

1. KERZON, YA. S.
2. USSR (600)
4. Using K-17 glue in furniture production. Der. i lesokhim. prom 1 no. 4 '52.

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



KERZON, Ya.S., inshener; FINOSHIN, A.Ye.

Use of a glue sheet in veneering furniture. Der.i lesokhim.prom. 3 no.5:  
19-20 My '54. (MLRA 7:6)

1. Moskovskaya mebel'naya fabrika No.3. (Veneers and veneering)

KERZUM, P.A.

Dynamics of soil salinization and swamp formation in ir-  
rigated areas of Tajikistan.. Trudy AN Tadzh.SSR 78:9-37  
(MIRA 13:3)

(Tajikistan--Soils)

KERZUM, P.A.

Regular features in the development of saline soils and  
methods of improving these soils. Trudy AN Tadzh.SSR 78:  
89-171 '57. (MIRA 13:3)  
(Vakhsh Valley--Alkali lands)  
(Reclamation of land)

KES', A. S. (Aleksandra Semenova)

35828 Geomorfologicheskoye razdeleniye <sup>P</sup>privolzhskoy vozvysheynosti I ego paleogeograficheskoye obosnovaniye. Trudy in-ta geografii (akad. nauk sssr), vyp. 43, 1949, c. 60-77--Bibliogr: 14 nazv.

*Geomorphological division of Privolzhskiy elevation and the Paleogeographical basis for it. Works of the Inst. of Geography, Acad Sci. USSR*

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

KES, A. S.

24828. KES, A. S. Nekotoryye Tipy Molodogo Eroziionnogo Rel'efa Privolzhskoy Vozvyshennosti, Trudy Yubileynoy Sessii, Posvyashch. Stoletiya So Dnya Rozhdeniya Dokuchayeva. M. L., 1949, S. 512-20

SO: Letopis' No. 33, 1949

KES', A.S.

USSR/Hydrography - Erosion  
Literature

Mar/Apr 50

"On S. S. Sobolev's Book, 'Development of Erosion Processes in the European USSR and the Fight Against Them,'" A. G. Detskach, A.S. Kes', Inst of Geog, Acad Sci USSR, 10 pp

"Iz Ak Nauk SSSR, Ser Geograf i Geofiz" Vol XIV, No 2

Very critically reviews subject book, in which erosion process is considered mainly from geomorphological viewpoint. Even from this standpoint, erosion process as discussed by Sobolev is detached from basic geographical laws and historical geographic connections. Sobolev's general theoretical geomorphological constructions are simplified and based on methodologically incorrect concept of cyclic "self-stopping of erosion processes.

FALJOT47



KES' A. S.

USSR/Geophysics - Turkmenia

Jan/Feb 52

"The Origin of Uzboy Valley," A. Kes', Inst of  
Geog, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Geog" No 1, pp 14-26

The projected main Turkmenian canal will pass  
through Uzboy Valley, crossing Kara-Kum deserts.  
Describes Uzboy, a half-dried river bed, stretch-  
ing from Sarykamysh Valley to Balkhan Bay of Cas-  
pian Sea; gives the history of its origin.

205T49

KEU, A.

Kara Kum

Biography of Uzboy. Tsh. moled., No. 2, 1952

Monthly List of Russian Accessions, Library of Congress, June 1954. Unclassified.

KOD, A. I.

Kara Kun - description and travel

Sands of Kara Kun. Nauka i zhizn' 19, No. 5, 1952.

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

RES, A. S.

Valleys - Turkmenistan

Geographical studies of the Uzboi river valley; Priroda 41 no. 1, 1952.

Monthly List of Russian Acquisitions, Library of Congress, May 1951. Unclassified.

USSR/ Geography - Geology

Card 1/1 Pub. 45 - 5/16

Authors : Tolstov, S. P.; Kes', A. S.; and Zhdanko, T. A.

Title : The history of the Sarikandish Lake in the Middle Ages

Periodical : Izv. AN SSSR. ser. geog. 1, 41-50, Jan-Feb 1954

Abstract : The origin of Lake Sarikandish is traced to the Pliocene Epoch at which time it was full of water and formed a large basin. During the first half of the Quaternary Period it became dry and in the second half of the same period it again filled with water due to the change in the course of the Amu-Darya River. In the 16th Century the level of the water began to sink, the water became salty and it finally dried out altogether. Fifteen Russian and USSR references (1879-1953). Maps; drawings.

Institution : Ethnographical and Geographical Institute <sup>S</sup><sub>A</sub> of the Soviet Academy of Science

Submitted : ...

KES', A.S.

Development of the relief of the Sary-Kamysh Depression. Trudy Inst.  
geog. no.62:159-204 '54. (MIRA 8:5)  
(Sary-Kamysh Depression--Physical geography)

KES', A.S.

Closed depressions of Ust'-Urt. Priroda 44 no.8:75-82 Ag '55.  
(Ust'-Urt--Physical geography) (MIRA 8:10)

SOV/26-58-1-18/36

AUTHOR: Kes', A.S., Candidate of Geographical Sciences

TITLE: Fluctuations in the Level of the Aral Sea (O kolebaniyakh urovnya Aral'skogo morya)

PERIODICAL: Priroda, 1958, Nr 1, pp 95-99 (USSR)

ABSTRACT: The Aral Sea, receiving the largest rivers of Central Asia, the Amu-Dar'ya and the Syr-Dar'ya, has a very unstable level. The sea basin is terracing and is covered with the shell deposits of small marine animals. According to L.S. Berg, the calculated and recorded difference in level between 1880 and now was about 8 m. This is traced back to climatic changes in the area of the Aral Sea itself and in the mountains, where the two rivers rise. According to A.L. Yanshin and S.P. Tolstov, similar maximum levels of the Aral Sea were reached in the third and at the beginning of the first millennium B.C. L.S. Berg and B.D. Zaykov contributed to the study of the Aral Sea's water conditions in the 18th, 19th and the

Card 1/2



Fluctuations in the Level of the Aral Sea

SOV/26-58-1-18/36

beginning of the 20th centuries. There are 2 photos, 1 chart, 1 diagram and 4 Soviet references.

ASSOCIATION: Institut geografii AN SSSR, Moskva (Institute of Geography of the AS, USSR, Moscow)

Card 2/2

Kes' A.S.

ABSTRACTS FROM THE 1958 LABORATORY SURVEYING

Abstracts from the 1958 Laboratory Surveying... 5,000 copies printed.

Editorial Commission: V. G. Filatov, Tech. Ed.; A. A. Orlov, Academy of Sciences USSR; A. A. Logachev, V. P. Mironovich (Resp. Ed.); and E. P. Sokolov.

PURPOSE: This publication is intended for photogrammetrists, geologists, geographers, and other scientific and technical personnel concerned with aerial photography.

CONTENTS: This issue of the Transactions of the Laboratory of Aerial Surveying Methods contains the second part of materials presented at the 7th All-Union Interdepartmental Conference on Aerial Surveying which took place in Leningrad, November 25 through December 1, 1956. Articles treat problems dealing with the execution and application of aerial survey methods in geological, geomorphological, and geological investigations. Special attention is directed to aerial survey methods in geological and geomorphological mapping and geological work under different conditions. The techniques of joint airborne magnetic surveying and aerial photography are described. References accompany individual articles.

NAME OF CONTRIBUTOR

Olyshin, V. E. [Institut Geografii AN SSSR - Institute of Geography, Academy of Sciences USSR]. Application of Aerial Photographs to the Study of Relief Characteristics of the Buryat Mongol Republic [Buryatskaya ASSR] 176

Prokof'yev, I. V. [Institut merlotovredniya izvesti V. A. Chirshova - Institute of Paleogeographic Studies named V. A. Chirshov]. Application of Aerial-Survey Methods to the Study of Relief Forms in the Arise of Permanently Frozen Formations 190

Kes', A. S. [Institute of Geography, Academy of Sciences USSR]. Significance of Aerial Photography in the Reconstitution of the Paleogeography of the Lower Am-Dar'ya Basin 193

Koshchukhin, E. I. [Laboratory of Aerial Survey Methods, Academy of Sciences USSR]. Certain Problems of the Recent Paleogeography of the Northern Part of the Caspian Sea (Based on Aerial Photographs) [Koshchukhin, E. I., and A. A. Egorovskiy] [Essential by name] 205

Blagoderzh, M. V. [Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskoy i geomorfologicheskoy tsentral'noy nauki, rezhimik i kontrol'nyy tsentral'nyy nauchno-issledovatel'skiy institut dlya aerofotogrammetrii, tsentral'nyy nauchno-issledovatel'skiy institut dlya aerofotogrammetrii]. Application of Aerial-Survey Methods to Prospecting and Exploring Alluvial Mineral Deposits 216

Logachev, A. A. [Leningradskiy georny institut - Leningrad Institute of Mining, Aerogeophysical Methods and Their Application to Geological Surveying and Prospecting Schemes; Ways of Increasing the Efficiency of Such Methods] 244

Logachev, V. A., and G. F. Imagergauze [All-Union Trust for Aerial Photogrammetric Surveying]. Results of Applying Aeromagnetic Survey Data to Geological Mapping of the USSR 249

Jirumshayev, K. G. [Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov i tsentral'nyy nauchno-issledovatel'skiy institut dlya aerofotogrammetrii]. Geophysical Prospecting of Magnetic [Magnetometric] Prospecting in the Ural and USSR 256

Kes', A. S. [Ministerstvo geologii i obratnyy nezhd' SSSR - Ministry of Geology and Mineral Conservation of the USSR]. Fundamental Principles of the Theory and Methodology of Aerial Metric Surveying and Prospecting 261

SOV/10-59-5-3/25

AUTHOR: Kes', A.S.

TITLE: The Relief Structure of the Loess Province of North China

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya Geograficheskaya, 1959, Nr 5, pp 20-28 (USSR)

ABSTRACT: According to the author, the study of the relief of the Loess Province of North China proves the eolian origin of the soil composing the loess strata. The opinions of scientists on the origin of the loess relief are divided. One group of geologists find that the loess relief was formed as a result of an intensive disintegration of a primary, levelled relief of the plateau type. Other geologists think that the contemporary loess relief reflects the relief of ancient rocks because of its mantle-like occurrence. Both these viewpoints, says the author, are correct for certain very limited parts, but in the

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SOV/10-59-5-3/25

The Relief Structure of the Loess Province of North China

regions with thick loess beds, the formation of the loess relief is governed by other regularities. The study of the cross-section of a loess stratum showed that these strata contain many levels of buried soils and carbonaceous concretions which proves the importance of soil-forming processes and of climatic changes in the formation of loess deposits. Mechanical composition of the loess formations is also variable. V.A. Obruchev and Chinese geologist Liu Tung-Shen state that the composition of all loess deposits become lighter when moving from the south and south-east to the north and the north-west. Mainly argillaceous loess is found in the south. When moving in the mentioned direction, the sandy part of loess increases constantly and in the northern Chin-Ling region, the strata are formed of sandy loess. According to both geologists, this phenomenon is explained by the action of winds which carry dust from the Central Asian deserts. At first the heavy fractions

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SOV/10-59-5-3/25

The Relief Structure of the Loess Province of North China

and sand drop out, then the sand is carried away into the south and southwest regions. Moreover, from aerial photographs, it can be seen that all ravines and smaller river valleys cut through the loess formations are oriented in the same direction, and that this direction strictly coincides with the direction of winds prevailing in the region. This important regularity was also observed in different parts of the USSR where loess formations occur, especially in the Fergana Valley. Thus, says the author, there can be no doubt about the eolian origin of the thinly-grained soil part of loess formations, though tectonic movements and erosion processes also played a certain role in shaping the relief of the loess deposits. There are 4 photographs, 1 set of diagrams, 1 map and 4 Soviet references.

ASSOCIATION: Institut geografii AN SSSR (Institute of Geography of the AS USSR)

Card 3/3

KES', A.S.

Origin of the loess formation in Northern China. Trudy Kom.  
chetv.per. 14:80-99 '59. (MIRA 13:4)  
(China loess)

KES', A.S., kand. geogr. nauk

Hwang-Ho will be subdued. Nauka i zhizn' 26 no.9:61-64 S '59.

(MIRA 13:1)

(Yellow River--Regulation)

TOLSTOV, S.P.; ~~KESL~~ A.S., kand.geograf.nauk; ITINA, M.A., kand.istor.nauk; ANDRIANOV, B.V., kand.istor.nauk; ZHDANKO, T.A., kand.istor.nauk; VISHNEVSKAYA, O.A., nauchnyy sotrudnik; VAKTURSKAYA, N.N., kand.istor.nauk. Primali uchastiye LEVINA, L.M., aspirantka; TRUDNOVSKAYA, S.A.; DAVIDOVICH, Ye.A., kand.istor.nauk; ANDRIANOV, B.V., red.izd-va; LEBEDEVA, L.A., tekhn.red.

[The lower reaches of the Amu Darya, the Sarykamysh and the Uzboy; history of their formation and settlement] Nizov'ia Amu-Dar'i, Sarykamysh, Uzboi; istoriia formirovaniia i zaseleniia. Pod obshchei red. S.P.Tolstova. Moskva, 1960. 346 p. (Materialy Khorezmskoi ekspeditsii, no.3). (MIRA 14:2)

1. Akademiya nauk SSSR. Institut etnografii. 2. Chlen-korrespondent AN SSSR (for Tolstov). 3. Institut etnografii AN SSSR (for Levina). 4. Akademiya nauk Tadzhikskoy SSR (for Davidovich). (Amu Darya Valley)



KES', A.S.

Ancient and recent transgressions of the Aral Sea. Trudy Inst.  
geog. 79:69-89 '60. (MIRA 13:8)  
(Aral Sea--Coast changes)

KES', A.S. (Moskva)

Gypsum dunes in the desert. Priroda 50 no. 2:114-115 P '61.  
(MIRA 14:2)

(Soviet Central Asia--Gypsum)

KES, A.S.

"The conditions of the repartition of the habitat of ancient man  
in the deserts of Central Soviet Asia."

Report Submitted to the IGU Arid Zone Commission Colloquium,  
Iraklion, Greece, 19-26 Sep 1962.

KES', A.S.

Loess and red-clay loess as aeolian soil formations. Trudy  
Kom.chetv.per. 19:101-116 '62. (MIRA 16:1)  
(Loess)

KES', A.S.

Conference on the comprehensive development of land and water  
resources in the republics of Central Asia and southern  
Kazakhstan. Izv. AN SSSR. Ser. geog. no.5:190-196 S-O '62.

(MIRA 15:10)

(Soviet Central Asia—Water resources development)  
(Kazakhstan—Water resources development)

KES', A.S.; TIMOSHALINA, V.A.

Scientific technological conference on the discussion of a general  
plan for comprehensive utilization and conservation of the water  
resources of Central Asia. Izv. AN SSSR. Ser. geog. no.5:145-149  
S-0 '65. (MIRA 18:10)

GELLER, S.Yu.; GERASIMOV, I.P.; KAMANIN, L.G.; KES', A.S.; KINITSYN, L.F.;  
MURZAYEV, E.M.; NITSHTAUT, M.I.; NEFED'YEVA, Ye.A.;  
NIKOL'SKAYA, V.V.; PREGRAZHENSKIY, V.S.; RIKHTER, G.D.;  
ROSSOLIMO, L.L.; SIL'VESTROV, S.I.

David L'vovich Armand's 60th birthday (1905-). Izv. AN SSSR.  
Ser. geog. no.6:141-142 N-D '65. (MIRA 18:11)

YEMEL'YANENKO, O.V.; KESAMANLY, F.P.; NASLEDOV, D.N.

Thermomagnetic Nernst-Ettinghausen effects in degenerated  
indium antimonide. Fiz.tver.tela 4 no.2:546-548 F '62.

(MIRA 15:2)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad  
i Institut fiziki AN AzSSR, Baku.

(Thermomagnetism) (Indium antimonide)



GALAVANOV, V.V.; YEMEL'YANENKO, O.V.; KESAMANLY, F.P.

Electron effective mass in InSb with degenerate electron gas.  
Fiz. tver. tela 5 no.2:616-618 F '63. (MIRA 16:5)

1. Fiziko-tehnicheskiy institut imeni A.F.Ioffe AN SSSR,  
Leningrad i Institut fiziki AN AzSSR, Baku.  
(Indium antimonide) (Electrons)

L 10767-63 EWT(1)/EWP(q)/EWT(m)/EWS/  
EEC(b)-2--AFFTC/ASD/ESD-3--P1-4--JD/JG

ACCESSION NR: AP3003914

8/0181/63/005/007/2031/2032

AUTHOR: Goryunova, N. A.; Kesamanly\*, F. P.; Osmanov, E. O.

73  
69

TITLE: Preparation and certain properties of single-crystal specimens of CdGeAs<sub>2</sub>

18  
47 21 27

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 2031-2032

TOPIC TAGS: CdGeAs<sub>2</sub>, single crystals, physical properties, mechanical properties, electrical properties, carriers, electrons, holes, mobility of carriers, effective mass of electrons

ABSTRACT: Single-crystal specimens of CdGeAs<sub>2</sub> have been prepared by an unidentified method, and their properties have been studied. The compound has the structure of chalcopyrite with the parameters  $a = 5.9427 \text{ \AA}$ ,  $b = 11.2172 \text{ \AA}$ , and  $c/a = 1.8875 \text{ \AA}$ , all  $\pm 0.0005 \text{ \AA}$ . It melts at 665C and has a microhardness of  $471 \pm 10 \text{ kg/mm}^2$ . The forbidden energy gap at 300K is 0.53 ev. Electrical measurements were carried out with parallelepipedal specimens ( $1 \times 3 \times 10 \text{ mm}$ ); low-resistance contacts were realized by indium electrodes. The Hall mobilities of holes and electrons in samples with a carrier density of  $10^{17} \text{ cm}^{-3}$  at room temperature were 20 to 25 and 800 to 1000  $\text{cm}^2/\text{vsec}$ , respectively. The thermoelectric power of an n-type sample at 300K was 190  $\mu\text{v}/\text{deg}$ . The maximum possible value of

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L 10767-63

ACCESSION NR: AP3003914

4

the effective mass of electrons ( $m^*$ ) was evaluated as about  $0.27 m_0$ . In view of the low value of  $m^*$ , it can be assumed that the value obtained for the electron mobility is considerably lower than the possible value. This phenomenon can be associated with the presence of a great amount of compensated impurities. Compound  $CdGeAs_2$  is being studied in more detail. "The authors thank T. N. Mamontova and A. A. Vaypolin for their assistance in determining the forbidden energy gap and identity period and D. N. Nasledov for his interest in and attention to the study."

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

SUBMITTED: 14Mar63

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 003

9/1/84  
Card 2/2

ACCESSION NR: AP4011746

S/0181/64/006/001/0113/0115

AUTHORS: Goryunova, N. A.; Kesamanly\*, F. P.; Nasledov, D. N.; Rud', Yu. V.

TITLE: Electrical properties of p-ZnSnAs sub 2 crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 113-115

TOPIC TAGS: p-ZnSnAs sub 2 crystal, electrical property, chalcopyrite structure, Hall constant, specific conductivity, vacancy

ABSTRACT: The present work is a continuation of two other works (N. A. Goryunova, S. Mamayev and V. D. Prochukhan. DAN SSSR, 142, 623, 1962) and (F. M. Gashimzade. Izv. AN Azerb. SSR, ser. fiz. mat., 3, 67, 1963). It represents a study of electrical properties exhibited by ZnSnAs<sub>2</sub> single crystals. To resolve the contradictions pertaining to this substance, the authors carried out an x-ray analysis of crystals and proved their structure to be of chalcopyrite type with parameters:  $a = 5.8515 \pm 0.0005 \text{ \AA}$ ,  $c = 11.703 \pm 0.001 \text{ \AA}$ . Samples used in this work were parallelepipeds  $1.5 \times 3.5 \times 12 \text{ mm}^3$  cut from single crystals. They were tested for specific conductivity  $\delta$  and for Hall constant R. Measurements were taken in direct current in a constant magnetic field. The study brought out the fact that this material exhibits

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ACCESSION NR: AP4011746

inclusion conductivity throughout the whole range of temperatures tested. Between 150-200K there appears a pronounced maximum on the R - Temperature curve. The authors believe that this maximum can be explained with the help of a two-zone model. It is believed that quantitative determination of the valence zone structure in crystals of  $ZnSnAs_2$  will require a complex investigation of the kinetic effects of R and  $\delta$  at low temperatures (2-78K). The authors thank A. A. Vaypolin and T. S. Lagunova for their help in obtaining quantitative data, and F. M. Gashimzade and O. V. Yemel'yanenko for their evaluation of the work. Orig. art. has: 2 graphs.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad  
(Physical and Technical Institute, AN SSSR); Institut fiziki AN AzerbSSR, Baku  
(Institute of Physics, AN AzerbSSR)

SUBMITTED: 12Jul63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH

NO REF SOV: 006

OTHER: 006

Card 2/2

ACCESSION NR: AP4011750

S/0181/64/006/001/0134/0140

AUTHORS: Kesaranly\*, F. P.; Kloty\*n'sh, E. E.; Mal'tsev, Yu. V.; Nasledov, D. N.;  
Ukhanov, Yu. I.

TITLE: Nernst-Ettinghausen and Faraday effects in indium phosphide

SOURCE: Fizika tvordogo tela, v. 6, no. 1, 1964, 134-140

TOPIC TAGS: Nernst Ettinghausen effect, effective electron mass, indium phosphide,  
Hall constant, specific electrical conductivity, differential thermal emf, optical  
absorption, polarization, polarization rotation

ABSTRACT: In order to obtain supplementary information on the mechanism of electron scattering and the dependence of the effective electron mass on temperature, the authors investigated, in large crystalline samples of indium phosphide, the temperature dependence of the Hall constant, the specific electrical conductivity, the resistance changes in a magnetic field, the differential thermoelectromotive force, the transverse Nernst-Ettinghausen effect, the optical absorption, and the rotation of the polarization plane for infrared light in a magnetic field. The results are summarized in Figs. 1-6 of the Enclosures. The authors found that in samples with an electron concentration of  $8.2 \cdot 10^{16} \text{cm}^{-3}$  and a depression of temperature below 200K

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ACCESSION NR: AP4011750

the Hall constant and the change in resistance in a magnetic field increase noticeably. At low temperatures the scattering of electrons takes place by impurity ions. With increase in temperature, electron scattering by lattice vibrations increases. The effective mass of the electrons at room temperature is  $0.066 \pm 0.003$  times the mass of free electrons. Orig. art. has: 6 figures and 1 formula.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad  
Physicotechnical Institute AN SSSR); Fizicheskiy institut AN Azerb. SSR, Baku  
(Physics Institute AN Azerb. SSR)

SUBMITTED: 17Jul63

DATE ACQ: 14Feb64

ENCL: 08

SUB CODE: PH

NO REF SOV: 009

OTHER: 013

Card

2/102

KESAMANLY, F.P.; KLOTYN'SH, E.E.; LAGUNOVA, T.S.; NASLEDOV, D.N.

Impurity band in n-InP crystals. Fiz. tver. tela 6 no.3:958-960  
Mr '64. (MIRA 17:4)

1. Fiziko-tehnicheskij institut imeni A.F.Ioffe AN SSSR,  
Leningrad i Institut fiziki AN Azerbaydzhanskoy SSR, Baku.



ACCESSION NR: AP4041731

S/0181/64/006/007/2187/2190

AUTHORS: Kesamanly\*, F. P.; Nasledov, D. N.; Rud', Yu. V.

TITLE: Thermal emf and transverse Nernst-Ettingshausen effect in p-ZnSnAs<sub>2</sub> crystals

SOURCE: Fizika tverdogo tela, .v. 6, no. 7, 1964, 2187-2190

TOPIC TAGS: thermal emf, Nernst Ettingshausen effect, Hall constant, p band, transport property, conductivity

ABSTRACT: In order to investigate transport effects in crystals with different carrier densities, the authors doped crystals with different impurities and, by using heat treatment in some cases, obtained AnSnAs<sub>2</sub> crystals with hole density from  $10^{18}$  to  $10^{20}$  cm<sup>-3</sup>. No n-type crystals were obtained as yet. Single-crystal specimens are transparent for wavelengths 1.5--3  $\mu$ , but no waves could be trans-

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ACCESSION NR: AP4041731

mitted through polycrystalline specimens. The temperature dependences of the specific conductivity  $\sigma(T)$ , the Hall constants  $R(T)$ , and the transverse Nernst-Ettingshausen effect  $Q^{\perp}(T)$ , and also the differential thermal emf  $\alpha(T)$ , were measured simultaneously in the interval 90--750K using an instrument described elsewhere (FTT, v. 6, 113, 1964). Tests have shown that the larger the density of the holes in the sample, the lower the  $Q^{\perp}(T)$  curve and the later the mixed conductivity sets in. The maximum on the  $R(T)$  curve decreases in absolute magnitude with increasing concentration, and the point at which  $R$  reaches a maximum, together with the point of reversal of the sign of  $R$ , shifts towards higher temperatures. The width of the forbidden band was found to be 0.89 eV, in qualitatively good agreement with the data obtained from the edge of the intrinsic absorption. The data measured in this experiment make it possible, in the case of a semiconductor with simple structure of allowed bands, to determine such parameters as the density and effective mass of the carriers, and also the scattering parameter. The effective mass

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ACCESSION NR: AP4041731

of the holes determined in this experiment was on the average  $0.13 m_0$ , where  $m_0$  -- mass of the free electron. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR); Institut fiziki AN Azerb. SSR, Baku (Institute of Physics, AN Azerb. SSR)

SUBMITTED: 04Feb64

ENCL: 02

SUB CODE: SS, EC

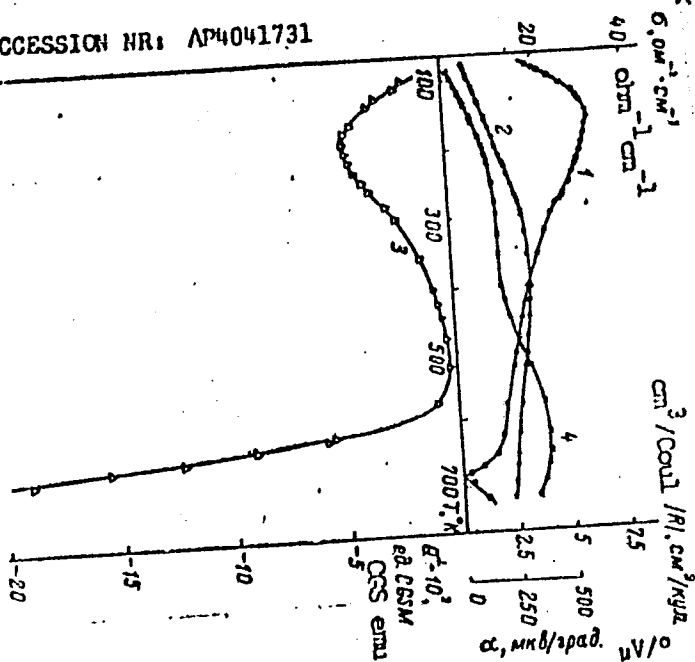
NR REF SOV: 004

OTHER: 002

Card 3/5

ENCLOSURE: 01

ACCESSION NR: AP4041731

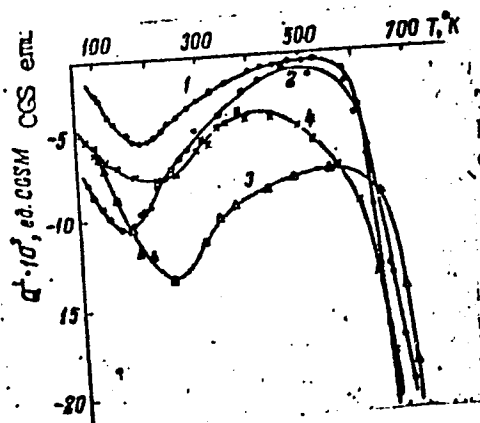


Temperature dependences of the Hall constant (1), specific electric conductivity (2), the transverse Nernst-Ettingshausen constant (3), and the differential thermal emf (4) in a sample of  $ZbSnAs_2$ .

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ENCLOSURE: 02

ACCESSION NR: AP4041731



Temperature dependences of the transverse Nernst-Ettingshausen constant in several samples of  $p-ZnSnAs_2$

The numbers refer to different samples

Card 1/1

.../SWT(m)/T/EXP(s)/EXP(o)/EWA(h) Pz-6/Feb IJP(c)/SSD/

**"APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721610008-6**

**APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721610008-6"**



S/0048/64/028/006/1085/1089

ACCESSION NR: AP4041383

AUTHOR: Vaypolin, A.A.; Gashimzade, F.M.; Goryunova, N.A.; Kesamanly\*, F.P.; Osmanov, E.O.; Rud', Yu.V.; Nasledov, D. N. (Doctor of physico-mathematical sciences)

TITLE: Investigation of the physical-chemical and electric properties of crystals of some ternary semiconductor compounds of the  $A^{II}B^{IV}C_2^{VI}$  type [Report, Third Conference on Semiconductor Compounds held in Kishinev 10 to 21 Sep 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.6, 1964, 1085-1089

TOPIC TAGS: semiconductor, electric conductivity, Hall effect, crystal structure, cadmium compound, zinc compound, carrier mobility

ABSTRACT: Single crystals of the following semiconductors were obtained and their properties were investigated:  $CdGeAs_2$ ,  $ZnSiAs_2$ ,  $CdSiP_2$ ,  $ZnSnAs_2$  and  $ZnSiP_2$ . The method of synthesis is not described. X-ray diffraction showed the specimens to be single crystals with the chalcopyrite structure. The crystallography of these materials is discussed briefly, and the lattice parameters, density, hardness and melting point are tabulated. Both p-type and n-type crystals of  $CdGeAs_2$  were obtained. Only p-type conductivity was found in the other two arsenides, and only n-type in

Card 1/3



ACCESSION NR: AP4041383

ZnSiP<sub>2</sub>. Results of conductivity and Hall coefficient measurements over the temperature range from 90 to 600°K are presented graphically for an n-type CdGeAs<sub>2</sub> crystal, a p-type CdGeAs<sub>2</sub> crystal, and several ZnSnAs<sub>2</sub> crystals with different but unspecified impurity contents. The Hall coefficient of the n-type CdGeAs<sub>2</sub> was independent of temperature, and the conductivity increased with increasing temperature above about 150°K. The concentration of conduction electrons was approximately  $10^{17}$  cm<sup>-3</sup> and their mobility was  $10^3$  cm<sup>2</sup>/Vsec. With the aid of thermoelectric measurements, the effective mass was estimated to be 0.027 electron masses. The Hall coefficient of the p-type CdGeAs<sub>2</sub> decreased rapidly with increasing temperature above 200°K and changed sign at 520°K. Neither the conductivity nor the Hall coefficient of the ZnSnAs<sub>2</sub> crystals varied greatly with temperature. The Hall coefficient exhibited a maximum at about 200°K which became less pronounced and shifted toward higher temperatures with increasing impurity content. This is ascribed to conduction in the impurity band. The band structure of the materials is discussed. The effective masses of the carriers in the conduction band and the V<sub>2</sub> and V<sub>3</sub> valence bands were calculated, and these and the gap energy are tabulated. All these quantities increased with decreasing molecular weight. The energy gap ranged from 0.53 to 2.5 eV, and the effective masses from 0.020 to 0.096, 0.035 to 0.19, and 0.12 to 0.49 electron masses for the C, V<sub>2</sub> and V<sub>3</sub> bands, respectively. Orig.art.has: 1 formula, 6

Card 2/3

ACCESSION NR: AP4041383

figures and 2 tables.

ASSOCIATION: Fiziko-tehnicheskij institut im.A.F.Ioffe Akademii nauk SSSR (Physi-  
co-technical Institute, Academy of Sciences, SSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: SS,IC

NR REF SOV: 007

OTHER: 006

Card 3/3

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6"

**"APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721610008-6**

**APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721610008-6"**

the electric conductivity and of the Hall constant of

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6"



"APPROVED FOR RELEASE: 09/17/2001

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"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6"

KESAMANLY, F.P.; KRITORU, S.G.; RUD', Yu.V.; SOBDEV, V.V.; SYRBU, N.M.

Energy band structure in certain crystals of the  $AB_2B_1V_2$  group.  
Dokl. AN SSSR 163 no.4:868-869 Ag 165.

(MIRA 18:8)

I. Fiziko-tekhnicheskii institut im. A.F.Ioffe AN SSSR i Institut  
peikladnoy fiziki AN Moldavskoy SSR. Submitted January 21, 1965.

L 442-66 EWT(l)/EWT(m)/EWP(t)/EWF(b) IJP(c) JD/AT

ACC NR: AP5020691

UR/0185/65/010/008/0867/0872

AUTHOR: <sup>44.55</sup> Bychkov, O. H. (Bychkov, A. G.); <sup>44.55</sup> Goryunova, N. O. (Goryunova, N. A.); Kesamanly, F. P.; Mityu'ov, V. K. (Mityurev, V. K.); <sup>44.55</sup> Rud', Yu. V.; <sup>44.55</sup> Slobodchikov, S. V. (Slobodchikov, S. V.)

TITLE: Electrical and photoelectric properties of ZnSiP<sub>2</sub>

SOURCE: Ukrayins'kyi/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<sub>2</sub> 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<sup>17</sup> cm<sup>-3</sup> and a Hall mobility of 70--100 cm<sup>2</sup>/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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L 4442-66

ACC NR: AP5020691

2  
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: Kyivskiy 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

I. 15157-66 EAT(1)/EWP(a)/EAT(m)/EWP(b) WH

ACC NR: AP6002028

SOURCE CODE: UR/0185/65/010/012/1349/1353

AUTHORS: Voytsekhivs'kyi, O. V. (Voytsekhovskiy, A. V.); Kesamanly,  
F. P.; Rud', Yu. V.; Mityur'ov, V. K. (Mityurev, V. K.)ORG: Kiev Pedagogical Institute im. O. M. Gor'kiy (Kyyivs'kyi pedinsty-  
tut)TITLE: Transport effects in InAs-CdTe and InAs-ZnTe alloysSOURCE: Ukrayins'kyi fizichnyy zhurnal, v. 10, no. 12, 1965, 1349-1353TOPIC TAGS: indium alloy, electric conductivity, Hall constant,  
thermoelectric power, heat conduction, electron mobility, electric  
measurementABSTRACT: Samples of various compositions of the InAs-CdTe and InAs-  
ZnTe alloys were prepared by melting the constituent materials of pur-  
ity no worse than 99.999% in quartz ampoules, using vibrational mixing.  
After zone recrystallization, the samples were coarse-grained. The  
electrical measurements were carried out on right parallelepipeds cut  
from ingots with mean dimensions of 1.0 x 3.0 x 12.0 mm with ohmic  
electrodes of pure indium. Measurements were made of the electrical  
conductivity, the Hall constants, the Nernst-Ettingshausen effect over  
a temperature range of 800--600K, the differential thermal emf, the co-  
efficient of thermal conductivity, and the transmission spectrum at

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L 15157-66

ACC NR: AP6002028

3

300K. It is proposed that the band structures of alloys of the InAs-CdTe system and of the initial compounds are analogous. The mechanism of carrier scattering is discussed. The effective electron mass for alloys of the system InAs-CdTe is found to be  $0.05 m_0$ . The small value of the effective electron mass at a concentration of about  $10^{19} \text{ cm}^{-3}$  and the regular variation of  $E_{opt}$  as a function of the alloy composition indicate that by purification of the investigated substances one can obtain material with high electron mobility for a given width of the forbidden band. Authors thank Professor D. M. Naslyedov and N. O. Horyunova (Goryunova) for interest in the work. Orig. art. has: 3 formulas, 1 table, and 4 figures.

SUB CODE: 20/ SUBM DATE: 15Dec64/ ORIG REF: 009/ OTH REF: 005

Card

2/2 vmb

L 2373-66 LWT(1)/T LJP(c) GG

ACCESSION NR: AP5020827

UR/0020/65/163/004/0868/0869

AUTHORS: Kesamanly, F. P.; Kroitoru, S. G.; Rud', Yu. V.; Sobolev, V. V.; Syrhu, N. N.

TITLE: The energy band structure in crystals of the group A<sup>II</sup>B<sup>IV</sup>C<sub>2</sub>

SOURCE: AN SSSR. Doklady, v. 163, no. 4, 1965, 868-869

TOPIC TAGS: semiconductor, zinc compound, conduction band, Brillouin zone

ABSTRACT: Investigations were made of the energy structure in minerals having the structure of chalcopyrite. The lowest conduction band is simple, and the highest valence band is triple. This paper examines the reflection spectra of ZnSnAs<sub>2</sub>, ZnSiP<sub>2</sub>, and ZnSiAs<sub>2</sub> in the region of 1-6 ev and at 293K. The spectral distribution of reflectivity showed two intense maximums for each crystal: at 265 and 600 mμ for the first, 280 and 330 mμ for the second, and 275-295 and 370 mμ for the third. The peak at 600 mμ for ZnSnAs<sub>2</sub> has a doublet structure with two maximums at 550 and 650 mμ. Spin orbit splitting for ZnSnAs<sub>2</sub> proved to be 5-10 times that for the other two. Because of the width of the peaks, doublet structure of a long-wave maximum was not observed in the reflectivity curves of the last two crystals. In Card 1/2



L 2373-66

ACCESSION NR: AP5020827

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general characteristics, the three minerals are very similar. It is concluded that the reflectivity spectra are due to allowed cross-over interzonal transitions at points in the Brillouin zone analogous to points L and X in crystals of group  $A^{iv}$  and  $A^{iii_v}$ . The great general and detailed similarity in reflectivity spectra of the tested crystals to the groups  $A^{iv}$  and  $A^{iii_v}$  strongly suggests a great similarity in structure of the energy bands and the nature of the chemical bonds of both groups. "The authors express their thanks to Professor D. N. Nasledov for his support of the present work." Orig. art. has: 2 figures and 1 table. *44, 52*

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe, Akademii nauk SSSR (Physical and Technical Institute, Academy of Sciences SSSR); *44, 52* Institut prikladnoy fiziki, Akademii nauk MSSR (Institute of Applied Physics, Academy of Sciences MSSR)

SUBMITTED: 15Jan65

ENCL: 00

SUB CODE: SS *44, 52*

NO REF SOV: 005

OTHER: 003

BVK  
Card 2/2

VOYTSEKHOVSKIY, A.V. [Voitsekhivs'kyi, O.V.]; KESAMANLY, F.P.;  
MITYUREV, V.K. [Mitiur'ov, V.K.]; RUD', Yu.V.

Transfer effects in the alloys InAs-CdTe and InAs-ZnTe.  
Ukr.fiz.zhur.10 no.12:1349-1353 D '65.

(MIRA 19:1)

1. Kiyevskiy pedagogicheskiy institut im. Gor'kogo.  
Submitted December 15, 1964.

L 29958-66

ACC NR: AP6012481

SOURCE CODE: UR/0181/66/008/004/1176/1181

AUTHORS: Kesamanly, F. P.; Mal'tsev, Yu. V.; Nasledov, D. N.;  
Ukhanov, Yu. I.; Filipchenko, A. S.

56  
B

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

TITLE: Magneto-optical investigations of the conduction band of InSb

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1176-1181

TOPIC TAGS: indium compound, antimonide, magneto-optic effect, conduc-  
tion band, Faraday effect, light reflection, dielectric constant

ABSTRACT: The authors investigated the optical reflection, transparency,  
and location of the plane of polarization (Faraday effect) in the wave-  
length interval from 2 to 25  $\mu$  at temperatures from 130 to 550K and  
electron densities from intrinsic to  $1.2 \times 10^{19} \text{ cm}^{-3}$ , with an aim at  
checking the validity of the theory proposed by E. O. Kane (Phys. Chem.  
Sol. v. 1, 249, 1957). The apparatus used for the measurements was  
described by the authors earlier (Izv. AN SSSR ser. fiz. v. 28, 989,  
1964 and earlier papers). InSb single crystals doped with Se were drawn  
from the melt by the Czochralski method. The reflection coefficient

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1/2

L 29958-66

ACC NR: AP6012481

exhibited a slow decrease with increasing wavelength, a sharp minimum in the range between 10 and 17  $\mu$  (depending on the electron density), and a steep increase. The value obtained for the lattice dielectric constant is  $16.0 \pm 0.1$ , which is in good agreement with published data. The effective mass of the electrons was found to be 0.071, 0.053, and 0.038 times the free electron mass ( $m_0$ ) at electron concentrations 12, 6, and  $2.6 \times 10^{18} \text{ cm}^{-3}$  when calculated from the plasma reflection and 0.018, 0.021, 0.027, 0.033, and  $0.054 m_0$  for electron densities 2.5, 4, 7.5, 260, and  $600 \times 10^{16} \text{ cm}^{-3}$  by using the Faraday effect. The experimental dependence of the energy on the wave number agreed with Kane's calculations up to electron densities  $1.2 \times 10^{19} \text{ cm}^{-3}$ . Some deviations from Kane's theory are observed at densities greater than  $5 \times 10^{18} \text{ cm}^{-3}$ , and call for a special analysis. Orig. art. has: 5 figures and 6 formulas.

SUB CODE: 20/ SUBM DATE: 13Sep65/ ORIG REF: 003/ OTH REF: 011

Card

2/2 *1.0*

L 33600-66 EWT(m)/EWP(e)/T/EWP(t)/ETI IJP(c) JD/WH

ACC NR: AR6016220

SOURCE CODE: UR/0058/65/000/011/E011/E011

AUTHORS: Goryunova, N. A.; Kesamanly, F. P.; Osmanov, E. O.; Rud', Yu. V. 5/B

TITLE: Crystalline and glass-like CdGeAs<sub>2</sub> 17

SOURCE: Ref. zh. Fizika, Abs. 11E80

REF SOURCE: Sb. Fizika, Dokl. k XXIII Nauchn. konferentsii Leningr. inzh.-stroit. in-ta. L., 1965, 49-51

TOPIC TAGS: cadmium compound, crystal, glass property, germanium compound, arsenide

ABSTRACT: It is shown that when the melt is rapidly cooled, the compound CdGeAs<sub>2</sub> can be obtained in a glass-like state. The temperature dependence of the electron transport effects of this compound was investigated in the interval 100 - 750K. Relative characteristics of glass-like and crystalline CdGeAs<sub>2</sub> are presented. T.Volkov [Translation of abstract]

SUB CODE: 20/

Card 1/1 27

ACC NR: AP6034922

SOURCE CODE: GE/0030/66/017/001/0105/0108

AUTHOR: Aliev, S. A.; Kesamanly, F. P.; Lagunova, T. S.; Nasledov, D. N.

ORG: [Kesamanly; Lagunova; Nasledov] A. F. Ioffe Physico-Technical Institute,  
Academy of Sciences of the USSR, Leningrad; [Aliev] Institute of Physics,  
Academy of Sciences of the Azerbaidzhan SSR, Baku

TITLE: Hall effect and magnetoresistance of n-InP crystals at low temperatures

SOURCE: Physica status solidi, v. 17, no. 1, 1966, 105-108

TOPIC TAGS: Hall effect, magnetoresistance, temperature dependence, Hall  
constant, electric conductivity, impurity band, impurity conductivity, indium  
phosphide crystalABSTRACT: A study was made of the temperature dependence of the Hall constant  $R(T)$ , the electrical conductivity  $\sigma(T)$ , and the magnetoresistance  $\Delta\rho/\rho(T)$  between 1.7 and 300K in n-indium phosphide specimens with electron concentrations from  $2 \times 10^{16}$  to  $10^{18} \text{cm}^{-3}$ . A maximum was observed in  $R(T)$  in the temperature range 20-100K;  $\Delta\rho/\rho$  was negative in all specimens below the maximum temperature of  $R(T)$ . The results are explained by the participation of the impurity

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ACC NR: AP6034922 "APPROVED FOR RELEASE: 09/17/2001" CIA-RDP86-00513R000721610008-6"

band in conduction. Orig. art. has: 5 figures and 1 table. [Authors' abstract]

SUB CODE: 20/ SUBM DATE: 15Jun66/ ORIG REF: 002/ OTH REF: 002/

L 08140-67 EWT(1) IJP(c) AT

ACC NR: AP6033666

SOURCE CODE: UR/0371/66/000/004/0014/0021

65  
64  
B

AUTHOR: Kesamanly, F. P. --Kesamanli, F. ; Klotyn'sh, E. E. --Klotins, E. ;  
Nasledov, D. N. --Nasledovs, D. ; Talalakin, G. N. --Talalakins, G.

ORG: Physicotechnical Institute im. A. F. Ioffe (Fiziko-tehnicheskiiy institut);  
Institute of Power Engineering AN LatSSR (Institut energetiki AN LatSSR)

TITLE: Transfer effects in p-type gallium arsenide crystals

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk,  
 no. 4, 1966, 14-21

TOPIC TAGS: gallium arsenide, Hall mobility, Nernst effect, high temperature  
 effect, transfer effect, pn junction, p type gallium

ABSTRACT: The authors investigated the temperature and concentration relation-  
 ships of the Hall mobility and the transverse Nernst-Ettingshausen effect in  
p-type gallium arsenide alloyed with zinc and cadmium. The investigations have  
 been conducted at temperatures ranging from 90 to 800K in crystals with the  
 concentration of holes at 300K from  $5.4 \times 10^{16}$  to  $7.7 \times 10^{19} \text{ cm}^{-3}$ . It is shown

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L 08140-67

ACC NR: AP6033666

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721610008-6

that the experimental results could be consistently understood in terms of the  
 theory for a semiconductor with an isotropic and parabolic zone. It is shown that  
 the ions play an important role in scattering holes below room temperature. The  
 mechanisms of hole scattering by the lattice oscillation are examined. The authors  
 thank V. G. Sidorov for submitting precision values of the thermal emf. Orig.  
 art. has: 5 figures, 5 formulas, and 1 table. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 14Sep65/ ORIG REF: 012/ OTH REF: 003/

Card 2/2 not

KESAMANLY, G. D.

"Pitch from Combustible Shales of Azerbaydzhan"  
Dokl. AN Zs. SSR, 10, No 1, 23-27, 1954 (Azerbaydzhani resume)

Azerbaydzhan shales with organic mass of sapropelic origin give on the average about 46% pitch reminiscent of raw petroleum, but less homogeneous than petroleum. The pitch contains carbon 80-81%, hydrogen 9.6-10%, and sulfur 1.8-2%. Fractional distillation of the pitch at various temperatures gives the possibility of obtaining definite quantities of benzene, kerosene and diesel fractions. (RZhGeol, No 3, 1954)

*Inst. Power Engineering AS Azer SSR*

SO: W-31187, 8 Mar 55



KESAR', V.F.

For a new expansion of resort construction. Azerb.med.zhur. no.  
5:64-66 My '58 (MIRA 11:6)  
(AZERBAIJAN--HEALTH RESORTS; WATERING PLACES, ETC)

KESAREV, Al'bert Petrovich, inzh.; KISELEVA, N.P., inzh., red.;  
USENKO, L.A., tekhn. red.

[Maintenance and repair of the vertical transmission and bearings of the 2D100 diesel crankshaft] Remont vertikal'noi poredachi i podshipnikov kolenchatogo vala dizelia 2D100. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshchenia, 1961. 64 p. (MIRA 14:12)  
(Diesel locomotives—Maintenance and repair)

POYDA, A.A.; KOKOSHINSKIY, I.G.; TITOV, A.N., retsenzent; MOISEYEV,  
G.A., retsenzent; KHARLAPOV, P.G., retsenzent; KESAREV,  
A.P., retsenzent; RUKAVISHNIKOV, Yu.A., retsenzent;  
MEDVEDEV, G.G., retsenzent; PALKIN, A.P., retsenzent;  
BOL'SHAKOV, A.S., retsenzent; KHITROVA, N.A., .tekhn.red.

[Mechanical equipment of diesel locomotives] Mekhanicheskoe  
oborudovanie teplovozov. Moskva, Transzheldorizdat, 1963.  
463 p. (MIRA 17:2)

KLIMOV, N.N., inzh.; GORN. V.N., inzh.; SEMENOV, N.S., mashinist-instruktor;  
BUD'KO, G.F.; MURZIN, L.G.; REMENNIKOV, S.S.; KESAREV, A.P.

Answering readers' queries. Elek. i tepl. tiaga 7 no.9:44-45  
S '63. (MIRA 16:10)

1. Depo Lobnya Moskovskoy dorogi (for Semenov). 2. Zamestitel'  
glavnogo revizora po bezopasnosti dvizheniya Ministerstva putey  
soobshcheniya (for Bud'ko). 3. Nachal'nik otdela teplotekhniki  
Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey  
soobshcheniya (for Murzin). 4. Nachal'nik otdela truda i  
zarabotnoy platy Glavnogo upravleniya lokomotivnogo khozyaystva  
Ministerstva putey soobshcheniya (for Kesarev).

TERTYCHKO, Nikolay Alekseyevich; TYRICHEV, Al'bert Georgiyevich;  
TISHCHENKO, Nikolay Ivanovich; KESAREV, A.P., inzh., retsenzent;  
VUL'F, V.V., inzh., red.; KHITROV, P.A., tekhn.red.

[Inspection and adjustment operations in the repair of diesel locomotives] Proverki i regulirovki pri remonte teplovozov.  
Moskva, Vses.izdatel'sko-poligr.ob'edinenie M-va putei soobshchenia, 1960. 291 p. (MIRA 14:4)  
(Diesel locomotives--Maintenance and repair)

BOL'SHAKOV, Anatoliy Stepanovich; SARIN, Valeriy Ivanovich;  
SHVAYNSHTEYN, Boris Simonovich; PONOMAREV, V.S., inzh.,  
retsenzent; ZAZOVSKIY, D.G., inzh., retsenzent; MAKAROV,  
M.S., inzh., retsenzent; POPOV, G.V., inzh., retsenzent;  
KURBATOV, A.I., retsenzent; KITAYEVA, Z.A., inzh.,  
retsenzent; SDOBNIKOV, Ye.F., retsenzent; KOVALEV, A.K.,  
inzh., retsenzent; KESAREV, A.P., inzh., retsenzent;  
KISELEVA, N.P., inzh., red.; GROMOV, S.A., kand. tekhn.  
nauk, red.; SHCHERBACHEVICH, G.S., inzh., red.; USENKO, L.A.,  
tekhn. red.

[Shunting diesel locomotives] Manevrovye teplovozy. Moskva,  
1962. 383 p. (MIRA 15:6)

(Diesel locomotives)

YEGUNOV, Pavel Mikhaylovich, kand. tekhn. nauk; KESAREV, A.P., inzh.  
red.; VOROTNIKOVA, L.F., tekhn. red.

[Coolers of diesel locomotives] Teplovoznnye kholodil'niki.  
Moskva, Transzheldorizdat, 1962. 94 p. (MIRA 16:1)  
(Diesel locomotives—Cooling)

ZASLAVSKIY, Yefim Grigor'yevich, inzh.; PORTNOY, Vladimir Isaakovich, inzh.; KOSHEVOY, Vladimir Ivanovich, inzh.; DUBROVSKIY, Vladimir Zakharovich, inzh.; KESAREV, A.P., inzh., retsenzent; STREL'NIKOV, S.V., inzh., retsenzent; MEL'NIKOV, V.Ye., red.

[Repair of TE10 diesel locomotives in the roundhouse] Remont teplovozov TE10 v depo. Moskva, Transport, 1965. 90 p. (MIRA 18:2)

1. Khar'kovskiy teplovozostroitel'nyy zavod imeni V.A.Malysheva (for Zaslavskiy, Portnoy, Koshevoy, Dubrovskiy).



KESAREV, I. P., CAND MED SCI, "<sup>Effect</sup> INFLUENCE OF CERTAIN  
CONDITIONS OF CULTIVATION OF TYPHOID BACTERIA <sup>upon</sup> ON THE FOR-  
MATION AND REGENERATION OF THEIR FILTRATE<sup>ting</sup> FORMS." SMOLENSK,  
1960. (MIN OF HEALTH RSFSR, SMOLENSK STATE MED INST). (KL,  
2-61, 218).

-255-

KESAREV, I.P.; PRODAN, Z.G.

Parenteral infection of the argasid tick *Ornithodoros papillipes*  
by *Rickettsia prowazeki*. Trudy Ukr. resp. nauch. ob-va paraz.  
no.2:61-63 \*63 (MIRA 17:3)

1. Dnepropetrovskiy meditsinskiy institut epidemiologii, mikro-  
biologii i gigiyeny.

Presenting the W. dir. of Sheets during HQ Working

KLIMENOK, B.V.; PIRKIS, L.N.; SKACHKO, Ye.V.; KESAREV, M.P.

Using aqueous solution of carbamide for removing paraffin from diesel fuels. Izv.vys.ucheb.zav.; neft' i gaz. no.7:83-89 '58.  
(MIRA 11:11)

1. Ufimskiy neftyanoy institut.  
(Urea) (Paraffins) (Diesel fuels)

NEFEDOV, V.D.; TOROPOVA, M.A.; KRIKHATSKAYA, I.V.; KESAREV, O.V.

Separation of phenyl derivatives of arsenic and germanium by  
means of partition paper chromatography. Radiokhimiia 6  
no. 1:112-113 '64. (MIRA 17:6)

KESAREV, S., Pervyy predsedatel' pravleniya profsoyusa gornorabochikh .  
g.Kizela v 1917 g.du.

On the eve of the storm. Mast. ugl. 9 no.11:3 N '60. (MIRA 13:12)  
(Kizel Basin--Coal miners) (Trade unions)

.../EVT(1)/EVT(m)/TS(v)-3/EPF(c)/EVS(v)/BEG(t)/  
... 11/DD/87

Author: Kesarev, V. (Professor, Doctor of ...)

How planets live and die

... Kosmonavtika, ... 1984 ...

... dynamics ...

ABSTRACT: Conclusions derived from the author's previous calculations are given ...  
... of the solar system can or cannot ... life ... The ...  
... from their formation out ...

... that, since the habitability ...  
... 1/2

2 1 2 1 2 1 2 1

ACCESSION NR: ZP3000076

... will be able to support ... period of its ...

...

OTHER: 000

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L 3181-66 EWT(1)/EWT(m)/EPF(c) RPL WW/GW

ACCESSION NR: AP5014813

UR/0209/65/000/006/0036/0038

AUTHOR: Kesarev, V. (Professor, Doctor of chemical sciences)

TITLE: The nature of comets

SOURCE: Aviatziya i kosmonavtika, no. 6, 1965, 36-38

TOPIC TAGS: comet, space flight hazard, celestial body

ABSTRACT: Professor Kesarev describes a comet as consisting of a nucleus not exceeding a few km in diameter and having a mass of  $3 \cdot 10^{17}$  g. Through solar influences, this nucleus begins to emit gases as it approaches the Sun. It is these gases which are believed to be the main constituents of the huge coma and the tail. The idea that comets might be produced by the disruption of asteroids, expressed by S. V. Orlov, is opposed, and it is contended that only smaller asteroids, rather than comets, can originate in this manner. The author shares with J. H. Oort and V. G. Fesenkov the theory that comets are the debris of a rather large planet. The author also agrees with Fesenkov's view that the "Tungus meteorite" is essentially a comet. In its composition and structure, the comet is of planetary matter and can be called a minor or dwarf planet. The decay of comets is considered to be a consequence of intrusive chemical processes. The reaction products of those chemical

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ACCESSION NR: AP5014813

processes which occur on the surface of a comet form the comet body, i.e., the coma and the tail. The shape and size of comet bodies is determined by the intensity of these chemical processes and by the acceleration of particles. This implies that the process of comet formation is ultimately dependent upon the combined forces of kinetic energy and light pressure. In planning space flights, the possibility of a spacecraft colliding with a variety of objects, including comets, must be taken into consideration. However remote the probability of such a collision may appear, the problem of assuring accident-free space travel must be satisfactorily resolved. There is an urgent need for further research into the nature of small and large celestial bodies, the author concludes. [VM]

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: AA, SV

NO REF SOV: 000

OTHER: 000

ATD PRESS: 04018

PC

Card 2/2

YEROFEYEV, Petr Petrovich, prof.[deceased]; KESAREVA, V.P., red.;  
BAIDINA, N.F., tekhn. red.

[Tuberculosis of the brain, spinal cord and meninges; a  
morphological study]Tuberkulez golovnogo, spinnogo mozga i obo-  
lochek; morfologicheskoe issledovanie. Moskva, Medgiz, 1962.  
222 p. (MIRA 15:9)

(MENINGES--TURBERCULOSIS) (SPINAL CORD--TUBERCULOSIS)  
(BRAIN--TURBERCULOSIS)

KESAREV, V.S.

Characteristics of the structural organization of the hypothalamus in man and some primates (chimpanzee, macaca). Zhur. nevr. i psikh. 65 no.5:696-702 '65. (MIRA 18:5)

1. Institut mozga (direktor - prof. S.A.Sarkisov) AMN SSSR, Moskva.

KESAREV, V.S.

Diphasic planimetry as a method for determining the volumes of cerebral structures. Biul. eksp. biol. i med. 58 no.8:120-123 Ag '64. (MIRA 18:3)

1. Institut mozga (dir. - prof. S.A. Sarkisov) AMN SSSR, Moskva. Submitted June 17, 1963.

KEBAREVA, V. P.

May/June 1948

USSR/Medicine - Endocarditis  
Medicine - Rabbits

"Experimental Endocarditis," V. P. Kebabareva, Moscow,  
Chair of Path Anat, Smolensk Med. Inst, 6 pp

"Arkhiv Patologii" Vol I, No 3

Reports experiments carried out on 83 rabbits. Ani-  
mals were sensitized with four horse-serum injections  
at 5-day intervals. 10-15 days after last injection  
they were compelled to run for 10-15 minutes, where-  
upon a mixture of streptococci and horse-serum was  
injected into ear. 50% developed typical endocarditis.  
However, identical amounts of microbes frequently  
produced completely different forms of endo- and  
myocarditis. Author discusses the reason for this.  
Article is illustrated with microphotographs.

72576

**KESAREVA, V.P., kand.med.nauk**

Report on plenary sessions of the Moscow Society of Pathoanatomists  
in 1953. Arkh.pat. 18 no.4:136-141 '56 (MIRA 11:10)  
(ANATOMY, PATHOLOGICAL--SOCIETIES)

**KESAREVA, V.P., kandidat meditsinskikh nauk**

Plenary sessions of the Moscow Society of Pathoanatomists. Arkh.pat.  
18 no.5:130-135 '56. (MIRA 9:12)  
(ANATOMY, PATHOLOGICAL)

KESAREVA, V.P. (Moskva)

Plenary session of the administration of the All-Union Society of  
Pathoanatomists. Arkh. pat. 22 no. 10:88-89 '60. (MIRA 13:12)

1. Sekretar' Vsesoyuznogo obshchestva patologoanatomov.  
(PATHOANATOMICAL SOCIETIES)



KESAREVA, E. P.

CL

11-7

Effect of cyanide and arsenic salts on nerve muscle preparation. *Ис-Пр-Кесарева* (Med. Inst., Sverdlovsk). *Byull. Eksp. Biol. Med.* 11, 361-4 (1941).-- In frog sciatic-gastrocnemius preps. perfused with Ringer solu., followed by 0.01 M KCN, the sensitivity to interrupted current remained unchanged for as long as 1.5 hrs., after which it rapidly decreased and disappeared after about 2 hrs. With 1-2%  $Na_2AsO_4$  the sensitivity was retained for as long as 4-6 hrs. or longer. The effect is evidently due to alteration of nerve endings, KCN suppressing oxidative processes and  $Na_2AsO_4$ , due to increase of oxidative processes, interfering with this effect of KCN. G. M. K.

AS 4 SEA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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USSR/Human and Animal Physiology (Normal and Pathological).  
Nerve and Muscle Physiology.

T-11

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51185

Author : Kesareva, Ye.P.

Inst : -

Title : The Methods of Myotonography in Man.

Orig Pub : Fiziol. zh. SSSR, 1957, 43, No 8, 801-803.

Abstract : The processes of muscle contractions in man were recorded. A flat, slightly inflated rubber balloon was fixed upon the myogaster under investigation by two strips of adhesive tape. A kymograph was used for recording purposes. This method may be applied to any surface muscle, and it is most convenient when applied to muscles whose antagonists are situated in such a manner that the traction of tensed muscles is not transmitted to the recording balloons. The tension of both muscles of the same name, i.e., on both sides, is recorded, and sometimes the tension of two

Card 1/2

*Chair of Physiology + Chem, Belorussian State Inst Physical Culture*

KESAREVA, Ye.P.

Tonic reflexes in physically trained persons. Trudy Inst. fiziol. AN BSSR  
2:26-34 '58. (MIRA 12:1)

1. Kafedra fiziologii i khimii Belorusskogo gosudarstvennogo ordena  
Trudovogo Krasnogo Znamani instituta fizicheskoy kul'tury.  
(MUSCLE) (REFLEXES)

MAKAROV, P.O., KESAREVA, Ye.P., RAKHMILEVICH, L.S., TROFIMOV, I.G.,

Nikolai Aleksandrovich Iudenich; an obituary. Fiziol.zhur. 44 no.6:606  
Je '58 (MIRA 11:7)

(IUDENICH, NIKOLAI ALEKSANDROVICH, 1900-1958)