

BOGATY, V.S.; LUKINOV, Yu.A.; MAKAROV, L.P.

Study of the effective heat conductivity and integral luminescent stability of refractory ceramic coatings from high-melting oxides prepared by the flame-spraying method. Teplofiz. vys. temp. 3 no.180, 69 Ja-F '65. MIRA 1965,

1. Institut khimii silikata i smesi Gremeniya, Moskva, SSSR.

L 1705-66 EWP(e)/EPA(s)-2/EWT(m)/EPR(c)/EWP(l)/EPA(w)-2/EWP(t)/EWP(b)/ETG(m)

ACCESSION NR: AP5021511 LJP(c) JD/WN/WH UR/0131/65/000/008/0042/0046
686.76.055.1

AUTHOR: Svirskiy, L. D.; Pirogov, Yu. A.

TITLE: Effect of some factors on the process of forming heat resisting, heat protecting coatings

SOURCE: Ogneupory, no. 8, 1965, 42-46

TOPIC TAGS: refractory materials, refractory coating, corundum, zirconium, zirconium oxide, aluminum, aluminum oxide, magnesium, spray nozzle

ABSTRACT: A study was made of the dependence of the mean diameter of particles (d_m) of the refractory melt forming the coating on the distance (l) of the nozzle from the surface being coated. With increasing distance, the layer is more and more formed of large particles. The final velocity with which the particles reach the surface is a major factor in determining the adhesive strength to the metal and other properties of the coating. This final velocity, v_{fin} , was determined for different materials as a function of the pressure of the air injected into spray pistol, P , and distance from the surface, l . The rate of the process differed for the following materials: sintered corundum, sintered zirconium
Card 1/2

L 1705-66

ACCESSION NR: AP5021511

6

dioxide, spinel, zirconium, and aluminum oxide. Results are exhibited graphically. Operating parameters of the experiments generally were: $l = 50$ mm; $P = 2.4$ atm.; $v_c = 212$ mm/min; and $\alpha = 90^\circ$, where v_c is the feed rate of the metal rod into the pistol, and α is the angle of the jet spray to the surface. It was found that with an increase in P and α and a decrease in l , the density of the coatings increases and spraying losses decrease. The greatest adhesive strength was attained at $\alpha = 90^\circ$, $l = 15-20$ mm, and $P = 4.2$ atm. Preliminary heating of the samples to 150-200 C led to an increase in adhesion of the coating to the surface. At high preheating temperatures adhesive strength decreased and this is explained by oxidation of the metal surface and by increased compression stresses in the coatings. These stresses result from the fact that the coefficient of thermal expansion of the metal is greater than that of the coating. Orig. art. has: 8 figures

ASSOCIATION: Khar'kovskii politekhnicheskii institut im. V. I. Lenina
 (Polytechnic Institute, Kharkov) Ukrainskii nauchno-issledovatel'skii institut
 khimicheskogo mashinostroyeniya (Ukrainian Research Institute for Chemical
 Equipment Fabrication)

SUBMITTED: 00 4455
 NR REF SOV: 004
 Card 2/2 *mlb*

ENCL: 00
 OTHER: 005

SUB CODE: MM, IC

SVIRSKIY, I.I., kand.tekhn.nauk; FIROGOV, Yu.A., inzh.

Investigating the properties of refractory coatings on metals, applied by the flame method. Stek. i ker. 21, no. 1, pp. 31-35, 5 figs. (MIRA 1974)

1. Khar'kovskiy politekhnicheskii institut imeni V.I. Lenina (for Svirskiy). 2. Ukrainskiy nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya (for Firogov).

L 32852-65 EWP(e)/EWT(l)/EWT(m)/EPA(s)-2/EPF(c)/EWP(v)/EWA(d)/EPF(n)-2/EWP(t)/
T/EPA(w)-2/EPR/EPA(bb)-2/EWP(b)/EWA(1) Feb-10/Po-5/Pr-4/PF-4/PS-4/Pt-10/Vu-4
ACCESSION NR: AP5006470 IJP(c) JD/BN/WR/JG/WB/AT/ML 8/0294/65/003/001/0064/0069

AUTHOR: Bogdanov, A. G.; Pirogov, Yu. A.; Makarov, L. P.

TITLE: Effective heat conductivity and emissivity of oxidation-resistant, ceramic, flame-sprayed refractory oxide coatings

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 1, 1965, 64-69

TOPIC TAGS: refractory coating, ceramic coating, oxidation resistant coating, flame sprayed coating, coating heat conductivity, coating heat emissivity, aluminum oxide coating, zirconium dioxide coating, chromium oxide coating, titanium dioxide coating

ABSTRACT: An investigation has been made of the effective heat conductivity and total emissivity of several refractory oxide coatings 0.55-0.7 mm thick. Aluminum oxide, stabilized zirconium oxide, zircon, titanium dioxide, alumino-magnesia spinel, and chromium oxide were flame sprayed on steel substrates. The heat conductivity was measured in a vacuum of $1 \cdot 10^{-5}$ mm Hg or in argon at a pressure varying from 10 to 700 mm Hg in the 300-900C range. All coatings had a very low effective heat conductivity which increased with increasing argon pressure and test temperature. The heat conductivity was, on the average, 5-10 times lower than in solid materials with a 20-30% porosity. This is explained by the fact that in the flame-sprayed coatings

Card 1/2

L 32852-65

ACCESSION NR: AP5006470

there is no continuous contact between the coating and the substrate and between individual particles of the coating. This, and the low heat conductivity of the gas layer in the coating pores, are the two main causes of the low effective heat conductivity. The total heat emissivity was measured on coatings 0.1-0.2 mm thick, flame sprayed on a thin-walled stainless steel cylinder 18 mm in diameter and 190 mm long. Results of measurements made at temperatures up to 1200C showed that zirconium dioxide has the highest and chromium oxide the lowest total heat emissivity. Orig. art. has: 8 figures and 1 table. [MS]

ASSOCIATION: Institut khimii silicatos im. I. V. Grebenshchikova Akademii nauk SSSR (Institute of the Chemistry of Silicates, Academy of Sciences SSSR)

SUBMITTED: 10Feb64

ENCL: 00

SUB CODE: MM,IE

NO REF SOV: 002

OTHER: 006

ATT PRESS: 3205

Card 2/2

L 16298-65 EWP(e)/EPA(s)-2/EWT(m)/EPP(c)/EPF(n)-2/EPR/EPA(w)-2/EWP(t)/EPA(bb)-2/
EWP(b) Pab-10/Pr-10/Ps-1/Pt-10/Pu-1 ASD(m)-3 JD/WW/JG/AT/WH
ACCESSION NR: AP4045453 S/0072/64/000/009/0031/0035

AUTHOR: Svirskiy, L. D. (Candidate of technical sciences);
Pirogov, Yu. A. (Engineer)

TITLE: Investigation of the properties of refractory coatings flame-
sprayed on metal

SOURCE: Steklo i keramika, no. 9, 1964, 31-35

TOPIC TAGS: refractory coating, refractory oxide coating, refractory
mineral coating, flame sprayed coating, sprayed coating structure,
sprayed coating mechanical property

ABSTRACT: A study has been made of the physicommechanical properties
of refractory coatings flame-sprayed on shot-blasted plain or
Nichrom-plated carbon steel. Sintered rods 3 mm in diameter made of
powdered refractory oxides or minerals were fed at a rate of 200 to
350 mm/min. The pressure of acetylene and oxygen varied from 0.2 to
1.5 and 2.5 to 8 atm, respectively. Examination of the structure
of the coatings showed that ZrO₂ and CaO₂ coatings consisted of

Cord 1/3

L 16298-65

ACCESSION NR: AP4045453

partially fused particles with voids occluded between them. The α - Al_2O_3 coating partially crystallized to γ - Al_2O_3 , the monoclinic ZrO_2 was transformed to a cubic modification, and zircon decomposed to cubic ZrO_2 and silica glass. The CaZrO_3 coating consists mostly of cubic ZrO_2 . During spraying, coatings made of oxides of Ce, Ti, Cr, or ilmenite were partially reduced to lower oxides and even to metals and became vitreous. An Mg_3Al_2 intermetallic compound was formed in the aluminamagnesia spinel coating. Physicomechanical properties were studied on coatings lifted from a copper substrate. All coatings had open porosity which varied from 5% in coatings of alumina (roasted at 1450°C) and of forsterite to 12% in coatings of ZrO_2 . Roasted alumina and sintered corundum coatings had the highest microhardness, 1093 and 1040 kg/cm^2 , respectively, and also the highest bend strength, 150 and 140 kg/cm , respectively. The elasticity modulus of the coatings were lower by one order than those of sintered materials. The strongest adhesion to the substrate had alumina-magnesia spinel and CrO coatings. Except for a CaO_2 coating, all coatings thinner than 0.4—0.6 mm sustained without failure 120 cycles of heating to 600°C in 10 min followed by air-cooling to 40°C in 2 min. Orig. art. has: 2 figures and 2 tables.

Card 2/3

L 16298-65

ACCESSION NR: AP4045453

2

ASSOCIATION: Khar'kovskiy politekhnicheskij institut im. V. I. Lenina (Kharkov Polytechnic Institute); Ukrainskiy nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya (Ukrainian Scientific Research Institute of Chemical Machinery)

SUBMITTED: 00

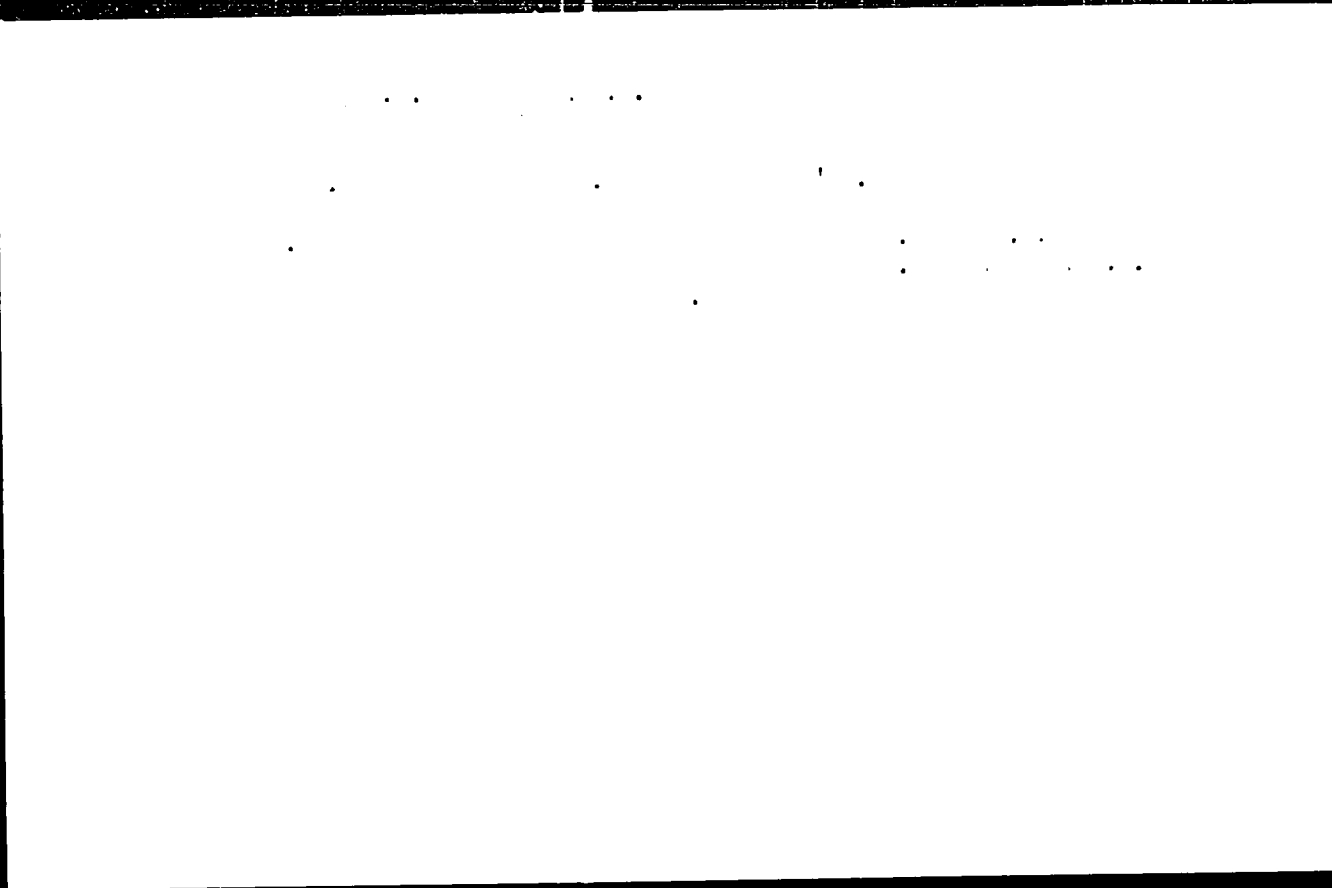
ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 007

Card 3/3



KURNOVA, N.A.; KURNOVA, N.A.; RAHMAN, E.; YAVROMV, A.A.; PIRGOVA,
 L.A.; MAROLAYA, E.; KABEL', A.Ye.; TARASOVA, M.A.; PIROVA, A.L.;
 PIROVA, I.Ya.; AKHMAN, R.A.; BABUNASHVILI, N.I.; PRITENKO, A.A.;
 PINSKAYA, I.G.; BURMISTROVA, S.G.; POGORELSKAYA, L.A.; VANDENKO,
 I.F.; TOPURAYA, I.I.; MATABELI, S.V.; SIGITASHVILI, M.; VANDENKO,
 I.G.; MAZHUKIN, N.D.; NABIYEV, E.G.; BILKHOV, V.F.

Abstracts of the works of the authors of the scientific papers published in the journals of the USSR Academy of Sciences.

1. Moskva vliy institut optiki i fiziki i mikrobiologii i gor'kovskaya rayonnaya sanitarno-epidemiologicheskaya stantsiya (for Kurnova).
2. Pribluzhskaya rayonnaya bel'nitsa Meditsinskoy SSR i Vinnitskiy meditsinskiy institut imeni Pirogova (for Marolaya).
3. Stavropol'skiy institut vektornoy biologii (for Rahman).
4. Kaluzhskiy oblastnoy otel znanosti i nauki (for Yavromv).
5. Dnepropetrovskiy meditsinskiy institut (for Pirova).
6. Tbiliskaya rayonnaya imeni V. I. Lenin sanitarno-epidemiologicheskaya stantsiya (for Pirova).
7. Kemerovskiy meditsinskiy institut (for Pritenko).
8. Leningradskiy meditsinskiy institut (for Pinskaya, Burmistrova).
9. Moskva vliy institut optiki i mikrobiologii i gor'kovskaya rayonnaya sanitarno-epidemiologicheskaya stantsiya (for Vandenko).
10. Institut meditsinskoy parazitologii i tropicheskoy meditsiny imeni Vissal'ne Ministerstva zdravookhraneniya SSSR (for Topuraya, Matabeli, Sigitashvili, Vandenko).
11. Kazanskiy institut usovershenstvovaniya nauki (for Nabiyeu).

SHAMIS, D.L.; MASHEYEVA, R.Sh.; MORKOVCHANCO, I.D.; TEBEKUA, A.M.;
TUKIBAYEVA, A.A.

Yeast *Schizosaccharomyces Pombe* in baking. Izv. AN Kazakh. SSR.
Ser. biol. nauk 3 no.2:20-27 Mr-Apr '65.

(MIRA 18:5

PIROGOVA, F. I.

161* (Obtaining Alumina Cement Clinker on Sintering Grate.) *Polucheniye glinozemisto-tsementnogo klinkera na spekatel'noi reshetke.* G. S. Valberg and F. I. Pirogova. *Tekhn. v. 24, no. 5, Sept.-Oct. 1954, p. 1013.*
Description and operation of grate-type cement furnace. Advantages of method over heating in rotary and shaft kilns.

PIROGOVA F.I.

VAL BERG, G.S., inzhener; PIROGOVA, F.I., inzhener.

Producing aluminous cement clinker on a sintering screen. Tsent
20 no.5:10-15 S-0 '54. (MIRA 7:11)
(Cement)

BALANDIN, A.A.; SPITSYN, V.I.; RUDENKO, A.P.; DOBROSEL'SKAYA, N.P.;
MIKHAYLENKO, I.Ye.; PIROGOVA, G.I.; GLAZUNOV, P.Ya.

Apparatus for studying heterogeneous catalysis at high temperature
using radioactive catalysts and ionizing radiations. *Kin.i kat.*
2 no.4:626-632 *Jl-14g '61.* (MIRA 14:10)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy gosudarstvennyy
universitet imeni M.V.Lomonosova.
(Catalysis)

KOLLI, I.D.; PIRGOVA, G.N.; SPITSYN, V.I.

Dehydration of sodium paratungstate. Zhur.neorg.khim. 1 no.3:
460-469 Mr '56. (MLBA 9:10)

1. Laboratoriya neorganicheskoy khimii Moskovskogo gosudarstvennogo
universiteta imeni M.V. Lomonosova.
(Sodium tungstates)

KOLI, I.D.; PIROGOVA, G.N.; SPITSYN, V.I.

Dehydration of sodium metatungstate. Zhur.neorg.khim. 1 no.3:
470-477 Mr '56. (MLRA 9:10)

1. Laboratoriya neorganicheskoy khimii Moskovskogo gosudarstvennogo
universiteta imeni M.V. Lomonosova.
(Sodium tungstates)

PIROGOVA, E. N., Sand Chem Sci -- (Rus) "The Study of
Parawolframate." Nos, 1967. 7 p. (Mos Order of Lenin and Order
of Labor Red Banner State Univ L. M. V. Lomonosov), 11 copies
(KL, 49-57, 111)

- 14 -

AUTHOR SPITSYN, Vikt. I., Corresponding Member of the Academy, and PIROGOVA, G N 20-2-35/62

TITLE An Investigation of Aqueous Solutions of Sodium Paratungstate.
(Issledovaniye vodnykh rastvorov paravol'framata natriya, Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957, Vol 115, Nr 2, pp 322-325 [U.S.S.R.]

ABSTRACT The mechanism of the reactions which take place on acidification of solutions of normal tungstates is comparatively little investigated. Paratungstates develop in the region from pH 8 to 6. These are the very important representatives of the class of aquo-poly compounds. One of the authors expressed the opinion that in the mentioned process the simultaneous presence of ions of hydroxonium, tungstates and molecules of tungstic acid play an important part. They interact in the solution due to the formation of hydrogen bonds. The water plays a constitutional part in it. The authors studied the properties of sodium-paratungstate solutions ad dependent on their conditions of production, heating temperature and duration of storage. The methods of dialysis

CARD 1/4

20-2-35/68

An Investigation of Aqueous Solutions of Sodium Paratungstate

polarography, chromatography and light absorption were employed. After boiling the molecular weight of the anions sinks to 1500-1600, that is practically by half. This phenomenon is described by an equation. Evaporation leads to the formation of crystalline paratungstate which again exhibits a double molecular weight in the solution. On acidification of a $\text{Na}_2\text{W}_6\text{O}_{24}$ -solution by HNO_3 , the composition of the resulting anions depends on the pH and on the duration of reaction. It is only in the case of pH 7,0-6,6 that hexatungstate ions develop immediately. At pH 6,3-6,1 first develop ions with a molecular weight of 5.000 - 10.000. After 10 days it decreases to 1500. There probably occurs a disaggregation of the high-molecular ions which first developed. At pH 5,8-5,6 the molecular weight at the beginning rises to the enormous height of 55.000 - 120.000, in order decrease to 14.000 after 10 days. This would correspond to sodium tungstate polymerized about 12-fold. The results of the polarographic investigation confirm the above-mentioned transformations. The hexatungstate ion is in its structure apparently related to metatungstate. Perhaps it its structural part(unit). The kinetics of the transformation of paratungstate ions into those

CARD 2/4

20-2-35/62

An Investigation of Aqueous Solutions of Sodium Paratungstate.

of hexatungstate can also be traced by absorption spectra in the ultraviolet region (220-290 $m\mu$). Freshly prepared sodium-paratungstate solutions give a sharply descending curve with an increase in wave length. If the solution is left standing, the descending of the curve slows down in the region of 245-260 $m\mu$. This maximum increases with time and reaches a constant value one month from the day of preparation of the solution. For another year no changes can be discovered. Analogous but faster phenomena manifest themselves on heating of the paratungstate solution to the boiling point. After 3 hours the maximum forms in the region 256-257 $m\mu$. Its height reaches a constant value after 10-16 hr boiling of the solution. The agreement of the light-absorption values of long standing and of heated solutions permits the statement that one and the same process occurs in both cases: the transformation of ions of paratungstate into such of

CARD 3/4

20-2-35/62

An Investigation of Aqueous Solutions of Sodium
Paratungstate.

hexatungstate. The mentioned maximum corresponds to
that.

(4 Illustrations, 3 Tables, 1 Slavic reference)

ASSOCIATION: Moscow State University M.V. Lomonosov
(Moskovskiy gosudarstvennyy universitet im. M.V.
Lomonosova)

PRESENTED BY: -

SUBMITTED: 29. 3. 57

AVAILABLE: Library of Congress.

CARD 4/4

S/020/60/132/02/45/067
B004/B007

AUTHORS: Spitsyn, Vikt. I., Academician, Pirogova, G. N., Pikayev, A. K.,
Glasunov, P. Ya.

TITLE: The Action of High-energy Electrons on Complex Compounds of
Platinum λ

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 406-408

TEXT: The authors investigated the action of a beam of accelerated electrons on the solid platinum compounds $K_2[PtCl_6]$, $(NH_4)_2[PtCl_6]$, $K_2[PtCl_4]$, $(NH_4)_2[PtCl_4]$, $[Pt(NH_3)_4]Cl_2 \cdot H_2O$, cis- and trans- $[Pt(NH_3)_2Cl_2]$. The synthesis of these compounds and their analyses are given in Table 1. A 1-Mev accelerating tube served as radiation source. The irradiation cell is shown in Fig. 1. The experiments were carried out in dry argon at constant temperature (90-95°C for the chloroplatinites, 145-150°C for the other compounds), at which no decomposition as yet occurs without irradiation. The metallic platinum separated as a result of irradiation was gravimetrically determined. Table 2 gives the initial metallic platinum yield in atoms/100 ev for the individual compounds. (L)

Card 1/2

ACC NR: AT7001780

SOURCE CODE: UR/3119/66/000/004/0023/0030

AUTHOR: Spitsyn, V. I.; Pirogova, G. N.

ORG: Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR)

TITLE: Effect of different types of radiation on certain properties of diamonds

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 23-30

TOPIC TAGS: diamond, irradiation effect, epr spectrum, optic spectrum, absorption spectrum, color center, crystal lattice defect, temperature dependence

ABSTRACT: The authors investigated the optical spectra, the density, the lattice parameter, and the EPR spectra of Yakutsk diamonds irradiated with neutrons, electrons, γ rays from Co^{60} , and x rays. The diamonds had different shapes, were mostly colorless, but some were yellow or brown. The various properties of the radiation beams and the different measurement methods are briefly described. Plots are presented of the absorption spectra of the irradiated diamonds, of the EPR spectra, and of one infrared spectrum. The results show that the structure-sensitive properties (optical and EPR spectra) of the diamonds are strongly altered by the irradiation, but the change in structure-insensitive properties (density and lattice parameter) can occur only if sufficiently large doses of sufficiently hard radiation are used. The nature of the various color centers produced by the irradiation (F-centers and R-centers), the various defects, and their temperature dependences are discussed.

Card 1/2

ACC NR: AT7001700

Orig. art. nos: 4 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 002/ OTH REF: 006

Card 2/2

SPITSYN, VIKT. I.; MIKHAYLENKO, I.Ye.; PIROGOVA, G.N.

Catalyst activation by neutron bombardment. Atom. energ. 15
no.6:520-522 D '63. (MIRA 17:1

LIBRYN, V.I.; PRO-CIA.

Request for information regarding the activities of the
n. Ser. KHR. Bank in the U.S.S.R. (MIA 1114)
... (MIA 1114) ...

I 58903-65 EWP(e)/EWT(m)/EPF(c)/ENP(1)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pu-4
YJP(c) JD/GG/WH

ACCESSION NR: AP5017057

UR/0289/65/000/001/0040/0047
646.28-162:541.15

42
38
8

AUTHOR: Spitsyn, V.I.; Pirogova, G.N.

TITLE: Effect of radiation on Yakutia diamonds 15

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya khimicheskikh nauk, no. 1, 1965, 40-47

TOPIC TAGS: diamond, ESR spectrum, paramagnetic resonance, neutron bombardment, electron bombardment, Gamma irradiation

ABSTRACT: The optical properties, absorption and electron spin resonance spectra, and density of Yakutia diamonds exposed to slow and mixed neutrons, Co⁶⁰ gamma rays, X-rays, and accelerated electrons are reported. Absorption in the ultraviolet and visible decreased after irradiation; no changes were observed in the infrared. Heating of the irradiated diamonds from 200 to 1100C caused a gradual decrease in absorption, but complete annealing of the defects induced by the irradiation did not occur. Slow neutrons (integrated flux of $2.5-17.5 \times 10^{17}$ n/cm²) colored the diamonds green, while in the presence of 1% fast neutrons in the flux, the diamonds turned black. When exposed to fast electrons (dose of $0.5-6.0 \times 10^{24}$ eV/cm²), the diamonds acquired a blue color, whereas Co⁶⁰ gamma rays (dose of 9.1×10^6 r) made them bluish-green. The blue and green color of the diamonds was stable at room temperature and on heating to 400C. Irradiation of

1/2

L 58903-65

ACCESSION NR: AP5017057

4

diamonds caused the formation of paramagnetic centers. The character of the ESR spectra depended on the kind and dose of radiation. Prolonged storage at room temperature and heating caused the ESR signals to disappear. The density of diamonds remained unchanged after irradiation with slow neutrons (flux of $3 \times 10^{18} \text{ n/cm}^2$), fast electrons (dose of $6 \times 10^{24} \text{ eV/cm}^2$), or Co^{60} gamma rays (dose of $2 \times 10^9 \text{ r}$). "The authors thank L. S. Rozhkov, chairman of the Presidium of the Yakutsky filial SO AN SSSR (Yakutia Branch of the SO AN SSSR) and corresponding member of the AN SSSR, for providing the samples of Yakutia diamonds for this work. The β and γ spectra were recorded by F. N. Kodochigov and M. P. Glazunov." Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR, Moscow (Institute of Physical Chemistry)

SUBMITTED: 18May64

NO REF SOV: 002

ENCL: 00

OTHER: 008

SUB CODE: MT, NP

Card

2/2 ddp

1 G
AUTHOR: PIROGOVA, G. N.

TITLE: Dissertations (Dissertatsii)

PERIODICAL: Metallvedeniye i Obrabotka Metallov, 1957, No. 2, p. 9. (USSR).

"Investigation of Paratungstates, (Issledovaniye parov lframatov)-Candidate
of Chemical Sciences. Moscow, 1957. Moscow State University imeni M. V.
Lomonosov.

SPITSYN, Vikt. I.; PIROGOVA, G.N.

Investigating sodium paratungstate solutions by the method of dialysis. Zhur.neorg.khim. 2 no.9:2102-2108 S '57. (MIRA 10:12)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova,
Laboratoriya neorganicheskoy khimii.
(Sodium tungstates) (Dialysis)

SPITSYN, Vikt.I.; PIROGOVA, G.N.

Study of aqueous solutions of sodium paratungstate. Dokl. AN
SSSR 115 no.2:322-325 J1 '57. (MIRA 10:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
2. Chlen-korrespondent AN SSSR (for Spitsyn).
(Sodium tungstates)

SPITSYN, Vikt.I.; PIROGOVA, G.N.; MIKHAYLENKO, I.Ye.

Effect of ionizing radiation on the catalytic dehydration of n.dodecyl alcohol. *Izv.AN SSSR.Otd.khim.nauk* no.9:1515-1520 S '62. (MIRA 15:10)

1. Institut fizicheskoy khimii AN SSSR.
(Dodecyl alcohol) (Dehydration (Chemistry)) (Ionization)

SPITSYN, Vikt.I., akademik; MIKHAYLENKO, I.Ye.; PIROGOVA, G.N.

Effect of ionizing radiation on the catalytic activity of
aluminum oxide in the dehydration of dodecyl alcohol. Dokl.
AN SSSR 143 no.5:1152-1155 Ap '62. (MIRA 15:4)

1. Institut fizicheskoy khimii AN SSSR.
(Dodecyl alcohol) (Dehydration) (Aluminum oxide)
(Ionization)

SPITSYN, **Vikt.** I., akademik; MIKHAYLENKO, I.Ye.; PIROGOVA, C.N.

Dehydration of primary dodecyl alcohol over magnesium sulfate.
Dokl. AN SSSR 140 no.5:1090-1092 0 '61. (MIRA 15:2)

1. Institut fizicheskoy khimii AN SSSR.
(Dodecyl alcohol)
(Dehydration)

SPITSYN, Vikt.I., akademik; MAKSIM, Ion; PIROGOVA, G.N.; MIKHAYLENKO, I.Ye.;
KODOCHIGOV, P.N.

Effect of different kinds of radiation on the catalytic dehydration
of n-decyl alcohol. Dokl. AN SSSR 141 no.5:1143-1146 D '61.
(MIRA 14:12)

1. Institut fizicheskoy khimii AN SSSR i Institut atomnoy fiziki
AN Rumynskoy Narodnoy Respubliki.
(Decyl alcohol) (Radiation) (Dehydration)

PIROGOV, I.M., dotsent, kand. tekhn. nauk

Torsion of a cylindrical shell weakened by a hole. Izv. vys.
ucheb. zav.; mashinost. no. 9:78-82 '60. (MIRA 13:11)

1. Vsesoyuznyy zaachnyy politekhnicheskiy institut.
(Torsion)

PIROGOV, I.M., kand. tekhn. nauk, dotsent

Stressed state around a hole on the surface of a cylindrical shell
caused by the action of a concentrated force. Izv. vys. ucheb. zav.;
mashinostr. no. 11:3-7 '60. (MIRA 14:1)

1. Vsesoyuznyy zaochnyy politekhnicheskiy institut.
(Elastic plates and shells)

LYUBIMOVA, V.V., doktor ekon. nauk; NOVIKOVA, O.G., kand. ekon. nauk;
SERGEYEVA, A.G., kand. ekon. nauk; IVANOV, N.P., kand. istor.
nauk; OBORINA, G.A., kand. ekon. nauk; KHLYNOV, V.N., kand.
ekon. nauk; DANILEVICH, M.V., doktor ekon. nauk; POKATAYEVA,
T.S., kand. ekon. nauk; USOV, G.A., kand. ist. nauk;
SAL'KOVSKIY, O.V., kand. geogr. nauk. Prinimali uchastiye:
PESCHANSKIY, V.V., kand. ist. nauk; PIROGOVA, I.M.; PRONIN,
S.V.; USVYATSOV, A.Ye.; MAKAROV, V., red.; DARONYAN, M.,
mladshiy red.; ULANOVA, L., tekhn. red.

[Real wages during the period of the general crisis of capi-
talism]Real'naya zarabotnaya plata v period obshchego krizisa
kapitalizma. Moskva, Sotsekgiz, 1962. 558 p. (MIRA 16:3)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy.

(Wages)

5(3)

SOV/63-4-2-32/39

AUTHORS: Krasovitskiy, B.M., Pirogova, I.N., Tsarenko, S.V.

TITLE: Vat Dyes Made From Pyrenic Acid

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 2, pp 282-283 (USSR)

ABSTRACT: The vat dyes were prepared by the condensation of pyrenic acid with ortho-phenylene-diamine and 1,8-naphthylene-diamine. The separation of the dyes into cis- and trans-isomers is not possible, which shows their homogeneity. One dye is an orange powder soluble in concentrated sulfuric acid, pyridine and aniline, the other a dark-green powder soluble in the same media.
There are 2 non-Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo (Khar'kov State University imeni A.M. Gor'kiy)

SUBMITTED: September 15, 1958

Card 1/1

PIROGOVA, K.Ye.; KRASNOVA, V.G.; SAKOVICH, I.V.; LYASHENKO, V.Ye.

Sudden death in virus influenza A₂. Sud.-med. ekspert. 3 no.3:25-
28 JI-S '60. (MIRA 13:9)

1. Kafedra sudebnoy meditsiny (sav. - dotsent K.Ye. Pirogova)
Dnepropetrovskogo meditsinskogo instituta i Institut epidemiologii,
mikrobiologii i gigiyeny imeni Gamalei (dir. A.S. Gromov).
(INFLUENZA) (DEATH—CAUSES)

PIROGOVA, L.A.

Remote pathohistological modifications in the palatine tonsils following galvanocautery and tonsillectomy. Vest. otorinol., Moskva 15 no. 1:55-59 Jan-Feb 1953. (GML 24:1)

1. Candidate Medical Sciences. 2. Of the Department of Diseases of the Ear, Nose, and Throat (Head -- Prof. L. A. Lukovskiy) and the Department of Pathological Anatomy, Dnepropetrovsk Medical Institute.

PIROGOVA, L.A., kand. med. nauk.

Upper respiratory and aural changes in leukemias. Vest. otorin. 21
no.2:43-49 Mr-Apr '59. (MIRA 12:4)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - prof. V. G. Yermolayev)
Leningradskogo instituta usovershenstvovaniya vrachey i gematologicheskoy
kliniki (zav. - prof. S. I. Sherman) Leningradskogo instituta perelivaniya
krovi.

(LEUKEMIA, pathol.

otorhinolaryngol. organs (Rus))

(OTORHINOLARYNGOLOGICAL DISEASES, etiol. & pathogen.

leukemia (Rus))

THIRD A, D. A.

Small ...

Results ...
analysis ...

SHAPOCHKIN, V.A.; PIROGOVA, L.B.

Effect of temperature on shear under pressure. Fiz. met. i
metalloved. 13 no.5:785-787 My '62. (MIRA 15:4)

1. Institut fiziki vysokikh davleniy AN SSSR.
(Shear (Mechanics))
(Metals, Effect of temperature on)

1. 1210

8597A

S/126/60/010/005/024/030

E193/E483

AUTHORS: Vereshchagin, L.F., Shapochkin, V.A, and Pirogova, L.B,

TITLE: On the Residual Strength (Resultant) From Shear Under High (Hydrostatic) Pressure

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.5, pp.783-785

TEXT: Although strength and plasticity of metals, subjected to ultra-high (> 100000 atm) hydrostatic pressure, are considerably higher than those displayed under normal conditions, the permanent (residual) gain in strength and plasticity due to the action of hydrostatic pressure is small, except in cases when the application of high pressure brings about phase transformations or other similar changes which may profoundly affect the mechanical properties of metals. The present authors studied the effect of high hydrostatic pressure on the properties of commercial grade iron and steels $\Xi M437A$ (EI437A) and 45. Experimental specimens, in the form of thin (less than 0.1 mm thick) round discs, were subjected either to the action of hydrostatic pressure (100000 to 300000 atm) alone, or were sheared in torsion while under pressure. For the shear tests, the specimens were placed between flat faces of two

Card 1/2

~~PIROGOVA, F.I.~~
PIROGOVA, F.I.

УДК 669.7

Preparation of aluminum cement clinker on sintering
 beds. O. S. Valberg and F. I. Pirogova. *Tsvetmet* 26,
 No. 6, 10-18 (1954). Expts. were carried out in sintering
 pipes 100-120 mm in diam. and 400 mm high, with a
 20% open-grate area, on which the charge of ground bauxite
 was loaded. Not over 15% of charge was +15-mm. frac-
 tion and not over 5% was -2-mm. fraction. The av. diam.
 of the grains was 4.5-10.5 mm. The charge bed was 350
 mm. prior to burning. Burning lasted 13-21 min.; the
 linear rate of displacement of the combustion zone was 1.8-
 2.6 cm./min. Free CaO in products was as follows: in
 -2-mm. fraction up to 2.5% in 2-15-mm. fraction, 0.7-
 1.8%; in +15-mm. fraction, none. Only the +15-mm.
 fraction was considered as clinker. The return of fine frac-
 tions was 20% of the charge. The yield of clinker was 63%.
 The ratio of Al₂O₃ to SiO₂ was within 5.6-9.0 in almost all
 clinkers. The clinker was mostly cryst., with crystals 20-40
 μ. The clinker was a rather complex conglomerate of
 minerals. In addition to aluminates, aluminosilicates, and Ca
 silicates, the clinker also had Ca ferrites, wagnersite, FeO,
 glass, oldhamite, and sometimes a little hercynite. This
 method is advantageous because of the short interval be-
 tween temps. of sintering and fusion of bauxite chalk charge.
 B. Z. Kamch

3.22
S. 07.11.1977
P. 1 B. 1

15.2240

AUTHORS:

Verezhnikov, I. P., Orlov, V. A., Mikhlin, V. V.

TITLE:

Tests of sintered carbides of cobalt

PERIODICAL:

Engineering Journal, No. 1, 1977

TEXT: The compressive strength and residual properties of pistons made of the sintered carbides $Co_4C(VK4V)$, $Co_6C(VK6)$, and $Co_4B(VK4B)$ were tested using special device. The diameter of the contact surface was 3.25 mm. Pistons were tested by applying perpendicular pressure or perpendicular pressure and torque simultaneously. In the former case the load was raised first to 10,000 kg/cm² and then the sample was unloaded and examined for cracks and loaded again at pressure of 10,000 kg/cm² until the first cracks appeared. In the latter case torque was applied by 10,000 kg/cm² was used and, at a certain perpendicular pressure torque was applied until the first cracks appeared. The results indicate that the contact compressive strength of the sintered carbides with decreasing cobalt content. The breaking loads were lowered by 10-15%.

Card 1/1

Contact compressive strength

3025
S. 17. 6. 1971
B. A. B. A.

torque has been applied. The highest perpendicular load (350 kg/cm²) could be applied to VK4V pistons, while VK6V pistons cracked under a pressure of 200 kg/cm². Application of torque to VK4V gave most pronounced effects; the breaking load of the BK6TaC (VK6TaS) alloy was about 100 kg/cm². It was found by microhardness tests with the device HMT-3 (HMT) that microhardness increases equally both with perpendicular pressure and with pressure plus torque; the solid hardness of the contact surface is constant at all points of the surface except the center; the residual hardness reaches a maximum in VK4V (about 4%) and a minimum in VK6V (about 2%). Radial and annular cracks were formed in positions and distributions dependent on the kind of load. Tangential stresses as a function of perpendicular pressure were measured for VK4V, VK6V, and VA4V between 0 and 100 kg/cm². The friction coefficients of all alloys at pressures up to 100 kg/cm² were all about 0.1, with a 1.5 fold decrease with increasing pressure. Mechanics L. M. V. and laboratory assistant Z. A. Levchenko are thanked. There are 10 tables and 5 Soviet references.

Card 1

SHAPOCHKIN, V.A.; PIROGOVA, L.B.

Determining shear stresses under the effect of pressure on ring specimens. Fiz. met. i metalloved. 12 no.1:148-149 J1 '61. (MIRA 14:8)

1. Institut fiziki vysokikh davleniy AN SSSR i kafedra khimii i fiziki vysokikh davleniy Moskovskogo gosudarstvennogo universiteta. (Shear (Mechanics)) (Metals--Testing)

VERESHCHAGIN, L.F.; SHAPOCHKIN, V.A.; PIROGOVA, L.B.

Contact strength of hard alloys of brand VK. Zhur.tekh. fiz. 32
no.2:233-237 F '62. (MIRA 15:2)

1. Institut fiziki vysokikh davleniy AN SSSR, Moskva.
(Strength of materials) (Hydraulic presses)

S/126/61/012/001/018/020
E073/E535

18 8200 also 2108.2808²⁵⁹²⁶

AUTHORS: Shapochkin, V.A. and Pirogova, L.B.
TITLE: Determination of the shear stresses on ring-shaped specimens under pressure
PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.12, No.1, pp.148-149
TEXT: Bridgman and Vereshchagin found that with increasing hydrostatic pressure the shear resistance changes and increases by several times at pressures of the order of 50-100 thousand atm. In these experiments circular plates were investigated and the distribution of normal pressures along the areas of contact were assumed uniform. It was considered that the shape of the spures of the shear stresses is triangular or occupies a position which is intermediate between the triangular and the rectangular. Since the real distribution of the normal and the tangential stresses differ from those assumed in the calculations, a certain error was introduced. For reducing this error and for evaluating it, the authors carried out experiments in which the shear strength under pressure was determined for ring specimens made of commercial iron

Card 1/5

Determination of the shear ²⁵⁰⁷⁶.

S/126/61/012/001/018/020
E073/E535

X

and niobium. The tests were carried out on equipment described by L. P. Vereshchagin, Ye. V. Zubova and V. A. Shapochkin (Ref. 4; PTE, 1960, 5). For producing high pressure pistons of the carbide BK6 (VK6) with a ring-shaped face were used. The external diameter of the ring equalled 10.2 mm, the internal 9.0 mm. The specimens under investigation were cut from sheet metal 0.04 mm thick. They were ring-shaped with dimensions corresponding to the dimensions of the ring area of the piston. During the tests, specimens of the investigated material were placed between pistons on ring-shaped areas. The loading was in steps when the normal pressure reached a certain value torque was applied. Turning of one piston relative to the other was effected until the torque reached its maximum for the given normal pressure. In the experiments the magnitude of the normal pressure was 100 000 kg/cm² and of the torque 1000 kg·cm. The experiments yielded linear relations between the torque and the axial force, which were the same for commercial iron and niobium. Since the ratio of the width of the ring to its average diameter was below 1:10, a uniform distribution of the normal and the tangential stresses throughout the width of the ring could be

Card 2/5

Determination of the shear ...
25926

S/126/61/012/001/018/020
E073/E535

assumed with a sufficiently high degree of accuracy. In this case the dependence of the shear strength on the normal pressure was linear; the value of the shear strength was 15-20% lower than that obtained earlier for circular specimens without a hole and 40-50% lower than the values obtained by Bridgman. As a result of the non-uniform distribution of the normal and tangential stresses on the circular contact area the measured value of the shear strength will be excessively high; at pressures of 50-100 thousand kg/cm² the excess value reached 40-50% in the case of Bridgman and 15-20% in the experiments carried out at the Institute of High Pressure Physics AS USSR. L. F. Vereschagin and V. A. Shapochkin (Ref.5: Inzh.-fiz. zhurnal. 3, 1960) found that the non-uniformity in the distribution of the normal stresses along the area of contact decreases at pressures exceeding 100 000 kg/cm². This should lead to a decrease in the error of calculating shear stresses. There are 2 figures and 5 Soviet references.

[Abstractor's Note: Complete translation.]

Card 3/5

Determination of the shear ..
25926

S/126/61/012/001/018/020
E073/E535

ASSOCIATION: Institut fiziki vysokikh davleniy AN SSSR
(Institute of High Pressure Physics AS USSR) and
Kafedra khimii i fiziki vysokikh davleniy MGU
(Department of High Pressure Chemistry and Physics,
Moscow State University)

SUBMITTED: October 17, 1960

Legend Fig. 1 Dependence of the torque, M , kg·cm, on the pressure
of the press, P , tons for ring specimens.
O - niobium, Δ - iron.

Legend Fig. 2 Dependence of the tangential stresses, $\tau \cdot 10^{-3}$, kg/cm²
on the normal pressure, $p \cdot 10^{-3}$, kg/cm², for ring
specimens.
O - niobium, Δ - iron.

Card 4/5

1. The first part of the report

The first part of the report is devoted to a description of the experimental setup and the results of the measurements.

Under the conditions of the experiment, the results of the measurements are in good agreement with the theoretical predictions.

2. The second part of the report

PIROGOVA, M.

Chemical exchange between the bottom of the Black Sea and the overlying water layers. M. V. Pirogova (Georgian Sci. Fish. Econ. Sta., Batumi). *Trudy Akad. Nauk S.S.S.R.* 21: 10-18(1953).—Analyses were made on the compn. of the bottom sediments during a period from May to September, recording pH, SiO₂, Fe₂O₃, Al₂O₃, TiO₂, MnO, CaO, MgO, P₂O₅, CO₂, H₂S, S, SO₄, and FeS. Analyses were also made on compn. of the waters at the bottom of the sea, recording Cl, S, pH, alkalinity, O, H₂S, Si, P, NO₂, NO₃, and NH₄.
J. S. Jodó

PIROGOV, M.N.

Lengthening the life of spotlights. Tekh.kino i telev. 4 no.10:70
0'60. (MIRA 13:10)

1. Leningradskaya studiya kinokhroniki.
(Motion-pictures--Lighting)

PIROGOVA, M. V.

USSR/Oceanography Marine Composition

Nov 48

"Upper Boundary of the Hydrogen Sulfide Region in the Eastern Section of the Black Sea," Ya. K. Gololobov, N. V. Pirogova, Oceanographic Lab, Georgian Sta VNIRC, Batumi, 34 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 2

Presence of hydrogen sulfide in deep water layers of the Black Sea is attributed to reduction of sulfates by bacteria, forming carbonates and hydrogen sulfide. Its absence in the upper layer is caused by the large amount of dissolved oxygen. A relief map of the upper surface of the hydrogen sulfide zone gives the sea's system of currents and a possible method to estimate their local strength. Submitted by Acad D. S. Belyankin 17 Sep 48.

PA 55/49T77

155T24

PIROGOVA, M. V.

USSR/Hydrology - Hydrochemistry

Dec 49

"Variations in the Hydrochemical Regime and Raw Material Basis of Lake Paleostrom," M. V. Pirogova, 1 p

"Priroda" No 12

This lake, located in Kolkhid depression close to Poti on the Black Sea, has total area of 18 sq km and average depth of 2.5 meters. Observations carried on over number of years revealed some interesting changes. Water is gradually increasing in salinity and at same time amount of soluble oxygen in the water is also increasing

700

155T24

USSR/Hydrology - Hydrochemistry (Contd) Dec 49

(In some sections content is 100%). However, recent chemical tests of the water revealed its composition is very similar to fresh water of Black Sea. A channel connects the lake and the sea, and the fish catch in the lake has decreased since this link was opened.

700

155T24

1977, p. 7.

"The Upper Directory of the Agency in June 1977 was composed of:

Eastern Section: [Name], [Name], [Name], [Name], [Name].

Mr. [Name], [Name], [Name], [Name], [Name], [Name], [Name], [Name].

A. Casano [Name], [Name], [Name].

CA

14

Determination of oxidizability of natural waters. M. A. Pirogova. *Doklady Akad. Nauk S S S R* 75, 841-4 (1951).
—Oxidizability (mg of O₂ necessary to oxidize the org. matter dissolved in 1 l of the natural waters) as det'd. by the Skopintzev method (CA 20, 5058^g) is too low as many resistant substances are unaffected. If the samples are pretreated with alkali, 2 ml 50% NaOH per 100 ml sample with 10 min. boiling, followed by exact neutralization with HCl, and the usual Skopintzev procedure of oxidation in neutral soln. much higher results are obtained: about 77% of total dissolved matter and 73% of suspended and dissolved matter, on typical samples of Black Sea specimens. Tests on known materials indicate 85-90% oxidation of carbohydrates, 80-90% proteins, and 85-70% fatty acids.
G. M. Kosolapoff

PIROGOVA, M.V.

Chemical exchange between the bottom and the water in the Black Sea. *Gidrokhim.mat.* no.21:10-18 '53. (MLRA 7:3)

1. Gruzinskaya nauchnaya rybokhozyaystvennaya stantsiya VNIRO Batumi. (Black Sea--Hydrology) (Hydrology--Black Sea)

studied the chemical and physical composition of the bottom of the layer of water adjacent to it in order to investigate the exchange of materials.

431128, 11 Jan 55

TRET'YAKOV, Ye.F.; PIROGOVA, N.I.; GOL'DIN, L.L.

Conversion transitions accompanying the α -decay of Th^{229} , and
the level scheme of Ra^{225} . Izv. AN SSSR. Ser. fiz. 25 no.2:274-
282 F '61. (MIRA 14:3)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.
(Thorium—Isotopes) (Radium—Isotopes)

Pirigov, V. I.

Category: *SECRET*

Abstract: *...*

Author: *V. I. Pirigov*

Inst: *...*

Title: *...*

Org: *...*

Abstract: For the preparation of a ...
 based on ...
 ...
 and ...
 The product ...

Card: *...*

S/048/61/025/002/012/016
B117/B212

AUTHORS: Tret'yakov, Ye. F., Pirogova, N. I., Gol'din, L. L.
TITLE: Conversion transitions accompanying the alpha decay of Th²²⁹,
and the level scheme of Ra²²⁵
PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,
no. 2, 1961. 274-282

TEXT: The present paper was read at the 10th All-Union Conference on Nuclear Spectroscopy (Moscow, 1960), and also at the 11th Annual Conference on Nuclear Spectroscopy (Riga, January 25 to February 2, 1961). It presents test results that have been obtained by the authors by using an advanced method of studying the spectrum of conversion electrons of Ra²²⁵. The investigations were carried out by using not only α -e_K but also γ -e_K (spectrum of conversion electrons in coincidence with gamma rays) and e_K- γ coincidences (gamma spectrum in coincidence with the electron line). The conversion electrons were separated by means of a torroidal beta spectrometer of high intensity

Card 1/7

S/O48/61/025/002/012/C'6
B117/B212

Conversion transitions ...

(Ref. 4). The gamma quanta were recorded by means of a scintillation gamma spectrometer, which consisted of a NaI(Tl) crystal, an amplifier, and a one-channel analyzer. The measurements were made with a Th^{229} isotope which had been obtained by chemical separation of thorium from U^{233} that had been stored for a long time. Two test series have been made. Fig. 3 shows the internal-conversion electron spectrum for one of the series. A list of the conversion transitions obtained by analysis of the conversion lines of

Ra^{225} is given in Table 2. Based on the results obtained, a new level scheme has been suggested for Ra^{225} (Fig. 4). The data found during the investigation of alpha radiation of Th^{229} (Ref. 2) are given on the left side of the scheme, while on the right side, there are the level parameters which had been found by analyzing the conversion-electron spectrum. It follows from Fig. 4 that it had been necessary to introduce a new level around 25.3 keV below α . This necessity arose due to a 25.3-keV transition with high intensity (90%) that was in a cascade with a 17.3-keV transition. Besides, the investigation of $e_K\text{-}\gamma$ coincidences showed that conversion electrons of 25.3-keV transitions (Fig. 1) and 42.7-keV transitions coincide with gamma quanta of energies of up to 200 keV. The necessity of intro-

Card 2, 7

Conversion transitions ...

S/048/61/025/002/012/016
B117/B212

ducing a level below that of α_0 agrees with results given in Ref. 3. Apart from the above mentioned level, also a level near α_{214} had to be introduced.

According to measurements, this level energy is 210.7 keV, with respect to α_0 . Several cascades confirmed this value that had been calculated for a direct transition: $17.3 + 193.4 = 210.7$; $86.3 + 124.4 = 210.7$; $56.6 + 154.2 = 210.8$. It is pointed out that the level introduced does not contradict the existing Th^{229} spectrum since the resolution of the alpha spectrometer used was not high enough to determine an expansion of the α_{214} line by 1.2 keV. The energy of the 86.3-keV transition is almost the same as that of the α_{86} transition that had been observed in the investigation of the alpha spectrum. It had to be classified as a transition from the 210.7-keV level to the 124.4-keV level since it coincides almost completely (about 80%) with the XK-radiation. On the assumption (Ref. 2) that the α_{214} and α_{246} levels are the first two levels of the rotational band, a transition of the type $M1 + E2$ must take place with a considerable intensity. In fact, such a transition was established. Its energy is 32 ± 0.7 keV and its intensity is about 5%. Spins and parities of levels

Card 3, 7

Conversion transitions ..

S/O.8/61/025/002/012/016
B117/B212

(α_0 and above) have been introduced on the basis of data on the multiplicity of transitions and intensities. The α_{214} level with a spin $5/2$ and a positive parity is taken as starting point. Studies of the spin and the parity of the level ($\alpha_{-25.3}$) and of the α_0 and α_{20} levels and their assumed spin values led to the conclusion that the ($\alpha_{-25.3}$) level has a spin of $5/2$ or $3/2$ and a negative parity. In the alpha spectrum of Th^{229} no transition to the ($\alpha_{-25.3}$) level could be found. This forbidden transition for an alpha decay seems to be due to the fact that its parity is opposite to that of other levels of Ra^{225} . The authors thank G. I. Grishuk, V. F. Konyayev, Yu. N. Chernov, and S. V. Kalashnikov for assistance in the experiments. G. I. Novikova is mentioned. There are 4 figures, 2 tables, and 3 references: 6 Soviet-bloc.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

Card 4/7

S/048/61/025/002/012/016
B117/B212

Conversion transitions ...

Legend to Table 2: 1) error (keV); 2) intensity with respect to the alpha decay (%); 3) multipolarity

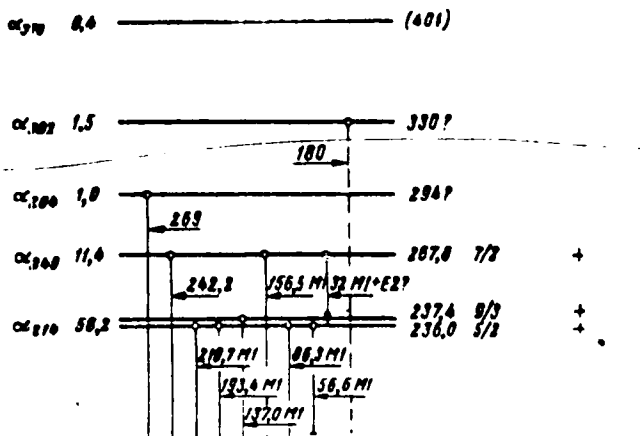
№ п/п	Е, keV	По-греш-ность, keV 1	Интенсив-ность отно-сительно α-распада, % 2	Мульти-польность 3	№ п/п	Е, keV	По-греш-ность, keV 1	Интенсив-ность отно-сительно α-распада, % 2	Мульти-польность 3
1	17,3	0,1	30	M1	12	131,9	0,2	3	
2	23,7	0,3	5		13	137,0	0,1	10	M1
3	25,3	0,1	70	E1	14	143,0	0,2	3	
4	32	0,7	5+3	M1 + E2	15	154,2	0,2	4	M1 (?)
5	42,7	0,2	28	E1	16	156,5	0,2	6	M1
6	56,7	0,2	3	M1	17	179,9	0,5	0,5	
7	68,9	0,3	3	M1 + E2	18	193,4	0,1	10	M1
8	75,1	0,1	18	E2	19	210,7	0,1	10	M1
9	80,3	0,1	15	M1	20	217,0	0,4	0,7+0,1	
10	107,2	0,3	1		21	242,2	0,3	0,3+0,1	
11	124,4	0,2	12	M1	22	269	1,0	0,10+0,05	Tab. 2

Card 5/7

Conversion transitions ...

S/048/61/025/002/012/016
B117/3212

FIG 4

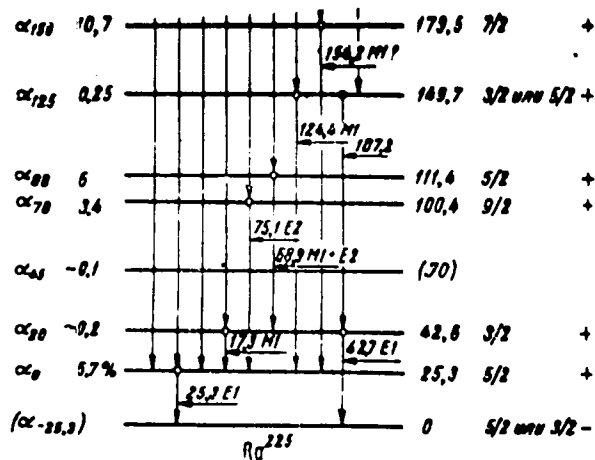


Card 6/7

Conversion transitions ...

S/048/61/025/002/012/C16
B117/3212

Fig. 4



Card 7/7

TRET'YAKOV, V.F.; ANIKINA, M.P.; GOL'DIN, L.L.; NOVIKOVA, G.I.;
PIROGOVA, N.I.

Spectrum of internal conversion electrons accompanying α -decay

of U^{233} and the energy level diagram of Th^{229} . Zhur.eksp.i

teor.fiz. 37 no.4:917-927 0 '59. (MIRA 13:5)

(Uranium--Isotopes) (Thorium--Isotopes) (Electrons)

GOL'DIN, L.L.; NOVIKOVA, G.I.; PIROGOVA, N.I.; TRIT'YAKOV, V.G.

Alpha-decay of Th^{229} . Interaction of nuclear levels. Zhur.
eksp.i teor.fiz. 37 no.4:1155-1157 0 '59.

(MIRA 13:5)

(Thorium--Decay)

FIROGOVA, N.I.; ERSHLER, B.V.

Preparation of anhydrous lithium iodide. Zhur.prikl.khim.
29 no.7:1128-1129 J1 '57. (MIRA 10:10)
(Lithium iodide)

PIE 060 V. 10.2

3848. THE $^{121}\text{Sb}(n,p)^{120}\text{Sn}$ REACTION.

Z. Wilhelm and M. I. Firman.
Bull. Acad. Sci. USSR Div. Phys. Chem. Ser. B, No. 4, 401-4 (1957).

A sandwich of iron and antimony was irradiated with fast neutrons up to 14.8 MeV from the $\text{Be}(\alpha,n)\text{B}$ reaction in the cyclotron at the Soviet Academy of Science Institute. Tin was chemically separated and Sn^{120} was identified by half-life and by β energy. The ratio of cross-sections of the reactions $^{121}\text{Sb}(n,p)^{120}\text{Sn}$ and $^{56}\text{Fe}(n,p)^{56}\text{Mn}$ was found to be $\sigma_{\text{Sn}^{120}}/\sigma_{\text{Fe}^{56}} = 0.940 \pm 0.010$. An approximate theory gave value 0.955.

J. H. Franklin

3848.172.4

4
- Rmk
- 3/21

Rmk

008

... ..

"On the reactions of
interaction of alcohol"
Ilyukov, I. A. Biokhimiya, 1977,

See: Journal of General Chemistry (USSR) Vol. 41, No. 1, 1977, ...

CA

10

Reactions of aliphatic diene compounds with unsaturated compounds. II. Reaction of dimaleic ester with allyl alcohol in the presence of copper. I. A. D'yakov, and N. D. Pirogov (A. A. Zhdanov State Univ., Leningrad). *Zhurn. Obshch. Khim. (J. Gen. Chem.)* 21, 1979-99(1951); cf. *C.A.* 66, 447d. — Addn. of 100 g. N_2CHCO_2Et to 120 ml. $CH_2=CHCH_2OH$ to a refluxing mixt. of 800 ml. $CH_2=CHCH_2OH$ and 0.4 g. Cu powder gave 82% N, with some 200 ml. recovered $CH_2=CHCH_2OH$; distn. of the products gave 22.5% B (diene), b. 68-6°, n. 79-4°, d_4^{20}

0.8288, n_D^{20} 1.4388, and some dark viscous matter which contained a higher-boiling cyclic deriv. (see below). Hydrolysis of the ester with $HClO_4-KOH$ gave allylacrylic acid, b. 108-9°, d_4^{20} 1.0865, n_D^{20} 1.441, yielding an unstable Ag salt. The acid with $KMnO_4$ gave HCO_2H and $(CO_2H)_2$; ozonolysis gave much HCO_2H and unknown products. The acid with dry HBr gave allyl bromide and polyglycolide, $(C_3H_5O)_n$, m. 176°, which, heated with $PhNH_2$, gave glycolamide, m. 68-9°; if the HBr treatment is done at elevated temp. it is possible to isolate glycolic anhydride, m. 128-9°. When the dark viscous reaction by-product (see above) was heated in vacuo it yielded some 7% *El trans-3-(hydroxymethyl)-cyclopropanecarboxylic acid*, b. 115-10°, d_4^{20} 1.0784, n_D^{20} 1.454, which with $KMnO_4$ gave 63% *trans-1,3-cyclopropanecarboxylic acid*, m. 175°. E. Reaction of diphenylmaleimide with allyl alcohol. I. A. D'yakov, *ibid.* 1950-55. — Addn. of 37 g. $Ph_2C=N_2$ in 40 ml. $CH_2=CHCH_2OH$ to 200 ml. refluxing $CH_2=CHCH_2OH$ gave N and the concd. reaction mixt., treated overnight with $HClO_4$, yielded some 7% ($Ph_2C=N$), m. 191.5° (from EtOH), while the mother liquor gave after repeated fractionation 31.5% $Ph_2CH-OCH_2CH_2CH_2OH$, b. 130°, b. 188-8.5°, d_4^{20} 1.083, n_D^{20} 1.574 (which, treated with HBr (best at 30-30°), gave $Ph_2C=N$, allyl bromide, $CH_2=CH_2Br$, and Ph_2CO), and 21.6%

$CH_2=CPh_2CHCH_2OH$, b. 160°, d_4^{20} 1.072, n_D^{20} 1.581 (3,5-dinitrobenzoate, m. 140°); the alc. with $KMnO_4$ gave 22% 3,3-diphenylcyclopropanecarboxylic acid, m. 170-1°, whose Ag salt was analyzed; the latter is rather sol. in H_2O . The alc. failed to give a bromide with PHr , yielding decomp. products and polymers; under the best conditions, without much excess PHr , only small amts. of crude products, b. 102-6°, contg. a little Br were obtained. Attempted dehydration of the alc. with $KHSO_4$ gave an undistillable gum. G. M. Kozlov

L 36510-66 EWT(1)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) RDW/JD
ACC NR: AP6013464 SOURCE CODE: UR/0139/66/000/002/0133/0136

AUTHOR: Shalimova, K. V.; Dima, I.; Pirogova, N. V.

ORG: Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut)

TITLE: Electric properties of polycrystalline film of zinc selenide of cubic modification

SOURCE: IVUZ. Fizika, no. 2, 1966, 133-136

TOPIC TAGS: zinc compound, selenide, resistivity, temperature dependence, polycrystalline film, semiconductor film, activation energy

ABSTRACT: In view of the discrepancy between the results obtained by different authors on the electric properties of zinc-selenide films, the authors have measured the specific resistivity and its temperature dependence for films made by sublimation of the original powder and also by sputtering of the two elements separately. This resulted in samples that differed greatly in their properties. The preparation of the films is briefly described. At room temperature, films obtained by supporting annealed powder had a resistivity larger than 10^9 ohm-cm. When the composition was enriched with an excess of selenium or zinc, the resistivity decreased by as much as three orders of magnitude. Films with excess zinc had n-type conductivity, and those with excess selenium p-type. The temperature dependence of the resistivity was measured in vacuum in the temperature range 300 - 700K for different substrate temperatures prior to deposition of the film. The increase of resistivity with decreasing

Card 1/2

• L 36010-66
ACC NR: AP6013464

temperatures is approximately the same for all substrate temperatures, but the activation energy was found to depend strongly on the manner and temperature at which the film was produced. Films prepared by evaporation of the individual elements were also tested. Differences between the evaporation conditions and their effect on the temperature dependence are briefly discussed. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 11JUN64/ ORIG REF: 002

Card 2/2 MLP

PIROGOVA, N.V.

Fine structure of absorption spectra of polycrystalline CdS
films. Dokl. AN SSSR 139 no.5:1159-1162 Ag, '61.
(MIRA 14:8)

1. Predstavleno akademikom V.N. Kondrat'yevym.
(Cadmium sulfide crystals—Spectra)

L 24364-66 BT(1)/BT(m)/KTC(r)/EAG(m)/T/EWP(t) IJP(c) EDW/JD/GG
ACC NR: AP 6008115 SOURCE CODE: UR/0139/66/000/001/0136/0141

AUTHORS: Shalimova, K. V.; Spyulesku, I.; Pirogova, N. V. 75

ORG: Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut) B

TITLE: Effect of the conditions under which thin films of zinc telluride are obtained on their electric properties 27

SOURCE: IVUZ. Fizika, no. 1, 1966, 136-141

TOPIC TAGS: zinc compound, telluride, resistivity, thermoelectric power, semiconducting film, temperature dependence, semiconductor carrier, stoichiometry, crystal structure

ABSTRACT: The authors report on the results of an investigation of the resistivity and thermoelectric power of several sublimated p-type cubic-modification zinc telluride films, ranging in thickness, from 10^{-6} to 10^{-4} cm. The investigation was motivated by the fact that the contradictions in the results obtained by various authors were

Card 1/3 2

L 2434-66

ACC NR: AP6008115

apparently due to the differences in methods of preparation. The samples were prepared at different evaporator temperature, different distances between evaporator and substrate, and different degrees of vacuum in the working system. The initial powder was sublimated on glass and quartz substrates, which were either unheated (35C) or heated to 100, 160, 200, 250, 300, 350, 400, and 450C. The powder was sublimated in a vacuum of 3×10^{-5} and 3×10^{-3} mm Hg. The quantities measured were the specific resistivity, and the thermoelectric power. The sign of the carriers was also determined. The resistivity was measured as a function of the thickness of the sample, of the substrate heating temperature, and the evaporator temperature. In addition, the temperature dependence of the conductivity of the layers obtained under different conditions was measured. The results showed that the coefficient of the thermoelectric power and the resistivity of the films depend considerably on the method of preparation. This is due to changes in stoichiometry which occur under various conditions. The results also show that the type of crystal structure also has a pronounced effect, but heat treatment itself

Card

2/3

L 24364-66

ACC NR: AP6008115

does not. The thermoelectric power increased when the films were heated in air (400 -- 440C), reaching in some cases a value 1000 -- 1200 μ V/deg. The electric conductivity had an irregular temperature variation, but in most samples it increased with increasing temperature. Orig. art. has: 6 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 16Jan64/ ORIG REF: 009/ OTH REF: 001

Card

3/3 *pls*

PIROGOVA, N.V.

Reflection spectra of polycrystalline cadmium sulfide films.
at 77,3° K. Dokl. AN SSSR 139 no.6:1413-1415 Ag '61.
(MIRA 14:8)

1. Predstavleno akademikom V.N. Kondrat'yevym.
(Cadmium sulfide--Spectra)

SHALIMOVA, K.V.; PIROGOVA, N.V.

Effect of temperature on the optical absorption of polycrystalline
cadmium sulfide layers. Dokl. AN SSSR 139 no.4:938-941 Ag '61.
(MIRA 14:7)

1. Moskovskiy energeticheskiy institut. Predstavleno akademikom
V.N. Kondrat'yevym.

(Cadmium sulfide—Spectra)

PIROGOVA, N.V., KHOKHLOV, M.Z.

Radiation spectrum and temperature of the arc column in an arc valve. Inzh.-fiz.zhur. no.2:51-56 P '60. (MIRA 13:7)

1. Energeticheskiy institut AN SSSR im. G.M. Krzhizhanovskogo, Moskva.

(Electric current rectifiers--Spectra)

9.4170
26 2420

25864
S/O20/61/139/004/024/025
B127/B212

AUTHORS: Shalimova, K. V., and Pirogova, N. V.

TITLE: Effect of temperature on the optical absorption of polycrystalline cadmium sulfide layers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 4, 1961, 918-94'

TITLE: In earlier papers, the absorption spectra of CdS layers had been observed at low temperatures, and three absorption maxima were found at the wavelengths: 340, 420, 500m μ . The authors studied the structure of long-wave absorption maxima for CdS layers by a photographic method. The spectra were recorded with a ϕ -84 (UF-84) camera and an ИЦП-51 (ISP-51) spectrograph. Studies were conducted at temperature decrease from low temperatures to liquid-nitrogen temperature. The substance required was produced by sublimation in vacuum (10^{-5} mm Hg), in argon atmosphere, and with hydrogen sulfide at 0.5 - 1 mm Hg. The substance was sputtered on backings of quartz- and glass plastics so that no impurities could deposit. The layer, which had been sublimed on that backing, preheated to at least

Card 1/3

Effect of temperature on the optical ...

25864
S/020/61/139/004/024/025
B127/B212

300°C, showed green luminescence. The absorption spectrum showed a complex structure at 77.3°K. Fig. 1 represents the microphotographs of the spectra. Results clearly show that the absorption band of the spectrum in the range 4600-5070 Å depends on the mode of formation of samples. At low temperatures, it is closely connected with luminescence. The substances studied displayed one or two maxima which depended on the production technology of preparations; they were, however, independent of the layer thickness. There are 1 figure and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

PRESENTED: March 17, 1960, by V. N. Kondrat'yev, Academician

SUBMITTED: March 15, 1961

Card 2/3

27265

9.4170 (1160) also 1055
26.2421 (also 3010, 3110)

S. 020 57. 12. 00 1. 1
B. 03/B208

AUTHOR: Pirogova, N. V.

TITLE: Fine structure of absorption spectra of polycrystalline CdS films

PERIODICAL: Akademiya nauk SSSR. Doklady. v. 139 n. 5 1961 1114-1117

TEXT: In a previous paper by K. V. Shalimova and N. V. Pirogova, Ref. 1, DAN 132 No. 3 1961, the author found that the absorption spectra of polycrystalline CdS films at room temperature between 25°C and 50°C have one or two maxima depending on the conditions of production. With decreasing temperature the long wave maximum is split into a doublet while that of the short waves is shifted toward short wavelengths and sometimes split into the triplet. The author therefore studied the effect of the production conditions on the spectrum mentioned. The films were obtained by sputtering sublimated CdS powder in a vacuum of 10⁻⁴ mm Hg in argon atmosphere and in H₂S atmosphere at a pressure of 0.1 mm Hg. The film thickness was varied between 0.1 and 1.0 μm. All films were prepared in cases which have been described in Ref. 1.

1705

S. C. ...
B. C. ...

Fine structure of

not luminesce at the temperature of liquid nitrogen and it was found in the spectral region mentioned. The films also had low quantum yields and a resistivity of 10^4 ohm-cm. They showed photoluminescence. The films also contained samples with a resistivity of 10^4 ohm-cm in addition to low ohmic ones. Most films with a resistivity of 10^2 ohm-cm showed photoconductivity. They exhibited a weak photoluminescence and absorption bands in the above mentioned range. Sputtered zinc selenide which has previously been heated at 300, 500, and 800°C showed the above bands and green luminescence at the temperature of liquid nitrogen. The luminescence becomes weaker with increased heating temperature of the base. The author found a definite relationship between surface phenomena, destruction of the ZnS film, and the existing absorption bands. A temperature of base heating of 300°C was found to be a limit above which is close to that temperature at which changes set in the ZnS layers which account for the appearance of the absorption bands. A comparison with films produced on base at different temperatures indicated that the appearance and the number of ZnS absorption bands at 77°K depends on the production conditions of the samples, particularly on the temperature of base heating. By raising the

Card 4/4

20265

S/C 200, 67-113-00-1-1-1
R/C 1, B/C 08

Fine structure of

temperature from 150 to 300°C, the number of maxima increases and luminescence becomes brighter. These bands (Ref. 1) are due to the absorption of the Cd atoms being in excess to the atomic matrix composition. An electron is transferred from a normal level of the excited Cd atom S_0 to its excitation levels 1P_1 and 1P_2 by a quantum of the absorbed light. The former level is split into a doublet in the electric field of the crystal lattice, whereas the latter becomes a triplet. The temperature effect of the base during sputtering of the semiconductor film is also manifest: first of all in a distorted stoichiometry of the sputtered film position. Also the crystalline structure of the sputtered film is affected by the altered heating temperature of the base. The specific differences of samples sputtered under different conditions as indicated by the author is ascribed to the changed concentration of the concentration of excess cadmium atoms and to the nature of the structure of the CdS lattice. According to Ref. 2 (H. Benise, Ann. Phys. 1, 1, 113, 1929), the electron levels of the impurity must be split in the crystal fields according to the law $2:1:1$. The luminescence of samples sputtered into bases with higher temperatures and higher

Card 3/4

27265

S 020 47 114 11
P 01/B106

Fine structure

that CdS films have a hexagonal lattice only under the conditions of sputtering. In all other cases, more or less pronounced modifications of this modification occur. The author thanks Professor K. V. Shal'nev for guidance and advice during her study. There are 4 figures and 1 reference: 2 Soviet-bloc and 2 non-Soviet-bloc.

PRESENTED: March 11, 1965, by V. N. Kuznetsov, A. A. M. 1965

SUBMITTED: March 11, 1965

Card 4/4

021

243500 cho 1043

28655
S/020/61/139/006/022,022
B103/B101

AUTHOR: Pirogova, N. V.

TITLE: Reflection spectra of polycrystalline cadmium-sulfide
films at 77.3°K

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 6, 1961, 1413-1415

TEXT: The authoress continued her study of the spectra of polycrystalline cadmium-sulfide films in the 5000 Å range (Ref. 1: K. V. Shalimova, N. V. Pirogova, DAN, 139, No. 4 (1961); Ref. 2: N. V. Pirogova, DAN, 139, No. 5 (1961)). She obtained new data on the nature of impurity absorption of CdS. She clarified the spectral distribution of the reflection of thin CdS layers and its dependence on the production conditions of the CdS preparations. So far, it has been unknown whether the number of absorption bands is equal to that of the reflection bands. If this is actually the case, it would be possible to determine the absorption spectra of CdS powder from their reflection spectra. The authoress studied the reflection spectra of CdS films at nitrogen temperature on the same specimens used in Ref. 2 for studying optical absorption. The experiments

Card 1, 2

Reflection spectra of polycrystalline...

28655
S, 020/61/139, 006 022, 022
B103, B101

showed that CdS films sputtered in various media onto cold backings exhibited no reflection fine structure in the 460-490 m μ range. This fine structure is displayed only by specimens sputtered onto heated backings. In general, specimens sputtered onto backings heated to 300°C exhibit only one reflection minimum at $\lambda = 4777 \text{ \AA}$. This minimum is even shown by such preparations as do not exhibit any bands in their absorption spectra. The number of minima increases at higher temperatures of the backing; at about 450-500°C there are five peaks. From the fact that in several specimens the reflection spectra correspond to the absorption spectra, it is concluded that the nature of the fine structure of CdS reflection bands is similar to that of its absorption bands. K. V. Shalimova, Professor, is thanked for guidance and advice. There are 1 figure and 2 Soviet references. ✓

PRESENTED: March 17, 1961, by V. N. Kondrat'yev, Academician

SUBMITTED: March 15, 1961

Card 2.5

TOLSTOV, Yu.G.; PIROGOVA, N.V.; KAMENSKAYA, V.P.

Various questions of the technology and current - voltage characteristics of germanium power rectifiers. Izv.vys.ucheb. sav.; fis. no.5:35-40 '58. (MIRA 12:1)

1. Energeticheskiy institut imeni G.M.Krshishanovskogo AN SSSR.
(Germanium) (Electric current rectifiers)

TOLSTOV, Yu.G; KAMENSKAYA, V.P.; PIROGOVA, N.V.

Determining the operating parameters of germanium rectifiers.
Izv.vys.ucheb.sav.; fiz. no.4:37-42 '58. (MIRA 11:11)

1. Moskovskiy energeticheskiy institut imeni G.M. Krzhizhanovskogo.
(Electric current rectifiers)

80276

S/170/60/003/02/09/026
B008/B005

24.2120

AUTHORS: Pirogova, N. V., Khokhlov, M. Z.

TITLE: Emission Spectrum and Temperature of the Arc Core of an Arc Valve

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 2, pp. 51-56

TEXT: The d.c. arc of E. Mark's (Ref. 1) valve was investigated. The discharge spectra were recorded by means of a spectrograph of type "KS-55" in the wave band of 2500 - 9000 Å. Within the current range mentioned, the general character of the spectrum is conserved, and contains only the spectra of the air components since the metal vapors are blown out of the discharge zone. Fig. 2 shows two small sections of the spectrograms recorded (the arc axis is perpendicular to the spectrograph opening). One shows some multiplets of the nitrogen spectrum in the infrared range, the other one the edge of the band of N_2^+ at 3914 Å. The atomic arc spectrum consists of lines of neutral nitrogen, of oxygen, and of hydrogen. Table 1 shows the transitions which

Card 1/3