"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

On the problem of....

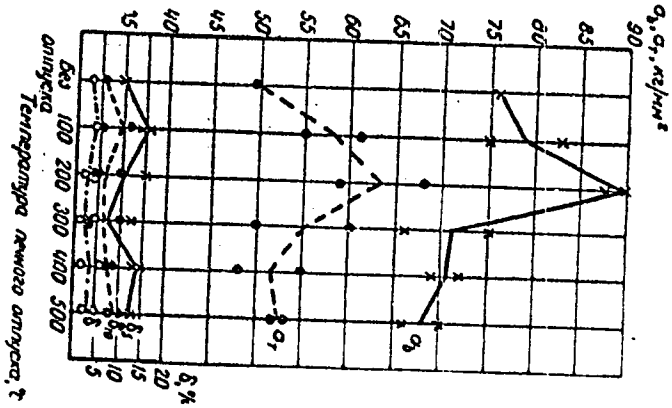
concentration of dislocations and, consequently, a larger number of sources of relaxation processes. There are 7 figures and 1 table.

ASSOCIATION: Tul'skiy mekhanicheskiy institut
(Tula Mechanical Institute)

S/126/63/015/003/020/025
E193/E383

SUBMITTED: May 25, 1962 (initially)
September 25, 1962 (after revision)

Fig. 1:



Card 3/4

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E193/E383

On the problem ..

Fig. 5:

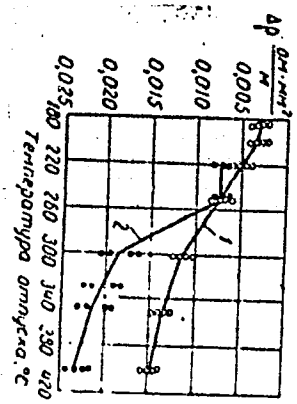


Fig. 2:

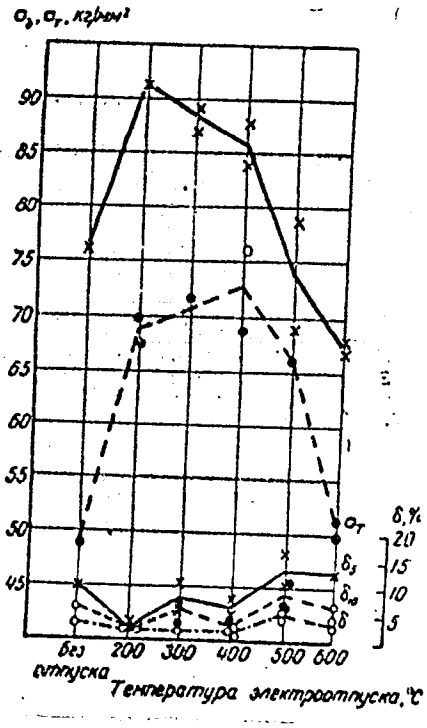
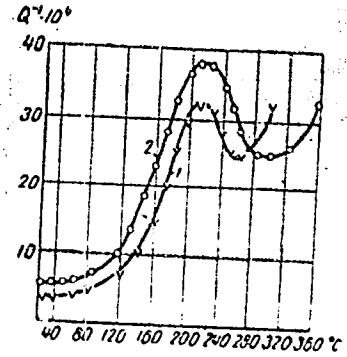


Fig. 7:



Card 4/4

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONE, R.G.; SOKOLOVSKIY, P.I.

Evaluation of the tendency of steel to cold brittleness under conditions of unequal distribution of temperatures in a specimen. Zav. lab. 30 no.1:86-88 '64. (MIRA 17:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONE, R.G.; SOKOLOVSKIY, P.I.; BERNSHTEYN, S.V.

Method of electron fractographic study of fractures of low alloy steel. Zav.lab. 30 no.12:1476-1478 '64. (MIRA 18:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ACCESSION NR: AP4041770 S/0032/64/030/007/0880/0884

AUTHOR: Arono, R. G.

TITLE: On the method for evaluating cold brittleness in steels under extracentral specimen tension with temperature drop

SOURCE: Zavodskaya laboratoriya, v. 30, no. 7, 1964, 880-884

TOPIC TAGS: steel fracture, cold brittleness, crystalline structure, electron diffraction, plastic deformation, elastic limit/ 10G2S steel, LATR furnace

ABSTRACT: The origin and propagation of brittle fractures in steel were studied under static loads and a temperature differential of 200C. One end of the specimen was held at 40C by means of an electric heater and the other in liquid nitrogen at -160C. Temperature control was achieved by means of 0.25-mm copper-constantan thermocouples. Tension on the specimen was obtained in a 150-ton horizontal hydraulic machine. Various types of notches were used: semicircular, V-shape, and a Menazh notch. The specimen was prepared from type 10G2S sheet-rolled steel. A stress-strain diagram obtained for the test showed the elastic branch, the plastic branch followed by the curves indicating the onset of fractures, and finally a sudden spread of fractures along most of the specimen cross section. The nature of

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ACCESSION NR: AP4041770

the fracture was a function of the load itself. It was finely crystalline close to the notch and became chevron-like farther away from the notch. The terminus of the brittle fracture had a blade-shaped structure. Tests with different steels show that the lowest temperature fracture inhibition occurs in 12-mm thick, quenched (from 910C in water and annealed at 650C) specimens, followed by the hot-rolled 12-mm specimen, then in the 20-mm quenched specimen, and, finally, the highest critical temperature for fracture occurs in the hot-rolled specimen (20-mm thick). Electron-diffraction microphotographs indicate that the intensity of microplastic deformations increases noticeably near the end portions of the brittle fracture. In general, it is concluded that the higher the fracture load the larger will be the storage of elastic energy in the system and the larger the propagation of fractures. Orig. art. has: 5 figures.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut stroitel'ny*kh konstruktsiy (Central Scientific Research Institute of Building Construction)

SUBMITTED: 00 ENCL: 00

SUB CODE: MM NO REF SOV: 003 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

BALDIN, V.A.; BELYAYEV, B.I.; SOKOLOVSKIY, P.I.; SHEYNFEL'D, N.M.; ARONE, R.G.

Steels of increased and high strength for structural elements. Prom. stroi. 41 no.1:17-21 Ja '64. (MIRA 17:6)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

VARNAVSKIY, I.N.; POLYAKOVA, V.S.; ARONE, R.G.; SOKOLOVSKIY, P.I.

15XSND thermally processed steel. Prom. stroi. 42 no.1: 36-37 '65. (MIRA 18:3)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

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APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONE, R.G.

Mechanism of the brittle failure of metals with a body-centered cubic lattice. Fiz. met. i metalloved 20 no.1:138-139 Jl '65. (MIRA 18:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy imeni V.A.Kucherenko.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

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APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONE, R.G.; SOKOLOVSKIY, P.I.; BERNSHTEYN, S.V.; ARNOL'D, G.Ye.

Correspondence between the macroscopic and microscopic structures of brittle fractures. Zav. lab. 31 no.11:1376-1380 '65. (MIRA 19:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy imeni Kurchenko.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

L 36949-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JG/AT/WH

ACC NR: AP6018640 (A) SOURCE CODE: UR/0422/66/000/005/0087/0087

AUTHOR: Arone, R. G.; Balakina, I. A.; Bochkareva, A. I.; Stetsenko, B. A.; Sokolovskiy, P. I.

ORG: none

TITLE: A standard for low-alloy structural steel

SOURCE: Standarty i kachestvo, no. 5, 1966, 87

TOPIC TAGS: construction material, structural steel, alloy steel, welding evaluation, mechanical property / 16GS steel, 09G2S steel, 10G2S1 steel

ABSTRACT: A series of innovations in low-alloy structural steels (GOST 5058-65) based on recent work done at the Central Scientific Research Institute for Ferrous Metallurgy is described. Nineteen new grades of high strength low-alloy steel containing small amounts of carbide and nitride forming elements (Ti, V, Zr, Nb) were developed. Higher quality and performance are claimed for the new materials and suitable applications are recommended. The steels were melted in standard Martens furnaces and oxygen-converted. While the majority are used in the hot-rolled condition, they may be heat-treated to yield strengths of 40-50 kg/cm^2 with a saving of 20-30% in material. The heat-treated steels possess lower brittle fracture tendencies and slight aging sensitivity. Phosphorus and sulfur contents of the steels were maintained within strict limits (below

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ACC NR: AP7005137 SOURCE CODE: UR/0126/66/022/004/0617/0618

AUTHOR: Arone, R. G.

ORG: TsNII of Structural Parts im. V. A. Kucherenko (TsNII stroitel'nykh konstruktsiy)

TITLE: About the origin of brittle cracks in steel during twinning

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 4, 1966, 617-618

TOPIC TAGS: low temperature effect, brittleness, twinning, crack propagation, metallographic examination

ABSTRACT: Several types of microcrack formation during twinning are discussed. The crack nuclei necessarily lie either in the (100) plane, or in an arbitrary direction to it. Sometimes microcrack formation is found in the twin boundaries, the matrix proper or near the boundaries, as is shown in two given microstructures of St 3 steel. These microstructures were made of St 3 steel, fractured under plane strain conditions (biaxial stress, $n = 1/2$) at -196°C. Microcracks were visible along twin boundaries and between twins. This once again confirmed the fact that twin boundaries, as well as regions of accomodation, are favorable growth sites for brittle cracks. However, brittle microcracks formed along (112) planes and in zones removed from the twins. Sometimes the external shape and the relative distribution of twins and microcracks

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ACC NR: AP7005137

was so similar that it seemed probable that the mechanism of microcrack formation was related to the twinning mechanism. For example, one microstructure, which was very typical of the deformation of ferritic steel at low temperatures, showed the interaction of two twins at an angle. Other microstructures of the same steel showed a crack intersecting a twin and two intersecting cracks. It is concluded that the mechanism of microcrack formation was rupturing between twins, similar to the theory of Fujita. Thus, as in the case of slip, during twinning it is possible that several mechanisms exist in the cleavage as well as in the (112) planes. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: 24Aug65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONEANU, M.

"Metallurgic research", Reviewed by M. Aroneanu.
Metalurgia Rum 15 no.4:331-332 Ap '63.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONI, Andrea, kand. shk. mjek.

The action of α-chymotrypsin on cataract extraction. Bul. univ. shtet. Tirane[Mjek] 2:45-55 '62.

(CHYMOTRYPSIN) (CATARACT EXTRACTION)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONI, Andrea, kand. shk. mjek.

The Posner-Schlossmann syndrome. Bul. univ. shtet. Tirane [Mjek] 1:79-83 '63.

(GLAUCOMA) (TONSILLITIS)
(FOCAL INFECTION, DENTAL)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, A.Ye.

Use of antibiotics in the over-all treatment of typhoidal peritonitis. Vrach.delo no.12:1265-1269 D '56. (MIRA 12:10)

1. Gospital'naya khirurgicheskaya klinika (zav. - prof.A.G. Sosnovskiy) Odesskogo meditsinskogo instituta.
(TYPHOID FEVER) (PERITONITIS) (ANTIBIOTICS)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, A. YE., Cand Med Sci -- (diss) "Complex therapy for typhoidal peritonitis." Odessa, 1957, 15 pp (Odessa State Medical Institute im N. I. Pirogov), 200 copies (KL, 36-57, 107)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, A.Ye. (Odessa, ul. Sverdlova, d.56, kv.6)

Case of angiosarcoma of the jejunum. Nov.khir.arkh.no.6:74-75 N-D '57. (MIRA 11:3)

1. Gospital'naya khirurgicheskaya klinika (zav. - prof. A.G. Sosnovskiy) Odesskogo meditsinskogo instituta.
(JEJUNUM--TUMORS)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, A.Ye., kand.med.nauk (Odessa, ul. Sverdlova, d.56, kv.6)

Retrograde invagination of the small intestine caused by fibroma. Nov.khir.arkh. no.5:113-114 S-O '59. (MIRA 13:3)

1. Khirurgicheskoye otdeleniye vtoroy klinicheskoy bol'nitsy TSentral'nogo rayona Odessy.
(INTESTINES--INTUSSUSCEPTION) (TUMORS)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

KATSER, I.I.; ARONIN, A.Ye., kand.med.nauk

Differential diagnosis of Botkin's disease and malignant neoplasms causing obstructive jaundice. Vrach.delo no.1:51-55 '60. (MIRA 13:6)

1. Khirurgicheskoye otdeleniye Vtoroy klinicheskoy bol'nitsy TSentral'nogo rayona Odessy i 14-ye otdeleniye infektsionnoy bol'nitsy.

(HEPATITIS, INFECTIOUS) (JAUNDICE) (CANCER)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, A.Ye., kand.med.nauk (Odessa, ul.Sverdlova, d.56, kv.6)

Phlegmon of the intestine. Nov. khir. arkh. no.1:80-84 Ja-F '60. (MIRA 15:2)

1. Khirurgicheskoye otdeleniye (zav. - kand.med.nauk S.A.Beylin) Klinicheskoy bol'nitsy vodno-transportnogo rayona Odessy, nauchnyy rukovoditel' - prof. A.G.Sosnovskiy.
(PHLEGMON) (INTESTINES--DISEASES)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

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67131
SOV/166-59-6-4/11

AUTHORS: Aronov, D.A., Avak'yants, G.M.

TITLE: The Influence of the Depletion (or Antidepletion) Layer at the Contact Metal-semiconductor on the Volt-ampere Characteristic of the p-n Junction.

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Nr 6, pp 27 - 40 (USSR)

ABSTRACT: In the first theory [Ref 1] of the p-n junction the influence of the electrodes on the process of the junction was not taken into consideration. In later papers of A.V. Rzhanov [Ref 2] and N.A. Penin [Ref 3] this influence was taken into account, however, the case where the minority carriers of the current meet barriers of the kind of a depletion or antidepletion layer of the semiconductor on their way to the electrodes, was neglected. The present paper deals with the investigation of this case. It is based on a unidimensional rectifier model. In the calculations the authors assume that the hole region is infinite and the electron region is of thickness w ; they do not consider the recombination of the electrons with the holes during the p-n junction ; the eledtrode of the n-region has a depletion

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

24(3) 24.7700 68583

S/166/60/000/01/003/011

AUTHOR: Aronov, D.A.

TITLE: On the Theory of Frequency Properties of Diodes of Semiconductors

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, Nr 1, pp 23-34 (USSR)

ABSTRACT: In [Ref 1] the author considered the influence of the barrier to the volt-ampere characteristic of a rectifier with a crass p-n-transition in the case of direct current. In the present paper the author considers an alternating-current rectifier under the same assumptions as in [Ref 1]. The corresponding non-stationary equations are solved in a linear approximation. The obtained solutions are separated for low and high frequencies and they are investigated in detail. It is stated: for a weakening of the frequency dependence of the total resistance of the p-n-transition it is necessary 1) to reduce, if possible, the thickness of the n-region; 2) to raise, if possible, the recombination velocity on the electrode; 3) to choose a material for the

Card 1/2

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

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On the Theory of Frequency Properties of Diodes of Semiconductors S/166/60/000/01/003/011

electrode so that at the contact there appears a barrier with a sufficiently large potential difference.
The author mentions N.A.Penin, and Davydov.
There are 3 references, 2 of which are Soviet, and 1 German.

ASSOCIATION: Fiziko-Tekhnicheskiy institut ANUz SSR (Physical Technical Institute AS Uz SSR)

SUBMITTED: June 12, 1959

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

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83891

9.4300 2104 (1035, 1138, 1143)
26.1630

S/166/60/000/004/006/008
C111/C222

AUTHORS: Aronov, D.A., and Karageorgiy-Alkalayev, P.M.

TITLE: On the Theory of the Inverse Volt-Ampere Characteristic of Semiconductor Diodes

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, No.4, pp. 75-88.

TEXT: The authors obtain an expression for the volt-ampere characteristic of a diode with a crass p-n junction and a finite thickness of a region of diodes. In presence of an anti-depletion layer at the contact with the metal there holds a saturation of the back current. The strength of the saturation currents is small. Therefore the authors recommend a use of contacts with anti-depletion layers. In the case of good ohmic contacts and contacts with depletion layer the back current in the region of saturation increases with the voltage as

$$(w'-x_1 + \frac{1}{\varkappa_1} \theta)^{-1},$$

where w' is the right boundary of the quasineutral n-region, x_1 is the width of the volume charge in the electronic semiconductor and θ is a

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

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C111/C222

On the Theory of the Inverse Volt-Ampere Characteristic of Semiconductor Diodes

constant. It is stated that such an increase is in no connection with the generation of carriers in the region of the volume charge. For voltages for which the volume charge is extended up to the contact, the back current changes in dependence on the voltage in agreement with the model of the "chemical" depletion layer (Ref.13). It is shown that in the case of thin diodes the differential resistance has a maximum. The situation of the maximum depends weakly on the temperature. A comparison with the experiment (Ref.6) showed a good agreement. The authors mention K.B.Topygo, E.I.Rashba and A.I.Gubanov. There are 3 figures and 18 references: 12 Soviet, 3 English, 1 American and 2 German.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Uz SSR (Physical-Technical Institute of the Academy of Sciences Uzbekskaya SSR)

SUBMITTED: May 5, 1960

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

MIROSHNICHENKO, Anisim Maksimovich; ARONOV, G.S., red.; LEKHT, I.A., red.izd-va; KOROVINA, N.A., tekhn.red.

[Scientific principles of coal classification for coking purposes] Nauchnye osnovy klassifikatsii uglei dlia koksovaniia. Moskva, Metallurgizdat, 1963. 109 p. (MIRA 17:2)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, G., (Engr-Col.) Candidate of Technical Sciences

Author of article, "The Aerodynamic Characteristics and Forms of Fast Airplanes." (Vestnik Vozdushnogo Flota, Moscow, No 10, Oct 53)

SO: SUM No. 208, 9 Sep 1954

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

Aronin, G.S.

86-1-27/30

AUTHOR: Aronin, G.S., Engr Col, Docent, Candidate of Technical Sciences; and Medvedev, S.S., Engr Lt Col, Candidate of Technical Sciences.

TITLE: Estimating the Combat Capacities of Fighters (O rashchete boyevykh vozmozhnostey istrebiteley).

PERIODICAL: Vestnik Vozdushnogo Flota, 1958, Nr 1, pp. 84-86 (USSR)

ABSTRACT: Under this title appear two articles under the following subtitles: 1. "Unjustified Method" by Engr Col G.S. Aronin and 2. "To Continue the Research for a More Acceptable Method", by Engr Lt Col S.S. Medvedev. The authors discuss the article "Combat Capacities of Fighters and the Method of Determining Them" by Col B.Ya. Kudryashov and Lt Col P.G. Nikitin, which was published in the No. 8 issue of this periodical in 1957. Both, Aronin and Medvedev, raised

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

86-1-27/30

Estimating the Combat Capacities of Fighters (Cont.)

some objections to the method suggested by Kudryashow and Nikitin. Particular attention is drawn to the inadequacy of the new concept of "determining the degree of superiority of the figher-plane over the enemy", which is expressed by coefficient C in the final formula of the computations.

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONIN, Grigoriy Solomonovichdotsent, kand. tekhn. nauk, inzhener-polkovnik; GAVRILOV, N.N., polkovnik, red.; MYASNIKOVA, T.F., tekhn. red.

[Practical aerodynamics; manual for flight crews] Prakticheskaia aerodinamika; uchebnik dlia letnogo sostava. Moskva, Voen.izd-vo M-va oborony SSSR, 1962. 382 p. (MIRA 15:4)
(Aeronautics)

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PHASE I BOOK EXPLOITATION SOV/6081

Aronin, Grigoriy Solomonovich, Docent, Candidate of Technical Sciences, Engineer-Colonel

Prakticheskaya aerodinamika; uchebnik dlya letnogo sostava (Practical Aerodynamics; Manual for Flying Personnel). Moscow, Voyenizdat M-va obor. SSSR, 1962. 382 p. 15,000 copies printed.

Ed.: N. N. Gavrilov, Colonel; Tech. Ed.: T. F. Myasnikova.

PURPOSE: This book is intended for flight personnel of the Soviet Air Force having elementary knowledge of the theory and practice of flight and familiarity with mathematics and physics within the scope of the secondary-school curricula. The book may be useful to students of military academies, students of flight schools and aeronautical technical schools, and to the flight personnel of the Civil Air Fleet and the DOSAAF (All-Union Voluntary Society for the Promotion of the Army, Air Force, and Navy).

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ARONINA, R.S.

RODIONOVA, Z.A.; ARONINA, R.S.

Hypnosis for treating hypertension. Sov.med.19 no.8:65-69 Ag '55. (MLRA 8:10)

1. Iz Gor'kovskogo gorodskogo psikhonevrologicheskogo dispansera (zav. Z.A.Rodionova) i fakul'tetskoy terapevticheskoy kliniki Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova (zav. kafedroy - prof. A.I.Gefter)

(HYPERTENSION, therapy
hypnosis)
(HYPNOSIS, ther.use.
hypertension)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONINA, R.S., kandidat meditsinskikh nauk

Intradermal novocaine block in the cardiac region in stenocardia. Sov.med. 20 no.6:62-63 '56. (MIRA 9:9)

1. Iz fakul'tetskoy terapevtic eskoy kliniki (zav. kafedroy fakul'tetskoy terapii prof. A.I.Gefter) Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova.

(ANGINA PECTORIS, therapy,
procaine intradermal block in cardiac region (Rus))
(PROCAINE, therapeutic use,
angina pectoris, intradermal block in cardiac region (Rus))
(ANESTHESIA, REGIONAL, in various diseases,
intradermal procaine block in cardiac region in angina pectoris (Rus))

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

KRIVSUNOV, V. N.; ARONINA, S. Ye.; YANOVSKIY, S. M.; MATVEYEV, A. A.

Experimental study of the static characteristics of the ethane-ethylene tower. Khim prom no. 3:221-224 Mr '64. (MIRA 17:5)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

KRIVSUNOV, V.N.; ARONINA, S.Ye.; YANOVSKIY, S.M.

Mathematical model of the static characteristic of a commercial ethane-ethylene rectification column. Khim. prom. 41 no.8: 617-620 Ag '65.
(MIRA 18:9)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONINA, YU. N. and others

ID Number----941342

Tekhnologiya mekha.
Moscow, 1948.
400 p.

A textbook for higher institutions of learning dealing with the various phases of fur technology, including skins, hair structure, raw furs, tanning processes, dyeing methods, finishing operations, etc.

1. Russia - Hides and Skins
2. Russia - Leather
3. Russia - Research
i. Fur technology
ii. Title

15

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONINA, Yu.N.

Ca

25

The solubilities of oxidation products of the Ursols. Yu. N. Aronina. *Legkaya Prom.* 8, No. 7, 26-7(1948). Ursol A (*p*-aminophenol) and Ursol D (*p*-phenylenediamine) were oxidized with 3% H_2O_2 and the products examd. N contents of the products were 20% from Ursol D and 13% from Ursol A. Mol. wts. were 302-343 from Ursol D and 321-330 from Ursol A. Marshall Sittig

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONINA, Yu.N.

Ca

25

Spectrophotometric studies of the products of oxidation of the Ursols. Yu. N. Aronina. *Lekhnya Prom.* 8, No. 11, 23-4(1948).—Absorption curves are presented for oxidation products of Ursol D and for various solvent exts. of the oxidation products. Marshall Sittig

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONINA, Yu.N.

CHERNOV, Nikolay Vladimirovich, prof.; ARONINA, Yu.N., dots.; GAYDAROV, L.P., dots.; STRAKHOV, I.P., prof.; SHESTAKOVA, I.S., prof.; KOTOV, M.P., prof., retsenzent; MIKHAYLOV, A.N., prof., retsenzent; RAZUMOVSKAYA, Ye.V., red.; KNAKNIN, M.T., tekhn.red.

[Chemistry of the leather and fur industries] Khimiia koshevennogo i mekhovogo proizvodstva. Pod boshchei red. N.V.Chernova. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1957. 456 p. (Fur) (Chemistry, Technical) (Leather industry) (MIRA 11:3)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

CHERNOV, Nikolay Vladimirovich; ARONINA, Yuliya Naumovna; GAYDAROV, Leonid Petrovich; GOLOVTEYEVA, Alevtina Alekseyevna; STRAKHOV, Ivan Pavlovich; SHESTAKOVA, Irina Sergeyevna; YEGORKIN, N.I., prof., retsenzent; KOTOV, M.P., prof., retsenzent; PLEMYANNIKOV, M.N., red.; KNAKNIN, M.T., tekhn.red.

[Leather and fur technology] Tekhnologiia kozhi i mekha. Pod obshchei red. N.V.Chernova. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po legkoi promyshl., 1959. 719 p. (MIRA 13:2)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti (for Chernov, Aronina, Gaydarov, Golovteyeva, Strakhov, Shestakova).
(Leather) (Fur)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

SERGEYEV, V.I., insh.; ARONINA, Yu.N., kand.tekhn.nauk, dotsent

Dyeing furs with acid dyes. Izv.vys.ucheb.zav.;tekh.leg.prom. no.1:81-88 '59. (MIRA 12:6)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovano kafedroy tekhnologii kozhi i mekha.
(Fur--Dressing and dyeing)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

CHERNOV, N.V., prof., doktor tekhn.nauk; ARONINA, Yu.N., dotsent, kand.tekhn.nauk

Determining the stretch of fur semifinished products. Izv. vys.ucheb.zav.; tekh.leg.prom. no.3:62-65 '59.
(MIRA 12:12)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii koshi i mekha.
(Hides and skins)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

FEDOTOVA, E. N., inzh.; ARONINA, Yu. N., kand. tekhn. nauk, dotsent

Use of active dyes in fur dyeing. Izv. vys. ucheb. zav.; tekh. leg. prom. no.4:55-60 '62. (MIRA 15:10)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii kozhi i mekha.

(Fur—Dressing and dyeing)

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PETROVA, N.I., inzh.; ARONINA, Yu.N., kand. tekhn. nauk, dotsent

Changes of the physicomechanical properties of the hair cover of rabbit skins during chemical processing. Nauch. trudy MTILP no.24:60-65 '62. (MIRA 16:7)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Fur—Testing)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

AKSENOVA, G.M., inzh.; ARONINA, Yu.N., kand. tekhn. nauk, dotsent

Use of silicon organic compounds for the modification of the hair covering of fur sheep skins. Nauch. trudy MTILP no.26: 85-88 '62. (MIRA 17:5)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

SAZYKINA, O.P., aspirant; ARONINA, Yu.N., kand. tekhn. nauk, dotsent

Active dyes. Nauch. trudy MTILP no.26:89-108 '62. (MIRA 17:5)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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ARONINA, Yuliya Naumovna; YEFREMOVA, Polina Yakovlevna; AFONSKAYA, N.S., kand. tekhn. nauk, retsenzent; DUKHOVNYY, F.N., red.; ZOLOTAREVA, I.Z., tekhn. red.

[Technology of fur] Tekhnologiia mekha (spetsial'nye glavy). Moskva, Gizlegprom. 1963. 109 p. (MIRA 16:9)
(Fur)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ALATYRTSEVA, I.N., aspirant; ARONINA, Yu.N., kand. tekhn. nauk, dotsent

Possibility of dyeing leather with dispersed dyes for acetate silk. Nauch. trudy MTILP no.30:78-82 '64.

(MIRA 18:6)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

SAZYKINA, O.P., aspirant; ARONINA, Yu.N., kand. tekhn. nauk, dosent; LAVROVA, A.P., inzh.

Nature of the interaction of active dyes with the hair carotene. Report No.2. Nauch. trudy MTILP no.30:83-90 '64. (MIRA 18:6)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

SAZYKINA, G.P., aspirant; ARONINA, Yu.N., kand. tekhn. nauk, dotsent; STARKOVA, Ye.S., inzh.

Effect of active dyes on the physicomechanical properties of the fur hair covering. Report No.3. Nauch. trudy MTILP no.30: 91-95 '64. (MIRA 18:6)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

STRAKHOV, Ivan Pavlovich, prof.; ARONINA, Yuliya Naumovna, dots.; GAYDAROV, Leonid Petrovich, dots.; GOLOVTEYEVA, Alevtina Alekseyevna, dots.; CHERNOV, Nikolay Vladimirovich, prof.; SHESTAKOVA, Irina Sergeyevna, prof.; KOTOV, M.P., prof., retsenzent; KLOCHKOV, S.A., inzh., retsenzent; GRACHEVA, A.V., red.; PLEMYANNIKOV, M.N., red.

[Chemistry and technology of leather and fur] Khimiia i tekhnologiia kozhi i mekha. Moskva, Legkaia industriia, 1964. 621 p. (MIRA 18:2)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

MENDEL'SON, Dmitriy Aleksandrovich; ARONINA, Yu.N., dots., retsenzent; PLEMYANNIKOV, M.N., red.

[Chemistry of fur dressing, bleaching and dyeing] Khimiia oblagorazhivaniia, otbelivaniia i krashoniia mekha. Moskva, Legkaia industriia, 1965. 313 p. (MIRA 18:12)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

S/181/63/005/002/026/051
B104/B102

AUTHOR: Aronov, A. G.

TITLE: Oscillations of the light absorption coefficients in crossed electric and magnetic fields

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 552-555

TEXT: A theoretical study is made of the behavior of the absorption coefficient of semiconductors in crossed electric and magnetic fields. The bands are assumed parabolic with extrema in the center of the Brillouin zone. The matrix for the transition from the first into the second Brillouin zone is calculated. With the aid of this matrix

$$\alpha = \frac{4\pi^2 e^3 H}{\hbar^2 n_0 c^2 m^2 \omega}\left(\frac{2m_1 m_2}{m_1+m_2}\right)^{1/2}(\mathbf{p}_{12}\mathbf{e})^2 \exp\left(-\frac{a^2}{2}\right)\sum_{n,n'}\left|\sum_{m=0}^{n'+1} b_m(n',n)\, a^{n+n'-2m}\right|^2 \times \left(\hbar\omega - \varepsilon_{nn'}\right)^{-1/2} \tag{6}$$

$$\varepsilon_{nn'} = \varepsilon_0 + \hbar\omega_{c_1}\left(n+\frac{1}{2}\right) + \hbar\omega_{c_2}\left(n'+\frac{1}{2}\right) - \frac{(m_1+m_2)e^2}{2}\frac{E^2}{H^2}. \tag{7}$$

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is obtained for the absorption coefficient in the region of the absorption edge. $(p_{12}e)$ is the matrix element for the dipole transition at $k = 0$, $\tau = eEL_M/\hbar\omega_c$. L_M is the magnetic radius. It follows that the absorption maxima depend on the quantity of the electric field and that the effective masses in the conduction band and in the valence band can be determined from this dependence. Unlike for magnetooptical absorption, there is no selection rule for n. The intensity of the maxima depends on the electric field. The analytic forms of this dependence are different for different transitions. (There are 2 figures and 1 table.

SUBMITTED: September 7, 1962

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A.G.; PIKUS, G.Ye.

Magnetic susceptibility in mutually opposed electric and magnetic fields. Fiz. tver. tela 6 no.2:506-511 F '64. (MIRA 17:2)

1. Institut poluprovodnikov AN SSSR, Leningrad.

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ACCESSION NR: AP4013514 S/0181/64/006/002/0506/0511

AUTHORS: Aronov, A. G.; Pikus, G. Ye.

TITLE: Magnetic susceptibility in crossed electrical and magnetic fields

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 506-511

TOPIC TAGS: magnetic susceptibility, magnetic field, electric field, magnetic moment

ABSTRACT: The authors have examined the possibility of investigating magnetic susceptibility in crossed electrical and magnetic fields when it is impossible to take scattering into account in the first approximation. The dependence of magnetic susceptibility on the electrical field makes it possible to determine directly the effective mass of carriers, since the only component in the expression for full magnetic moment that depends significantly on the electrical field is the magnetic moment of the free carriers. It is found that by measuring the change in magnetic moment when the electrical field is applied it is possible to discriminate reliably the magnetic moment associated with the free carriers. If an alternating current is sent through a sample, the frequency being many times

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the intrinsic mechanical frequency of the system, this system under the effect of ponderomotive forces will remain quiet, whereas the effect of an electrical field on magnetic susceptibility leads to the appearance of a constant force, proportional to the magnitude of the effect. However, ponderomotive forces proportional to the current may be practically excluded by making the sample of two coaxial cylinders, one within the other, so connected that the current flows in opposite directions in the two parts. This makes the total current through the section equal to zero. "The authors thank Yu. N. Obraztsov and V. L. Gurevich for their useful advice during discussions." Orig. art. has: 12 formulas.

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

SUBMITTED: 22Aug63 DATE ACQ: 03Mar64 ENCL: 00

SUB CODE: EM NO REF SOV: 002 OTHER: 003

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A.G.; PIKUS, G.Ye.

Indirect optical transitions in crossed electric and magnetic fields. Zhur.eksp. i teor.fiz. 49 no.6:1904-1912 D '65. (MIRA 19:1)

1. Institut poluprovodnikov AN SSSR. Submitted July 6, 1965.

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L 9919-66 FBD/EWT(1)/EWT(m)/EEC(k)-2/T/EWP(t)/EWP(k)/EWP(b)/EWA(m)-2/EWA(h)

ACC NR: AP6000852 SCTB/IJP(c) WG/JG/JD SOURCE CODE: UR/0181/65/007/012/3548/3557

AUTHOR: Pikus, G. Ye.; Aronov, A. G.

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

TITLE: Line width of a semiconductor laser

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3548-3557

TOPIC TAGS: semiconductor laser, line width, gallium arsenide, pn junction, carrier density

ABSTRACT: This is a companion to a paper by one of the authors in the same source (Pikus, FTT v. 7, 3536, 1965; Acc.Nr.AP6000851) dealing with the threshold voltage and threshold current of a semiconductor laser with steep p-n junction. In the present article the authors calculate the line width of such a laser, in which the main recombination occurs in the junction itself and the carrier distribution is determined by the junction field. It is shown first that the laser emission spectrum is not continuous but consists of lines with strictly defined frequencies. The line broadening is brought about by the finite rate of influx of carriers to the levels between which transitions are produced by the radiation. It is also shown that the usual formulas for mobility, in which the screening radius is assumed to be equal to the average distance between impurities, can be used with good approximation for semiconductors used for lasers, such as GaAs. The line broadening is found to be proportional to

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L 9919-66

ACC NR: AP6000852

$(J - J_{thr})^{1/3}$, where J is the current flowing through the laser and Jthr is the threshold current. This is found to be in good agreement with the experimental data. Orig. art. has: 2 figures, 26 formulas, and 3 tables. [02]

SUB CODE: 20/ SUBM DATE: 10Jun65/ ORIG REF: 002/ OTH REF: 003
ATD PRESS: 4166

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L 24251-66 EWT(1)/T/EWA(h) IJP(c) AT

ACC NR: AP6005467 SOURCE CODE: UR/0053/66/088/001/0161/0177

AUTHOR: Aronov, A. G.; Oskomskiy, V. S.

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

153
69
B

TITLE: Sixth all-union conference on the theory of semiconductors

SOURCE: Uspekhi fizicheskikh nauk, v. 88, no. 1, 1966, 161-177

TOPIC TAGS: semiconductor theory, semiconductor plasma, transport phenomenon, semiconductor band structure, semiconductor carrier, exciton, luminescence, light absorption, crystal lattice vibration, solid state physics conference

ABSTRACT: This conference was sponsored by the Scientific Council on the Physics and Chemistry of Semiconductors (Academy of Sciences SSSR) jointly with the Academy of Sciences of the Moldavian SSR and the University of Kishinev, and was held from October 26 to 31 1964 in Kishinev. There were 284 participants and 128 papers were presented at 11 sessions. The papers of each session were summarized by a rapporteur who reviewed the state of the corresponding problems. The sessions were devoted to the following subjects (the name of the rapporteur is in parentheses):

1. Plasma phenomena in semiconductors (L. E. Gurevich), dealing with the spectra of semiconductors in equilibrium, nonlinear phenomena associated with the propagation of electromagnetic waves in semiconductor plasma, and non-equilibrium aspects of the electromagnetic spectrum. Papers by F. G. Bass; F. G. Bass and S. I. Khanikina; V. L. Bonch-Bruyevich and S. G. Kalashnikov; O. V. Konstantinov and V. I. Perel'; L. E.

Card 1/4 UDC: 537.311.33

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ACC NR: AP6005467

35

Gurevich, B. L. Gel'mont, and I. V. Ioffe; and I. B. Levinsion.

2. Quantum theory of transport phenomena (A. L. S. Efros), dealing with the quantum mechanical aspect of the motion of various carriers and excitations and their interaction with electric and magnetic fields in semiconductors. Papers by A. I. Ansel'm, Yu. N. Obraztsov, and R. G. Tarkhanyan; Yu. N. Obraztsov; G. I. Guseva; P. S. Zyryanov; V. L. Gurevich and Yu. A. Firsov; S. T. Pavlov and Yu. A. Firsov, and V. P. Kalashnikov and G. G. Taluts.

3. Band theory of semiconductors (K. B. Tolpygo), dealing with both the group theoretical and quantitative approaches to the electron dispersion in semiconductors. Among the lecturers were N. V. Kudryavtseva and V. E. Stepanov; G. F. Karavayev; V. A. Chaldyshev and A. S. Poplavnyy; V. G. Lyapin and K. B. Tolpygo; K. B. Tolpygo and D. I. Sheka; A. I. Gubanov; and V. M. Agranovich.

4. Theory of carrier recombination (V. L. Bonch-Bruyevich), dealing with the states from which electrons are captured, the manner of capture, and the final state of the electron. Papers were delivered by E. P. Sinyavskiy; V. A. Kovarskiy; V. A. Kovarskiy and I. A. Chaykovskiy; Ye. M. Kuznetsova; and V. L. Bonch-Bruyevich and A. A. Drugova.

5. Excitons and supplementary light waves (S. I. Pekar), dealing with various secondary effects produced by excitons in semiconductors, from both the theoretical and experimental points of view. Papers by V. I. Sugakov; S. I. Pekar; A. A. Lipnik; V. M. Agranovich and V. L. Ginzburg; and M. I. Shmiglyuk and S. A. Moskalenko.

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ACC NR: AP6005467

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6. Impurity light absorption and luminescence (Yu. Ye. Perlin), dealing with phononless transitions in semiconductors. Papers by M. A. Krivoglaz; V. V. Khizhnyakov; I. P. Ipatova and A. A. Klochikhin; Yu. Ye. Perlin; and O. I. Sil'd.

7. Theory of semiconductors with low mobility (Yu. A. Firsov), dealing especially with explanations of the exponential rise of mobility at high temperatures in some semiconductors. Papers by Ye. K. Kudinov and Yu. A. Firsov.

8. Theory of resonance phenomena and magnetic properties of semiconductors (E. I. Rashba), dealing with electron paramagnetic resonance, nuclear spin resonance, combined resonance, and allied problems. Papers by G. L. Bir; G. Ye. Gurgenishvili and G. R. Khutsishvili; V. I. Sheka; S. I. Pekar and E. I. Rashba; Sh. Sh. Abel'skiy and Yu. T. Irkhin; and A. M. Kosevich and L. V. Tanatarov.

9. Acoustic effects in semiconductors (V. L. Gurevich), with emphasis on generation and amplification of ultrasound. Papers by S. V. Gantsevich and V. L. Gurevich; A. A. Grinberg and N. I. Kramer; V. D. Iskra; V. L. Gurevich and V. D. Laykhtman; V. L. Gurevich; V. L. Gurevich and V. D. Kagan; Sh. M. Kogan and V. B. Sandomirskiy; Yu. V. Gulyayev, V. I. Pustovoyt, and P. Ye. Zil'berman; and G. Yu. Buryakovskiy, V. L. Vinetskiy, V. S. Mashkevich, and T. M. Tomchuk.

10. Theory of lattice vibrations (N. N. Kristofel'), dealing with the dynamics of crystal lattices, vibrational spectra of solids, and the theory of imperfect crystals. Papers by K. B. Tolpygo and E. N. Korol'; V. A. Kuchin; A. A. Nran'yan; V. S.

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V. S. Oskotskiy; B. A. Tavger and V. Ya. Demikhovskiy; G. S. Zavt and N. N. Kristofel'; and G. S. Zavt.

11. Phonomenological theory of semiconductors (Z. S. Gribnikov), dealing with various phenomena such as electroluminescence, galvanomagnetic effects, carrier injection, and field effects. Papers by O. S. Zinets, G. F. Pek and Yu. I. Kharkhanyan; V. N. Dobrovol'skiy; M. Yerezhepov; Z. S. Gribnikov; and Yu. S. Ryabinkin.

The reports of some of the sessions contain large excerpts from the rapporteur's paper. Orig. art. has: 6 formulas.

SUB CODE: 20 SUBM DATE: none

Card 4/4 lda

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

L 45100-66 EWT(1) IJP(c) AT

ACC NR: AP6024889 SOURCE CODE: UR/0056/66/051/001/0281/0295

68
B

AUTHOR: Aronov, A. G.; Pikus, G. Ye.

ORG: Institute of Semiconductors, Academy of Sciences, SSSR (Institut poluprovodnikov Akademii nauk SSSR)

TITLE: Tunneling current in a transverse magnetic field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v.51, no.1, 1966, 281-295

TOPIC TAGS: block function, two band model, Dirac equation, semiconductor crystal, Brillouin zone, valence band, conduction band, lead sulfide, lead selenide, ELECTRIC FIELD, ELECTRON MOTION, TUNNEL CURRENT, TRANSVERSE MAGNETIC FIELD

ABSTRACT: It is shown that in the case of a strong electric field a two-band equation should be used in analyzing the motion of electrons in crossed electric/magnetic fields E_x and H_z. In the simplest case, this equation is equal to the Dirac equation except that the limiting velocity is not c but $s = (\varepsilon_g/2m)^{1/2}$. For $sH_z/cE_x < 1$ the electron motion is infinite, just as in the case $H_z = 0$, and the decrease of the tunneling current is due to a decrease of the effective field $E = (E_x^2 - s^2H_z^2/c^2)^{1/2}$. For $sH_z/cE_x \geq 1$ the electron motion is finite

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and direct transitions in a homogeneous electric field are forbidden by the energy and momentum conservation laws. The effect of a magnetic field and deformation on the current in PbTe-, PbSe-, and Pbs-type crystals is considered, where the constant energy surfaces are ellipsoids. The results of the calculations are compared with the experimental data of Rediker and Calawa for PbTe (Journal of Applied Physics, v.32, 1961, p.2189). Orig. art. has: 52 formulas and 3 figures.

[CS]

SUB CODE: 20/ SUBM DATE: 04Feb66/ ORIG REF: 008/ OTH REF: 019

Card 2/2 blg

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

L 08052-67 EWT(1) IJP(c) GO

ACC NR: AP6031442 SOURCE CODE: UR/0056/66/051/002/0505/0516

60
55
B

AUTHOR: Aronov, A. G.; Pikus, G. Ye.

ORG: Institute of Semiconductors, Academy of Sciences SSSR (Institut poluprovodnikov Akademii nauk SSSR)

TITLE: Light absorption in semiconductors in crossed electric and magnetic fields

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 505-516

TOPIC TAGS: light absorption, absorption coefficient, electric field, crossed electric field, magnetic field, absorption edge, Franz Keldysh effect

ABSTRACT: The effect of an electric and magnetic field on the light-absorption coefficient in semiconductors is analyzed. It is shown that the Franz-Keldysh effect occurs in the magnetic field for $cE_x/sH_z > 1$, where $s = (e_z/2m)^{1/2}$, when the electron motion is infinite and the spectrum is constant; with increased magnetic-field strength, the absorption coefficient decreases more rapidly with decreasing frequency than for $H = 0$. The spectrum is discrete for $cE_x/sH_z < 1$, and with an increased electric field, the absorption edge shifts

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ACC NR: AP6031442

towards the low frequencies, but the transition probability drops. The authors thank A. I. Ansel'm, G. L. Bir, V. L. Gurevich, L. V. Keldysh, and B. D. Laykhtman for their valuable advice during discussions. Orig. art. has: 68 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 04Feb66/ ORIG REF: 009/ OTH REF: 029/

Card 2/2 mc

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A. I.

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. Zairnov.

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.

Livshits, A.L., S.S. Podlazov, A.T. Kravets, and A.I. Aronov. Some Problems in the Technology and Design of Machines for Electroerosion Machining of Metals 67

Rogachev, I.S. Electric-Pulse Generators of Unipolar Pulses for Electroerosion Machining of Metals 109

Machikhin, L.Ya. Electrical-Pulse Machining of Forging-Die Grooves 115

Ryabinok, A.G. Intensity of Metal Removal and Surface Quality in Electrolytic Machining of Carbides 134

Dikushin, G.A. Selection of Process Regimes in Electrolytic Contour Machining 145

Gutkin, B.G. Electric-Resistance Machining of Metals 151

Yasnogorodskiy, I.Z. New Uses of Heating in Electrolytes 167

Mikhaylov, V.A. Cleaning and Degreasing of Parts and Intensification of Electroplating With the Aid of Ultrasonics 174

Goryachev, N.S. Technique of Ultrasonic Machining of Carbide Dies 183

Ustinov, V.V. Production of Magnetostrictive Transducers for Ultrasonic Machines for Machining Carbides 195

Nezhuyev, B.N. Ultrasonic Machining of Parts Made of Ceramic Materials 203

Mondrus, D.B. Ultrasonic Units Developed by OKB ETO 211

Krumbol'dt, M.N. Spot Welding With the Use of Ultrasonics 235

Babikov, O.I., and B.Ye. Mikhalev. Methods of Ultrasonic Analysis and Inspection 244

AVAILABLE: Library of Congress (TJ 1191 .P 63)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

23431

1.1110

S/121/61/000/006/006/012
D040/D112

AUTHORS: Zingerman, A.S., Livshits, A.L., and Aronov, A.I.

TITLE: Wear of graphitized tool-electrodes in electrospark machining of metals

PERIODICAL: Stanki i instrument, 32 no.6, 1961, 20-22

TEXT: Electrodes of special graphitized material ЭЭГ (EEG) were tested in experiments on a "473" electrospark machine. [Abstracter's note: No information on the composition and of the EEG and the production technology of the electrodes is included]. The material is now being mass-produced. Maximum relative wear (or consumption of the electrode in relation to the volume of removed metal) of EEG electrodes is about 2.5% in the center and 0.1-0.5% at the periphery, compared with 80-100% of old tool-electrodes. Oil (industrial "12" grade) pumped at a pressure of 0.5 gauge atmospheres into the spark gap reduced wear to a minimum; wear decreased with longer electric pulses (Table 2):

Work current, amps		Pulse duration in microseconds				
		900	415	170	120	75
5	Wear (%)	0.3	0.3	0.3	0.3	1.7
20		0.5	0.5	2.0	5.0	6.0

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Wear of graphitized tool-electrodes S/121/61/000/006/006/012
D040/D112

The erosion resistance corresponded to Palatnik's criterion (Ref.4: Palatnik, L.S., "Doklady AN SSSR", t . 89, 1953, str.455; Ref.5: Zingerman, A.S., Fizika metallov i metallovedeniye, t. V, 1957, str.58):

$$\Pi = c \gamma \lambda T_n^2,$$

where c is heat capacity, γ - density; λ - heat conduction; T_n - reduced melting temperature (taking into account the latent fusion heat). EEG had 5-30 times higher erosion resistance than metals. Five times more metal was removed in the work process by using inverse polarity (workpiece for cathode, tool-electrode for anode) than with direct, and cathode wear was practically absent when single pulses were used. Transfer of metal from the workpiece was by splatter with droplets much less than 1 micron in size. Aluminum was not transferred to the graphitized cathode, and copper and steel only slightly, but the transfer of copper and steel to the anode was intense. No carbon was transferred from the electrode to the workpiece. This is due to the vaporous state of graphite during the electric discharges. The combinations of anode-graphitized material, and steel-cathode are good, for metal strengthens the electrode but does not absorb carbon. A fresh carbon layer liberated from oil continually restored the electrode surface. It was examined (by L.S. Palatnik) by X-ray analysis and found to be crystalline graphite.

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D040/D112

Wear of graphitized tool-electrodes .....

No graphite layer formed when the oil was replaced by inorganic fluid. This carbon stuck very firmly to the EEG and its mechanical strength was much higher than that of the EEG. The approximate formula for the rate of carbon formation is:

$$\delta = 0.33 \cdot 10^{-10}(T-1100)^3 \text{ micron/millisecond},$$

where T is the electrode temperature (in °C) in the work zone. The carbon forms from oil particularly intensely in an arc, and 4 times faster on the cathode than on the anode (0.33 micron/millisecond on the anode). The layer fills the gap rapidly and causes a short circuit. The mechanical strength and porosity affected wear - 8 times lower mechanical strength was accompanied by 21 times more rapid wear. Conclusions: Two opposite processes are acting in electrospark machining with EEG - disintegration and restoration. The restored layer is several microns deep and has much higher mechanical strength and erosion resistance than the base material. The rate of disintegration and restoration depends on the power, duration and duty factor reciprocal of the pulses, the worked surface area and depth of removed metal, pressure on pumped fluid, and other factors. Electrode wear can vary between 0.1 and 2.5%. When the combination of operation factors is correct, wear of EEG electrode tools on steel is between 0.3 and 0.8%. In some cases it is even possible that the rate of restoration is higher than that of disintegration. There are 4 tables and 6 Soviet-bloc references.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A. K.

Mechanization in chemico-pharmaceutical industry. Med. promyshl. SSSR no.2:12-20 Mar-Apr 1952. (CLML 22:2)

1. Central Designing Bureau of the Ministry of Public Health USSR.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A.K.

Automatization and continuous production in the pharmaceutical industry. Med.prom. 10 no.3:6-9 Jl-S '56. (MLRA 9:11)

1. Proyektno-konstruktorskoye byuro Glavmedinstrumentproma.
(DRUG INDUSTRY)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, Abram Khaimovich; VVEDENSKIY, Sergey Fedorovich; SHTUL'MAN, Izrail' Ikhil'yevich; ANDRUSEVICH, D.A., dotsent, red.; MARTSEVICH, Yu.P., red. izd-va; KOZLENKOVA, Ye.I., tekhn. red.

[Study of general consumers' goods] Tovarovedenie kul'ttovarov. Pod obshchei red. D.A. Andrusevicha. Moskva, Izd-vo TSentrosoiuza, 1960. 556 p. (MIRA 14:8)

(Commercial products)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A.M. (Dnepropetrovsk)

Stability of submerged sand foundations during blasting operations. Osn., fund.i mekh.grun. 2 no.3:6-9 '60. (MIRA 13:7)
(Blasting) (Foundations)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A. M.

Cand Tec Sci, Diss -- "Investigation of the effect of dilution of water-saturated sand in deep construction blasting". Moscow, 1961. 14 pp with drawings, 20 cm (Acad of Construction and Architecture USSR. Sci Res Inst of Foundations and Subterranean Constructions), 120 copies, Not for sale (KL, No 9, 1961, p 181, No 24324). /61-52355/

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, A.P., starshiy insh.-normirovshchik. Prinimali uchastiye: DORODULIN, Ya.P., insh.-normirovshchik; FEOKTISTOVA, Z.G., insh.-normirovshchik. BYKHOVSKAYA, M.B., obshchiy red.; ZLOTNIK, E.A., red.; LOKHMANOVA, M.F., tekhn.red.

[Time standards in the furniture industry] Normativy vremeni na raboty po izgotovleniiu mebeli. Moskva, 1958. 202 p. (MIRA 12:7)

(Furniture industry)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, B.A.

AID P - 3931

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 14/19

Authors : Shostakovskiy, M. F., V. V. Zhebrovskiy, and B. A. Aronov

Title : Copolymerization of vinyl butyl ether with vinyl chloride

Periodical : Zhur. prikl. khim. 28, 10, 1123-27, 1955

Abstract : The copolymerization of vinyl butyl ether and vinyl isobutyl ether with vinyl chloride was carried out in a water emulsion in an autoclave in the presence of ammonium persulfate at 30 and 50°C. Four tables, 6 references, 5 Russian (1949-53).

Institution : None

Submitted : F 17, 1954

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, B.A.; RAPOTA, T.D.; ANDREYEV, G.F.; SLIN'KO, B.I., red.; LEUSHCHENKO, N.L., tekhn. red.

[Installation of "woodstone" floors] Opyt ustroistva ksilolitovykh polov. Kiev, Gosstroiizdat USSR, 1962. 18 p. (MIRA 16:5)

1. Akademiya budivnytsva i arkhitektury URSR. Instytut vprovadzhennia peredovoho dosvidu v budivnytstvo i tekhnichnoi informatsii.

(Floors)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ARONOV, B.A.

Determining some geometrical parameters of turbine cascades.
Izv. vys. ucheb. zav.; av. tekh. 8 no.4:109-117 '65
(MIRA 19:1)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

L 7781-66 EWT(1)/EPF(c)/T/EWP(k) IJP(c) WW/GG

ACC NR: AP5028054 SOURCE CODE: UR/0046/65/011/004/0490/0492

AUTHOR: Aronov, B. I.; Timan, B. L.

ORG: All-Union Scientific-Research Institute of Single Crystals, Scintillation Materials, and Highly Pure Chemical Substances (Vsesoyuznyy n.-i. institut monokristallov, stsintillyatsionnykh materialov i osobo chistykh veshchestv)

TITLE: On the diffraction of light at ultrasonic waves in crystals

SOURCE: Akusticheskiy zhurnal, v. 11, no. 4, 1965, 490-492

TOPIC TAGS: light diffraction, acoustic diffraction, crystal optic porperty, acoustic oscillation, acoustic absorption, ultrasonic wave propagation

ABSTRACT: In an article published elsewhere J. Melngaili and A. A. Maradudin (Phys. Rev. 1963, v. 131, 5, 1972,), with the aim of clarifying the possibility of determining the elastic constants of the third order, performed a theoretical calculation of the diffraction picture, arising during the simultaneous transmission of light and ultrasound through a transparent crystal. The article examined only the effect of the anharmonicity of oscillations on the diffraction picture. Melngaili and Maradudin cited the unpublished experimental work of D. Bolef and E. Kelly, who failed to obtain satisfactory agreement with the theoretical data. This disagreement is, apparently, due to the failure to take into account the effect of other factors (particularly the damping of the acoustic wave) on the diffraction picture. The present article

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ACC NR: AP5028054

performs the calculation of the diffraction picture taking the anharmonicity of oscillations, as well as the absorption of ultrasonic waves, into account. The authors also made calculations for the case when the amplitude of ultrasonic wave oscillations is relatively low and the anharmonicity of the oscillations can be ignored. Orig. art. has: 2 figures and 14 formulas.

SUB CODE: SS, OP, GP / SUBM DATE: 29Sep64 / OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ACCESSION NR: AP4033043 S/0147/64/000/001/0075/0084

AUTHOR: Aronov, B.M.; Mamayev, B.I.

TITLE: Determination of the gas flow escape angle from blade rows of axial-flow turbines

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1964, 75-84

TOPIC TAGS: turbine, turbine blade, blade calculation, turbine blade calculation, gas flow, escape angle, blade row, gas turbine, gas, compression, gas compressibility, pitch, turbine blade profile, blade profile

ABSTRACT: In this article functions are proposed for the determination of the discharge angle. These functions take into consideration the geometric peculiarities of the blade array, the compressibility of the gas, and the variable losses along the length of the channel. Formulas are derived which make it possible to determine the escape angle of the flow from a flat turbine blade array, both at subcritical and at supercritical discharge rates from the blade row. Fig. 1 of the Enclosure shows the derivation of the theoretical formulas.

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ACCESSION NR: AP4033043

The author has obtained two expressions:

$$\frac{a}{t}\cdot\frac{y(\psi_{1-n})\,\pi(1)}{y(\lambda_{02}^{\text{пред}}\psi_{np})\,\pi(\lambda_{02}^{\text{пред}})}\cos\chi-\sqrt{1-\left(\frac{\psi_{1-n}\cos\beta_n}{\psi_{np}\lambda_{02}^{\text{пред}}}\right)^2}=0, \qquad (1)$$

$$\psi_{1-n}\rho_n\cos\chi-\psi_{np}\lambda_{02}^{\text{пред}}\rho_2^{\text{пред}}\,t\sqrt{1-\left(\frac{\psi_{1-n}\cos\beta_n}{\psi_{np}\lambda_{02}^{\text{пред}}}\right)^2}=0, \qquad (2)$$

(where a is the dimension of the neck; t is the pitch of the row; ψ is the velocity factor; λ is the reduced velocity; $y(\lambda)$ and $\pi(\lambda)$ are gas-dynamic functions; the letters пред indicate a limiting condition) for the calculation of the velocity at discharge from the array $\lambda_{02}^{\text{пред}}$ at which a critical condition develops in the neck of the channel. At a velocity of $\lambda_{02}<\lambda_{02}^{\text{пред}}$ the escape angle is found according to the formulas:

$$\beta_2=\arcsin\left[\frac{a}{t}\cos\chi\,\frac{y\left(\lambda_{02}\psi_{np}\frac{\cos\beta_2}{\cos\beta_n}\right)\pi\left(\lambda_{02}\frac{\psi_{np}\cos\beta_2}{\psi_{1-n}\cos\beta_n}\right)}{y(\lambda_{02}\psi_{np})\,\pi(\lambda_{02})}\right], \qquad (3)$$

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000102120012-2

ACCESSION NR: AP4033043

or

$$\beta_2 = \operatorname{arctg}\left(\frac{a}{t} \cdot \frac{\rho_n \cos\chi}{\rho_2 \cos\beta_n}\right), \qquad (4)$$

When $\lambda_{02} \geq \lambda_{02}^{\text{пред}}$ (including supercritical), formulas

$$\beta_2 = \arcsin\left[\frac{a}{t}\cos\chi \frac{y(\psi_{1-n})\,\pi(1)}{y(\psi_{\text{пр}}\lambda_{02})\,\pi(\lambda_{02})}\right], \qquad (5)$$

or

$$\beta_2 = \arcsin\left(\frac{a}{t}\cos\chi \frac{\psi_{1-n}\,\rho_n^{\text{пред}}}{\psi_{\text{пр}}\lambda_{02}\rho_2}\right). \qquad (6)$$

are used. (Note: the letters пр refer to the blade profile). These formulas explain the qualitative picture of the flow in blade rows and are quantitatively confirmed by experimental results. Orig. art. has: 10 formulas, 7 figures and 2 tables.

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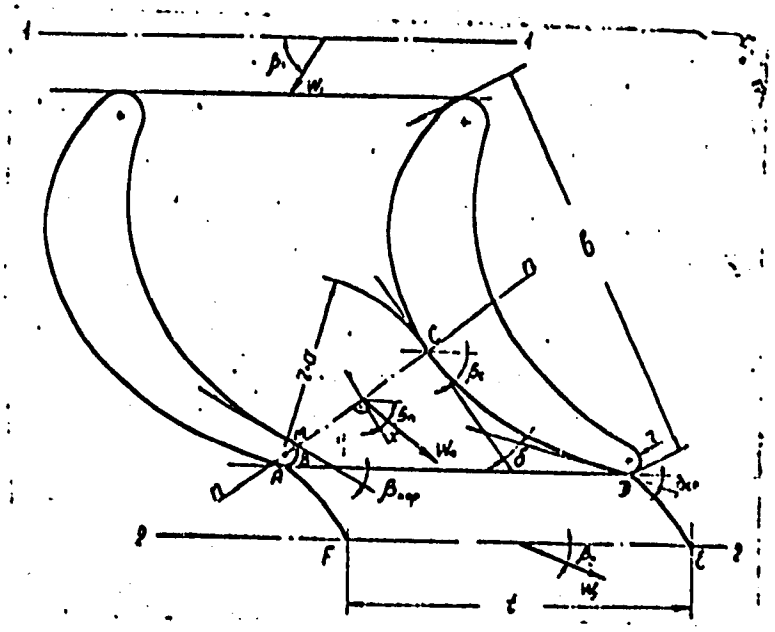

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Figure 1. Derivation of the theoretical formulas β_1 - flow intake angle; AF and DE - congruent lines; β_{kop} & β_{cn} - the angle between the front and tangential to the profile at the place the output rim connects, respectively, with the trough contour (at point M) and the back; δ - flange angle; $\delta = \beta_c - \beta_{cn}$

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A book which did not justify the hope of specialists in aviation medicine ("Work practice in the field of aviation neurology and problems of prophylaxis." D.I.Pisarev. Reviewed by K.N.Kulakov, I.I.Il'in, B.M.Aronov) Voen.-med. zhur. no.5:92-94 My '56. (MLRA 9:9)
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(PISAREV, D.I.)

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