SIJIVIC, R., dr.; PETKOVIC, M., dr.; MILENKOVIC, M. dr.; BENEDETO, Lj., dr.; LAZAREVIC, V., dr.

Clinical, radiologic and endocrino-metabolic signs in gastrectomized patients. Med. glas. 19 no.2/3:47-51 F-Mr '65.

1. Interno odeljenje Opste bolnice u Nisu (Sef: visi pred. prim. dr. M. Petkovic).

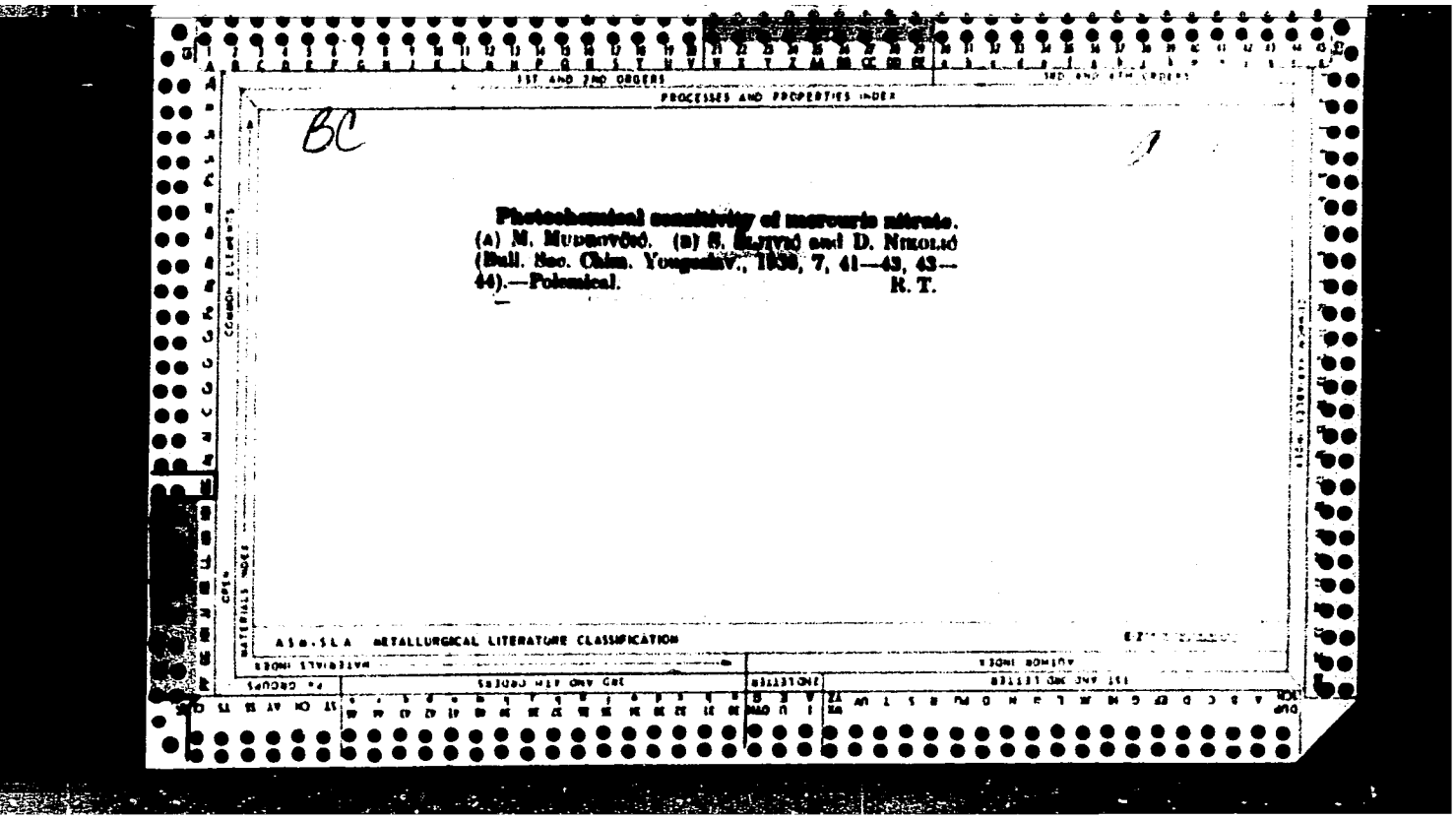
[redacted], M., dr.; [redacted], V., dr.; DIJIVI[redacted], R. dr.; JANKOVIC, Z., dr.; MI[redacted], M., dr.

Our experience with working ability evaluation in diabetics. Med. glas. 18 no.3:84-87 Mr-Ap '64.

SLJIVIC, Radmila, dipl. hem.

Processing and use of Courtelle and similar fibers. Tekstil ind Beograd 12 no.12:677-678 '64.

1. Head, Branko Krsmanovic Laboratory of Woolen Fabrics, Paracin.



PROCESSES AND PROPERTIES INDEX

BC

Photochemical sensitivity of mercuric nitrate.
(A) M. Mudrinčić. (B) S. [illegible] and D. Nikolić
(Bull. Soc. Chim. Yougoslav., 1958, 7, 41—43, 43—
44).—Polemical. R. T.

A58.SLA METALLURGICAL LITERATURE CLASSIFICATION

SLJIVIC, S.

SLJIVIC, S. and ĐURĐANOVIC, M.

"Fluorescence and Thermo-luminescence of some of our Marble" p. 303
(ZBORNIK RADOVA, Vol. 33, 1953, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954, Uncl.

Fluorescence of quinoline in acid solutions. S. Šljivić (Kopernikova St. 5, Belgrade, Jugoslavia). *Z. anal. Chem.* 143, 113–14(1954).—Quinoline fluoresces strongly in solns. of either org. or inorg. acids; the emission spectrum is in the region 4250–6650 A. $HNO_2$ and $H_2SO_4$ shift the spectrum toward greater wave lengths. HCl, HBr, and HI weaken the fluorescence, and in high concn. extinguish it; HF does not have this effect. There is no fluorescence in alk. soln. These facts suggest that quinoline can be used as a fluorescence indicator. W. T. Hall

SLJIVIC, S.

GERM

2032. Quinoline as a fluorescent indicator. S. Sljivić, I. Burić and K. Nikolić (*Z. anal. Chem.*, 1956, 145–151), 16–18).—Acid - base titrations are performed with the use of quinoline as a fluorescent indicator in u.v. light. The optimum bright-blue fluorescence (420 to 570 mμ) is given by concn. of $10^{-4}$ g per ml of quinoline in weakly acid solutions (pH 6·2 to 7·2). Mineral acids are titrated with NaOH, aq. $NH_3$ soln. and $Ba(OH)_2$, but HCl and HI at concn. > 0·1 *N* are not titratable, since the fluorescence is quenched. Organic acids are titrated with NaOH with the use of Polaroids instead of Nicol prisms to avoid loss of light intensity. Coloured (other than dark yellow) soln. are titratable, but not with or acid solutions giving ppt. with quinoline.

D. R. GLASSON

SLJIVIC, Sreten

6

GERM

Quinoline as a fluorescent indicator. Sreten Šiljvić, Ilija Burić, and Kosta Nikolić (Univ. Belgrade). *Ztschr. Anal. Chem.* 145, 16–18(1955); cf. *C.A.* 49, 61i. The favorable characteristics of quinoline as a fluorescent indicator are pointed out. W. T. Hall

SLJIVIC, Sreten

Fluorescence of methylquinolines in acid solutions, and their application as fluorescent indicators. Gl hem dr 23/24 no.5/6: 239-245 ' 58/59. (EEAI 10:4)

1. Farmaceutiski fakultet, Institut za fiziku, Beograd.
(Fluorescence) (Quinaldine) (Methylquinoline)
(Absorption spectra)

SIMIC, Miroslav M.; SLJIVIC, Vojin S.; PETKOVIC, Milica Z.; KRAJINCANIC, Branka N.

Antibody formation in X-irradiated rats protected with β-mercaptoethylamine and β-aminoethylisothiouronium. Bul Inst Nucl 10: 149-161 Mr '60. (EEAI 10:5)

(X rays) (Aminoethanethiol) (Aminoethylthiopseudourea) (Antigens and antibodies) (Radiobiology)

SLJIVIC, Vojin S.; SIMIC, Miroslav M.; PETKOVIC, Milica Z.; KRAJINCANIC, Branka N.

Hemolysin formation in intact, splenectomized and X-irradiated rats. (EEAI 10:5)
Bul Inst Nucl 10:163-172 Mr '60.
(Hemolysis and hemolysins) (X rays)
(Spleen) (Radiobiology)

SIMIC, Miroslav M.; SLJIVIC, Vojin S.; PETKOVIC, Milica Z.: Technical assistance: ROSIC, Katja M.

Some analogues of pyrimidine and their effects on the formation of circulating bodies. Bul Inst Nucl 11:235-245 '61.

1. Institute of Nuclear Sciences "Boris Kidrich", Department of Radiobiology, Vinca (for Simic and Sljivic). 2. Institute of Physiology, School of Pharmacy, University of Belgrade (for Petkovic).

SIMIC, Miroslav, M.; SLJIVIC, Vojin S.; Technical assistance: ROSIC, Katja M.

Role of time correlation between immunization and irradiation in the inhibition of the primary hemolysin response in rats. Bul Inst Nucl 11:255-274 '61.

1. Institute of Nuclear Sciences "Boris Kidrich," Department of Radiobiology, Vinca.

SLJIVIC, Vojin S.

Surname (in caps); Given Name

Country: Yugoslavia

Academic Degrees: not given

Affiliation: Department of Radiobiology, Institute of Nuclear Sciences "Boris Kidrich"

Source: Belgrade-Vinteha, Bulletin of the Institute of Nuclear Sciences "Boris Kidrich", Vol 11, Mar 1961, pp 247-254.

Data: "Contribution to the Investigation of the Effects of X-Irradiation on Antibody Formation During the Secondary Immune Response."

Co-authors:

SIMIC, Miroslav M., Department of Radiobiology, Institute of Nuclear Sciences "Boris Kidrich",
PETKOVIC, Milica Z., Institute of Physiology, School of Pharmacy, University of Belgrade,
ROSIC, Katja M., Technical Assistant, Department of Radiobiology, Institute of Nuclear Sciences "Boris Kidrich".

SIMIC, M.; CIRKOVIC, D.; MARINKOVIC, D.; SLJIVIC, V.

Incorporation of Na-formiates-C into bases of desoxyribonucleinic acid and ribonucleinic acid of the spleen cells in vitro after primary antigenic stimulation. Bul sc Youg 7 no.1/2:14 F-Ap '62.

1. Institut "B. Kidric," Vinca, Beograd.

*

SLKO, M.

4

CSSR

HORECNY, K.
co-workers: SLKO M, BREUER E., JANOSKOVA M.

Second Pediatric Clinic of the Medical Faculty of Comenius University, (II. detska klinika Lek. fak. Univ. Komenskeho), Bratislava, director: J. Michalickova

Bratislava, Bratislavske Lekarske Listy, No 7, 1963, pp 423-430

"The Utilisation of Qualitatively Different Proteins in Extreme Nutrition of Toddlers"

SLOBIN, B.Z., inzh.

Strength calculation under nonstationary conditions of variable stresses. Vest. mashinostr. 44 no.6:19-23 Je '64.
(MIRA 17:8)

STAROSTIN, N.P., kand.

Evaluating the fatigue strength factor under random stresses.
Vest. mashinostr. 45 no.5:3-5 My '65. (MIRA 18:6)

L 31920-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6007971 (A) SOURCE CODE: UR/0191/66/000/003/0054/0057

AUTHOR: Fotokkina, Ye. S.; Moldavskiy, B. L.; Molotkov, R. V.; Batalin, O. Ye.; Buslovich, Ye. Ya.; Rubinsteyn, E. I.; Ravkina, A. E.; Khanukova, E. S.; Slobina, A. V.; Lykova, T. A.; Bychkova, V. A.

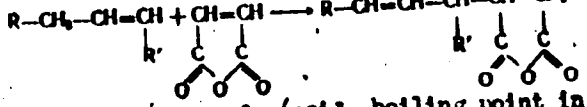
ORG: none

TITLE: Alkenylsuccinic acid anhydrides as hardening agents for epoxy resins

SOURCE: Plasticheskiye massy, no. 3, 1966, 54-57

TOPIC TAGS: epoxy plastic, hardening, solid mechanical property

ABSTRACT: The authors studied the synthesis and use of alkenylsuccinic acid anhydrides as liquid and low-toxic hardening agents for epoxy resins. The anhydrides were synthesized in an electrically heated steel autoclave with a mixing device by the reaction of maleic anhydride with monoolefins:



The following anhydrides were prepared: (acid, boiling point in C, at pressure in mm) crotylsuccinic, 122-147, 8; pentenylsuccinic, 135-148, 8; dodecenylsuccinic, 124-210,

Card 1/2 UDC: 678.643'42'5:678.043

L 31920-66

ACC NR: AP6007971

2

5; and a mixture of isooctenyl- and isononenylsuccinic (ASA), 155-169, 8. Epoxy resins ED-5, ED-6, and EDL were hardened by ASA at 140C for 24 hr, using 93-115, 73-93- and 47-57 g of ASA over 100 g of epoxy resins respectively. Using dimethylaniline or triethanolamine as the accelerators, the hardening process was accomplished within 1.5-2 hr at 100C. With the exception of thermal stability, which was 25-35C lower, the physicomechanical properties of the products obtained resembled very closely those obtained by the use of maleic anhydride as the hardening agent. Orig. art. has: 6 tables, 4 fig., and 1 formula.

SUB CODE: 11,07/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 003

Card 2/2

RATH, R.; SLOBOCHOVA, Z.; PLACER.Z.; Technicka spoluprace: HRADILOVA, L.; MUNCLINGEROVA, M.

Body water spaces. Relation of extracellular fluid to basal metabolism in obese patients. Cesk. gastroent. vyz. 17 no.8: 463-468 D'63

1. Ustav pro vyzkum vyzivy v Praze; reditel prof. dr. J.Masek, DrSc.

BUIMOVICI, Elena; SLOBODA, Eva; DONA, D.

Comparative sensitivity of 5 cell cultures for the isolation of poliomyelitis viruses. Stud. cercet. inframicrobiol. 13 no.4: 463-472 '62.

(POLIOVIRUS) (VIRUS CULTIVATION) (TISSUE CULTURE)

RUMANIA

SLOBODA, Eva, MUIMOVICI, Elena and WEISER, G. of the "Dr I. Cantacuzino" Institute (Institutul "Dr I. Cantacuzino"), Poliomyelitis Section (Sectia Poliomielita).

"Epidemic Episodes of Febrile Catarrh of the Upper Respiratory Tract and Conjunctivitis Associated with Enteroviruses."

Bucharest, Studii si Cercetari de Inframicrobiologie, Vol 14, No 5, 1963, pp 603-618.

Abstract [Authors' English summary modified]: Describes two foci with 100 % morbidity in a children's community (1 to 3 year olds). In one of the foci, ECHO virus type 7 was isolated from the pharynx and feces of 55% of the children. In the second focus Coxsackie $A_9$ virus alone or associated with $ECHO_9$ virus was isolated from the pharynx and feces of 61% of the children tested. The second epidemic focus was characterized by complete absence of nervous symptomatology, possibly because of interference between the two viruses at the level of the central nervous system. Thus a possible enteroviral etiology should be considered for non-bacterial epidemic respiratory infections even if associated with conjunctivitis.

Includes 9 tables and 35 references, of which 5 Rumanian, 3 Russian, 3 German and 24 Western.

1/1

SLOBODA, Eva; BUIMOVICI-KLEIN, Elena; DAN, B.; avec la collaboration de: MANICATIDE, E.; GHEORGHE, Maria; DINCA, Geta

Enterovirus viremia and homologous serological conversion concomitant with non-enteroviral syndromes. (Preliminary note). Arch. Roum. path. exp. microbiol. 23 no.4:1061-1069 D '64.

1. Institut "Dr. I. Cantacuzino", Service des Enterovirus (for Sloboda, Buimovici-Klein) et Clinique de Maladies Contagieuses No.1, Bucarest (for Dan). Submitted June 26, 1964.

SLOBODAN, B

YUGOSLAVIA/Cultivated Plants - Fruits. Berries. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82517

Author : Bacic Slobodan
Inst : -
Title : Selection of a Place for Almond Planting.

Orig Pub : Biljna proizv., 1957, 10, No 1, 47-58

Abstract : The depth of the root system of almond plant in Yugoslavia reaches 6 meters with a diameter of up to 10 meters. Therefore, deep soil with water-permeable subsoil layer should be chosen for almond planting. The greatest amount of roots spreads to the depth of up to 70 centimeters. Calcareous soils contribute to the reduction in the disease indicence in the trees. On heavy, clayey soils, rich in nutrients, almond grows extremely vigorously but with a lowered yield. 300 kilograms of feeding soil to 1 square meter can be considered sufficient for almond cultivation. Rocky soil does not hinder the

Card 1/2





YUGOSLAVIA/Cultivated Plants - Fruits. Berries. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82517

development of the almond provided it contains and adequate amount of nutrients in the lower soil layer and is pervious to the roots of the trees. The deeply developing root system of almond trees permits to use for their cultivation plots of land which are not suitable for other agricultural crops. An evaluation of different kinds of natural soils in Yugoslavia for almond cultivation is given. -- Ye.A. Parshina

Card 2/2

SLOBODAN, Ilic, dr. (Hercegnovi)

Use of Vasculat in cases of ulcus cruris. Med. glas. 17 no.8: 350-351 Ag-S '63

SLOBODANKA, Lucic

Lučić (Slobodanka). Сузбијање рђе хемијским средствима. [Controlling rust with chemical compounds.]—*Zašt. Bilja* [*Plant Prot., Beograd*], *1952*, 12, pp. 43–48, 2 pl., 1952. [English summary.]

In laboratory and field trials for the control of brown rust [*Puccinia triticina*: cf. *R.A.M.*, 32, p. 243] on wheat at the Institute for Plant Protection, Beograd, 1 per cent. sulfinette [31, p. 355], 0·1 per cent. colloidal sulphur, and 0·15 per cent. duphar [31, p. 334 and below, p. 292] were most effective when applied three times (before earing, after flowering, and before wax ripeness) under normal weather conditions, or more often in bad weather, the infection percentages being 0, 15, and 10, respectively, as against 100 for the untreated. No uredospore germination occurred after treatment with sulfinette and none were found on the leaves after treatment. A very small percentage of uredospores germinated after treatment with the other two chemicals and only about 10 to 15 per cent. were found on the leaves. Bordeaux mixture (0·5, 1, and 2 per cent.) allowed 40 per cent. infection at all three concentrations [cf. below, p. 288].

SLOBODCHIKOV, A., starshiy leytenant.

Training device for shooting machine guns from armored carriers. (MIRA 11:3)
Voen. vest. 35 no.8:74-75 Ag '55.
(Machine-gun drill and tactics)

Slobodchikov, A.Ya.

GIBSHMAN, Ye.Ye., professor; SLOBODCHIKOV, A.Ya., kandidat tekhnicheskikh nauk; PUSHTORSKIY, Ye.I., redaktor; OTOCHEVA, M.A., redaktor; PETROVSKAYA, Ye., tekhnicheskiy redaktor.

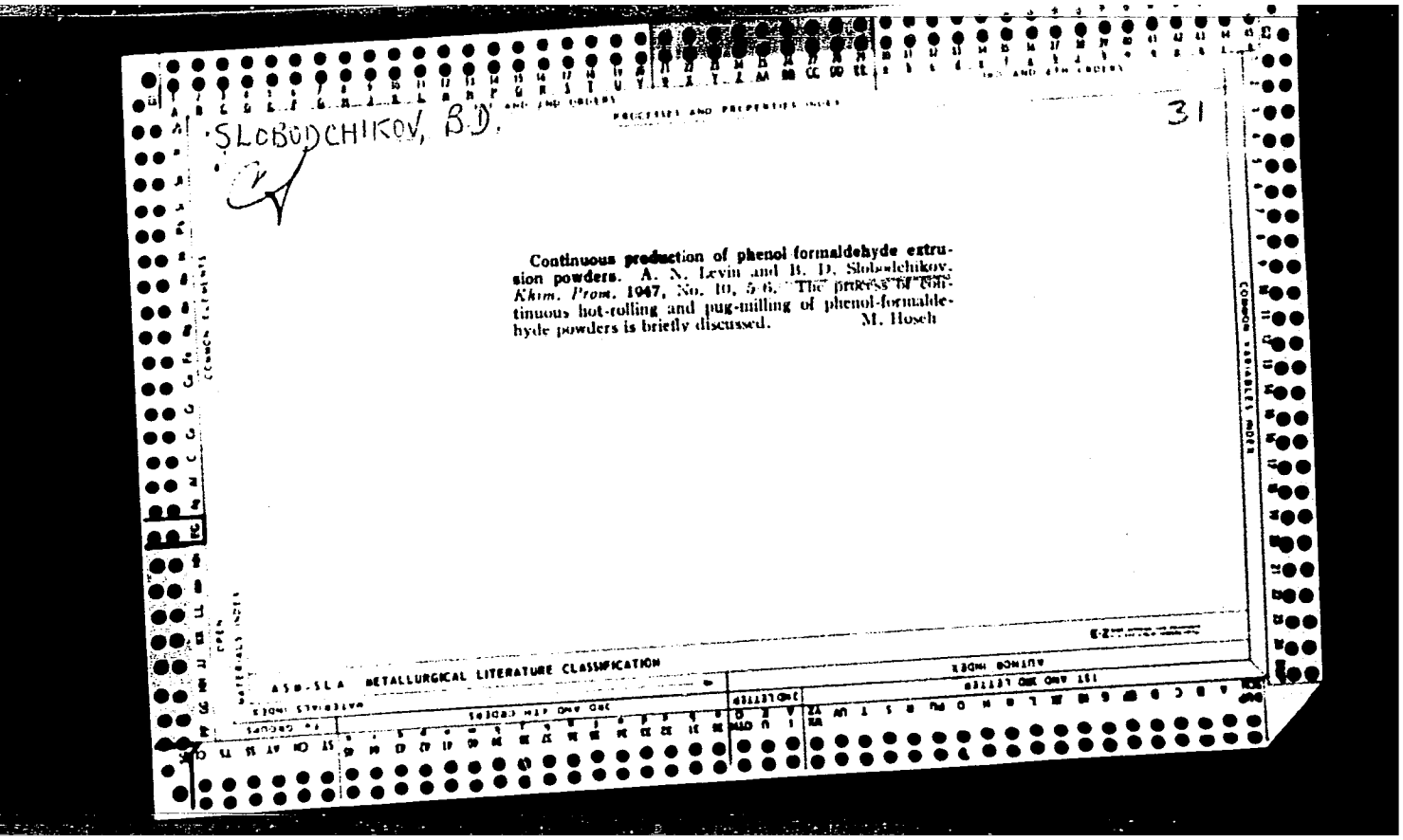
[Planning city bridges] Planirovka mostov v gorodakh. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1955. 111p. (MLRA 8:6)
(Bridges--Design)

GIBSHMAN, Ye.Ye., prof.; SLOBODCHIKOV, A.Ya., dots.; GRONDA, V.I., red.

[Municipal engineering structures] Gorodskie inzhenernye sooruzheniia. Moskva, Rosvuzizdat, 1963. 72 p. (MIRA 17:6)

AFANAS'YEV, A.M.; YEFIMENKO, V.A.; KISELEV, V.A., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof.; MEDNIKOV, L.A.; OSTYAKHNIKOVA, L.V.; SLOBODCHIKOV, A.Ya.; TYAGUNOV, N.N.; FEDOROV, Yu.P.; TSVEY, I.Ya.; DARKOV, A.V., doktor tekhn.nauk, prof., retsenzent; FEDOROV, Yu P., kand. tekhn. nauk, nauchn. red.

[Structural mechanics in examples and problems] Stroitel'naia mekhanika v primerakh i zadachakh. Moskva, Stroiizdat, 1964. 342 p. (MIRA 18:1)



SLOBODCHIKOV, B.D.

31

**Continuous production of phenol formaldehyde extrusion powders.** A. N. Levin and B. D. Slobodchikov. *Khim. Prom.* 1947, No. 10, 5-6. The process of continuous hot-rolling and pug-milling of phenol-formaldehyde powders is briefly discussed. M. Hoseh

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

LEVIN,A.N., kandidat tekhnicheskikh nauk; SLOBODCHIKOV,B.D., inzhener

Continuous production of phenol-formaldehyde molding powders. Khim. prom.no 10:289-290 O'47. (MLRA 8:12)
(Plastics industry)

TURSKIY, Yu.I.; SEMENOV, S.S.; SOKOLOV, A.D.; SLOBODCHIKOV, B.D.

Dephenolization of waste water in East European countries. Gaz. prom. no.2:54-56 F '58. (MIRA 11:2)
(Europe, Eastern--Sewage--Purification) (Phenols)

SLOBODCHIKOV, B.Ya.

Hydrochemical conditions of Lake Sevan according to data for 1947-1948. Trudy Sevan.gidrobiol.sta. 12:5-28 '51. (MLRA 9:8)
(Sevan, Lake--Water--Analysis)

SLOBODCHIKOV, B.Ya.

Hydrochemical conditions beneath the ice of Lake Sevan during 1949 and its effect on fish culture. Trudy Sevan.gidrobiol.sta. 12: 141-146 '51. (MLRA 9:8)

(Sevan, Lake--Water--Analysis)
(Sevan, Lake--Fishes)

Effect of nitrogen, phosphorus, and iron on the development of phytoplankton in Sevan Lake. B. Yu. Slobodchikov and V. G. Strelkina. *Izvest. Akad. Nauk Armyan. S.S.R., Biol. i Sel'skokhoz. Nauki* 6, No. 7, 3–18(1953); *Referat. Zhur., Khim.* 1954, No. 36806.—To specimens of the Sevan Lake water was added $KNO_3$, $KH_2PO_4$, and $Fe_2(SO_4)_3$ severally or combined, calcd. to provide 0.03–3 mg. of N, P, or Fe per approx. 0.7 l. of water. Diatomaceous algae reacted predominantly negatively to N. The optimum concn. of N for blue-green and green algae was 0.2 mg. P did not stimulte the growth of phytoplankton and a high content of it arrested its development. Fe was favorable for the development of the phytoplankton, particularly the algae. Simultaneous addn. of N and Fe stimulated greatly the growth, particularly of the green-blue and green algae.

M. Hoseb

SLOBODCHIKOV, B.Ya.

Oxygen regime of Lake Sevan based on data for 1947-1948. Trudy Sevan.gidrogiol. sta. 14:165-181 '55. (MLRA 9:8)
(Sevan, Lake--Oxygen)

SLOBODCHIKOV, B. Ya.

Problem of nitrogen in waters of Lake Sevan. Trudy Sevan.gidrobiol. sta. 14:183-195 '55. (MLRA 9:8)
(Sevan, Lake--Nitrogen)

SLOBODCHIKOV, B.Ya.

Chemical composition of the basic invertebrate representatives of Lake Sevan. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 9 no. 12:123-125 D '56. (MLRA 10:2)

1. Sevanskaya gidrobiologicheskaya stantsiya Akademii nauk Armyanskoy SSR.
(Sevan, Lake--Invertebrates)

SLOBODCHIKOV, D.

Field Crops

Further wasy for raising crop yields. Kolkh.proizv. 12, No. 1, 1952.

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

[redacted], I.

Sowing - Siberia

Season for sowing spring grain crops in the Trans-Ural region, Siberia, and the northern provinces of Kazakhstan. Kolkh. proizv. No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

SERGEYEV, A.; SLOBODCHIKOV, D.

Building mechanized grain-cleaning and drying barns. Sel'. stroi. 9 no.2:12-14 Mr-Ap '54. (MIRA 13:2)

1. Nachal'nik Krasnoyarskogo krayevogo upravleniya po stroitel'stvu v kolkhozakh (for Sergeyev). 2. Zaveduyushchiy Idrinskim rayonnym otdelom po stroitel'stvu v kolkhozakh (for Slobodchikov ).
(Grain--Drying) (Grain--Cleaning)

BARANOV, A.N.; YEGUNOV, K.I.; ZEL'TSER, Ye.I.; LEBEDEV, N.N.; SLOBODCHIKOV, D.A.; CHEREMISIN, M.S.; SHLENSKIY, I.A., tekhnicheskiy redaktor

[Geodesy in tunnelling] Geodeziia v tonnelestroenii. Moskva, Izd-vo geodezicheskoi i kartograficheskoi lit-ry. Pt. 1 [Geodetic work on open surfaces] Geodezicheskie raboty na dnevnoi poverkhnosti. 1952. 503 p.[Microfilm]. (MLRA 8:7)
(Geodesy) (Tunneling)

BULANOV, A.I.; IZMAYLOV, P.I.; PETROV, N.A.; TROITSKIY, B.V.; SLOBODCHIKOV, D.A., redaktor; LEVCHUK, G.P., redaktor; INOZEMTSEVA, A.I., redaktor; KUZ'MIN, G.M., tekhnicheskiy redaktor.

[Topography] Topografiia. Pod obshchei red. D.A.Slobodchikova. Moskva, Izd-vo geodezicheskoi lit-ry. Pt. 1. 1954. 539 p. [Microfilm] (Topographical surveying) (MLRA 7:11)

BULANOV, Aleksandr Ivanovich; DANILOV, Vladimir Vladimirovich; ZAKATOV, Petr Sergeyevich, prof.; YERMOLOV, Boris Pavlovich [deceased]; PAVLOV, Vitaliy Fedorovich; TROITSKIY, Boris Vladimirovich; SLOBODCHIKOV, D.A., red.; VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Geodesy] Geodeziia. Moskva, Izd-vo geodezicheskoi lit-ry. Pt.1. 1962. 315 p. (MIRA 16:10)
(Geodesy)

YELENEV, A.V., inzhener; ZHUYKO, I.S., ekonomist; MUSHNIKOVA, K.S., agronom; NIKIFOROV, A.M., agronom; SAGALOVICH, Ye.N., agronom; SLOBODCHIKOV, D.D., agronom [deceased]; MOROZOV, D.N., redaktor [deceased]; BALLOD, A.I., tekhnicheskiy redaktor

[Agronomist's handbook and calendar] Kalendar'-spravochnik agronoma. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 346 p. (MIRA 10:2)
(Agriculture--Handbooks, manuals, etc.)

SLOBODCHIKOV, G.

AID P - 198

Subject : USSR/Engineering

Card : 1/1

Authors : Apurin, I. G. and Slobodchikof, G.

Title : Partial Summary of Production Cost on the Oil Field of Malgobekneft' Trust

Periodical : Neft. khoz., v. 32, #2, 64-65, F 1954

Abstract : Brief reviews and analysis of the production cost for the oil field of the Malgobekneft' are presented for 1952 and 53.

Institution : None

Submitted : No date

SLOBODCHIKOV, G.T., inzh.; SPIRIDOVICH, N.F., inzh.; GOVOROV, V.P., inzh., nauchnyy red.; YEL'CHUKOV, V.S., red.; BERKUT, I.V., otv.za vypusk

[Program for the subject "Water supply and sewer systems" in the technical school major "Sanitary installations in buildings," approved by the Ministry of Higher Education of the U.S.S.R., April 14, 1955. A 105-hour course] Programma predmeta "Vodosnabzhenie i kanalizatsiia" k uchebnomu planu spetsial'nosti tekhnikumov "Sanitarno-tekhnicheskie ustroistva zdanii," utverzhdennomu Ministerstvom vysshego obrazovaniia SSSR, 14 aprelia 1955 g. Ob"em programmy - 105 chasov. Moskva, Uchebno-metodicheskii kabinet, 1958. 9 p. (MIRA 12:2)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Otdel uchebnykh zavedeniy upravleniya kadrov.

(Water-supply engineering)

SERGEYEV, L.; SLOBODCHIKOV, N. (Krasnoyarsk); L'VOV, M. (Stalino); PETROSYANTS, Kh.; GOLOVENKOV, M.; LYAKHOVETSKIY, M., (Kherson); FINOGENOV, N., (Petrozavodsk)

Everyday work. Grazhd. av. 17 no.12:17-19 D '60. (MIRA 1413)
(Aeronautics, Commercial) (Flight crews)

SLOBODCHIKOV, P.I.

ATAULIN, V.V.; VLASOVA, R.M.; DAVYDOVA, Ye.A.; DANILENKO, I.S.; DZIOV, V.A.; DUBROVIN, A.P.; YEFANOVA, L.V.; KARPENKO, L.V.; KLEPIKOV, L.N.; KOTELEV, S.V.; LUK'YANOV, N.I.; MEL'NIKOV, N.V., prof., obshchiy red.; MKRTYCHAN, A.A.; NEMTINOV, A.M.; POGOSYANTS, V.K.; SEMIZ, M.D.; SKOBLO, G.I.; SLOBODCHIKOV, P.I.; SMIRNOV, V.M.; SUSHCHENKO, A.A.; SOKOLOVSKIY, M.M.; TRET'YAKOV, K.M.; FISH, Ye.A.; TSOY, A.G.; TSYPKIN, V.S.; CHEKHOVSKOY, P.A.; CHIZHIKOV, V.I.; ZHUKOV, V.V., red.izd-va; KOROVENKOVA, Z.L., tekhn.red.; PROZOROVSKAYA, V.L., tekhn.red.

[Prospects for the open-pit mining of coal in the U.S.S.R.; studies and analysis of mining and geological conditions and technical and economic indices for open-pit mining of coal deposits] Perspektivy otkrytoi dobychi uglia v SSSR; issledovanie i analiz gornogeologicheskikh uslovii i tekhniko-ekonomicheskikh pokazatelei otkrytoi razrabotki ugol'nykh mestorozhdenii. Pod obshchei red. N.V.Mel'nikova. Moskva, Ugletekhizdat, 1958. 553 p. (MIRA 11:12)

1. Vsesoyuznyy tsentral'nyy gosudarstvennyy proyektnyy institut "Tsentrogiproshakht." 2. Chlen-korrespondent AN SSSR (for Mel'nikov).

(Coal mines and mining)

SKOBLO, G.I., gornyy inzh.; SLOBODCHIKOV, P.I., gornyy inzh.

Annual rate of strip-mining operations. Gor. zhur. no.9:14-16 S '62. (MIRA 15:9)

1. Vsesoyuznyy tsentral'nyy gosudarstvennyy institut po proyektirovaniyu i tekhniko-ekonomicheskim obosnovaniyam razvitiya ugol'noy promyshlennosti, Moskva.
(Krasnoyarsk Territory--Strip mining--Cold weather operations)

SLOBODCHIKOV, S. V.: Master Phys-Math Sci (diss) -- "The electrical properties of aluminum arsenide". Leningrad, 1958. 5 pp (Acad Sci USSR, Phys-Tech Inst), 150 copies (KL, No 6, 1959, 125)

AUTHORS: Nasledov, D. N., Slobodchikov, S. V. 57-28-4-5/39

TITLE: An Investigation of the Electric and Thermoelectric Properties of AlSb. (Issledovaniye elektricheskikh i termoelektricheskikh svoystv AlSb.)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 4, pp. 715-724 (USSR)

ABSTRACT: The electric and thermoelectric properties of AlSb wer investigated here. The latter pertains to that class of semiconductors which form a link between the elements of the 3rd and 5th group. On the basis of the investigations the following could be determined: 1.) The dependence of the electric conductivity and the Hall constant on temperature was examined in the range from 78 to 1200°K and the temperature dependence of the thermoelectric force in the range from 140 to 1250°K. In agreement with other references (1 to 3) the width of the forbidden zone determined from the temperature dependence of the electric conductivity amounted to 1,57 eV. 2.) By the measurement of the thermoelectric force an admixture-level was determined at 0,77 eV. 3.) The mobility of the holes at

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room temperature was 150-240 $\frac{cm^2}{V.sek}$. The ratio of the mobility of the holes to that of the electrons seems to be near unity. 4.) In all investigated samples from about 250°K and more the mobility follows the law $u = aT^{-3/2}$. In the entire temperature range the mobility changes according to the law $\frac{1}{u} = aT^{3/2} + bT^{-3/2}$. 5.) According to the measurement data of the thermoelectric force the position of the Fermi-level in a wide temperature range was computed. 6.) The effective mass of the holes was evaluated by means of the formula by Pisarenko. In the range from 400 to 700° K the mean value of it was $(0,9 \pm 0,1)\ m_o$ ($m_o$ denotes the mass of the free electron). For the values of a and b a table is given. The samples were placed at the authors' disposal by D.A. Petrov and M.S. Mirgalovskaya. There are 10 figures, 1 table, and 6 references, 1 of which is Soviet.

NASLEDOV, D.N.; SLOBODCHIKOV, S.V.

Electric properties of n-type AlSb. Fiz.tver.tela 1 no.5:748-754 My '59. (MIRA 12:4)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
(Aluminum antimonide--Electric properties)

37933
S/181/62/004/005/022/055
B125/B108

26.2420
9.4177

AUTHORS: Mikhaylova, M. P., Nasledov, D. N., and Slobodchikov, S. V.

TITLE: Photomagnetic effect and photoconductivity in InP

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1227-1232

TEXT: The photomagnetic effect and the photoconductivity of n-type InP are investigated at 100-300° K for carrier concentrations of $n=8.4\cdot10^{16}$ to $2\cdot10^{17}$ $cm^{-3}$ at 300°K. The photoelectromotive force at 300°K up to ~8000 oe increases linearly with the magnetic field strength. The photomagnetically induced photoelectromotive force of an electron semiconductor with impurities is $V_{pm} = I_o HL(l/tn_1)$ with $L = \sqrt{D\tau_{pm}}$. The photoconductivity is then $V_{pc} = I_o E \tau_{pc} (l/tn_1)$. l and t denote length and thickness of the sample, D is the diffusion constant. The lifetimes $\tau_{pm}$ and $\tau_{pc}$ are to be determined from photomagnetic effect and photoconductivity, respectively. The photoelectromotive force decreases with decreasing temperature. At the same time, photoconductivity increases

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by more than ten times. It decreases at modulation frequencies of ~100 cycles. The electron lifetime at 300°K is $1.7 \cdot 10^{-3}$-$2.2 \cdot 10^{-3}$ sec, that of the minority carriers is $2 \cdot 10^{-6}$ - $2.5 \cdot 10^{-7}$ sec. The diffusion length of the holes increases with increasing temperature. This temperature dependence is caused by the decrease of the hole lifetime with decreasing temperature. The electron lifetime increases with subsiding temperature. There are 5 figures. The most important English-language reference is: C. Hilsum, B. Holeman. Proceedings International Conference on Semiconductor Physics. Prague, 1960.

ASSOCIATION: Fiziko-tekhnicheskiy institut imeni A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: December 26, 1961

NASLEDOV, D.N.; SLOBODCHIKOV, S.V.

Photoconductivity in GaP. Fiz. tver. tela 4 no.11:3161-3164 N '62. (MIRA 15:12)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR, Leningrad.
(Photoconductivity) (Gallium phosphide)

AGAYEV, Ya.; [illegible], S.V.

Photoelectric properties of InP. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol.nauk no.6:109-110 '63. (MIRA 18:1)

1. Fiziko tekhnicheskiy institut AN Turkmenskoy SSR.

MIKHAYLOVA, M.P.; NASLEDOV, D.N.; SLOBODCHIKOV, S.V.

Temperature dependence of current carriers lifetime in indium arsenide. Fiz. tver. tela 5 no.8:2317-2323 Ag '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad.
(Indium arsenide--Electric properties)

VORONKOVA, N.M.; NASLEDOV, D.N.; SLOBODCHIKOV, S.V.

Photoelectric properties of gallium arsenide. Fiz. tver. tela 5 no.11:3259-3263 N '63. (MIRA 16:12)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

ACCESSION NR: AP4033415 S/0202/64/000/001/0013/0016

AUTHORS: Agayev, Ya.; Mikhaylova, M. P.; Slobodchikov, S. V.

TITLE: Photomagnetic properties of p-InAs

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1964, 13-16

TOPIC TAGS: photomagnetic effect, p indium arsenate, diffusion length, step up transformer, preamplifier, amplifier 28IM, voltage analyzer AN 1 50, monochromator ZMR 2, globar lamp, sodium chloride

ABSTRACT: The spectral distribution of photomagnetic effect in p-InAs was studied experimentally at various temperatures. From the data obtained, estimates were made of the diffusion length for migration in n- and p-type InAs in the temperature range of 80-300K. The method used for the photomagnetic measurement was the one used by M. P. Mikhaylova, D. N. Nasledov, and S. V. Slobodchikov (FTT, t.5, vy*p. 8, 2317, 1963; FTT, t.IV, vy*p.5, 1962). The signal was fed into the step-up transformer of the preamplifier and then into a measuring amplifier 28 IM and a voltage analyzer AN-1-50. The specimen was placed in a glass cryostat with a sapphire window. It was possible to vary the magnetic field from 0 to 8000

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ACCESSION NR: AP4037554 S/0202/64/000/002/0003/0007

AUTHOR: Agayev, Ya.; Voronkova, N. M.; Slobodchikov, S. V.

TITLE: Photomagnetic effect in p-type GaAs

SOURCE: AN TurkmSSR. Izv. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 2, 1964, 3-7

TOPIC TAGS: photomagnetic effect, gallium arsenide, semiconductor, energy converter, current carrier lifetime, carrier lifetime computation

ABSTRACT: Photomagnetic effect in p-type GaAs was studied in a temperature range from 80 to 300K as a function of radiation and magnetic field intensities. The specimens had a concentration range from $10^{13}$ to $10^{17}$ $cm^{-3}$ and were obtained by zone melting with and without iron doping. The incident illumination provided by a 500-watt tungsten lamp was modulated by a rotating chopper and filtered to pass the 600—800μ band. The magnetic field varied up

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ACCESSION NR: AP4037554

to 10 Koe and the temperature function was plotted at 8 Koe. The photomagnetic effect was observed in specimens having concentration below $10^5$ $cm^{-3}$. The temperature function of a short-circuit photomagnetic current has an "S" shape and varies by more than an order of magnitude from 80 to 300K, which is at variance with Hurd's results (Proc. Phys. Soc. v. 79, 507, 1962). The d-c component of the illumination exerts an influence on the photomagnetic effect only at low temperatures. The photomagnetic effect as a function of incident radiation and magnetic field intensities was found to be linear in both cases. It is concluded that the magnitudes of experimental variables were confined within the limitations of the small-signal approximation which, consequently, could be used to compute the lifetime of minority carriers. Orig. art. has: 4 figures, 4 formulas, and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Technical Physics Institute, AN Turkmen SSR)

Card 2/3

L 19774-65 EWT(l)/EWG(k)/EWT(m)/EEC(t)/EWP(t)/EWP(b) Pz-6 IJP(c)/SSD/SSD(c)/
AFWL/ASD(a)-5/AS(mp)-2/ESD(gs)/ESD(t) JD/AT S/0181/64/006/006/1781/1785
ACCESSION NR: AP4039669

AUTHORS: Nasledov, D. N.; Kalyuzhnaya, G. A.; Slobodchikov, S. V. B

TITLE: Investigation of the electrical and photoelectrical properties of n type GaP

SOURCE. Fizika tverdogo tela, v. 6, no. 6, 1964, 1781-1785

TOPIC TAGS: electric property, photoelectric property, gallium phosphide, semiconductor, Hall effect, conductivity, photoconductivity, impurity level, recombination center

ABSTRACT: The authors have investigated the Hall effect, conductivity, and photoconductivity of n-type GaP at various stages of compensation. The tests were made in the temperature interval 80-295K. Electron concentration increased about a thousandfold in this interval, but electrical conductivity increased much less (about a hundredfold). The Hall mobility of these samples ($n = 7 \cdot 10^{14} - 2 \cdot 10^{16}$ cm$^{-3}$) had a value of 25-40 cm$^2$/v sec at room temperature. Rather high photoconductivity was observed in the near infrared region, the impurity photoconductivity being

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ACCESSION NR: AP4039669

3

of the same order as intrinsic conductivity or even greater. The principal impurity levels were found to lie at 0.9 ($\lambda_{max}$ = 1.2 $\mu$) and at 1.5 ($\lambda_{max}$ = 0.7$\mu$) ev below the base of the conduction band. At low temperatures the number of recombination centers was so large that supplementary illumination did not appreciably change the recombination rate. At high temperatures, however, short-period illumination retarded the downward shift of the Fermi quasilevel and brought about an increase in number of recombination centers at any given temperature. This illumination effect may be explained by the production of new recombination centers with smaller capture cross sections. In this process the effective lifetime is increased and the current short-circuited. "In conclusion, the authors express their thanks to N. A. Goryunova and her co-workers for supplying samples of GaP; they also thank R. F. Mamedova for help in the work." Orig. art. has: 7 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR)

SUBMITTED: 09Jan64 ENCL: 00

SUB CODE: SS, EM NO REF SOV: 002 OTHER: 001

Card 2/2

ACCESSION NR: AP4041725 S/0181/64/006/007/2175/2176

AUTHOR: Slobodchikov, S. V.

TITLE: Thermal emf in InP

SOURCE: Fizika tverdogo tela, v. 6, no. 7, 1964, 2175-2176

TOPIC TAGS: thermal emf, indium phosphide, Hall effect, conductivity, temperature dependence, carrier density

ABSTRACT: The thermal emf was measured in samples of electronic indium phosphide at 100--800K, simultaneously with a study of the temperature dependence of the Hall effect and of the conductivity. Two samples with carrier densities $8 \times 10^{17}$ and $2 \times 10^{18}$ $cm^{-3}$ at room temperature were used. The thermal emf was determined with a procedure described previously (D. N. Nasledov and S. V. Slobodchikov, ZhTF v. 28, 715, 1958). The results agreed with calculated curves based under the assumption of predominant scattering by the

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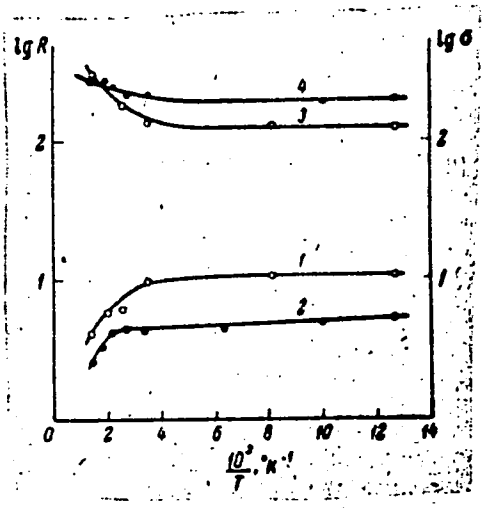
ACCESSION NR:AP4041725

ENCLOSURE: 01




Temperature dependence of Hall coefficient (1, 2) and of the conductivity (3, 4)

1 and 3 - sample no. 1

2 and 4 - sample no. 2

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L 43019-65 EWT(1)/EEC(t) Pz-6 IJP(c) AT

ACCESSION NR: AP5008887 S/0202/65/000/001/0014/0016

AUTHOR: Agayev, Ya.; Slobodchikov, S. V.

TITLE: Photoelectric properties of certain alloys of the type xInAs-yInP

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1965, 14-16

TOPIC TAGS: indium alloy, indium arsenide, indium phosphide, alloy conductivity, alloy photoelectric property, alloy photomagnetism, charge carrier lifetime

ABSTRACT: The authors investigated the photoconductivity and photomagnetic effect in the ternary system xInAs-yInP in order to establish the laws governing the change in spectral characteristics and determine the lifetimes of the electrons and holes and their temperature dependence. Polycrystalline samples of the two n-type alloys 9InAs·InP and 4InAs·InP were used in the measurements. The photoconductivity maxima at 80K and the forbidden gap width were determined, and it was concluded that the optical thickness of the gap changed in linear fashion with the composition (InAs-InP). The combined measurement of the photoconductivity and photomagnetic effect made it possible to calculate the lifetime of the major carriers, $\tau_n$, and that of minor carriers, $\tau_p$. The temperature dependence of

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L 43019-65

ACCESSION NR: AP5008887

the photoconductivity was determined at T = 80-296K for 4InAs-InP. An interpretation of the temperature dependence of the lifetime of the carriers is given. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, EM

NO REF SOV: 003 OTHER: 003

Card 2/2

L 52337-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD

ACCESSION NR: AP5011796 UR/0202/65/000/002/0023/0028

AUTHOR: Agayev, Ya.; Gazakov, O.; Slobodchikov, S. V.

TITLE: Photoelectric properties of aluminum antimonide

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 2, 1965, 23-28

TOPIC TAGS: aluminum compound, antimonide, photoelectric property, photosensitivity, temperature dependence, photoresponse, illumination, photoconductivity, light intensity, sulfur, forbidden band

ABSTRACT: The object of the investigation was to measure the distribution of photosensitivity, temperature dependence of the photoresponse, the effect of constant illumination, and the dependence of photoconductivity on light intensity. Samples were aluminum antimonide alloyed with sulfur. Starting material was n-type with low conductivity (sigma $\approx 4 \cdot 10^{-5}$-$10^{-4}$ ohm$^{-1}$ cm$^{-1}$). Concentration of the current carrier in these samples at room temperature was $\approx 10^{13}$-$10^{14}$ cm$^{-3}$. The samples measured 0.8 x 0.4 x 0.04 cm$^3$. A type ZMR-2 mirror "monochromator" with a glass prism was

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L 52337-65

ACCESSION NR: AP5011796

used as a source of monochromatic light. In many compensated semiconductor compounds with a wide forbidden band there is often observed an additional photoconductivity which exceeds the true photoconductivity. However, for low resistance uncompensated aluminum antimonide tested at room temperature, the true photoconductivity was predominant. The width of the forbidden band, evaluated for $\lambda_{\frac{1}{2}}$, was 1.6 ev. Variation of the photoresponse with temperature was measured over the interval 80-100°K. The light source was an incandescent tungsten lamp. An FS-7 filter was used to give only the short wave part of the light. Measurements were also made with white light. Strength of the electrical field was approximately 120 v/cm. A sublinear relationship with a slope of approximately 0.7 was determined between the current and the intensity of the white light falling on the sample. Orig. art. has: 6 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physicotechnical Institute of the Academy of Sciences, Turkmen SSR)

SUBMITTED: 05May64 ENCL: 00 SUB CODE: MM, EM

NR REF SOV: 002 OTHER: 004

Card 2/2 pb

L 58396-65 EWT(l)/EWT(m)/EEC(t)/EWP(t)/EWP(b) Pz-6 IJP(c) JD/AT

ACCESSION NR: AP5016444 UR/0202/65/000/003/0096/0097 28 B

AUTHOR: Agayev, Ya.; Gazakov, O.; Slobodchikov, S.V.

TITLE: Photoconductivity in p-type Al-Sb

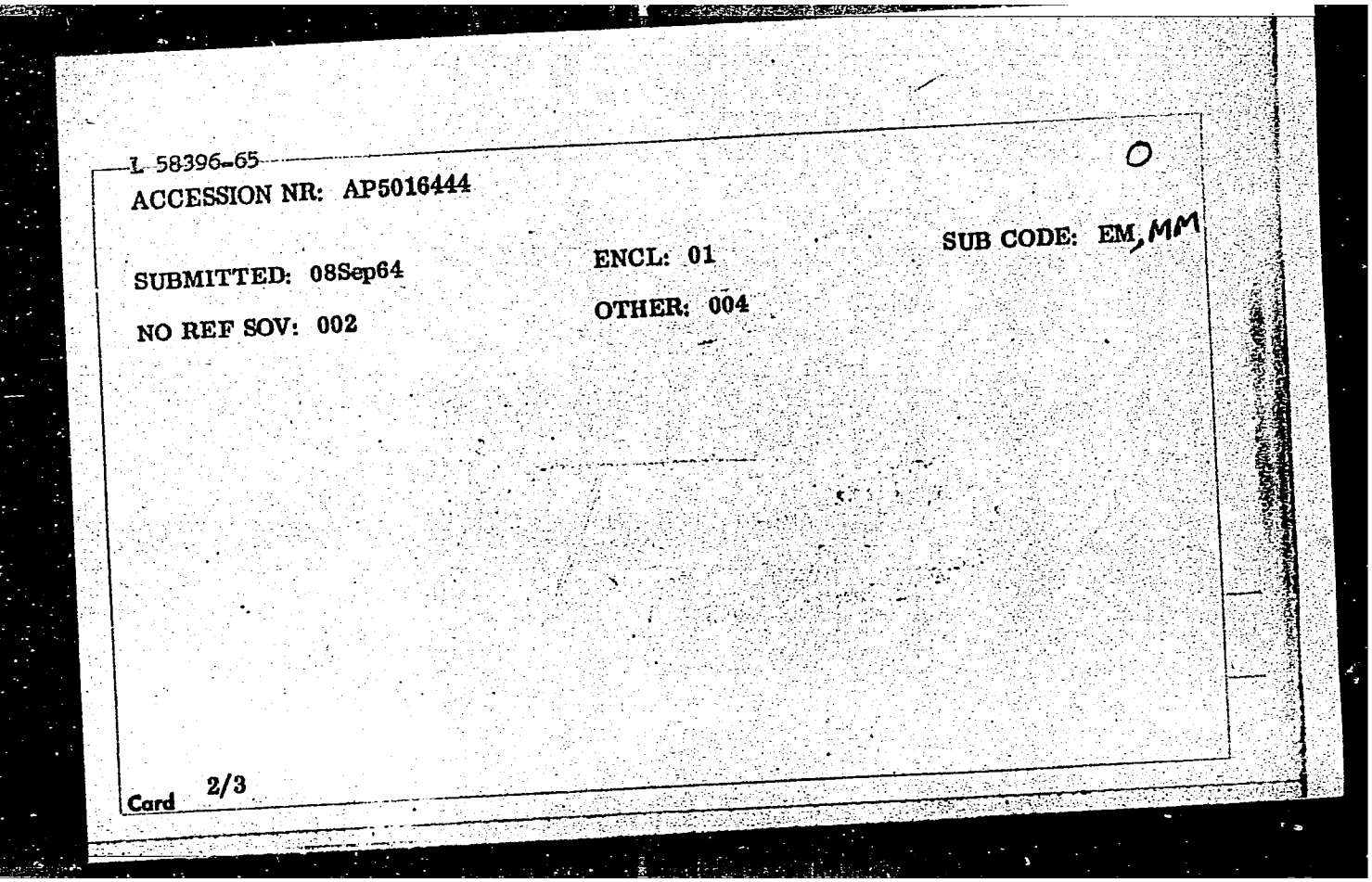
SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1965, 96-97

TOPIC TAGS: alloy photoconductivity, zonal transition diagram, photoconductivity admixture effect, aluminum alloy, antimony alloy

ABSTRACT: In a previous communication, the authors discussed the photoconductivity of high-resistance samples of compensated n-type AlSb (Izvestiya AN TSSR, ser. FTKhiGN, no. 2, 1965). The present short communication investigates the photoconductivity of low-resistance p-type AlSb samples, establishes the general pattern of the zonal transitions (see Fig. 1 of the Enclosure), and discusses the role of admixtures in photoconductivity effects. Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physics and Engineering Institute, AN Turkmen SSR)

Card 1/3



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ACCESSION NR: AP5016444

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SUBMITTED: 08Sep64

ENCL: 01

SUB CODE: EM, MM

NO REF SOV: 002

OTHER: 004

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L 58396-65
ACCESSION NR: AP5016444

ENCL: 01

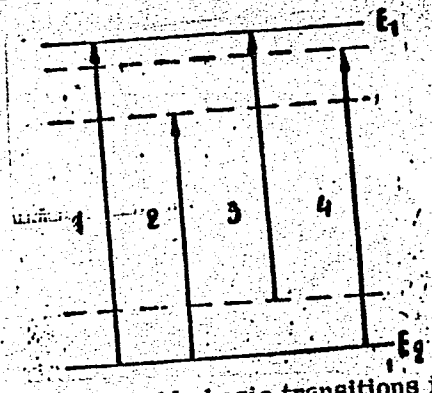


Fig. 1. The pattern of possible basic transitions in AlSb: 1 - zone-zone 1.62 eV transition; 2 - zone-impurity level 1.3 eV transition; 3 - n-type sample ~1.4 eV transition; 4 - low temperature (sometimes room temperature) 1.55 eV transition.

Card 3/3 dlp

L 41148-65 EWA(h)/EWT(1)/T Pz-6/Peb IJP(c) AT

ACCESSION NR: AP5010761 UR/0181/65/007/004/1272/1273

AUTHOR: Mikhaylova, M. P.; Nasledov, D. N.; Slobodchikov, S. V. 27 26 B

TITLE: Spectral sensitivity shift of p-n junctions in InSb in an electric field. 31

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1272-1273

TOPIC TAGS: indium antimonide, p n junction, photosensitivity, photocell, field emission, photoeffect

ABSTRACT: It is reported that the position of the long wavelength edge of the spectral sensitivity of an InSb p-n junction depends on the applied electric field. The observed shifting of the long wavelength edge of an InSb p-n junction as a function of reverse bias is shown in Fig. 1 of the Enclosure. Like the same phenomenon observed previously in GaAs photocells, this effect is attributed to a change in the coefficient of absorption in an intense electric field. It was established that the maximum field intensity in the junction was $1.5 \times 10^4$ v/cm. The experimentally observed shifting was found to be somewhat smaller than the displacement predicted

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T 44148-65

ACCESSION NR: AP5010761

theoretically. This was attributed to the field emission taking place at microinhomogeneities in the region of the space charge which lowers the electric field. Orig. art. has: 2 formulas and 1 figure. [CS]

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR)

SUBMITTED: 30Nov64 ENCL: 01 SUB CODE: SS, OP

NO REF SOV: 003 OTHER: 000 ATD PRESS: 3248

Card 2/3

1c

L [illegible] EWT(1) IJP(c) GG
ACCESSION NR: AP5012534 UR/0181/65/007/005/1312/1314

22
AUTHORS: Goryunova, N. A.; Kesamanly, F. P.; Nasledov, D. N.; 21
Negreskul, V. V.; Rud', Yu. V.; Slobodchikov, S. V. B

TITLE: Electric and photoelectric properties of $ZnSiP_2$

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1312-1314

TOPIC TAGS: zinc compound, electric conductivity, temperature dependence, photoconductivity, spectral distribution, electric field dependence

21

ABSTRACT: Most published data on $ZnSiP_2$ pertain to its physicochemical properties only. The authors measured the temperature dependence of the electric conductivity and of the Hall constant of n-$ZnSiP_2$ in the temperature interval 80—670K, and the spectral distribution of the photoconductivity and its dependence on the electric field, the intensity of illumination, and temperature (80—290K).

Card 1/[illegible]

L 50527-65
ACCESSION NR: AP5012534

The crystals were grown by a method devised by one of the authors (Rud', with E. O. Osmanov, Registration Certificate No. 38432 of 25 June 1963). The samples had a surface of natural brilliance, and their regular form was attained by grinding. The crystals had an electron density ~(1—2) x $10^{17}$ $cm^{-3}$ at room temperature and a Hall mobility ~70—100 $cm^2$/V-sec. The results are shown in Fig. 1 of the Enclosure. They are briefly analyzed from the point of view of the possible impurity level scheme and possible main transitions. The temperature dependence of the width of the forbidden band is found to have a constant $\alpha$ = -(7—8) x $10^{-4}$ eV/°K. It is noted that carrier capture is especially effective at low temperatures, when the relaxation time of the photoconductivity is of the order of several minutes and decreases with rising temperature. Orig. art. has: 2 figures. [02]

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physico-technical Institute, AN SSSR)

Card 2/[illegible]

L 2506-66 EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD/

ACCESSION NR: AP5014616 UR/0181/65/007/006/1912/1915

AUTHOR: Nasledov, D. N.; Negreskul, V. V.; Slobodchikov, S. V.

TITLE: On the electric properties of gallium phosphide doped with tellurium

SOURCE: Fizika tverdogo tela, v. 7, no. 6, 1965, 1912-1915

TOPIC TAGS: gallium compound, tellurium containing alloy, carrier scattering, carrier density, electron scattering, temperature dependence, Hall coefficient, electric conductivity

ABSTRACT: The tellurium-doped GaP crystals are grown from solution-melts by a method proposed earlier (G. Wolff et al., Bull. Am. Phys. Soc. v. 29, 16, 1954). The quantities measured were the Hall coefficient, the electric conductivity, and the temperature dependence of these quantities and of the electron mobility. The donor activation energy determined from the analysis of the data was found to be 0.11 eV. The maximum mobility at room temperature was found to be 170 $cm^2/V\text{-}sec$ for a sample with carrier $2 \times 10^{16}$ $cm^{-3}$. Increased doping with tellurium and the presence of compensating impurities reduce the mobility. The mechanism of electron scattering, which is governed by many still unknown factors, is discussed. Orig.

Card 1/2

L 2506-66

ACCESSION NR: AP5011616

art. has: 5 formulas and 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute AN SSSR)

SUBMITTED: 08Feb65 ENCL: 00 SUB CODE: SS

NO REF SOV: 001 OTHER: 008

Card 2/2

L 61265-65 EWP(w)/EWG(m)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) RDM/JD/JG
ACCESSION NR: AP5017939 GE/0030/65/010/001/0037/0043

AUTHOR: Nasledov, D. N.; Negreskul, V. V.; Radautsan, S. I.; Slobodchikov, S. V.

TITLE: The scattering mechanism of current carriers of tellurium-doped gallium phosphide

SOURCE: Physica status solidi, v. 10, no. 1, 1965, 37-43

TOPIC TAGS: gallium phosphide, tellurium doped semiconductor, Hall effect, semiconductor conductivity, semiconductor temperature effect, electron mobility, current carrier scattering

ABSTRACT: The Hall coefficient and specific conductivity were determined on single n-type tellurium-doped gallium phosphide crystals in the 77 - 600K temperature range to establish the temperature-dependence of these values and to gain further insight into the mechanism of carrier scattering. The temperature-dependence of the electrical conductivity in typical crystals is shown in Figure 1 of the Enclosure; the temperature-dependence of the Hall coefficient, in Figure 2 of the Enclosure. On the basis of the experimental data, the relation between electron mobility and temperature was determined. Typical results are presented in Figure 3 of the Enclosure. The main determining factor in the scattering mechanism is scattering on optical photons (polar scattering); however,

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L 61965-65
ACCESSION NR: AP6017939

3

in the low end of the temperature range investigated and in instances where the crystal is grossly contaminated, other factors, such as space charge, also become significant. The temperature-dependence of the Hall effect suggests a donor level with an ionization energy of approximately 0.11 electron-Volt. Orig. art. has: 4 figures and 7 formulas.

ASSOCIATION: Physikalisch-Technisches Institut der Akademie der Wissenschaften der UdSSR (Institute of Physics and Technology, Academy of Sciences, SSSR); Institut fur Angewandte Physik der Akademie der Wissenschaften der Moldauischen SSR (Institute of Applied Physics, Academy of Sciences, Moldavian SSR); Polytechnisches Institut, Kishinev (Polytechnical Institute)

SUBMITTED: 17Mar65 ENCL: 03 SUB CODE: SS, EC

NO REF SOV: 001 OTHER: 011

Card 2/5

L 61965-65
ACCESSION NR: AP5017939

ENCL: 01

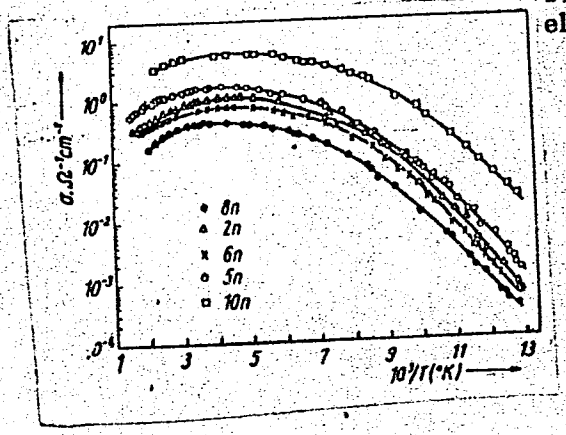


Figure 1. Temperature-dependence of the electrical conductivity in GaP.

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ACCESSION NR: AP5017939

ENCL: 02

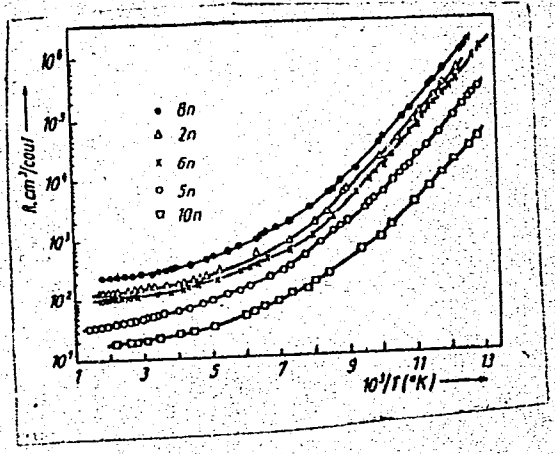


Figure 2. Temperature-dependence of the Hall coefficient in tellurium-doped GaP

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L 61965-65
ACCESSION NR: AP5017939

ENCL: 03

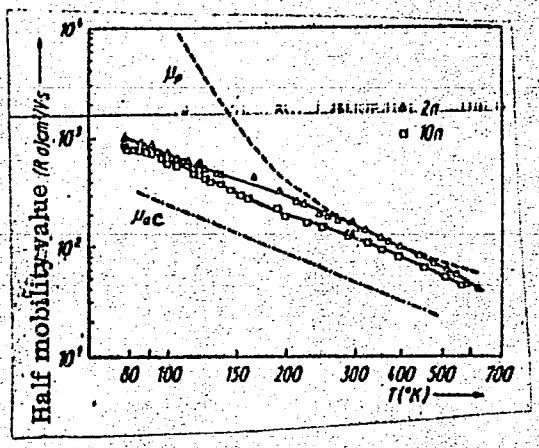


Figure 3. Temperature-dependence of electron mobility for samples 2n and 10n.

_____ = calculated mobility for the scattering on polar lattice oscillations
. - . - . = calculated mobility for the scattering on acoustic lattice oscillations

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BYCHKOV, A.G. [Bychkov, O.H]; GORYUNOVA, N.A. [Horiunova, N.O.]; KESAMANLY, F.P.; MITYUREV, V.K. [Mitiur'ov, V.K.]; RUD', Yu.V.; SLOBODCHIKOV, S.V.

Electric and photoelectric properties of $ZnSiP_2$. Ukr. fiz. zhur. 10 no.8:867-872 Ag '65. (MIRA 18:8)

1. Kiyevskiy pedagogicheskiy institut im. Gor'kogo.

L 2975-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) LJP(c) AT/JD

ACCESSION NR: AP5022437 UR/0109/65/010/009/1707/1709 37
539.293.011.41 B

AUTHOR: Nasledov, D. N.; Smirnova, N. N.; Slobodchikov, S. V.

TITLE: Current-voltage characteristics of alloy p-n-junctions in InAs

SOURCE: Radiotekhnika i elektronika, v. 10, no. 9, 1965, 1707-1709

TOPIC TAGS: current voltage characteristic, pn junction, InAs pn junction

ABSTRACT: The carrier concentration in the source n-InAs material was $5 \times 10^{16}$ to $1.5 \times 10^{17}/cm^3$; Zn content in the alloy was 0.1—5%. Current-voltage characteristics were taken in the 78—296K range. At 78K, the forward-current vs. voltage characteristic showed two slopes: $\beta_1 = 1.2—1.3$ and $\beta_2 = 1.8—2.8$. Crystal-structure defects are assumed to be responsible for the high-values of $\beta$. At higher-than-room temperatures, the diffusion current describable by the regular Shockley theory prevails. The reverse-current vs temperature curve measured experimentally yields a forbidden-band width of 0.48 ev (at 0K). Orig. art. has: 2 figures and 2 formulas. [03]

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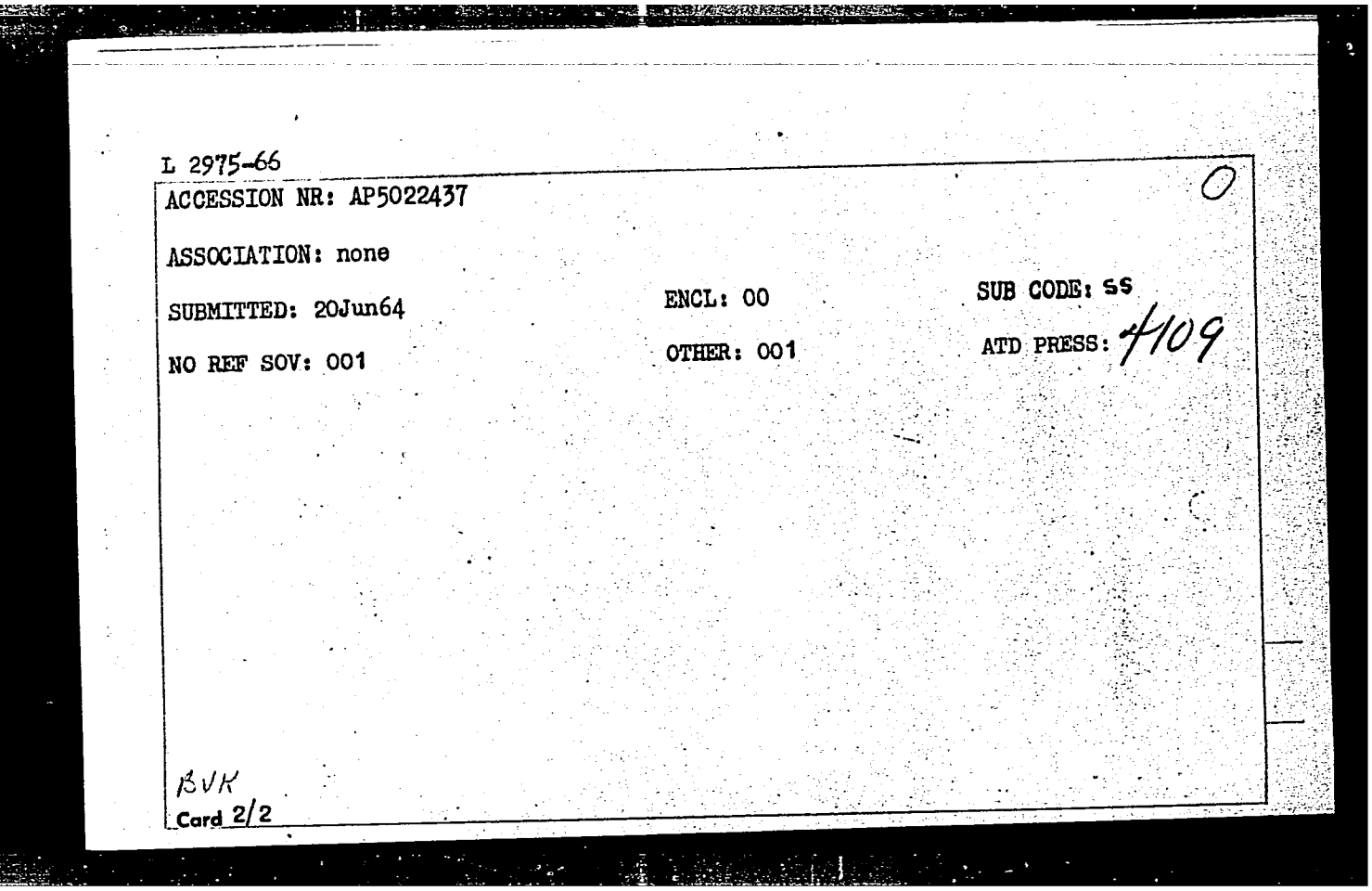

L 2975-66

ACCESSION NR: AP5022437

ASSOCIATION: none

SUBMITTED: 20Jun64 ENCL: 00 SUB CODE: SS

NO REF SOV: 001 OTHER: 001 ATD PRESS: 4109

BVK

Card 2/2

L 58928-65 EWT(1)/EWT(m)/EPA(w)-2/T/EWP(t)/EWP(b)/EWA(c) Pi-4 IJP(c)
JD/JW
ACCESSION NR: AP5011527 UR/0020/65/161/005/1065/1066

AUTHORS: Kesamanly, F. P.; Rud', Yu. V.; Slobodchikov, S. V.

TITLE: Photoelectric properties of the crystals p-$ZnSiAs_2$ and p-$CdGeAs_2$

SOURCE: AN SSSR. Doklady, v. 161, no. 5, 1965, 1065-1066

TOPIC TAGS: photoconductivity, spectral distribution, forbidden band, activation energy

ABSTRACT: The authors have previously observed photoconductivity in n-$ZnSiP_2$ crystals (FTT v. 7, 1324, 1965). The present article reports the result of an investigation of the spectral distribution of the photoconductivity and its temperature dependence for crystals of the same class ($A^{II}B^{IV}C_2^V$), namely single crystal $ZnSiAs_2$ and $CdGeAs_2$ of the p-type. The spectral characteristics were obtained with a ZMR-2 monochromator with various prisms and a tungsten lamp as a radiation source. The apparatus used to measure the photoresponse

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was described elsewhere (FTT v. 4, 1227, 1962). The results are shown in Fig. 1 of the Enclosure. They indicate that only the intrinsic photoconductivity, connected with the direct transition of the carriers from the valence band to the conduction band, exists in the investigated temperature interval. The maximum of the photosensitivity corresponds to 2.29 eV at room temperature and 2.33 at 200K. The width of the forbidden band is 2.10 and 2.14 eV, respectively. The activation energy is found to be 0.15 eV. The variation with temperature is due to rise in the Fermi level which decreases the effective number of recombination centers and increases the photoconductivity. In the case of $CdGeAs_2$, the second maximum corresponds to 0.51 eV, whereas the intrinsic photoconductivity maximum occurs at 0.53 and 0.61 eV at room temperature and 80K, respectively. The corresponding gap widths are 0.54 and 0.50 eV. The presence of shallow levels at 0.06 and 0.13 eV, transitions to which give rise to the impurity photoconductivity peak, is deduced from the temperature dependence of the short-circuit current. 'The authors thank N. A. Goryunova and D. N. Nasledov for interest in the work.' This report was presented by V. P. Konstantinov. Original article has: 2 figures

L 58928-65 2

ACCESSION NR: AP5011527

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences, SSSR); Institut fiziki Akademii nauk AzerbSSR (Institute of Physics, Academy of Sciences, AzerbSSR)

SUBMITTED: 03Sep64 ENCL: 01 SUB CODE: SS, EM

NR REF SOV: 005 OTHER: 003

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L 58928-65

ENCLOSURE: 01

ACCESSION NR: AP5011527

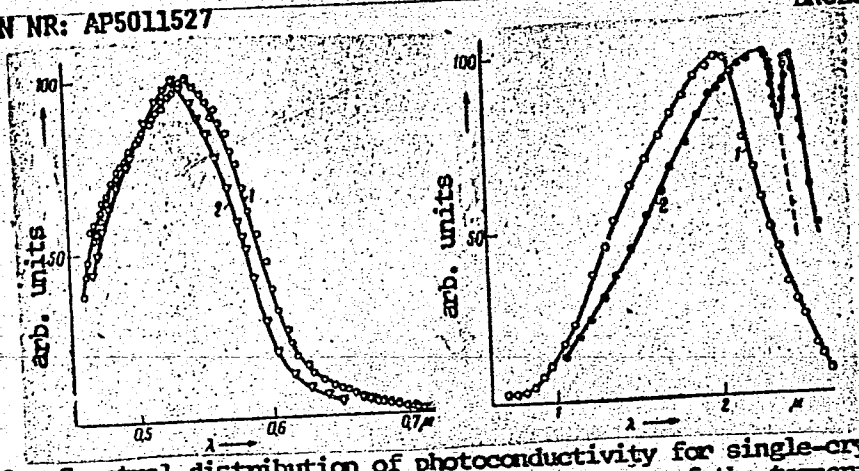


Fig. 1. Spectral distribution of photoconductivity for single-crystal p-$ZnSiAs_2$ (left) and p-$CdGeAs_2$ (right) at two values of the temperature.

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AGAYEV, Ya.; GAZAKOV, O.; SLOBODCHIKOV, S.V.

Photoconductivity in p-AlSb. Izv. AN Turk. SSR. Ser. fiz.-tekh. khim. i geol. nauk no.3:96-97 '65. (MIRA 18:12)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.

ACC NR: AR7000873 SOURCE CODE: UR/0058/66/000/009/E075/E075

AUTHOR: Mamedova, R. F.; Slobodchikov, S. V.

TITLE: Photoelectric properties of n-type GaP

SOURCE: Ref. zh. Fizika, Abs. 9E612

REF SOURCE: Uch. zap. Azerb. un-t. Ser. fiz.-matem. n. no. 4, 1965, 61-66

TOPIC TAGS: photoelectric property, photoconductivity, Hall effect, gallium, gallium phosphide, n type gallium

ABSTRACT: Gallium phosphide monocrystals were used for determining the specific conductivity, Hall effect, spectral distribution and temperature dependence of photoconductivity (PC) in the 80-295K range. The PC maxima of 0.48 $\mu$, 0.7 $\mu$, and 1.2 $\mu$ were noted for $\lambda$ = 0.42 of light excitation (direct valence-to-conduction-band transition). The constant white illumination of 80K has decreased the PC over the entire spectrum and in particular in the intrinsic PC range and in the vicinity of 0.7 $\mu$, while at 197K, the PC was increased with the exception of 0.6—0.9 $\mu$ range. Based on the results of these measurements, the following

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L 29093-66 -EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6019401 SOURCE CODE: UR/0181/65/007/006/1912/1915

AUTHOR: Nasledov, D. N.; Negreskul, V. V.; Slobodchikov, S. V. 62 B

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR(Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Electrical properties of gallium phosphide alloyed with tellurium

SOURCE: Fizika tverdogo tela, v. 7, no. 6, 1965, 1912-1915

TOPIC TAGS: gallium compound, tellurium, Hall effect, temperature dependence, electron mobility, electric property, single crystal

ABSTRACT: The preparation of GaP-Te monocrystals is described. The temperature dependence of the Hall effect and the variation of electron mobility with temperature are given. $\mu_{act} = 7.15 \times 10^8 T^{-3/2} E_1^{-2}$, where $E_1$ is the deformation potential which, although not known exactly, was assumed to be 55 eV. Orig. art. has: 2 figures and 5 formulas. [JPRS]

SUB CODE: 20, 11 / SUBM DATE: 08Feb65 / ORIG REF: 001 / OTH REF: 008

Card 1/1 CC

L 4442-66 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD/AT UR/0185/65/010/008/0867/0872

ACC NR: AP5020691

AUTHOR: Bychkov, O. H. (Bychkov, A. G.); Haryunova, N. O. (Goryunova, N. A.); Kesamanly, F. P.; Mityu'ov, V. K. (Mityurev, V. K.); Rud', Yu. V.; Slobodchykov, S. V. (Slobodchikov, S. V.)

TITLE: Electrical and photoelectric properties of $ZnSiP_2$

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 8, 1965, 867-872

TOPIC TAGS: electric conductivity, Hall constant, photoconductivity, zinc compound, temperature dependence, forbidden band

ABSTRACT: The temperature dependence of the electric conductivity, the Hall constant in the temperature range 80--670K, and the photoconductivity (its spectral distribution, dependence on the electric field, intensity of illumination, and temperature in the range 80--295K) were studied in n-type $ZnSiP_2$ crystals. The average size of the crystals was 8 x 1.5 x 0.3 mm. The investigated samples had an electron concentration of 1--2 x $10^{17}$ $cm^{-3}$ and a Hall mobility of 70--100 $cm^2$/v-sec. The Hall and conductivity measurements were carried out with dc current with the aid of an ordinary potentiometer in a constant magnetic field. The photoconductivity was investigated by a compensation method utilizing unmodulated constant radiation. A type M 195/3 galvanometer was used to register the signal. The electric conductivity decreased sharply and the Hall constant increased sharply with decreasing temperature. This, together with the small electron mobility, indicates the presence of impurity com-

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ACC NR: AP5020691

pensation. The Hall electron mobility changes between 350 and 670K like $T^{-1}$. On lowering the temperature the mobility increases sharply. The ionization energy of the donor impurities was found to be 0.08 ev. Intrinsic photoconductivity was found to predominate at all investigated temperatures. Its maximum is shifted to the short-wavelength side with decreasing temperature. The width of the forbidden band, its variation with temperature, and the coefficient dependence of the photoconductivity on the electric field is linear up to fields of 20 v/cm when heating apparently becomes appreciable. At room temperature an acceptor level has been noted at 0.32 ev above the valence band. The activation energies of the donor and acceptor levels were also determined from the temperature dependence of the photoconductivity. Large relaxation times of the photoconductivity have been observed. An energy level diagram of the impurity transitions is proposed. "In conclusion the authors express their gratitude to Professor D. M. Naslyedov for support and discussion of the work." Orig. art. has: 5 figures.

ASSOCIATION: Kyyivs'kyy pedinstytut im. O. M. Hor'koho [Kiyevskiy pedagogicheskiy institut im. A. M. Gor'kogo] (Kiev Pedagogical Institute)

SUBMITTED: 19Sep64 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 007 OTHER: 004

Card 2/2

L 14126-66 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD/AT

ACC NR: AP6000883 SOURCE CODE: UR/0181/65/007/012/3671/3673

AUTHORS: Nasledov, D. N.; Negreskul, V. V.; Radautsan, S. I.; Slobodchikov, S. V.

ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR); Institute of Applied Physics AN MSSR, Kishinev (Institut prikladnoy fiziki AN MSSR)

TITLE: Oscillations of photoconductivity in GaP

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3671-3673

TOPIC TAGS: gallium compound, photoconductivity, phonon interaction, energy band structure, carrier density

ABSTRACT: This is a continuation of earlier work (FTT v. 6, 1781, 1964) on the photoconductivity spectrum and the band structure of GaP. In the present investigation, the authors studied GaP samples obtained by gas-transport reactions and doped with tellurium, in the

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