SOMIN, I.N.; KUZNETSOV, S.G.

Ultraviolet spectra of hydroxy-and dihydroxybenzils. Zhur. ob. khim. 31 no.4:1083-1085 Ap '61. (MIRA 14:4)

1. Institut toksikologii Akademii meditsinskikh nauk SSSR.
(Benzil--Spectra)

KUZNETSOV, S.G.; SOMIN, I.N.

Diethylaminoethyl esters of hydroxy- and methoxybenzilic acid. Zhur.ob.khim. 32 no.11:3783-3788 N '62. (MIRA 15:11)
(Benzilic acid)

SOMIN, I.N.

Hydroxy-substituted diphenylacetic acids. Zhur.ob.khim. 32 no.11:3788-3790 N '62. (MIRA 15:11)
(Glycolic acid)

IOFFE, D.V.; SOMIN, I.N.

Synthesis of 1,1-diphenyl-ω-dialkylamino-2-alkanon-1-ol. Zhur.ob. khim. 34 no.2:703-704 F '64. (MIRA 17:3)

SOMIN, I.N.; [illegible] V, A.S.

Benzimidazole ring closure in Sandmeyer's reaction. Zhur. Ob. Khim. 34 no.9:3131 S '64. (MIRA 17:11)

PETROV, A.S , SOMIN, I.N., KUZNETSOV, S.G.

Reaction of chloral hydrate and hydroxylamine with some substituted anilines. Part 1. Zhur. org. khim. 1 no.8:1434-1439 Ag '65. (MIRA 18:11)

1. Institut toksikologii Ministerstva zdravookhraneniya SSSR, Leningrad.

SOMIN, I.N.; KUZNETSOV, S.G.

Oximes of ω-dimethylaminoalkanals and their derivatives.
Zhur. org. khim. 1 no.11:1973-1976 N '65.
(MIRA 18:12)

1. Submitted November 12, 1964.

SOV/29-58-9-13/30

AUTHOR: Somin, L., Teacher of Chemistry at the School Nr 4 imeni D.I.Mendeleyev in Vinnitsa

TITLE: Our "Elementarium" (Nash elementariy)

PERIODICAL: Tekhnika molodezhi, 1958, Nr 9, pp 22 - 22 (USSR)

ABSTRACT: As early as 1935 A.Ye.Ferman, Member, Academy of Sciences, USSR, proposed to erect a monument for D.I.Mendeleyev, who discovered the periodic system of elements, at the All-Union Science and Industry Fair. It should take the shape of a conical multi-storey building. The rooms in this building should be laid out in a spiral arrangement. Each of the rooms should exhibit the total number of natural compounds of one of the elements from the periodic system. This proposal was never realized. The school in Vinnitsa, which was given the name of D.I.Mendeleyev, runs a school club of chemical amateurs. V.Zakharenko, L. Kuznetsova, A.Moskvitin, I.Morozov, and others, who are members of this club decided to build the model of such an "elementarium" for their school museum honoring the name of that outstanding scientist. More than 80 members of the school club assisted in the work. The "elementarium"

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was built in the model work shop. Young electricians installed a three-phase power supply to the model. The cells of the "elementarium" are connected in such a manner as to effect an automatic illumination of just one group of cells corresponding to one period of the periodic system, if the model is rotated. The members of the geochemical section of the club collected mineral specimens. This proved to be the most difficult task as only a limited number of minerals is found in the district of Vinnitsa. Therefore other schools were asked to collaborate and to help with exchanging minerals. The practical importance of the "elementarium" is that it provides a means of showing the richness of the country to the students. Moreover elements are presented not only as a symbol but as integral part of a mineral. The "elementarium" is a great help for students in understanding nature and gives them valuable practical working experience. The geochemical section of the club continues to classify the arriving mineralogical material. It has already arranged a collection of more than 1000 specimens. A number of copies of the lables were handed over to the Council of

Our "Elementarium" SOV/29-58-9-13/30

National Economy to give national economy a wider access to the natural resources in the district of Vinnitsa. There is 1 figure.

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SOMIN, L.Ye. (Vinnitsa, USSR).

Chemical industry museum in school. Khim. v shkole 13 no.3:63-71 My-Je '58. (MIRA 11:5)

(Education--Exhibitions and museums)
(Chemical industries--Exhibitions)

SOMIN, L.Ye.(g. Vinnitsa, USSR)

"Geochemical elementarium." Khim. v shkole 13 no.6:57-62 N-D '58. (MIRA 11:12)

(Chemical elements) (Geochemistry)

SOMIN, L.Ye., uchitel'

Industrial chemistry periodic table. Khim. v shkole 16 no.5: 52-58 S-O '61. (MIRA 14:9)

1. Srednyaya shkola No.4, Vinnitsa, USSR.
(Chemistry, Technical)

LOMIZE, M.G.; SOMIN, M.L.

Early manifestations of the Jurassic volcanism in the northwestern Caucasus. Vest.Mosk.un.Ser.4: Geol. 17 no.6:44-54 N-D '62. (MIRA 16:1)

1. Kafedra dinamicheskoy geologii Moskovskogo gosudarstvennogo universiteta.

(Caucasus, Northern—Rocks, Igneous)

BELOV, A.A., SOKEN, M.L.

Pre-Lower Jurassic disconformity in Svanetiya (Central Caucasus). Dokl. AN SSSR 159 no.1:81-84 N '64. (MIRA 17:12)

1. Geologicheskiy institut AN SSSR. Predstavleno akademikom A.L. Yanshinym.

SOMIN, M.L.

Some characteristics of the relations between igneous activity and the tectonics of the crystalline core in the main range of the Greater Caucasus. Geotektonika no.3:61-76 My-Je '65. (MIRA 18:6)

1. Geologicheskiy institut AN SSSR.

Age of the Sanchara series and Sancharo quartz diorites (northwestern Caucasus). Izv. vys. ucheb. zav.; geol. i razv. 8 no.9:157-159 S '65. (MIRA 18:9)

1. Geologicheskiy institut AN SSSR.

AKOPOV, A.; TUGARINOV, I.; TIMANOVSKIY, I.; NECHAYEV, M.; SEMENOV, V.; VINNIK, K.; SOMIN, V.

Let us welcome the 22d Congress of the CPSU with excellent achievements. Fin. SSSR 22 no.10:49-59 O '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Mosgorfinupravleniya (for Akopov). 2. Zamestitel' zaveduyushchego Leningradskim oblfinotdelom (for Tugarinov). 3. Nachal'nik byudzhetnogo upravleniya Ministerstva finansov Kazakhskoy SSR (for Timanovskiy). 4. Zaveduyushchiy Ul'yanovskim oblfinotdelom (for Nechayev). 5. Zaveduyushchiy Volgodskim oblfinotdelom (for Semenov).

(Finance) (Taxation)
(Bezhetsk District--Insurance)

SOMIN, V. I. and PIS'MENNYY, V. A.

"A stand for malangeurs when determining the cholinesterase activity of blood according to the method of A. A. Pilrovskiy" - p. 90

Voyenno Meditsinskiy Zhurnal, No. 3, 1962

OYVIN, I.A.; OYVIN, V.I.; SOMIN, V.I.

Electrophoretic analysis of rabbit serum following protein sensibilization. Vop.med.khim. 3:229-237 '51. (MIRA 11:4)

1. Patofiziologicheskiy otdel TSentral'nogo kozhno-venerologicheskogo instituta Ministerstva zdravookhraneniya SSSR, Moskva.
(ELECTROPHORESIS) (SERUM)

Somin, V.I.

The quantitative evaluation of inflammatory reactions in experimental studies. A. A. Pokrovskii and V. I. Somin (Central Sci. Research Exptl. Inst. Military Med., Moscow). *Arkh. Patol.* 18, No. 2, 91-9(1956).—A method is described for the quant. evaluation of changes in the permeability of capillaries which is based on measuring the intensity of fluorescence of protein complexes that enter into tissue spaces in the course of a developing inflammatory process. B. S. Levine

PIS'MENNYY, V.A.; SOMIN, V.I.

New method for fastening the support plate of the recording arm to the rubber diaphragm of a Marey tambour. Lab.delo 4 no.2:62 Mr-Ap '58. (MIRA 11:4)
(RESPIROMETER)

SOMIN, V.I.; PIS'MENNYY, V.A.

Quantitative evaluation of the absorption of medicinal aerosols during inspiration. Farm.i tokс. 22 no.6:539-544 N-D '59. (MIRA 13:5)

(AEROSOLS pharmacol.)
(RESPIRATION)

SOMIN, V.I.; PIS'MENNYY, V.A.

Simple method for measuring the particles of the aerosols of fluids. (MIRA 14:8)
Voen.-med. zhur. no.5:69-71 My '61.
(AEROSOLS)

SOMIN, V.I.; PIS'MENNYY, V.A.

Atomizer for producing and maintaining small concentrations of volatile substances in the air. Farm. i toks. 24 no.4:497-499 Jl-Ag '61. (MIRA 14:9)

(ATOMIZATION—EQUIPMENT AND SUPPLIES)

PIS'MENNYY, V.A.; SOMIN, V.I.

Utilization of organic silicon compounds for preparing water-repellent surfaces. Lab. delo 8 no.2:53-55 F '62. (MIRA 15:2)
(SILICON ORGANIC COMPOUNDS)

UGLITSKIY, V.I.; SOMIN, V.I.; KRIVOSHEIN, V.S.

Cars for technical propaganda at construction sites. Trans. i stroi. 13 no.10:8-9 O '63. (MIRA 17:8)

1. Nachal'nik Barnaul'skoy nauchno-issledovatel'skoy stantsii Orgtransstroya (for Uglitskiy). 2. Nachal'nik Tashkentskoy nauchno-issledovatel'skoy stantsii Orgtransstroya (for Krivoshein).

SOMIN, Yu.A., inzh.

Testing main engines of diesel-electric power plants while being moored. Sudostroenie 29 no.10:68-69 O '63. (MIRA 16:12)

SOMIN, Yu. A., inzh.

Improving the design of a bunch-type hammer. Sudostroenie 28 no.10:58 O '62. (MIRA 16:1)

(Hulls(Naval architecture)--Cleaning)

SOMINA, S.I.

KRICHEVSKAYA, Ye.I.; MAYTINA, R.A.; SOMINA, S.I.

Role of biologically active substances of the skin in the pathogenesis of itching. Vop.med.khim. 3:114-125 '51. (MIRA 11:4)

1. Biokhimicheskaya laboratoriya TSentral'nogo kozhno-venerologicheskogo instituta, Moskva.
(PRURITIS) (HISTAMINE) (ACETYLCHOLINE)

SOMINICH, N. G., jt. au.

(Agricultural machinery; manual) Pereklad z rosiis'koi. Kharkiv, Derzhsil'-gospvidav, 1935. 510 p. (50-47575)

S675.K329 NG

1. Agricultural machinery. I. Sominich, N.G., jt. au.

SOMINICH, N. G.

Sominich, N. G. "The planning of feed shops on livestock farms," Sbornik nauch.-tekhn. rabot (Leningr. in-t mekhanizatsii sel. khoz-va), V, 1948, p. 174-217.

SO: U-3261 , 10 April 53, (Letopis 'zhurnal 'nykh Statey, No. 12, 1949)

SOMINICH, K. G.

Mechanization and electrification of livestock farms Moskva, Gos. izd-vo sel'khoz. lit-ry, 1954. 580 p. (54-41107)

1. Farm machinery.
2. Electricity in agriculture.

S760.R9S6

SOMINICH, Nikolay Grigor'yevich, kandidat tekhnicheskikh nauk; LUK'YA, A.B., [illegible], tekhnicheskiy redaktor

[Mechanization of stockraising farms] Mekhanizatsiia zhivotnovodcheskikh ferm. Izd. 2-oe, perer. i dop. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 543 p. (MLRA 10:10)
(Stock and stockbreeding)

SOMINSKAYA, Nina Isaakovna; TIMOFEYEVA, Ye.A., mladshiy nauchnyy sotr., red.; RODIONOVA, L.G., red.; POLUKAROVA, Ye.K., tekhn. red.

[What to do if a child eats poorly] Kak byt', esli rebenok plokho est. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1962. 30 p. (MIRA 16:5)
(CHILDREN—NUTRITION)

PHASE I BOOK EXPLOITATION SOV/4164

Vsesoyuznoye soveshchaniye po splavam redkikh metallov. 1st, Moscow, 1957

Redkiye metally i splavy; trudy... (Rare Metals and Alloys; Transactions of the First All-Union Conference on Rare-Metal Alloys) Moscow, Metallurgizdat, 1960. 438 p. 3,150 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut metallurgii; USSR Komissiya po redkim metallam pri nauchno-tekhnicheskom komitete.

Ed.: I.I. Shapovalov; Ed. of Publishing House: O.M. Kamayeva; Tech. Ed.: P.G. Islent'yeva.

PURPOSE: This collection of articles is intended for metallurgical engineers, physicists, and workers in the machine-building and radio-engineering industries. It may also be used by students of schools of higher education.

COVERAGE: The collection contains technical papers which were presented and discussed at the First All-Union Conference on Rare-Metal Alloys, held in the Institute of Metallurgy, Academy of Sciences USSR in November 1957. Results of investigations of rare-metal alloys, titanium, and copper-base alloys with additions of rare metals are presented and discussed along with investigations of rhenium, vanadium, niobium, and their alloys. The effect of rare-earth metals on properties of magnesium alloys and steels is analyzed. The uses of rhenium as a dehydrating catalyst, electroplating material, and material suitable for making plugs for automobile electrical systems are discussed. Also, the effect of the addition of certain elements on the properties of heat-resistant steel is examined and alloys with special physical properties (particularly semiconductive alloys) are discussed. No personalities are mentioned. Soviet and non-Soviet references accompany some of the articles.

PART II. TITANIUM, AND COPPER-BASE ALLOYS WITH RARE-METAL ADDITIONS

Rare Metals (Cont.) SOV/4164

PART III. RHENIUM, VANADIUM, NIOBIUM, ZIRCONIUM AND ALLOYS BASED ON THEM

Card 4/8

(14)

S/081/62/000/012/040/063
B156/B144

AUTHORS: Sklyarenko, S. I., Sominskaya, Z. N., Nikitina, A. A.

TITLE: Powdered rhenium produced electrolytically

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 396, abstract 12K161 (Sb. "Reniy". M., AN SSSR, 1961, 100 - 107)

TEXT: The effects of the electrolyte composition and electrolysis conditions (D_c and temperature) on the cathodic current yield of Re and on the quality of the electrolytic deposit are investigated. The ideal conditions for producing metallic Re are found to be as follows: I composition of solution (in g/l): $KReO_4$ 50, H_2SO_4 75, $(NH_4)_2SO_4$ 40; D_c 100 a/dm^2; temperature 75°C; cathodic current yield ~43%; II composition of solution (in g/l): NH_4ReO_4 100, H_2SO_4 100, $(NH_4)_2SO_4$ 60; D_c 100 - 200 a/dm^2; temperature 75°C; cathodic current yield ~50%. Anode - Pt; cathode - Ta. The results of the laboratory research were verified in a pilot plant. [Abstracter's note: Complete translation.]

Card 1/1

S/137/62/000/006/067/163
A052/A101

AUTHORS: Sklyarenko, S. I., Sominskaya, Z. M., Nikitina, A. A., Lavrov, I. I.

TITLE: An investigation of possibility of electrolytic production of some rhenium alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 29, abstract 6G222 (In collection: "Reniy", Moscow, AN SSSR, 1961, 152 - 158)

TEXT: The possibility is proved of producing binary alloys of Re with Cu and Cr and also with Cr and Ni by means of aqueous solution electrolysis. The dependence of the quality and composition of the alloy on the concentration of components in electrolyte, D_c and temperature of electrolyte has been studied. Optimum conditions of producing high-quality alloy deposits are: 1. For Re-Cu alloy the bath composition (in g/l): $CuSO_4$ 125, H_2SO_4 (strong) 45, $NaReO_4$ 200; D_c = 1 - 2 a/dm^2, the temperature of electrolyte 20°C, Re content in the alloy 2.4% by weight; current efficiency ~100%. 2. For Re-Cr alloy the bath composition (in g/l): $KReO_4$ 50, CrO_3 15, $(NH_4)_2SO_4$ 40, H_2SO_4 (strong) 75; D_c = 100 a/dm^2, the temperature of electrolyte 70 - 75°C, Cr content in the alloy reaches 1%.

Card 1/2

S/137/62/000/006/140/163
A057/A101

AUTHORS: Sominskaya, Z. M., Nikitina, A. A., Tylkina, M. A., Sklyarenko, S. I., Savitskiy, Ye. M.

TITLE: Galvanic coatings with rhenium-nickel, rhenium-cobalt, and rhenium-nickel-chromium alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 93, abstract 6I590 (V sb. "Reniy". Moscow, AN SSSR, 1961, 209 - 213)

TEXT: Cu- and Cr-Ni-rods were plated electrolytically with coatings from Re-alloys. Optimum conditions are given for the plating with the alloys Re-Ni, Re-Cr, and Re-Co. The galvanic coatings Re-Ni (19 - 86% Ni), Re-Co (19 - 32% Co), Re-Cr (up to 1% Cr), and coatings with the ternary alloy Re-Ni-Cr were investigated microscopically: the thickness of the layer and its hardness was determined. For the first time were obtained dense coatings with the ternary alloy Re-Ni-Cr, containing 13.3% Ni and 5.4% Cr, on Cu- and Cr-Ni base by combining the electrolysis in the following conditions. Composition of the electrolyte (in g/l): $KReO_4$ 50, CrO_3 20, $NiSO_4$ 100, H_2SO_4 75, $(NH_4)_2SO_4$ 40;

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S/137/62/000/006/140/153
A057/A101

Galvanic coatings with...

100 a/dm^2, temperature of the electrolyte 75°C. There are 7 references.

Ye. Layner

[Abstracter's note: Complete translation]

1

Card 2/2

The Second All-Union Conference on Rhenium, sponsored by the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, and the State Institute of Rare Metals, was held in Moscow 19-21 November 1962. A total of 335 representatives from 83 scientific institutions and industrial establishments participated. Among the reports presented were the following: autoclave extraction of Re from Cu concentrates (A. P. Zelikman and A. A. Peredereyev); Re extraction from the gaseous phase (V. P. Savrayev and N. L. Peysakhov); recovery of Re by sorption and ion interchange (V. I. Bibikova, V. V. Il'ichenko, K. B. Lebedev, G. Sh. Tyurekhodzhayeva, V. V. Yermilov, Ye. S. Raimbekov, and M. I. Filimonov); production of carbonyl Re (A. A. Ginzburg); electrolytic production of high-purity Re and electroplating with Re (Z. M. Sominskaya and A. A. Nikitina); Re coatings on refractory metals produced by thermal dissociation of Re chlorides (A. N. Zelikman and N. V. Baryshnikov); plastic deformation and thermomechanical treatment of Re (V. I. Karavaytsev and Yu. A. Sokolov); growth of Re single crystals and effect of O_2 on their properties (Ye. M. Savitskiy and G. Ye. Chuprikov); Re-Mo, Re-W, and Re-precious-metal alloys (Ye. M. Savitskiy, M. A. Tylkina, and K. B. Povarova); synthesis of Re nitrides, silicides, phosphides, and selenides (G. V. Samsonov, V. A. Obolonchik, and V. S. Neshpor); weldability of Re-Mo and Re-W alloys (V. V. D'yachenko, B. P. Morozov, and G. N. Klobanov); new fields of application for Re and Re alloys (M. A. Tylkina and Ye. M. Savitskiy); and Re-Mo alloy for thermocouples (S. K. Danishevskiy, Yu. A. Kocherzhinskiy, and G. B. Lapp). [WW]

Tsvetnyye metally, no. 4, Apr 1963, pp 92-93

L 23885-65 EWP(e)/EWT(m)/EPF(n)-2/EPR/EWP(t)/EWP(k)/EWP(b) Pf-4/Pe-4/ Pu-4 IJP(c) JD/JG/MLK

ACCESSION NR: AT5002761 S/0000/64/000/000/0090/0095

AUTHOR: Sominskaya, Z.M.; Nikitina, A.A. B+1

TITLE: Electrodeposition of high-purity rhenium 27

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 90-95

TOPIC TAGS: rhenium, rhenium refining, electrolytic refining, electrodeposition, ammonium perrhenate, anion exchange resin, rhenium extraction, rhenium adsorption, tributyl phosphate, rhenium powder

ABSTRACT: The authors studied the possibility of depositing rhenium from solutions of ammonium perrhenate which were obtained by three methods: (1) adsorption of rhenium from potassium perrhenate by the EDE-10P anion exchange resin followed by washing with ammonia; (2) extraction of rhenium from potassium perrhenate with tributyl phosphate followed by reextraction with ammonia; (3) dissolution of solid rhenium obtained from potassium perrhenate followed by neutralization with ammonia. It was found that the electrochemical method produces powdered rhenium of high purity. The influence of the duration and ratio of cathodic to anodic current on the particle size of the powder was investigated. Comparative characteristics of powdered rhenium obtained by

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L 23885-65

ACCESSION NR: AT5002761 0

different methods (direct current, alternating current; powder obtained from hydrogen reduction) are tabulated, and the electrolytic circuit of a device with a current of reversible polarity is given. The powders could not be pressed satisfactorily, apparently because a uniform distribution in the metal die could not be achieved. Orig. art. has: 2 figures, 4 tables and 4 formulas.

ASSOCIATION: none

SUBMITTED: 05Aug64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 004

Card 2/2

L 23349-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD/JG/MLK
ACCESSION NR: AT5002762 S/0000/64/000/000/0096/0101

AUTHOR: Sominskaya, Z. N.; Nikitina, A. A.

TITLE: Rhenium and Rhenium-alloy coatings 37 18 B+1

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962. Reniy (Rhenium); trudy soveschaniya. Moscow, Izd-vo Nauka, 1964, 96-101

TOPIC TAGS: nickel containing alloy, tungsten containing alloy, rhenium, rhenium alloy, cobalt containing alloy, rhenium plating, rhenium alloy plating, titanium, molybdenum, nickel, steel, gallium corrosive action

ABSTRACT: The corrosion behavior of rhenium plated on Mo, Ni, and steel has been investigated. Tested metal specimens were electroplated with rhenium in several steps (each plating operation followed by annealing at 700—800C to obtain coatings heavier than 5μ. The coatings were relatively dense and contained no continuous porosity. Resistance of Re to corrosion in Ga was tested at temperatures from 300 to 1100C. Test results showed that though solid Re resisted cor-

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L 23349-65
ACCESSION NR: AT5002762

rosion even at 100C, Re coatings (about 10μ thick) protected steel and nickel only up to 300C and Mo to about 800C. Rhenium-refractory alloy coatings appear to be the most promising. Such an alloy coating containing 17% Re, 18% W, and 65% Co, has been deposited in an electrolyte containing 12g/ℓ W, 10g/ℓ Re, and 4g/ℓ Co. Orig. art. has: 2 figures and 2 tables. [MS]

ASSOCIATION: none

SUBMITTED: 05Aug64 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 004 ATD PRESS: 3174

Card 2/2

L 987-66 EWP(e)/EWT(m)/ETC/EPF(n)-2/EPF(t)/EPF(b)/EPF(z)/EPF(b)/EWA(c) IJP(c)
ACC NR: AP5026784 JD/HM/JG/AT/WH SOURCE CODE: UR/0286/65/000/017/0070/0070

INVENTOR: Sominskaya, Z. M.; Nikitina, A. A.; Mikhal'tsova, V. D.

ORG: none

TITLE: Production of heat-resistant rhenium-tungsten alloy. Class 40, No. 174368 [Announced by the state Scientific Research and Planning Institute of the Rare Metals Industry (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 70

TOPIC TAGS: rhenium alloy, tungsten containing alloy, heat resistant alloy

ABSTRACT: This Author Certificate introduces a method for the production of heat-resistant rhenium-tungsten alloy. To obtain alloy in the form of a coating, the process is carried out by electrolysis at 50—70C and 100-150 a/dm^2 for 5—15 min. in an electrolyte of the following composition (g/l.): ammonium or potassium perrhenate 50--100, sodium tungstate 2—16, ammonium sulfate 100—200, and citric acid 100--150. To obtain alloy in the form a powder with a uniform distribution of tungsten, the process is continued for 15 min or more. [AZ]

SUB CODE: 11/ SUBM DATE: 13Feb64/ ATD PRESS: 4165

Card 1/1 UDC 621.357.9

L 13699-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/HW/JG
ACC NR: AP6002584 SOURCE CODE: UR/0286/65/000/023/0076/0076

INVENTOR: Sominskaya, Z. M.; Nikitina, A. A.; Mikhal'tsova, V. D.

40
B

ORG: none

TITLE: Method of electrolytic deposition of heat-resistant alloy. Class 48, No. 176769

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 76

TOPIC TAGS: electrolytic deposition, tungsten containing alloy, cobalt containing alloy, rhenium base alloy

ABSTRACT: This Author Certificate introduces a method of electrolytic deposition of heat-resistant alloy containing tungsten and cobalt. To obtain ternary Re-W-Co alloy in the form of a powder or a coating, the electrolysis is performed with a current density of 100 a/dm^2 at 50C in an electrolyte containing 10 g/l ammonium- or, potassium-perrhenate, 12 g/l tungsten in the form of a tungstate, 1—6 g/l cobalt in the form of a sulfate, and 250 g/l ammonium sulfate with ammonia to obtain an alcalinity of pH 10. [ND]

SUB CODE: 11, 07 SUBM DATE: 13Feb64/ ATD PRESS: 4155

Card 1/1 OR UDC: 621.357.7:669.84'5'27'25

L 63782-65 EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD
ACCESSION NR: AP5017741 UR/0365/65/001/004/0367/0369
621.357.9

29
36
B

AUTHOR: Nikitina, A. A.; Sominskaya, Z. M.; Vagramyan, A. T.
55 49 55, 44

TITLE: Combined electrolytic deposition of rhenium and copper
55, 44 f0 27 27

SOURCE: Zashchita metallov, v. 1, no. 4, 1965, 367-369

TOPIC TAGS: combined electrochemical deposition, deposition potential, electrochemical codeposition, electrochemically deposited rhenium, electrochemically deposited copper, ion reduction potential, polarization curve, cathode surface, passivation

ABSTRACT: In the presence of combined deposition of metals the deposition potential of the alloy often is lower than the deposition potentials of the components. This is usually attributed to the depolarizing effect exerted by the change in the partial molar free energy on the formation of alloys. This explanation, however, does not sound convincing in certain cases. Thus, it is known that lead and silver do not form alloys, yet the electrochemical deposition of salts of these metals from aqueous solutions results in a cathode Ag residue containing

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ACCESSION NR: AP5017741

about 7% Pb. Therefore, even mutually insoluble metals may be co-deposited electrochemically. A similar effect was observed by the authors during the electrochemical deposition of rhenium and copper from aqueous solutions. Metallic unoxidized residues containing up to 30% Cu and Re could be isolated from ammonium sulfate solutions with perrhenate and copper sulfate being present in concentrations of at least 50 g/liter and at most 2.5 g/liter, respectively. This prompted the authors to investigate the combined effect of Re and Cu on the reduction potential of their ions. In this case, as in the co-deposition of Ag and Pb, alloy-formation does not take place, since a Re-Cu alloy could be obtained neither by the thermal method nor by the electrolysis of fused potassium perrhenate on molten silver cathode. The experimental curves plotted (in all cases hydrogen was isolated as well) indicate that the deposition of rhenium and release of hydrogen as well as, a fortiori, the deposition of copper and release of hydrogen occurs in the presence of a higher overvoltage than the combined deposition of rhenium and copper and release of hydrogen. The addition of Cu to the Re-containing solution facilitates the reduction of the perrhenate ions and thus reduces the polarization during the deposition of both Re and Cu. Thus, the co-deposition of these metals is mutually facilitated although they form neither solid solutions nor chemical compounds. The decrease in polarization due to the

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facilitated reduction of metal ions should be differentiated from depolarization, due to the change in free energy during alloy-formation; it is probably rather due to the change in the state of the cathode surface. It may be assumed that, when each metal is separately deposited from the solutions, the electrode surface, reacting with the medium, gets passivated and thus the reduction of the metal ions is complicated, whereas the combined deposition (co-deposition) of both metals slows down this passivation and thus accelerates the rate of reduction of their ions compared with the rate of reduction of hydrogen ions. This was verified by appropriate experiments also performed by the authors. Thus, the advantages of the co-deposition of both metals as compared with their separate deposition stem from a change in the state of the cathode surface. Orig. art. has: 1 figure, 2 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut redkometallicheskoy promyshlennosti (State Scientific Research Institute of Rare Metals Industry) 44,55

SUBMITTED: 06Mar65 ENCL: 00 SUB CODE: MM, GC

NO REF SOV: 004 OTHER: 002

Card 3/3

NIKITINA, A.A.; SOLOV'YEVA, Z.A.; SOMINSKAYA, Z.M.; VAGRAMYAN, A.T.

Mechanism of rhenium electrodeposition. Elektrokhimiia 1 no.6: 748-751 Je '65. (MIRA 18:7)

1. Institut fizicheskoy khimii AN SSSR.

L 39953-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6015291 (A) SOURCE CODE: UR/0365/66/002/003/0349/0352

AUTHOR: Nikitina, A. A.; Sominskaya, Z. M.; Vagramyan, A. T. 33 B

ORG: none

TITLE: Mechanism of electrodeposition of rhenium

SOURCE: Zashchita metallov, v. 2, no. 3, 1966, 349-352

TOPIC TAGS: rhenium, electrodeposition, passivation

ABSTRACT: The study was devoted to a verification of a proposed mechanism of rhenium electrodeposition, and to the determination of the passivation rate of the electrode surface. Electrolytes of the following compositions (in g/l) were employed: (1) ammonium perrhenate 50, sulfuric acid 25; (2) ammonium perrhenate 50, sulfuric acid 25, ammonium sulfate 40. The electrolysis was conducted at a current density of 1 A/cm^2 and 70°C for 15 min. In the electrodeposition of rhenium from solution (1) with an intermittent current, the minimum on the curve representing the current efficiency of the metal vs. the pause between the current pulses was found to correspond to a pause of 10^{-2} sec. As the pause decreases, the current efficiency of the metal increases, indicating that the renewed surface of the cathode does not manage to become fully passivated. The curve shows that a pause of the order of 10^{-3} sec is required for the electrode surface to regain its original state. Thus, the experimental results bear out the "activation" mechanism of rhenium electrodeposition and

UDC: 621.357.7

Card 1/2

[redacted], A.

Chemistry and its achievements in the service of technical progress. p.48
CHEMIK (Stowarzyszenie Inzynierow i Techników Przemysłu Chemicznego) Katowice
Vol. 9, no. 2, Feb. 1956

So. East European Accessions List Vol. [redacted], No. 9 September 1956

HUKHOVITSKIY, A. A., [illegible]KIY, Ya. L., &
SOMINSKIY, D.S.

MOSCO

"The Dynamics of Sorption"; Zhur. Fiz. Khim; 13, No. 3, 1939; Rcd. 11 Feb. 1939

Report U-1613, 3 Jan. 1952

SOMINSKIY, D.S., kandidat tekhnicheskikh nauk; KAYUSHINA, R.L.

Preparation of highly dispersed dyes and determination of their garnularity. Khim.nauka i prom. 1 no.2:205-208 '56. (MLRA 9:9)

(Dyes and dyeing)

SOMINSKIY, D S
. SOMINSKIY, D.S.

Determination of the specific surface area of finely powdered materials by the method of low-temperature adsorption of nitrogen. D. S. Sominskii and G. S. Khodakov. *Khim. Nauka i Prom.* 1, 209-10(1956).—Trankin's method (*C.A.* 50, 6132f)(a sketch of the app. and method are given) was applied satisfactorily to several different types of finely ground materials such as talc, clay, anthracite coal, quartz sand, cement, pegmatite, feldspar, gypsum, graphite, and some others. John Howe Scott

2.

PM MK

AUTHORS: Edel'man, L. I., Sominskiy, D. S. 20-114-4-45/63

TITLE: The Influence of the Additions of Surface-Active Substances on the Intensity of the Vibrational Grinding of Cement (Vliyaniye dobavok poverkhnostno-aktivnykh veshchestv na intensivnost' vibratsionnogo izmel'cheniya tsementa)

PERIODICAL: Doklady Akademii nauk SSSR, 1957, Vol. 114, Nr 4, pp. 844-847 (USSR)

ABSTRACT: The effect of the decrease in firmness conditioned by adsorption was discovered and studied in the papers of Rebinder and assistants regarding various solid substances. It was observed when grinding, fire-proof materials, dyes and ores in a moist state. The introduction of some surface-active substances makes it possible to raise the dispersion of cement considerably. Besides being ascribed to the effect of the decrease in firmness due to adsorption, the increase in grinding intensity is sometimes also ascribed to the desaggregating action of surfaceactive additions. The authors investigated the influence of such additions on the crushing intensity at the grinding of Portland-cement in a laboratory vibration mill. The hydrophylic additions of the sulfite-

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alcohol slop (calcium lignosulfonates), and the hydrophobic additions of sapon-naphth (mylonaft), acidol saponnaphth and oleinic acid (0,1-1% of the weight of the cement) were studied. The introduction of surface-active substances intensifies the dispersion of cement.
Thereby the specific surface is enlarged. The hydrophobic additions are more active than the sulfite-alcohol slop. Thereby the time of cement grinding may be shortened on the average by 50%. This increase of surface occurs at the expense of the augmentation of the fine particle fractions (below 5μ of radius). The influence of a surface-active substance (oleic acid) increases only within a content of between 0,1 to 0,5% at 20 minutes of continuous crushing. Higher percentages become effective only in the case of one hour of crushing. Furthermore, the influence of the acting efficacy of the said additions upon the crushing kinetics of cement was examined in dependence on the frequency and the amplitude of vibrations of the mill substance. The influence of the surface-active additions is clearly marked only in the domain of the optimum parameters of vibration crushing at a sufficiently high frequency and amplitude. From this it may

be concluded that the above-mentioned grinding intensification is not due to the prevention of aggregation of small particles of the finely disperse material, i.e. not by its stabilization, but by the primary effect of decrease in solidity, in so far as the stabilizing (desaggregating) action of the additions is apparently not connected with the grinding mechanism. The adsorption character of the intensification is confirmed by the dependence on the concentration of the addition.
Based upon experimental results it may be said that the chief factor of the intensification is the sufficiently high frequency of the vibrations. These results are in accordance with the opinions of Rebinder and his assistants on the role of substances which decrease firmness in the case of periodically destructive influences upon solid matter.
There are 2 figures, 1 table, and 18 references, 8 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut novykh problem proizvodstva stroitel'nykh materialov na base tonkogo izmel'cheniya (All-Union Scientific Research Institute for

The Influence of the Additions of Surface-Active Substances on the Intensity of the Vibrational Grinding of Cement 20-144-4-45/63

New Production Problems of Building Material Based Upon Fine Crushing)

PRESENTED: December 30, 1956, by P. A. Rebinder, Member, Academy of Sciences, USSR

SUBMITTED: December 30, 1956

Card 4/4

KORNIYENKO, G.G., kand.tekhn.nauk; SOMINSKIY, D.S., kand.khim.nauk

Interaction of magnesium oxide and silica sand under hardening conditions of lime-sand binders. Stroi.mat. 5 no.8:32-34 Ag '59. (MIRA 12:12)
(Sand) (Lime)

SOV/69-21-1-18/21

5(4)

AUTHORS: Edel'mann, L.I. and Sominskiy, D.S.

TITLE: To the Evaluation of the Aggregate Stability of Suspensions. (K otsenke agregativnoy ustoychivosti suspenziy)

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI , Nr 1, pp 126-131 (USSR)

ABSTRACT: A method has been developed for evaluating the stability of a suspension aggregate by optical density measurements. It has been shown that the method permits the selection of the optimum dispersion media and the surface active agents for the production of the most stabilized disperse systems. Using this method, the optimum dispersion media have been selected for finely ground powders of limestone, granulated blast-furnace slap, iron minium, and cement. Optimum surface active agents have also been found for aqueous suspensions of

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To the Evaluation of the Aggregate Stability of Suspensions.

talcum and sulfur. The results obtained coincided well with data from densitometric analysis. There are 3 graphs and 3 tables and 7 references, 5 of which are Soviet, 1 English and 1 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut novykh problem proizvodstva materialov na baze tonkogo izmel'cheniya. (The All-Union Scientific Research Institute of New Problems of Production of Building Materials on a Fine Grounding Base.)

SUBMITTED: March 12, 1957.

KORNIYENKO, G.G., kand.tekhn.nauk; SOMINSKIY, D.S., kand.khim.nauk

Studying the hardening of peat-ash binders. Stroi. mat. 6 no.11:37-38 N '60. (MIRA 13:11)
(Binding materials)

L 13600-66 EWT(m)

ACC NR: AP6001016 (A) SOURCE CODE: UR/0286/65/000/022/0101/0101

AUTHORS: Isidorov, V. V.; Akunov, V. I.; Dubinskiy, M. G.; Zavadskiy, G. V.; Innakov, Yu. T.; Lur'ye, N. Yu.; Myasin, N. I.; Nosenko, N. Ye.; Plevako, A. N.; Rybin, V. N.; Sidochenko, I. M.; Sominskiy, D. S.; Titov, P. P.; Khalov, G. G.; Shchuvel', A. S.; Zavgorodniy, N. S.

ORG: none

TITLE: A reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. Class 80, No. 165069

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 101

TOPIC TAGS: cement, thermal reactor

ABSTRACT: This Author Certificate presents a reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. To provide automatic regulation of the burning and calcification time for the material in the reactor, the latter is made in the shape of a flat, lenticular chamber. Nozzles of the combustion chambers are built into the peripheral circle of the lenticular chamber and at an angle to its radii. An opening in the center of the chamber bottom is used to discharge the finished burned product.

SUB CODE: 18,13/ SUBM DATE: 24May61

Card 1/1

SOMINSKIY, G.; ZHDANOV, I.

Technical standardization and public control. Sots.trud 4 no.11: 127-130 N '59. (MIRA 13:4)

1. Rukovoditel' gruppy normativno-issledovatel'skoy laboratorii pervoural'skogo Novotrubnogo zavoda (for Sominskiy) 2. Predsedatel' komissii zarabotnoy platy zavkoma profsoyuza pervoural'skogo Novotrubnogo zavoda (for Zhdanov).
(Rolling mills--Production standards)

L 6813-65 EWT(l)/EWG(k)/EWT(m)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/EWA/EWP(q)/T/EWP(b) Pz-6/Pab-24/Pu-4 IJP(c)/ASD(a)-5/SSD/BSD/RAEM(a)/AFWL/ESD(gs)/ESD(c)/ESD(t)/RAEM(t) AT/JW/JD/JG

ACCESSION NR: AP4044651 S/0048/64/028/008/1340/1345

AUTHOR: Butusov, M.M.; Ganichev, D.A.; Sominskiy, G.G.; Fridrikhov, S.A. 110 105

TITLE: Increase in the emission of cathodes in crossed fields /Report, Third All-Union Conference on Semiconductor Compounds held in Kishinev 16-21 Sept 1963/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.8, 1964, 1340-1345

TOPIC TAGS: magnetron, secondary emission, oscillation

ABSTRACT: The authors investigated the pulsed behavior of a magnetron diode with a smooth cylindrical copper anode and a cathode system similar to that employed by R. L.Jepsen and M.W.Muller (J.Appl.Phys.22,1196,1961). The cathode system consisted of a hot tungsten helical "trigger cathode" and a cold cylindrical cathode from which secondary emission currents could arise. Findings of earlier investigators were confirmed. /Abstracter's note: It is not entirely clear which, if any, of their results the authors consider new./ The anode of the magnetron diode was approximately 1.8 cm in diameter, and the cathode was 0.7 cm in diameter and 2 cm long. The device was operated at anode potentials from 2 to 20 kV in magnetic fields up to 2.5 kOe with 1 microsec pulses at a duty cycle of 1000. Various cathode materials were em-

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ployed, including Ni and activated CuBeAl. At sufficiently great anode potentials and magnetic fields, neither the cut-off curves (anode current versus magnetic field at constant anode potential) nor the curves of anode current versus anode potential at constant magnetic field were monotonic, but each had a large peak. The peak anode current I_m, the anode potential U_m at peak current, the magnetic field B, and the secondary emission coefficient d_m of the cathode material at peak current conditions were found to be related by $I_m = A(d_m-1)U_mB$. High-frequency "noise" with a discrete spectrum was observed in the range between 50 and 5000 megacycles/sec when the enhanced emission occurred. The behavior of these oscillations is not discussed, but it is suggested that they are the cause of the increased electron bombardment of the cathode which gives rise to the enhanced emission. The authors note that they have confirmed the existence of large secondary emission currents in crossed field instruments with no external resonators, and that these currents are associated with self-excited space charge oscillations. "In conclusion, the authors express their appreciation to Prof.A.R.Shul'man for his constant interest in the work and for valuable remarks." Orig.art.has: 1 formula and 9 figures.

L 6813-65
ACCESSION NR: AP4044651

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 00

SUB CODE: EC, NP NR REF SOV: 006 OTHER: 004

3/3

L 14375-65 EWT(d)/EWT(l)/EWG(k)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/T/EEC(b)-2/
EWA/EWA(h) Pn-4/Pz-6/Pab-10/Pac-4/Peb/Pi-4/Pu-4/Pj-4 IJP(c)/BSD/
ASD(a)-5/SSD/AFWL/RAEM(a)/ESD(c)/ESD(gs)/ESD(t) AT

ACCESSION NR: AP4045278 S/0057/64/034/009/1666/1676

AUTHOR: Sominskiy, G.G.; Terekhin, D.K.; Fridrikhov, S.A.

TITLE: Current-voltage characteristic of a magnetron with a secondary emission cathode

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.9, 1964, 1666-1676

TOPIC TAGS: magnetron, microwave oscillator, current voltage characteristic, secondary electron resonance

ABSTRACT: The physical processes occurring in magnetrons are highly complicated owing to the fact that the electrons in these devices move in a system of fields consisting of a magnetic field, an electric field and a high-frequency field. In addition, one cannot ignore the interaction of the electrons with each other. The authors review the results of several experimental and theoretical studies of magnetrons. Then, on the basis of experimental data, they derive an empirical formula describing the current-voltage characteristic of a magnetron with a secondary emission cathode in the region of the peak of the characteristic curve. The initial step is to normalize the current-voltage characteristics by eliminating the parameter H (magnetic field intensity); to this end the curves are replotted in re-

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L 14375-65
ACCESSION NR: AP4045278

duced coordinates: ($I_a/I_{a\ max}$) versus ($V_a/V_{a\ max}$), where I_a is the anode current and V_a is the corresponding voltage. The formula takes into account not only secondary emission, but also the geometry of the "interaction space". The deduced formula satisfactorily describes the ascending section near the maximum of the current-voltage characteristic of a magnetron. Finally, an explanation is given for some of the anomalies observed in the operation of magnetron type oscillators (enhanced emission, presence of high-energy electrons, etc.); this explanation is based on the theory of secondary electron resonance in the presence of a magnetic field. "In conclusion, the authors express their gratitude to Prof.A.R.Shul'man for his interest in the work and valuable advice." Orig.art.has: 19 formulas and 7 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im.M.I.Kalinina (Leningrad Polytechnical Institute)

SUBMITTED: 11Oct63 ENCL: 00

SUB CODE: EC NO REF SOV: 007 OTHER: 006

Card 2/2

MUTUSOV, M.M.; GANICHEV, D.A.; SOMINSKIY, G.G.; FRIDRIKHOV, S.A.

Increased cathode emission in crossed fields. Izv. AN SSSR. Ser. fiz. 28 no.8:1340-1345 Ag '64 (MIRA 17:8)

1. Leningradskiy politekhnicheskiy institut.

SOMINSKIY, G.G.

Anomalous character of the maximum current boundary in a magnetron. Zhur. tekh. fiz. 35 no.1:162-164 Ja '65. (MIRA 18:3)

1. Politekhnicheskiy institut imeni Kalinina, M.I., Leningrad.

L 7746-66 EWT(l)/EWA(h) JM

ACC NR: AP5025889 SOURCE CODE: UR/0057/65/035/010/1782/1785

AUTHOR: Sominskiy, G.G.

ORG: Polytechnic Institute im. M.I.Kalinin, Leningrad (Politekhnicheskiy institut)

TITLE: Azimuthal distribution of end current in a magnetron

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 10, 1782-1785

TOPIC TAGS: magnetron, electric current, space charge, electron distribution, noise generator

ABSTRACT: The end current in a type 2J32 magnetron was observed with the aid of a fluorescent screen. The magnetron employed a cold platinum cathode which carried a small hot oxide-coated cathode at one end for ignition. One cathode end shield was replaced with a grid of 150 μ diameter nickel wires having 0.35 X 0.35 mm^2 openings to permit passage of the end current. Located 2 mm beyond this grid was a second grid for control purposes, and 2 mm beyond the second grid was a fluorescent screen. The magnetic field was produced by Helmholtz coils and was uniform within 2 %; the current ripple in the Helmholtz coils was less than 2.5 %. The magnetron was continuously pumped to below 2 X 10^{-5} mm Hg, was operated with 1 μsec voltage pulses (up to 25 kV) at the rate of 1000/sec, and the fluorescent screen was photographed. The pattern on the screen, due to electrons carrying the end current, exhibited a spiral structure. When the magnetic field was below 950 Oe there was one spiral arm; when

Card 1/2

SOKOLOV, I. A.

Postroyeniye fundamental'noy i osnovnoy oblastey arifmeticheskoy gruppy avtomorfizmov troynich-noy kvadratichnoy neopredelennoy formy. L., Uchen. zap. un-ta. ser. matem., 10 (1940), 148-153

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.,
Markushevich, A. I.,
Rashevski, P. K.
Moscow-Leningrad, 1948

SOMINSKIY, I. S. [redacted]

Sominsky, I. Sur les limites du domaine fondamental d'un groupe d'automorphismes d'une forme ternaire quadratique indéfinie. C. R. (Doklady) Acad. Sci. URSS (N.S.) 56, 127–128 (1947).

Let $f(x, y, z)$ be a ternary indefinite quadratic form with integer coefficients of positive determinant and not representing zero. Let $\mathfrak{G}$ be the group of automorphisms of $f(x, y, z)$, Ω be a fundamental domain and $\gamma_1, \cdots, \gamma_k$ the boundaries of Ω, which separate Ω from its neighboring fundamental domains $\Omega_1, \cdots, \Omega_k$. In a preceding paper [Leningrad State Univ. Annals [Uchenye Zapiski] Math. Ser. 10, 148–153 (1940); these Rev. 2, 252] the author proved that γ_i is in general a quadratic surface. In this note he establishes that Ω can be deformed into another fundamental domain $\bar{\Omega}$ whose boundaries are planes.

L.-K. Hua (Urbana, Ill.).

Source: Mathematical Reviews, Vol 10, No.1

SOMINSKIY, I. S.

Sominskiĭ, I. S. On the structure of the group of automorphisms of a ternary quadratic indefinite form. Doklady Akad. Nauk SSSR (N.S.) 56, 241–243 (1947). (Russian)

Let $f(x, y, z) = ax^2 + by^2 + cz^2 + 2gyz + 2hzx + 2kxy$ be a ternary indefinite quadratic form with integer coefficients a, b, c, g, h, k of positive determinant and not representing zero. Let $\mathfrak{G}$ be the group of automorphisms of f, let Ω be a fundamental region of $\mathfrak{G}$ and let $\gamma_1, \cdots, \gamma_s$ be the boundaries of Ω, which separate Ω from its neighboring fundamental domains $\Omega_1, \cdots, \Omega_s$. Let $S_1, \cdots, S_s$ be the transformations carrying Ω into $\Omega_1, \cdots, \Omega_s$. The author proves that S is either of order two or of order infinity. The method based on the fact that the order of a modular transformation of finite order can only be 2, 3, 4 or 6. Then he works out the cases admitting automorphisms of order 3, 4 and 6. *L.-K. Hua* (Urbana, Ill.).

Source: Mathematical Reviews, Vol 10, No. 1

SOMINSKIY, I.S.

Sominskiĭ, I. S. On the existence of automorphisms of the second order for certain ternary quadratic indefinite forms. Mat. Sbornik N.S. 23(65), 279-296 (1948). (Russian)

Let $f(x, y, z) = ax^2+by^2+cz^2+2gyz+2hzx+2kxy$ be an indefinite form with integer coefficients. The author attacks the problem of the existence of involutory automorphs of f. He obtains some partial results. (1) Every form where invariants are odd relatively prime numbers, possesses involutory automorphs; (2) every nonzero form whose determinant is a power of an odd prime possesses involutory automorphs.

It should be remarked that, on p. 284, he proves that a form which has an involutory automorph can be transformed by means of an unimodular integral substitution into one of the following:

(1) $ax^2+by^2+cz^2+2gyz,$

(2) $2a_1x^2+by^2+cz^2+2a_1xy+2gyz,$

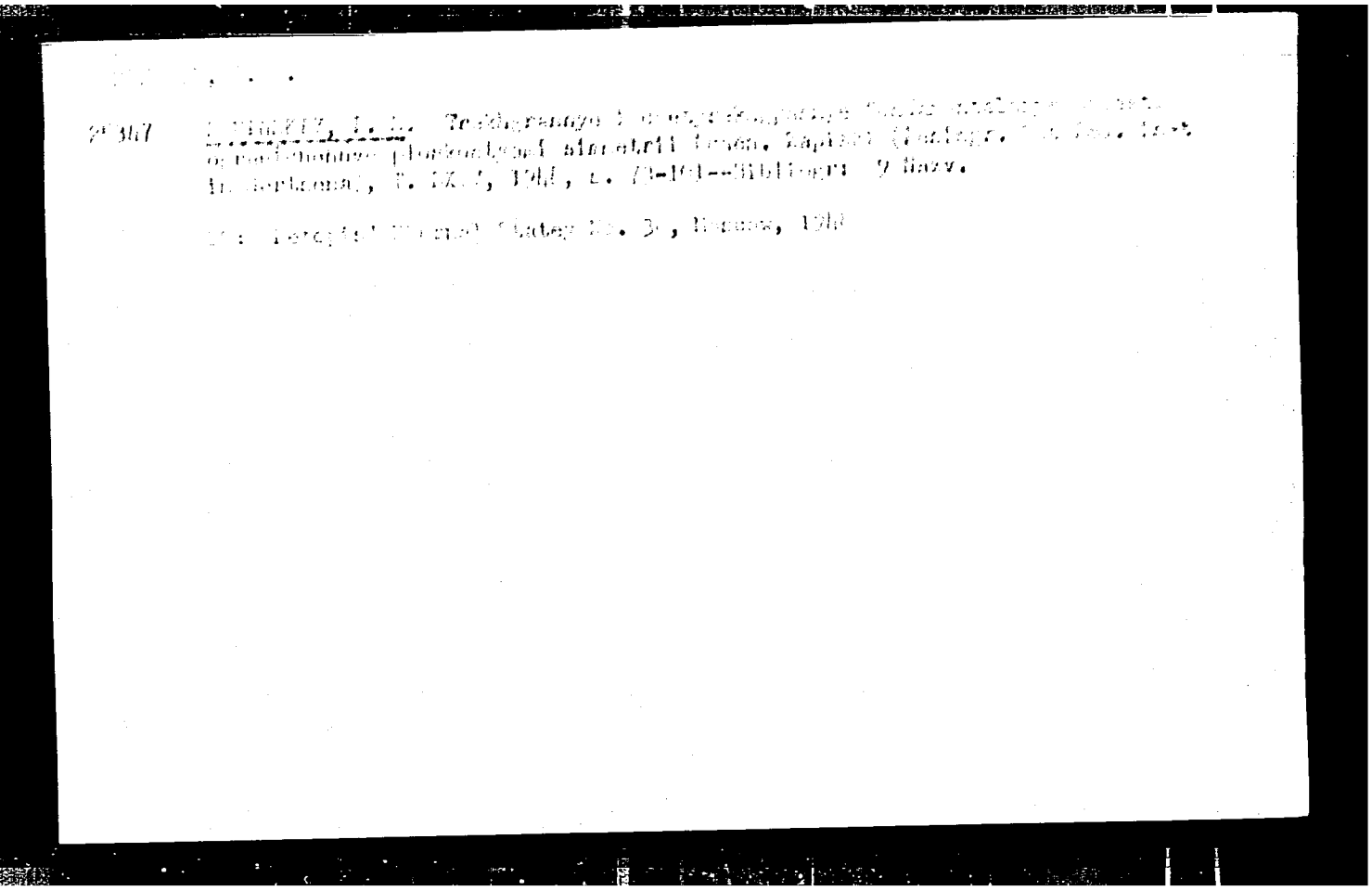
(3) $2a_1x^2+by^2+cz^2+2a_1xy+2a_1xz+2gyz;$

but (2) and (3) are equivalent. In fact,

$$2a_1x^2+by^2+cz^2+2a_1xy+2a_1xz+2gyz = 2a_1(x+z)^2 + b(y-z)^2+(-2a_1+b+c+2g)z^2+2a_1(x+z)(y-z) + 2(b+g-a_1)(y-z)z.$$

L. K. Hua (Urbana, Ill.).

Source: Mathematical Reviews, Vol 10 No. 6



SCHNIRELMAN, L. G.

Belgium

Method of mathematical induction. Moskva, Gostekhizdat, 1951.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

SOMINSKIY, I. S.

2

*Sominskiĭ, I. S. Die Methode der vollständigen Induktion. Deutscher Verlag der Wissenschaften, Berlin, 1954. 55 pp. Math Educ.

Translation of Sominskiĭ's "Metod matematičeskoĭ indukcii," 2d ed. [Gostekhizdat, Moscow, 1952]. This is no. 3 in the series "Popular lectures on mathematics."

Translation of Title: Method of Complete Induction

FADDEYEV, D.K.; SOMINSKIY, I.S.; BARKOVSKIY, I.V., redaktor; MAKRUSHIN, V.A., tekhnicheskiy redaktor

[Algebra. Pt.2. Manual for secondary school teachers] Algebra. Chast' II. Posobie dlia uchitelei srednei shkoly. Leningrad, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 286 p. (MLRA 8:3)

(Algebra--Study and teaching)

FADDEYEV, D.K.; SOMINSKIY, I.S.

[Collection of problems in higher algebra] Sbornik zadach po vysshei algebre. Izd. 5-e, stereotipnoe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 308 p. (MLRA 7:8)
(Algebra--Problems, exercises, etc.)

SOMINSKIY, I. S.

SBORNIK ZADACH PO VYSSHEY ALGEBRE (COLLECTION OF PROBLEMS IN HIGHER ALGEBRA, BY) D. K. FADDEYEV I I. S. SOMINSKIY. IZD. 6., STER. MOSKVA, GOSTEKHIZDAT, 1956. 308 p.

SOMINSKIY, I.S. (Novgorod).

Exposition method for geometry theorems in grade 6. Mat. v shkole no.6:36-39 N-D '58. (MIRA 11:12)
(Geometry--Study and teaching)

KUZ'MINA, S.A.; SOMINSKIY, I.S.

Test problems for the geometry course in the 6th grade. Mat.v shkole no.4:44-51 Jl-Ag '59. (MIRA 12:11)
(Geometry--Problems, Exercises, etc.)

FADDEYEV, Dmitriy Konstantinovich; SOMINSKIY, Il'ya Samuilovich; GORYACHAYA, M.M., red.; MURASHOVA, N.Ya., tekhn. red.

[Algebra for self-instruction] Algebra dlia samoobrazovaniia. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1960. 529 p. (MIRA 14:5)

(Algebra)

FADDEYEV, Dmitriy Konstantinovich; SOMINSKIY, Il'ya Samuilovich; AKILOV, G.P., red.; LUK'YANOV, A.A., tekhn. red.

[Collection of problems in higher algebra] Sbornik zadach po vysshei algebre. Izd.7., ispr. Moskva, Gos. izd-vo fiziko-matem.lit-ry, 1961. 304 p. (MIRA 14:12)
(Algebra--Problems, excercises, etc.)

SOMINSKIY, Il'ya Samuilovich; GORYACHAYA, M.M., red.; KRYUCHKOVA, V.N., tekhn. red.

[Elementary algebra; supplementary course] Elementarnaia algebra; dopolnitel'nyi kurs. Moskva, Fizmatgiz, 1963. 200 p. (MIRA 17:2)

L 26972-65 EWT(d)/EWT(l)/EEC(b)-2/EWA(h) Pn-4/Pac-4/Peb/Pi-4/Pj-4

ACCESSION NR: AP5003256 S/0057/65/035/001/0162/0164

AUTHOR: Sominskiy, G.G.

TITLE: On the anomalous character of the maximum current curve in a magnetron oscillator

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1965, 162-164

TOPIC TAGS: magnetron, secondary emission, cyclotron resonance

ABSTRACT: Current-voltage curves were recorded for a 2J32 magnetron operating in the 10 cm region and for a magnetron diode of similar dimension, and the envelopes of the families of curves obtained with different values of the magnetic field were constructed. These envelopes are called "maximum current curves". The magnetrons were provided with 6, 8 or 10 mm diameter cold cylindrical platinum cathodes and each magnetron had a small auxiliary hot cathode to initiate the action. The measurements were undertaken to test the hypothesis of M.M.Butusov and S.A.Fridrikhov (ZhTF 34,288,1964) that the fast electrons bombarding the cathode and enhancing the cathode current arise from secondary electron resonance in the crossed fields. Such secondary electron resonances can occur at multiples of half the Larmor frequency,

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and they may be expected to interact with the π mode of the magnetron. The maximum current curves of the magnetron diodes were found to be linear, in agreement with the results of R.L.Jepsen and M.V.Muller (J.Appl.Phys.22,1196,1951), but those of the magnetron oscillators had peaks. These peaks were most marked with the 8 mm diameter cathode and occurred at magnetic fields corresponding to Larmor frequencies of 3700 and 5750 Mc/sec, whereas the frequency of the π mode was 2800 Mc/sec. The π mode frequency was accordingly approximately equal to the Larmor frequency at one resonance and to half the Larmor frequency at the other. This result is regarded as supporting the hypothesis of secondary electron resonance in crossed field devices. "The author is grateful to Prof.A.P.Shul'man, Lecturer D.A.Ganichev, and Assistant Prof.S.A.Fridrikhov for their interest in the work and for valuable remarks." Orig.art.has: 1 formula, 1 figure and 1 table.

ASSOCIATION: Politekhnicheskiy institut im.M.I.Kalinina, Leningrad (M.I.Kalinin Polytechnic Institute)

SUBMITTED: 30Jun64 ENCL: 00 SUB CODE: EC, NP

NR REF SOV: 007 OTHER: 003

Card 2/2

SOMINSKIY, M. S. and HOKHBERG, B. M.

"An Investigation of the Electrical Conductivity and the Thermoelectric Properties of Semiconductors." J. Exptl. Theoret. Phys. USSR, 7, 1099-1104, 1937. (Physik. Z. Sowjet-union 13, 198-223 (1938) (in German).

The thermal e. m. f. was measured as a function of the tmp for WO_3, V_2O_5, CuO , Se (metallic), MoS_2, SiC (black and green), Bi_2S_3. Tl_2S and Co oxide, in contact with Cu. For V_2O_5, WO_3, (Bi_2S_3?) and SiC (green) the warm junction was positively charged, indicating that the effect was primarily due to the diffusion of electrons. For SiC (black), MoS_2, Se, CuO and Co oxide the neg. charge of the warm junction indicated a diffusion of pos. areas or "holes." the warm junction of pure Tl_2S was neg. but partial oxidation reversed the sign; the sign also depended upon the tmp. Comparison of e. m. f. detns. with measurements of elec. cond. showed that for WO_3, CuO, V_2O , SiC (black) and Co oxide the thermal e. m. f. increased with decrease in the elec. cond., agreeing qualitatively with predictions.

SOMINSKIY, M.S.

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PROCESSES AND PROPERTIES INDEX

Leningrad Physical Technical Institute of the Academy of Sciences of the U. S. S. R. M. S. Sominskii. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 10, [illegible](1940).—S. describes the main lines of research being carried on. These topics are: semiconductors, cuprous oxide rectifiers, Se rectifiers, cuprous and Mg sulfide and other rectifiers, photoelec. cells, high voltage, β-disintegration, at. nuclei, effects of fast electrons, polymers and mech. properties as functions of mech. and thermal treatment. F. H. R.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SOMINSKIY, M.S.

JOURNAL ARTICLE TRANSLATION

Transl. No. & Country	Translation issued by TPA3/TIB	Authors
T 4342 U.S.S.R.	The Thermo-Electric Effect of Lead Sulphide Izv.Akad.Nauk.Ser.Fiz., 5(4/5), 409-416,1941	E. D. Devyatkova Yu.P. Maslakovets M.S. Sominskii

Source: Index Aeronauticus, Vol 11, No. 2, February, 1955, p 138

USSR/Physics Jun 48
Optics
Telescopes

"History of the Telescope," M. S. Sominskiy, 7 pp

"Priroda" No 6

Reviews 340 years in development of the telescope.

[redacted] 2/49T99

SOFINSKIY, N. S.

Science

Sketches on the history of ideas concerning the nature of the world. (Nauchno-populyarnaya seriya). Moskva, Izd-vo AN SSSR, 1950.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

SOMINSKIY, M. S.

USSR/Geophysics - Radiation, Infrared Night Sky 1 Jul 50

"Distribution of Brightness of Night-Sky Infrared Radiation Over the Clestial Arch," Ye. N. Pavlova, S. F. Rodionov, M. S. Sominskiy, S. M. Fishkova, Phys Inst, Leningrad State U imeni A. A. Zhdanov, and Mt El'brus Expedition of Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIII, No 1, pp 69-72

Infrared measurements of night sky in fall 1949 on Mt El'brus (2,200 and 4,200 m elevation) using photometers with secondary-electron electrostatic tube. Confirmed infrared radiation maximum at midnight. Found intensities of 1.12 x 10-2 and 3.07 x 10-2 erg/sq cm sec sterad, respectively, for heights of 2,200 and 4,200 m. Found radiating layer to be 900 km high. Submitted 4 May 50 by Acad A. A. Labedev.

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SOMINSKIY, M. S.

Lebedev, Petr. Nikolaevich, 1866-1912

P. N. Lebedev and the progress of physics. Zhur. tekh. fiz. 22 no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SOMINSKIY, M.S.

USSR.

History of the Physical Section of the Russian Physico-chemical Society. M. S. Sominskii. *Zhur. Fiz. Khim.* 77, 1933-74(1903).--The 1872-1918 period. 40 references. A. P. Kotlobay

SOMINSKIY, M. S.

USSR/Electricity - Thermoelectric generator

Card 1/1 : Pub. 86 - 13/46

Authors : Sominskiy, M. S., Cand. Phys-Math. Sci.

Title : Soviet thermoelectric generator

Periodical : Priroda, 43/9, 80-83, Sep 1954

Abstract : The author reviews the known facts of the thermoelectric effect which is produced in a closed circuit formed with two different metals the two points of contact of which are kept at different temperatures. The greater efficiency of the Soviet apparatus is due to the manner of construction which maintains a difference of 300°C between the points of contact, substitutes semiconductors for the usual metals, and uses multiple pairs, some of which are connected in parallel and others in series. Two Russian references (1952 and 1953). Illustration.

Institution : .....

Submitted : .....