"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

BABKIN, S.I.--- (continued) [illegible]
KLAYT, D.M., kandidat tekhnicheskikh nauk, [illegible] tekhnicheskikh nauk, [illegible] M.N., inzhener [illegible] SHEDROV, V.S., kandidat tekhnicheskikh nauk, [illegible] TSVETKOV, A.F., doktor [illegible] nauchnyy redaktor [illegible] inzhener, nauchnyy redaktor, [illegible] M.Ye., inzhener, nauchnyy redaktor, KARGANOV, V.G., inzhener, nauchnyy redaktor [illegible] N. [illegible] doktor tekhnicheskikh nauk, professor, redaktor [illegible] tekhnicheskiy redaktor

[Manual of machinery manufacture, [illegible] v trekh tomakh. [illegible] lit-ry. V-1.3. [illegible]

1. Deystvitel [illegible] (Ma [illegible]

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USSR/Engineering - Machine Science, Lubricants — Feb 51

"Essential Conclusions From the Contact-Hydrodynamic Theory of Lubrication," A. I. Petrusevich, Inst Mach Studies, Acad Sci USSR

"Iz Ak Nauk, Otdel Tekh Nauk" No 2, pp 209-223

Anal of data permits conclusions: The theory gives new basis to unify numerous exptl data into single theory of contact strength and contact-liquid friction. Will help to develop simplest methods for testing materials, lubricants and addns to lubricants with improved use of results in the

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USSR/Engineering - Machine Science, Lubricants (Contd) — Feb 51

expensive and prolonged tests. Will provide for development of new improved methods of calcg mach parts for liquid friction, contact strength and wear. Submitted by Acad Ye. A. Chudakov.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

1. PETRUSEVICH, A. I.

2. USSR (600)

4. Mechanical Engineering

7. Tasks of the Institute of Mechanical Engineering of the Academy of Sciences of the U. S. S. R. Vest. AN SSSR 22, No. 12, 1952.

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

ACHERKAN, Naum Sammilovich, 1872- , doktor tekhnicheskikh nauk, professor, redaktor; BELYAYEV, V.N., dotsent, kandidat tekhnicheskikh nauk; BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener; GORODETSKIY, N.Ye., professor, doktor tekhnicheskikh nauk; IVANOV, B.A., professor, doktor tekhnicheskikh nauk; KOLMIYTSEV, A.A., dotsent, kandidat tekhnicheskikh nauk; KRAGEL'SKIY, I.V., professor, doktor tekhnicheskikh nauk; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., professor, doktor tekhnicheskikh nauk; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.N., professor, doktor tekhnicheskikh nauk; RESHETOV, L.N., professor, doktor tekhnicheskikh nauk; SAVERIN, M.A., professor, doktor tekhnicheskikh nauk; SAVERIN, N.A., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., professor, doktor tekhnicheskikh nauk; STOLBIN, G.B., dotsent, kandidat tekhnicheskikh nauk; UMNOV, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., dotsent, kandidat tekhnicheskikh nauk.

[Machine parts; collection of materials on calculation and design in two volumes; vol.1] Detali mashin; sbornik materialov po raschetu i konstruirovaniiu. Izd.2., ispr.i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953- . (MLRA 6:11)

(Machinery--Design)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor; BELYAYEV, V.N., kandidat tekhnicheskikh nauk, dotsent; BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener; GORODETSKIY, I.Ye., doktor tekhnicheskikh nauk, professor; IVANOV, B.A., doktor tekhnicheskikh nauk, professor; KOLOMIYTSEV, A.A., kandidat tekhnicheskikh nauk, dotsent; KRAGEL'SKIY, I.V., doktor tekhnicheskikh nauk, professor; MAZYRIN, I.V., inzhener; NIKOLAYEV, G.A., doktor tekhnicheskikh nauk, professor; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.I., doktor tekhnicheskikh nauk, professor; RESHETOV, L.N., doktor tekhnicheskikh nauk, professor; SAVERIN, M.A., doktor tekhnicheskikh nauk, professor; SAVERIN, M.M., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; STOLBIN, G.B., kandidat tekhnicheskikh nauk, dotsent; UMNOV, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., kandidat tekhnicheskikh nauk, dotsent.

[Machine parts; collection of materials on calculation and design in two volumes] Detali mashin; sbornik materialov po raschetu i konstruirovaniiu v dvukh knigakh. Izd.2. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit.lit-ry. Vol. 2. 1953. 560 p. (MLRA 6:12)

(Machinery--Design)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A. I.

PRIETSENTAL', S.G.; PTITSYN, G.A.; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk, retsenzent; LITVIN, F.L., kandidat tekhnicheskikh nauk, retsenzent; KOKICHEV, V.N., inzhener, redaktor; POL'SKAYA, R.G., tekhnicheskiy redaktor

[Technology of turbine reduction gear production] Tekhnologiia proizvodstva turbinnykh reduktorov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1953. 303 p. [Microfilm]
(Turbines) (Gearing) (MLRA 7:10)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

1. [illegible], A.I.

2. [illegible]

4. Gearing

7. Answer to [illegible] "Methods derived by [illegible] strength of [illegible]" [illegible], 1953.

9. Monthly List of Russian Accessions, Library of Congress, [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A.I.

Answering M.S.Polotskii's article "For the establishment of a scientific method of calculating gear transmissions." Izv.AN SSSR Otd.tekh.nauk no. : 1196-1200 Ag '53.

(MLRA 6:6)

(Gearing) (Polotskii, M.S.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

AL'SHITS, I.Ya., kandidat tekhnicheskikh nauk; BABKIN, S.I., kandidat tekhnicheskikh nauk; BALAKSHIN, B.S., doktor tekhnicheskikh nauk, professor; BEYSEL'MAN, R.D., inzhener; BELYAYEV, V.H., kandidat tekhnicheskikh nauk; BEREZINA, N.I., inzhener; BIRGER, I.A., doktor tekhnicheskikh nauk; BOGUSLAVSKIY, Yu.M., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GONIKBERG, Yu.M., inzhener; GORDON, V.O., professor; GORODETSKIY, I. Ye., doktor tekhnicheskikh nauk, professor; GROMAN, M.B., inzhener; DIKER, Ya.I., kandidat tekhnicheskikh nauk; DOSCHATOV, V.V., inzhener; IVANOV, A.G., kandidat tekhnicheskikh nauk; KINASOSHVILI, R.S., doktor tekhnicheskikh nauk, professor; KHUTIKOV, I.P., kandidat tekhnicheskikh nauk; LEVENSON, Ye.M., inzhzner; MAZYRIN, I.V. inzhener; MARTYNOV, A.D., kandidat tekhnicheskikh nauk; NIBERG, N.Ya., kandidat tekhnicheskikh nauk; NIKOLAYEV, G.A., doktor tekhnicheskikh nauk, professor; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; PRONIN, B.A. kandidat tekhnicheskikh nauk; RESHETOV, D.N., doktor tekhnicheskikh nauk, professor; SATEL', E.A., doktor tekhnicheskikh nauk, professor; SIMAKOV, F.F., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; STOLBIN, G.B., kandidat tekhnicheskikh nauk; TAYTS, B.A., doktor tekhnicheskikh nauk; CHERNYSHEV, H.A., kandidat tekhnicheskikh nauk; SHNEYDEROVICH, R.M., kandidat tekhni-

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

AL'SHITS, I.Ya., kandidat tekhnicheskikh nauk (and others)..... Card 2.

cheskikh nauk, EYDINOV, V.Ya., kandidat tekhnicheskikh nauk; ERLIKH, L.B., kandidat tekhnicheskikh nauk; ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor; MARKUS, M.Ye., inzhener, redaktor; KARGANOV, V.G., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Mechanical engineer's manual; in 6 volumes] Spravochnik mashinostroitelia; v shesti tomakh. Izd.2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, Vol.4, 1955. 851 p.
(Mechanical engineering) (MLRA 8:12)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A.I.

USSR/ Engineering - Stress and strain calculations

Card 1/1 Pub. 128 - 5/28

Authors : Petrusevich, A. I., and Gromman, M. B.

Title : An approximate method for calculating the strength of gear transmissions

Periodical : Vest. mash. 35/6, 23 - 29, Jun 1955

Abstract : The use of an approximate method for calculating the strength of gear transmissions in cases where the dimensions and weight of gears exceed the minimum allowable tolerances, is discussed. The calculation of permissible loads on gear trains, selection of proper materials and heat treating methods, and the required dimension of gears, with the aid of the above mentioned method, is described. Three USSR references (1951-1955). Drawings; diagrams; tables.

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, Al'fred Ivanovich; GENKIN, Mikhail Dmitriyevich; GRINKEVICH, Vladimir Kazimirovich; BEKASOVA, L.M., redaktor izdatel'stva; ASTAF'YEVA, G.A., tekhnicheskiy redaktor

[Dynamic loads on gearing with straight tooth gears] Dinamicheskie nagruzki v zubchatykh peredachakh s priamozubymi kolesami., Moskva, Izd-vo Akademii nauk SSSR, 1956. 133 p. (MLRA 9:12)
(Gearing)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 27358-66 EWT(m)/EWA(d)/EWP(t) IJP(c) JD

ACC NR: AP6008701 (N) SOURCE CODE: UR/0380/65/000/006/0086/0095

AUTHORS: Petrusevich, A. I. (Doctor of technical sciences)(Moscow); Karpin, Ye. B. (Moscow); Misharin, Yu. A. (Moscow); Ryzhov, N. M. (Moscow)

ORG: none

TITLE: The contact strength of cement and nitrided steels

SOURCE: Mashinovedeniye, no. 6, 1965, 86-95

TOPIC TAGS: carburization, nitridation, lubricant, case hardening, hardness, steel, lubricating oil, mineral oil/ 12Kh2N4A steel, 12KhN3A steel, EI-712 steel, EP-176 steel, OKhN3MFA steel, 38KhMYuA steel, 30Kh2N2VFA steel

ABSTRACT: The results of contact-strength tests of steels for gears conducted at the State Scientific Research Institute of Mechanical Engineering (Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya) are reported. A roller specimen with a diameter of 30 mm is compressed with a force Q on both sides by pressure disks with a diameter of 120 mm (see Fig. 1). The speed of the roller is 7820 rpm and of the disks 2065 rpm. A negative specific slip of 6% is created on the roller for a slip speed of 0.7 m/sec. The roller receives 982 000 cycles

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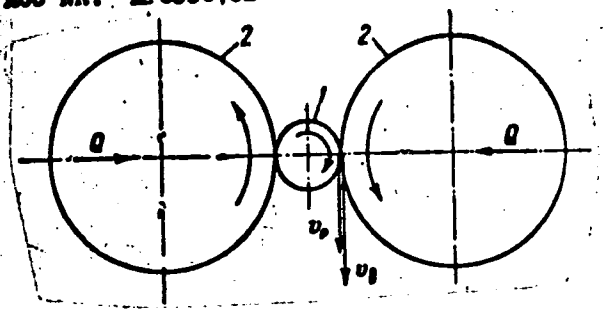

Fig. 1. Testing diagram:
1 - roller specimen;
2 - pressure disks.

per hour. The use of synthetic diester lubrication was found to increase the possible number of cycles (as compared with mineral oil) with 12Kh2N4A cement steel. It is found that parkerizing does not lead to a reduction in the contact strength of 12KhN3A steel. It was also found that oxide coating and oxide parkerizing do not lower the contact strength of 12Kh2N2A and EP-176 steels. The contact strength of OKhN3MF with two-step nitriding is approximately the same as that of 30Kh2N2VFA steel. Electrolytic polishing of OKhN3MFA steel did not give positive results, but it was effective with 30Kh2N2VFA steel. There was no scaling in ground specimens of OKhN3MFA and 30Kh2N2VFA steels. Orig. art. has: 1 diagram, 2 graphs, 2 photographs, and tables.

SUB CODE: 11/ SUBM DATE: 24May65/ ORIG REF: 004

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETROSEVICH, A.I., [illegible] tekhn.nauk (Moskva); KORPIN, Ye.B. ([illegible]); MISHARIN, Yu.A. (Moskva); RYZHOV, N.M. (Moskva)

Contact strength of case hardened and nitrided steels. Mashinovedenie no.6:86-95 '65.

(MIRA 18:11)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A.I.; GROMAN, M.B.

Leaflets for the designer: tables for strength calculation of involute closed gear transmissions for standard load conditions. Vest.mashinostr. 44 no.7:7-26 Jl '64. (MIRA 17:9)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A. I.

"[illegible]

report submitted for [illegible]

Inst. for Machine Knowledge, [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, A.I., doktor tekhn.nauk, prof.

Effect of a hydrodynamic oil film on the wear resistance and durability of contact surfaces of machine parts. Vest. mashinostr. 43 no.1:20-26 Ja '63. (MIRA 16:2)
(Surfaces (Technology))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/122/63/000/001/003/012
D263/D308

AUTHOR: Petrusevich, A.I., Doctor of Technical Sciences, Professor

TITLE: Significance of hydrodynamic oil films in resistance and durability of contact surfaces of machine parts

PERIODICAL: Vestnik mashinostroyeniya, no. 1, 1963, 20-26

TEXT: The following problems connected with contact resistance, wear and sizing of geared wheels and sliding bearings are discussed: distribution of pressure in the contact area (which, according to recent investigations by the author and some English researchers is characterized by a sudden increase in pressure at the outlet of the contact area) and its effect on rolling. The effect of the friction coefficient on contact resistance of geared wheels. Thickness of oil film in relation to unit pressure, peripheral velocity, radius of curvature and viscosity; temperature effect in the contact area. The effect of surface roughness and surface wear on contact resistance and on sizing. The effect of oil film on contact

Card 1/2

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resistance. The effect of the chemical composition of lubricants. Correct selection of a contact fatigue criterion. The effect of the piezo-coefficient and temperature coefficient of oil viscosity on sizing conditions. There are 2 figures and 3 tables.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

MISHARIN, Yuriy Aleksandrovich; SUKHORUKOV, Lev Vasil'yevich; PETRUSEVICH, A.I., doktor tekhn. nauk, retsenzent; KLENNIKOV, V.K., inzh., red.; DANILOV, L.N., red.izd-va; SMIRNOVA, G.V., tekhn. red.

[International Conference on Gearing, London, 1958] Mezhdunarodnaia konferentsiia po zubchatym peredacham, London 1958 g. Moskva, Mashgiz, 1962. 217 p. (MIRA 15:7)
(Gearing—Congresses)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

D'YACHKOV, A.K., doktor tekhn.nauk,prof.; ZHIRONKINSKIY, V.K., doktor tekhn. nauk; KISLIK, V.A., doktor tekhn.nauk, prof.; KRASNICHENKO, L.V., doktor tekhn. nauk, prof.; KOVALEV, M.P., kand. tekhn. nauk; PARGIN, D.P., kand. tekhn. nauk; PLUTALOVA, L.A., kand.tekhn.nauk; LETKOV, N.L., inzh.; PASHCHENKO, M.P., inzh.; PETRUSEVICH, A.I., doktor tekhn. nauk, prof.; MARENSKAYA, I.Ya., red. izd-va; UVAROV, A.F., tekhn. red.

[International conference on lubrication and wear of machinery; proceedings] Mezhdunarodnaia konferentsiia po smazke i iznosu mashin proceedings. Moskva, Mashgiz, 1962. 658 p. (MIRA 15:5)

1. Conference on Lubrication and Wear, London, 1957.
(Lubrication and lubricants--Congresses)
(Mechanical wear--Congresses)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

BEZUGLYY, D.V.; PETRUSEVICH, I.A.

Comparing methods for determining organic substances in aluminate solutions. Zav. lab. 24 no.12:1448-1449 '58. (MIRA 12:1)

1.Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina.
(Organic matter--Analysis)
(Aluminates)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, I.

[illegible] 10:[illegible]
(MIRA 19:1)

1. Institut tekhnicheskoy [illegible], Pol'skaya [illegible] Respublika.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

Petrusevich, I. A.

Distr: 4E4j

7 6 1

Separation of cations by the precipitation chromatography method. D. V. Bezuglyi, I. A. Petrusevich, and N. K. Senyuta. *Trudy Khar'kov. Politekh. Inst.* 4, 111-13 (1954); *Referat. Zhur., Khim.* 1955, Abstr. No. 54782.—The possibility of sepg. Ag^+ and Fe^{+++} by pptn. chromatography is investigated. The adsorber with strongly activated surface is prepd. by agitating a pulp obtained by boiling cotton in 5% HNO_3, with finely powd. $Al(OH)_3$. Phosphate ions adsorbed by the carrier by passing Na hydrophosphate through it serve to ppt. the cations. It is shown that such a column completely exts. Ag^+ and Fe^{+++} from the soln. Further sepn. of Ag^+ and Fe^{+++} is achieved by dissolving the Ag^+ with 0.1N AcOH at 70°. N. V.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, I. A.

Determination of microcomponents of nontin bronzes. D. V. Bezinskii, I. A. Petrusevich, and T. N. Karlyuk. *Trudy Khar'kov. Politekh. Inst.* 8, 165-8(1956); *Referat. Zhur. Mat.* 1957, Abstr. No. 5189.—Two methods of detg. Sn were developed. In the 1st method the Cu is sepd. electrolytically, the remaining Sb and Bi sepd. on sponge Pb, and the Sn is pptd. with H_2S to sep. it from Fe. The detn. is finished colorimetrically with hematoxylin. In the other method, the low soly. of $Sn(OH)_4$ being considered, fractional pptn. of Sn can be accomplished with increase in the pH of the soln. Incipient formation of $Fe(OH)_3$ ppt. indicates completion of Sn pptn. The $Fe(OH)_3$ ppt. is filtered off and dissolved in HCl. Then the acidity of the soln. is brought to ~0.3N HCl, Bi and Sn are sepd. on sponge Pb, and Sn is pptd. with H_2S. The ppt. is subjected to wet ignition with 5 ml. H_2SO_4 and a few ml. of H_2O_2. The cleared soln. is transferred into a 100-ml. volumetric flask; 10 ml. of this soln. is then transferred into a 50-ml. flask, 5 ml. of an alc. soln. of hematoxylin is added, and the soln. is analyzed photometrically at 560 mμ. For the detn. of Sb sepg. it from other components and collecting it by pptg. with MnO_2 is recommended. The ppt. of MnO_2 and Sn, Sb, Bi, and Fe is filtered off and dissolved on the filter with HCl contg. H_2O_2. The Sb in the soln. is detd. with methyl violet. For the detn. of Pb in non-Sn bronzes free of Mn, 1 g. of bronze is dissolved in 25 ml. HNO_3 and electrolyzed at ~90°. An anode with PbO_2 is immersed into a beaker contg. 5 ml. of 10% KI soln. and 5 ml. HCl (sp. gr. 1.19); I is liberated and is extd. with CCl_4. Then the crimson-colored soln. is compared in a colorimeter with a standard I soln. If Mn is present in the bronze, it is removed. For this, the soln. is neutralized with NH_4OH until there appears a turbidity which is then dissolved in 7 ml. HNO_3. The soln. is brought to boiling, and MnO_2 is sepd. by adding 2 g. of dry $(NH_4)_2S_2O_8$ (for 1% Mn). The residue is filtered out and washed with hot water. To the filtrate 5 ml. HNO_3 is added; it is heated to 70-80°, Pb is deposited electrolytically on the anode in the form of PbO_2, and further detd. as described above. The detn. of Sn was correct to 0.02-0.15 mg. with a Sn content of 0.9 to 1.5 mg. in the bronze; that of Pb was 0.00-0.03 mg. with 0.5 mg. Pb in the bronze.

B. N. Daniloff.

Distr: 4E2c

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

5(1) SOV/32-24-[illegible]

AUTHORS: Bezugly, D. V., Petrusevich, I. A.

TITLE: Comparison of Methods for Determining Organic Substances in Aluminate Solutions (Sravneniye metodov opredeleniya organicheskikh veshchestv v alyuminatnykh rastvorakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, No. 12, pp. 1448-1449 (USSR)

ABSTRACT: Aluminate solutions usually contain salts of humic acid, which precipitate out of water and bauxite, and starch, which is added to brighten the solutions. These organic substances stabilize the aluminate solutions, but hinder the crystallization of aluminium oxide. The permanganometric method (Ref. 1) is used to control the concentration of organic substances present, but this method has several disadvantages. In the work reported here it was found that the best results in determining organic substances are obtained using the [illegible] method (Refs 2-5). Determinations carried out according to specifications of Yu. Yu. Lur'ye and A. I. Rybnikova (Ref. 6) and Launer and Tomimatsu (Ref. 7) showed that the permanganate method gives results which are much too [illegible]. Determinations

Card 1/2

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SOV/[illegible]

Comparison of Methods for Determining Organic Substances in Aqueous Solutions

using the dichromate method showed that the [illegible] Shultz (Ref [illegible]) (Table 1) that the starch and the [illegible] tannes should be separated was not correct. The [illegible] results are obtained by carrying out the [illegible] in 30-40% sulfuric acid (Table 3), and the [illegible] given is based upon this condition. There are [illegible] 7 references, 2 of which are Soviet.

ASSOCIATION: Kharkovskiy politekhnicheskiy institut im. V. I. Lenina (Kharkov Polytechnical Institute imeni V. I. Lenin)

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

5.2400(A)

68120
SOV/78-5-1-30/45

~~5(2)~~

AUTHORS: Fedorov, T. F., Shamray, F. I., Nisel'son, L. A., Petrusevich, I. V.

TITLE: On the Production of Elementary Boron

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 226-228 (USSR)

ABSTRACT: After giving a survey of publications with reference to a paper by F. I. Shamray and V. I. Mikheyev (Ref 6), the authors mention that commercial boron has a purity of about 90%. Boron with a higher degree of purity (99%) is produced only in small quantities. The authors attempted to obtain pure boron by reducing BCl_3 with Zn. Thermodynamic investigation of this reaction (Table, Fig 1) indicates that it may be carried out within a wide temperature range. As boron chloride reacts slowly even with liquid zinc, Zn was evaporated in a device schematically represented in figure 2. The reaction took place in a quartz tube heated to 1000°. It was stopped as soon as the tube was completely filled with the reaction products (Figs 3,4). The latter were decomposed into B, Zn, and $ZnCl_2$ in quartz

Card 1/2

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68120
SOV/78-5-1-39/45

On the Production of Elementary Boron

ampoules by distillation at 1000°. The boron, the purity of which is not given, contained impurities of Fe, Mn, Zn, Al, and Si. There are 4 figures, 1 table, and 16 references, 3 of which are Soviet.

SUBMITTED: May 31, 1959

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

68217

S [illegible]
B001/B0[illegible]

~~5(2)~~ 5.2200 (D)

AUTHORS: Nisel'son, [illegible] A., [illegible]

TITLE: Synthesis of Tantalum and Niobium Iodides by Interaction of $TaCl_5$ and $NbCl_5$ with Al_2J_6 and SiJ_4

PERIODICAL: Zhurnal [illegible] (USSR)

ABSTRACT: The purpose of the present paper was the preparation [illegible] iodides of Ta and Nb which [illegible] be used in the [illegible] pure Ta and Nb. The [illegible] investigated the [illegible] between $TaCl_5$ and $NbCl_5$ [illegible] hand, and Al_2J_6 [illegible] the other, by [illegible] analysis. The [illegible] was made in a special [illegible] F[illegible] [illegible] carried by means of a Kurnakov [illegible] meter. The [illegible] [illegible] The [illegible] $NbCl_5$ [illegible] $TaCl_5$ [illegible] [illegible] with Al_2J_6 [illegible] effect than $TaCl_5$. The [illegible] was carried [illegible] with 0% excess Al_2J_6 or SiJ_4 [illegible]

Card 1/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

68217
S/0[illegible]/60/00[illegible]/[illegible]
B004/B0[illegible]

Synthesis of Tantalum- and Niobium Iodides by Interaction of $TaCl_5$ and $NbCl_5$ With Al_2J_6 and SiJ_4

[illegible] The [illegible] with $TaCl_5$ at 400-4[illegible]0 [illegible] iodides of Al and Si were removed either [illegible] or by [illegible] with benzene. All [illegible] under exclusion of moisture. The [illegible] iodides and their experimental formulas [illegible] The iodides transformed [illegible] oxides were [illegible] gated spectrum [illegible] of Al or Si. The [illegible] Al_2J_6 and $TaCl_5$ [illegible] extent by a [illegible] of TaJ_2 or NbJ_2 [illegible] [illegible] $Ta_4J_{4.5-5.0}$ and $Nb_4J_{4.5-4.0}$ [illegible] A[illegible] [illegible] than that of SiJ_4. [illegible]

ASSOCIATION: [illegible]
Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

68217

Synthesis of Tantalum- and Niobium Iodides by Interaction of $TaCl_5$ and $NbCl_5$ With AlJ_3 and SiJ_4

S/07[illegible]/60/00[illegible]/00[illegible]/00[illegible]
B004/B01[illegible]

M. I. Kalinin

SUBMITTED: September 17, 1958

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/[illegible]
B121/B205

AUTHORS: Nisel'son, L. A., Petrusevich, I. V.

TITLE: Phase equilibria in the systems $SiCl_4$ - BCl_3 and $SiBr_4$ - BBr_3

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 3, 1961, 746-74[illegible]

TEXT: The phase equilibria in the systems $SiCl_4$ - BCl_3 and $SiBr_4$ - BBr_3 were studied. The starting materials were purified by continuous boiling with copper filings and subsequent rectification. The systems were thermally analyzed by the heating curves recorded by Kurnakov's pyrometer. The melting-point diagrams of the systems studied are of the eutectic type. The heat of solution of $SiCl_4$ in BCl_3 was found to be 2.0 kcal/mole; the heat of solution of $SiBr_4$ in BBr_3 was 2.9 kcal/mole. A chemical reaction between the components in the systems $SiCl_4$ - BCl_3 and $SiBr_4$ - BBr_3 was not observed. The vapor pressure of the saturated BBr_3 vapors may be expressed by the equation

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/078/61/006/003/016/0[illegible]
B121/B208

Phase equilibria ...

$\log P_{mm\ Hg} = 7.59 - \frac{1720}{T}$ (from 100 to 1250 mm Hg), and that of $SiBr_4$ by the equation $\log P_{mm\ Hg} = 7.70 - \frac{2060}{T}$ (from 100 to 1200 mm Hg). The data on BBr_3 are in good agreement with those of Ref. 4. There are 2 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: July 28, 1960

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

IVANOV-EMIN, B.N.; NISEL'SON, L.A.; PETRUSEVICH, I.V.

Synthesis and purification of boron bromide and iodide. Zhur.prikl. khim. 34 no.11:2378-2384 N '61. (MIRA 15:1)
(Boron bromide) (Boron iodide)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

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L 22279-67

ACC NR:

SUB CODE: 07

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 43105-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6014110 (N) SOURCE CODE: UR/0370/65/000/006/0052/0057

AUTHORS: Petrusevich, I. V. (Moscow); Nisel'son, L. A. (Moscow); Belyayev, A. I. (Corresponding member AN SSSR) (Moscow)

ORG: none

TITLE: Synthesis of titanium silicides by simultaneous hydrogen reduction of titanium and silicon tetrachlorides

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1965, 52-57

TOPIC TAGS: titanium compound, silicon compound, silicide, hydrogen, chemical reduction

ABSTRACT: The simultaneous hydrogen reduction of titanium and silicon tetrachlorides was investigated, and the effect of temperature and the ratio of initial reactants on the nature of the reaction products were studied. The reaction was carried out in the gaseous phase (a schematic of the experimental apparatus is presented). The experimental results are summarized in graphs and tables (see Fig. 1). It is concluded that it is possible in principle to obtain titanium silicides by simultaneous reduction of titanium and silicon tetrachlorides with gaseous hydrogen.

UDC: 669.295.782

Card 1/2

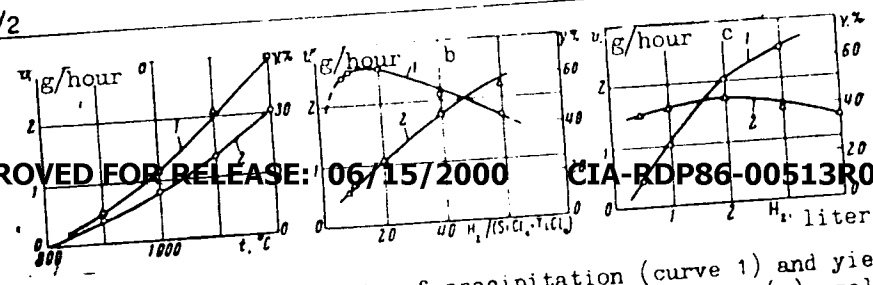

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Fig. 1. Dependence of the rate of precipitation (curve 1) and yield (curve 2) of titanium disilicide on the experimental temperature (a), molar ratio (H_2: ($TiCl_4$ + $SiCl_4$) (b), and hydrogen flow rate (c).

Orig. art. has: 3 tables, 4 figures, and 1 equation.

SUB CODE: 11/ 07/ SUBM DATE: 14Oct64/ ORIG REF: 004

Card 2/2 MLP

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

[illegible], I.V. (Moskva); NISEL'SON, I.A. (Moskva); B[illegible], [illegible]

Obtaining titanium silicides by the simultaneous [illegible] of titanium and silicon tetrachlorides by hydrogen. [illegible] Met. no.6:52-57 N-D '65.

1. Submitted October 14, 1964.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, K.K.

Effect of the size of the range on the productivity of the population. Vop. ekol. 4:67-68 '62. (MIRA 15:11)

1. Institut ekologii, Pol'skoy akademii nauk, Varshava.
(Insect populations)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/080/61/034/011/001/022
D201/D301

AUTHORS: Ivanov-Emin, B.N., Nisel'son, L.A., and Petrunevich, L.V.

TITLE: The synthesis and purification of boron bromide and iodide

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961, 2378 - 2384

TEXT: The authors carried out experiments for preparing boron bromide and iodide directly from the elements. As starting materials pure bromine and iodine and samples of amorphous boron containing 87 - 99.5 % B were used. The halogenations were performed in vertical quartz reactors, 3 - 5 cm in diameter. Boron was bricketed with a sugar solution in methanol and the halogenation process was carried out in a stream of argon at 640 - 1050°C for 3 - 6 hours. During halogenation fractions of the halides were analyzed for free Br_2 and I_2 contents. For comparison purposes, one bromination reaction was performed in the reactor lying almost horizontally. [illegible]

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S [illegible] 61 [illegible]
D[illegible] D301

The synthesis and purification ...

perimental details are given in full. The yields were markedly higher in vertical reactors than in the horizontal ones, the optimum temperature being 850 - 900°C for both halogenation reactions, the bromination yield was 94.5 - [illegible] % BBr_3. The iodination process was quite similar to that of bromination, but with lower yields (65.5 - 50 %). Purification of the crude halides, as well as technical BCl_3, was carried out by distillation in a rectifying column of a plate-sieve type, with 25 real plates. The rectification of technical BCl_3 and that of the crude BBr_3 was easily carried out: after the first distillation BCl_3 was practically free from $SiCl_4$ and $CoCl_2$, present in the initial product, and BBr_3 was practically free from $SiBr_4$ and other volatile components, a pure colorless product was obtained by a second distillation in presence of copper filings. Purification of the crude iodide was not so easy owing to the high iodide content in the product. This was overcome by converting the free I_2 to SnI_4, with metallic tin. The authors were able, by this method, to obtain from 3.2 kg of the iodination product, containing about 25 % of SnI_4, 0.4 % SiI_4 and some other impurities, 2.05 kg of practically pure BI_3, after one fractional

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S/080/61/034/[illegible]
D201/D301

The synthesis and purification . . .

distillation. There are 3 figures and 4 tables and 12 references: 6 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: E. Gamble, P. Gilmont, C. Stoff, J. Am. Chem. Soc., 62, 1257, 1940; W. Schumb, E. Gamble, M. Banus, J. Am. Chem. Soc., 71, 3215, 1949

SUBMITTED: December 12, 1960

Card 4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, M.N.; KAZIK, L.I.

Aerial color photography in geological mapping [Supplement: 8 plates] Sov.geol. no.42:156-163 '55. (MLRA 8:6)
(Photography, Aerial) (Geology--Maps)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, Mikhail Nikolayevich; BOGDANOV, A.A., prof., nauchnyy red.; PANOVA, A.I., red. izd-va; IVANOVA, A.G., tekhn. red.

[Aerial methods in geological studies] Aerometody pri geologicheskikh issledovaniiakh. Pod red. A.A.Bogdanova. Moskva, Gos geoltekhizdat, 1962. 406 p. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet (for Bogdanov).
(Aerial photogrammetry) (Geological surveys)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

[illegible], [illegible], [illegible], [illegible], [illegible]SHTEYN, S.[illegible].

[illegible] types of [illegible] single crystals of [illegible]-type [illegible]. Trudy [illegible] no.24:38-[illegible] 1965. (MIRA 18[illegible])

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

BENDIK, M.A.; PETRUSEVICH, P.L.; [illegible] Ye.S.

Determining the surface def[illegible] of [illegible] single [illegible] microsections from the plane ([illegible]) according t[illegible] of the [illegible] pits. Trudy Giprotsvetmetobrabotka [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 64793-65 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/GG

ACCESSION NR: AP5018727 UR/0070/65/010/004/0562/0565

AUTHORS: Petrusevich, R. L.; Shil'shteyn, S. Sh.

TITLE: Investigation of the perfection of gallium arsenide single crystals

SOURCE: Kristallografiya, v. 10, no. 4, 1965, 562-565

TOPIC TAGS: single crystal growing, crystal imperfection, gallium arsenide, crystal lattice parameter, crystal dislocation

ABSTRACT: The perfection of GaAs single crystals was investigated with a two-crystal spectrometer using copper Kα radiation. A germanium crystal served as monochromator. In view of the closeness of the lattice parameters of GaAs and Ge the broadening of the reflection due to dispersion did not exceed the limits of the experimental accuracy in the (1, -1) and 3, -3) positions. The 1--2 mm thick samples were cut from crystals grown by the Bridgman or the Czochralski

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ACCESSION NR: AP5018727

method along the (111) plane, and etched to exhibit dislocations whose density was identified with the etch-pit density. Comparison of etched and chemically polished crystals indicated that the etch pits had no effect on the shape of the reflection nor on the integrated reflection coefficient. For small dislocation densities the widths of the reflections generally approached the theoretical values for a perfect gallium arsenide crystal. Broadening of the reflection curves of the (111) and (333) reflections observed on some portions of the crystal differed little, indicating that the main reason for the broadening is due to disorientation caused by the mosaic structure. For a dislocation density of 5×10^4 cm^{-2} the reflection curves are somewhat broader than the theoretical widths but the values of the reflection coefficient are small, increasing appreciably only at a density of 1×10^5 cm^{-2}, especially for the (333). Somewhat unexpected were the low values of the reflection coefficient observed even for an appreciable broadening. Possibly other defects compensate for the increase in the reflection coefficient. No sys-

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L 64793-65

ACCESSION NR: AP5018727

3

tematic differences in the perfection of the A and B planes of GaAs were observed. Orig. art. has: 1 table.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotky tsvetnykh metallov (State Scientific Research and Design Institute of Alloys and Processing of Nonferrous Metals)

44,55

SUBMITTED: 29Jul64 ENCL: 00 SUB CODE: SS

NR REF SOV: 002 OTHER: 006

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 18850-66 EWT(1)/EWT(m)/T/EWP(t)/EWA(h) IJP(c) JD/GG/AT
ACC NR: AT6006472 SOURCE CODE: UR/2680/65/000/024/0054/0056

66
B+1

AUTHOR: Pavlova, O. I.; Petrusevich, R. L.

ORG: State Scientific-Research Planning Institute of Alloys and the Processing of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov)

TITLE: The effect of crystallographic orientation on the fusion configuration of a pn interface in gallium arsenide

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy, no. 24, 1965. Metallovedeniye i obrabotka tsvetnykh metallov i splavov (Metal science and the treatment of nonferrous metals and alloys), 54-56

TOPIC TAGS: gallium arsenide, single crystal, crystal orientation, melting, tin, semiconducting material, metallographic examination, pn transition

21,44,55

ABSTRACT: The effect of crystallographic orientation on the shape of fused pn transition boundaries was studied in p-type gallium arsenide. Plates with (111), (110) and (100) orientations were cut from an ingot of n-type gallium arsenide for which

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L 18850-66

ACC NR: AT6006472

the etched dislocation density was determined to be about $5 \cdot 10^4$ cm^{-2}. In order to obtain *p*-type samples, gaseous zinc was diffused onto the polished and etched plates; the pn boundaries were obtained by melting tin droplets of 30 to 50 microns in diameter on the surfaces of the plates, which were preliminarily washed with a solution of rosin in alcohol. The melting was done at 590°C for 5 min. The resulting microsections were etched in a special solution (6 g KOH + 50 ml H_2O + 4 g $K_3Fe(CN)_6$) at an angle of 30° for 3 to 6 sec. The results showed that for melting on surfaces with (110) and (100) orientations the pn-interface did not have a regular geometrical shape even for very small drops. However, spherically shaped drops were formed on ($\overline{111}$) surfaces with the drops concave relative to the surfaces, while the pn-interface assumed a flat shape on (111) surfaces. Reference was made to the work of Ellis (*J. Appl. Phys.*, 1959, v. 30, no. 6, p. 946) where gallium arsenide was grown on vertical (110) surfaces of seed crystals. The cross sections of the crystals (Ellis) showed that the growing planes were bounded by ($\overline{111}$) and a comparison between these and the fusion configurations proved to be very similar. Besides this, the polarity of the [111] direction was postulated to be a significant factor in describing the results. For example, published data for indium antimonide showed that crystals grown in the [$\overline{111}$] direction were more perfect than those grown in the [111] direction. Orig. art. has: 3 figures.

SUB CODE: 11/ 20 SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 003

Card 2/2 vmb

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

F

USSR/Human and Animal Pathogens.

Abs Jour : Ref Zhur Biol., No 1, 1959, [illegible]

inhibit the microbial hyaluronidase. In the author's opinion the mucin clot reaction cannot be used for the early and rapid diagnosis of gas gangrene and wound infections. -- A.N. Mikheeva

Card 2/2

- 3 -

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

RAMBEZ, Ivan Nikolayevich; [illegible], Valeriya Sergeyevna;
[illegible], V.S., [illegible], [illegible].

[Prevention and treatment of obstetric hemorrhages; abstracts of lectures] Profilaktika i lechenie pri akusherskikh krovotecheniiakh; konspekty lektsii. Uzh-gorod, Gos. univ., [illegible] [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUS, V.S.; KASATKINA, A.P. [Kasatkina, O.P.]; BETSANICH, Yu.I. [Betsanych, IU.I.]

Assimilation of radioactive elements by bacteria. Report No.1: Penetration of radioactive elements through the bacterial membrane. Mikrobiol. zhur. 23 no.2:63-67 '61. (MIRA 14:7)

1. Uzhgorodskiy gosudarstvennyy universitet, Kafedra mikrobiologii.
(RADIOISOTOPES) (BACTERIA)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PODIL'CHAK, M.D.; PETRUS, V.S.

"Penetration factor" in human tumors. Medych.zhur. 22 no.3:85-87 '52. (MIRA 11:2)

1. L'vive'kiy medichniy institut
(HYALURONIDASE) (TUMORS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

USSR/General Problems of Pathology - Allergy. S-2

Abs Jour : Referat Zhur - Biologiya. No 16, 1957, 71343

Author : Petrus, V.S.
Inst :
Title : The Study of Novocaine Anesthesia Influence on the Skin Reactions of Guinea Pigs, Sensitized With the Volkovitsh-Frish Stick.

Or Pub : Nauch. zap. Uzhgorodsk. un-ta. 1956, 19, 115-116

Abstract : Skin tests were done 8 days after sensitization of animals with a Volkovich-Frisch . On the spot of allergen introduction in the course of the first 3-4 hrs, there appears redness of skin, and after 6 hrs there was infiltration. The reaction reached its maximum after 24 hrs; after 30 hrs, it started to subside and, after 48 hrs. it disappeared. In unsensitized pigs, the introduction of allergen produced the same reaction within the first 3-4 hours; it disappeared in 6-7 hours. Therefore, the

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

USSR/General Problems of Pathology - Allergy. S-2

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71343

changes appearing in the first 6-7 hours are considered the result of the allergen's toxic action. The toxic reaction was suppressed if, before the skin test simultaneously with it, 5 ml of 2% solution of novocaine introduced. The particular allergic reaction was also supressed by novocaine, especially if introduced 3 hours after the test, and to a smaller degree by introducing the anesthetic before the test, simultaneously or in 6 hours.

Card 2/2 - 13 -

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSA, I.

"Application of Hughes' conical drills and the drilling technique at the Folovci oil field areas."

p. 256 (Nafta) Vol. 8, no. 8, Aug. 1957
Zagreb, Yugoslavia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSA, I.

TECHNOLOGY

PETRUSA, I. Directional boring by turbine drilling. II. p. 261.

Vol. 9, No. 9, Sept. 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

DIAMANT-PETRESCU,S.; BOIU,M.; PETRUSCA,Aurelia

The role of riboflavin in the aetiology and treatment of dermatosis in sucklings. Rumanian M. Rev. 4 no.1:60-61 Ja-Mr '61.

1. Clinical Institute of Paediatrics and Children's Home Nr.1, Bucharest.
(VITAMIN B-2 DEFICIENCY in infancy & childhood)
(ECZEMA in infancy & childhood)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 63425-65

ACCESSION NR: AP5023256 RU/0012/64/000/005/0863/0869

AUTHOR: Vija, Gh. (Doctor, Colonel); Petrusca, J. (Doctor, Colonel); Vainer, E. (Doctor, Lieutenant Colonel)

TITLE: Some considerations on biological testing and antitubercular vaccinations in young recruits

SOURCE: Revista sanitara militara, no. 5, 1964, 863-869

TOPIC TAGS: tuberculosis, disease control, military medicine

ABSTRACT: Since 1960, Rumania has routinely tested all military inductees for tuberculosis by intradermal tuberculin tests (1/10,000 dilution) and used BCG vaccination against tuberculosis. In this paper the authors summarize the results of the program to date, and call attention to the importance of an accurate recording of the tuberculin test results. Orig. Art. Incl.: 6 tables, 23 references.

ASSOCIATION: none

1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 63125-65

ACCESSION NR: AP5023256

SUBMITTED: 00 ENCL: 00 SUB CODE: LS

NR REF SOV: 000 OTHER: 023 JPRS

KC

2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

Public Health

RUMANIA

PETRESCA, J., Dr, [illegible], A., Dr, Col, JUCU, V., Dr, [illegible], and VURTEJEANU, Florina, chemist affiliation not given.

"Contributions to the Study of the Effectiveness of the Disinfection of Water by Chlorine (Chloramine and Chlorous Lime)."

Bucharest, Revista Sanitara Militara, Vol 62, No 5, Sep-Oct 66, pp 867-872.

Abstract: The authors tested the effectiveness of Chloramine B and chlorous lime for the disinfection of small quantities of water under field conditions. They found chloramine to be considerably less effective. The action of either substance was found to depend on the concentration of organic substances and especially on the pH of the water, with optimal results at a pH of approximately 5. The effect of other factors on the activity of the disinfectants was also tested.

Includes 5 tables. -- Manuscript submitted 7 July 1966.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

ACC NR: AP7000001 SOURCE CODE: UR/0070/66/011/006/0896/0902

AUTHOR: Malikova, Ye. A.; Petrusevich, [illegible]; Sollertinskaya, Ye. S.

ORG: State Scientific Research and Planning Institute of Alloys and Treatment of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov)

TITLE: Distribution and density of dislocations in bent and annealed gallium arsenide and indium antimonide crystals

SOURCE: Kristallografiya, v. 11, no. 6, 1966, 896-902

TOPIC TAGS: gallium arsenide, indium compound, antimony compound, single crystal, crystal dislocation, crystal lattice deformation, annealing, x ray spectroscopy

ABSTRACT: The distribution and density of γ - and β -dislocations on the A surface (III) of bent GaAs and InSb crystals with different curvatures was studied by etching and with a two-crystal spectrometer. GaAs was etched with a reagent comprising (in parts) H_2O_2—1, H_2O—1, H_2SO_4—3, and InSb was etched with HF—1, HN[illegible]—2, [illegible]—1. The effect of annealing for 50 and 100 hours at 1100°C on the redistribution of dislocations was also determined. Data obtained from reflection curves generally agreed with that obtained by etching. The density of etch pits was compared with the calculated theoretical density of dislocations to determine the relative proportion [illegible]

Card 1/2 UDC: 548.[illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

ACC NR: AP7000001

excess dislocations. In both of the bent GaAs and InSb samples the density of dislocations at the stretched and compressed surfaces was about the same, [illegible] a minimum halfway between (at the neutral plane of no stress). On annealing [illegible] with excess dislocations, the density of dislocations leveled out throughout the [illegible] cross section, and the number found approached the theoretical, i.e., their relative proportion approached 100%. On annealing InSb there was a difference in the redistribution of etch pits: the density of α-dislocations leveled out, but that of β-dislocations decreased. The relative proportion of excess α-dislocations in InSb after annealing was 30%, and that of β-dislocations was 55%. Although the absolute stress in bending GaAs and InSb was the same, the relative stress for InSb was greater since its strength characteristics are inferior to those of GaAs. Orig. art. has: 3 tables, 2 equations and 5 figures.

SUB CODE: 20/ SUBM DATE: 27May65/ ORIG REF: 004/ OTH REF: 007

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, R.L.; SOLLERTINSKAYA, Ye.S.; PAVLOVA, O.I.

Detection of dislocations on a (111) plane of gallium arsenide by etching. Fiz. tver. tela 4 no.5:1378-1380 My '62. (MIRA 15:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut obrabotki tsvetnykh metallov, Moskva.
(Gallium arsenide) (Dislocations in crystals)
(Etching)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, R.L.; SOLLERTINSKAYA, Ye.S.

Disclosure of d slocations on faces (111) and ($\bar{1}\bar{1}\bar{1}$) of ga... arsenide single crystals using the etching method. Kristallograf 8 no.2:243-247 Mr-Ap '63. (MIRA 1:

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy ... obrabotki tsvetnykh metallov.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

LAYNER, D.I., PETRUSEVICH, R.L.; SHIL'SHTEYN, S.Sh.

Theory of a two-crystal spectrometer. Kristallografiia 8 no.5: 711-714 S-O '63. (MIRA 16:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

LAYNER, D.I.; PETRUSEVICH, R.L.; SOLLERTINSKAYA, Ye.S.

Determining the orientation of aluminum single crystals by etching. Zav.lab. 26 no.3:305-306 '60. (MIRA 13:5)

1. Giprotsvetmetobrabotka.
(Aluminium--Metallography)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

80216

S/126/60/009/04/011/033
E021/E435

18.7520

AUTHORS: Layner, D.I., Petrusevich, R.L. and Sollertinskaya, Ye.S.

TITLE: The Influence of Small Additions of Zinc on the Preference of Crystallographic Directions of Growth of Aluminium Crystals from the Melt

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 4, pp 535-541 (USSR)

ABSTRACT: The preferential crystallographic directions of growth of 99.99% aluminium with and without addition of 0.2% zinc were investigated by pulling crystals from the melt. They were determined by using bicrystals consisting of crystals with different orientations. A bicrystal was pulled from the melt in air at a rate of 0.6 mm/min with no special cooling arrangements. As it grew, one crystal outgrew the other. With pure aluminium bicrystals of [110] - [100] and [110] - [111], the crystal with the [110] orientation was usually outgrown. This is shown in Fig 2. Experiments with a [100] - [111] bicrystal showed that the [100] is the preferred orientation of growth (Fig 3). When 0.2% zinc was added to the aluminium, the most stable direction of growth was the [111] orientation (Fig 4).

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

80216

S/126/60/009/04/011/033
E021/E435

The Influence of Small Additions of Zinc on the Preference of Crystallographic Directions of Growth of Aluminium Crystals from the Melt

This is shown more clearly in macrophotographs of cross sections at various stages shown in Fig 5. This confirms the hypothesis of selective absorption of zinc by the (111) planes of aluminium, which leads to an increase in the preference of growth in the [111] direction in relation to the [100] direction. There are 9 figures and 10 references, 2 of which are Soviet, 7 English and 1 German.

ASSOCIATION: Institut „Giprotsvetmetobrabotka„ (Institute „Giprotsvetmetobrabotka„)

SUBMITTED: July 2, 1959

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 13781-65 ESD(gs)/ESD(t)

ACCESSION NR: AT4047281 S/3055/64/000/003/0231/0243

AUTHOR: Rusin, F. S.; Petrusevich, Yu. M.

B

TITLE: Investigation of rod oscillations in a squirrel-cage resonator

SOURCE: AN SSSR. Fizicheskaya laboratoriya. Elektronika bol'shikh moshchnostey, no. 3, 1964, 231-243

TOPIC TAGS: oscillation theory, rod oscillation, resonator, squirrel cage resonator

ABSTRACT: The paper investigates oscillations set up in a closed system of rods forming a squirrel-cage resonator. It is shown that the oscillations along the rods are modified oscillations of the coaxial type with a wavelength determined by the total length of a rod and both end frames. The amplitude and frequency characteristics of the resonator depend strongly on the losses in separate rods. Analysis of an experimental frequency response curve of such a resonator showed that the individual resonances almost coalesce with each other and have a relatively low Q. The most accurate determination of the oscillation number (the index s, equal to the number of groups of rods which oscillate with a phase equal to 0 or π) was obtained by phase measurement. A comparison of the experimental data obtained with characteristics computed from formulas derived for a network of coupled cir-

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 13781-65
ACCESSION NR: AT4047281

cuits of lumped elements showed that such equivalent circuits represent the properties of squirrel-cage resonators with considerable fidelity. "The authors thank P. L. Kapitsa for presenting the problem, and L. A. Vaynshteyn for his constant interest and valuable advice." Orig. art. has: 7 figures and 21 formulas.

ASSOCIATION: Fizicheskaya laboratoriya AN SSSR (Physics Laboratory, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NO REF SOV: 003 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/126/60/009/03/031/033
E111/E452

AUTHORS: Gel'd, P.V. and Petrushevskiy, M.S.

TITLE: Solubility of Carbon in Alloys of Iron with Chromium and Silicon

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 3, pp 473-475 (USSR)

ABSTRACT: The authors report their investigation of the solubility of carbon at 1700°C in a series of iron-chromium-silicon and binary alloys covering the range: mole fraction of silicon, 0 to 0.50; ratio mole fraction of iron to that of chromium, 0 to 2.76; mole fraction of chromium, 0 to 0.40. Melts were kept in a graphite crucible in an oxygen-free argon atmosphere for one hour then quenched, crushed and analysed. Results are tabulated. The solubility of carbon decreases as the N_{Fe}/N_{Cr} ratio increases and especially as N_{Si} increases. The greatest value of N_C tabulated is 0.320 at N_{Cr} = 0.40, N_{Si} = 0. The authors briefly discuss the particle interaction energies, the accumulation of information on which for multi-component metallic solutions was one of the objects of this work.

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/126/60/009/03/031/033
E111/E452

Solubility of Carbon in Alloys of Iron with Chromium and Silicon

Another object was to use solubility data to estimate heats of mixing. There is 1 table.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im S.M.Kirova (Ural Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: November 9, 1959

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEWICZ, K.

EKOLOGIA POLSKA. SERIA A. Warszawa. Vol. 5, no. 9, 1957. In English.

Investigation of experimentally induced population growth. p.281.

SCIENCE

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 2, February 1959, Unclass.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, M. N. Cand Geol-Min Sci -- (diss) "Aeromethods in geological survey." Mos, 1957. 24 pp (Mos, State Univ im M. V. Lomonosov. Geol Faculty. All-Union Aerogeological Trust VAGT. Min of Geology and Mineral Conservation USSR), 100 copies (KL, 3-58, 96)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

VYSOTSKIY, B.P.

M.N.Petrusevich's book "Geological surveying and prospecting by aerial methods." Reviewed by B.P.Vysotskii. Izv.AN SSSR Ser. geol. 20 no.5:139-141 S-O'55. (MLRA 8:12)
(Petrusevich, M.N.) (Aerial photogrammetry) (Prospecting) (Geological surveys)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

PETRUSEVICH, O.S. [Petrusevych, O.S.], inzh.

Mineral fertilizer spreader. Mekh. sil'. hosp. 12 no. 4:24-25 Ap '61. (MIRA 14:4)

(Fertilizer spreaders)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

KAMSHILOV, N.A.; ANTONOV, M.V.; BAKHAREV, A.N.; BLINOV, L.F.; BORISOGLEBSKIY, A.D.; GAR, K.A.; GARINA, K.P.; GORSHIN, P.F.; GUTIYEV, G.T.; DELITSINA, A.V.; DUBROVA, P.F.; YEVTUSHENKO, A.F.; YAKOVLEV, V.I.; YEREMENKO, L.L.; YEFIMOV, V.A.; ZHILITSKIY, Ya.Z.; ZHUCHKOV, M.G., prof.; ZAYETS, V.K.; ISKOL'DSKAYA, R.B.; KOLESNIKOV, V.A., prof.; KOLESNIKOV, Ye.V.; KOSTINA, K.F.; KRUGLOVA, V.A.; LEONT'YEVA, M.N.; LESYUK, Ye.A.; MUKHIN, Ye.N.; NAZARYAN, Ye.A.; NEGRUL', A.M., prof.; ODITSOV, V.A.; OSTAPENKO, V.I.; PETRUSEVICH, P.S.; PROSTOSERDOV, N.N., prof.; RUKAVISHNIKOV, B.I.; RYABOV, I.N.; SABUROV, N.V.; SABUROVA, T.N.; SAVZDARG, V.E.; SEMIN, V.S.; SIMONOVA, M.N.; SMOLYANINOVA, N.K.; SOBOLEVA, V.P.; TARASENKO, M.T.; FETISOV, G.G; CHIZHOV, S.T.; CHUGUNIN, Ya.V., prof.; YAZVITSKIY, M.N.; ROSSOSHCHANSKAYA, V.A., red.; BALLOD, A.I., tekhn.red.

[Fruitgrower's dictionary and handbook] Slovar'-spravochnik sadovoda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 639 p. (MIRA 11:1)

(Fruit culture--Dictionaries)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

BENDIK, M.A.; PETRUSEVICH, R.L.; SOLLERTINSKAYA, Ye.S.

Effect of dislocations on cadmium diffusion in gallium arsenide. Fiz. tver. tela 5 no.11:3247-3249 N '63. (MIRA 17:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov, Moskva.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 11272-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/SSD/AFWL/ASD(f)-2/RAEM(a)/ESD(t) JD

ACCESSION NR: AP4046048 S/0070/64/009/005/0722/0726

AUTHORS: Petrusevich, R. L.; Sollertinskaya, Ye. S.

TITLE: Displaying Alpha and Beta dislocations in gallium arsenide single crystals

SOURCE: Kristallografiya, v. 9, no. 5, 1964, 722-726

TOPIC TAGS: dislocation effect, gallium arsenide, single crystal, etched crystal, plastic deformation

ABSTRACT: This is a continuation of earlier work by the authors (Fiz. tv. tela v. 4, 1378, 1962; Kristallografiya v. 7, 243, 1963) devoted to the etching of gallium arsenide for the purpose of disclosing dislocations. In the present article an attempt is made to differentiate between the two types of 60° dislocations that can be produced in the gallium arsenide lattice (α and β dislocations). To this end, an excess of dislocations of either type was produced in

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

L 11272-65

ACCESSION NR: AP4046048

the crystal by plastic bending. This excess was then displayed by different etchants. The results show that on the B surface (111) of gallium arsenide, a Schell reagent with amine additives displays only α dislocations, while a Schell reagent with $AgNO_3$ displays both α and β dislocations. On the A surface (111), acid etchants display both α and β dislocations. It is still impossible to determine the relative number of α and β dislocations in the single crystal of gallium arsenide by means of etching. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut splavov i obrabotki tsvetny*kh metallov (State Scientific-Research and Design Institute of Alloys and Processing of Nonferrous Metals)

SUBMITTED: 28Nov63 ENCL: 00

SUB CODE: SS NR REF SOV: 002 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/070/63/008/002/007/017
E021/E120

AUTHORS: Petrusevich R.L., and Sollertinskaya Ye.S.

TITLE: The appearance of dislocations on (111) and ($\bar{1}\bar{1}\bar{1}$) planes of gallium arsenide single crystals by the method of etching

PERIODICAL: Kristallografiya, v.8, no.2, 1963, 243-247

TEXT: The action of various etchants on the surface of single crystals was investigated with the aim of obtaining dislocation etching pits and comparing their densities. Etching was carried out on gallium arsenide samples after sectioning single crystals along the (111) plane and polishing the faces with alumina. An $HF-HNO_3-H_2O$ mixture in the ratio 1:3:2 was used as a polishing etchant. This removed a layer 5-10 μ thick in 3-5 minutes. Various etching solutions were tried and microphotographs of the pits together with the density of etch pits for 3 reagents are given in the following table. It can be seen that the density on a (111) face decreased with subsequent etching with an inhibitor and $AgNO_3$, which may be explained by an increase in the size of pits and, in some cases, by overlapping. There are 2 figures and 1 table.

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The appearance of dislocations on ... S/070/63/008/002/007/017
E021/E120

Region on sample	Shell's reagent (111)face	Shell's reagent (111)face	Shell's reagent + 0.5% butylamine (111)face	Shell's reagent + 0.5% butylamine (111)face	Shell's reagent + 0.5% $AgNO_3$ (111)face	Shell's reagent + 0.5% $AgNO_3$ (111)face
1	$3 \cdot 7 \cdot 10^4$	-	$3 \cdot 1 \cdot 10^4$	$7 \cdot 7 \cdot 10^3$	$2 \cdot 9 \cdot 10^4$	$2 \cdot 3 \cdot 10^4$
2	$4 \cdot 1 \cdot 10^4$	-	$4 \cdot 2 \cdot 10^4$	$8 \cdot 9 \cdot 10^3$	$3 \cdot 9 \cdot 10^4$	$3 \cdot 1 \cdot 10^2$
3	$2 \cdot 7 \cdot 10^4$	-	$2 \cdot 5 \cdot 10^4$	$4 \cdot 2 \cdot 10^3$	$2 \cdot 3 \cdot 10^4$	$1 \cdot 9 \cdot 10^4$

Shell's reagent: $HNO_3 : H_2O = 1:3$

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut obrabotki tsvetnykh metallov (State Scientific Research and Design Institute for Processing of Non-ferrous Metals)

SUBMITTED: February 6, 1962 (initially); May 5, 1962 (after revision)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

137-58-6-12122

Translation from Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 134 (USSR)

AUTHORS: Petrov, D.A., Kekua, M.G., Dashevskiy, M.Ya., Zemskov, V.S., Petrusevich, R.I.

TITLE: Progress of Work on the Refining of Germanium by Means of Crystallization and Achievement of Germanium Single Crystals With Longitudinally Homogeneous Properties (Razvitiye rabot po ochistke germaniya metodami kristallizatsii i polucheniye monokristallov germaniya s ravnomernymi svoystvami po dline)

PERIODICAL: V sb.: Vopr. metallurgii i fiz poluprovodnikov. Moscow, AN SSSR, 1957, pp 50-58

ABSTRACT: Experiments were performed in order to investigate the possibilities of producing single crystals with uniform longitudinal and cross-sectional distribution of impurities by means of pulling at a controlled rate as well as by pulling accompanied by constant feeding of pure Ge into the melt. The raw polycrystalline material with a σ of 5-20 ohm/cm was purified by means of zonal recrystallization under a vacuum of 10^{-4} mm Hg, or in a stream of H_2, until it exhibited a σ of 50-60 ohm/cm. A high-frequency heating apparatus with three

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Progress of Work on the Refining of Germanium (cont.)

induction units moving back and forth was employed. It was found that single Ge crystals, grown by the Chokhralskiy method from purified material with a ρ of 50-60 ohm/cm in conjunction with mixing of the melt by rotating the crucible and the growing crystal, can achieve ρ and τ values of 60 ohm/cm and 1000 μ sec, respectively, if the rotation is omitted from the growth process, the ρ and the τ amount to 25-50 ohm/cm and 200-250 μ sec, respectively. The UVM-2 apparatus, employed in the process of pulling the crystal under vacuum (10^{-4} mm Hg) in accordance with scheduled variations of the rate of pulling, utilizes a hydraulic raising mechanism which provides a smooth variation of the elevation rate from 0.05 to 8 mm/min in conjunction with the rotation of the crucible and the growing crystal. The ρ value of grown crystals 50 mm in diameter and 180 mm long deviated from the mean value of $\sim$40-60 ohm/cm, at a length of 100-150 mm, by 8.9-9.3% and was within the limits of error of measurement. It is pointed out that because of variations in conditions of crystallization only macrouniformity in the distribution of impurities can be achieved by this method. The variations were eliminated in another device which was designed for a process in which the pulling is accompanied by feeding of pure Ge into the melt. Prior to immersion into the melt the feed ingot passes through a heating unit (composed of a quartz tube wound with W wire), while the ingot being pulled passes

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137-58-6-12122

Progress of Work on the Refining of Germanium (Cont.)

through a water-cooled unit made of stainless steel. The process of pulling was carried out in an Ar atmosphere. The fact that the feed ingot and the growing crystal (which may rotate) were placed excentrically with respect to the axis of rotation of the crucible, contributed to a better mixing of the melt contained in the crucible. It was found that the longitudinal ρ fluctuations in single crystals obtained by this method did not exceed $\pm 5\%$, whereas in the case of a crystal produced in this apparatus without the employment of pure Ge the scatter amounted to $\pm 24\%$. Studies of crystals with a diameter of 50 mm have revealed that the ρ was sufficiently uniform throughout the cross section of the crystal and that the diffusion-path length of minority current carriers did not deviate by more than 10-15%. The authors express the opinion that intensive cooling of the growing crystal, which results in the achievement of a plane crystallization front, contributes to uniform distribution of electrical properties throughout the cross section of the crystal. Grown single crystals which exhibited nonuniform cross-sectional distribution of ρ were subjected to heat treatment in order to bring about a redistribution of ρ values. In the process the mean value of resistivity remained unaltered, while the diffusion-path length of the minority current carriers increased somewhat. [illegible]

Card 3/3 I.S.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

LAYNER, D.I.; PETRUSEVICH, R.L.; SOLLERTINSKAYA, Ye.S.

Effect of small additions of zinc on the preferred orientation of crystal growth from aluminum crystal melts. Fiz. met. i metalloved. 9 no. 4:535-541 Ap '60. (MIRA 14:5)

1. Institut "Giprotsvetmetobrabotka."
(Aluminum crystals) (Crystals—Growth)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620018-7

S/161/62/004/005/053/055
B163/B136

AUTHORS: Petrusevich, R. L., Sollertinskaya, Ye. S., and Pavlova, [illegible]

TITLE: Etching of dislocations in the (111) plane of gallium arsenide

PERIODICAL: Fizika tverdogo tela, v. 4, no. [illegible], 1962, 1376-1380

TEXT: Various etching agents and conditions were studied for the preparation of metallographic specimens of gallium arsenide in the (111) plane. Those giving positive results are entered in the following table.

Composition in vol. parts	Etching conditions	Results of etching	Remarks
HCl-3, HNO_3-1, H_2O-2	2-3 sec., boiling	The (111) plane and all other planes are polished. Dislocations visible in the (111) plane as conical pits	Non-selective etchant
HF-1, HNO_3-3 H_2O-2	4-5 min, cold	Freshly prepared and cold medium gives bluish film. After boiling, some specimens are well polished in cold state	Non-selective etchant

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Composition in vol. parts	Etching conditions	Results of etching	Remarks
		on all planes.	
H_2SO_4-3, H_2O_2 (30%)-1, H_2O-1	3-5 min in hot, freshly prepared etchant	All planes including $(\bar{1}\bar{1}\bar{1})$ are polished. In the (111) dislocations appear as conical pits.	Non-selective etchant
HF-1, H_2O_2 (30%)-1, H_2O-2	2-4 min cold	Dislocations appear in the (111) plane as conical pits.	Selective etchant
NaOH (5%)-5, H_2O_2 (30%)-1	2 min, boiling	Dislocations appear in the (111) plane as triangular pyramids	Selective etchant

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PETRUSEVICH, R.L.

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THE NATURE OF THE HARDNESS AND THE STRENGTH OF METALS AND ALLOYS. S.T. Kishkin and R.L. Petrusevich. (Bulletin de l'Academie des Sciences de l'U.R.S.S., Classe des Sciences Techniques, 1947, pp 749-759: Chemical Abstracts, 1948, vol 42, Sep. 10, col 6295-6296).

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PETRUSEVICH, R. L.

USSR/ Metals
Martensite
Steel Alloys Jan 1948

"Nature of the Hardness and the Hardening of Metals and Alloys" S. T. Kishkin, R. L. Petrusevich, Inst Metal imeni A. A. Baykov, Acad Sci USSR, All-Union Sci Res Inst Aviation Materials, 10 pp

"Izv Akad Nauk SSSR, Otdel Tekh Nauk" No 1

Discusses experiments conducted to show that hardening of martensite under pressure is only rare occurrence of strengthening of supersaturated hard steels and it usually disintegrates under influence of plastic deformation. Such approach to problem permits new method to study aging of light alloys. Submitted by Academician A. A. Bochvar at Institute of Metallurgy, May 1947. Published 14 Jul 1947.

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