"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, N.K.; ANDREYEVA, I.A.; PALENKO, I.A.; KOSITSYN, I.Ye.; TIL'BA, A.P.; BARANCHEYEV, L.M.; MOSKALENKO, A.V., red.; GOLOVIN, A.A., tekhn.red.

[Nature in Amur Province] Priroda Amurskoi oblasti. Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1959. 308 p. (MIRA 13:4)

1. Amurskiy otdel Vsesoyuznogo geograficheskogo obshchestva (for all, except Moskalenko, Golovin).
(Amur Province--Geography)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, Nikolay Karlovich; MAMONTOVA, O.K., red.; FILATOVA, G.M., tekhn. red.

[The Zeya River and its future]Reka Zeia i ee budushchee. Blagoveshchensk-na-Amure, Ob-vo po raspr. polit. i nauchn. znanii RSFSR. Amurskoe obl. otd-nie, 1962. 30 p. (MIRA 16:1)
(Zeya Valley--Economic geography)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.A., inzhener.

Ways of reducing the length of production cycles. Vest.mash.27 no.7:57-64 Jl '47 (MLRA 9:4)

1.Novo-Kramatorskiy zavod imeni Stalina.
(Machine--Shop practice) (Machinery--Construction)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUTMAN, F. A.

Technology

Skorostnaia obrabotak metallov. Opyt NKMZ imeni Stalina (Hightspeed processing of metals). Kiev, Mashgiz, 1951. 96 p.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SOV/137-57-10-18720

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 38 (USSR)

AUTHOR: Shul'man, P.A.

TITLE: Designing Parts for Metallurgical Machinery With Due Consideration of Modern Production Engineering (Experiences of the Novo-Kramatorskiy Plant) [Konstruirovaniye detaley metallurgicheskikh mashin s uchetom sovremennoy tekhnologii (iz opyta Novo-Kramatorskogo mashinostroitel'nogo zavoda v Donbasse)]

PERIODICAL: V sb.: Novoye v konstruirovanii tyazh. mashin. Moscow, Mashgiz, 1956, pp 147-163

ABSTRACT: The late-model equipment being manufactured by the plants of the heavy machinery industry is constantly growing in power, with the result that the dimensions and weight of the castings and forgings often exceed the capacity of a plant to produce, while on the other hand they create technological difficulties. The larger a steel ingot, the greater the development of zones of segregation, relatively speaking. Forgings of large size and weight make it impossible to attain the required degree of reduction. The considerable size and complex configuration of

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Designing Parts for Metallurgical Machinery (cont.)

certain components make it impossible to produce good castings thereof. With the object of overcoming these difficulties, a start has been made at the NKMZ (Novo-Kramatorskiy Machinery Plant) [at Kramatorsk; Transl. Note] in the production of semifinished pieces by a combination of welding and casting, thanks to the employment of a new method of automatic electric slag welding of metals of great thickness, as developed by the Institute of Electric Welding im. Paton jointly with the NKMZ and the "Krasnyy kotel'-shchik" Plant. In 1955-56 this method was applied in the manufacture of rolling-mill housings, mechanical forging presses, powerful hydraulic presses, and other similar equipment. The plant, in cooperation with im. Paton Institute, is pursuing studies of weld-facing (by means of a special powder wire) a layer of high alloy onto the surface of fast-wearing parts, with the result that the life of the parts multiples 5-7 times. During the new Five-year Plan it is the intention of this plant to apply this method to the facing of cold-rolling rolls, crane gears, parts of hydraulic presses, etc. In operation at the plant is an apparatus that uses line-frequency current to harden products 250-720 mm in diameter. When a cold-rolling roll is heated on this equipment, heat-treatment time is shortened by 2-3 days. The plant employs surface compacting to increase life and improve the service properties of machines. Also practiced at this plant is machining of the chilled

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SOV/137-57-10-18720

Designing Parts for Metallurgical Machinery (cont.)

surface of the bodies of composite rolls, with introduction of electrical current into the cutting zone. This permits replacement of grinding by working with cutters, with the result that the roll-manufacturing cycle is reduced by 70-75 percent. Over a period of several years, the plant has been manufacturing spheroidal speed-reducer gear, which transmit 2-5 times as much power as the usual worm gear, at higher efficiency, and with longer service life.

L.S.

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SHUL'MAN, P. (Kramatorsk, Stalinskov oblasti)

Workers of the Novo-Kramatorsk Plant fulfill their pledges. NTO no.3:13-15 Mr '59. (MIRA 12:6)

1. Predsedatel' soveta pervichnoy organizatsii nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti Novo-Kramatorskogo zavoda.

(Kramatorsk--Machinery industry)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.A.; MIL'SHTEYN, M.Z.

Basic trends of the technical preparation and organization in introducing diamond grinding. Mashinostroitel' no.10:25-27 O '64. (MIRA 17:11)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

DELEVI, V.G.; SHUL'MAN, P.A.

Effect of diamond grinding on the surface layers of hardened R18 steel. Metalloved. i term. obr. met. no.4:49-50 Ap '65. (MIRA 18:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut sverkhtverdykh materialov.

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L 14417-66 EWP(k)/EWP(z)/EWT(m)/EWP(b)/EWA(d)/EWP(e)/EWP(w)/EWP(t)/T WH/MJW/JD
ACC NR: AP6002124 SOURCE CODE: UR/0369/65/001/006/0720/0725

48
47
B

AUTHOR: Shul'man, P. A.; Val'chuk, G. I.

ORG: Institute of Superhard Materials and Institute of Mechanics, AN UkrSSR, Kiev (Institut sverkhtverdykh materialov i institut mekhaniki AN UkrSSR)

TITLE: Cyclic strength of 90KhMF steel ground with diamond wheels

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 6, 1965, 720-725

TOPIC TAGS: cyclic strength, steel, grinding, diamond, carborundum

ABSTRACT: Proceeding from the assumption that grinding of hardened steel with synthetic diamond wheels is associated with a smaller evolution of heat than when other grinding materials are used, the authors carried out comparative experimental studies of the surface layers and cyclic strength of hardened low-tempered 90KhMF steel ground with an abrasive of electrolytically produced corundum and with synthetic diamond wheels. X-ray analysis of the phase composition and structural state of the surface layers of the samples after grinding was performed with URS-50I apparatus with iron radiation. The data were in agreement with those obtained by microhardness measurements. Structural changes caused by diamond grinding extend over a depth of 40—50μ as opposed to 90μ for corundum grinding.

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The mechanical properties of the steel ground with diamond wheels were superior to those of steel ground with carborundum. The low contact strength of the latter is apparently due to the effect of high temperatures and pressures at the tops of surface irregularities, causing the formation of a network of grinding cracks. In diamond grinding, since the structural changes extend to a moderate depth, the heating of the surface layer is much lower. Orig. art. has: 5 figures.

SUB CODE: 11 / SUBM DATE: 20Jun65 / ORIG REF: 010 / OTH REF: 001

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.G.

KOROLEV, A.A., kandidat tekhnicheskikh nauk; KOGOS, A.M.; TOKARSKIY, A.P, NOSAL', V.V. GUREVICH, A.Ye., SHVARTSMAN, V.F.; KARPOV, V.F.; SHUL'MAN, P.G.; ADAMOVICH, N.K.; CHETYRBOK. F.M.; TSELIKOV, A.I., KUZ'MIN, A.D., kandidat tekhnicheskikh nauk; TIKHONOV, A.Ya., tekhnicheskiy redaktor.

[Blooming mill 1000] Bliuming 1000. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 271 p. (MLRA 8:8)

1. Chlen-korrespondent AN SSSR (for TSelikov)
(Rolling mills)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.T., inzhener, laureat Stalinskoy premii; KUZNETSOV, V.O., inzhener, laureat Stalinskoy premii; KHAET, G.L., inzhener; YAKOVLEV, G.M., inzhener; DOTSENKO, M.G., redaktor; NESTERENKO, D.M., tekhnicheskiy redaktor.

[High-speed metal cutting; experience of the Novo-Kramatorsk Stalin Machine Construction Plant (Order of Lenin)] Shvydkisna obrobka metaliv rizanniam; dosvid novo-kramators'koho ordena Lenina mashynobudivnogo zavodu imeni Stalina. Kyiv, Derzhavne naukovo-tekhn. vyd-vo mashynobudivnoi lit-ry, 1952. 103 p. (MLRA 8:2)
(Metal cutting)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.T.

Giant machines. Nauka i zhyttia 6 no.9:9-11 S '56.
(MIRA 13:5)

1. Zamestitel' glavnogo inzhenera Novo-Kramatorskogo ordena Lenina mashinostroitel'nogo zavoda imeni Stalina.
(Kramatorsk--Machinery industry)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, P.T., inzh.

Increasing the operating reliability of rolling-mill rolls. Mashinostroenie no.3:26 My-Je '64. (MIRA 17:11)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

USSR/Cultivated Plants. Potatoes. Vegetables. Melons.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20353.

Author : Ye. Malyshev, R. Shul'man.
Inst : Kishinev Agricultural Institute.
Title : A New Method of Obtaining Tomato Hybrid Seeds. (Novyy sposob polucheniya gibridnykh semyan pomidorov).

Orig Pub: Agrikultura shi viteritul Moldovey, 1957, No 6, 48-52; Zemledeliye i zhivotnovodstvo Moldavii, 1957, No 6, 47-51.

Abstract: In the Kishinev Agricultural Institute a method of crossing tomatoes was used by means of the transfer of the anthers of one variety to the flowers of the other simultaneously with castration. To do this, the column of anthers was removed together with the blossom's corolla and hafted on the style of the pistil of the other variety's castrated flower. It was established that the

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USSR/Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20353.

pistil begins to take pollen only after the flower blossoms. During large-scale crossings the best results (75 - 100% fruit set) were obtained by pollinating the yellow buds and half opened blossoms, during which, in the latter case, a significantly greater amount of seeds was yielded in comparison with the fruit obtained through self-pollination. When pollinating flowers in later phases of development a portion of the flowers became self-pollinated. If the percent of hybrids in the one-day flowers is 70-80, in the two-day flowers 45-55, then in the three-day ones in all 10-20% is reached. A description is given of the techniques of crossing according to this new method.

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SHUL'MAN, R. Ye.

LUTTA, A.S.; SHUL'MAN, R.Ye.

Western limit of distribution of Ixodes persulcatus in the Karelo-Finnish S.S.R. Zool.zhur. 33 no.6:1231-1235 N-D '54. (MIRA 8:2)

1. Sektor parazitologii Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR.
(Karelia--Ticks)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, R.Ye.

A new species of mites of the family Laelaptidae (Gamasidae), parasitic on the birch mouse [with summary in English]. Trudy Len. ob-va est. 73 no.4:95-98 '57. (MIRA 11:6)

1. Institut biologii Karel'skogo filiala AN SSSR.
(Karelia--Mites) (Parasites--Rodentia)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

LUTTA, A.S.; SHUL'MAN, R.Ye.

Effect of microclimatic conditions of meadows and forests on the viability and activity of the tick Ixodes ricinus L. Zool.zhur. 37 no.12:1813-1822 D '58. (MIRA 12:1)

1. Institut of Biology, Kareliya Branch of the Academy of Sciences of the USSR (Petrozavodsk).
(Lunkulansaari Island--Ticks)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, R.Ya.

Gamasid mites from small mammals of Karelia. Trudy Kar. fil. AN SSSR no.30:107-128 '61. (MIRA 15:9)
(Karelia--Parasites--Mammals)
(Karelia--Mites)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

LUTTA, A.S.; KHEYSIN, Ye.M.; SHUL'MAN, R.Ye.

Distribution of ixodid ticks in Karelia. Trudy Kar.fil.AN SSSR no.14:72-83 '59. (MIRA 15:12)

(Karelia—Ticks)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

GORELKIN, A.; OSTROVSKIY, L.; PLOKHOTNIKOV, V.; SHUL'MAN, S.

"Are intermediate outlets necessary?" Sov.torg. no.8:44-45 Ag '57. (MLRA 10:8)

1.Kommercheskiy direktor Minskogo univermaga (for Plokhotnikov).
2.Zamestitel' nachal'nika torgovozakupochnoy bazy dorursa Belorusskoy zheleznoy dorogi (for Shul'man).
(Retail trade)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

TATARSKAYA, G.A.; POPOVA, K.I.; SHUL'MAN, S.A.

Sonne dysentery in Rostov-on-Don. Sov.med. 21 Supplement:9 '57.
(MIRA 11:2)

1. Iz Rostovskogo instituta epidemiologii, mikrobiologii i gigiyeny.
(ROSTOV-ON-DON—DYSENTERY)

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SHULMAN, S. A.

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O vozmozhnosti ispol'zovaniya zoly zuyevskoy I stalinogorskoy tets, dlya proizvodstva myestnykh vyazhushchikh matyerialov. Sbornik rabot v niiomsh s (vsyesoyuz. Nauch-issly'ed. In-t organizatsii I myekhanizatsii shakhtnogo stroit-va), Byp. 1, 1949, S. 61-76
Ye. Khimichyeskaya pyeryerabotka topliva. Koksokhimiya. Pyeryerabotka nyeftI.

SO: LETOPIS No. 34

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

AUTHORS: Ukhanov, Yu. I., Shul'man, S. G. 57-11-12/33

TITLE: An Influence of the Intense Electric Field on Germanium Diode Transparency (Vliyaniye sil'nogo elektricheskogo polya na prozrachnost' germaniyevogo dioda)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 11, pp. 2507-2509 (USSR)

ABSTRACT: The authors tried to explain the influence of the state before the breakdown in p-n-transition on the absorption coefficient of infrared rays. The experiments were carried out at p-n-transitions which had been produced by fusion of indium in n-germanium with a specific resistance of from 5 to 12 ohm.cm. The width of the Right search probe was 0,15 mm and made it possible to investigate the transparency of the single ranges of p-n-transition. The authors show that the d.c.impulse leads to the decrease of transparency at all points of p-n-transition. In the case of the absence of rays passing through germanium the photo-electric resistance recorded a luminescence of the p-n-transition at the expense of the recombination of the charge carriers introduced. If sufficiently strong countervoltage impulses are given to the diode a local change of the absorption capacity of the p-n-transition is observed which with the one samples leads to an increase of, and with others to a decrease of transparency. With all samp-

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An. Influence of the Intense Electric Field on Germanium Diode 57-11-12/33
Transparency.

les the range of anomalous transparency was at the boundary of the p-n-transition and had a width of o,2 mm. The authors stated that the intensity of the transparency change is proportional to the lattice amperage. The cooling of the sample to 78°K did not influence the intensity as well as the form of the transparency change with lattice currents, while the transparency change disappeared completely at the expense of d.c.current at low temperatures. The authors show that all optical phenomena mentioned are isotropic in germanium. The increase and the decrease of the transparency with lattice currents can not be explained by heat-effects, as these had to lead only to a decrease of transparency. The authors assume that the countervoltage at the p-n-transition bring about a local deformation of the crystal lattice, in consequence of which a decrease as well as an increase of the transparency of germanium for infrared rays with great relaxation periods develop. There are 2 figures and 2 Slavic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.G.

Effect of the voltage pulse frequency on the reverse current through a germanium diode. Fiz. tver. tela 1 no.4:597-601 '59. (MIRA 12:6)

1. Institut poluprovodnikov AN SSSR, Leningrad.
(Germanium diodes)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SOV/120-59-4-28/50

AUTHOR: Shul'man, S. G.

TITLE: A Pulse Method of Measuring the Capacitance of p-n Junctions

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 122-125 (USSR)

ABSTRACT: The author describes a method of measuring the capacitance of p-n junctions with a pulse bias applied to them. The basis of the method can be seen by considering the circuit of Fig 1. The author shows that a square voltage pulse V applied at the input will reach the R_1-C_1 part of the circuit in undistorted form only when

$$R_1C_1 = R_2C_2 \quad (3)$$

and

$$C_2 = C_1V_1/V_2 \quad (4)$$

where V_1 is the undistorted voltage pulse across R_1 and C_1, V_2 is the voltage across R_2 and C_2. R_2 and C_2 represent the resistance and capacitance of a p-n junction with a pulse bias voltage V_{on} across it. The auxiliary capacitance and resistance C_1 and R_1 are adjusted until

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A Pulse Method of Measuring the Capacitance of p-n Junctions

a pulse applied at the circuit input will appear undistorted across R_1-C_1. Then the values of R_2 and C_2 of the p-n junction are given by Eqs (3) and (4) quoted above; these values refer to a particular pulse bias voltage V_{on} applied to the p-n junction. The method was checked by measuring the capacitance of the collector junction of П6 transistors at voltages in the saturation region and by comparing the results with those obtained using a Q-meter. A GIS-2 generator was used to supply both the V_{on} (bias) and V (measuring) pulses which were of different amplitude and duration. The results obtained are shown logarithmically in Fig 5. The capacitance C can be represented by a law $C = kV^{1/2}$. The measured value of the capacitance in the saturation region agreed to within 10% with the values

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A Pulse Method of Measuring the Capacitance of p-n Junctions

obtained by using a Q-meter. Acknowledgments are made to A. R. Regel' who directed this work and to Yu. K. Barsukov, B. Ya. Moyzhes and Yu. V. Ilisavskiy for their advice. There are 5 figures and 2 references, 1 of which is Soviet and 1 English.

ASSOCIATION: Institut poluprovodnikov AN SSSR (Institute for Semiconductors, Academy of Sciences, USSR)

SUBMITTED: June 30, 1958.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

GOL'DIN, A.L., red.; ZHILENKOV, V.N., red.; IZMAYLOVA, R.A., red.; KRAYEV, G.A., red.; KRICHEVSKIY, I.Ye., red.; KYAKK, V.A., red.; SOKOLOV, I.B., red.; SUDAKOV, V.B., red.; FOMIN, G.D., red.; SHUL'MAN, S.G., red.; ABRAMSON, L.S., tekhn. red.

[Collection of reports on hydraulic engineering; the third engineering conference of young scientists] Sbornik dokladov po gidrotekhnike; tret'ia nauchno-tekhnicheskaia konferentsiia molodykh nauchnykh rabotnikov. Moskva, Gosenergoizdat, 1961. 183 p. (MIRA 17:2)

1. Leningrad. Nauchno-issledovatel'skiy institut gidrotekhniki.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

GIRSHKAN, I.A., otv. red.; ARABADZHYAN, I.R., red.; GORELIK, L.V., red.; YERYKHOV, B.F., red.; KYAKK, V.A., red.; PECHENKIN, M.V., red.; PAVLOVSKAYA, L.N., red.; SUDAKOV, V.B., red.; SHUL'MAN, S.G., red.

[Collection of reports on hydraulic engineering] Sbornik doklad[illegible] po gidrotekhnike. Moskva, Gosenergoizdat, 1961. 243 p. (MIRA 17:7)

1. Nauchno-tekhnicheskaya konferentsiya molodykh nauchnykh rabotnikov, 2d, 1961.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

32071
S/181/61/003/012/005/028
B102/B108

24.7600 (1035,1043,1164)

AUTHORS: Regel', A. R., Chudnovskiy, F. A., and Shul'man, S. G.

TITLE: Influence of uniaxial plastic deformation upon the electric properties of n-type germanium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 12, 1961, 3589 - 3592

TEXT: The temperature dependence of electrical conductivity and the Hall effect of plastically deformed n-type Ge single crystals (2.6 ohm·cm at room temperature) were measured between 78 and 300°K. Plastic deformation between 1 and 63% was brought about at 850°C by means of a press of the Institut kristallografii AN SSSR (Institute of Crystallography AS USSR). The specimens were deformed in vacuo ($5 \cdot 10^{-2}$mm Hg along the [111] direction at a rate of $1.7 \cdot 10^{-2}$mm/min. The deformed specimens were cooled, ground, and etched by means of CP-4(SR-4). The Hall constant, the resistivity, and the Hall mobility were determined as dependent on temperature and degree of deformation. The conversion from n-type into p-type Ge which

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Influence of uniaxial plastic ...

was observed with increasing deformation is ascribed to the introduction of acceptor centers that are easy to anneal and that form an acceptor level at ~0.1 ev from the upper edge of the valence band. The donors of the initial n-type Ge are compensated by the acceptors already at a deformation of ~5%. Temperature dependence of the Hall mobility has a maximum at weak deformations (n-type Ge) which is shifted to higher temperatures as deformation is increased. At large deformations (p-type Ge), the maximum is shifted to lower temperatures and vanishes at deformations of over ~63%. Electron mobility in slightly deformed (up to 2%) samples is mainly influenced by scattering from impurity ions. The decrease in mobility is ascribed to introduction of defects (vacancies and interstitial atoms). X-ray studies showed that for deformations greater than 20% the crystal structure starts to become polycrystalline. For deformations of above 30% up to ~63%, the temperature dependence of the mobility may be described by $\mu \sim T^{-1/2}$. This dependence may be explained by scattering of holes from the crystallite boundaries. Defects loose their importance when deformation is further increased. The authors thank A. A. Sumatokhin for assistance. There are 3 figures and 8 non-Soviet references.

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B102/B108

Influence of uniaxial plastic ...

The four most recent references to English-language publications read as follows: E. S. Greiner, P. Breidt, I. N. Hobstetter a. W. C. Ellis. J. Met., 9, 813, 1957; A. G. Tweet. Phys. Rev., 99, 1245, 1955; A. Seeger. Solid State Phys. in Electronics and Telecommunications. Acad. Press., London, 1960; W. T. Read. Phil. Mag., 45, 775, 1954.

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

SUBMITTED: June 28, 1961

Card 3/3

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

S/170/61/004/005/008/015
B104/B205

AUTHOR: Shul'man, S. G.

TITLE: Triangular composite wedge under the action of a local load on the wedge face

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 5, 1961, 81-84

TEXT: This article deals with a triangular wedge having radial division lines. The modulus of elasticity E and Poisson's ratio μ are constant within the boundaries of all layers. An arbitrary, normal, local load is applied to the faces of the wedge. In this case, the expressions of the stress functions are different for each layer, and the boundary and coupling conditions at the division lines must be satisfied. The coupling conditions have the form $\theta = \beta_i$, $\sigma_\theta^{(i)} = \sigma_\theta^{(i+1)}$, $\tau_{r\theta}^{i} = \tau_{r\theta}^{(i)} = \tau_{r\theta}^{(i+1)}$; the conditions of continuity can be expressed by the stresses in the form

$$\left.\begin{aligned} m_i P_i - P_{i+1} &= n_i \sigma_\theta^{(i)} \\ m_i Q_i - Q_{i+1} &= - n_i \tau_{r\theta}^{(i)} \end{aligned}\right\},$$

where $P = \Delta\varphi$; Q is the harmonic function coupled

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with P; m_i and n_i are dimensionless coefficients. The Mellin transform $\bar{\varphi}_i$ of the stress function of the i-th layer $\bar{\varphi}_i = \int_0^\infty \varphi_i r^{p-1} dr$ satisfies

$$\frac{d^4 \bar{\varphi}_i}{d\theta^4} + [(p+2)^2 + p^2] \frac{d^2 \bar{\varphi}_i}{d\theta^2} + p^2(p+2)^2 \bar{\varphi}_i = 0. \qquad (5)$$

The author performs such a linear combination of particular solutions of Eq. (5) that the boundary conditions for $\theta = -\alpha$ and the conditions of continuity of the stresses on the division lines are identically satisfied. Transforms of the stress functions are obtained for each layer in the following form:

$$\left.\begin{array}{ll} -\alpha < \theta < -\beta_1: & \bar{\varphi}_1 = C_1 \bar{\psi}_1(\theta+\alpha) + C_2 \bar{\psi}_2(\theta+\alpha) \\ -\beta_1 < \theta < -\beta_2: & \bar{\varphi}_2 = \bar{\varphi}_1 + C_3 \bar{\psi}_3(\theta+\beta_1) + C_4 \bar{\psi}_4(\theta+\beta_1) \\ \ldots\ldots\ldots\ldots & \end{array}\right\} \qquad (7)$$

The relationship between the coefficients is derived from the above-mentioned conditions of continuity for the displacements. After several transformations, these relations can be written in the form

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$$\left.\begin{aligned} m_l\left(p^2\bar{\varphi}_l+\frac{d^2\bar{\varphi}_l}{d\theta^2}\right)-\left(p^2\bar{\varphi}_{l+1}+\frac{d^2\bar{\varphi}_{l+1}}{d\theta^2}\right)&=n_l p(p+1)\bar{\varphi}_l\\ m_l\frac{d}{d\theta}\left(p^2\bar{\varphi}_l+\frac{d^2\bar{\varphi}_l}{d\theta^2}\right)-\frac{d}{d\theta}\left(p^2\bar{\varphi}_{l+1}+\frac{d^2\bar{\varphi}_{l+1}}{d\theta^2}\right)&=-n_l(p+1)(p+2)\frac{d\bar{\varphi}_l}{d\theta}\end{aligned}\right\}. \quad (8)$$

If, for $\theta = -\beta_1$, (7) is substituted in (8), one obtains

$$\left.\begin{aligned} (m_1-1)\left(p^2\bar{\varphi}_1+\frac{d^2\bar{\varphi}_1}{d\theta^2}\right)-C_3\left(p^2\bar{\psi}_3+\frac{d^2\bar{\psi}_3}{d\theta^2}\right)&=n_1 p(p+1)\bar{\varphi}_1\\ (m_1-1)\frac{d}{d\theta}\left(p^2\bar{\varphi}_1+\frac{d^2\bar{\varphi}_1}{d\theta^2}\right)-C_4\frac{d}{d\theta}\left(p^2\bar{\psi}_4+\frac{d^2\bar{\psi}_4}{d\theta^2}\right)&=\\ =-n_1(p+1)(p+2)\frac{d\bar{\varphi}_1}{d\theta}&\end{aligned}\right\}. \quad (9)$$

The coefficients C_1 and C_2 can be derived from the boundary conditions on the faces $\theta = \alpha$. Using

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$$\left.\begin{aligned} \overline{r^2\sigma_\theta} &= \int_0^\infty (r^2\sigma_\theta)\, r^{p-1}\, dr = p(p+1)\bar{\varphi} \\ \overline{r^2\tau_{r\theta}} &= \int_0^\infty (r^2\tau_{r\theta})\, r^{p-1}\, dr = (p+1)\frac{d\bar{\varphi}}{d\theta} \end{aligned}\right\}, \qquad (10)$$

these conditions acquire the form $p(p+1)\bar{\varphi}_n = \overline{\theta r^2 \sigma_\theta}\Big|_{\theta=\alpha}$, $(p+1)\frac{d\bar{\varphi}_n}{d\theta} = \overline{r^2 \tau_{r\theta}}\Big|_{\theta=\alpha}$.

With the aid of the inversion formula it is now possible to find the components of stress for each layer. In the particular case of a two-layer wedge which is subjected to an evenly distributed load of unit intensity on its face section $r = r_0$, the transforms of the stress functions acquire the form

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$$\left.\begin{aligned}
\varphi_1 &= C_1[\cos p(\theta+\alpha) - \cos(p+2)(\theta+\alpha)] + C_2 \times \\
&\times\left[\frac{\sin(\theta+\alpha)p}{p} - \frac{\sin(p+2)(\theta+\alpha)}{p+2}\right] - \frac{r_0^{p+2}}{p(p+1)(p+2)} \times \\
&\times \cos(\theta+\alpha)p \\
\varphi_2 &= \varphi_1 + C_3[\cos p(\theta+\beta) - \cos(p+2)(\theta+\beta)] + C_4 \times \\
&\times\left[\frac{\sin p(\theta+\beta)}{p} - \frac{\sin(p+2)(\theta+\beta)}{p+2}\right]
\end{aligned}\right\} \quad (12)$$

The relationship between the coefficients C_1, C_2 and C_3, C_4 can be derived from Eq. (7), and C_3 and C_4 are given by

$$\left.\begin{aligned}
C_3 &= \frac{m_1-1}{4(p+1)}\left(p^2\bar{\varphi}_1 + \frac{d^2\bar{\varphi}_1}{d\theta^2}\right) - \frac{n_1 p}{4}\bar{\varphi}_1 \\
C_4 &= \frac{m_1-1}{4(p+1)}\frac{d}{d\theta}\left(p^2\bar{\varphi}_1 + \frac{d^2\bar{\varphi}_1}{d\theta^2}\right) + \frac{n_1(p+2)}{4}\frac{d\bar{\varphi}_1}{d\theta}
\end{aligned}\right\} \quad (13)$$

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The boundary conditions for $\theta = \alpha$ have the form $\left.\begin{array}{l}\sigma_\theta = 0 \text{ or } p(p+1)\bar{\varphi}_2 = 0 \\ \tau_{r\theta} = 0 \text{ or } (p+1)\frac{d\bar{\varphi}_2}{d\theta} = 0\end{array}\right\}$.

All coefficients can be derived from Eq. (13) and

$$\left.\begin{array}{l} C_1[\cos 2\alpha p - \cos 2(p+2)\alpha] + C_2\left[\frac{\sin 2\alpha p}{p} - \right. \\ \left. - \frac{\sin 2(p+2)\alpha}{p+2}\right] - \frac{r_0^{p+2}\cos 2\alpha p}{p(p+1)(p+2)} + C_3[\cos(\alpha+\beta)p - \\ - \cos(\alpha+\beta)(p+2)] + C_4\left[\frac{\sin(\alpha+\beta)p}{p} - \right. \\ \left. \frac{\sin(\alpha+\beta)(p+2)}{p+2}\right] = 0 \\ C_1[-p\sin 2\alpha p + (p+2)\sin 2(p+2)\alpha] + C_2[\cos 2\alpha p - \\ - \cos 2(p+2)\alpha] + \frac{r_0^{p+2}\sin 2\alpha p}{(p+1)(p+2)} + C_3[-p\sin(\alpha+\beta)p + \\ + (p+2)\sin(\alpha+\beta)(p+2)] + C_4[\cos(\alpha+\beta)p - \\ - \cos(\alpha+\beta)(p+2)] = 0 \end{array}\right\} \quad (15)$$

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B104/B205

Triangular composite wedge under the...

after which the stresses can be calculated by the inversion formula. Professor S. G. Gutman is thanked for his interest in the work. There are 2 figures and 4 Soviet-bloc references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhnicheskikh im. B. E. Vedeneyeva, g. Leningrad (All-Union Scientific Research Institute of Hydraulic Engineering imeni B. E. Vedeneyev, Leningrad)

SUBMITTED: November 5, 1960

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

ARABADZHYAN, I.R., red.; IZMAYLOVA, R.A., red.; KRAYEV, G.A., red. [deceased]; KRICHEVSKIY, I.Ye., red.; SOKOLOV, I.B., red.; SOLNYSHKOV, V.A., red.; STREL'TSOVA, T.D., red.; FOMIN, G.D., red.; SHUL'MAN, S.G., red.; ABRAMSON, L.S., tekhn.red.

[Collection of papers on hydraulic engineering] Sbornik dokladov po gidrotekhnike. Moskva, Gosenergoizdat, 1962. 284 p. (MIRA 17:3)

1. Nauchno-tekhnicheskaya konferentsiya molodykh nauchnykh rabotnikov. 4th, 1962.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

S/170/62/005/001/010/013
B125/B104

AUTHOR: Shul'man, S. G.

TITLE: The effect of creep on the state of stress of a composite delta profile

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 1, 1962, 102-107

TEXT: Creep is calculated with the aid of the model of an elastoplastic body, based on the Boltzmann-Volterra equation

$$\varepsilon(t) = \frac{\sigma(t)}{E} + \int_0^t K(t-\tau)\sigma(\tau)d\tau \text{ with } K(t) = ae^{-bt}/t^{1-c} \quad (0 < c < 1).$$

The coefficients a, b, and c have to be determined experimentally. According to I. Ye. Prokopovich (PMM, v. 20, no. 6, 1956), the equation

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$$\nabla^2\nabla^2\varphi^*(t) + E\int_0^t K(t-\tau)\,\nabla^2\nabla^2\varphi^*(\tau)\,d\tau = -\frac{1}{1-\mu}\left(\frac{\partial X}{\partial x}+\frac{\partial Y}{\partial y}\right) - \frac{E}{1-\mu}\int_0^t K(t-\tau)\times\left(\frac{\partial X}{\partial x}+\frac{\partial Y}{\partial y}\right)d\tau - \frac{E}{1-\mu^2}\left[\frac{\partial^2\varepsilon_x^0(t)}{\partial y^2}+\frac{\partial^2\varepsilon_y^0(t)}{\partial x^2}-\frac{\partial^2\gamma_{xy}^0(t)}{\partial x\,\partial y}\right], \quad (4)$$

is obtained after Poisson's coefficients for creep deformation have been inserted into the equation for the consistency of deformations and after the stress functions have been introduced. If the right-hand side vanishes, (4) has only the solution $\nabla^2\nabla^2\varphi^*(t) = 0$. For this reason, the state of stress of an elastoplastic body is described by a biharmonic stress function. The stress functions for each layer are chosen in the same form as those used for the corresponding elastic instantaneous

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problem:

$$\left.\begin{array}{l} \text{1-й слой } (-\alpha < \theta < \beta_1) \\ \qquad \varphi_1^*(t) = f(r)\,[C_1^*(t)\,\Psi_1(\theta+\alpha) + C_2^*(t)\,\Psi_2(\theta+\alpha)] \\ \text{2-ой слой } (\beta_1 < \theta < \beta_2) \\ \qquad \varphi_2^*(t) = \varphi_1^*(t) + f(r)\,[C_3^*(t)\,\Psi_3(\theta-\beta_1) + C_4^*(t)\,\Psi_4(\theta-\beta_1)] \\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \end{array}\right\} \quad (6)$$

In a discussion of the boundary conditions for the loaded surfaces of the profile $\overline{C_1^*(p)}$, $\overline{C_2^*(p)}$, $\overline{C_3^*(p)}$, and $\overline{C_4^*(p)}$ are determined from transformed boundary conditions. With any number of layers the determination of the coefficients can be reduced to the solution of a system of two algebraic equations with two unknowns. For the transformed coefficients one finally obtains

$$\overline{C^*(p)} = \frac{a_1(p+b)^{2c} + a_2(p+b)^c + a_3}{(p+b)^{2c} + a_4(p+b)^c + a_5}, \quad 0 < c < 1,\ a_k = \text{const.} \quad (13)$$

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The regression to the original is as usual. The representation of the constants as functions of p and s (not defined) and the profile constant is discussed. Finally, a double-layer profile subjected to a hydrodynamic load is calculated. The distribution of stresses is essentially changed by creep. There are 1 figure and 7 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki im. B. Ye. Vedeneyeva, g. Leningrad (All-Union Scientific Research Institute of Hydraulic Engineering imeni B. Ye. Vedeneyev, Leningrad)

SUBMITTED: July 14, 1961

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S/124/63/000/001/039/080
D234/D308

AUTHOR: Shul'man, S.G.

TITLE: A dam of triangular profile subject to a local load on a part of the face

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1963, 7, abstract 1V40 (Izv. Vses. n.-i. in-ta gidrotekhn. 1962, v. 69, 195-207)

TEXT: With the aid of Mellin's integral transformation, the author investigates the stresses state in an infinite wedge for two cases of external load. 1) Triangular load on the section adjacent to the apex. 2) A normal force concentrated at an arbitrary point of the face. Representing the complex integrals expressing the solution of the problem as a sum of residues, the author has calculated with a great degree of accuracy the values of normal stress at the edge. The calculation was carried out on the electronic computer Ural-1.
[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

S/120/63/000/001/042/072
E032/E314

AUTHOR: Shul'man, S.G.

TITLE: Control of the parameters of semiconducting films during the deposition process

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 157 - 159

TEXT: A method is described whereby the mobility of current-carriers and conductivity of films may be continuously recorded on a pen-recorder chart during the deposition (evaporation) process. When the rate of evaporation is known, the conductivity curve may be used to determine the specific conductivity and hence the current-carrier density. The method is based on the Hall-effect formula

$$\mu = b \times 10^8 V_2/V_1 aH \qquad (2)$$

where μ is the mobility, b/a is the ratio of length to width of the specimen, V_2 is the Hall e.m.f. and V_1 the potential difference between the current electrodes. Thus, the mobility can be calculated directly from Eq. (2), when V_1 is maintained

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constant. On the other hand, the current passing through the film is proportional to the conductivity and hence the specific conductivity and the current-carrier concentration may be determined since the thickness of the film which may be estimated from the time of evaporation. All that is required is a suitable base (glass, quartz or mica) on which the various electrodes are first deposited. The system is then exposed to the evaporating material and the above parameters are measured in situ. The device has been used to investigate the deposition of InAs films. The recording device was an ЭПП-09 (EPP-09) pen-recorder with a 10 mV scale. One division of the scale corresponded to a mobility of 200 $cm^2/Vsec$. The method may be used as a means of rapid determination of the temperature variation of the above parameters for any type of specimen. There are 2 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR (Institute for Semiconductors of the AS USSR)

SUBMITTED: April 27, 1962

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.G.

Solution of a three-dimensional heat conduction problem for a wedge-shaped body. Inzh.-fiz. zhur. 7 no.4:134-135 Ap '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki imeni B.Ye.Vedeneyeva, Leningrad.

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Pi-4 IJP(c) JD/At

ACCESSION NR: AP5006926 S/0181/65/007/003/0952/0954

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43
B

AUTHOR: Shul'man, S. G.; Ukhanov, Yu. I.

TITLE: Effective mass of electrons and optical width of forbidden band in indium arsenide films.

SOURCE: Fizika tverdogo tela, v. 7, no. 3, 1965, 952-954

TOPIC TAGS: indium arsenide, effective mass, forbidden band, optical width, thin film

ABSTRACT: The authors point out that the customary use of the theory developed for indium antimonide by E. Kane (J. Phys. Chem. Solids v. 1, 249, 1957) to calculate the band structure of indium arsenide is valid only up to electron density ~ 5×10^{18} cm^{-3}. At larger carrier densities the deviation from quadratic dispersion, together with the electron effective mass, increases more rapidly than would follow from Kane's theory. They therefore investigated the optical width of the forbidden band and the dependence of the effective mass of the electrons on their density in indium arsenide films prepared

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by sputtering in vacuum by the three-temperature method (Gunther, Zs. Naturforsch. v. 13a, 1084, 1958) on substrates of sintered aluminum oxide and high-resistivity silicon. All films were n-type with electron density 2×10^{17}--2×10^{19} cm^{-3}. The optical width of the forbidden band was calculated from measurements of the transparency. The effective mass was determined by three methods: from measurements of the Faraday effect, of the reflection coefficient, and of the change in the thermal emf in a strong magnetic field. The calculated values, together with those obtained by others are shown in Fig. 1 of the Enclosure. They fit the empirical curve $m^*_n/m_o = (0.023 - 1.3) \times 10^{-14} N^{2/3}$ established by L. L. Korenblit et al. (FTT v. 6, 559,1958) for InAs samples cut from large-crystal ingots. The agreement between the values of the effective mass in films and in single crystals, together with the fact that the optical width of the forbidden band coincides in films and in single crystals, suggests that there is no difference in the energy spectrum of polycrystalline films and single crystals of indium arsenide. "The authors thank A. R. Regel' for interest in the work and for discussion." Orig. art. has: 1 figure

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ACCESSION NR: AP5006926

and 5 formulas.

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

SUBMITTED: 05Nov64 ENCL: 01 SUB CODE: SS

NR REF SOV: 004 OTHER: 007

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.L

PHASE I BOOK EXPLOITATION SOV/4082

Khar'kov. Zavod malykh agregatnykh stankov

Agregatnyye stanki (Unit-Head Machine Tools) [Khar'kov] Khar'kovskoye oblastnoye izd-vo, 1958. 39 p. 2,000 copies printed.

Additional Sponsoring Agency: UkrSSR. Khar'kovskiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva.

Author-Compilers: Kh.G. Ryabko, S.Ye. Shvartsman, and S.L. Shul'man; Ed.: P.A. Tochenyy; Tech. Ed.: V.K. Umanets.

PURPOSE: This booklet is intended for prospective buyers and users of small unit-head machine tools.

COVERAGE: The booklet contains information on single-station and multiple-station unit-head machine tools built by the Khar'kov plant. Descriptions of operations performed on the following machines are presented: type KhA-875 single-station drilling machine for machining 15 ports in sleeves of automobile-engine cylinders (65 parts per hour); type KhA-778 high-productivity 10-station semiautomatic machine, built in 1958, for machining housing covers for certain types of oil pumps (65 parts per hour); and type KhA-868 semiautomatic machine, built in

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1957, for drilling holes and milling grooves in automobile-engine pistons (400 parts per hour). Photographs and sketches of some unit power heads, accompanied by brief descriptions, are also shown. In the Appendix schematic diagrams and photographs of arrangements of unit power heads for various operations (mainly drilling) are presented. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: None given.

AVAILABLE: Library of Congress (TJ 1185.Z38)

VK/pw/sfm
10/25/60

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.M., otv.red.; PAKHNEVICH, S.Ya., red.; ZHDANOVA, L.P., red.; SERGEYEV, A.N., tekhn.red.

[Agroclimatic reference book on Tomsk Province] Agroklimaticheskii spravochnik po Tomskoi oblasti. Leningrad, Gidrometeor.izd-vo, 1960. 135 p. (MIRA 13:11)

1. Novosibirsk. Gidrometeorologicheskaya observatoriya. 2. Nachal'nik Zapadno-Sibirskogo upravleniya gidrometsluzhby (for Shul'man). 3. Direktor Novosibirskoy gidrometeorologicheskoy observatorii (for Pakhnevich).
(Tomsk Province--Crops and climate)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHULMAN S S.

GOLOVANOVA, M.A.; YERETNOVA, Ye.M.; VAKHLAKOVA, L.G.; SHUL'MAN, S.S.; DUBROVA, V.S.

Vaccinotherapy of chronic dysentery; aughors' abstract. Zhur.mikrobiol.epid.i immun. no.8:31-32 Ag '54. (MLRA 7:9)

1. Iz Sverdlovskogo meditsinskogo instituta (dir. A.F.Zverev, nauchnyy rukovoditel' dotsent V.S.Durova)

(DYSENTERY, BACILLARY, therapy, *vacc.)
(VACCINES AND VACCINATION, *ther. of dysentery, bacillary)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S. S.

Shul'man, S. S. - "A new form of round worm parasitic on fish livers", Izvestiya Vsesoyuz. nauch.-issled. in-ta ozer. i rech. ryb. khoz-va, Vol. XXVII, 1948, p. 235-28.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S. S.

Shul'man, S. S. - "On the problem of the ecological classification of fish parasites", Izvestiya Vsesoyuz. nauch.-issled. in-ta ozer. i rech. ryb. khoz-va. Vol. XXVII, 1948, p. 232-43, - Bibliog: 5 items.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

[illegible]

[illegible], "Works on Helminthology" on the 75th Birthday of K. I. Skryabin, Izdat, Akad, Nauk, [illegible], 1953, page [illegible]
Lab. Pathology, Karelo-Finnish Filial, A[illegible] USSR

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.; SHUL'MAN-AL'BOVA, R.Ye.

[Parasites of White Sea fish] Parazity ryb Belogo moria. Moskva, Izd-vo Akademii nauk SSSR, 1953. 197 p. (MLRA 6:12)
(Parasites--Fishes) (White Sea--Fishes)
(Fishes--White Sea)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

New and little-studied myxosporidia of the White Sea. Zool.zhur. 32 no. 3:384-393 My-Je '53. (MLRA 6:6)

1. Laboratoriya parazitologii Karelo-Finskogo filiala Akademii nauk SSSR. (White Sea--Sporozoa)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

Specific character of parasites of fishes. Zool.zhur.33 no.1: 14-25 Ja-F '54. (MLRA 7:2)

1. Laboratoriya bolezney ryb Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva i laboratoriya parazitologii Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR. (Parasites--Fishes)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

Survey of zooparasites of sturgeons of the U.S.S.R. Trudy Len. ob-va est. 72 no.4:190-254 '54. (MLRA 8:11)

1. Institut biologii Karelo-Finskogo filiala Akademii nauk SSSR, Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva
(Sturgeons--Diseases and pests) (Parasites--Fishes)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

POLYANSKIY, Yu.I.; SHUL'MAN, S.S.

Variation in the parasite fauna of fishes in accordance with the age of the host. Trudy Kar.-Fin. fil. AN SSSR no.4:3-26 '56. (MLRA 10:2)

(Parasites--Fishes)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

Parasites of the herring, smelt, and navaga of the White Sea. Trudy Kar.-Fin. fil. AN SSSR no.4:50-67 '56. (MLRA 10:2)

(White Sea--Parasites--Fishes)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

ISAKOV, L.S.; SHUL'MAN, S.S.

Resistance of certain ectoparasites of stickleback to variations in the degree of salinity. Trudy Kar.-Fin. fil. AN SSSR no.4:68-73 '56. (MLRA 10:2)

(Parasites--Stickleback)
(Salinity)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

DOGEL', V.A., professor [deceased]; POLYANSKIY, Yu.I.; BYKHOVSKIY, B.Ye., professor; BAUER, O.N.; PETRUSHEVSKIY, G.K.; SHUL'MAN, S.S.

"Diseases and pests of fishes." Kh.S. Goregliad. Reviewed by V.A. Dogel' and others. Zool.zhur. 35 no.4:621-623 Ap '56. (MLRA 9:8)

1. Chlen-korrespondent AN SSSR (for Dogel'); 2. Leningradskiy gosudarstvennyy universitet (for Polyanskiy); 3. Zoologicheskiy institut Akademii nauk SSSR (for Bykhovskiy); 4. Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva (for Bauer , Petrushevskiy); 5. Karelo-Finskiy filial AN SSSR (for Shul'man).

(Fishes--Diseases and pests) (Goregliad, Kh.S.)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

G

USSR

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No 99536

Author : Shul'man, S. S.

Inst : All-Union Scientific Research Institute of Lake and River Fish *

Title : Data on the Parasitic Fauna of Lampreys of the Baltic and White Sea Basins.

Orig Pub : Izv.Vses.n.-i.in-ta oz.i rechn.rybn.kh-va, 1957,42,287-303

Abstract : The parasitic fauna of lampreys (Lampetra fluviatilis, L. planeri, L. japonica and Caspiomyzon wagneri) in the investigated basins consists of 22 species and is characterized by paucity as well as by the small number of specific forms which consist of only three: Bartonella pavlovskii, Diplostomulum petromyzontis, Cucullanus stelmioides). A series of species common for Petromyzontidea and salmon was noted.--O. N. Bauer.

*Economy.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SMIRNOVA, T.S.; STRELKOV, Yu.A.; TIMOFEYEV, V.A.; SHUL'MAN, S.S.

Nasal cavities of bony fishes as a habitat of parasites. Zool. zhur. 43 no.11:1649-1658 '64. (MIRA 18:11)

1. Zoologicheskiy institut AN SSSR, Leningrad.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

USSR/Zooparasitology. Parasitic Protozoa. Sporozoa. G

Abs Jour: Ref. Zhur. - Biol., No 23, 1958, 103998

Author : Shul'man, S. S.

Inst : All-Union Institute of Lake and River Pisciculture.

Title : The Problem of Pathogenicity of the Myxosporidian Myxobolus exiguus and Epizootics Associated With It.

Orig Pub: Izv. Vses. n.-i. in-ta oz. i rechn. rybn. kh'va, 1957, 42, 328-329

Abstract: In Kerchenskiy Gulf death en masse of the striped mullet Mugil cephalus and of Mugil auratus was observed from Myxobolus exiguus parasitization; the latter had hitherto been considered innocuous to fish. Its cysts developed in large

Card 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

G-1

USSR / Zooparasitology. General Problem.

Abs Jour: Ref Zhur-Biol., No 20, 1958, 91004

Author : Shul'man, S. S.
Inst : The All-Union Scientific Research Institute of Lake and River Fisheries
Title : Fish Parasites of Zhizhitsk Lakes (Velikolukskaya Oblast)

Orig Pub: Izv. Vses. n.-i. in-ta oz. i rechn. rybn. kh-va, 1957, 42, 336-337

Abstract: A list of parasites (48 species) found in 1948 in 10 species of fish.

Card 1/1

11

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

Parasites of fishes in the eastern part of the Baltic Sea.
Trudy sov.Ikht.kom. no.9:184-187 '59. (MIRA 13:5)

1. Zoologicheskiy institut AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva.
(Baltic Sea--Parasites) (Parasites--Fishes)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

Principal directions of evolution in the order Myxosporidia
Zool.zhur. 38 no.10:1481-1497 O '59. (MIRA 13:2)

1. Zoological Institut of the Academy of Sciences of the U.S.S.R. Leningrad.
(Sporozoa) (Evolution)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SVETOVIDOV, A.N.; SHUL'MAN, S.S.

Relationship between the composition of the parasite fauna of some fish groups and the parallels in their ecology and distribution. Zool. zhur. 39 no.12:1866-1870 '60. (MIRA 14:1)

1. Zoological Institute of the U.S.S.R. Academy of Sciences, Leningrad. (Parasites--Fishes) (Marine ecology)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHULMAN S. S. (LENINGRAD)

"The new system of Myxosporidia and the main directions of evolution in the order." (In Russian.)

Report presented at the 13th Annual meeting and 1st International Conference of Society of Protozoologists, Prague, 22-31 Aug 61

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

KHEYSIN, Ye.M.; SHUL'MAN, S.S.; VINNICHENKO, L.P.

Structure of Myxobolus spores. TSitologiia 3 no.6:662-667 N-D '61. (MIRA 14:12)

1. Laboratoriya mikroskopii Instituta tsitologii AN SSSR i Laboratoriya parazitologii Zoologicheskogo instituta AN SSSR, Leningrad.
(PROTOZOA, PATHOGENIC)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.; RYBAK, V.F.

Changes in the parasite fauna of fishes in Lake Pertozero and Lake Konchozero during a long period of time. Trudy Kar. fil. AN SSSR no.30:24-54 '61. (MIRA 15:9)
(Pertozero, Lake--Parasites--Fishes)
(Konchozero, Lake--Parasites--Fishes)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.

New system of Myxosporidia. Trudy Kar.fil.AN SSSR no.14:33-46 '59. (MIRA 15:12)

(Myxosporidia)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.; BERENIUS, Yu.N.; ZAKHAROVA, E.A.

Parasites of local schools of some fishes in Lake Syamozero.
Trudy Kar.fil.AN SSSR no.14:47-71 '59. (MIRA 15:12)
(Syamozero, Lake—Parasites—Fishes)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S.S.; ZAIKA, V. Ye.

Coccidia of Lake Baikal fishes. Izv. SO AN SSSR no.8 Ser. biol. med. nauk no.2:126-130 '64 (MIRA 18:1)

1. Zoologicheskiy institut AN SSSR, Leningrad, i Limnologicheskiy institut Sibirskogo otdeleniya AN SSSR, selo Listvenichnoye, Irkutskoy oblasti.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, S. S.

"Evolution and phylogeny of Mixosporidia."

report submitted for 1st Intl Cong, Parasitology, Rome, 21-26 Sep 1964.

Zoological Inst, AS USSR, Leningrad.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHULMAN, SL.

3

Strengthening ferrous-metal surfaces. G. M. Kremerman and S. E. Shul'man. U.S.S.R. 104,193, Nov. 25, 1956. Ferrous-metal surfaces are graphitized in a spark discharge at 50-100 v., up to 5 amp. and 50-150 microfarads. M. Hoseh

18

Met 2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

POLOVNEV, V.S.; SHUL'MAN, S.Ye.

Experience in using electric methods of working metals. Avt. i trakt.prom. no.11:30-34 N '56. (MLRA 10:1)

1. Khar'kovskiy traktornyy zavod.
(Electrometallurgy)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

23472

S/123/61/000/009/005/027
A004/A104

1.1110

AUTHORS: Movshovich, B.I., Shul'man, S.Ye.

TITLE: Electric spark machine for the simultaneous grinding and lapping of sprayer cones

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 9, 1961, 75, abstract 9B527 (Byul. tekhn.-ekon. inform. Sovnarkhoz Khar'kovsk. ekon. adm. r-na, 1958, no. 4, 77 - 80)

TEXT: The Khar'kovskiy traktornyy zavod (Khar'kov Tractor Plant) has designed and manufactured a 5-spindle electric spark semi-automatic for the simultaneous grinding and lapping of sprayer cones. Service tests during 4 months in three-shift operation yielded good results. A resolution was passed to manufacture these machines in order to transfer to them completely the grinding and lapping processes of sprayer cones. The authors analyze the operation principle of the machine, present its functional diagram and also the interaction schematic of the working head units. The liquid medium is gas oil supplied at a low pressure.

Card 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

23472

S/123/61/000/009/005/027
A004/A104

Electric spark machine ...

A surface finish of the 8 - 9th class is obtained during 3 min 40 sec by seven times changing the electric conditions. The setting and repair of one head does not impair the operation of the remaining four heads. There are 4 figures.

I. Bakuto

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SOV/117-59-3-20/37

25(2)

AUTHORS: Shul'man, ~~S.Ye.,~~ and Movshovich, B.I., Engineers

TITLE: An Electric Spark-Machine for Simultaneous Grinding and Finishing (Elektroiskrovoy stanok dlya odnovremennogo shlifovaniya i dovodki)

PERIODICAL: Mashinostroitel', 1959, Nr 3, pp 30 - 31 (USSR)

ABSTRACT: The electric spark- "grinding" of the inner cone surface of tractor fuel pump injector nozzles had already been introduced at the Khar'kovskiy traktornyy zavod (Khar'kov Tractor Plant), but the manual finishing after the "grinding" was too frequently unsatisfactory. The described five-spindle spark machine, designed, built and used now at the plant has eliminated the trouble and gives the final finish, with the work rate trebled as a result. The "grinding" effect is obtained through electric spark discharges between an electrode introduced into the injector nozzle cone and the cone surface itself, i.e. by fusion and evaporation of the sur-

Card 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SOV/117-59-3-20/37

An Electric Spark-Machine for Simultaneous Grinding and Finishing

face metal. The work is being done in a gas oil medium used for carrying away the removed metal. A complete work cycle with one cone takes 220 seconds. The electric process parameters change 7 times during this time by means of a "RV" time relay controlling the capacitances and resistances to obtain the wanted surface finish class. The mechanical and electrical systems of the machine are described in detail and illustrated by a kinematic and an electric diagram. There are 2 diagrams, 1 circuit and 1 table.

Card 2/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

~~SHUL'MAN, T.A.~~

SHUL'MAN, T.A.

Sul'man, T. A. On the bending of hypersurfaces in an affine space. Doklady Akad. Nauk SSSR (N.S.) 58, 1297–1299 (1947). (Russian)

At each point M of a hypersurface of $(n+1)$-dimensional affine space a moving polyhedral is determined by $n+1$ independent vectors e_i, where $e_1, \cdots, e_n$ span the hyperplane osculating the hypersurface at M. The equations of infinitesimal displacement of such a polyhedral are $dM=\omega^i e_i$, $\omega^{n+1}=0$, $de_i=\omega_i^j e_j$, $i, j=1, \cdots, n+1$. The vector e_{n+1} is selected so that (1) the volume of any n vectors in the osculating hyperplane is defined as the determinant of the coefficients expressing these vectors in terms of e_i, (2) the projection of a nearby osculating plane on that at M parallel to e_{n+1} preserves the volume. These requirements on e_{n+1} being satisfied, the vector is called equiaffine and it determines an affine connection in the hyperspace. Two hypersurfaces are called applicable if a point correspondence between them can be established so that the affine connections determined by e_{n+1} coincide. The author proves that for $n>2$ the determination of a hypersurface applicable to a given one depends on one function of n parameters.

M. S. Knebelman (Pullman, Wash.).

Source: Mathematical Review Vol. / No. /

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

235T75

SHUL'MAN, T. A.

USSR/Mathematics - Asymptotic Representation 21 Jul 52

"Asymptotic Representations of Triply Conjugate Systems of Surfaces," T. A. Shul'man

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 501-504

Three families of surfaces intersecting in a conjugate system of lines is called triply conjugate system R if one of these families consists of surfaces of R and if 2 of lines cut out in them is a net of R. Acknowledges guidance of Pro S. P. Finikov. Submitted by Acad I. G. Petrovskiy 27 May 52.

235T75

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, T.A. (Moskva).

Triply adjoint systems of R surfaces. Asymptotic transformations of R systems. Stratifiable R complexes. Mat.sbor.39 no.3:293-314 Jl '56. (MLRA 9:12)

(Surfaces)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, T.A. (Moskva)

Invariant nets on a hypersurface in four-dimensional projective space. Izv. vys. ucheb. zav.; mat. no.5:137-142 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, T.A., kand. fiziko-matem. nauk

Hypersurfaces in four-dimensional projective space. Trudy MTIT no.190:35-44 '65. (MIRA 18:8)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, V.

Individual or assembly-line work. Znan.-sila 35 no.2:4 F '60. (MIRA 13:5)

(Labor productivity)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550130015-0

SHUL'MAN, Vladimir Borisovich; FEDCHENKO, V., red.; KOVALEV, A., tekhn.red.

[The ABC of productivity; talks on the economics of an industrial enterprise] Azbuka proizvoditel'nosti; besedy ob ekonomike promyshlennogo predpriiatiia. Moskva, Izd-vo TsK VLKSM "Molodaia gvardiia," 1961. 141 p. (MIRA 15:5)
(Industrial management)

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SHUL'MAN, V.B., inzh.

Plan for the over-all mechanization of production processes in the Economic Council of the Latvian S.S.R. Mekh. i avtom. proizv. 17 no. 3:44-46 Mr '63. (MIRA 17:9)

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(A) L 11058-66 EPA/EWP(f)/T-2/ETC(m) WW

ACC NR: AP6002956 SOURCE CODE: UR/0286/65/000/024/0126/0126

INVENTOR: Kovalevskiy, M. M.; Gorshkov, V. N.; Zatkovetskiy, G. N.; Kumkov, P. A.; Shul'man, V. L.; Bantikov, Yu. S.; Svyatskiy, Z. M.

ORG: none

TITLE: Mixer and exhaust duct for a gas-turbine combustion chamber. Class 46, No. 177231

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 126

TOPIC TAGS: gas turbine engine, gas turbine, combustion chamber, turbine cooling

ABSTRACT: The proposed mixing chamber and exhaust duct is equipped with an external screen forming an annular clearance for feeding cooling air (see Fig. 1). The air then enters the mixing chamber through openings in its walls. To ensure a more uniform cooling of all combustion chamber components, the clearance is divided by a

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