu_3$. The solubility product of GaCu and $GeCu_3$ in mercury was determined (2×10^{-6} and 8.4×10^{-13} gm. at.^{2} ^{3} l^{-2}, respectively) by calculations described by A.G. Stromberg, V.E. Gorodovy*kh (Zh. neorgan. khimii, 8, 2355 (1963)). The solubility product of CdAu could not be calculated since the potential of the Au anodic peak is higher than that of the mercury solution. The maximum concentrations of Ga and Cu and of Ge and Cu ions which do not form intermetallic compounds in mercury and which therefore can be determined without introducing errors under given analytical conditions were determined. A greater concentration of these ions can be counteracted by decreasing electrolysis time or increasing the volume of mercury. "In conclusion I thank Prof. A.G. Stromberg for veluable advice in conducting and evaluating the work." Orig. art. has: 5 equations, 1 figure and 2 tables.

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ACCESSION NR: AP4041679

ASSOCIATION: Kafedra fizicheskoy i kolloidnoy khimii, Tomskiy politekhnicheskiy institut im. S. M. Kirova (Department of Physical and Colloidal Chemistry, Tomsk Polytechnic Institute)

SUBMITTED: 23Jul63 ENCL: 00 OTHER: 004

SUB CODE: IC, OP NR REF SOV: 009

Card 3/3

ZAKHAROV, M. S.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

P. V. Kristalev and L. B. Kristaleva; Yu. L. Lel'chuk and others; L. F. Zaichko, M. S. Zakharov, and V. F. Yankanskas. Methods for determining iron (10^{-5} to 10^{-6}%), boron (5×10^{-5}%) and phosphorus (10^{-6}%), also antimony in tin.

(ZH. ANAL. KHIM. 19 NO.6, 1964 p.777-79)

ACCESSION NR: AP4043461 S/0075/64/019/008/0959/0963

AUTHORS: Mesyats, N.A.; Nazarov, B.F.; Zakharov, M.S.; Stromberg, A.G.

TITLE: Determination of microamounts of thallium in high purity indium by means of preconcentration amalgam polarography

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 8, 1964, 959-963

TOPIC TAGS: thallium polarography, thallium analysis, indium analysis, amalgam polarography, stripping analysis, extraction, preconcentration

ABSTRACT: Because high purity metallic indium and indium alloys find various applications in electronic engineering, semiconductor technology and since thallium is the usual impurity, it was the purpose of this work to develop a method for the determination of thallium. The method was amalgam polarographic. The effect of the electrolysis potential on the height of the anodic peak of thallium is shown in Figure 1, and the maximum height of the thallium peak is achieved from -0.9 to -1.0 volt vs S.C.E. Thallium was extracted with diethyl ether. Since thallium and indium peak potentials coincide in a majority of supporting electrolytes, the indium peak was

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ACCESSION NR: AP4043461

suppressed by complexan III. Since simple extraction is not sufficient to remove interfering amounts of indium, extraction was carried out twice. Recovery of thallium by extraction and the determination accuracy comprises 85-100%, as found on synthetic solutions. The method is very precise. Orig. art. has: 4 tables and 2 figures.

ASSOCIATION: Tomskiy politekhnicheskiy institut im. S. M. Kirova (Tomsk Polytechnic Institute)

SUBMITTED: 29Jul63 ENCL: 01

SUB CODE: IC , GC. NR REF SOV: 001 OTHER: 002

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ACCESSION NR: AP4043461

ENCLOSURE: 01

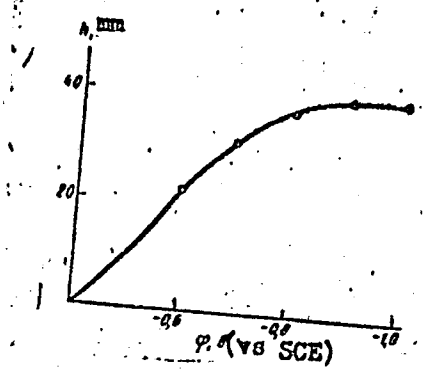

Figure 1

The anodic peak height of thallium as a function of electrolysis potential

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ZAKHAROV, M.S.

Determination of the diffusion coefficients of metal atoms in mercury. Zhur. fiz. khim. 39 no.2:509 F '65. (MIRA 18:4)

1. Tomskiy politekhnicheskiy institut.

ZAKHAROV, M.S.

Effect of the electrolysis potential on the depth of the anode tooth in the method of amalgam polarography with a stationary mercury electrode. Zav. lab. 30 no.1:14-17 '64. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

ACCESSION NR: AP4011445 S/0076/64/038/001/0130/0135

AUTHORS: Zakharov, M. S. (Tomsk); Stromberg, A. G. (Tomsk)

TITLE: Anode current constants and calculated amalgam polarography

SOURCE: Zhurnal fiz.khim, v. 38, no. 1, 1964, 130-135

TOPIC TAGS: anode current, amalgam polarography, dropping electrode antimony polarography, cadmium polarography, thallium polarography, copper polarography, lead polarography, gallium polarography, zinc polarography, indium polarography, tin polarography

ABSTRACT: Since the diffusion current constant depends only on the nature of the ion and is constant for a given electrolyte and temperature, the aim of this study is to determine the corresponding amount (the anode tooth constant) for different elements and electrolytes by applying amalgam polarography with accumulation on a stationary mercury dropping electrode; the further purpose of the study was to find the applicability of the calculative method to the analysis by amalgam polarography. As a result of tests, a theoretical expression for the calculation of anode tooth constant has been

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ACCESSION NR: AP4011445

derived. For a number of electrolytes the anode tooth constants of zinc, thallium, tin, gallium, cadmium, lead, copper, bismuth, antimony and indium have been calculated; they agree with the experimental results. There is a definite relationship between the anode tooth constant and the diffusion coefficient of metal atoms in mercury, as well as the number of electrons participating in the electrode process. The anode tooth constant depends on the irreversibility of the anode process. Orig. art. has: 11 Formulas and 4 Tables.

ASSOCIATION: Tomskiy politekhnicheskiy institut (Tomsk Polytechnical Institute)

SUBMITTED: 06Mar63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH, PH NR REF SOV: 008 OTHER: 001

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ZAICHKO, L.F.; ZAKHAROV, M.S.

Method of amalgam polatography with storage. Report No. 1: Polarographic behavior of antimony. Zhur. anal. khim. 21 no. 1:65-69 '66 (MIRA 19:1)

1. Tomskiy politekhnicheskiy institut imeni Kirova.

L 3992-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6012427 SOURCE CODE: UR/0081/65/000/020/G024/G024

AUTHORS: Mouyatu, N. A.; Kaplin, A. A.; Zakharov, M. S.; Tychkina, G. K.

TITLE: Development of an improved quick method for determining copper micro-concentrations in high-purity indium by the method of amalgam polarography with accumulation

SOURCE: Ref. zh. Khimiya, Abs. 20G151

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 128, 1964, 42-45

TOPIC TAGS: copper, indium, electrolysis, polarography, HIGH PURITY METAL

ABSTRACT: The use of amalgam polarography with accumulation is described for determining microamounts of Cu in high-purity indium. Two grams of indium are dissolved in 1.5 ml 11 N HNO_3 with heating up to 60—50C. The solution is evaporated to 0.1—0.2 ml, 2 ml 1 M H_3PO_4 are added, electrolysis is carried out for 6 min, and the anode peak is recorded. The analysis of 3 samples (ea 2 parallel and 2 control tests) lasts about 6 hr. The method permits determination of $\geq 4 \times 10^{-6}$% Cu. In determining 2.5×10^{-5}% Cu, the standard deviation is ± 14%. G. Prokhorova. [NT]
[Translation of abstract]

SUB CODE: 11/ SUBM DATE: none

Card 1/1 UCR

L 33429-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD
ACC NR: AR6012429 SOURCE CODE: UR/0081/65/000/020/G024/G024

AUTHOR: Zakharov, M. S.; Pichugina, V. M.

TITLE: Studies on procedures for determining the bismuth microconcentrations in high-purity tin by the method of amalgam polarography with accumulation

SOURCE: Ref. zh. Khimiya, Abs. 20G153

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 128, 1964, 46-49

TOPIC TAGS: tin, bismuth, electrolysis, polarography, amalgam, high purity metal, trace analysis

ABSTRACT: A method is described for determining the Bi microimpurity in high-purity tin, based on preliminary separation of Sn by distillation in the form of $SnBr_4$ and determination of Bi by the method of amalgam polarography with accumulation against the background of 0.25 M HCl. In the electrolyte the Bi forms a sharply defined peak at -0.06 v (with respect to a saturated calomel electrode). A quadruple quantity of Cu does not interfere with the determination. A 0.5-g sample is dissolved in a quartz glass in a 4-ml of concentrated HBr + 1 ml Br_2. The solution is evaporated in a hermetically sealed chamber at 250—300C for 10—12 min, then 0.25 M HCl is added to the residue and the

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L 33426-66

ACC NR: AR6012429

electrolysis (-1.0 v) is carried out in 10 min followed by polarography (from -0.25 to -0.5 v). The maximum sensitivity is 2.10^{-6}% Bi (peak depth, 4 mm) with the electrolyses lasting 10 min, the sample weighing 0.5 g, and device sensitivity being 3 x 10^{-9} a/mm. [NT]
G. Prokhorova. [Translation of abstract]

SUB CODE: 11/ SUBM DATE: 00

Card 2/2 ULR

STEPANOVA, O.S.; ZAKHAROV, M.S.; TRUSHINA, L.P.; APARINA, V.I.

Study of intermetallic compounds of gallium and germanium with copper and gold with cadmium by the method of amalgam polarography with storage. Izv. vys. ucheb. zav.; fiz. i khim. tekh. 7 no.2:184-188 '64. (MIRA 18:4)

1. Kafedra fizicheskoy i kolloidnoy khimii Tomskogo politekhnicheskogo instituta im. S.M. Kirova.

BROVA, L.A., ZAKHAROV, M.S.

Adsorption of carbon monoxide from a nitrogen-hydrogen mixture on zeolites. Neftepererab. i neftekhim. no.1:38-40 '65. (MIRA 18:6)

1. Salavatskiy kombinat.

STROKHOV, A.D.; GORODOVYKH, V.Ye.; ZAKHAROV, M.S.

Method of amalgam polarography with storage. Part 1: Development of the [illegible] Trudy Kom. analit. khim. 15:143-149 '65. (MIRA 18:8)

Method of amalgam polarography with storage. Part 2: Quantitative theory, polarographic characteristics of the anodic current, apparatus and practical application of the method. Ibid.:150-163 (MIRA 18:8)

ZAKHAROV, M.S.; STROMBERG, A.G.

Polarographic characteristics of anodic peaks of elements in the method of amalgam polarography with storage. Report No.1. Zhur. anal. khim. 19 no.8:913-916 '64. (MIRA 17:11)

1. Tomskiy politekhnicheskiy institut imeni Kirova.

MESYATS, N.A.; NAZAROV, B.F.; ZAKHAROV, M.S.; STROMBERG, A.G.

Determination of microimpurities of thallium in high-purity indium by the method of amalgam polarography with storage. Zhur. anal. khim. 19 no.8:959-963 '64.
(MIRA 17:11)

1. Tomskiy politekhnicheskiy institut imeni Kirova.

STROMBERG, A.G.; ZAKHAROV, M.S.; KAPLIN, A.A.; TYUTYUNNIKOVA, R.S.

Rapid determination of the microconcentrations of copper in indium without separating the main mass of indium. Metod. anal. khim. reak. i prepar. no.5/6:90-92 '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

KAPLIN, A.A.; ZAKHAROV, M.S.; STROMBERG, A.G.

Rapid determination of the microconcentrations of copper and lead in indium by the method of amalgam polarography with transport. Metod. anal. khim. reak. i prepar. no.5/6:92-95 '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

ZAKHAROV, M.S.; STROMBERG, A.G.; STEPANOVA, O.S.; GURSKAYA, S.F.

Determination of the microconcentrations of germanium, barium, potassium, nickel. Metod. anal. khim. reak. i preper. no.5/6: 95-101 '63. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut.

ZAKHAROV, M.S.; STROMBERG, A.G.

Coefficients for amalgam polarography with storage under standard conditions. Zhur. anal. khim. 20 no.12:1279-1287 '65. (MIRA 18:12)

1. Tomskiy politekhnicheskiy institut imeni S.M. Kirova. Submitted March 27, 1964.

ZAKHAROV, M.V.

P.2 PHASE I BOOK EXPLOITATION SOV/3602

Akademiya nauk SSSR. Institut metallurgii

Issledovaniye splavov tsvetnykh metallov; sbornik 2 (Analysis of Nonferrous Metal Alloys; Collection of Articles, No.] 2) Moscow, Izd-vo AN SSSR, 1960. 204 p. Errata slip inserted. 3,500 copies printed.

Ed.: I.A. Oding, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rzheznikov; Tech. Ed.: T.P. Polenova; Editorial Board: A.A. Bochvar, Academician; M.Ye. Drits, Candidate of Technical Sciences (Deputy Resp. Ed.); M.V. Zakharov, Professor, Doctor of Technical Sciences; E.S. Kadaner, Candidate of Technical Sciences (Resp. Secretary); A.M. Korol'kov, Doctor of Technical Sciences; N.V. Mal'tsev Professor, Doctor of Technical Sciences; and Z.A. Sviderskaya, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for workers in scientific research institutes, metal and machine works, for teaching personnel, and for students attending schools of higher education.

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Analysis of Nonferrous (Cont.) SOV/3602

COVERAGE: This is the second volume in a series of works on nonferrous and light-metal alloys prepared by the Institut metallurgii imeni A.A. Baykova AN SSSR (Institute of Metallurgy imeni A.A. Baykov of the Academy of Sciences USSR), and the Moskovskiy institut tsvetnykh metallov i zolota imeni M.I. Kalinina (Moscow Institute of Nonferrous Metals and Gold imeni M.I. Kalinin). The problems discussed concern the casting and physical metallurgy of nonferrous alloys. The effect of alloying and deformation on the properties of various alloys, and the problems connected with the study of the casting properties and with the plotting of phase diagrams for nonferrous alloys are discussed. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

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AVAILABLE: Library of Congress

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VK/lsb
6-15-60

NOVIKOV, Il'ya Izrielovich; ZAKHAROV, Mikhail Vasil'yevich. Prinimal uchastiye BORIN, F.A., dots.; DOBATKIN, V.I., doktor tekhn. nauk, retsenzent; Prinimal uchastiye VISHNYAKOV, D.Ya., prof., doktor tekhn. nauk; ARKHANGEL'SKAYA, M.S., red. izd-va; KARASEV, A.I., tekhn. red.

[Heat treatment of metals and alloys] Termicheskaia obrabotka metallov i splavov. Pod obshchei red. I.I.Novikova. Moskva, Metallurgizdat, 1962. 429 p. (MIRA 15:12)
(Metals--Heat treatment)

ZAKH/ROV, M. V.

The repair of metal cutting machines. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1950. 209 p. (50-38812)

TJ1230.Z32

ZAKHAROV, M.V.; ROGEL'BERG, L.N.

Effect of zinc on the tendency toward corrosion under stress of aluminum-magnesium alloys. Metalloved. i term. obr. met. no.12:12-16 D'63. (MIRA 17:2)

ACCESSION NR: AT4001240 S/3031/63/000/035/0233/0238

AUTHORS: Zakharov, M. V.; Stepanova, M. V.; Karpenko, L. I.; Gorlenko, N. P.; Mogilevskaya, V. Ye.

TITLE: Effect of composition on recrystallization temperature and heat resistance of copper alloys

SOURCE: Gosudarstvenny*y institut tsvetny*kh metallov. Sbornik nauchny*kh trudov. Moscow, no. 35, 1963, 233-238.

TOPIC TAGS: heat resistance, recrystallization temperature, copper chromium alloy, copper iron alloy, copper chromium zirconium alloy, copper nickel beryllium alloy, copper nickel aluminum alloy, copper nickel, silicon alloy

ABSTRACT: To check on the hypothesis that heat resistant alloys have high temperature recrystallization levels, exceeding their working temperatures, as is the case for Cu-Sn and Cu-Zn alloys (M. V. Zakharov, Collection Issledovaniye splavov tsvetny*kh metallov (Investigation of Nonferrous Alloys, AN SSSR, 1955), the authors compared the dependence of the start-of-recrystallization temperature

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ACCESSION NR: AT4001240

and the heat resistance on the composition of copper alloys, and established the presence of such a dependence in the systems Cu-Cr, Cu-Fe, Cu-Cr-Zr, Cu-Ni-Be, Cu-Ni-Al, and Cu-Ni-Si. The temperature of the start of the recrystallization increases with increasing concentration of the alloying elements in the solid-solution region, reaches a flat maximum in the two-phase region, and then again decreases smoothly. The curves of the start-of-recrystallization temperature and the long-term hardness against the composition are similar in first approximation, if the long-term hardness is determined at temperatures that exceed the temperature of the start of recrystallization. The maximum heat resistance and the minimum temperature of the start of recrystallization lie in the region of weakly-heterogeneous aging alloys. The close connection between the heat resistance of an alloy and recrystallization is fully confirmed by the experimental data obtained. Orig. art. has: 7 figures.

ASSOCIATION: Gosudarstvenny*y institut tsvetny*kh metallov (State Institute of Nonferrous Metals)

Card 2/2

ZAKHAROV, M.V.; NOVIKOV, I.I.; RYTVIN, Ye.I.

Mechanical and casting properties of alloys in the system Al - Si - Cu. Alium. splavy no.1:22-32 '63. (MIRA 16:11)

PAVLOVA, R.G.; ZAKHAROV, M.V., prof., doktor tekhn. nauk, rukovoditel' raboty

High strength electroconductive copper alloys. TSvet. met. 36 no.10:64-69 O '63. (MIRA 16:12)

ACCESSION NR: AP4005825 S/0129/63/000/012/0012/0016

AUTHOR: Zakharov, M. V.; Rogel'berg, L. N.

TITLE: Effect of zinc on the susceptibility of aluminum-magnesium alloys to stress corrosion

SOURCE: Metalloved. i termich. obrab. metallov, no. 12, 1963, 12-16

TOPIC TAGS: aluminum magnesium alloy, aluminum magnesium zinc alloy, aluminum magnesium alloy corrosion, aluminum magnesium zinc alloy corrosion, aluminum alloy, stress corrosion

ABSTRACT: Authors studied the effect of zinc additions upon the stress corrosion of aluminum alloys containing 7 to 8% Mg. Data existant in literature concerning the effect of zinc were obtained on materials subjected to low plastic deformation. Alloys with a high degree of deformation (to 80%) (Aluminum AOO, magnesium MG-1, zinc Ts-1, and the alloys Al-Mn, Al-Ti,

Card 1/2

ACCESSION NR: AP4005825

Al-Zr and Al-Be)vere used for the study and were subjected to heterogeniz... heat treatment at various heating temperatures and holding times. The stress corrosion was tested using standard loop samples with varying immc r- sion in a 3% NaCl solution at a 1 hour cycle, and to air for 50 minutes and in the electrolyte for 10 minutes. It was found that zinc (up to 1.5%) increases stress corrosion resistance of deformed Al-Mg alloys which contain 7 to 8% Mg; 0.2% Mn and small amounts of Ti, Zr and Be. Increase in stress corro- sion resistance of Al-Mn alloys by additions of zinc is caused by complete and uniform decompostion of the solid solution. Orig. art. has: 3 figures.

ASSOCIATION: None

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