

DUDNIK, D.M., insh.; GAVRILENKO, A.G., insh.

Mechanical strength and frost resistance of some heat insulation materials. Trudy OTIPiKhP 12:121-128 '62. (MIRA 17:1)

1. Nauchno-issledovatel'skaya laboratoriya po kholodil'noy tekhnike Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy promyshlennosti.

DUQNIK, D.M., inzh.; LAVROVSKIY, Yu.A., inzh.; LOMBARDICH, N.N., inzh.

Reducing the flammability of "Stiropor." Trudy OTIPiKhP 12:129-138  
'62. (MIRA 17:1)

1. Nauchno-issledovatel'skaya laboratoriya po kholodil'noy tekhnike  
Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy pro-  
myshlennosti.

MARTYNOVSKIY, Vladimir Sergeyevich; MEL'ISER, Leonid Zinov'yevich;  
Prinimali uchastiye: ZHDAN, V.Z., kand. tekhn. nauk;  
DUDNIK, D.M., inzh.; LEVIT, M.M., inzh.; MART'YANOVA,  
I.Ia., red.

[Refrigerating plants on ships] Sudovye kholodil'nye usta-  
novki. Moskva, Transport, 1964. 382 p. (MIRA 17:11)

DUDNIK, D.M., inzh.; ROGOVAYA, S.N., inzh.

Experimental testing of refrigerator automobiles. Khol. tekhn.  
1 tekhn. no.1:89-95 '65. (MIRA 18:9)





DOIWIK, P.S., inzhener; LAPIN, N.O.

The problem of good molding quality in concrete mixes. Stroi.prom. 32  
no.5:40-43 My '54. (MLRA 7:6)  
(Concrete)

MIOSLAVSKIY, S.L.; KHOKHOLEV, K.I.; DIDNIK, P.S.

Use of large-size reinforced concrete slabs for walls of industrial  
buildings. Stroi.prom. 33 no.3:10-12 Mr '55. (MIRA 8:5)

1. Dneprovskpromstroy (for Mioslavskiy).
2. Dnepropetrovskiy filial YuZhMII (for Khokholev and Didnik).  
(Walls) (Reinforced concrete construction)



LATYSHEV, F., assistant; BUNAKOV, A., assistant; MCHEDLOV-PETROSYAN, O.,  
prof.; DUDNIK, F. S. nauchnyy setrudnik; GORDON, S., kand. tekhn.  
nauk.

Using substandard sand in making concretes. Stroil. mat. 2 no.10:  
25-28 0 '56. (MIRA 12:3)

1. Yuzhnyy nauchno-issledovatel'skiy institut, Dnepropetrovsk (for  
Dudnik).

(Sand) (Concrete)

KOMAR, A.N.; KHOKHOLEV, K.L.; DUMNIK, F.S.

Producing large-sized wall blocks from local materials. Strel.prom.  
34 no.6:5-7 Je '56. (MIRA 9:9)  
(Building blocks)

DUDNIK, F.S.

KHOKHOLEV, K.I.; FUKHAL'SKIY, O.V.; DUDNIK, F.S.; LAPSHIN, N.G.; ANDRUSHCHENKO, V., redaktor; ZILENKOVA, I.S., tekhnicheskij redaktor

[Experience in using blast-furnace granulated slags at construction projects of the Dnieper Valley] Opyt ispol'zovaniia domennykh granulirovannykh shlakov na stroikakh Pridneprov'ia. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1957. 121 p. (MLR 10:10)  
(Dnieper Valley—Slag cement)

ZAGERMEYSTER, L.I., insh.; DUDNIK, F.S., insh.

Making precast reinforced concrete frame foundations for bin trestles in mobile forms. Stroil. prom. 36 no.9:21-23 8 '58.

1. Dneprokhimstroy (for Zagermeyer).
  2. Yuzhnyy Nauchno-issledovatel'skiy institut po stroitel'stvu (for Dudnik).
- (Concrete construction--Formwork)

DUDNIK, Y.S., insh.

Large slag-concrete blocks made with furnace slags. Bet. 1 shel.-bet.  
no.2:90-92 F '59. (MIRA 12:3)  
(Concrete blocks)

ZAGERMEYSTER, L.I.; VOLODIN, Ye.I.; DUDNIK, F.S.

Making 24-m prestressed reinforced concrete girders on stands. Prom.  
stroitel'stvo no. 5:54-57 '60. (MIRA 14:5)

1. Trest Dneprokhimstroy (for Zagermeister, Volodin). 2. Dnepro-  
petrovskiy filial Yuznogo nauchno-issledovatel'skogo institut po  
stroitel'stvu (for Dudnik).  
(Girders)

DUDNIK, G.

Stationary PDP-10 separator for cleaning grain in a continuous operation. Muk-alev. prom. 25 no.6:25 Je '61. (MIRA 14:6)

1. Berispol'skiy khlebopriyemnyy punkt Kiyevskoy oblasti.  
(Grain—Cleaning)

GRAFOV, L.Ye., gornyy inzh.; CORBUSHIN, V.I., V.I.; ZARANKIN, N.Ye.;  
DUDNIK, G.N.; BARONSKIY, I.V.; KOSTYUKOVSKIY, V.Ya. [deceased];  
LINDENAU, N.I.; BIRYUKOV, R.A.; LISKOVETS, A.R.; MURAV'YEV,  
V.P.; PESUN, V.A.; BERDYUGIN, V.A.; BEREZNYAK, M.M.; VASIL'YEV,  
Ye.I.; KOLLODIY, K.K.; IL'CHENKO, D.F.; YALEVSKIY, D.B.;  
GERASIMOV, V.P.; IVANOV, V.V.; GAVRILOV, G.V.; SUROVA, V.A., red.  
izd-va; OSVAL'D, E.Ya., red. izd-va; PROZOROVSKAYA, V.L., tekhn.  
red.

[Development and improvement in the technology of coal production]  
Razvitie i sovershenstvovanie tekhniki dobychi uglia. Moskva, Gos-  
gortekhnizdat, 1962. 359 p. (MIRA 16:2)  
(Kuznets Basin—Coal mines and mining)



DUDNIK, I. A.

USSR/Medicine - Effects of Radiation Mar/Apr 53

"Changes in the Suprarenal Cortex Under the Effect of Ultraviolet Irradiation in Erythema - Producing Doses," I.A. Dudnik, Jr Sci Assoc; Doc I.V. Pyatigorskii, E.Z. Yusfina, Card Med Sci, Khar'kov Sci Res Inst for the Protection of Mother and Child

Vop Pob i Okhrany Mater i Dets, Vol 21, No 2, pp 48-54

Describes exptl irradiation of rats with ultraviolet rays of varied dosage. Findings showed an increase in weight of the suprarenal glands of

273865

irradiated animals, regardless of their age. Parallel with the weight increase, a decrease in size and weight of the thymus glands was observed in these animals. The authors assume that results of this research may be of benefit in the treatment of children's diseases.

DUDNIK, I. A.

Dudnik, I. A. - "Aspects of the Effects of Erythemic Doses of Ultraviolet Rays on the Growing Organism." Khar'kov Medical Inst. Khar'kov, 1956 (Dissertation for the Degree of Candidate in Medical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

DUDNIK, I.A., kand.med.nauk

Some characteristics of Trendelenburg's symptom in patients with  
sequelae of poliomyelitis. Ortop., travm. i protez. 24  
no.10:11-17 O '63. (MIRA 17:5)

1. Iz otdela patomekhaniki (zav. - prof. O.V.Nedrigaylova)  
Ukrainskogo instituta ortopedii i travmatologii imeni M.I.Sitenko  
(dir. - chlen-korrespondent AMN SSSR prof. N.P.Novachenko).  
Adres avtora: Khar'kov, Pushkinskaya ulitsa, d.80, Institut  
ortopedii i travmatologii.

DUDNIK, I.A.; PASHCHUK, A.Yu.

Effect of various types of anesthesia on the functional activity of the neuromuscular apparatus. Eksper. khir. i anest. no. 2: 69-71'63. (MIRA 16:7)

1. Iz otdela fiziologii i patomekhaniki oporno-dvigatel'nogo apparata (sav.-doktor meditsinskikh nauk O.V. Medrigaylova) i anesteziologicheskogo instituta ortopedii i travmatologii imeni M.I. Sitenko (dir. -chlen-korrespondent AMN SSSR prof. N.P. Novachenko).

(ANESTHETICS) (MUSCLES) (NERVOUS SYSTEM)

DUDNIK, I.F.; SMELY, G.N.; STEPANOV, N.N. (Moscow):

"Some results of experimental investigation of stability of cylindrical shells."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

DUDNIK, I.M., kand.tekhn.nauk, dotsent; SHTEPKO, D.D., inzh.

Sources for financing development work in operating mines. Izv. vys. ucheb. zav.; ger. zhur. 6 no.7:96-97 '63. (MIRA 16:9)

1. Khar'kovskiy inzhenerne-ekonomicheskiy institut (for Dudnik). 2. Lisichanskiy trust ugel'noy promyshlennosti Ministerstva ugel'noy promyshlennosti SSSR (for Shtepko). Rekomendovana kafedroy ekonomiki i organizatsii gornogo proizvodstva Khar'kovskogo inzhenerne-ekonomicheskogo instituta.

(Mining industry and finance)

DUDNIK, I. R.

USSR/Metals - Steel, Castings

Dec 51

"Cast-Steel Wheels for Railroad Cars," I. R. Dudnik,  
Engr, Glavvagonprom

"Litey Proizvod" No 12, pp 10-13

Sci Res Bureau of Glavvagonprom, Min of Transport  
Mach Bldg, developed design of cast-steel wheel  
and technological process for its fabrication,  
using metal mold with cores. Acceptance require-  
ments and test results of exptl castings are given.  
Heat treatment included homogenization, normali-  
zation from 860° and high tempering from 650°.  
Material: open-hearth steel with 0.4-0.5 or 0.6-  
0.7 %C and 1.0-1.3% Mn.

203T92

DUDNIK, I. R., ENGR

USSR/Metals - Steel, Casting

Apr 52

"Railroad Car Hollow Axle Cast by Centrifugal Method," I. R. Dudnik, Engr, M. M. In'shakov, Cand Tech Sci, I. M. Sigal, Engr, Glavvagonprom

"Litey Proizvod" No 4, pp 2-6

Discusses progress in development of method for obtaining centrifugally cast axles since 1946. Carbon steel with 0.3-0.4% C and low-alloy steel with total 1.5 - 1.7% Cr and Ni were used for exptl castings. Latest castings entirely satisfy specification requirements, being superior to stamped axles in certain respects as, for example, higher impact strength at -20° and higher fatigue limit of notched specimens. 213T99



*[Faint, illegible text, possibly a stamp or header]*

БУДЕИК, И.Р., инженер.

Crankshafts made of insolated cast iron for compressors in subway cars.  
Lit.proizv. no.4:24-26 Ap '56. (MIRA 9:7)  
(Crank and crankshafts) (Cast iron--Metallography)

~~DUBNY, V.R., Insh.~~

Exhibition of new foundry equipment in East Germany. Stroi. 1 dor.  
 Mashinostr. 3 no.9:36-38 S '58. (MIRA 11:10)  
(Leipzig--Foundry machinery and supplies--Exhibitions)

DUDNIK, I.R., inzh.

Precision drop forging of gear wheels. Stroitiel'noe mashinostroyeniye. 3  
no.12:30-31 D '58. (MIRA 11:12)  
(Forging)

DUDNIK, I.R., insh.

Introducing automatic control in manufacturing caterpillar links  
for excavators. Stroi. i dor. mashinostr. no.4:25-33 Ap '58.  
(MIRA 11:4)

(Caterpillars (Vehicles))  
(Foundries--Automation)

*Dudnik, I.R.*  
AUTHOR: Dudnik, I.R., Engineer 128-58-6-3/17

TITLE: A Method of Pressing Molds Under High Pressure (Metod pressovaniya form pod vysokim davleniyem)

PERIODICAL: Liteynoye Proizvodstvo, 1958, Nr 6, pp 4-9 (USSR)

ABSTRACT: The article contains detailed information on the technology and design of presses used in the USSR, one German and one Czechoslovakian plant, for pressing earth molds for accurate castings. Since 1956, Kremenchugskiy zavod dorozhnykh mashin (Kremenchug Road-Machine Plant) has used the high pressure method and a pneumo-lever press (Fig. 1) (designed by engineer Gerasimov) for small molds and cores. This plant and the Sverdlovskiy zavod "Pnevmostroy mashina" (Sverdlovsk Plant "Pnevmostroy mashina") use the same mold design (Fig. 3). For plants producing construction and road machines, 120 pneumo-lever presses have been produced. The pneumo-lever presses can press up to 250 molds per hour when the molding process is fully mechanized. VPTI Stroydormash has designed two hinge-lever presses (Fig. 4 and 5) for molding larger castings developing 23 kg/cm<sup>2</sup> and 30 kg/cm<sup>2</sup> pressure respectively. It is mentioned that the Leningradskiy zavod imeni Kirova (Leningrad Plant imeni Kirov) uses molding presses of 50, 400, and 2,000 tons pressure. The general layout of the

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A Method of Pressing Molds Under High Pressure

128-58-6-3/17

pressure-molding section in the malleable cast iron foundry of this plant is described and illustrated (Fig. 6). Detailed information is also given on the technology of the "K-process" for molding cast iron and steel gears of up to 500 mm diameter at the "TOS" Plant in Czechoslovakia, with the use of devices shown in Figure 7, and on the technology of the plant "Stahlwerk Elstertal" (GDR), used for mass-production of caterpillar chain parts. Here, the pressing is done by a pneumatic vibration press machine (Fig. 9). VPTI Stroydormash has developed two vibropress molding machines "VP-2" and "VP-3" (Fig. 10 and 11), the first one for small and medium-size steel and cast iron castings produced in small-lot and mass-production processes with conveyers. This machine is still in the experimental stage. The second vibropress machine "VP-3" is for molding excavator caterpillar chain links and other castings of up to 45 kg weight. It works on the same technological principles as the machine of the "Stahlwerk Elstertal" (described above), but is fully automatic and may be remotely controlled. Engineers A.V. Sadovskiy, I.F. Bol'shakov and I. Kedrus, participated in designing the hinge-lever presses and the "VP-2" and "VP-3" type machines. There are 10 figures, 1

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A Method of Pressing Molds Under High Pressure

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1 photo and 3 tables.

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Card 3/3

1. Cast iron-Production
2. Presses-USSR
3. Presses-Design
4. Cast iron-Casting



KARSH, V.A.; PLATE, H.A.; ~~DUDNIK, L.A.~~

Polymer obtained from bicyclo-[2,2,1]-heptadiene. Vysokom. soed. 1  
no.3:420-424 Nr '59. (MIRA 12:10)

1. Khimicheskiy fakul'tet Moskovskogo gosuniversiteta.  
(Polymers) (Bicycloheptadiene)

DUBNIK, L. A.

"Measurement of Cathode Emission of Electron Tubes,"  
pp 23-26 ill, 15 ref

Abst: The author gives a critical comparison of the existing methods of measuring cathode emission of electron tubes. An experimental comparison, made by methods of underheating characteristics and pulses, indicated the possibility of using a pulse method for determining the quality of oxide-coated cathodes of receiver amplifying tubes for nominal values of their heating parameters.

SOURCE: Izvestiya Leningr. Elektrotekhn. In-ta im. V. I. Ul'yanova  
(Lenina) (News of the Leningrad Electrical Engineering Institute imeni  
Vi. I. Ul'yanov [Lenin]), No 30, Leningrad, 1956

Sum 1854

PHASE I BOOK EXPLOITATION 907

Dudnik, L. A.

Ispytaniya elektronnykh lamp (Testing of Electron Tubes) Moscow, Izd-vo "Sovetskoye radio," 1958. 230 p. No. of copies printed not given.

Ed.: Masharova, V.G.; Tech. Ed.: Sveshnikov, A.A.

**PURPOSE:** This book is intended for senior students of vuzes who specialize in vacuum tubes. It may also be useful to engineering and technical personnel engaged in the testing of electron tubes.

**COVERAGE:** The book contains a description of methods of measuring the parameters of amplifiers and oscillator tubes. It also describes methods of measuring filament voltages and currents, cathode emission, currents and dissipated power of the various electrode circuits, and electrode temperature. Measurement of inter-electrode capacitances, methods of obtaining static characteristics, and determination of measurement errors are also discussed. The book describes methods of testing power amplifiers, medium-power oscillator tubes, high-frequency amplifiers, and frequency converters. It includes a discussion on the measurement of tube input resistances and amplifier noises, offers a brief treatment of the mechanical and climatic testing of electron tubes, and describes industrial equipment used

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## Testing of Electron Tubes 907

for determining tube parameters. The author thanks B.P. Kozhrev and R.A. Gavrilov, Chairman of the Chair of Vacuum-tube Technology, for their help in writing the book. He also thanks L.S. Yakovleva, Candidate of Technical Sciences, for writing Chapter 11 and for her valuable criticisms when reviewing the manuscript. There are 78 references, of which 74 are Soviet (including 11 translations) and 4 English. The references appear at the end of each chapter.

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JP/sfm  
12-5-58

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9.4110 (1003, 1105, 1140)

S/112/59/000/012/073/097  
A052/A001

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, No. 12, p. 210,  
# 25365

AUTHOR: Dudnik, L.A.

TITLE: On the Problem of Errors in Measuring Electron Tube Parameters <sup>75</sup>

PERIODICAL: Izv. Leningr. elektrotekhn. in-ta, 1958, No. 35, pp. 211-221

TEXT: Elementary calculations of the magnitude of errors when measuring the electron tube parameters are given. These parameters are: transconductance, internal resistance, amplification coefficient, anode current, filament current. All errors are divided into methodical errors, instrumental errors and errors due to the instability of operational conditions of the measured tube. An analysis of the methodical error when measuring  $S, \mu, R_i$  is given in application to the two-point method, variable component method and electronic stabilizer method. The two-point method gives the minimum methodical error. The variable component method of measuring transconductance gives an error of up to 50% and the electronic stabilizer method that of  $\sim 2\%$ . Errors due to voltage fluctuations of a power

Card 1/2

86132

S/112/59/000/012/073/097  
A052/A001

On the Problem of Errors in Measuring Electron Tube Parameters

source are computed for 6Ж8 (6Zh8) and 6П3С (6P3S) tubes. Practical calculations of the instrumental error of measuring transconductance by three methods are given. The summary instrumental error is computed as a sum of absolute values of partial errors multiplied by the "probability coefficient" = 0.7. Such calculations give an error of 5% when measuring transconductance by two-point method, of 14% in variable component method and 10% in electronic stabilizer method. There are 3 references.

L.M.L.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/170/62/005/005/014/015  
B104/B102

9.4110

AUTHOR:  
TITLE:

Dudnik, L. A.

An investigation of the thermal conditions of miniature-tube grids

PERIODICAL:

Inzhenerno-fizicheskiy zhurnal, v. 5, no. 5, 1962, 108-111

TEXT: The effects of the electron stream and the radiant energy of a 6W17(6P1P) miniature tetrode on the temperature of the electrodes are determined. Error in thermocouple measurements of the grid temperature due to heat conduction of the thermocouple wire is estimated to be smaller than 20-25°C. The thermocouples connected to the grids did not affect the grid temperatures. Six experimental types of tetrodes were investigated: the thermocouples were connected to given points of the first or second grid or of the traverse. In the absence of an electron stream the temperatures of grids and traverses were nearly equal; in the presence of an electron stream, the temperature of the middle coil of the traverse was ~200°C in the first grid, and 50°C in the traverse was ~200°C in the first grid, and 50°C

✓B

An investigation of the...

in the second. The electron stream raised the anode temperature by 3000c.  
There are 1 figure and 1 table.

S/170/62/005/005/014/015  
B104/B:02

ASSOCIATION: Elektrotekhnicheskiy institut imeni V. I. Ul'yanova  
(Lenina), 8. Leningrad (Electrotechnical Institute imeni  
V. I. Ul'yanov (Lenin), Leningrad)

SUBMITTED: October 27, 1961

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B  
40  
45  
50  
55

Card 2/2

S/170/62/005/003/010/012  
B108/B104

AUTHORS: Dudnik, L. A., Perchik, E. B.

TITLE: Measurement of the temperature of electron-tube grid  
according to change in resistance

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 3, 1962, 110 - 112

TEXT: The temperature of the grids of a 6N11 (6P1P) minitube was determined by measuring their change in resistance by a compensation method. The temperature dependence of the resistivity of the grid materials was studied preliminarily. The error in the determination of the temperature of the grids is about 4%. The present results and those from measurements with miniature thermocouples are in good agreement. The temperature of both grids of 6P1P tubes rises linearly from about 150 to 250°C as the filament power (with zero grid and anode potentials) increases from about 2 - 2.3 to 4 w. The respected scientist B. P. Kozyrev is thanked for discussions. There are 2 figures, 1 table, and 3 references: 1 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Langair J. Phys. Rev., 7, 154, 302, 1916; Moor G.,

Card 1/2

Measurement of the temperature...

S/170/62/005/003/G10/012  
B108/B104

Allison H. Phys. Rev., 77, 246, 1950.

ASSOCIATION: Elektrotekhnicheskiy institut imeni V. I. Ul'yanova (Lenina),  
g. Leningrad (Electrotechnical Institute imeni V. I. Ul'yanov  
(Lenin), Leningrad) ✓

SUBMITTED: July 18, 1961

Card 2/2



DUDNIK, L. A., kand. tekhn. nauk

Use of titanium for coating the grids of electron tubes.  
Izv. LITI 59 no.46:23-28 '62. (MIRA 15:10)

(Electron tubes)

DUDNIK, L.P.

007/200

ITEMS 1 BOMB REFERENCE

approximately 1.5 and 1.7. Reference, etc.  
 should be electrochemical materials. V. G. Gerasimov,  
 L. S. Shadrin, P. M. Shadrin, P. M. Shadrin, P. M. Shadrin,  
 and M. V. Shadrin. The electrochemical synthesis of  
 metal-organic compounds. In: *Journal of Applied Chemistry*,  
 1964, No. 10, p. 2000-2005. (Soviet Union)  
 also known: 25,000 copies printed.

Dr. of Sciences L. A. Andreeva, E. P. Bogdanovskiy,  
 Dr. V. Gerasimov, V. V. Gerasimov, and A. A. Gerasimov; Mos. (this  
 vol.) L. E. P. Bogdanovskiy and V. V. Gerasimov; Mosk. Zh.,  
 No. 8, 1964.

Summary: This book is intended for students of other  
 fields and also engineering establishments, for scientists and  
 students of chemical, metallurgical, and scientific  
 institutions. The volume contains basic information  
 on electrochemical synthesis of metal-organic compounds.  
 on electrochemical synthesis of metal-organic compounds. The  
 written characteristics of it does not include metal-organic  
 materials. It is divided into two parts. The first part  
 deals with the Department of Electrochemistry and  
 scientists of the Leningrad Institute of Electrochemical  
 Science, L. A. Andreeva (Leningrad) especially Ya. I. Piner,  
 L. S. Shadrin, V. I. Yanov (Leningrad) and  
 Institute of Technical Sciences, Dr. G. I. Pavlov and  
 Dr. P. M. Shadrin, assistants, Dr. G. I. Pavlov and  
 Dr. E. K. Korov for their assistance. Reference accompany each  
 part.

## Handbook on Electrical Engineering (Cont.)

SOV/5058

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~~Cont-9/19~~

**DUDNIK, L.Ya.,** kandidat meditsinskikh nauk.

Sub-periosteal injection of penicillin in treating external and medial otitis. Vest. oto-rin. 18 no.1:75 Ja-F '56. (MLRA 9:6)

1. Iz kliniki bolesney ukha, gorla i nosa (zaveduyushchiy deyatel' nauki BASSR professor S.V. Mikhaylovskiy) L'vovskogo meditsinskogo instituta.

(EAR--DISEASES) (PENICILLIN)

DUDNIK, M.

Making large brick blocks in Kiev plants. Stroi. mat. 4 no.3:4-6  
Mr '58. (MIRA 11:3)

1. Nachal'nik Kiyevskogo gorodskogo upravleniya promyshlennosti stroi-  
tel'nykh materialov.

(Kiev--Building blocks)

DUDNIK, M.I.

Obtaining dry antiglobulin serum for Coomb's test. Gemat. i perel.  
krovi 1s75-78 '65.

(MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi.

DUBNIK, M. I.

"Transfusion of Rh-Positive Blood to Patients of Rh-Negative Type," by M. I. Dudnik, Candidate of Medical Sciences, Kiev Institute for Blood Transfusion and Emergency Surgery, Vrachebnoye Delo, No 8, Aug 56, pp 861-864

Six cases of postoperative reaction of patients with Rh-negative blood who received repeated transfusions of Rh-positive blood are recounted. One patient (female of AB, Rh<sup>-</sup> type) is described in detail. In this case, the first posttransfusion reaction set in 45 minutes after the seventh incompatible transfusion; after another incompatible transfusion, the posttransfusion reaction appeared 15 minutes after the transfusion. Serum studies showed anti-Rh agglutinins after the second posttransfusion reaction in a 1:8 dilution.

Sum 1239

~~SECRET~~  
DUDNIK, M.I., kandidat meditsinskikh nauk (Kiyev, ul. Koslovskaya, d.7, kv.3)

Role of iso-immune antibodies and prevention of iso-antigenic incompatibility in blood transfusion. Nov.khir.arkh. no.4:59-63  
Jl-Ag '57. (MIRA 10:11)

1. Kiyevskiy nauchno-issledovatel'skiy institut perelivaniya krovi i neotlozhnoy khirurgii.  
(ANTIGENS AND ANTIBODIES) (BLOOD--TRANSFUSION)



DUDNIK, M.I.; MURAVOVA, L.P.

Determination of the antigens Rh<sub>0</sub> (D), M, N, A, B, O in the process of storing preserved blood. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:155-158 '61. (MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

DUDNIK, M.I.

Isogenous incompatibility between the blood of the mother and the child according to data on examinations of 3000 women. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:161-166 '61.

(MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

GOROKHOVSKIY, G.A., kand.tekhn.nauk; DUDNIK, M.I.

Role of polymer protectors in bearing materials. Izv. vys. ucheb.  
zav.; mashinostr. no. 12:59-62 '63. (MIRA, 17:9)

1. Kiyevskiy institut Grazhdanskogo vozdušnogo flota.

ACC NR: AP7004189

(A, N)

SOURCE CODE: UR/0369/66/002/006/0698/0701

AUTHOR: Gorokhovskiy, G. A.; Bezruk, L. I.; Severin, P. A.; Dudnik, M. I.

ORG: Kiev Institute of Engineers of Civil Aviation (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii)

TITLE: Effect of technological orientation of structure on the wear of polytetrafluoroethylene

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 6, 1966, 698-701

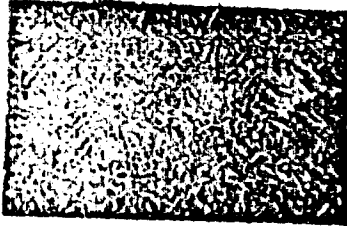
TOPIC TAGS: polymer structure, polytetrafluoroethylene, wear resistance, chain polymer

ABSTRACT: The wear resistance of polytetrafluoroethylene (PTFE) is investigated as a function of the pattern of alignment of supramolecular formations, which pattern is determined by the technique of processing of the polymer into manufactured articles. The product of the polymerization of PTFE represents a white powder with a fibrous structure which is processed into manufactured articles by pressing and sintering at 360-370°C. The specimens tested were cylinders 30 mm in diameter and 40 mm in height, pressed by means of uniaxial compaction. Such a force field leads to an orientation of supramolecular structures which will persist during subsequent sintering owing to the extremely high viscosity of the PTFE melt. Two series of specimens were tested

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ACC NR: AP7004189

for wear. In the first series (Ic) the planes of working surfaces were at right angles to the pressing axis and in the second series (IIc), parallel (Fig. 1). It was found that specimens Ic (perpendicular) are represented by laminar formations, whereas specimens IIc (parallel) exhibit edges of these laminar formations. Further, specimens IIc



a



b

Fig. 1. Structure of PTFE films sliced at right angles (a) and parallel (b) to the pressing axis of the cylindrical sintered specimens (magnified 8000 times)

Cord 2/3

ACC NR: AP7004189

wear out more intensely, which is apparently associated with the greater number of structural defects at such an orientation of the supramolecular formations. Similarly, a rise in temperature acts more destructively on specimens with a structure of the IIc type. This difference in wear resistance can be offset by adding colloidal graphite as a filler during sintering or by partially pulverizing the sintered polymer so as to partially destroy the molecular chains and thus to equalize the structure in the transverse and longitudinal directions. Orig. art. has: 5 fig.

SUB CODE: 11/ SUBM DATE: 18Jun66 / ORIG REF: 015/ OTH REF: 002

Card 3/3

DUDNIK, N. A. Cand Agr Sci -- (diss) "Means of raising the yield of the  
*useful wood* of *rootstock* ~~the main~~ varieties of grapes for the southern regions of  
the Ukraine and Moldavia." Odessa, 1959. 17 pp (Min of Agr UkSSR. Odessa  
Agr Inst), 200 copies (KL, 45-59, 148)

DUDNIK, Nina Akimovna; PUTILIN, Vladimir Georgiyevich; KHURGIN,  
Georgiy Solomonovich; AZARNINA, N.I., red.; ZELENKOVA, Ye.Ye.,  
tekhn. red.

[Building materials] Stroitel'nye materialy. [By] N.A. Dudnik i dr.  
Kiev, Gosstroisdat USSR, 1962. 189 p. (MIRA 16:3)  
(Building materials)



DUDNIK, N.I.

Landform characteristics of the Vol'sk Production Administration  
of Saratov Province. Nauch. zap. Vor. otd. Geog. ob-va:29-35 '63.  
(MIRA 17:9)

DUDNIK, N.I.

Some characteristics of landforms in the northern part of  
the Busuluk Plain. Sbor.nauch.rab.asp. VGU no.2:107-113  
'62. (MIRA 18:11)

DUDNIK, N.I.

New publication concerning the methodological studies of landforms.  
Izv.Vses.geog.ob-va 95 no.3:272-273 My-Je '63. (MIRA 16:8)  
(Landforms)

DUDNIK, O.M. [Dudnykh, O.M.]

Division of Cherkassy Province into physicogeographical regions.  
Geog. zbir. no.1:207-216 '56. (MIRA 12:7)  
(Cherkassy Province--Physical geography)

DUDNIK, O.M. [Dudnyk, O.M.]; SOLODOVNIK, Yu.V. [Solodovnyk, IU.V.]

Polytechnical training of biology teachers for secondary schools  
at the Cherkassy Teachers' Institute. Nauk. zap. ChDPI 8:3-10 '56.  
(MIRA 11:2)

(Cherkassy--Teachers, Training of)  
(Biology--Study and teaching)

DUDNIK, O.M. [Dudnyk, O.M.]

Utilisation of the mineral resources and raw materials of Cherkassy  
Province. Nauk. zap. ChDPI 8:41-46 '56. (MIRA 11:2)  
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DUZNIK, O.; SYESHENKO, A.; NEPYVODA, P.; GOL'TSEV, Ya. [Gol'tsev, Ye.], red.;  
MOLDOHADSKIY, O. [Moldcha&s'kyi, O.], tekhn. red.

[Cherkassy Province of the Ukraine; an account of its history,  
geography and economy] Cherkas'ka oblast' Ukrain's'koi RSR; istoryko-  
geografichnyi narys ta ekonomichna kharakterystyka. [Cherkasy]  
Cherkas'kyi oblyvday, 1957. 124 p. (MIRA 11:7)  
(Cherkassy Province)

DUDNIK, O.M. [Dudnyk, O.M.]; OKHVAT, P.I.

~~The twentieth anniversary of the Agricultural Biological Station of  
the Cherkassy State Pedagogical Institute. Nauk. zap. ChDPI 11:  
195-204 '57. (MIRA 11:5)  
(Cherkassy Province—Agricultural experiment stations)  
(Cherkassy Province—Biological research)~~



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DUDNIK, P.Ye.. insh., retsenznt; SOROKA, M.S., red.

[Advanced technology and high-efficiency metal-cutting tools;  
experience of the Kharkov Turbine and Generator Plant] Pro-  
gressivnaia tekhnologiya i vysokoproizvoditel'nyi instrument;  
opyt KhtGZ imeni Kirova. Moskva, Gos.nauchno-tekhn.isd-vo  
mashinostroit.lit-ry, 1960. 155 p. (MIRA 13:6)  
(Metal-cutting tools)

BEL'CHENKO, Anatoliy Yakovlevich; YATSENO, Georgiy Gavrilovich;  
DUDNIK, P.Ya., insh., red.; NIKIFOROVA, E.A., insh.,  
red.; GORNOSTAYPOL'SKAYA, M.S., tekhn.red.

[Multiple machining of machine parts] Gruppye metody  
obrabotki detalei mashin. Moskva, Gos.nauchno-tekhn.isd-vo  
mashinostroit.lit-ry, 1961. 182 p. (MIRA 14:12)  
(Metalwork) (Machine-shop practice)

DUDNIK, Prokofiy Yermolayevich; OLEKNIK, V.T., inzh., retsenzent;  
PILIPENKO, Yu.P., inzh., red.; GORNOSTAYPOL'SKAYA, M.S.,  
tekhn. red.

[Burnishing and flattening tools and mandrels] Obrabotki,  
raskatki i dorny. Moskva, Mashgis, 1962. 73 p.

(MIRA 15:4)

(Metalworking machinery)

39254

S/141/62/OC5/002/016/025  
E192/E382

9.42/0

AUTHOR: Dudnik, R.A.

TITLE: Space-charge waves in a system of electron bunches of finite length

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, v. 5, no. 2, 1962, 345 - 351

TEXT: The system considered is in the form of a non-split anode magnetron and this is illustrated in Fig. 1. It is seen that in the region I the electron trajectories are almost parallel to each other and the electrons have almost identical velocities. The space-charge density in this region is therefore quite high. The analysis of the operation of the system is based on the following assumptions: the region I is filled with elementary electron bunches having a finite length  $L$  and is infinitely long, all the bunches are rectangular and their origins  $\xi$  are uniformly distributed in space; the average velocity of the bunches is  $v_0$ ; their space charge is  $\rho_0$  and the electrons oscillate about a steady-state trajectory having

+

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E192/E382

Space-charge waves ....

zero initial conditions. The phase and the amplitude of the oscillations depend on the instant  $\tau$  and position  $\zeta$  of the entry of an electron, on the time  $t$  and coordinate  $x$ , the initial conditions and the mutual interaction of the electrons. The principal equation describing the phenomena in the system is in the form:

$$\frac{d^3\psi(t)}{dt^3} + \omega_p^2 \left[ \frac{d\psi(t)}{dt} + \frac{d\psi(t - T)}{dt} \right] - \frac{2\omega_p^2}{T} [\psi(t) - \psi(t - T)] = 0 \quad (7)$$

where  $\psi(t)$  is defined by:

$$\partial^2 E(\zeta, \tau, t) / \partial t^2 = \psi(t) \quad (6)$$

where  $E(\zeta, \tau, t)$  is the field at the instant  $t$  at the point reached by the electrons of an elementary bunch whose initial coordinates are  $\zeta$  and  $\tau$ ,  $\omega_p$  is the plasma frequency

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S/141/62/OC5/002/016/025  
E192/E382

Space-charge waves ....

and  $T = L/v_0$ . The equation can be solved by the Euler method and a characteristic equation is thus obtained. In particular, if it is assumed that the independent variable is a sinusoidal function of time, the characteristic equation is in the form:

$$pz^3 + (z + 2)e^{-z} + z - 2 = 0 \quad (14)$$

where  $p$  is defined by:

$$p = \frac{1}{\delta^2 \alpha^2} = \frac{1}{(\omega_p L / v_0)^2} > 0 \quad (14a)$$

where  $z = \alpha y$ , where  $\alpha = h_0 L = \omega L / v_0$ ,  $\delta = \omega_p / \omega$  and  $\omega$  is the propagation constant. The regions of the parameter  $p$  of Eq. (14) corresponding to the unstable interaction of the electron bunches is determined and it is shown that the conditions of the appearance of growing waves necessitates that the transit angle of the electrons should fulfil the following equation:

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Space-charge waves ....

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$$\psi_p = \omega_p L / v_0 > \sqrt{2} \tau$$

(22) .

4

The system of elementary bunches is therefore equivalent to an unlimited number of monoions uniformly distributed in space (S.D. Gvozdover - Teoriya elektronnykh priborov SVCh (Theory of Electron Devices for UHF), GITTL, Moscow, 1956). The interaction between the various elementary bunches and the coupling between them are determined by the magnitude of the space charge; the higher the charge, the easier an electron can impart its oscillatory motion to the neighbouring electrons. Depending on the interaction time, the electrons can impart a portion of their oscillatory energy to the neighbouring bunches and the oscillations are "transferred" from one bunch to another. The above analytical results can be used for the qualitative estimate of the finite interaction time between the electrons at the outer boundary of the space charge in a non-split anode magnetron.

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Space-charge waves ....

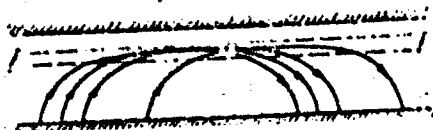
S/141/62/005/002/016/025  
E192/E382

The author expresses his gratitude to M.I. Kuznetsov for directing this work and to his colleagues of the computer division of NINFI for the numerical solution of the scattering equation. There are 4 figures.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete  
(Scientific Research Radiophysics Institute of Gor'kiy University)

SUBMITTED: April 15, 1961

Fig. 1:



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4

DUDNIK, R.A.

Theory of tubes with transverse interaction. Izv. vys. ucheb.  
zav.; radiofiz. 6 no.4:764-774 '63. (MIRA 16:12)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut pri  
Gor'kovskom universitete.

BELIUSTINA, L.N.; DUDNIK, R.A.

Letters to the editor. *Izv. vys. ucheb. zav.; radiofiz.* 6 no.5;  
1075 '63. (MIRA 16:12)

ACCESSION NR: AP4024474

S/0141/64/007/001/0135/0145

AUTHOR: Dudnik, R. A.

TITLE: Contribution to the theory of a type M transverse interaction tube

SOURCE: IVUZ. Radiofizika, v. 7, no. 1, 1964, 135-145

TOPIC TAGS: transverse interaction tube, type M tube, dispersion equation, telegraphy equations, microwave amplifier, microwave generator, beam synchronization, slow wave structure, strip waveguide

ABSTRACT: The dispersion equation for a planar model of a type M transverse-interaction tube is derived for small amplitudes from the two-dimensional telegraphy equations. The limitations of the telegraphy equations are pointed out. It is demonstrated that the phase velocity of the wave propagating in such a system has longi-

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ACCESSION NR: AP4024474

tudinal and transverse components, so that an electron beam moving along the axis with constant velocity can be synchronized with the transverse component of the phase velocity of the slow wave of the system. Such a tube can be used as a microwave amplifier and generator. The dispersion equation is investigated for the case of sufficiently narrow slow-wave systems and a weak beam current, and for different types of synchronizations between the electron beam and the axial component of the phase velocity of the slow wave. The particular case of a strip waveguide used as the cold system for the transverse wave tube is also considered. It is shown that the amplification of the transverse interaction tube is proportional to the first power of the beam current density as is the case with a magnetron amplifier of short length. "The author is deeply grateful to A. V. Gaponov for suggesting the subject and for many useful remarks." Orig. art. has: 33 formulas and 1 figure.

ASSOCIATION: Nauchno issledovatel'skiy radiofizicheskiy institut

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ACCESSION NR: AP4024474

pri Gor'kovskom universitete (Scientific Research Radiophysics Institute at the Gor'kiy University)

SUBMITTED: 26Apr63

DATE ACQ: 15Apr64

ENCL: 00

SUB CODE: PH, GE

NR REF SOV: 004

OTHER: 000

Card 3/3

DUDNIK, R. D.

PA 152T84

USSR/Physics - Carborundum, Black  
Conductivity

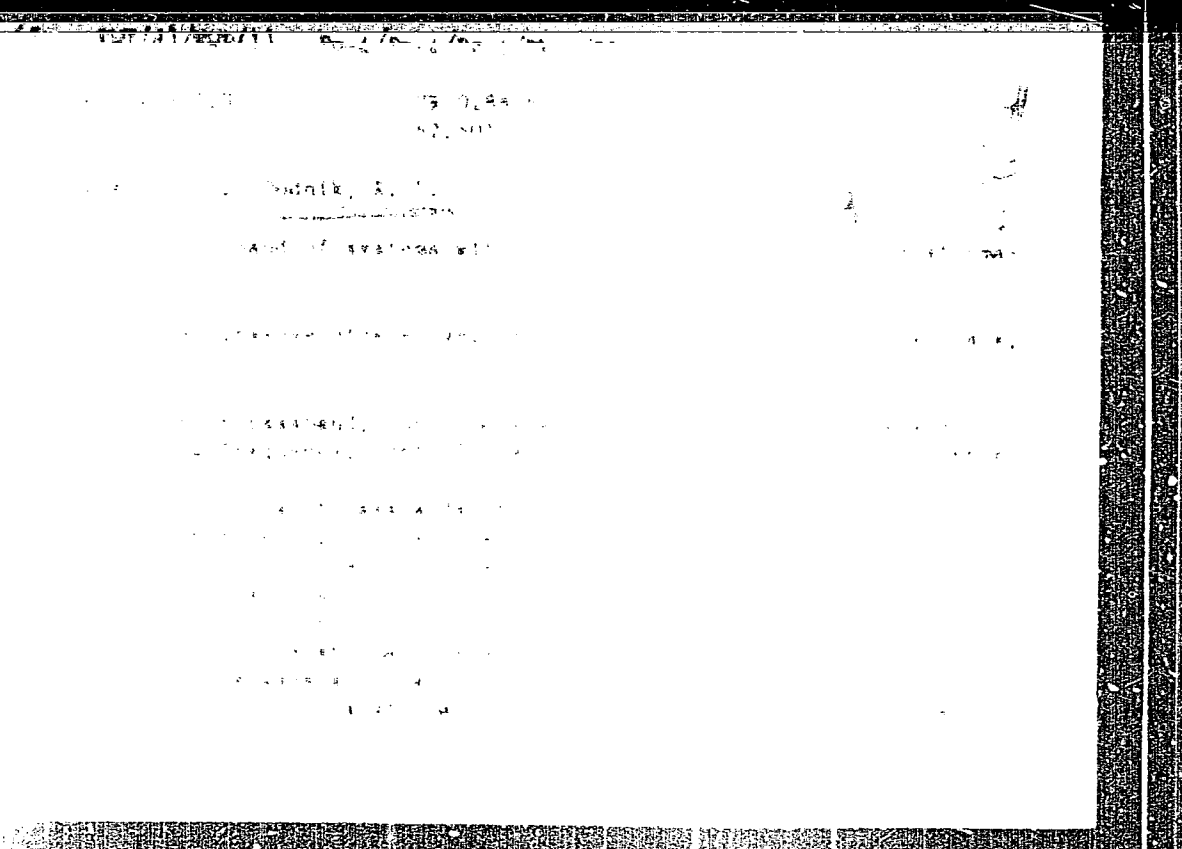
Dec 49

"Temporal Effects of Black Carborundum," R. D. Dudnik,  
V. I. Pruzhinina-Granovskaya, 8 pp

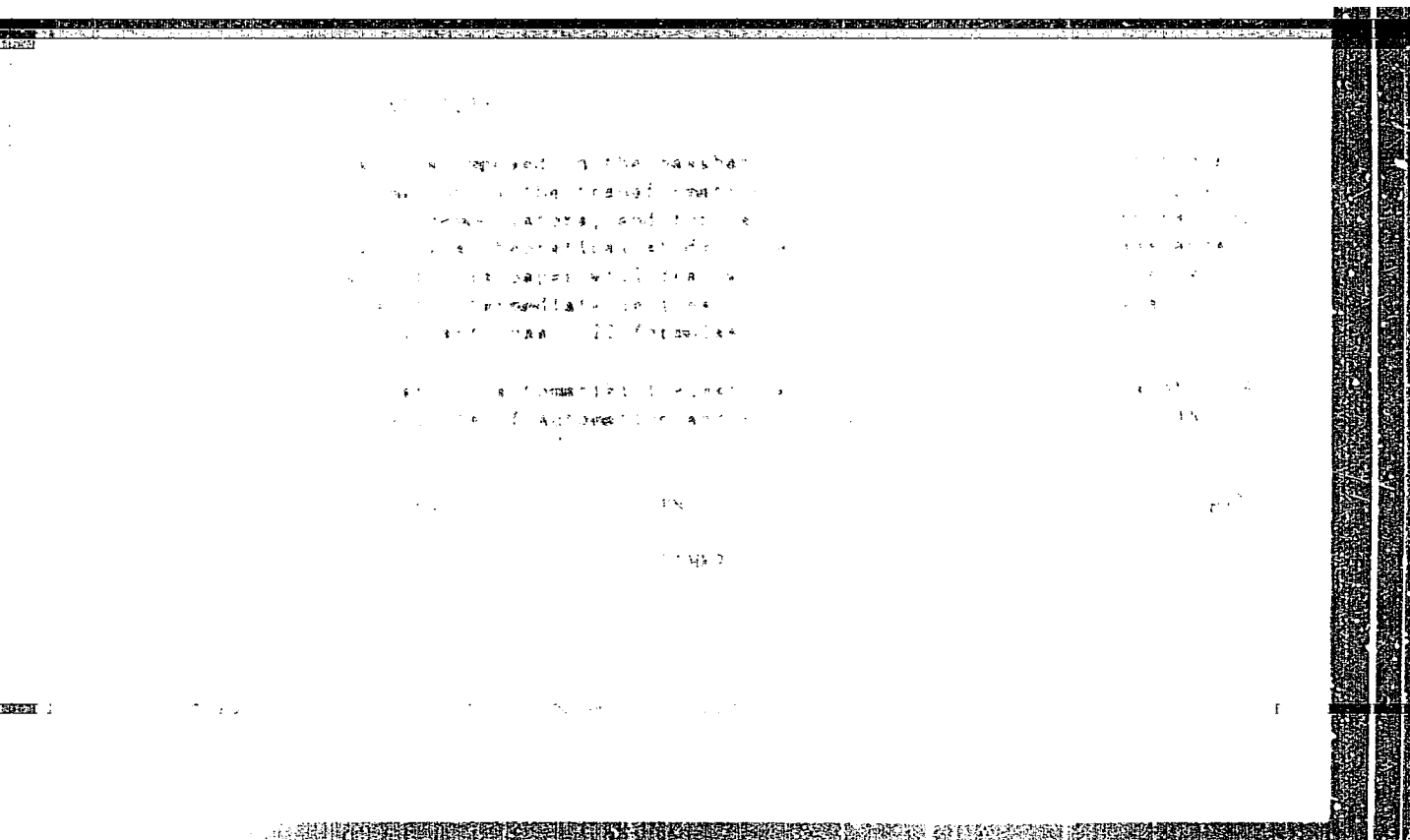
"Zhur Tekh Fiz" Vol XIX, No 12

Investigates laws of variation of current with time  
in nonconducting and conducting directions of black  
carborundum. Shows duration of observable time  
processes is not linked with any notion of electronic  
character of these processes. Duration predicted by  
Pecard's theory of rectification is much less than  
observed value. Submitted 18 Dec 47.

152T84







CA

2

These effects in block silicon carbide. H. L. Duda and V. J. Pechholdt (University of Michigan, Ann Arbor, Mich. 48106-1113). The small rectifying effect, observed in SiC (rectification coeff. of the order of 1.5-2.0), and termed "val. rectification" is attributed to differences in the resistance of the 2 blocking layers of the 2 electrodes. The variation of the current intensity with time was measured on large crystals of SiC, 1-3 mm. thick, 1-2 sq. cm. surface area. The elec. resistance along the base of the single crystal prism is (1) in (1) that in the direction perpendicular to the base; the time  $t$  in each case was found in the latter direction and the observations reported in the following perpendicular range of voltages, i.e. the range where Ohm's law does not hold. In the passing direction (I), the current intensity  $i$  increases with time, not only as a result of the rise of temp., but also after the temp. has become const. In the blocking direction (II),  $i$  first increases with time owing to the rise of temp., passes through a max., and then decreases. If the current is allowed to flow for some time (under 2.5 v.) in the direction I, and then the voltage is reversed (to 0.4 v.),  $i$  falls continuously, first as a result of the fall of the temp., then as a result of the normal "forward" (under 2.5 v.) in direction II. If the crystal is first aged in reverse (to 0.4 v.) in direction II, and then the voltage is reversed through a max., and then, after the temp. has become approx. const., time with time, according to the square law, in direction I. Current-voltage curves in either direction show hysteresis loops. In direction I, the descending branch lies above the ascending branch, and the reverse is true in II, the width of the loop is greater in I. At const. voltage, the time  $t$  necessary to attain a stationary

$i$  is shortened with rising temp. in I and lengthened in II, e.g., under 1.1 v., at 16 and 66°,  $t = 33$  and 24 min. at I, and 23 and 37 min., resp., in II. Upon interruption of the current, in I, the elec. resistance  $R$  goes back to its original higher value within approx. 3 hrs.; in II,  $R$  continues to increase, and can only be restored to its original value by application of a voltage of opposite sign. The elec. resistance of SiC thus depends on its previous elec. history, this may account for the discrepancies between the present results and the contrary observations of Kemball (Proc. Roy. Soc. (London) 46, 123, 1944). The expl. time intervals  $t$  are very much longer than the theoretical  $t = d^2/D$  (where  $d =$  thickness of the blocking layer,  $D =$  diffusion coeff. of the electrons from and into the blocking layer) of Petráš (C.A.B. 18, 917, 1954); consequently, the observed long-lived time effects cannot be due to diffusion of electrons, but must be attributed to diffusion of the impurity ions which constitute the defects in SiC. This process, in contrast to fast diffusion of electrons, is naturally slow. Whereas higher temp. favors the diffusion of the ions in either direction, in I the diffusion is promoted also by the field, and consequently,  $t$  is shorter at a higher temp.; in II, diffusion and the field tend to move the ions in opposite directions, and consequently higher temp. lengthens  $t$ . Ions introduced into the thin blocking layer during the stage of forming, in direction I, are gradually returned in the absence of a field, and, respectively, the elec. resistance gradually returns to its original value; in direction II, ions have been carried away from the blocking layer into the bulk of the semiconductor, and there is a much greater probability of their being dissipated in the bulk than of their being returned into the

this layer. The observed time effects can then be interpreted in the assumption of some degree of bulk and surface loss of mercury ions. The observation of time and change (C. J. 20, 1957) that the rectification coeff. of 15C cm, depending on the individual sample, increases or decreases with the temp., or remains unchanged, can be explained easily by irregularities of the temp. coeff. of the elec. resistance of the 2 blocking layers. N. Tien

ДЛЯ ПИТАНИЯ  
А С А

Chemistry of Silicon

Temporary effects with black silicon carbide. R. I. Litvinchuk, *Zhurnal Prikladnoi Khimii* (USSR), 10, 1436 (1967), *Engl. transl. J. Appl. Chem. (USSR)*, 10, 1436 (1967), *Engl. transl. J. Appl. Chem. (USSR)*, 10, 1436 (1967).

An investigation was carried out on the regularities of current changes with time in the "burning" and conducting directions of black silicon carbide. The duration of the observed temporary effects disagrees with the conception of their electrochemical nature. The duration of the effects deduced from Pyker's rectification theory is many times shorter than that observed. A hypothesis was therefore put forward that the temporary effects are not caused by the rectification mechanism, but accompany the latter and are actually caused by the diffusion of the substance ions from the semiconductor into the barrier layer. The experimental results obtained agree with the above view. It was shown that the so-called volume rectification is the result of the differential effect of the barrier layers near both electrodes. (Figures)

*Dudnik R.L.* PHASE I BOOK EXPLOITATION 699

Sheftel', Iosif Teodorovich

Termosoprotivleniya; kharakteristiki, konstruksii i oblasti primeneniya (Thermistors; Characteristics, Design and Applications) Moscow, Gos. izd-vo fiziko-matematicheskoy lit-ry, 1958. 147 p. (Series: Fiziko-matematicheskaya biblioteka inzhenera) 15,000 copies printed.

Ed.: Dudnik, R.L.; Tech. Ed.: Akhlamov, S.N.

**PURPOSE:** This brochure is addressed to engineering and technical workers who are interested in familiarizing themselves with the characteristics and parameters of thermistors, their operating characteristics in circuits, and the possibilities arising from the application of thermistors in the solution of various technical problems.

**COVERAGE:** The brochure explains the technology of thermistor production and discusses the basic parameters and characteristics

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Thermistors; Characteristics, Design and Applications 699

of thermistors and their dependence on a number of factors. Examples of the practical applications of thermistors are given. The design and basic characteristics of industrial types of thermistors produced in the Soviet Union are discussed. The author complains that large groups of technical people still are not familiar with the characteristics and parameters of the various types of thermistors. The present brochure represents, in part, an attempt to disseminate this information and data. It is not an exhaustive treatment of the subject, and does not contain data on thermistors produced by foreign (non-Soviet) firms. No personalities are mentioned. There are 49 references, of which 44 are Soviet (including 3 translations), 3 German, 1 English, and 1 French.

TABLE OF CONTENTS:

Introduction

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