

LEV, M.S.
TOPOLYANSKAYA, S.I.; LEV, M.S.; LURINA, Ye.I.; BERENSHTEYN, A.A.;
GERASIMOV, M.A.

Data on immunization against influenza with Zhdanov's living vaccine.
Zhur.mikrobiol.epid. i immun. no.9:16-20 S '54. (MLBA 7:12)

1. Is zdavotdela Pervomaykogo rayona Moskvy (zav. zasluzhennyy vrach
BSPSR D.A.Parfenenko) i sanitarno-epidemiologicheskoy stantsii Per-
vomayskogo rayona (glavnyy vrach O.V.Chishova).

(INFLUENZA, prevention and control,

Russia, mass vacc. with living vaccine)

(VACCINES AND VACCINATION,

influenza, mass vacc. with living vaccine)

TOPOLYANSKAYA, S.I.; PUKHONAREVICH, A.F.; BELOVA, N.D.; GRINBERG, TS.B.;
LEV, M.S.; LEBEDEVA, V.G.; ROGINSKAYA, N.S.

Effectiveness of pertussis vaccinations. Zhur. mikrobiol., epid.
i immun. 40 no.9:18-22 S'63. (MIRA 17:5)

1. Iz Sanitarno-epidemiologicheskoy stantsii Kalinskogo rayona
Mos. vy.

LEV, M. V.

Our Experience in Shoe Material Economy. Leka Promishlenost (Light Industry), #12:33:Dec. 1955

LEV, M.V.

From the practice in the efficient use of fabrics. Leg.prom.
15 no.6:6-9 Je '55. (MIRA 8:8)

1. Glavnyy inshener fabriki imeni Kapranova.
(Shoe industry)

LEV, M.V., inzhener; LYUBICH, M.G., kandidat tekhnicheskikh nauk.

Welt footwear with stretch shaping. Leg. prom. 17 no. 5:17-21
My '57. (MLBA 10:6)

(Shoe industry)

1. E. V. / VI. V.

LYUBCH, A.D., ... tekhnicheskikh nauk,
LYUBCH, A.D., ... nauk, SHUBALOVA, L.I., ...

Having stiff-t... of fabrics. Seg.pron. 17
... (MIRA 1 :)
(... (Plast.cb)

LEV, M.V.; GINSBURG, V.N.

It is necessary to plan for the mechanization of labor.
Kosh.-obuv.prom. no.9:9-13 S '59. (MIRA 13:2)

1. Glavnyy inzhener Moskovskoy obuvnoy fabriki imeni
Kapranova (for Lev). 2. Starshiy inzhener po organizatsii
proizvodstva Moskovskoy obuvnoy fabriki imeni Kapranova (for
Ginsburg).

(Moscow--Shoe manufacture)

~~BY~~, M.V.

Shift specialization at the "Parizhskaia Komuna" Shoe Factory.
Kozh.-obuv.prom. 3 no.11:34-35 H '61. (MIRA 15:1)
(Shoe manufacture) (Assembly-line methods)

LYUBICH, Mikhail Galileyevich, kand. tekhn. nauk; LEV, M.V.,
retsensent; ZUBANOVA, L.P., spots. red.; CHUGREYEVA, V.N.,
red.; TRISHINA, L.A., tekhn. red.

[Hygienic characteristics of footwear and ways of their
improvement]Gigienicheskie svoistva obuvi i puti ikh uluch-
sheniia; iz tsikla leksiia dlia zaochnykh kursov po novoi
tekhnikе i progressivnoi tekhnologii obuvnogo proizvodstva.
Moskva, Rostekhizdat, 1962. 69 p. (MIRA 15:12)
(Shoe manufacture)

LEV, M.V.

Technological and organizational bases for the improvement of
footwear quality. Kozh.-obuy. prom. 6 no.7:4-7 J1 '64.
(MIRA 17:8)

LEV, M.V.

Reviews and bibliography. Kozh.-chuv. prom. 7 no.6:37-38
Je '65. (MIRA 18:8)

ZHUBIN, A.P.; LEVENKO, I.I., LEV, A.V.; ZINCHEN, N.Y.; ARSHAD, M.S.;
AVKSENT'YEV, I.I.

Reviews and bibliography. Kosh.-dov. inzh. 7 no. 431-36 Ag 165.
(MIRA 17:9)

BERNSHTEYN, M. Kh.; YABKO, Ya.M.; ZAYONCHKOVSKIY, A.D.; VISHNEVSKAYA, M.D.;
LEV, M.V.; SIRIS, A.L.; KOCHETKOVA, I.V.; VASIL'YEVA, M. Ye.

Toe-puffs made from thermosetting and thermoplastic polymers.
Kozh.-obuv. prom. 7 no. 10:18-22 0 '65 (MIRA 19:1)

LEV, M.Yu.; GOL'DIS, L.S.

Problem of the transmission of infectious hepatitis (Botkin's disease) in blood transfusion. Probl.gemat. i perel.krovi 2 no.3: 46-50 My-Je '57. (MLRA 10:8)

1. Iz Kurskoy oblastnoy stantsii perelivaniya krovi (dir. L.S. Gol'dis)
(JAUNDICE, HOMOLOGOUS SERUM, case reports (Rus))

AUTHOR: Lev, M. SOV/26-58-1-24/36

TITLE: New Findings in the Aman-Kutan Cave (Novyye nakhodki v peshchere Aman-Kutan)

PERIODICAL: Priroda, 1958, Nr 1, pp 112-113 (USSR)

ABSTRACT: The archeological expeditions of the Uzbek State University discovered many caves, among them the Aman-Kutan Cave at 1,200 - 1,800 m above sea level, where many excavations were made between 1953 and 1955. The animal bones and other relics found under travertine layers point to the fact that early men had lived in this cave. Judging from the stone relics, the period this cave was used by man must be dated back to the Mousterian. Among the recovered items, arms made of quartz with attachments for wooden handles at the edges, are of special interest. The animal relics can be dated back to the Quaternary fauna. The discoveries show that there was a stable climate in the southern mountain - regions of Uzbekistan.

Card 1/2

New Findings in the Aman-Kutan Cave

SOV/26-58-1-24/36

There are 2 photos and 6 references, 5 of which are Soviet and 1 French.

ASSOCIATION: Uzbekskiy gosudarstvennyy universitet im. Alishera Navoy
(Uzbek State University imeni Alisher Navoy)

Card 2/2

LEV, N.M.

Circuit for automatically controlled signaling at railway crossings,
with the use of pedals. Avtom., telem. i sviaz' 2 no.3:17-18 Mr '58.
(MIRA 13:1)

1. Starshiy inzhener Doprroyekta Yugo-Zapadnoy dorogi.
(Railroads--Crossings)

SVIRIDENKO, R.N., inzh.; LEV, N.S., inzhener-ekonomist

I.I.Pudnik's brigade sets the example for work. Transp. stroi.
13 no.6:44-45 Je '63. (MIRA 16:9)

1. Mostostroy No.5 (for Sviridenko). 2. Mostopoyezd No.410 (for
Lev).

(Concrete construction--Formwork)

KUNNOS, G.Ya., kand.tekhn.nauk; LINDENBERG, B.Ya.; LEV, N.Ya.

Fly ash concrete and its use in the Latvian S.S.R. Bet. 1 sbel.-
bet. no.2:73-77 F '61. (MIRA 14:2)
(Latvia—Lightweight concrete)

LĖV, Naum Yakovlevich; POLUBNEVA, V.I., inzh., red.

[Wall blocks made of coarse-pored concrete] Stenovye bloki iz krupnoporistogo betona; opyt stroitel'stva krupnoblochnykh domov v Latviiskoi SSR. Moskva, Gos.isd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1961. 27 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Nachal'nik tekhnicheskogo otdela Ministerstva stroitel'stva Latvyskoy SSR (for Latv.).
(Latvia--Concrete walls)

LEV, Naum Yakovlevich; DYMZA, Ya., red.; BLANKFEL'D, G. [Blankfelds, G.],
red.; AYZUPIYETE, M. [Aizupiete, M.], tekhn. red.

[Large-panel and large-block construction] Krupnopanel'noe i
krupnoblochnoe stroitel'stvo. Riga, Latviiskoe gos. izd-vo
1962. 243 p. (MIRA 15:11)

(Construction industry)

LEV, O.M.

Lower Jurassic ostracods in the Nordvik and Lena-Olenek regions.
Sbor.st.po paleont.1 biostrat. no.12:23-49 '58.

(MIRA 13:4)

(Nordvik region--Ostracoda, Fossil)

(Lena Valley--Ostracoda, Fossil)

(Olenek Valley--Ostracoda, Fossil)

LEV, O.M.

Microfauna of Lower and Middle Jurassic sediments in the Lena-
Olenek area. Sbor.st. po paleont. i biostrat. no.26:35-71 '61.

(MIRA 15:8)

(Lena Valley--Micropaleontology, Stratigraphic)
(Olenek Valley--Micropaleontology, Stratigraphic)

LEV, P. D.

(tsistit) Infalmmation of the bladder, cystitis. Moskva, 1949. 13 p.

DAFM

LEV, P.D;MOCHALOVA, T.P.

Nephrectomy in a case of tuberculosis in the presence of amyloidosis of internal organs. Probl. tuberk., Moskva no.4:64-66 July-Aug. 1950. (CML 20:1)

1. Of Moscow Oblast Scientific-Research Tuberculosis Institute (Director -- Prof. F. V. Shebanov).

Б. В. К. Н.
BOKUNIAYEVA, A.I.; LAYKHTER, B.G.; LEV, R.A.; NEYMAN, V.N.

Degeneration due to aging in the region of the macula lutea. Vest.
oft. 70 no.2:36-39 Mr-Apr '57. (MIRA 10:6)

1. Glaznoye otdeleniye Tsentral'noy polikliniki Ministerstva
zdravookhraneniya SSSR (nauchnyy rukovoditel' prof. Z.A.Kaminskaya)
(RETINA, physiol.
degen. due to aging in region of macula lutea (Rus))
(AGING, eff.
same)

GOSMER, K.P., sanitarnyy vrach; LEV, R.M., sanitarnyy vrach; KOZLOVA, E.A., sanitarnyy vrach.

Experience in the organization of preventive industrial sanitary supervision in the city of Vladimir and its effectiveness.
Gig. sanit. 28 no.2:63-67 '63 (MIRA 17:2)

1. Iz gorodskoy sanitarno-epidemiologicheskoy stantsii goroda Vladimira.

ZHIGALSKAYA, N. S.; 1957, p. 11. 1957, p. 11.

Substrate used for determining the microgram quantity
of aluminum. Study of the tech. inst. inst. prom. (MIRA 1957)
11-129 1957.

21,687
Z/005/60/000/004/004/016
A121/A126

9.7140

AUTHORS: Lev, Štěpán, Starý, František, Vokoun, Karel, Hadraba, Jirí,
Doctor Engineer, and Hradecký, Jirí, Engineer (Prague)

TITLE: None given

PERIODICAL: Vynálezy, no. 4, 1960, 6 - 7

TEXT: (21c, 46/54; Registered July 4, 1959; Patent Application 3935-59)
Memory equipment for the program control of electric circuits, consisting of several concentric series of stable contacts (lamellas) arranged on an annular surface, on which the movable contacts are sliding in a circle; the number of these contacts corresponds to that of the stable contacts. It is characterized as follows: The stable contacts consist of sheet metal contact material (silver, copper or other contact alloys), cemented to the basic annular ring plate made of laminated glass. After cementing, radial grooves are milled and peripheral grooves turned into the plate. The movable contacts, supported by a common frame, consist of a cylindrical toggle made of carbon, bronze or another contact material, which toggle freely in their guide pressed by means of a spring against the stable contacts. The transmission of the current supply to the contacts takes place by a cap, consisting of a ferromagnetic case, an insulating ring and a metallic contact ring; the cap is Card 1/2

24687

None given

Z/005/60/000/004/004/016
A121/A126

movably supported by the guide pin, which is connected by means of a spring to the movable contact and embedded in an insulating case. A flat contact spring rests against the cap, the spring is connected with a current supply. Follow 3 points of patent definition.

Card 2/2

S/194/62/000/006/062/232
D295/D308

AUTHORS: Ley, Stěpan, Starý, František, Vokoun, Karel,
Hadraba, Jiří, and Hradecký, Jiří

TITLE: Memory unit for the programmed switching of electric
circuits

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1962, abstract 6-2-162 n (Czech. Patent, cl.
21c, 46/54, no. 97376, 15.11.1960)

TEXT: An electromechanical memory unit for the programmed switch-
ing of electric circuits is patented. An electromagnetic selector
accomplishes successive switching of finger contacts according to
a program set up in the circular panel. The construction of the
program mechanism provides for the use of several selectors (one
for each concentric series of switches) which secures a compara-
tively high operation speed. [Abstracter's note: Complete transla-
tion.] ✓

Card 1/1

LYSVIEN, G.I., trans.; FAIADAYEV, P.P., inzh.; ISS, S.I., inzh.

Review of I.P. Kuptsov and Ju.R. Laitola book "Construction and
design of thermal electric power plants." idea. svz., 36 no 1:91
Ja 195. (MIRA 18:2)

S/169/62/000/005/021/093
D228/D307

AUTHOR: Lev, S. I.

TITLE: Means of approximately estimating the depth of a refracting horizon from a transverse hodograph

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1962, 27, abstract 5A211 (V sb. Razved. i promysl. geofiz., no. 41, M., 1961, 38-42)

TEXT: For a horizontal boundary the magnitude of t_0 , characterizing its depth, and the boundary velocity are determined from several pairs of points on the observed hodograph by means of elementary formulas. When the main boundary (like the roof of the crystalline basement) and the refracting horizon in the covering medium have a conformable and inclined mode of occurrence, it is possible to find the depths of both boundaries and the limiting velocity along the upper boundary if the limiting speed along the lower boundary is known. For this a differential transverse hodograph is processed by the same method of selected points. An example of
Card 1/2

Means of approximately ...

S/169/62/000/005/021/093
D228/D307

the interpretation of field data is quoted. [^Abstracter's note:
Complete translation.]



Card 2/2

LEV, V K.

10(2) PHASE I BOOK EXPLOITATION SOV/1308

Kirillov, Ivan Ivanovich, Rakhmiyel' Mordukhovich Yablonik, Lev Vasil'yevich Kartsev, Ivan Grigor'yevich Gogolev, Ryurik Vladimirovich Kuz'michev, Gennadiy Ivanovich Khutskiy, Rostislav Ivanovich D'yakonov, Viktor Dmitriyevich Pshenichnyy, and Aleksandr Aleksandrovich Tereshkov

Aerodinamika protochnoy chasti parovykh i gazovykh turbin (Aerodynamics of Steam and Gas Turbine Flow-Passage Areas) Moscow, Mashgiz, 1958. 246 p. 4,500 copies printed.

Ed.: Kirillov, I.I., Professor, Bryansk Institut of Transport Machine Building; Reviewer: Shubenko, L.A., Corresponding Member, USSR Academy of Sciences; Tech. Ed.: Gerasimova, D.S.; Managing Ed. for Literature on General Technical and Transport Machine Building (Mashgiz): Ponomareva, K.A., Engineer.

PURPOSE: This book was written for engineers working on the design,

Card 1/6

Aerodynamics of Steam and Gas Turbine Flow-Passage Areas SOV/1308

manufacture and operation of steam and gas turbines. It may also be useful to students of special courses.

COVERAGE: The authors analyze physical phenomena connected with flow through the stages of impulse steam and gas turbines. They give the results of experimental investigation of stages with full and partial supply of the working medium. The basic results obtained are for high - and medium-powered turbines. Results of the investigation of a new low-powered turbine are also given. Practical recommendations for the design of the flow passage area of steam and gas turbines are given, based on the investigation of effect of various design measures on the efficiency coefficient of stages. The investigation was made in the BITM (Bryansk Institute of Transport Machinery Building). The following sections were written by members of the Chair of Turbine Construction of the BITM: Professor I.I. Kirillov, Docent, Candidate of Technical Sciences, paragraphs 1, 2, 13, 16; Docent

Card 2/6

Aerodynamics of Steam and Gas Turbine Flow-Passage Areas SOV/1308

R.M. Yablonik, Candidate of Technical Sciences, paragraph 9; I.I. Kirillov and R.M. Yablonik, paragraphs 3,4, 5; L.V. Kartsev, Candidate of Technical Sciences, paragraphs 6,7, 19; L.V. Gogolev, Candidate of Technical Sciences, paragraphs 10, 11; R.V. Kuz'michev, Candidate of Technical Sciences, paragraph 8; G.I. Khutskiy, Candidate of Technical Science, paragraphs 12, 14, 15; R.I. D'yakonov, paragraph 17; V.D. Pshenichnyy, Engineer of the Kirov Plant, paragraph 18; A.A. Tereshkov, Engineer of BITM, paragraph 20. The Leningrad Metal Plant, Khar'kov Turbine Plant, Kabush Turbine Plant and Leningrad-Kirov Plant contributed to the development of experimental work on turbines for BITM. The bibliography consists of 23 references, 22 of which are Soviet, and 1 is German.

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Aerodynamics of Steam and Gas Turbine Flow-Passage Areas SOV/1308

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LEV, V S

S/122/61/000/012/001/008
D221/D303

AUTHORS: Bulovskiy, N.N., Candidate of Technical Sciences,
Docent, Lev, V.S., and Kogan, G.M., Engineers

TITLE: New transducer designs for measuring pressure in an
oil layer of a fluid friction bearing

PERIODICAL: Vestnik mashinostroyeniya, no. 12, 1961, 22 - 26

TEXT: The authors describe new pressure transducers used during investigation of heavy loaded bearings, where the oil film was only 2 - 3 μ thick. The following prerequisites were found indispensable to ensure the accuracy of readings: The assembly of the transducer should not interfere with the friction surface, or reduce the rigidity of the shaft, it must also be simple and easy to replace. The measuring area must be small, but the sensitivity high. It must have linear characteristics (together with its amplifier and oscillograph). The calibration of the system should approach actual working conditions, and hold it during the process of measurement. Application of electric erosion permits the forma-

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New transducer designs for ...

S/122/61/000/M2/001/008
D221/D303

tion of diaphragms with the required thickness on the surface of the heat treated shaft, and with a diameter of 5 - 8 mm. The piezo-electric transducer uses a spring loaded ceramic element of metaniobate of barium or lead, whereas the strain gauge employs a teread-
ed probe made of 60 C/A (60 SGA) steel. The first transducer has a greater sensitivity and stiffness, but is somewhat more involved. The diaphragm is supported by the transducer and thus decreases errors of readings, because the deformation depends upon the rigidity of the transducer, diaphragm and the joints. The small size of contact area allows 0.08 - 0.16 of the distributed load to be considered as a concentrated force acting on the diaphragm. The results of experimental measurements of deformation of the center in the latter are plotted. In the case of 8 mm diameter diaphragm, 1.5 mm thick and supported by the transducer, this deflection was below 1 - 2 μ with a distributed load of 500 kg/cm². There is, however, a shift in the surface layers of the shaft due to the distributed pressure of oil film in the bearing. In practice they are compensated by the displacement of the diaphragm center. The thin diaphragms are not expedient. The great sensitivity of piezo mate-

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S/122/61/000/012/001/008
D221/D303

New transducer designs for ...

rials balances the losses due to thick diaphragms. The available data recommend a thickness of 0.8 - 1.5 mm for diameters of 5 - 8 mm. Recently, use has been made of such materials as stannates, titanates and niobates of lead and barium which possess stable characteristics within a wide range of temperature. The piezo effect is determined by the piezo-modulus d_{33} . Tests were carried out to establish these properties. The experiments proved that the piezo-electric constant of solid solution of metaniobate of barium in metaniobate of lead does not vary between 20 and 120°C, and is 40 times higher than the constant of quartz. The high piezo-effect of this material, its mechanical strength and large modulus of elasticity permit the construction of highly sensitive pressure transducers. The calibration jig consisted of an oil pump, manometer and a clamp, fixed on the shaft opposite to the transducer. As the Curie temperature point of the above piezo material is about 350°C, it is possible to consider a higher operating temperature for testing fluid friction bearings. A description is given of the test stand and oscillograms are quoted indicating the results of investigations. The latter confirmed the adequacy of the proposed arrangement.

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New transducer designs for ...

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D221/D303

gements for investigating the oil film at high loads and speeds.
There are 8 figures, 1 table and 6 Soviet-bloc references.



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69357

SOV/123-59-19-78703

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 19, pp 121 - 122

(USSR)

18 5200
AUTHOR:

Lev, V.S.

TITLE:

Ways of Increasing the Efficiency of Electric Spark Treatment of Hard Alloys

PERIODICAL:

V sb.: Elektr. i ul'trazvuk. metody obrabotki materialov, Leningrad, Lenizdat, 1958, pp 26 - 37

ABSTRACT:

The author points out that electric pulse generators applied for electric spark treatment are divided into relaxation and independent ones. When the generators are operating under rough conditions, a net of micro-fissures is formed on the treated hard alloy. Besides, relaxation generators are uneconomic. The electric spark laboratory of the Lenkarz plant constructed a high-power generator of 10 microsecond pulses, which makes it possible to increase considerably the efficiency in treating hard alloys. The block diagram of the installation is given as well as data on the selection of its parameters. When testing a circuit based on the LKZ-181 electric spark machine a frequency of 1,000 to 1,700 cycles was obtained,

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69357

SOV/123-59-19-78703

Ways of Increasing the Efficiency of Electric Spark Treatment of Hard Alloys

while the output at the 6th class of surface finishing amounted to 1 g/min. Moreover a two-cycle circuit has been developed which makes it possible almost to double the efficiency at the same class of finish. It can be assumed that the application of 3 - 6-phase circuits will increase the efficiency up to 2.5 - 5 g/min of hard alloy. Eight figures.

B.I.A.

Card 2/2

LEV, V.S.

PHASE I BOOK EXPLOITATION SOV/3901

Novoye v elektricheskoy i ul'trazvukovoy obrabotke materialov (New Developments in Electrical and Ultrasonic Machining of Materials) [Leningrad], Lenizdat, 1959. 281 p. 5,000 copies printed.

Ed. (title page): L.Ya. Popilov; Ed. (inside book): S.I. Borshchevskaya; Tech. Ed.: P.S. Smirnov.

PURPOSE: This book is intended for technical personnel and production workers.

COVERAGE: This is a collection of 20 articles presented at the Third All-Union Conference of the Scientific and Technical Society of the Machine Industry on Electrical and Ultrasonic Machining of Metals, held in Leningrad. The articles deal with the latest achievements in the field of electrical and ultrasonic machining of metals. New methods of machining presently being developed are described. References follow several of the articles.

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LEVINSON, Yevgeniy Maksimovich; LEV, Vladimir Saulovich;
POPILOV, L.Ya., red.; KUREPINA, G.N., red. izd-va;
POL'SKAYA, R.G., tekhn. red.

[Electric spark machining of metals] Obrabotka metallov
impul'sami elektricheskogo toka. Pod obshchei red. L.IA.
Popilova. Moskva, Mashgiz, 1961. 92 p. (Bibliotekha elektro-
tehnologa i ul'trazvukovika, no.2) (MIRA 15:5)
(Electric metal cutting)

L 51476-65 EWP(k)/ENT(d)/EWT(m)/EWP(h)/EWI(b)/EWA(d)/EWP(l)/EWP(v)/EWP(t) Pf-4

JD

AM5012940

BOOK EXPLOITATION

S/

27

28

B-1

Levinson, Ye. M.; Iev, V. S.

Electrospark-machining equipment (Elektroerozionnoye oborudovaniye) Moscow-Lenin-grad, Izd-vo "Mashinostroyeniye", 1965. 295 p. illus., biblio. 4000 copies printed. Reviewer: Docent I. G. Kosmachev; Editors of the publishing house: Engineer L. I. Vozhik, G. N. Kurepina; Technical editor: O. V. Speranskaya; Proofreader: N. S. Dvoretzkaya

TOPIC TAGS: electrospark machining, electrospark machine tools

PURPOSE AND COVERAGE: This book was intended for engineering and technical personnel and for designers and technologists at machine-building enterprises. The construction of electrospark machine tools for different types of machining (punching holes and recesses, grinding, profile cutting) and also their basic mechanical and electrical units are analyzed. The processes of electrospark machining are clarified, including the generation of current pulses. Handbook data are presented concerning industrial machines of this type. The fundamental designers of this type of equipment are mentioned as B. R. Lazarenko and N. I.

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L 51176-65

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AM5012940

Lazarenko. The authors thank the collective at the experimental and design section of electrospark machining at the Leningradskiy Karbyratornyy Zavod im. V. V. Kuybysheva for assistance in the preparation of the book.

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L 51176-65

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SUB CODE: KM

SUBMITTED: 3Dec64

NR REF SOV: 052

OTHER: 002

Card 3/3 *114*

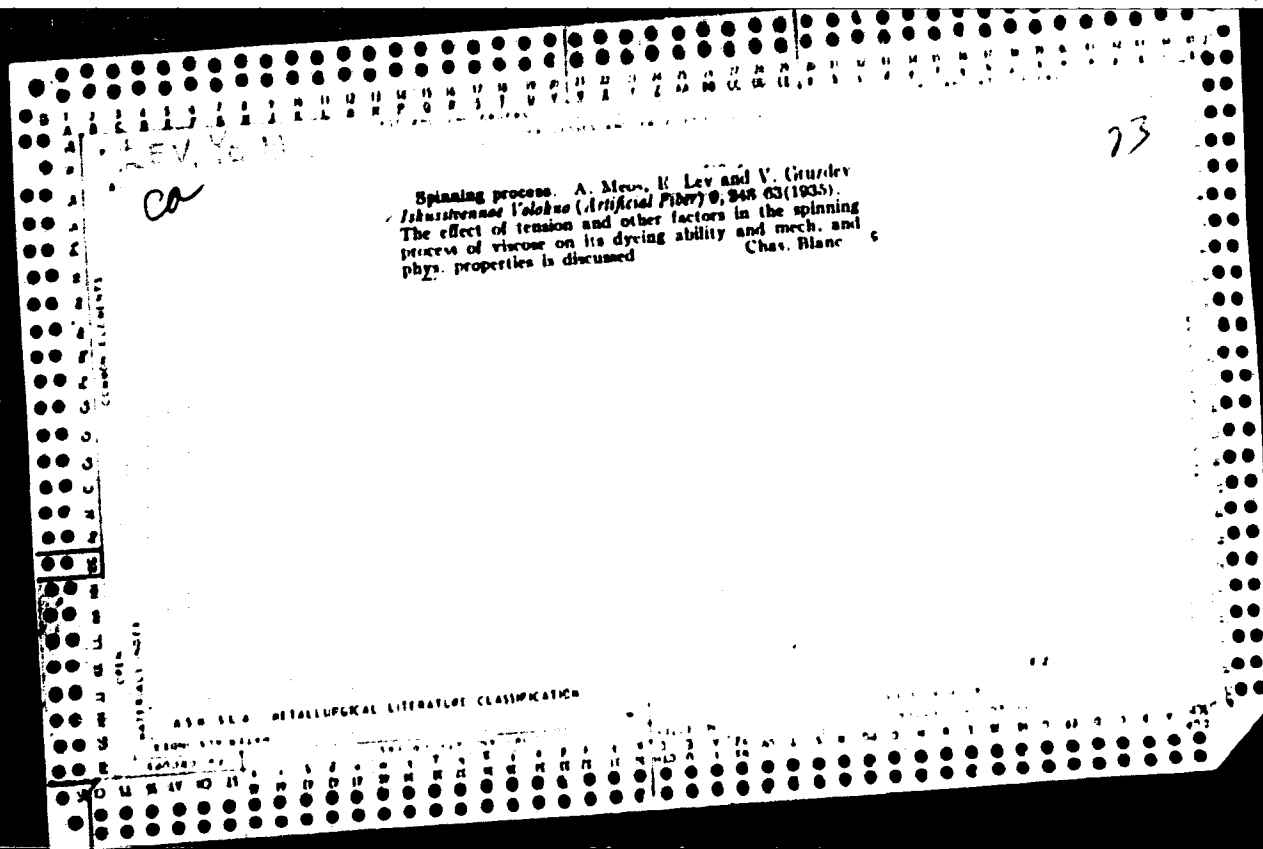
LEV, V. T. Cand Agr Sci -- (diss) "Basic cultivation of meadow-and-swamp soils under gambo hemp." Tashkent, 1959. 21 pp (Uzbek Acad Agr Sci. Tashkent Agr Inst), 150 copies (KL, 52-59, 123)

LEV, Vasilii Tarasovich; PAK, Susan; BOYKO, A.N., red.; SOROKINA, Z.I.,
tekh. red.

[Practices in obtaining high bast-fiber crops on the
Sverdlov Collective Farm in the Verkhne-Chirchik District
of Tashkent Province] Opyt polucheniia vysokogo urozhaia
lubianykh kul'tur v kolhoze im. Sverdlova Verkhne-
chirchikskogo raiona Tashkentskoi oblasti. Tashkent, M-vo
sel'skogo khoziaistva UzSSR, 1962. 34 p. (MIRA 17:2)

LEV, Ya.; KASHPUR, A.; YAKOVLEV, Yu.

~~Organize accounting for surpluses and deficiencies correctly.~~
Budg. uchet 15 no.5:25-27 My '58. (MIRA 11:5)
(Accounting) (Larceny)



25

ca

Relation between water resistance and water repellancy of viscose fibers. E. Ley and Z. Rogovin. *Tekstil' Prom 5*, No. 11, 12, 45 (1975). Viscose fabrics treated with (a) urea-CH₂O resin in combination with Al salts, (b) 1% soln. of polyvinyl acetate, (c) 4% soln. of poly-methyl methacrylate, (d) soln. of Velan, were submerged in H₂O and the time required for max. elongation was det'd. The treated fabrics required 6-10 times as long as the untreated. The elongation of the variously treated fabrics at equil. was practically the same. No relation was found between water repellancy and water resistance (retention of strength when wet). M. Hirsch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SIGN BOARD

L. E. V., E. M.

CH ✓ Preparation of a strong viscose silk of a high denier.
N. V. Mikhailov and E. M. Lev. *Tekstil. Prom.* 10, No.
10, 12-14(1960).—The centrifugal method of spinning for
prepg. a strong viscose (I) with high denier and tenacity is
discussed in detail. *Ibid.* No. 11, 21-2(1960).—The manuf.
of I with a denier of 112.5-150 by centrifugal method is
described. Rilsabeth Barabash

①

KAL'BERG, E.A.; LEVANDO, Ye.P.

Rocks containing analcite and zeolites from the Northern-Omega bauxite deposit. Dokl. AN SSSR 142 no.4:919-921 F '62.

(MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut i Severo-Zapadnoye geologicheskoye upravleniye. Predstavleno akademikom D.V.Nalivkinym.

(Omega Lake region—Bauxite)

(Analcite)

(Zeolites)

LEV, Ye.S., kandidat tekhnicheskikh nauk; PETROV, B.A.; BRUK, M.V.

Detection of defects in metals in ship repairing yards. Rech.
transp. 14 no.7:27-29 J1 '55. (MIRA 8:10)
(Metals--Defects) (Magnetic testing)

LEV, Ye. S.,

"Filtration of a Gas Through a Layer of Free-flowing Material (State of the Problem), p. 241, Aerodynamic and Heat Transfer Problems in Boiler and Furnace Processes; A Collection of Articles, Moscow, Gosenergoizdat, Moscow, 1958. 329 p.

Purpose: The book is intended for engineers and combustion specialists concerned with the design and operation of heating equipment and it is also for scientific workers and students of vtuzes.

"Aerodynamic Resistance of a Layer of Crushed Material, p. 298.

68270

SOV/81-59-10-35105

10.3000

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 253 (USSR)

AUTHOR: Lev, Ye.S.TITLE: The Aerodynamic Resistance of a Layer of Granulated Material

PERIODICAL: V sb.: Vopr. aerodinamiki i teploperedachi v kotel'no-topochn. protsesakh. Moscow - Leningrad, Gosenergoizdat, 1958, pp 298-312

ABSTRACT: Experiments were carried out in a 600-mm high column with a cross section of 150 x 150 mm with blowing of air through layers of anthracite and cork particles as well as proso millet and mustard seeds with a size of 1.6 - 10.4 mm; the characteristic of the layers: height 40 - 200 mm, apparent specific gravity 327 - 1.580 kg/m³; porosity 0.396 - 0.70. In the experiments Re varied within the range of 2 - 2.400. It has been established that with an increase in the air speed beyond a certain value (resistance limit) the change of the layer resistance ceases to obey the quadrate law. The concept of the criterion of resistance has been introduced, at which the layer stability is perturbed: $Y_{st} = (\Delta p_{lim} + h_{dyn. lim.}) / (H_{lay} \gamma_{sat})$,
 Card 1/2 where Δp_{lim} is the hydraulic resistance of the layer, $h_{dyn. lim.}$ is the

PHASE I BOOK EXPLOITATION

80V/3994

Lev, Yevgeniy Semenovich, Candidate of Technical Sciences, and Marlen Vladimirovich Bruk, Engineer

Primeneniye radioaktivnykh izotopov dlya kontrolya kachestva svarynykh shvov stali malykh tolshchin (Using Radioactive Isotopes For Quality Control of Welded Joints Between Thin Steel Sheets) Leningrad, 1959. 40 p. (Series: Leningradskiy dom nauchno-tekhnicheskoy propagandy. Obmen peredovym opytom. Seriya: Kontrol' kachestva produktsii, vyp. 12/13). 6,500 copies printed.

Sponsoring Agencies: Leningradskiy dom nauchno-tekhnicheskoy propagandy; Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSPSR.

Ed.: S. T. Tyumeneva, Engineer; Tech. Ed.: V. L. Gvirtz.

PURPOSE: This booklet is intended for metallurgists, skilled metalworkers, physicists, structural engineers, and other persons interested in the strength of materials.

Card 1/3

Using Radioactive Isotopes (Cont.)

SOV/3994

COVERAGE: The booklet examines the technical possibility and economic expediency of using soft and medium gamma radiation in the quality control of welded joints between steel sheets 1-15 mm thick. Methods, materials, and technical data are reviewed. The data were compiled by personnel of the LIVT Defectoscopy Laboratory to establish criteria for selecting suitable gamma radiation sources to replace less convenient (and often inaccessible) x-ray equipment. No personalities are mentioned. There are 16 figures, 19 tables, and 45 references: 40 Soviet, and 5 English.

TABLE OF CONTENTS:

Introduction	3
I. Fundamentals and Preliminary Choice of Isotopes for Gamma-Radiography	4
Sensitivity of control	4
The energy spectrum of radiation	6
Characteristics of radioactive isotopes	9
II. Determination of Technical Parameters for Gamma-Radiography	14
Activity of gamma-radiation sources	14
The range of [gamma-] translucent thicknesses	20
Sensitivity of a gammagraph	21

Card 2/3

GUSEV, Mikhail Nikolayevich, prepodavatel'; ZILIST, Petr Sigizmundovich, prepodavatel'; LEV, Yevgeniy Semenovich, prepodavatel'; LOPTYREV, Nikolay Kirillovich, prepodavatel'; MARDENSKIY, Vladimir Prokop'yevich, prepodavatel'; NEMKOV, Petr Petrovich, prepodavatel'; NIKITIN, Gennadiy Mikhaylovich, prepodavatel'; SHELUCHENKO, V.M., dotsent, kand.tekhn.nauk, retsenzent; BELOV, N.M., inzh., retsenzent; GOLOVANOV, N.V., red.; VOLCHOK, K.M., tekhn.red.

[Technology of marine engineering and ship repairs] Tekhnologiya sudovogo mashinostroeniya i sudoremonta. Pod obshchei red. M.N. Guseva. Leningrad, Izd-vo "Rechnoi transport," Leningr.otd-nie. Pt.2. [Technology of ship repairs] Tekhnologiya sudoremonta. 1960. 470 p. (MIRA 13:4)

1. Kafedra tekhnologii sudostroyeniya i sudoremonta Leningradskogo instituta vodnogo transporta (for Gusev, Zilist, Lev, Lopyrev, Mardenskiy, Nemkov, Nikitin).
(Ships--Maintenance and repair)

S/032/60/026/011/034/035
B015/B066

AUTHORS: Lev, Ye. S. and Bruk. M. V.

TITLE: Technical-economic Foundation of an Effective Application of Isotopes With Soft Radiation for the Quality Control of Weld Seams 14

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11, pp. 1320-1322 ✓

TEXT: The authors calculated the efficiency and the prime cost in the quality control by means of gamma-radiography by using the following isotopes: Se⁷⁵, Te¹²⁷, Eu¹⁵⁵, Tu¹⁷⁰, Ir¹⁹², Co⁶⁰ as well as X-rays. The efficiency depends on the time which is required for the preparative work and the control work itself (Table 3). The valuation of efficiency and the calculation of the costs of gamma-radiography with the above isotopes made by the authors, as well as practical work led to the conclusion that for thicknesses of 1 - 15 mm the best results are obtained with Eu¹⁵⁵, that

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Technical-economic Foundation of an
Effective Application of Isotopes With Soft
Radiation for the Quality Control of Weld Seams

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B015/B066

however, this isotope is still rather expensive. The isotopes Tu^{170} and Te^{127} have the disadvantage of a short lifetime, but may be recommended for measurements. The gamma-radiographs obtained with Se^{75} are less sensitive than those of the former isotopes. Ir^{192} may be used instead of Se^{75} and for thicknesses of 8-20 mm qualitatively good radiographs are obtained. Here, the sensitivity is 2.5 - 3% and the radiograph is 2.5 to 3.5 times less expensive than that with Se^{75} . For thicknesses of 1 - 5 mm the sensitivity obtained with Ir^{192} is too low and the radiation source has a comparatively short lifetime. The use of the isotopes according to Table 5 is recommended to obtain the maximum sensitivity with different thicknesses of the material. There are 5 tables and 1 Soviet reference. ✓

ASSOCIATION: Leningradskiy institut vodnogo transporta (Leningrad
Institute of Water Transportation)

Card 2/3

LEV, Yu., shturman

Determining the most probable position of the ship from
three radio bearings taking into consideration the power
of radio beacons and their distance from the ship. Mor.
flot 24 no.2:22-23 F '64. (MIRA 18:12)

LEV, Ye. Ya.

57-12-3/19

AUTHORS: Mazurin, O. V., Pavlova, G. A.,
Lev, Ye. Ya., Leko, Ye. K.

TITLE: An Investigation of Silicate Glasses with Electronic
Conductivity (Silikatnyye stekla s elektronnoy provodimostyu)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 12, pp. 2702
-2703 (USSR)

ABSTRACT: In the investigations of alkali-free silicate glass
conducted here special regard was given to the anomalously
high electric conductivity of glass with iron oxydes. The
electric conductivity of such glass proved to be higher
than that of analogous glass, which contained a
corresponding amount of sodium oxyde instead of iron oxyde.
The measurements were conducted with graphite electrodes
according to the usual method (reference 7). The character
of the conductivity was determined according to the "Tuband-
method". Three glass samples, anode, a medium (control) and
cathode samples were carefully ground to fit together and
mounted between metal disks. A constant voltage was applied
to the disks. A measured amount of current was passed through

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An Investigation of Silicate Glasses with Electronic Conductivity.

57-12-3/19

the samples (at about 6000 C), which beforehand were weighed. A judgement can be given on the character of the conductivity by means of the change in weight. The results showed, that in the glass under investigation a practically pure electronic conductivity (experimental error $1 \pm 2\%$) is met with, the magnitude of which is strongly dependent on the Fe_2O_3 content and on the composition of the glass. It is shown, that although the glass sample no. 2 contained only 5% of Fe_2O_3 it displayed a pure electron conductivity. From this it appears, that the lattice of amorphous boron-aluminium silicate represents no insurmountable obstacle for the electrons. (Glass sample number 2: 45 molar percent of SiO_2 , 10 molar percent B_2O_3 , 10 molar percent of Al_2O_3 , 30 molar percent of CaO , 5 molar percent of Fe_2O_3). It is conjectured, that probably, a partial or total electron conductivity is also characteristic for many silicate and borate glass types free from alkaline contents with a high resistance. There are 1 figure, 2 tables, and 12 references, 7 of which are Slavic.

Card 2/3

An Investigation of Silicate Glasses with Electronic
Conductivity.

57-12-3/19

ASSOCIATION: Leningrad Institute of Technology imeni Lensovet
(Leningradskiy tekhnologicheskij inst. im. Lensoveta).

SUBMITTED: April 24, 1957.

AVAILABLE: Library of Congress

Card 3/3

S/139/60/000/03/007/045

E140/E335

18.Ya.

AUTHORS:

Mazurin, O.V. and Lev, Ie.Ya.

TITLE:

The Influence of Alkali-metal Oxide Additions on the
Electrical Properties of Alkali-free Glasses

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Fizika,
1960, No 3, pp 43 - 51 (USSR)

ABSTRACT:

This is a continuation of earlier work (Ref 1) - a study of alkali-free glasses - in which the effect of aluminium oxide on the electrical properties was investigated. It is important to know the effect of alkali-metal impurities in these glasses to estimate the required purity of the raw materials and the possibility of deliberate inclusions of alkali-metal oxide in the recipe to reduce the smelting temperature of the glass and improve its properties (mechanical, thermal, etc). A study of the literature (Refs 1-10) gives a basis for assuming a special form of interaction of lead silicates with alkali oxides leading to an increased electrical resistance.

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Electrical resistance of the glasses studied was measured by the method described in an earlier paper (Ref 11). ↙

S/139/60/000/03/007/045

E140/E335

The Influence of Alkali-metal Oxide Additions on the Electrical Properties of Alkali-free Glasses

It was found that borate glasses always have higher resistance than silicate, while borosilicates are intermediate. Introduction of aluminium into alkali-free glasses increases their resistance but the opposite effect occurs with borate glasses. A calcium-borate glass had the highest resistance, appreciably exceeding that of fused quartz. Up to about 5-8 mol.% the addition of alkali-metal oxides has practically no effect on the resistance, after which the resistance drops rapidly. It is assumed that at low concentrations the conduction mechanism remains that of alkali-free glass, while above the critical concentration the conduction mechanism is that of alkali-glass. There are 3 figures, 1 table and 20 references, 15 of which are Soviet and 5 English.

ASSOCIATION: Leningradskiy tekhnologicheskij institut imeni Lensoveta (Leningrad Technological Institute imeni Lensoveta)

SUBMITTED: April 10, 1959
Card2/2

20790

S/19/61/003/003/015/030
B102/B20526.2532
AUTHORS:

Brach, B. Ya., Zhdanova, V. V., and Lev, Ye. Ya.

TITLE:

Thermoelectric properties of the system HgSe - HgTe

PERIODICAL:

Fizika tverdogo tela, v. 3, no. 3, 1961, 786-789

TEXT: The system HgSe - HgTe, which has very interesting thermoelectric properties, has so far been investigated very insufficiently, and the published data are contradictory because the system probably contained also free Hg. A very detailed study has now been made of the thermoelectric properties of very carefully prepared samples which contained no unreacted Hg any longer. Hg of the type P-1 (R-1) with a purity of 99.999%, Se with a purity of 99.999% produced by the factory "Krasnyy khimik", and bidistilled Te were used for the synthesis. The latter contained Al and Pb impurities which had been detected by spectrum analysis. The pure elements were fused in quartz ampoules (HgTe-660°C, HgSe-790°C). To obtain a complete reaction, the melts were kept at 500°C for 100 hr, after which no free Hg was found any longer. Specimens of a size of 0.8 - 0.9 cm² · 25 mm were subjected to a homogenizing heat treatment (200°C, 200 - 300 hours). Subsequently, they

Card 1/5

S/181/51/003/003/015/010
 20750
 B102/B205

Thermoelectric properties ...

were subjected to X-ray and microstructural analyses. The electrical conductivity σ , the thermo-emf α , and the Hall constant R of these specimens at room temperature were measured. Results: A study of the dependence of σ on the composition of the system has shown that σ has a broad maximum at a concentration of 50:50. α was found to be a linear function of the concentration; it changes from $-95 \mu\text{V}/^\circ\text{C}$ (HgSe) to $-115 \mu\text{V}/^\circ\text{C}$ (HgTe). This low value of α indicates either a nearly stoichiometric composition or degeneracy. A study of the deviation of the curve $\alpha = f(\log n)$ from the theoretical one shows that there exists a partial degeneracy. Taking the latter into account, the authors calculated the carrier concentration (n) from the Hall constant. Fig. 4 illustrates the dependence of carrier concentration and carrier mobility (u) on the composition. u had been calculated from R and σ . Whereas n is almost equal for both pure HgSe and pure HgTe, u is 20,000 for pure HgSe, and 22,900 $\text{cm}^2/\text{v}\cdot\text{sec}$ for pure HgTe. The absence of a λ -point is indicative of the absence of a hyperstructure. Many specimens which had not been subjected to heat treatment, showed anomalously high values of u (at $n \sim 3.1 - 3.9 \cdot 10^{17} \text{cm}^{-3}$): 28,000 $\text{cm}^2/\text{v}\cdot\text{sec}$ for 93% HgSe + 7% HgTe, 31,000 $\text{cm}^2/\text{v}\cdot\text{sec}$ for 80% HgSe + 20% HgTe, 32,000 $\text{cm}^2/\text{v}\cdot\text{sec}$ for 30% HgSe + 70% HgTe. Fig. 5 shows $u = f(\log n)$ for specimens of different compositions.

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20790

S/181/61/003/003/015/030
B102/B205

Thermoelectric properties ...

The anomalous course of curves 2 and 5 can be ascribed either to a nearly stoichiometric composition or to the effect of impurities. It is known that the effective carrier masses for HgSe and HgTe are very small. The values calculated for different compositions (1) in mole% are listed in a table. The authors thank A. R. Regel' for his interest in the work, and L. S. Stil'bans and B. P. Mitrenin for discussions. Ye. I. Nikol'skaya is mentioned. A. I. Zaslavskiy and T. B. Zhukova carried out the X-ray structural analyses. There are 5 figures, 1 table, and 17 references: 10 Soviet-bloc and 7 non-Soviet-bloc.

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

SUBMITTED: July 8, 1960

Card 3/5

KOLOMOYETS, N.V.; LEV, Ye.Ya.; SYSOYEVA, L.M.

Nature of current carriers in GeTe. Fiz. tver. tela 5 no.10:
2871-2876 0 '63. (MIRA 16:11)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ACCESSION NR: AP4019827

8/0181/64/006/003/0706/0713

AUTHORS: Kolomojets, N. V.; Lev, Ye. Ya.; Sywscyeva, L. M.

TITLE: Electrical properties and a model of the valence band of germanium telluride

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 706-713

TOPIC TAGS: density state, semiconductor band structure, Fermi level, semiconductor carrier, impurity concentration

ABSTRACT: The authors have noted anomalies in the concentration and temperature dependence of the basic electrical properties (thermoelectromotive force, Hall concentration, mobility, and electrical conductivity) of GeTe. On the basis of a single-band model, the anomalies may be associated with changes in effective mass with state and temperature. But the authors suggest a more likely model, reflecting the complex structure of the valence band. This model consists of two subzones within the band, displaced relative to each other, and having different density states. The scheme of this model is illustrated in Fig. 1 on the Enclosure. On the basis of this model it is easy to explain quantitatively the

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ACCESSION NR: APL4019827

anomalies indicated. The first segment, in which the electrical properties have normal dependence on state, corresponds to the Fermi level in subzone 1, when carriers of but a single kind participate in current transfer. The second segment corresponds to a position of the Fermi level when high-mobility holes are accompanied by low-mobility holes from subzone 2, which has a high density state. A change in Te content in this region is accompanied by a change in concentrations of high-mobility and low-mobility holes, and this is manifested in the anomalous dependence of electrical properties on state. Quantitative determinations of the basic parameters of the subzones appear reasonable. Orig. art. has: 6 figures and 6 formulas.

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

SUBMITTED: 29Jul63

DATE ACQ: 31Mar64

ENCL: 01

SUB CODE: EO, 88

NO REF SOV: 001

OTHER: 003

Card 2/3

ANDREYEV, A.P.: 1959, 1960, 1961, 1962, 1963, 1964, 1965.

Effect of high pressure on the electric properties of germanium
telluride. Fiz. Tverd. Tela 7 no. 1:654-658 P 165.

(MIRA 18:8)

R. Institut poluprovodnikov AN SSSR, Leningrad.

L 2203-66 EWT(1)/EWT(m)/ETC/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) LJP(c) RHM/JD/AT
ACCESSION NR: AP5017328 UR/01B1/65/001/007/2223/2226

AUTHOR: Sysoyeva, L. M.; Lev, Ye. Ya.; Kolomojets, N. V. 7 44

TITLE: On the energy spectrum of the carriers in germanium telluride 70
69
B

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2223-2226 71 55

TOPIC TAGS: forbidden band, spectral energy distribution, electric conductivity, Hall effect, germanium compound, telluride

ABSTRACT: This is a continuation of earlier work by the authors on the electric properties of germanium telluride (FTT v. 6, 706, 1964). In the present investigation, both polycrystalline and single-crystal samples were studied, and the concentration interval was broadened from 1.8×10^{20} to $1.8 \times 10^{21} \text{ cm}^{-3}$. Plots were obtained for the Hall carrier density against the concentration of the introduced copper atoms, and of the thermal emf against the Hall carrier density. The fact that the electric properties exhibited a clear-cut dependence on the concentration has made it possible to calculate more accurately the parameters of the subbands at room temperature, namely: the energy gap between the subbands $\Delta E = (0.23 \pm 0.05) \text{ eV}$, the effective mass of the heavy holes $m^*_h = (4.0 \pm 0.5)m_0$, and the effective mass of the light holes $m^*_l = 1.15m_0$. The temperature variations of the various electric parameters are discussed. The fact that the thermal emf decreases at

Card 1/2

L 2203-66
ACCESSION NR: AP5017328

3

high temperatures while the electric and thermal conductivity increase indicates that carriers of opposite sign appear. The use of samples with lower carrier density has made it possible to determine more accurately the width of the forbidden band, namely 0.27 : 0.03 eV at absolute zero, for four concentrations in the interval 1.8 to $6.3 \times 10^{20} \text{ cm}^{-3}$. Orig. art. has: 2 figures and 2 formulas.

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

SUBMITTED: 01Dec64

ENCL: 00

SUB CODE: 88

NR REF SCV: 002

OTHER: 004

Card 2/2 DP

L 8164-66 EWT(1)/EWT(a)/ETC/EWG(m)/EWP(b)/EWP(t) IJP(c) RDW/JD
ACCESSION NR: AP5019892 UR/0181/65/007/008/2558/2559

AUTHOR: Andreyev, A. A. Sysoyeva, L. M.; Lev, Ye. Ya. 47
44 55 77 55 77 55 66 B

TITLE: Temperature dependence of the Hall effect and electric conductivity in germanium telluride

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2558-2559 21, 44. 55

TOPIC TAGS: germanium compound, telluride, electric conductivity, Hall effect, thermal emf, semiconductor carrier

ABSTRACT: To explain some anomalies observed in the behavior of the electric conductivity and thermal emf of germanium telluride, the authors measured the Hall coefficient in the interval from room temperature to 500C for three samples of GeTe with different carrier densities (2,5, 6, and 11 x 10²⁰ cm⁻³). The samples with 11 x 10²⁰ cm⁻³ was a single crystal. The measurements were made with alternating current and the measurement accuracy was ~3%. The results are shown in Figure 1 of the Enclosure. The sharp decrease in the Hall constant in the 300 — 400C region correlates with the phase transition in GeTe. Measurements of the temperature dependence of the electric conductivity increases upon melting and that the liquid has a positive temperature coefficient. This can be interpreted as a result of
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ACCESSION NR: AP5019892

retention of the semiconductor properties in the liquid state. The change in the slope of the electric conductivity vs. temperature curve in the interval 350 -- 400C is interpreted as due to the appearance of carriers of the opposite sign. Orig. art. has: 2 figures. 3

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

SUBMITTED: 05Apr65

ENC: 01

SUB CODE: SS

NR REF SOV: 002

OTHER: 001

Card 2/3

I. 8164-66
ACCESSION NR: AP5019892

ENCLOSURE: 01

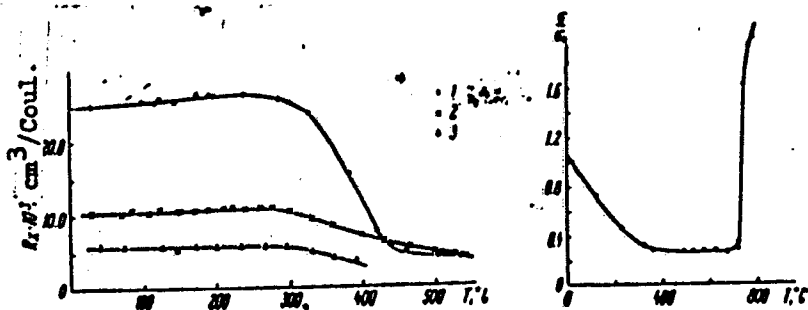


Fig. 1. Temperature dependence of Hall coefficient for samples with different carrier density (left) and for a sample with excess tellurium (right).

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Card 3/3

L 29973-66 EWT(m)/ETC(f)/EWP(t)/ETI IJP(c) RDW/JD

ACC NR: AP6012487

SOURCE CODE: UR/0181/66/008/004/1212/1216

AUTHORS: Sysoyeva, L. M.; Lev, Ye. Ya.; Kolomoyets, N. V.

60

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

B

TITLE: Mechanism of carrier scattering in germanium telluride

21

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1212-1216

TOPIC TAGS: germanium compound, telluride, carrier scattering, hole mobility, carrier density, crystal defect, temperature dependence

ABSTRACT: Continuing their earlier work on this subject (FTT v. 7, 223, 1965 and v. 6, 706, 1964), the authors discuss the experimentally observed anomalous dependence of the carrier mobility in germanium telluride on the temperature and on the density, and conclude that although the mobilities of the light and heavy holes have the same temperature variation ($\sim T^{-3/2}$), the difference in the effective masses of the two types of holes (by approximately one order of magnitude) gives rise to different temperature dependences of the mobilities and differences in the dependence of the mobility on the true carrier density. The anomalies are caused by the facts that at different densities the relative

Card

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L 29973-66

ACC NR: AP6012487

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shears of the heavy and light holes vary. The comparison of the experimental data with the authors' theory, which allows for two types of holes, is made under the assumption that there is no interband scattering. The observed dependence of the absolute mobility on the concentration of defects in the crystal is related to additional scattering by the screened lattice defects, which does not depend on the temperature. It is concluded as a result that in germanium telluride there are two simultaneously acting scattering mechanisms, by the acoustic lattice vibrations and by the screened defects. The observed anomalies in the behavior of the mobility are due, as in other materials, to the complicated structure of the energy spectrum of the carriers. Orig. art. has: 2 figures and 3 formulas.

SUB CODE: 20/ SUBM DATE: 24May65/ ORIG REF: 006/ OTH REF: 003

Card

2/2-10

ACC NR: AP6033552

SOURCE CODE: UR/0181/66/008/010/2925/2928

AUTHOR: Kolomojets, N. V.; Vinogradova, M. N.; Lev, Ye. Ya.; Sysoyeva, L. M.

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

TITLE: Hall effect in semiconductors with two types of carrier

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 2925-2928

TOPIC TAGS: Hall effect, semiconductor carrier, carrier density, temperature dependence, semiconductor band structure, *current carrier*

ABSTRACT: The purpose of the paper is to clarify the influence of the presence of two types of current carrier of the same polarity on the Hall coefficient when account is taken of the variation of the energy gap ΔE with temperature, and to compare the calculated data with the experimental ones for p-type PbTe and for GeTe. The change in the Hall coefficient with decreasing fraction n_2 of the heavier carriers (holes), due to the change in the temperature and simultaneous decrease in the gap ΔE between the sub-bands is calculate for several carrier mobility ratios (5, 10, 20). The calculation shows that the Hall coefficient R_x should go through a maximum at a definite ratio n_2/n_1 , amounting to 0.95 and 0.92 for GeTe and PbTe respectively. R_x increases with increasing temperature (corresponding to an increase in n_2/n_1), in agreement with the experimental data, but at temperatures above 570K for GeTe and 400-450K for PbTe

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ACC NR: AP6033552

its experimental values begin to decrease, although theoretically it should reach a maximum at higher temperatures. The discrepancy is attributed to the appearance of carriers of opposite polarity, to a change in the overall carrier density due to the change in solubility of the doping metal, and to inaccuracies in the determination of the band parameters. Orig. art. has: 2 figures and 5 formulas.

SUB CODE: 20/ SUBM DATE: 15Feb66/ ORIG REF: 005/ OTH REF: 006

Card 2/2

ACC NR: AF6036782

(N)

SOURCE CODE: UR/0363/66/002/011/1925/1929

AUTHOR: Lev, Yo. Ya.; Sysoyeva, L. M. Kolomoyets, N. V.

ORG: Institute for Semiconductors AN SSSR (Institut poluprovodnikov AN SSSR)

TITLE: Effect of impurities on the concentration of current carriers and on the thermal resistance of the germanium telluride lattice

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 11, 1966, 1925-1929

TOPIC TAGS: germanium compound, telluride, current carrier, heat resistance, germanium semiconductor

ABSTRACT: The article reports the results of an investigation of density as a function of the composition and concentration of current carriers, and of the effect of additions of certain group I, III, and V elements on the concentration of current carriers and the thermal resistance of germanium telluride. The measurements of density were carried out in water and toluene on monocrystalline samples containing different amounts of excess tellurium, and which had a concentration of current carriers from 7.0×10^{20} to $14.0 \times 10^{20} \text{ cm}^{-3}$. The error in an individual measurement was \pm grams/cm²; to eliminate random errors, measurements were made on a series of samples with the same composition. The experimental results are given in a series

Cord 1/2

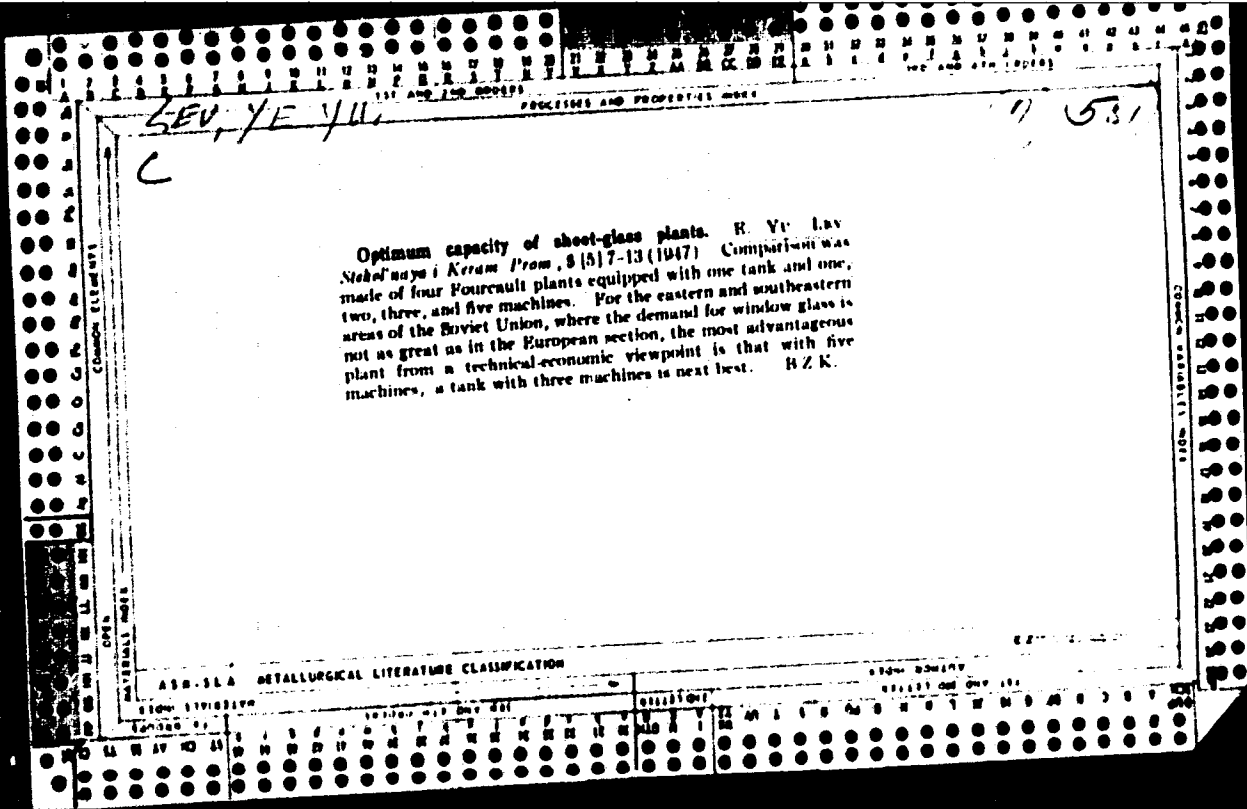
UDC: 546.289'241:541,12.03

ACC NR: AF6036782

of curves. On the basis of the data, the following conclusions were drawn: 1) based on measurements of the density of samples of known composition, it was found possible to determine directly the number of germanium vacancies and to determine the true concentration of current carriers; 2) it was established that in very dilute solutions the solution of impurities takes place only in the vacancies of the cation lattice; 3) the solubility of impurities in the vacancies is limited, and is always less than the concentration of vacancies; 4) in the presence of free vacancies, there is the possibility of solution of Cu, Sb, and Bi impurities in considerable amounts, by the displacement of germanium in the occupied places in the lattice; 4) the effect of impurities on the thermal resistance of the lattice can be explained from the point of view of the existence of a limited solubility of the impurities in the vacancies, and by the formation of new dissemination centers which subsequently replace the germanium. Orig. art. has: 4 figures.

SUB CODE: 11, 20/ SUBM DATE: 23Nov65/ ORIG REF: 004/ OTH REF: 003

Cord 2/2



LEV, Ye.Yu.; SHNEYEROV, S.M.

Reorganizing the supply of raw materials is an urgent problem
of the glass industry. Stok. 1 ker. 18 no. 3:1-3 Kr '61.
(MIRA 14:5)

(Glass manufacture)

L 38604-65 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IIP(c) JD
ACCESSION NR: AP5005321 S/0181/65/007/002/0652/0653

AUTHORS: Andrayev, A. A.; Sysoyeva, L. M.; Lev, Ye. Ya.

TITLE: Effect of high pressure on the electric properties of germanium telluride

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 652-653

TOPIC TAGS: germanium telluride, electric conductivity, thermal emf, Hall constant,
effective mass, carrier mobility

ABSTRACT: The electric conductivity, the thermal emf, and the Hall constant were measured in single crystal germanium telluride at pressures up to 10,000 kg/cm². The carrier density in the investigated crystals fluctuated between 9×10^{20} and 1.2×10^{21} cm⁻³. The pressure dependence of the electric conductivity was measured both at room temperature and at higher temperatures up to 200C, and the conductivity increased linearly with the pressure in the entire temperature interval. No temperature dependence of the effect was observed within an accuracy of 5%. The increase in electric conductivity per 1000 kg/cm² was 2.5 and 3.0% for annealed and unannealed samples, respectively. The Hall constant was measured in only one sample, accurate to 10--15%, and remained independent of the pressure within this accuracy. The thermal emf decreased with increasing pressure, at approximately -1.0% per 1000 kg/cm². The results are interpreted as the consequence of the variation of the effective mass with pressure, using a theoretical procedure proposed by the authors earlier (FTT v. 6,

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ACCESSION NR: AP5005321

706, 1964). The "effective mass of the state density" is shown to decrease at a rate of approximately -1.0% per 1000 kg, owing to the change in the gap between the conduction and valence bands. The authors also calculated the change in the variation of mobility with pressure from the electric-conductivity data, and the result (3.2% per 1000 kg/cm²) is in satisfactory agreement with the experimental value. "The authors thank A. A. Averkin and Ye. G. Strel'chenko for continuous interest in the work and for a discussion of the results." Orig. art. has: 1 figure and 3 formulas. 3

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

SUBMITTED: 04Jul64

ENCL: 00

SUB CODE: SS, EM

NR REF SOV: 002

OTHER: 000

Card

2/2 *llc*

LEV, Yu., shturman

Method of navigating with the ship's course directed toward a radio
station. Mor. flot 24 no. 9; 18-19 3 '64. (MIRA 18:5)

LEV, Yu., shturman

Some approximate methods of determining the ship's position.
Mor. flot 25 no.3:19-20 Mr '65. (MIRA 18:4)

LEV, Yu., shturman

Some methods of navigating narrows. Mor. flot. 25 no. 12:
18-19 D '65. (MIRA 18:12)

ACC NR: AP7000710

SOURCE CODE: UR/0308/66/000/012/0020/0021

AUTHOR: Lev, Yu. (Navigator)

ORG: none

TITLE: Selection of optimum methods for locating a ship's position by the use of radar

SOURCE: Morskoy flot, no. 12, 1966, 20-21

TOPIC TAGS: radar observation, radar navigation, shipborne radar, mean square error, error measurement

ABSTRACT: The accuracy in finding a ship's position with radar depends on the errors in direction-finding and in measuring distances. If the mean square error in direction-finding M_n exceeds the mean square error in measuring distances M_d ($M_n > M_d$), the second method is more precise, and vice versa. The selection of optimum methods is illustrated by monograms for particular observed cases at given mean square errors $M_n = \pm 1.0^\circ$ and $M_d = \pm 0.25$ cable lengths [1 cable length = 608 feet]. The monograms are plotted from formulas based on equating the mean square errors in measuring distances to two orienting points and in direction-finding. The case of three orienting points is discussed. The proposed methods proved their high effectiveness. Orig. art. has: 3 figures and 2 formulas.

SUB CODE: 17/ SUBM DATE: none/
Card 1/1

UDC: 656.61.052:629.123:621.396.969.1

Back Date

YU LEV, A.
~~YU LEV, A.~~

V. A. Breskin, A. YU LEV, D. P. Mil'man, "On compression of the frequency spectrum of binary messages by using a dynamic communication channel." Scientific Session Devoted to "Radio Day", May 1956, Tradre. rvinat, Moscow, 9 Sep. 56

Binary messages, i. e., messages containing two fixed levels (telegraphic, facsimile, wire photo, limited speech, etc.) are analyzed. Starting from the relations of C. SHANNON, the possible degree of spectrum compression of such messages is determined in principle when they are transmitted over communication channels.

The gain is computed which can be obtained, in principle, when transmitting binary messages by using a dynamic long-distance communication channel bank.

A method is proposed to increase the effectiveness of using communication channels to transmit binary messages with low probability of one of the states by transforming the frequency spectrum in the dynamic bank. The quantity of levels necessary to use this method is decreased at the cost of discarding certain slightly probable combinations of binary symbols and the possibility of start-stop transmitter-receiver synchronization is achieved.

LEV, Yu.D., starskiy leytenant

Using radio engineering equipment in navigation. Muz. stor. 4²
no.1:0-63 Ja '55. (MIRA 18:4)

LEV, Yu.D., starshiy leytenant

Methods of finding the most probable position of a ship by several
observations taking into account computation data. Mor. sbor. 46 no.
5:53-55 My '63. (USSR 17:1)