ABLOV, A.V., akademik; PALADE, D.M.

Equation kinetics of trans-halonitrobiscobaltidimethylglyoxime acid ions. Dokl.AN SSSR 144 no.2:341-343 My '62. (MIRA 15:5)

1. Institut khimii AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Ablov).

(Cobalt compounds) (Coordination compounds)

ABLOV, A. V., akademik; BATYR, D. G., kand. khimicheskikh nauk

Ways for the development of chemical science in Moldavia. Zhur. VKHO 7 no.5:574-575 '62. (MIRA 15:10)

1. Akademiya nauk Moldavskoy SSR (for Ablov).

(Moldavia—Chemistry)

ABLOV, A.V.; BELICHUK, N.I.

Metallic derivatives of diacetylsemicarbazone oxime. Zhur.neorg.-khim 7 no.9:2061-2065 S '62. (MIRA 15:9)
(Semicarbazone) (Oximes) (Organometallic compounds)

ABLOV, A.V.; SYRTSOVA, G.P.

Complex compounds of trivalent cobalt with α-benzyldioxime.
Zhur.neorg.khim. 7 no.9:2066-2070 S '62. (MIRA 15:9)

1. Kishinevskiy gosudarstvennyy universitet.
(Cobalt compounds) (Oximes)

ABLOV, A.V.; SHAFRANSKIY, V.N.

Complex compounds of trivalent cobalt with dimethylglyoxime and sulfanilamides. Zhur.neorg.khim. 7 no.7:1521-1524 Jl '62.
(MIRA 16:3)

(Cobalt compounds) (Glyoxime) (Sulfanilamide)

ABLOV, A.V.; PALADE, D.M.

Salts of oxalato- and malonatodiphenanthroline cobalt (III).
Zhur.neorg.khim. 7 no.11:2514-2519 N '62. (MIRA 15:12)
(Cobalt compounds)
(Phenanthroline)

ABLOV, A.V., akademik; SAMUS', I.D.

Bond of thiocyanate and selenocyanate groups with the central atom in cobaltammines (III) and cobalt (III) dioxyimines. Dokl. AN SSSR 146 no.5:1071-1074 O '62. (MIRA 15:10)

1. Institut khimii AN Moldavskoy SSR i Kishinevskiy sel'skokhozyaystvenny institut im. M.V.Frunze. 2. AN Moldavskoy SSSR (for Ablov).
(Cobalt compounds)

AHLOV, A.V.; KUCHKIN, Ye.D.

Bond refractions of zinc in tetrahedral complexes. Zhur.strukt. khim. 4 no.1:50-54 Ja-F '63. (MIRA 16:2)

1. Kishinevskiy gosudarstvennyy universitet i Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.
(Zinc compounds) (Chemical bonds) (Refractometry)

ABLOV, A.V.; BELICHUK, N.I.

Derivatives of diacetylthiosemicarbazone oxime with cobalt (II) and iron (II). Zhur.neorg.khim. 8 no.1:77-82 Ja '63. (MIRA 16:5)

1. Institut khimii AN Moldavskoy SSR.
(Cobalt compounds) (Semicarbazone) (Iron compounds)

AKLOV, A.V.; POPA, E.V.

Comparative study of nonelectrolytes of the type $[CoA_3(NO_2)_2X]$.
Zhur.neorg.khim. 8 no.2:318-331 F '63. (MIRA 16:5)

1. Institut khimii AN Moldavskoy SSR.
(Cobalt compounds) (Chemical structure)

ABLOV, A.V.; BELICHUK, N.I.

Derivatives of diacetylthiosemicarbazone oxime with copper (II).
Zhur.neorg.khim. 8 no.3:612-616 Mr '63. (MIRA 16:4)

1. Institut khimii AN Moldavskoy SSR.
(Copper compounds) (Semicarbazones)

ABLOV, A.V.; SAMUS', N.M.; BOLOGA, O.A.

Complex compounds of cobalt (III) with dimethylglyoxime of cis-configuration. Zhur.neorg.khim. 8 no.4:866-870 Ap '63.
(MIRA 16:3)

1. Institut khimii AN Moldavskoy SSR i Kishinevskiy gosudarstvennyy universitet.
(Cobalt compounds) (Glyoxime)

L 17009-63 EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3 Pr-4
RM/WW/JD/JW/HW S/078/63/008/005/009/021

AUTHOR: Ablov, A. V. and Konunova, Ts. B.

TITLE: Heats of formation of aniline and its derivatives in union with cobalt halides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. VIII, No. 5, May 1963, 1122-1130

TEXT: With use of an isothermic calorimeter and thermistor the authors determined the heats of solution of non-aqueous chloride, bromides and iodides of cobalt, aniline and its substitutions in a benzene nucleus, and also products of the combination of aromatic amines with cobalt halides in 2N HCl at 25°. They also determined the heats of fusion of several aromatic amines by the cryoscopic method. From these data they computed the heats of formation of two moles of gaseous amines in union with nonaqueous crystalline cobalt halides; these quantities are essentially independent of the character of the replacement in the benzene nucleus.
The results obtained support the covalent character of the Co - N bond in the resulting products studied.

Card 1/2

Heats of formation of aniline .....

The authors also estimated the heat of formation of two moles of gaseous amine in union with an isolated molecule of cobalt chloride. There are 7 tables and 1 figure.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (The Kishinev State University)

SUBMITTED: December 22, 1961

ABLOV, A.V.; BELICHUK, N.I.

Derivatives of diacetylthiosemicarbazone oxime with nickel.
Zhur.neorg.khim. 8 no.5:1142-1150 My '63. (MIRA 16:5)

1. Akademiya nauk Moldavskoy SSR, Institut khimii.
(Semicarbazones) (Nickel compounds)

ABLOV, A.V.; BATYR, D.G.

Conference on the application of physical methods to the investigation of complex compounds. Zhur.neorg.khim. 8 no.5:1290-1294 My '63. (MIRA 16:5)

(Complex compounds--Congresses)

ABLOV, A.V.; REYBEL', T.M.

"Inorganic chemistry" by I. Naroi-Sabo. Reviewed by A.V. Ablov, I.M. Reibel'. Zhur. neorg. khim. 8 no.6:1549-1550 Je '63. (MIRA 16:6)

(No subject headings)

ABLOV, A.V.; SEMINA, V.G.

Thermal decomposition of chlorides of mixed platinum (II) cis-tetramines containing ammonia and aromatic amines in the inner coordination sphere. Zhur.neorg.khim. 8 no.9:2059-2061 S '63. (MIRA 16:10)

1. Institut khimii Akademiya nauk Moldavskoy SSR.

ABLOV, A.V., akademik; MAL'KOVA, T.A.

Substitution of ammonia with nitrite ions when heating opticalle active cis-$[Co(NH_3)_2en_2](NO_2)_3$ in the crystalline state. Dokl. AN SSSR 150 no.5:1032-1035 Je '63. (MIRA 16:8)

1. Institut khimii AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Ablov).
(Ammonia) (Nitrites) (Cobalt compounds)

ABLOV, A.V., akademik; STRATAN, G.G.

Products of iodine addition to cobalt (III) dioximines. Dokl. AN SSSR 151 no.4:845-848 Ag '63. (MIRA 16:8)

1. Kishinevskiy gosudarstvennyy universitet. 2. AN Moldavskoy SSR (for Ablov).

(Iodine) (Cobalt compounds)

ABLOV, A.V., akademik; BEL[illegible]IY, G.N.; GOL'DANSKIY, V.I.; MAKAROV, Ye.F.; TRUKHTANOV, V.A.; KHKAROV, V.V.

Mössbauer's spectra of complex compounds of iron with diacetylthiosemicarbazone oxime. Dokl. AN SSSR 151 no.6:1352-1355 Ag '63. (MIRA 16:10)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimii AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Ablov). 3. Chlen-korrespondent AN SSSR (for Gol'danskiy).

TIMEROV, R.Kh.; YABLOKOV, Yu.V.; ABLOV, A.V., akademik

Electron paramagnetic resonance method used in studying copper (11) bis-dimethylglyoximate. Dokl. AN SSSR 152 no.1:160-163 S '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut Kazanskogo filiala AN SSSR i Institut khimii AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Ablov).

(Copper compounds) (Glyoxime)
(Electron paramagnetic resonance and relaxation)

ABLOV, A.V., akademik; BERSUKER, I.B.; GOL'DANSKIY, V.I.

Interpretation of the resonance absorption of γ-quanta by some complex iron compounds with allowance for the covalence of bonds and induction effects. Dokl. AN SSSR 152 no.6: 1391-1394 O '63. (MIRA 16:11)

1. Institut khimii AN Moldavskoy SSR i Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Gol'danskiy).

ABLOV, Anton V.,

"Structure and electron paramagnetic resonance of some copper (II) Salts of the monocarboxylic acids".

report submitted for the Symposium on the Structure and Properties of Coordination Compounds - Bratislava, Czechoslovakia, 2-4 Sep 64

ABLOV, A.V.; GERBELEU, N.V.

Metal derivatives of thosemicarbazones. Zhur.neorg.khim. 9 no.1:85-93 Ja '64. (MIRA 17:2)

1. Akademiya nauk Moldavskoy SSR, Institut khimii.

SIMONOV, Yu.A.; ABLOV, A.V.; MALINOVSKIY, T.I.

Crystalline structure of diacetate diaminocopper. Kristallografiia 8 no.2:270-272 Mr-Ap '63. (MIRA 17:8)

1. Institut fiziki i matematiki AN Moldavskoy SSR.

ABLOV, A.V.; SHAFRANSKIY, V.N.

Complex compounds of trivalent cobalt with dimethylglyoxime and thioamides. Zhur. neorg. khim. 9 no.3:585-590 Mr '64. (MIRA 17:3)

POPOVICH, G.A.; ABLOV, A.V.

Complex salts of copper with xylotrihydroxyglutaric acid.
Zhur. neorg. khim. 9 no.5:1072-1078 My '64. (MIRA 17:9)

1. Institut khimii AN Moldavskoy SSR.

ABLOV, A. V.; BERSUKER, I. B.; GOL'DANSKIY, V. I.

"Mossbauer spectra of iron complexes with thiosemicarbazone of diacetyloxime and their interpretation."

report presented at 8th Intl Conf, Coordination Chemistry, Vienna, 7-11 Sep 64.

GROSUL, Ya.S., red.; ABLOV, A.V., red.; GRINBERG, I.P., red.; AGAS'YEVA, N.A., red.; FAYERSHTEYN, M.G., red.; KASHUTKIN, A., red.

[From the history of science and technology; materials] Iz istorii nauki i tekhniki; materialy. Kishinev, Kartia moldoveniaske, 1963. 187 p. (MIRA 17:9)

1. Konferentsiya istorikov yestestvoznaniya i tekhniki Moldavii. 1st, Kishinev, 1962. 2. Prezident AN Moldavskoy SSR (for Grosul). 3. Kishinevskiy gosudarstvennyy universitet (for Agas'yeva).

NAZAROVA, L.V.; ABLOV, A.V.; DAGAYEV, V.A.

Stability of complex cadmium salts with aniline and its monosubstituted derivatives. Zhur. neorg. khim. 9 no.9: 2129-2132 S '64.

(MIRA 17:11)

ABLOV, A.V.; GERBELEU, N.V.

Derivatives of thiosemicarbazone of salicylaldehyde with trivalent cobalt. Zhur. neorg. khim. 9 no.10:2325-2332 O '64.
(MIRA 17:12)

1. Akademiya nauk Moldavskoy SSR Institut khimii.

ABIOV, A.V.; SEMINA, V.G.

Reaction of platinum (II) tetramines containing ammonia and aromatic amines with bromide and iodide ions. Zhur. neorg. khim. 10 no.3:608-614 Mr '65. (MIRA 18:7)

1. Institut khimii AN Moldavskoy SSR.

[illegible], A.V., [illegible] I.M.

"Inorganic chemistry" by [illegible] Reviewed by A.V. Ablov, M.M. Reibel'. Zhur. neorg. khim. 10 no.2:509-510 Je '65. (MIRA 18:11)

ABLOV, A.V.; D'YAKON, I.A.; IVANOVA V.Ya.; PROSKINA, N.N.; CHAPURINA, L.F.

Modification of copper glycocholate. Zhur. neorg. khim. 10 no.3: 628-635 Mr '65. (MIRA 18:7)

1. Institut khimii AN Moldavskoy SSR.

ABIOV, A.V.; PROSKINA, N.N.; CHAPURINA, I.F.

Infrared absorption spectra of the products of the addition of aromatic amines to cobalt, zinc, and cadmium halides. Zhur. neorg. khim. 10 no.6:1350-1354 Je '65.
(MIRA 18:6)

1. Institut khimii AN Moldavskoy SSR.

ABLOV, A.V.; GERBELEU, N.V. [Gherboleu, N.V.]

Derivatives of the reaction of salicylaldehyde thiosemicarbazone with nickel, copper, and zinc. Zhur. neorg. khim. 10 no.5:1155-1159 My '65. (MIRA 18:6)

1. Institut khimii AN Moldavskoy SSR.

APILOV, A.V.; CHAPURINA, I.F.; MELICHUK, N.L.

Infrared absorption spectra of diacetylsemicarbazonoxime metallic derivatives. Zhur. neorg. khim. 10 no.5:1186-1190 My '65. (MIRA 18:6)

1. Institut khimii AN Moldavskoy SSR.

ABIAV, A.V.; ROSKINA, N.N.; SHAFRANSKIY, V.N.

Infrared absorption spectra of trans-dihydroxyimines of trivalent cobalt with sulfanilamides. Zhur. neorg. khim. 10 no.6:1355-1359 Je '65. (MIRA 18:6)

1. Institut khimii AN Moldavskoy SSR.

ABLOV, A.V., akademik; BOVYKIN, B.A.; SAMUS', N.M.

Co (III, dioximes containing a water molecule and a molecule of ammonia or of organic amine in their inner sphere. Dokl. AN SSSR 163 no.3:635-637 Jl '65. (MIRA 18:7)

1. Kishinevskiy gosudarstvennyy universitet. 2. AN Moldavskoy SSR (for Ablov).

ABLOV, A.V.; SYRTSOVA, G.P.

Cobalt (III) compounds with dimethylglyoxime and a cyanide ion.
Zhur. neorg. khim. 10 no.9:1980-1986 S '65. (MIRA 18:10)

ABLOV, A.V.; SEMINA, V.G.

Thermal decomposition of bromides and iodides of mixed platinum (II) cis-tetramines. Zhur. neorg. khim. 10 no.9:1987-1989 S '65. (MIRA 18:10)

1. Institut khimii AN Moldavskoy SSR.

ALIOV, [illegible], NOVYKIN, B.A.

Study of the equilibrium of trivalent cobalt dioximines containing thiourea. Zhur. neorg. khim. 10 no.1:53-60 Ja '65. (MIRA 18:11)

1. Kishinevskiy gosudarstvennyy universitet. Submitted July 18, 1963.

ABLOV, A.V., GREBENYA N.V.

Thiosemicarbazone derivatives of salicylaldehyde with trivalent chromium and trivalent iron. Zhur. neorg. khim. 10 no.1:61-67 Ja '65. (MIRA 18:1)

1. Institut khimii AN Moldavskoy SSR, Kishinev. Submitted July 24, 1963.

AELOV, A.V.; BOVYKIN, B.A.; SAMUS', N.M.

Detachment of protons from cobalt (III)dioximines containing thiourea. Zhur.neorg.khim. 11 no.1:60-66 Ja '66.
(MIRA 19:1)

1. Kishinevskiy gosudarstvennyy universitet, Kafedra neorganicheskoy khimii. Submitted June 8, 1964.

SHAFRANSKIY, V.N.; ABLOV, A.V.

Dioximines of trivalent cobalt containing thiourea and aromatic amines. Zhur.neorg.khim. 11 no.1:67-71 Ja '66. (MIRA 19:1)

1. Institut khimii AN Moldavskoy SSR. Submitted June 8, 1964.

L 42116-66 EWT(m)/EWP(j) RM

ACC NR: AP6027195 SOURCE CODE: UR/0078/66/011/008/1992/1998

AUTHOR: Ablov, A. V.; Proskina, N. N.

ORG: none

TITLE: Second conference on the application of physical methods for investigation of complex compounds

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 8, 1966, 1992-1998

TOPIC TAGS: chemical conference, coordination compound, chelate compound, organometallic compound, rare earth chelate, quantum chemistry, crystallochemistry, luminescence

ABSTRACT: The Second Conference on the Application of Physical Methods for Investigation of Complex Compounds was held 5-8 October 1965 in Kishinev. The conference was sponsored by the Moldavian Academy of Sciences, Kishinev State University, Kurnakov Institute of General and Inorganic Chemistry, and the All-Union Chemical Society im. Mendeleyev, Moldavian Branch. About 120 papers were presented, almost twice as many as at the First Conference, on the same subject [see Zh. neorgan. khimii, 8,1290 (1963)]. A new section on the rare-earth element chelates was added to the program of the conference. About 350 specialists, representing scientific research institutions and universities of many Soviet cities, were present. Academician I. I. Chernyayev made the opening address.

Card 1/6 UDC: 541.49.006.3

In the plenary sessions, A. V. Ablov, (Kishinev) presented the up-to-date theory of the chemistry of coordination (organometallic) compounds and reviewed the most recent research data which were obtained in the laboratories of the Moldavian Academy of Sciences on the structure and properties of individual transition metal compounds. A review of the work of the Quantum Chemistry Department, Moldavian Academy of Sciences, was made by I. B. Bersuker (Kishinev), who explained the origin of the ferroelectric property of the perovskites, and the laser and catalytic mechanism of the chelates. Also in the plenary sessions, papers of general interest were presented by Gol'danskiy, V. I. and M. A. Poray-Koshits, (both from Moscow) on "Nuclear gamma-resonance spectroscopy of the complexes" and "Crystallochemistry of the transition metal complexes", respectively.

The most noted of all papers listed in various sections of the conference were: Tolmachev, V. N., O. F. Boberov, V. P. Dzyuba, and V. F. Lavrushin (Khar'kov) -- Electronic absorption spectra of α- and β-unsaturated ketone complexes with metal halogenides.

Osipov, O. A., M. I. Knyazhanskiy, A. D. Garnovskiy, and V. I. Minkin (Rostov/Don)--Luminescent, photochemical, and thermochromic properties of the metal complexes with Schiff bases.

Moshenkov, V. A., K. N. Solov'yev, and G. D. Yegorov (Minsk)--The effect of alkyl substitution in the ring on the luminescence of metal porphyrins.

Shkirman, S. F., A. T. Gradyushko, and K. N. Solov'yev (Minsk)--Normal vibration frequencies of metal porphyrins in the ground and excited states.

Yurchenko, E. N., K. V. Agnitskaya, Ye. P. Darienko, I. I. Kalinichenko, G. M. Petrova, and N. P. Bednyagina (Sverdlovsk)--Infrared spectra of the complexes and effect of pH on the formation of complexes of Ni, Fe, Ce, and Cu salts with formazans.

Samoylovich, M. I., and L. I. Potkin (Minsk)--EPR of CR^{3+} ions in scandium tungstate crystals.

Gurinovich, G. P., Yu. V. Gladkov, A. I. Patsko, and A. M. Shul'ga (Minsk)--Nature, properties, and chemical activity of the metastable state.

Gabuda, S. P., Yu. V. Gagarinskiy, and A. G. Lundin (Krasnoyarsk and Novosibirsk)--NMR and chemical bond in isostructural tetrafluorides of U, Th, and Zr.

Rivkind, A. I., and Yu. V. Yablokov (Kazan')--The effect of distribution of spin density between paramagnetic complex and splitting ligands (generation of free radicals in solution).

ACC NR: AP6027195

Rozenberg, Ye. L., and G. A. Domrachev (Gor'kiy)--Light absorption by β-diketonates of rare-earth elements on transition from the excited state.

Bersuker, I. B., I. A. Zhigunova, M. A. Koyner, and V. S. Nul'man (Kishinev and Saratov)--Analysis of electronic, vibrational, and electronic-vibrational spectra of certain rare-earth element chelates.

Aleksandrov, A. P., and V. N. Genkin (Gor'kiy)--Peculiarities of the structure of energy levels in the rare-earth chelates.

Roytsin, A. B., and L. A. Firshteyn (Kiyev)--The state of d-electrons of iron group impurity atoms in diamond-type crystals.

Bugay, A. A., P. T. Levkovskiy, V. M. Maksimenko, M. V. Pashkovskiy, and A. B. Roytsin--Splitting of EPR lines of Cr^{3+} in $ZnWO_4$ by means of an external electric field.

Arutyunyan, F. G., and M. A. Poray-Koshits (Moscow)--Structure of certain thorium compounds.

Terent'yev, A. P., Ye. G. Rukhadze, G. V. Panova, and N. M. Viktorova (Moscow)--Spectropolarimetry in the chemistry of chelates.

Card 4/6

18

Garnovskiy, A. D., O. A. Osipov, V. I. Minkin, L. V. Orlova, and L. I. Dudkova (Rostov/Don)--Structure of Cu, Ni, and Th complexes with benzal-o-aminophenols.

Domrachev, G. A., V. P. Ippolitova, M. I. Gryaznova, M. F. Tertyshnikov, and K. K. Fukin (Gor'kiy)--Infrared absorption spectra of certain chelates of lanthanides with β-diketones.

Yashchina, G. G., K. K. Fukin, and G. A. Domrachev (Gor'kiy)--The solvent effect on luminescent properties (quantum yield and nonradiative loss) of europium thenoyltrifluoroacetonate.

Kuznetsova, V. V., A. N. Sevchenko, and V. S. Khomenko (Minsk)--Luminescent spectral analysis of europium chelates in solution.

Kostromina, N. A., and T. V. Ternovaya (Kiyev)--Spectral absorption bands splitting as a means of study of complex formation by rare-earths in solution.

Korol'kov, V. S., A. G. Makhanek, and V. V. Kuznetsova (Minsk)--Analysis of the luminescence spectra of europium chelates.

Derkacheva, L. D., A. D. Kudryavtseva, G. V. Peregudov, and A. I. Sokolovskaya (Moscow)--Spectral characteristics of the three- and four-

ACC NR: AP6027195

ligand europium complexes with β-diketones.

Dvoryantseva, G. G., S. L. Portnova, and Yu. N. Sheynker (Moscow)--NMR spectra of ferrocene derivatives. [ATD PRESS: 5052-F]

SUB CODE: 07 / SUBM DATE: none

Card 6/6

ABLOVA, E., arkhitektor; VERSTIN, G., inzh.; DANILOVA, F., inzh.; SHAPIRO, D., inzh.

Experimental frame-slab school on the state farm "Zaria Kommunizma." Sel'. stroi. no.12:8b-10 D '62. (MIRA 16:1)

(Moscow Province—Schoolhouses)
(Precast concrete construction)

RADBIL', O.S., prof.; ABLOVA, A.I.

Peptic ulcer of the stomach and duodenum and some chronic lung diseases; a contribution to the problem. Kaz.med.zhur. no.3:7-11 My-Je '63. (MIRA 16:9)

1. 2-ya kafedra terapii (zav. - prof. O.S.Radbil') Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni V.I.Lenina i Kazanskaya klinicheskaya zheleznо-dorozhnaya bol'nitsa (glavnyy vrach V.G.Kolchin)
(PEPTIC ULCER) (LUNGS--DISEASES)

USSR/Electricity - Semiconductors G-3

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 7031

Author : Ablova, M.S., Yelrat'yevskaya, O.D., Regel', A.R.
Title : Electric Conductivity of Germanium-Silicon Alloys in Liquid State.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 6, 1366-1368

Abstract : Investigation results are given on the electric conductivity of germanium-silicon alloys at high temperatures. Measurements were made in vacuum with the application of the method of rotating magnetic fields. The dependences of the width of the forbidden zone, of the value of the jump in electric conductivity upon melting, and of the maximum electric conductivity in the liquid state on the percentage ratio of the alloy component are all given.

Card : 1/1

57-9-34/40

The Thermoelectromotoric Force Near Melting Temperature

permits the conclusion that, in a "perfect" germanium monocrystal, the mobility of electrons and holes is balanced at high temperatures. $\Delta\alpha$ - differential thermo-EMF in μ V/°C. There are 5 Slavic references.

SUBMITTED: July 31, 1957

AVAILABLE: Library of Congress

Card 2/2

18 8200
9.4300

24925

S/181/63/005/006/022/051
B102/B214

AUTHOR: Ablova, M. S.

TITLE: The anisotropy of microhardness of germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 6, 1963, 1820

TEXT: The author gives the results of checking a large number of measurements of the microhardness of germanium with regard to the dependence of the microhardness on the orientation of the Ge single crystal. The investigations were carried out because germanium crystallizing in diamond structure has been studied less accurately than single crystals. Also, no anisotropy of microhardness of germanium had so far been observed; its existence was found for the first time in this study. The measurements were made by means of an apparatus of the type PMT-3 (PMT-3). The loading was done by means of a diamond pyramid (vortex angle: 136°50') for 15 - 20 sec. The microhardness H was calculated by the formula $H = \frac{1854 \cdot P}{c^2}$ kg/mm^2; P is the load in g, and c the diagonal of the impression. For a diagonal length of 20μ the straying of the measured data was

Card 1/5

found for the face (111) and the lowest for (110). In order to investigate the origin of the anisotropy, the load versus deformation curves were taken (the microhardness is characterized by the degree of non-plasticity of the substance - on pressing the pyramid a plastic deformation occurred in a volume of about $300\mu^3$). Fig. 3 shows how different these curves appear for the three directions for which they were taken (at 600°C). The results of a qualitative investigation of the relations between the acting forces and the slide directions and planes for two faces differing most in their H values are given in the table. The author thanks Professor A. L. Regel' and T. A. Kontorova for advice and discussions; N. N. Feoktistova, lady student of the Politekhnicheskiy institut (Polytechnic Institute), for collaboration, and A. I. Zaslavskiy and T. B. Zhukova for the roentgenographic investigations. There are 3 figures, 1 table, and 17 references: 11 Soviet-bloc and 6 non-Soviet-bloc.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: December 14, 1960 (initially) and January 20, 1961 (after revision)

Card 3/5

S/181/61/003/010/025/036
B125/B102

AUTHOR: Ablova, M. S.

TITLE: The microstructure of the impression during measurement of the microhardness of germanium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 10, 1961, 3133-3136

TEXT: A 500-fold or 1000-fold magnification of the impression obtained when measuring the microhardness of germanium by means of a ПМТ-3 (PMT-3) device clearly shows a microstructure in the form of dark and light stripes in the case of oblique illumination. The microstructure differs in the different crystallographic planes. Photographs of the impression are enclosed. The light and dark stripes probably are convex regions and their shadows or deepenings. The relief of the surface of the impression in germanium was caused by plastic deformation, and the stripes on the walls are slip lines. When impressing the diamond pyramid into the surface of a germanium single crystal, (ρ = 35 ohm·cm) a "primary" plastic deformation and an elastic deformation take place. The microstructure observed

Card 1/3

here is probably not caused by the primary plastic deformation. The strong residual elastic stresses and their irregular distribution may cause a "secondary" plastic deformation in the surface layer of the impression, which weakens the residual stresses. This secondary plastic deformation can also be explained by the theory of dislocations. The reduction of elastic stresses after stress relief slightly increases the mobility of dislocations in a thin surface layer, which, in the presence of an inhomogeneous field, may cause a step on the surface of the impression. Such a phenomenon was observed in Ge and LiF crystals as well as in Si-Fe alloys. The dependence of the microstructure of the impression on the orientation of the single crystal is explained as follows: In the (111) plane with the lowest "primary" plastic deformation the residual elastic stresses and the "secondary" plastic deformation caused by them are greatest. The structure of the impression in the (110) plane can be explained similarly. The conditions for the occurrence of a secondary plastic deformation are probably more favorable for the plane (111). The microstructure observed can also be explained as a formation of cracks on the walls of the impression under the action of elastic remanent stresses. The author thinks this explanation possible though not very probable.

Card 2/3

A. R. Regel' and T. A. Kontorova are thanked for interest and advice. There are 3 figures and 7 references: 4 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: J. R. Patela, B. H. Alexander. Acta met., 4, 385, 1956; R. L. Cummerow. J. Appl. Phys., 30, no. 6, 946, 1959.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: May 29, 1961

24.7500
24.7700

36890
S/181/62/004/004/034/042
B102/B104

AUTHORS: Ablova, M. S., and Regel', A. R.

TITLE: Microhardness of germanium of different conductivity

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1053-1055

TEXT: The fact that the mechanical properties of solids are considerably changed when impurities are admixed may imply that a relation exists between free-carrier concentration and plasticity. This would be of special interest in semiconductors where small amounts of impurities (10^{-1}-10^{-5}%) alter the carrier concentrations by several orders of magnitude. Microhardness was chosen as a plasticity characteristic. The measurements were made with germanium of different resistivities using a ПМТ-3 (PMT-3) apparatus. The most probable values of microhardness were determined by statistical averaging. Since microhardness of Ge is anisotropic, all measurements were made on the (111) faces. Six n-type and one p-type specimen were investigated; the resistivities were between $3 \cdot 10^{-3}$ and 35 ohm·cm, the dislocation concentrations between

Card 1/2

Microhardness of germanium of ...

10^3 and $2 \cdot 10^5 cm^{-2}$, and the free-carrier concentrations between $1.4 \cdot 10^{14}$ and $10^{19} cm^{-3}$. The resistivity dependence of the microhardness $H(\varsigma)$ was measured for these specimens after polishing or grinding the surface. $H(\varsigma)$ was in all cases a very weak function: When ς was varied by almost 5 orders of magnitude, H varied by only $\sim 7\%$. For the purest specimens H was almost constant ($\sim 925 kg/mm^2$) for $\varsigma > 5$ ohm·cm, when ς was reduced to 0.003 ohm·cm, H decreased to 870 kg/mm^2. T. A. Kontorova is thanked for discussions. There are 1 figure and 1 table.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: December 3, 1961

Card 2/2

S/181/63/005/001/063/064
B104/B186

AUTHORS: Ablova, M. S., and Feoktistova, N. N.

TITLE: Anisotropy of the microhardness of InSb

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 364-365.

TEXT: The microhardness of an InSb single crystal with a resistivity of $\rho \simeq 0.006$ ohm·cm and a carrier concentration of $n = 3 \cdot 10^{16}$ cm^{-3} was determined in the crystallographic planes (111), (112), (100) and (110). The surfaces were polished mechanically and 100 measurements were conducted with a PMT-3 (PMT-3) device at a load of 50 g per sample surface. Results:

Plane	$(\bar{H} \pm p)$ kg/mm^2
(111)	233 ± 1.4
(112)	231 ± 1.4
(100)	224 ± 1.4
(110)	222 ± 1.4

Card 1/2

Nine out of ten measurements fall within the intervals given in the table. The anisotropy is equal to that of Ge and is related to the slip plane (111) and the slip direction [110]. There are 1 figure and 1 table.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: October 9, 1962

ABLOVA, M. S.; FEDKTISTOVA, N. N.

Microhardness anisotropy of InSb. Fiz. tver. tela 5 no.1: 364-365 Ja '63. (MIRA 16:1)

1. Institut poluprovodnikov AN SSSR, Leningrad.

(Indium antimonide) (Crystallography)

ACCESSION NR: AP4011747 S/0181/64/006/001/0116/0122

AUTHORS: Ablova, M. S.; Feoktistova, N. N.

TITLE: Anisotropic peculiarities in the microhardness of germanium and silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 116-122

TOPIC TAGS: microhardness, microhardness anisotropy, germanium, silicon, n-type semiconductor, p-type semiconductor

ABSTRACT: The microhardness was measured on a PMT-3 instrument with loads of 5 to 100 g at room temperature. The (111), (110), (100), and (112) faces were tested. It was found that the microhardness anisotropy of Ge and Si differs for n-type and p-type samples. In n-type Ge and Si, the (111) plane is hardest, the (110) the softest. But in p-type samples the reverse is true: the (110) plane is hardest, the (111) plane the softest. In n-type Ge and Si the nature of the anisotropy changes at the transition to the surface layer (~0.5-1 micron) and becomes the same as that found in p-type samples. In heavily doped p-type samples no change in microhardness is detected with depth. The change in the n-type anisotropy is explained by the presence of a p-type layer in n-type crystals of Ge and Si. The

Card 1/2

ACCESSION NR: AP4011747

authors conclude that it is now difficult to make an exhaustive theoretical discussion of their results, but suggest that the variations in anisotropy of microhardness may be associated with local deformation that causes redistribution of holes in different bands. "We express our thanks to A. A. Lodkin for investigating the "rest" and effect of elastic deformation on microhardness in Ge, and to T. B. Zhukova and R. P. Magala, for their x-ray work, and to T. A. Kontorova and A. P. Regel' for discussing the results and for their constant interest in the work." Orig. art. has: 7 figures and 2 tables.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 13Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 009 OTHER: 008

Card 2/2

ABLOVA, M.S.; PEOKTISTOVA, N.N.

Characteristics of the microhardness anisotropy of germanium and silicon. Fiz. tver. tela 6 no.1:116-122 Ja '64. (MIRA 17:2)

1. Institut poluprovodnikov AN SSSR, Leningrad.

IJP(c)/ASD(a)-5/SSD/ESD(gs)/RAEM(a)/AFWL/

AUTHOR: Ablova, M. S.

TITLE: Electromechanical effect

TOPIC TAGS: germanium, silicon, indium antimonide, electromechanical effect, surface property

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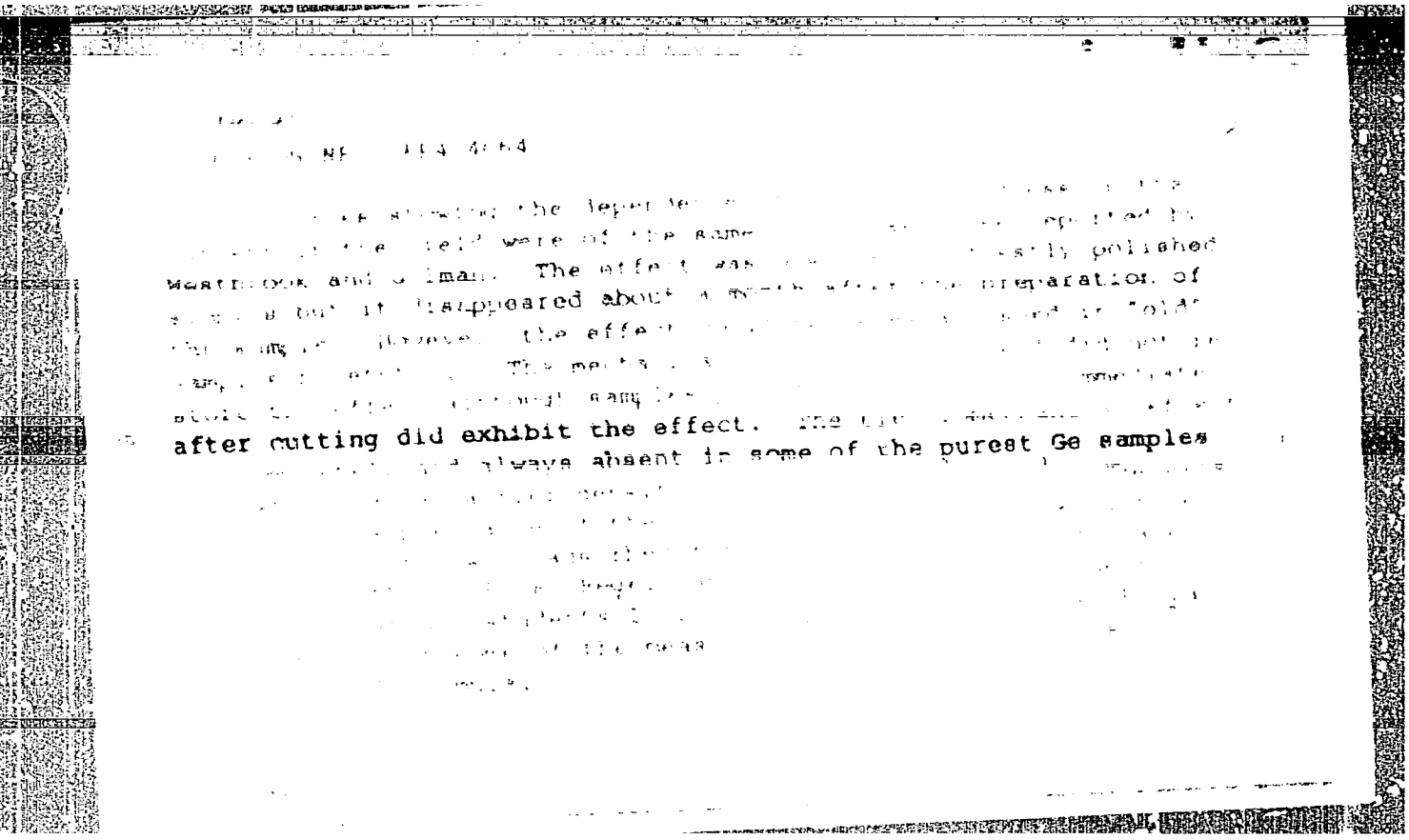
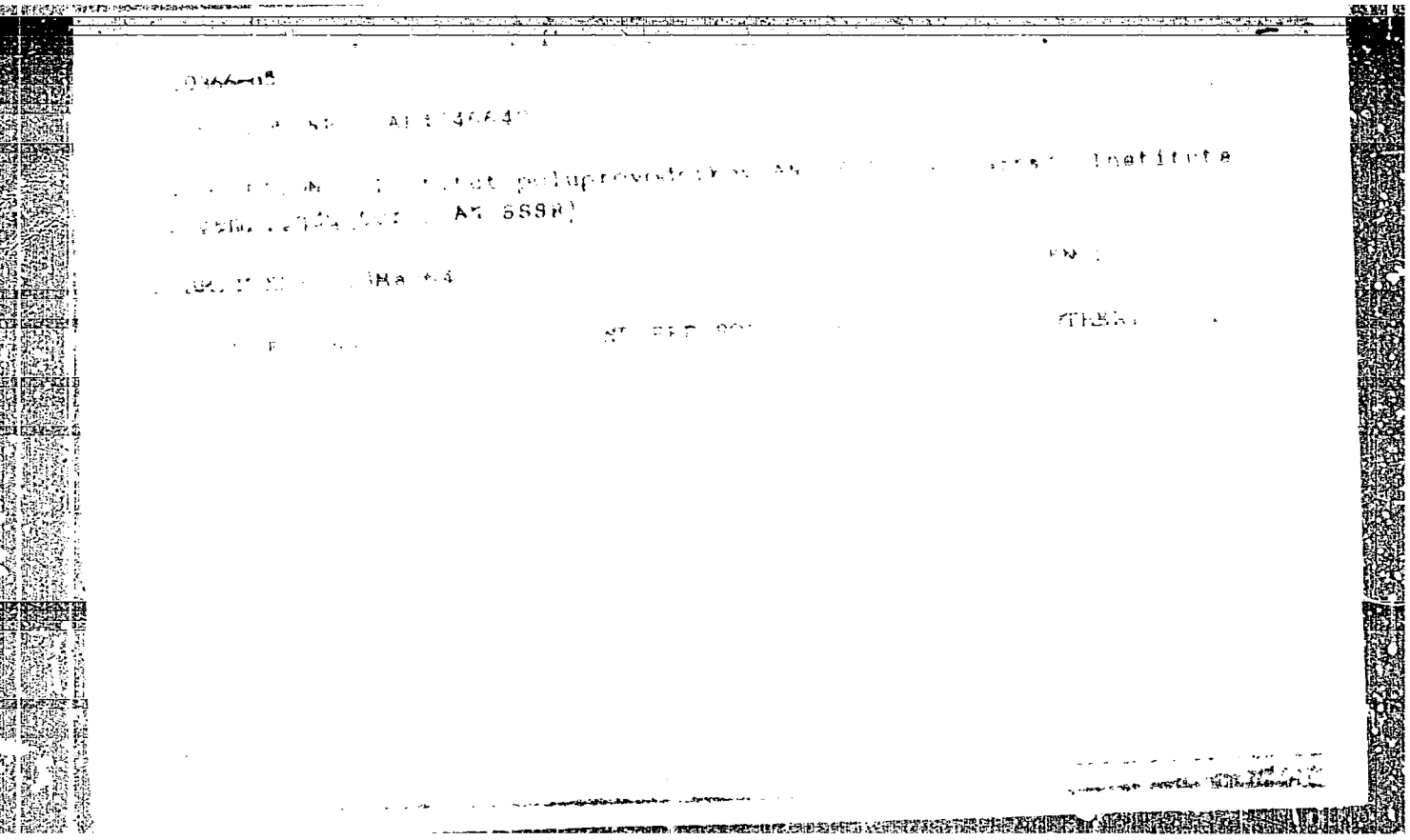


after cutting did exhibit the effect.



ABLOVA, M.S.

Electromechanical effect in Ge, Si, InSb. Fiz. tver. tela 6 no.10:3160-3161 O '64. (MIRA 17:12)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ABLOVA, M.S.; AVERKIN, A.A.

Attachment to a PMT-3 device for the automation of measurements. Zav. lab. 31 no.8:1015-1017 '65. (MIRA 18:9)

1. Institut poluprovodnikov, AN SSSR.

L 4415-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD
ACCESSION NR: AP5022715 UR/0181/65/007/009/2740/2748

AUTHOR: Ablova, M. S.

TITLE: Conditions for the existence of the electromechanical effect in germanium

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2740-2748

TOPIC TAGS: germanium, surface hardening, surface property, crystal dislocation phenomenon

ABSTRACT: This is a continuation of earlier work by the author (FTT v. 6, 3159, 1964), and is devoted to a determination of the conditions under which the microhardness of germanium decreases when current passes through it. The measurements were made at current densities up to 2 ma/mm^2, such as not to overheat the samples. The microhardness was determined from 20—30 readings with a PMT-3 instrument at 10 g. The equipment used for accelerating and automatizing the measurements were described earlier (Peredovoy nauchno-tekhn. i proizvodstvennyy opyt, ser. "Sredstva kontrolya tekhnol., mekhan. i fizich. svoystv materialov i veshchestv", no. 2-64 1195/27, GOSINTI, Moscow, 1964). The preparation of the samples and the test procedure are described in detail. The results show that the electromechanical effect is observed in germanium only following rough surface finish, producing a large

Card 1/2

L 4415-66

ACCESSION NR: AP5022716

/0

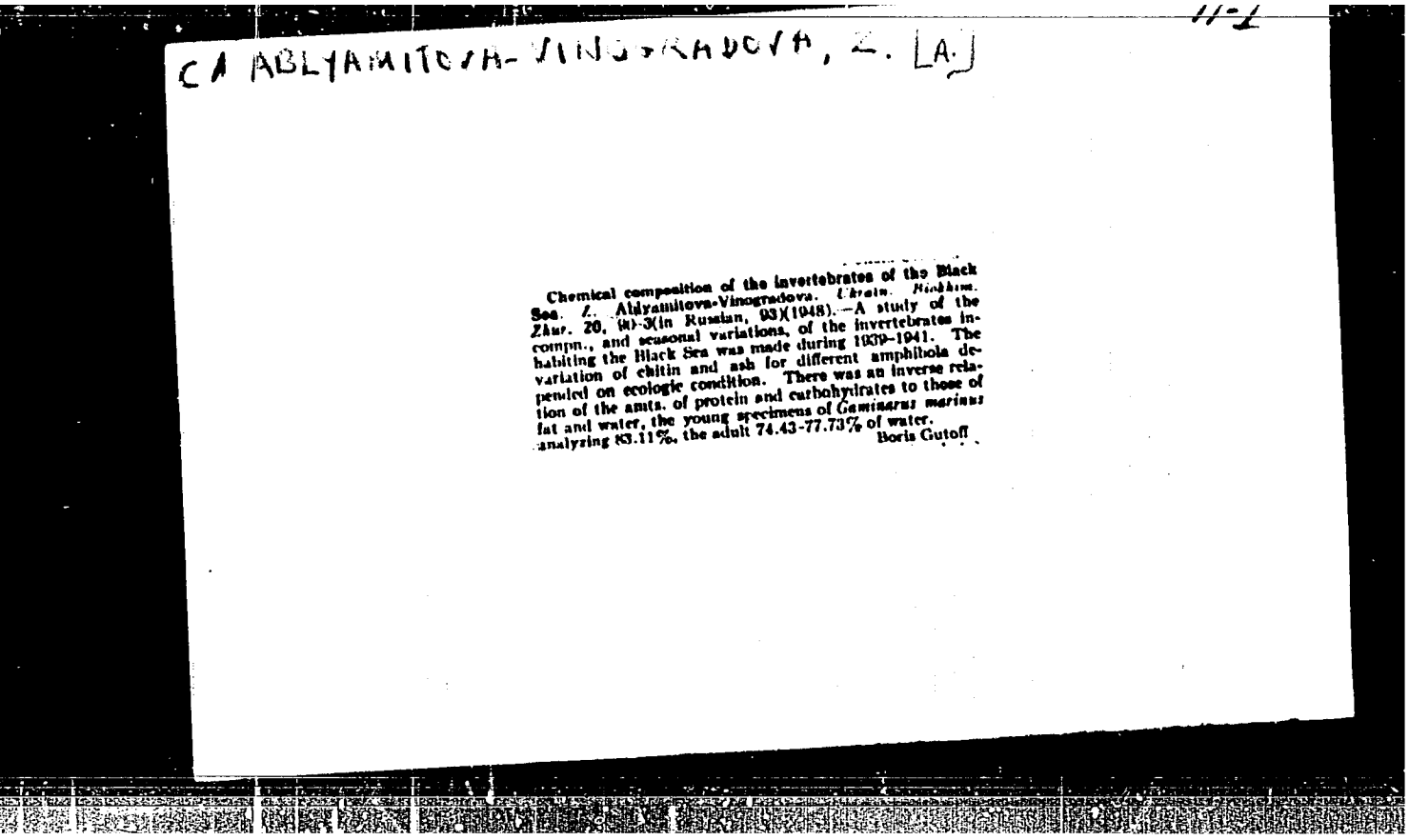
degree of surface hardening, and when the crystalline impurity concentration is not lower than 8×10^{13} cm^{-3}. The duration of the effect is affected by the moisture content in the surrounding atmosphere. The microhardness necessary for the effect to be observed must exceed 780—800 kg/mm^2. An attempt is made to explain the effect qualitatively, by suggesting that surface hardening increases the carrier concentration and passage of currents releases the carriers and facilitates the formation of these locations. It is pointed out, however, that the available data are still insufficient for a conclusive description of the phenomenon. "The author thanks A. R. Regel' and T. A. Kontorova for discussion of the results, and also Ye. V. Polyakova and I. L. Chernyavskaya for carrying out the measurements." Orig. art. has: 4 figures and 2 tables. [02]

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AN SSSR) 55

SUBMITTED: 22Jan65 ENCL: 00 SUB CODE: SS

NO REF SOV: 008 OTHER: 005 ATD PRESS: 4/126

Card 2/2



11-1

CA ABLYAMITOVA-VINOGRADOVA, Z. [A.]

Chemical composition of the invertebrates of the Black Sea. Z. Ablyamitova-Vinogradova. *Chem. Ztschr.* Zhur. 20, (8)-3(in Russian, 93)(1948).—A study of the compn., and seasonal variations, of the invertebrates inhabiting the Black Sea was made during 1939–1941. The variation of chitin and ash for different amphibiota depended on ecologic condition. There was an inverse relation of the amts. of protein and carbohydrates to those of fat and water, the young specimens of *Gammarus marinus* analyzing 83.11%, the adult 74.43–77.73% of water.
Boris Gutoff

ABLMANTOVA-[illegible], E. (Lin'ka)

3 012 Morskogo yersha. Priroda, 1949, No. 11, S. [illegible] - [illegible]

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

ABLYASKIN, I.N.

USSR/ Engineering - Fixtures

Card 1/1 Pub. 128 - 11/23

Authors : Ablyaskin, I. N.; Figlovskiy, V. F.; and Busov, L.S.

Title : A fixture used in preparing pipes for nickel plating

Periodical: : Vest. mash. 2, 50 - 51, Feb 1955

Abstract : A new type of fixture used on screw-cutting lathes for the preparation of pipes for nickel plating is described. Drawings depicting the structure and installation of the above mentioned fixture are presented, together with technical specifications. Drawings.

Institution: .....

Submitted: .....

АБЛЯСКИН, И. Н.

AUTHOR: SHMATLYUK,N.S., ABLYASKIN,I.N. PA - 3624

TITLE: A Machine for Winding Spiral Springs without a Mandrel. (Stanok dlya bezopravochnoy navivki pruzhin, Russian)

PERIODICAL: Stanki i Instrument, 1957, Vol 28, Nr 6, pp 33 - 34 (U.S.S.R.)

ABSTRACT: In the machine factory of "Novo-Kramatorsk" a special machine for the winding of spiral springs without a mandrel was produced and used. Good results were obtained in that production was increased and the quality of the springs was improved. The machine is intended for the winding of cylindrical spiral springs with a diameter of 8 - 60 mm made from steel- or bronze wire having a diameter of 1 - 5 mm. Efficiency is due to the feed velocity of the wire - 12 m/min. The machine is driven by an electromotor of 2,8 kw and 706 revs/min. The machine weighs 570 kg. The wire is supplied in rolls of about 800 mm diameter. The machine has a device for the adjustment of the pitch of the spring, and can be used for the winding of both small quantities (5 - 10 springs) as well as for mass production of certain types and sizes. The excellent quality of the springs wound on this machine is praised, which is due to a suitable distribution of remaining stresses of the wire, which is more favourable than in the case of the usual winding method in which a mandrel is used. The construction of the machine is shown and explained. (5 illustrations)

Card 1/2

PA - 3624

A Machine for Winding Spiral Springs without a Mandrel.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

AELYAYEV, Sh.A.; PULATOV, U.U.

Effect of the porosity of silica gels on the extent of their induced adsorption. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 8 no.2: 90-91 '64.

Cathodoluminescence of silica gels. Ibid.:91-93 (MIRA 17:9)

1. Fiziko-tekhnicheskiy institut AN UzSSR.

ABLYAYEV, Sh.A.

Single scattering of electrons by mercury nuclei. Izv.AN Uz.SSR. Ser.fiz-mat.nauk no.1:27-38 '57. (MIRA 13:8)
(Electrons--Scattering)
(Mercury)

ABLYAYEV, Sh. A., Cand Phys-Math Sci--(diss) "On the diffusion of electrons of medium [redacted]." Tashkent, Publishing House of the Acad Sci UzSSR, 1958. 8 pp. (Acad Sci UzSSR. Department of Phys-Math Sci), 150 copies (KL,26-58, 104)

ARIFOV, U.A.; KLEYN, G.A.; ABLYAYEV, Sh.A.; VASIL'YEVA, Ye.K.; FILIPPOV, A.N.; SLEPAKOVA, S.I.; GETSONOK, B.I.; ZAUROV, R.I.

Studying gamma-ray effects in natural silk. Izv. AN Uz. SSR. Ser. fiz.-mat.nauk no.4:5-11 '58. (MIRA 11:11)

1. Fiziko-tekhnicheskiy institut AN Uz. SSR.
(Silk) (Gamma rays)

ARIFOV, U.A., akademik; KLEYN, G.A.; ABLYAYEV, Sh.A.; VASIL'YEVA, Ye.K.; FILIPPOV, A.N.; SLEPAKOVA, S.I.; GETSONOK, B.I.; ZAUROV, R.I.

Effect of gamma rays on the properties and structure of natural silk. Dokl. AN Uz. SSR no.6:5-9 '58. (MIRA 11:9)

1.AN UzSSR (for Arifov). 2.Fiziko-tekhnicheskiy institut AN UzSSR, Institut yadernoy fiziki AN UzSSR i Uzbekskiy nauchno-issledovatel'skiy institut shelkovoy promyshlennosti.
(Gamma rays) (Silk)

5(4)

AUTHORS: Starodubtsev, S.V., Member AS Uz SSR, Ablyayev, Sh.A., and Generalova, V.V.

SOV/166-19-1-9/11

TITLE: Radiolysis of Saccharose (Radioliz sakharozy)

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Nr 1, pp 75-80 (USSR)

ABSTRACT: The influence of γ-rays (Co^{60}) to the water solution of saccharose is investigated. It is stated: 1) change of the specific rotation of the plane of polarization; 2) this change increases with the radiation and decreases with the concentration of the solution; 3) here the decision depends on the solvent; 4) a great quantity of hydrogen, oxygen, CO_2 and several hydrocarbons is separated; 5) change of the solution velocity in water; irradiated saccharose is solved ca. 2-3 times quicker than the non-irradiated saccharose; 6) change of the colour of the solution.
There are 15 references, 5 of which are Soviet, 2 English, and 8 American.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Uz SSR (Physico-Technical Institute, AS Uz SSR)

SUBMITTED: September 10, 1958

Card 1/1

ROZHDESTVENSKAYA, L.F.; ARIFOV, U.A., akademik; KLEYN, G.A.; ABLYAYEV, Sh.A.

Effect of gamma rays of Co^{60} on the feed properties of mulberry leaves. Dokl.AN Uz.SSR no.8:11-13 '59. (MIRA 12:11)

1.AN UzSSR (for Arifov). 2. Institut yadernoy fiziki AN UzSSR.
(Mulberry)
(Gamma rays--Physiological effect)

GREBINSKAYA, M.I.; ARIFOV, U.A., akademik; KLEYN, G.A.; ABLYAYEV, Sh.A.

Effect of gamma rays from Co^{60} on mulberry seeds. Dokl. AN Uz.SSR no.10:17-19 '59 (MIRA 13:3)

1. Institut yadernoy fiziki AN UzSSR. 2. AN UzSSR (for Arifov).
(Mulberry) (Gamma rays--Physiological effect)

66473

~~21(8)~~ 5.4500(B) SOV/20-129-1-19/64

AUTHORS: Starodubtsev, S. V., Academician, Academy of Sciences, UzbekskayaSSR, Ablyayev, Sh. A., Yermatov, S. Ye.

TITLE: Variation of Adsorptive Properties of Silicagel Under the Action of Gamma-irradiation

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 72 - 73 (USSR)

ABSTRACT: Ionisation and excitation of atoms and molecules as well as displacement of the atoms is caused in solids under the action of penetrating rays. It becomes manifest by an external variation of the mechanical, optical, electrical, physico-chemical, and chemical properties of the bodies. Different preliminary works dealing with this subject are shortly reported. The properties of irradiated silicagel have hitherto been investigated only by A. N. Terenin et al (Refs 6,7). These authors irradiated silicagel by ultraviolet rays and showed, that a process occurs, similar to that on heat treatment, i. e. hydroxyl groups are separated and free valences occur at the surface. Present paper describes the experimental investigation of adsorptive properties,

Card 1/3

basing on the adsorption of gases, measured by means of thermocouples and ionization manometers. Experimentally produced silicagels of the type KSK were used for this experiment. Prior to the investigation, these silicagels were subject to careful, long lasting heat treatment, and were then irradiated by γ-rays (dose rate 15.10^4 to 35.10^4 r/hour, total dosage $1.5.10^6$ to 2.10^6 r) in evacuated glas tubes (which were provided with manometer tubes). The following is shown by the results of these investigations: The adsorptive power of silicagel increases remarkably under the influence of γ-rays, and the amount of the gas, adsorbed by the irradiated silicagel increases up to a known boundary value, with increasing irradiation dose. The first diagram shows the change of the adsorptive properties of silicagel with respect to H_2, N_2 and Ar at low pressures, and the second diagram shows the same for CO_2, CO, NH_3, C_2H_4 and H_2S, under the condition, that pressures of $1 - 10^{-1}$ torr prevailed before the irradiation. According to these diagrams, the adsorptive power of the irradiated silicagel samples increases differently for different gases.

66473

Variation of Adsorptive Properties of Silicagel Under the Action of Gamma-irradiation SOV/20-129-1-19/64

At comparatively high gas pressures (4 torr) the irradiated silicagel can adsorb an amount of hydrogen of $2.5.10^{-5}$ of its total weight. In this experiment, it is important and interesting, that silicagel assumes its previous properties, if heated to 100°. At room temperature, almost no such "annealing" of the irradiation effect may be noticed. Obviously, the changes of the adsorptive properties of silicagel under irradiation with γ-rays may be explained by the separation of hydroxyl groups and the formation of free valences at the surface as well as by the interruption of the bonds between the free radicals (which were formed during the primary heat treatment) and by the high ionization of the gas (the adsorbate), effecting an increase of the adsorptive power of silicagel. There are 3 figures and 7 references, 6 of which are Soviet.

SUBMITTED: June 9, 1959

Card 3/3

S/166/60/000/006/008/008
C111/C222

AUTHORS: Ablyayev, Sh.A., Yermatov, S.Ye. and Starodubtsev, S.V., Academician of the Academy of Sciences Uzbekskaya SSR.

TITLE: The Influence of the Gamma Radiation to the Adsorption Properties of Vacuum Materials

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, No. 6, pp. 93 - 95

TEXT: In (Ref. 1) the authors showed that the adsorption properties of silica gel are changed essentially by γ - rays Co^{60}. The present paper is a continuation of (Ref. 1). The authors investigate the adsorption properties of the types КСК (KSK) and АСМ (ASM) of the silica gel and of the alumosilicates. It was stated that the adsorbing capacity of the alumosilicates after a γ - radiation increases somewhat and the adsorbing capacity of the silica gel increases strongly.

Card 1/ 4

S/166/60/000/006/008/008
C111/C222

The Influence of the Gamma Radiation to the Adsorption Properties of Vacuum Materials

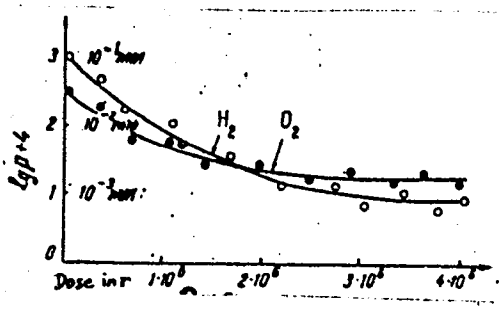


Fig. 1 : Change of the adsorbing capacity of the alumosilicates under the influence of γ - radiation.

Furthermore it was stated that for low temperatures of the tests the adsorption process is quicker.

Card 2/4

The Influence of the Gamma Radiation to the Adsorption Properties of Vacuum Materials

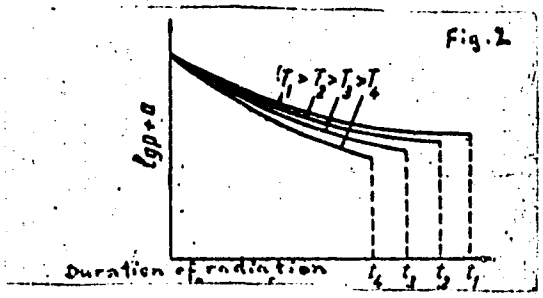


Fig. 2 : Influence of the temperature of the radiation to the velocity of the adsorption process.

The isothermal lines of the adsorption of the considered silica gel were obtained for two gases (H_2 and O_2) for room temperature and for the temperature of fluid nitrogen.
The discovered properties were used in order to construct a thermos bottle

S/166/60/000/006/008/008
C111/C222

The Influence of the Gamma Radiation to the Adsorption Properties of Vacuum Materials

which contained silica gel between the walls and which was submitted to γ- radiation ; thereby it was reached that the velocity of cooling of the content was diminished essentially.
There are 6 figures and 1 Soviet reference.

[Abstracter's note : (Ref. 1) is a paper of the authors in Doklady Akademii nauk SSSR, 1959, Vol. 129, p. 72]

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Uz SSR
(Physicotechnical Institute of the Academy of Sciences Uzbekskaya SSR)

SUBMITTED: August 29, 1960

Card 4/4

21.8100

78333
SOV/89-8-3-18/32

AUTHORS: Starodubtsev, S. V., Ablyayev, Sh. A., Generalova, V. V.

TITLE: Gamma-Ray Radiation Dosimetry Utilizing Changes in Optical Activity of Certain Hydrocarbons. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 3, pp 264-265 (USSR)

ABSTRACT: Basic shortcomings of chemical dosimetric methods are their complicated nature, length of chemical processing after exposure, nonuniqueness, and low accuracy of results. The authors investigated radiation effects on solutions of saccharose and glucose with the aim of achieving a simple method which would also be sensitive to very large doses. In the water solutions used, the dosimetric property is the optical activity which varies under the influence of γ-radiations. The ChDA brand of glucose and saccharose was dissolved in doubly distilled water. 7 ml samples were irradiated by means of γ-rays of Co^{60} of 2.100 Curies of activity.

Card 1/4

Gamma-Ray Radiation Dosimetry Utilizing Changes in Optical Activity of Certain Hydrocarbons. Letter to the Editor

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The largest power used was 1.1 Mr/hr. Optical activity was measured by means of a sensitive polarimeter while doses were measured using the ferrosulphate or methylene blue method. Fig. 1 shows the typical variation of the angle of rotation α of the polarization plane in saccharose and glucose solutions with 45% (curve 1) and 20% (curve 2) concentrations. Measuring device was 10 cm long. Figure 2 represents the same relationship but in $\Delta\alpha/lC$ units, where l - is the length of the light path and C the concentration. The simplicity of the investigation after exposure, wide range of doses (up to 10^8 or 10^9 r) and independence from the power of the dose induced the authors to recommend this method. Glucose seems to be the better material due to its better overall stability. In case of saccharose, the variation of angle of rotation is very much dependent on temperature, and increases very much with the increase in temperature. There are 3 figures; and 11

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Gamma-Ray Radiation Dosimetry Utilizing Changes in Optical Activity of Certain Hydrocarbons. Letter to the Editor

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references; 2 Soviet, 2 French, 2 U.K., and 5 U.S. The 5 most recent U.K. and U.S. references are: T. Hardwick, Canad. J. Chem., 30, 23 (1952); E. Weber, R. Schuler, J. Amer. Chem. Soc., 74, 4415 (1952); M. Day, G. Stein, Nucleonics, 8, Nr 2, 34 (1951); S. Goldblith, B. Proctor, Nucleonics, 7, Nr 2, 83 (1950); H. Andrews, P. Shore, J. Chem. Phys., 18, 1165 (1950).

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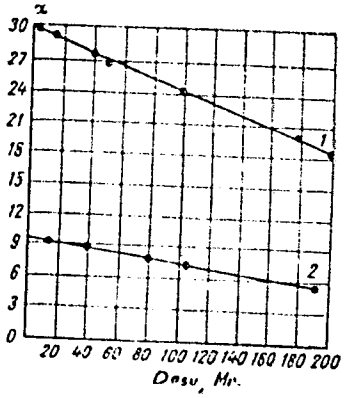

Fig. 1. Variation of the angle of rotation of the plane of polarization versus irradiation dose.

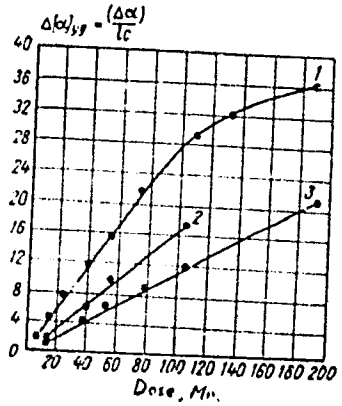

Fig. 2. Variation of the angle of rotation of the polarization plane of glucose solutions versus irradiation dose: (in %) (1) 5; (2) 10; (3) 20.

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