

L 6715-65

ACCESSION NR: AF4042208

ENCLOSURE: 02

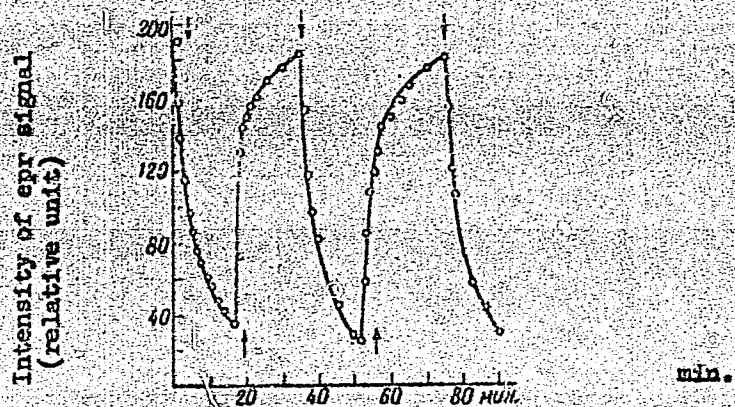


Fig. 2. Increase and decrease of intensity of the epr signal of a tablet of dye I in successive cycles of discharge and recharge. The arrows show the beginning of discharge (↓) and beginning of recharge (↑)

Card 5/5

LYUBCHENKO, M. A., KIRNITSKIY, B. T.

Grasses

Summer sowings of alfalfa and grass mixtures under cover in the Moldavian S. S. R., Sov. agron. 10 No. 5, 1952.

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



LYUBCHENKO, N.; NIKONOV, M.; BELYY, M.; YAKOBSON, V., inzh.po  
ratsionalizatsii; KUZ'MICHEV, M., inzh.; ROBUSTOV, A., inzh.

From letters. Izobr.i rats. no.10:33-34 0 '59.  
(MIRA 13:2)

1. Instruktor Tsentral'nogo komiteta profsoyuza rabochikh stroitel'stva i promstroymaterialov Sverdlovskogo sovarkhoza (for Nikonov).
2. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov Saratovskogo industrial'nogo tekhnikuma (for Belyy).
3. Dolinskiy tsellyulozno-bumazhnyy kombinat, g.Dolinsk, Sakhalinskoy oblasti (for Yakobson).
4. Proizvodstvenno-tekhnicheskiy otdel sovarkhoza g.Dnepropetrovsk (for Kuz'michev, Robustov).  
(Shanghai--Technological innovations)

KULIYEV, A.I.M.; KOLYSHKIN, D.A.; LYUBCHENKO, N.G.; ALEKPEROV, G.Z.;  
GRIGORYAN, E.V.; ABDULLAYEVA, S.M.

Studying the strength of highly activated coals. Azerb. neft.  
khoz. 41 no.12:37-38 D '62. (MIRA 16:7)

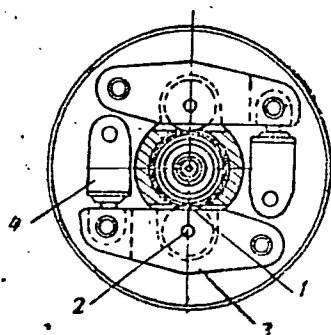
(Coal--Testing)

(Gases--Absorption and adsorption)



L 39803-66

ACC NR: AP6011194



1--roller; 2--roller axle; 3<sup>1</sup>--bracket; 4--hydraulic cylinder

SUB CODE: 13/      SUBM DATE: 11Mar64/      ORIG REF: 000/      OTH REF: 000

Card 2/276P

LYUBCHENKO, N.V., kand.med.nauk (Khar'kov)

Nerves of the gum region in paradentosis. Probl.stom. 4:51-58  
'58. (MIRA 13:6)

(GUMS—INNEVATION)



LYUBCHENKO, N. V., kand. med. nauk (Khar'kov); LESOVAYA, N. D., kand. med.  
nauk (Khar'kov)

Nerves of the gum region in gingivitis. Probl. stom. 4:59-64  
'58. (MIRA 13:6)

(GUMS--INNERVATION)

LYUBCHENKO, N.V.

Research data on the innervation of human gums. Probl. stom. 5:  
372-375 '60. (M.I.A 15:2)

1. Khar'kovskiy meditsinskiy stomatologicheskiy institut.  
(GUMS--INNERVATION)

GOL'DOVA, T.G. (Khar'kov); LYUBCHENKO, N.V. (Khar'kov)

Pathologic states of the parodontium in cats. Probl.stom. 6:25-  
28 '62. (MIRA 16:3)

(GUMS—DISEASES) (CATS—DISEASES AND PESTS)

LYUBCHENKO, O.M. [Liubchenko, O.M.], inzh.

Technical specifications and hourly costs of disassembling and  
assembling DT-24 tractors. Mekh. sil'. hosp. 10 no.3:29-30 Mr '59.  
(MIRA 12:6)

1.Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy te'hnologicheskii  
institut.

(Tractors--Maintenance and repair)

LYUBCHENKO, O.M., inzh.

Norms for time expended on the repair of the T-28 tractor and special problems in assembling it. Mekh. sil'.hosp. 11 no.8:20-22 Ag '60.  
(MIRA 13:9)

(Tractors-- Maintenance and repair)

L 18880-66 EWT(1)/EWT(m)/EWP(t) LJP(c) AT/JD

ACC NR: AP6007802

SOURCE CODE: UR/0185/66/011/002/0219/0221

AUTHOR: Bilyayev, O. M.; Lyubchenko, O. V.; Potykevych, I. V.

ORG: Institute of Semiconductors, AN URSS, Kiev (Instytut napivprovodnykiv AN URSS) 65  
63

TITLE: New high-sensitivity photoconductor CdIn<sub>2</sub>Te<sub>4</sub> 21, 44, 55  
B

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 2, 1966, 219-221

TOPIC TAGS: photoconductivity, cadmium compound, optic transmission, forbidden band, electric conductivity, temperature dependence

ABSTRACT: Although CdIn<sub>2</sub>Te<sub>4</sub> has been synthesized and its semiconductor properties discovered some time ago, no measurements of its photoelectric properties have been made before. The authors synthesized six n-type single crystals of this substance, measuring 1 x 1 x 0.5 mm, by a procedure described elsewhere (Tezisy dokladov 3-go soveshchaniya po rostu kristallov [Abstracts of Papers of the 3rd Conference on Crystal Growth], Moscow, AN SSSR, 1963, p. 58). The transmission and photoconductivity spectrum were measured with a monochromator (IKS-12). The photocurrent shows a maximum near 1.04-1.06 μ, and decreases much more slowly in the short-wave side than in the long-wave side. The width of the forbidden band, as determined from the drop in photosensitivity at the long-wave edge is 1.09-1.12 ev, is in

Card 1/2

L 18880-66

ACC NR: AF6007802

agreement with results by others. Change in temperature from -150 to 25C does not change the shape of the spectrum, but shifts it towards shorter wavelengths. The dark conductivity increases with increasing temperature. However, the width of the forbidden band determined from the plot of the dark photoconductivity against the reciprocal of the temperature (0.83-0.85) is lower than obtained from the photo-current curve. All crystals had a slightly sublinear lux-ampere characteristic,  $\sigma \sim I^\alpha$ , with  $\alpha = 0.9$  at -150C and  $\leq 0.7$  at 25C. It is concluded that CdIn<sub>2</sub>Te<sub>4</sub> can be regarded as a new highly sensitive photoconductor with a few interesting properties. The authors thank V. YE. Lashkar'ov (Lashkarev) and M. K. Sheynkman for interest in the work and advice. Orig. art. has: 2 figures. [02]

SUB CODE: 20/ SUBM DATE: 13Sep65/ ORIG REF: 004/ OTH REF: 003  
ATD PRESS: 4217

Card 2/2

L 18883-66 EWT(l)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t) LJP(c) RDW/GG/JD

ACC NR: AF6007803

SOURCE CODE: UR/0185/66/011/002/0221/0224

AUTHOR: Iashkar'ov, V. Ye.; Sheynkman, M. K.; Iyubchenko, O. V.; Gorodets'kyi, I. Ya.; Yermolovych, I. B.

ORG: Institute of Semiconductors AN UkrSSR, Kiev (Instytut napivprovidnykiv AN URSR)

77  
B

TITLE: Determination of the parameters of "sensitizing" recombination centers in CdS and CdSe single crystals

21, 44, 55

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 11, no. 2, 1966, 221-224

TOPIC TAGS: color center, cadmium sulfide, cadmium selenide, single crystal, electron recombination, capture cross section, valence band, ir light

ABSTRACT: Continuing earlier investigations of the kinetics of relaxation of photocurrent in CdS and CdSe single crystals (FTI v. 7, 1717, 1965 and earlier papers), the authors consider in this paper new stationary and kinetic methods of determining hitherto undetermined parameters (the capture coefficient ( $C_r$ ) of holes by type II centers, and their energy levels ( $E_{vr}$ ) reckoned from the top of the valence band), as well as new methods of determining the cross section for the capture of a quenching infrared photon. The new methods are based on the use of stationary

2

Card 1/2



L 18883-66

ACC NR: AP6007805

exciting illumination in conjunction with pulses of exciting or quenching ir light. The theory underlying the methods is briefly described. The methods were tested on selected high-resistance undoped CdS and CdSe single crystals. The tests showed the presence in CdS of two types of recombination centers, with  $C_r \approx (3-5) \times 10^{-13}$  cm<sup>3</sup>/sec and  $E_{vr} = 1.0$  ev for the first, and  $C_r \approx (2-3) \times 10^{-12}$  cm<sup>3</sup>/sec and  $E_{vr} = 1.18$  ev for the second. Tests made by three different methods gave nearly identical results. Orig. art. has: 2 figures, 5 formulas, and 1 table. [02]

SUB CODE: 20/ SUBM DATE: 01Oct65/ ORIG REF: 005/ OTH REF: 002  
ATD PRESS: 4217

Card 2/2

LYUBCHENKO, P.N.

Morphological content of the blood in adolescents. Sov.  
med. 28 no.10:136-138 0 '65. (MIRA 18:11)

1. Klinika Instituta gigiyeny detey i podrostkov AMN SSSR.

GUDZHABIDZE, Sh. I.; LYUBCHENKO, S.D.; MARMYSHEVA, V.V.

Using Soviet oil of chenopodium for the control of helminthiasis. Med.paraz.  
i paras.bol. no.4:346-351 JI-Ag '53. (MLRA 6:9)  
(Worms, Intestinal and parasitic)

GUDZHABIDZE, Sh.I.; LYUBCHENKO, S.D.

Role of composting of organic wastes in the control of ankylostomiasis and ascariasis. *Med.paraz.i paraz.bol.* 37 no.5:576-578  
S-O '59. (MIRA 13:5)

1. Iz parazitologicheskogo otdeleniya Gudautskoy ob'yedinennoy bol'nitsy (glavnyy vrach M.B. Guniya).  
(HOOKWORM INFECTION prev. & control)  
(ASCARIASIS prev. & control)  
(REFUSE DISPOSAL)

POLOVETSKAYA, A.A.; LYUBCHENKO, S.D.; GRUDZINO, S.F.

Observations on the development and vitality of the eggs and larvae of *Necator* under the conditions in the various regions of the Georgian S.S.R. *Med.paraz.i paraz.bol.* no.1:91-95 '62. (MIRA 15:5)

1. Iz Nauchno-issledovatel'skogo instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni S.S. Virsaladze Ministerstva zdravookhraneniya Gruzinskoy SSR (dir. instituta I.I. Topuriya, rukovoditel' gel'mintologicheskogo otdeleniya - prof. G.N. Gordadze).

(GEORGIA--HOOKWORMS)



KAGANSKIY, I.M.; KARAVAYEV, M.M.; SUKACHEV, B.P.; LYUBCHENKO, T.V.

Pressure of saturated vapors over highly concentrated fuming  
nitric acid. Zhur. prikl. khim. 34 no.5:1087-1092 My '61.  
(MIRA 16:8)

1. Lisichanskiy filial Gosudarstvennogo nauchno-issledovatel'-  
skogo i proyektного instituta azotnoy promyshlennosti i pro-  
duktov organicheskogo sinteza.  
(Vapor pressure) (Nitric acid)

LYUBCHENKO, V.

AID P - 101

Subject : USSR/Aeronautics

Card 1/1 Pub. 135, 15/18

Author : Lobanov, A., Lt. Col. Eng., and Lyubchenko, V., SenLt., Eng.

Title : Radio location disturbances and the fight against them  
(According to the foreign press)

Periodical : Vest. vozd. flota, 8, 71-79, Ag 1954

Abstract : The author gives a general explanation of the problem and then considers in some detail: 1) static disturbances, 2) active disturbances, and 3) the fight against radio location disturbances. Diagrams.

Institution : None

Submitted : No date



LYUBCHENKO, V.

Arctic shipping. Mor.flot 19 no.10:17-18 0 '59.  
(MIRA 13:2)

1. Kapitan-nastavnik Dai'nevostochnogo parokhodstva.  
(Arctic regions--Shipping)

BUROV, V., aspirant, LYUBCHENKO, V., inzh.

It is hopeless to invent "perpetual motors of the second kind."  
Izobr.i rats. no.2:47-51 F '61. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet (for Burov).  
(Perpetual motion)

LYUBCHENKO, V.A.

Problems in the theory and practice of blast-furnace smelting.  
TSvet.met. 28 no.5:20-28 S-0 '55. (MIRA 10:10)  
(Smelting) (Blast furnaces)

SOV/122-58-6-11/37

AUTHORS: Lyubchenko, V.A. and Loshak, M.Z., Engineers

TITLE: Two-stage Pump of Recent Design (Dvukhstupenchatyy nasos novoy konstrukstii)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 6, p 33 (USSR)

ABSTRACT: A new, two-stage pump, developed by the "Gidroprivod" Works in Kharkov, is described with the help of a cross-sectional drawing. The pump consists of: 1) a gear pump stage developing a pressure of up to 20 kg/cm<sup>2</sup>, at a delivery of 100 litres/min; 2) a superimposed swash-plate-type plunger pump, developing up to 320 kg/cm<sup>2</sup> at a delivery of 8 litres/min. The pump, designated N-476-202, has a maximum speed of 1 460 rpm and works with industrial mineral oils in the temperature range between 10 and 45 °C. There is 1 figure.

Card 1/1 1. Pumps--Design

S/120/62/000/005/034/036  
E194/E535

AUTHORS: Glazkov, N.P. and Lyubchenko, V.F.  
TITLE: Equipment for filling chambers with He<sup>3</sup>  
PERIODICAL: Pribory i tekhnika eksperimenta, no.5, 1962, 192-193

TEXT: A simple mercury pump has been designed so that apparatus such as ionization chambers can be filled with He<sup>3</sup> at a pressure of 50 atm. Mercury is transferred from one cylinder to another either by gravity assisted with a vacuum pump or by applying industrial argon at a pressure of 100 atm. In this way He<sup>3</sup> is first transferred from a storage vessel to the upper cylinder and then from thence to the apparatus to be filled. The cycle is repeated until the necessary pressure has been built up. The entire equipment is made of stainless steel, it is controlled by needle valves in which combined teflon and rubber glands prevent leakage at pressures up to 150 atm. Sight glasses are provided to observe the mercury level. Cold traps may be fitted to purify the He<sup>3</sup>. The equipment was tested by filling an ionization chamber with a volume of 30 ml to a pressure of 50 atm He<sup>3</sup> and the gas purity was observed. There is 1 figure.

SUBMITTED: January 8, 1962  
Card 1/1

AUTHORS: Spivak, G. V., Lyubchenko, V. I. SOV/48-23-6-8/28

TITLE: On the Resolving Power of Immersion Objectives in the Presence of Electric and Magnetic Microfields (O razreshayushchey sposobnosti immersionnogo ob'yektiva pri nalichii elektricheskikh i magnitnykh mikropoley na katode)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 697 - 705 (USSR)

ABSTRACT: In the introduction, short reference is made to papers in which the domains of ferromagnetics and ferroelectrics are investigated, and the structure of electric and magnetic microfields is investigated. The fields behave like microlenses, modulate the electrons passing through, and make it possible to investigate the microstructure. When emission systems are used for the investigation of emission center distribution on the cathode surface, the microlenses of the cathode produce a "pseudocontrast" in the image of the emission. In the second part of the present paper the influence exercised by the macrolenses upon the contrast range of the microlenses is investigated. The equations of motion of the electrons in the magnetic and electric fields serve as a basis and solutions are found for the position

Card 1/3

. On the Resolving Power of Immersion Objectives in the Presence of Electric and Magnetic Microfields SOV/48-23-6-8/28

coordinates of the electrons. The results obtained are qualitatively given in a table for various combinations of macro-lenses. When dealing with the resolving power of immersion objectives without microlenses on the cathode, the paper by Artsimovich (Ref 7) is mentioned among others. In these papers the resolving power of emission systems with larger aperture had been investigated. Moreover, resolving power was investigated in the case of the use of mechanical diaphragms. Much space is given to the treatment of the enlargement of photo-optical immersion objectives and to the irisring of the electron beam by magnetic fields acting on the cathode. Formula (18) is developed for the resolving power. In the last part of the paper, calculation of the resolving power of immersion objectives according to the method of the "sighting hit" is dealt with. Again, the equations of motion serve as a basis, and if  $E_x = H_z = 0$ , a formula for the resolving power is obtained. Next, the influence exercised by the electric microfields is investigated, and for the deterioration of resolving power, formula (24) is given. In conclusion, the enlargement of photo-

Card 2/3

On the Resolving Power of Immersion Objectives in the Presence of Electric and Magnetic Microfields SOV/48-23-6-8/28

optical objectives and irisings by magnetic fields is investigated in the same manner. There are 1 table and 22 references, 11 of which are Soviet.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova ( Physics Department of the Moscow State University imeni M. V. Lomonosov)

Card 3/3



Card 1/2

L 38523-65

ACCESSION NR: AP5005293

$10^{-1}$ — $10^{-6}$ % in zone-melted rhenium. The experiments themselves were made with a mass spectrometer with double focusing and a spark ion source MS-7 (England), described by the author elsewhere (with M. S. Chupakin, ZhAKh, v. 18, 618, 1963). The data obtained were statistically processed with the "..."

DOLKART, V.M. [translator]; NOVIK, G.Kh. [translator]; LYUBCHENKO, V.K. red.; NIKULIN, S.M. red.; VOLKOVA, I.M., red.; SMUROV, B.V., tekhn. red.

[Use of transistor and magnetic elements in electronic digital computers] Primenenie tranzistornykh i magnitnykh elementov v tsifrovyykh vychislitel'nykh mashinakh; sbornik statei. Pod red. V.K.Liubchenko i S.M.Nikulina. Moskva, Izd-vo "Sovetskoe radio," 1960. 228 p. (MIRA 14:10)

(Electronic digital computers)

LYUBCHENKO, V.M. (g. Pushkino)

Catalase activity in seeds of *Tilia cordata* Mill. and *Euonymus*  
*europaea* L. during stratification. Bot. zhur. 44 no.4:522-524  
Ap '59. (MIRA 12:10)  
(Plants, Effect of temperature on) (Seeds) (Catalase)

LYUBCHENKO, V.M., Cand Agr Sci -- (diss) "Biological characteristics of germination and methods of pre-sowing preparation of seeds of fine-leaved linden and European spindle trees." Kiev, 1960. 18 pp with graphs; (Ministry of Agriculture Ukrainian SSR, Ukrainian Academy of Agricultural Sciences); 200 copies; price not given; (KL, 17-60, 163)

LYUBCHENKO, V.M.

Germination of embryos in the linden tree and spindle tree with  
reference to afterripening. Bot.zhur. 45 no.1:144-148  
Ja '60. (MIRA 13:5)

1. Botanicheskiy institut im. V.L.Komarova Akademii nauk  
SSSR, Leningrad.  
(Germination) (Linden) (Spindle tree)

LYUBCHENKO, V.M.

Effect of negative temperatures on the preparation of dormant seeds for germination and on their viability. Dokl. AN BSSR 5 no. 2:86-88 F '61. (MIRA 14:2)

1. Belorusskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva, g.Gomel'. Predstavleno akademikom AN BSSR N.D. Nesterovichem.

( Cold—Physiological effect) (Germination)

LYUBCHENKO, Vyacheslav Maksimovich; BARKAN, V.A., red.; YEFMILOV, V.M.,  
tekh. red.

[Methods of storing and treating seeds of tree and shrub  
species before planting] Metody predposevnoi podgotovki i  
khraneniia semian drevesnykh i kustarnikovykh porod. Minsk, Gos.  
izd-vo sel'khoz.lit-ry BSSR, 1962. 58 p. (MIRA 15:6)  
(Seeds) (Trees) (Shrubs)

LYUBCHENKO, V.M.

"Presowing treatment of forest-tree seeds by exposure to low temperatures" by V.I. Nekrasov. Reviewed by V.M. Liubchenko. Bot. zhur. 47 no.6:874-875 Je '62. (MIRA 15:7)

1. Belorusskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva, Gomel'.

(Trees)

(Plants, Effect of temperature on)

(Germination)



LYUBCHENKO, V.M.

Role of the embryo in the dormant period of seeds of *Tilia cordata* Mill and *Evonymus europea* L. Bot.: 1961. Bel. otd. VBO no.5:55-63 '63. (MIRA 17.6)

ACCESSION NR: AT4033376

S/2960/63/000/002/0155/0162

AUTHOR: Kiryukhin, B. V.; Lyubchenko, V. V.

TITLE: The problem of the growth of hailstones, taking into account the structure of the vertical velocities in a cloud

SOURCE: Leningrad. Universitet. Problemy\* fiziki atmosfery\*, no. 2, 1963, 155-162

TOPIC TAGS: meteorology, atmospheric physics, cloud, atmospheric vertical velocity, hail, hailstone, weather modification

ABSTRACT: A study of the processes of hail formation and the development of methods for artificial modification of clouds for prevention of hail requires an understanding of the process of growth of an individual hailstone in a non-stationary field of vertical velocities in a cloud. Various authors have used different methods for computing this process and have obtained different answers, despite departure from almost identical assumptions. A study therefore has been made to compare the results obtained by N. S. Shishkin (Oblaka, osadki, grozovoye elektrichestvo, Moscow, Gostekhizdat, 1954), B. V. Kiryukhin and G. K. Sulakvelidze (Trudy VGI, Vol. II(5), 1961) and others. The paper involves a comparison of the different methods for computing the growth of hailstones in a stationary field of  
Card 1/2

ACCESSION NR: AT4033376

vertical velocities and a review of the growth of hailstones taking into account change of velocity with height. Particular attention is given to the computation of the height reached in the hailstone trajectory. The equations available for description of this parameter are deemed too unwieldy for computations and are said to involve a number of values estimated only approximately. The author has derived a new equation for the height reached in the hailstone trajectory and gives an evaluation of the various values, entering into the equation. The formulas cited by Shishkin, Sulakvalidze and the author are then compared. Orig. art. has: 41 formulas, 2 figures and 2 tables.

ASSOCIATION: Leningradskiy universitet (Leningrad University)

SUBMITTED: 00

DATE ACQ: 23Apr64

ENCL: 00

SUB CODE: ES

NO REF SOV: 005'

OTHER: 000

Card 2/2

L 35015-65 FWT(1)/EWT(m)/Y/EWP(1)/EWP(b)/EWA(h) Fz-6/Peb IJP(c) JD/AT

ACCESSION NR: AP5005363

S/0109/65/010/002/0385/0387

AUTHOR: Belova, N. A.; Lyubchenko, V. Ye.; Skvortsova, N. Ye.

TITLE: Investigation with the aid of p-n junctions of the effect of concentration on the lifetime of minority carriers in heavily doped germanium

SOURCE: Radiotekhnika i elektronika, v. 10, no. 2, 1965, 385-387

TOPIC TAGS: semiconductor property, doped germanium, germanium semiconductor

ABSTRACT: This investigation continues the work of D. Meyerhofer et al. (Phys. Rev., 1962, 126, 1329) on minority-carrier lifetimes in germanium. The diffusion capacitance of the junction was calculated from the diode impedance, measured at 600-2500 Mc, and a function  $C^{-2}(V)$ , where  $V$  is the applied voltage, was plotted. The impurity concentration in the p-region was  $7 \times 10^{19}/\text{cm}^3$ . The lifetime of holes in the n-region was plotted. For concentrations  $2 \times 10^{17} - 10^{19}/\text{cm}^3$ , the mechanism of shock recombination by traps seems to dominate. Orig. art. has: 4 figures and 2 formulas.

[93]

ASSOCIATION: none

Card 1/2

L 35015-65

ACCESSION NR: AP5005363

SUBMITTED: 21Feb64

NO REF SOV: 003

ENCL: 00

OTHER: 002

0  
SUB CODE: 55

ATD PRESS: 3216

Card 2/2

1708-07 ENTITLEMENT, DATE, AND NUMBER OF PAGES  
ACC NR: AP6019001 SOURCE CODE: UR/0109/66/011/006/1107/1111

AUTHOR: Belova, N. A.; Zil'berman, P. Ye.; Lyubchenko, V. Ye.

ORG: none

TITLE: Impurity distribution in p-n junctions made from heavily doped germanium

SOURCE: Radiotekhnika i elektronika, v. 11, no. 6, 1966, 1107-1111

TOPIC TAGS: semiconducting material, semiconductor research, germanium semiconductor, tunnel diode, *PN JUNCTION*

ABSTRACT: The charge capacitance vs. bias curves  $C(V)$  of tunnel diodes made from As- and P-heavily-doped Ge were measured. The curves for the tunnel diodes having equal majority-carrier concentrations in n- and p-regions were compared. It was noted that, in As-doped diodes, the parameter  $V_1$  decreased

Card 1/2

UDC: 621.382.13:621.382.23.011.222

L 0095-67

ACC NR: AP6019001

with the increase of the diffusion factor  $D$ . Explanation: increasing  $D$  means also increasing mobility  $\mu$  and more rapid drift of impurities. In another experiment, a constant  $I$ - $V$  bias was applied to p-n junctions in the course of their preparation by the method of impulse welding. This resulted in a partial compensation of the contact field and in slowing down the drift of impurities. The parameter  $V$ , for such diodes proved to be higher than that for conventional diodes. Conclusions:  
(1) The electric field in the junction region affects the distribution of impurities;  
(2) The drift causes a maximum in the distribution of impurities; (3) The drift of impurities can be controlled by application of an external voltage during the alloying process. Orig. art. has: 4 figures and 3 formulas.

SUB CODE: 09 / SUBM DATE: 03Mar65 / ORIG REF: 010 / OTH REF: 007

Card 2/2 *ll*

LYUBCHENKO, Yu.G., kul'turtekhnik

Preparatory work and primary tillage of drained land. Gidr. i mel. 14  
no.7:59-61 J1 '62. (MIRA 17:2)

1. Meshcherskaya ekspeditsiya.



LYUBCHENKOV, P.P.

Cultivation of yeast at the Maykop alcohol plant. Spirt. prom.

24 no.3:32 '58.

(MIRA 11:6)

(Yeast)

KHRISTICH, V.A.; KHAVKIN, Yu.I.; TKACHUK, Yu.F.; SHEVCHENKO, A.M.;  
LYUBCHIK, G.N.

Study of the possibility of conversion of the combustion chambers of the GTU-15-800 gas turbine systems to operation on natural gas. Energ. i elektrotekh. prom. no.2:28-32 Ap-Je '63. (MIRA 16:7)

1. Kiyevskiy politekhnicheskij institut i leningradskiy mashinostroitel'nyy zavod "Ekonomayzer".  
(Gas turbines)

LYUBCHIK, G. N. and KHRISTICH, V. A. (KPI)

"Certain regularities of development of a diffusion gas torch, burning in the turbulent wake behind stabilizers."

Report presented at the Section on Physics of Combustion, Scientific Session, Council of Acad. Sci. Ukr SSR on High Temperature Physics, Kiev, 2-4 Apr 1963.

Reported in Teplofizika Vysokikh temperatur, No. 2, Sep-Oct 1963, p. 321, JPRS 24,651. 19 May 1964.

KHRISTICH, V.A., kand.tekhn.nauk; LYUBCHIK, G.N.

Intensification of combustion in diffuser burners. Energ. i  
elektrotekh. prom. no.2:24-26 ap Je '62. (MI:A 15:6)

1. Kiyevskiy politekhnicheskii institut.  
(Gas turbines)

L 25032-65 EPA/EPA(s)-2/EWT(m)/EPF(c)/EPR Pr-4/Ps-4/Pt-10 WW/JW/MLK

ACCESSION NR: AT5004225

S/0000/64/000/000/0202/0206

AUTHOR: Khrstich, V. A.; Lyubchik, G. N.

TITLE: Some relationships for a gaseous diffusion flame burning in the turbulent wake behind a flame holder

SOURCE: AN UkrSSR. Institut tekhnicheskoy teplofiziki. Teplofizika i teplotekhnika (Thermophysics and heat engineering). Kiev, Naukova dumka, 1964, 202-206

TOPIC TAGS: diffusion flame, air breathing propulsion, flame holder, combustion

ABSTRACT: It has been previously found that diffusional burning behind a flame holder gives very high mixing rates, short flame lengths, and higher combustion efficiencies as compared with conventional diffusion flames. Since the flame length is a function of air velocity, high and variable air excess coefficients can be used, which makes the process suitable for use in turbine combustion chambers and in other processes. The design of such a process presents difficulties because of the lack of experimental data. The process has there-

Card 1/3

L 25032-65

ACCESSION NR: AT5004225

fore been studied by obtaining velocity and concentration profiles and by flame photography to determine the effect of the following parameters on the flame length: gas discharge velocity (10—210 m/sec), air velocity (10—50 m/sec), diameter of the gas nozzle (1—5 mm), width of the flame holder (20—40 mm), opening angle of the flame holder (30—180°), angle of attack of the airstream (0—24°), and position of the gas jet in the vertical plane (0—180°). The flame length increased with increasing gas velocity, increasing gas nozzle diameter, and increasing flame holder width, and it decreased with increasing air velocity, opening angle of the flame holder, and angle of attack of the airstream. Since the gas jet was deflected by the recirculation zone in the direction of the flame holder apex, i.e., countercurrently to the airstream, the trajectories of the gas jet could be calculated by a method for jets in transverse flow developed by Yu. V. Ivanov. The experimental data were correlated by an empirical equation for the relative length of the flame as a function of the gas and air densities and velocities, the width of the flame holder, and the gas nozzle diameter. It is recommended that more data be obtained over a wider range of operating and geometry parameters to make the relationship more accurate. Orig. art. has: 3 figures. [PV]

Card 2/3

L 25032-65

ACCESSION NR: AT5004225

ASSOCIATION: Kiyavskiy ordena Lenina politekhnicheskiy institut  
(Kiev Polytechnical Institute)

SUBMITTED: 10Aug64

ENCL: 00

SUB CODE: FP/ME

NO REF SOV: 003

OTHER: 001

ATD PRESS: 3180

Card 3/3

AUTHOR: <sup>55</sup>Bannikov, A. I. ; <sup>55</sup>Khristich, V. A. ; <sup>55</sup>Lyubchik, G. N. SOURCE CODE: UR/0170/65/009/004/0501/0506

ORG: <sup>55</sup>Kiev Polytechnic Institute (Politekhnicheskyy institut, Kiev)

TITLE: Thermoelectric method for measuring gas flow velocity fluctuation

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 4, 1965, 501-506

TOPIC TAGS: gas flow, flow velocity, velocity measuring instrument, flow measurement, turbulent flow, thermoelectric sensor

ABSTRACT: The theoretical and experimental investigation of combustion and heat exchange processes in fluctuating and turbulent flows indicate that the velocity fluctuations determine decisively the intensity of the processes. However, the existing methods for velocity fluctuation measurements are either incompletely developed or inapplicable to high temperature flows. Consequently, working at the Institute of Engineering Heat Physics of the AN UkrSSR (Institut tekhnicheskoy teplofiziki AN UkrSSR) in cooperation with the Kiev Polytechnic Institute (Kiyevskiy politekhnicheskyy institut), the authors developed a thermoelectric method permitting determinations within very hot gaseous currents. Experiments with the device, shown in Fig. 1, confirm its reliability and simplicity, and the data obtained are in fair agreement with those obtained using different methods of flow velocity fluctuation determination.

Card 1/3

UDC: 537.32+536.587



I. 7057-66  
ACC NR: AP5028853

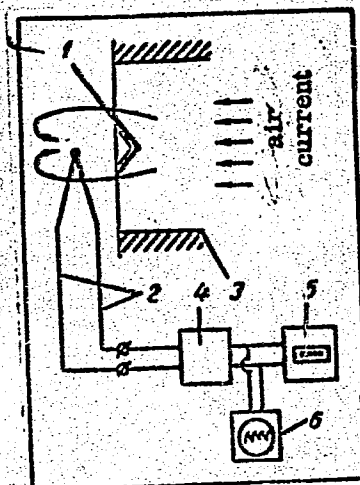


Fig. 1. Device for velocity fluctuation measurements

- 1 - Stabilizer; 2 - thermocouple; 3 - duct;
- 4 - instantaneous temperature measurement device; 5 - loop oscillograph; 6 - cathode oscilloscope.

L 7057-66

ACC NR: AP5026853

The largest signal amplification is obtained during overcorrection operation. The optimum  $RC/\epsilon$  of the recorder should be approximately 3 - 5 ( $\epsilon$  = thermocouple time constant;  $RC$  = differentiation loop parameters). Orig. art. has: 7 formulas and 4 figures. [08]

SUB CODE: ME, TD / SUBM DATE: 03Nov64 / ORIG REF: 006 / OTH REF: 001 /  
ATD PRESS: *A 144*

*BC*

Card 3/3

KHRISTIC V.A., kand.tekhn.nauk; LYUBCHIK, G.N., inzh.

Nomogram for designing gas burners. Energ. i elektrotekh. prom.  
no.4:21 O-D '64. (MIRA 18:3)

LYUSHIK, M.

A

N/  
721.76  
.L5

Apparaty Avtomaticheskogo Upravleniya Elektricheskimi Mashinami  
(Apparatus for Automatic Control with Electrical Machinery) Uchetnyye  
Tablitsy. Leningrad, Gosenergizdat, 1952.  
19 Fld, Col. Plates issued in 15 Parts.  
in Portfolio.

LYUBCHIK, M.A.

[Apparatus for non-automatic control of electric machines; study charts] Apparaty neavtomaticheskogo upravleniia elektricheskimi mashinami; uchebnye tablitsy. Moskva, Gos. energ. izd-vo, 1953, 8 l. [Microfilm] (MLRA 9:7)  
(Electric controllers)

LYUBCHIK, M.A.; VASHURA, B.F., professor, redaktor.

[Low voltage electric switchgear] Kommutatsionnye apparaty nizkogo  
napriazhenia; uchebnye tablitsy. Moskva, Gos. energ. izd-vo, 1954.  
8 diagrams (in portfolio). [Microfilm]. (MIRA 9:9)  
(Electric switchgear)

LYUBCHIK, Mikhail Abramovich, преподаvatel'

Calculating the temperature excess in a.c. coils. Izv.vys.  
ucheb.zav.; elektromekh. 1 no.11:74-77 '58. (MIRA 12:2)

1. Kafedra elektricheskikh apparatov Khar'kovskogo politekhnicheskogo instituta.

(Electric coils)

SOV/144-58-10-13/17

AUTHORS: Iyubchik, M.A., Lecturer; Mogilevskiy, G.V., Candidate  
of Technical Sciences and Khmel'nitskiy, R.S., Engineer

TITLE: The Design of the Short Circuited Turn on Electro-  
Magnets with Voltage Coil (Proyektirovaniye korotkozamknu-  
togo vitka elektromagnitov s katushkoy napryazheniya)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika,  
1958, Nr 10, pp 135-145 (USSR)

ABSTRACT: In single-phase a.c. electro-magnets short circuited  
turns are located on the ends of the poles of a  
magnetic system, as shown in Fig 1, to reduce variations  
in the tractive force. Because the turn is there the  
variable force that acts on the armature is always more  
than a certain minimum value which, to avoid vibration  
should always be greater than the combined forces due to  
the spring and the weight of the armature. Electrical  
design of the short circuited turn consists in determining  
its active resistance and the power loss in it.  
Previously published design procedures are briefly  
reviewed. Eq (6) and (7) are then derived for  
calculation of the turn resistance and power loss

Card 1/6



SOV/144-58-10-13/17

The Design of the Short Circuited Turn on Electro-Magnets with Voltage Coil

respectively. The formulae are valid provided that the iron in the magnetic system is not saturated but because of the screening action of the short circuited turn the magnetic induction in the unscreened part of the pole is considerably increased. This effect may be big enough to make the formulae inapplicable. However, it is shown that with an E-shaped core the short circuited turns are usually placed on the outer poles and because of the phase displacement between fluxes the instant at which the force on the outer poles is a minimum does not coincide with that at which the force in the middle pole is zero, therefore, the minimum force is greater than it otherwise would be and specially accurate analytical calculation of it is not necessary. Experimental verification of the electrical design of a short circuited turn on a relay type RE-2100 showed that the calculation was sufficiently accurate. In order for the magnetic system to work well, allowance must be made for change in the resistance of the ring due to heating, which is very necessary as in some cases the

Card 2/6

SOV/144-58-10-13/17

The Design of the Short Circuited Turn on Electro-Magnets with Voltage Coil

temperature rise of the ring can be 200 to 250°C. Unless care is taken the heat generated in the ring may damage neighbouring insulation. Practical methods of constructing the short circuited turns on magnetic systems may be classified into two kinds as illustrated in Fig 1; in one case the screen is located in a slot in the steel and in the other case part of the ring is in air round the outside of the steel. In considering the temperature distribution in the ring it is convenient to consider separately the parts that are in contact with steel only and those that are in contact with air as well. A graph representing the temperature distribution in the short circuited turn is shown in Fig 2 and formulae for the temperature rises in the two sections are given in Eq (12). Actual values of temperature rise are somewhat less in air and higher in steel than the values given by Eq (12) and the extent of the error is next determined. As a result Eq (15) are derived that can be used to determine the temperature

Card 3/6

SOV/144-58-10-13/17

The Design of the Short Circuited Turn on Electro-Magnets with Voltage Coil

rise at any point in the turn including the maximum temperature rise. In practice the part of the turn that is not in steel may be made of increased section to reduce the temperature rise, in this case the design procedure is the same but certain correction factors are introduced. When using the procedure for the thermal design of short circuited turns it is necessary to know the appropriate heat transfer coefficients and appropriate values are recommended for particular cases. Further problems in the design of short circuited turns in magnetic systems concern the material and shape of the turn, its location in the magnetic system and the method of fixing it to the pole. If the system only works occasionally and without shock the ring may be made up of sheet and may be made removable, see Fig 3a. If there are considerable shocks the ring must be firmly fixed in the slot. Proposed methods of fixing are described and illustrated in Fig 3b and c. In equipment where the coil is permanently fixed the screens may be used as a fixing device as shown in Fig 4. When the

Card 4/6

207/144-58-10-13/17

The Design of the Short Circuited Turn on Electro-Magnets with Voltage Coil

Magnetic system has three legs, the short circuited turns are usually installed on the outer legs for better cooling, though this gives some difficulties in making secure fixings, because the outer legs are smaller in cross-section than the central ones. Various methods of fixing the screen in the slot are illustrated in Fig 5. When the equipment is required to have a very long life the screens may be a weak link, the main cause of failure being fatigue stresses caused by repeated impact of the magnetic system. To increase the mechanical strength of the screen, besides using strong materials of adequate size it is advisable firmly to secure overhanging parts of the screen and recommended procedures are illustrated in Fig 6 and briefly described. Spring dampers are sometimes used to reduce impact shocks, see Fig 7. Sometimes arrangements are made to fit the screen at a place which is not subject to impact shocks, see Fig 8. A numerical example of

Card 5/6

SOV/144-58-10-13/17

The Design of the Short Circuited Turn on Electro-Magnets with  
Voltage Coil

screen design is given in an appendix. There are  
8 figures and 6 Soviet references.

ASSOCIATION: Kafedra Elektricheskikh Apparatov Khar'kovskogo  
Politekhnicheskogo Instituta (Chair of Electrical  
Apparatus, Khar'kov Polytechnical Institute)  
(Lyubchik, Mogilevskiy) Khar'kovskiy elektromekhanicheskiy  
zavod (Khar'kov Electromechanical Plant) (Yemel'nitkiy)

SUBMITTED: 31st October, 1958

Card 6/6

SOV/144-58-11-7/17

AUTHOR: Lyubchik, M. A. (Lecturer)

TITLE: Calculation of Temperature Rise in A.C. Coils (K raschetu prevysheniya temperatury katushek peremennogo toka)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy; Elektromekhanika, 1958, Nr 11, pp 74-77 (USSR)

ABSTRACT: The temperature rise in an a.c. coil will obviously depend directly on the power consumed in the coil, and inversely on the total cooling surface; the author quotes the following formula by Roters (Ref 1) and Stupel' (Ref 2):

$$\theta = \frac{P}{\mu S}$$

Here  $\theta$  is coil temperature rise above that of its surroundings in the steady state;  $P$  is the power consumed in the coils in watts;  $S$  is the cooling surface of the coil in  $\text{cm}^2$ ;  $\mu$  is an empirical coefficient whose value is taken (Ref 2) as  $10^{-3} \text{ W/cm}^2 \text{ } ^\circ\text{C}$ . The significance of  $\mu$  with respect to the various contributions to  $P$  and  $S$  is discussed critically

Card 1/3

SOV/144-58-11-7/17

Calculation of Temperature Rise in A.C. Coils

and in some detail. Thus P may include in addition to ohmic loss, any dielectric and inductive losses in the coil; S may include the internal, external and end areas of the coil. The effectiveness of the cooling must, however, vary as between the inner and outer surfaces of the coil; similarly the various contributions to P cannot be completely specified without reference to the load factor, coil-former and general circuit parameters. All these considerations show that the coefficient  $\mu$  must be highly specific to any particular coil and its operating conditions. Furthermore, since, even in the steady state, temperature gradients exist within the coil itself  $\theta$  can at best signify only some sort of mean temperature. Calculated and measured data are presented in tabular and graphical form for three different coils. Maximum and mean temperature rises were measured and compared with those calculated on the basis of various different assumptions about the terms contributing to S and P. Measured temperature contours are also displayed and from these it is apparent that 10-degree temperature differences can exist within the same coil. The same order of uncertainty, namely  $\pm 5^{\circ}\text{C}$ , attaches to the use of a constant "mean" value

Card 2/3

SOV/144-58-11-7/17

Calculation of Temperature Rise in A.C. Coils

of  $\mu$  in applying the above formula to different coils under a variety of loading conditions. Thus, if something more accurate than an order-of-magnitude estimate of  $\theta$  is required the coefficient  $\mu$  must be separately determined for each load condition of each coil. The paper contains 1 table, 2 figures and 3 Soviet references.

ASSOCIATION: Kafedra elektricheskikh apparatov Khar'kovskogo politekhnicheskogo instituta (Chair of Electrical Apparatus, Khar'kov Polytechnical Institute)

SUBMITTED: October 31, 1958.

Card 3/3



8(2)

PHASE I BOOK EXPLOITATION

SOV/3159

Lyubchik, Mikhail Abramovich

Raschet i proyektirovaniye elektromagnitov postoyannogo i peremennogo toka (Calculation and Design of DC and AC Electromagnets) Moscow, Gosenergoizdat, 1959. 223 p. Errata slip inserted. 9,000 copies printed.

Ed. (Title page): B. F. Vashury, Professor; Ed. (Inside book): Yu. P. Ustinova; Tech. Ed.: G. Ye. Larionov.

**PURPOSE:** The book is intended for engineers and technicians engaged in the automation of production processes and the design of special types of electromagnets. It may also be used by students of electrical engineering in schools of higher education and in tekhnikums.

**COVERAGE:** The author analyzes methods of preliminary calculation and design of d-c and a-c electromagnets which are used in various instruments for automatic control and protection. In analyzing the processes characterizing the operation of electromagnets, the author in some cases uses mathematical analysis which

Card 1/5

Calculation and Design (Cont.)

SOV/3159

may appear somewhat complicated; however, the final formulas and recommendations are reduced to a simple form and make it possible to solve a number of practical problems by engineering methods and to analyze, for design purposes, the effect of individual parameters on the basic technical and economic characteristics of electromagnets. There are 41 bibliographic references; 24 Soviet, 7 German, 5 English, 4 Czech and 1 Hungarian.

TABLE OF CONTENTS:

Editor's Foreword	3
Introduction	7
Ch. I. Calculation of D-C Electromagnets	
A. Preliminary calculation of an electromagnet. Calculation of the determining dimension of the core	16
1. Electromagnets with outer rotary armature	16
2. Electromagnets with outer forward-stroke armature	32
B. Design calculation of an electromagnet	37

Card 2/5

Calculation and Design (Cont.)	SOV/3159	
3. Calculation of maximum and mean values of coil-winding temperature of electromagnets		38
4. Calculation of the equivalent coefficient of the thermal conductivity of winding		57
5. Determination of design dimensions and winding data of an electromagnet, sequence of design calculation		83
Ch. 2. Calculation of A-C Electromagnets		
A. Preliminary Calculation of an Electromagnet. Calculation of the Determining Dimensions of the Core		94
1. Electromagnets with outer rotary armature		94
2. Electromagnets with outer forward-stroke armature		119
3. Electromagnets with rotary and forward-stroke plunger armature		124
4. Calculation of the number of a-c coil turns		127
B. Design Calculation of an Electromagnet		131
5. Calculation and design of shading-coil short-circuited turns		132
6. Approximate calculation of the maximum temperature		

Card 3/5

Calculation and Design (Cont.)	SOV/3159	
of a-c coil winding		142
7. Sequence of design calculation of a-c electro- magnets		146
Ch. 3. Parameters of Preliminary Calculation and Examples of Calculations of Electromagnets		
A. Determination of Coefficients of the Preliminary Calculation		149
1. Calculation of coefficients $\xi$ and $\psi$		149
2. Selection of coefficients $\eta, \beta, m, \tau$ and $\xi$		157
3. Selection of the permissible mean value of the excess of temperature $\Theta_d$ of the coil		166
4. Calculation of coefficients $\lambda, \rho$ and $\gamma$		169
5. Selection of coefficients $f, n$ and $v$		172
6. Calculation of coefficient $k_c$		174
7. Finding more precise values of coefficients of preliminary calculation		176
B. Examples of Calculations of Electromagnets		188
8. D-c electromagnets		188
9. A-c electromagnets		202

Card 4/5

Calculation and Design (Cont.)

SOV/3159

Appendixes

214

Bibliography

223

AVAILABLE: Library of Congress (QC760.L5)

Card 5/5

JP/os  
2/18/60

SOV/144-59-12-14/21

AUTHORS: Baru, I.I., Candidate of Technical Sciences, Dotsent.  
Vashura, B.F., Doctor of Technical Sciences, Professor,  
Lyubchik, M.A.

TITLE: Motion of the Armature of an Alternating Current  
Electro-Magnet ↓

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Elektromekhanika,  
1959, Nr 12, pp 127-134 (USSR)

ABSTRACT: Experimental observations of the forces exerted by  
a.c. electro-magnets depend very much on the test  
procedure. For a given air-gap, "pull-in" and "pull-out"  
tests give different results, mainly as a result of  
armature vibration. The motion of the armature depends  
on the force developed by the electro-magnet and the  
counter-acting force. A certain voltage is required to  
ensure that the armature pulls in smoothly without  
vibrating on the stop. The present article derives  
approximate relationships for the motion of the armature  
near the stop. It relates to an E-shaped system with one  
voltage coil. The assumptions made are stated. The  
equations for the electro-magnetic forces are given by  
Eq (1). Introducing the torque applied to the centre pole

Card 1/3

SOV/144-59-12-14/21

Motion of the Armature of an Alternating Current Electro-Magnet

and equating it to the resultant torque of all poles Eq (2) is obtained, this is equated to the counter-torque produced by the load. Motion of the armature near the stop is examined during smooth change of the voltage applied to the coil. Graphs of the changes in the referred force as a function of time for various values of voltage are plotted in Fig 2. Motion of the armature is then considered for different values of voltage. The first is so low that the armature does not move and the second is the limiting case where the force and counter-force are equal and the armature still does not move, Fig 4 relates to these two cases. Finally there is the circumstance of a further slight increase of voltage that permits vibration indicated in Fig 5. This case is considered in somewhat more detail, noting the various kinds of vibration that may occur. Attention is then given to the lowest voltage at which the armature pulls in smoothly without vibration and to the still higher voltage at which the armature still pulls in without bouncing but more rapidly. After thus studying the physics of the process of armature motion, the equations of motion are derived.

Card 2/3

SOV/144-59-12-14/21

Motion of the Armature of an Alternating Current Electro-Magnet

The instantaneous value of the resultant force is given by Eq (3) and the constants of integration are derived from the initial conditions. Eq (7) and (10) give the speed and position of the armature as functions of time. By substitution of the appropriate conditions into Eq (10), expressions can be derived for vibration of the armature on the stop. It is shown that vibration occurs on pull-in when the force applied to the centre pole is 0.5% of the amplitude of the electro-magnetic force, on pulling-out this ratio would be 0.35. The formulae derived are based on referred forces and so can be applied to any configuration of a.c. magnet system. They may also be used to determine the changes in armature position and speed as function of time. There are 12 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskij institut (Khar'kov Polytechnical Institute)

SUBMITTED: September 13 1959

Card 3/3



S/032/60/026/05/39/063  
B010/B008

AUTHORS: Lyubchik, M. A., Trusov, L. P., Shur, D. M.

TITLE: Device for Programmed Tests of Heat-resistant Materials for Creep Strength

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 5, pp. 615-616

TEXT: A device (Fig. 1, Scheme) for programmed tests of heat-resistant materials for creep strength at changing temperature- and load conditions is described. The device is designed on the basis of a unit of the mass-produced machine of the TsNIMASH design of type IP-4M. The individual technical data are mentioned. The electric circuit was worked out by V. I. Krizental. The test sample (placed in the clamping jaw of the machine) is heated automatically by an electric furnace according to the program, and can also be cooled by compressed air. Loading is done by means of a weight which is displaced on a load beam. Programming of the experiment is done by an apparatus of type KEP-12/61<sup>2</sup>. The 8 contacts are connected in series to an RPT-100 relay. The programming of the

✓ B

Card 1/2

Device for Programmed Tests of Heat-resistant Materials for Creep Strength

S/032/60/026/05/30/063  
B010/B008

temperature change is carried out by a differential circuit, an EPD-12 potentiometer being used as a regulation device, and is controlled by a self-recording instrument of type EPP-09. The loading mechanism is directed by means of automatically operating switches. A thermogram (Fig. 2) obtained with the instrument described is mentioned. There are 2 figures.

Card 2/2

9,2120 (1147, 1331, 1482)

2938L

S/196/61/000/008/024/026  
E194/E155AUTHOR: Lyubchik, M.A.

TITLE: Calculation of the temperature distribution in the coils of electrical devices

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no.8, 1961, 17, abstract 8198. (Tr. Khar'kovsk. politekhn. in-ta, 1960, 30, No.1, 73-87)

TEXT: The problem of determining the temperature distribution in the body of a winding is solved by assuming the point of maximum temperature to be either in the central zone of the winding or on its inner surface. Solution of the general differential equation for temperature  $\psi$  for steady-state heating of the winding is given in the form of a double infinite series


$$\psi = \psi_0 + \sum_{i=1}^{\infty} \sum_{j=1}^{\infty} B_{ij} \sin P_i x \cos S_j y,$$

where:  $\psi_0$  is the given temperature of the outer surface;

Card 1/2

Calculation of the temperature ....

27384  
S/196/61/000/008/024/026  
E194/E155

$B_j$ ,  $P$  and  $S_j$  are constants which it is required to find.   
Because the series is highly convergent, only the first term is used in the final formulae. An example is given of calculation of heating of an experimental coil which was fitted with thermocouples; the isotherms obtained with them are plotted. The error of calculation was not greater than 10%.  
4 illustrations, 10 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

LYUBCHIK, M. A.

Cand Tech Sci - (diss) "Theory of the estimation and design of electromagnets in contact-relay apparatus in connection with the determining dimension and conditions of heating junctions." Khar'kov, 1961. 21 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Polytechnic Inst imeni V. I. Lenin); 150 copies; free; list of author's works at end of text; (KL, 7-61 sup, 240)

LYUBCHIK, M.A., kand. tekhn. nauk

Determination of the working gap of d.c. electromagnets with  
external rotary. Vest. elektroprom 34 no.6:69-73 Je '63.  
(MIRA 16:7)

(Electromagnets)

LYUBCHIK, M.A., kand.tekhn.nauk

Experimental determination of the equivalent heat transmission  
coefficient of coil windings of electrical devices. Energ. i  
elektrotekh. prom. no.3:16-19 J1-S '63. (MIRA 16:10)

1. Khar'kovskiy politekhnicheskij institut.

ACC NR: AP7001192

(A)

SOURCE CODE: UR/0407/65/000/05-10023/0026

AUTHOR: Fursov, S. P. (Kishinev); Lyubchik, M. Ya. (Kishinev); Fiks, M. S. (Kishinev)

ORG: none

TITLE: Thyristorized power source for electrospark-machining purposes

SOURCE: Elektronnaya obrabotka materialov, no. 5-6, 1965, 23-26

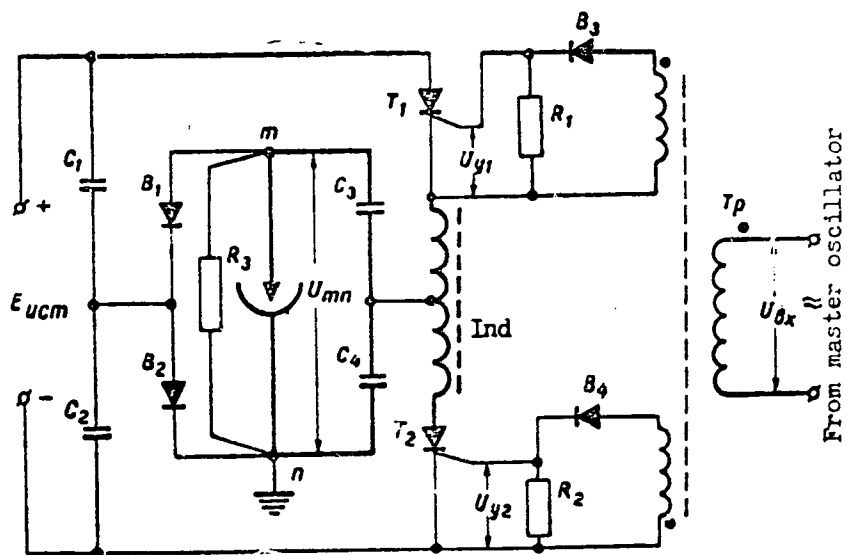
TOPIC TAGS: electric power source, power supply, electrospark machining, thyristor

ABSTRACT: Connected with some modern European electrospark-machining developments (Draht, 1963, 14, 12, 797-802), a simple pulse generator is suggested, in which the discharge pulses bypass semiconductor devices (see the discharge circuit in heavy lines in the figure). The generator is actually a series-type inverter formed by capacitors  $C_1, C_2$ , inductor  $L_{ind}$ , and thyristors  $T_1, T_2$ . The inverter is loaded with a bridge circuit consisting of storage capacitors  $C_3, C_4$  and diodes  $B_1, B_2$ . The work sparkgap shunted by a kohm-range resistor  $R_3$  is connected diagonally to the bridge. The generator converts d-c energy into homopolar pulses whose rate is equal to the double frequency of the master oscillator used for driving. An experimental hookup was tested at a rate of 800 pulses per sec with a d-c voltage of 150 v and a load resistance of 350 ohms. Principal characteristics (V-I, no-load voltage vs. rate, short-circuit current vs. rate) are shown; highest attainable pulse rate, 2000. Orig. art. has: 6 figures and 1 formula.

Card 1/2



ACC NR: AP7001192



SUB CODE: 13, 09 / SUBM DATE: none / ORIG REF: 007 / OTH REF: 001

Card 2/2

LYUBCHIK, N. P.

"A Case of Turbogenerator Vibration,"

SO: Elek. Stan., No. 8, 1949.

L 64383-65

ACCESSION NR: AP5021594

UR/0286/65/000/013/0069/0069

AUTHORS: Degteva, T. G.; Lyubchinskaya, L. I.; Kuz'minskiy, A. S.

44 20  
B

TITLE: A method for obtaining rubber. Class 39, No. 172483

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 69

TOPIC TAGS: rubber, vulcanization, radiation vulcanization / SKTV rubber, SKF 26 rubber

ABSTRACT: This Author Certificate presents a method for obtaining rubber made of SKTV and SKF-26 by radiation vulcanization followed with heating. To improve the quality of the vulcanizates, heating is done in vacuum at a temperature of 250-300C.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific-Research Institute of Rubber Industry)

SUBMITTED: 10Mar64

ENCL: 00

SUB CODE: IE, 00

NO REF SOV: 000

OTHER: 000

Card 1/1 llc

ALEKSANDROVSKIY, Vladimir Vladimirovich [deceased]; MELNIKOV,  
Ye.V., red.; NYZHECHINSKIY, A.A., red.

[Navigation] Navigatsia. Moskva, Transport, 1945. 303 p.  
(MIRA 18-12)

LYUBCHINSKIY, E.B.; PINES, L.P.

Kinesimetric indices of the Achilles tendon reflex in relation to age. Zhur. nevr. i psikh. 64 no.3:331-333 '64.  
(MIRA 17:5)

1. Kafedra nervnykh bolezney (zaveduyushchiy - prof. E.I. Yeselevich) Orenburgskogo meditsinskogo instituta.

STEFANOVA, Lilyana; TRUBNIKOV, V.[translator]; LYUBECHANSKAYA, N.,  
red.; IL'INA, L., tekhn. red.

[I shall remember you, Uzbekistan; traveler's notes] Budu  
pomnit' tebia, Uzbekistan; putevye zametki. Tashkent, Gos.  
izd-vo khudozh. lit-ry UzSSR, 1960. 142 p. (MIRA 15:3)  
(Uzbekistan--Description and travel)

ASKAROV, U.A.; LYUBECHANSKAYA, N.I., red.; SHUSTER, Ya.S., tekhn.red.

[Principal manifestations of the side effects of antibiotics in the clinic] Osnovnye proiavleniia pobochnogo deiatviiia antibiotikov v klinike. Tashkent, Gos.med.izd-vo M-va zdravookhrameniia UzSSR, 1960. 255 p. (MIRA 14:3)  
(ANTIBIOTICS)

SIMONOV, Konstantin; LYUBECHANSKAYA, N.I., red.; IL'INA, L.F., tekhn.red.

[Prospectors for Bukhara gas] Razvedchiki bukharskogo gaza.  
Tashkent, Gos.izd-vo khudozh.lit-ry UzSSR, 1960. 30 p.  
(MIRA 14:3)

(Bukhara region--Gas, Natural)



L 39701-66 CD-2  
ACC NR: AR6008707

(1)

SOURCE CODE: UR/0273/65/000/010/0008/0008

AUTHOR: Lyubechanskiy, I. F.

TITLE: Determination of ranges for changes in valve motion curves and the gas distribution phases under the effect of a controlling mechanism

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 10.39.57

REF SOURCE: Tr. Tashkentsk. politekhn. in-ta, vyp. 24, 1963, 290-301

TOPIC TAGS: piston engine, engine component, valve, nonelectric regulator

ABSTRACT: Valve motion curves, plotted for the gas distribution in the 965-V "Zaporozhets" automobile engine with a controlling mechanism, are given. The valve motion curves are plotted for three positions of the controlling device. All the intermediate positions will guide the motion according to the curves situated in the region limited by curves. Changes in cam shaft center of the motion were not discussed. The suggested controlling mechanism will permit considerable changes in the rules for valve motion.

SUB CODE: 10/ SUBM DATE: none

Card

1/1 *gd*

UDC: 621.432-33

L 44719-66 EWT(d)/EWT(m)/EWP(f)/T WE

ACC NR: AR6008708

(A)

SOURCE CODE: UR/0273/65/000/010/0009/0009

AUTHOR: Lyubechanskiy, I. F.

42  
E

TITLE: A rocker-roller drive for gas distribution in an internal combustion engine

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 10.39.63

REF SOURCE: Tr. Tashkentsk. politekhn. in-ta, vyp. 24, 1964, 302-306

TOPIC TAGS: internal combustion engine, fuel control, internal combustion engine component, valve

ABSTRACT: Gas distribution // phases in operating GAZ-21 and KhTZ-B7 engines is accomplished by means of rocker-cam mechanisms which may be used in commercial engines both for selecting optimum constant phases of gas distribution and for optimum motor control under variable speed conditions. A rocker-roller valve drive in which the drive link is a roller instead of the camshaft has been developed to combine the cam mechanism, roller and flat tappet in the gas distribution control mechanism. The author gives a diagram of the rocker-roller gas distribution mechanism and points out the feasibility of using it. [Translation of abstract]

SUB CODE: 21

Card 1/1

UDC: 621.432-3

LYUBEL'SKIY, V.

How we organize the work of the committee. Okhr.truda i sots.  
strakh. no.5:34-35 N '58. (MIRA 12:1)

1. Predsedatel' komissii po okhrane truda zavkoma Minskogo zavoda im. Voroshilova.  
(Minsk--Machinery industry--Hygienic aspects)

LYUBEN, A. P.

B

2

Dissociation of Oxides During Reduction. A. P. Lyuben, Henry Brucher (Altadena, Calif.). Translation No. 2093, 1948, 26 pages. From *Bulletin de l'Academie des Sciences de l'URSS, Classe des Sci. Tech.*, no. 9-10, 1948, p. 23-31.

Presents study of fundamental mechanism of process of reduction of oxides, with special reference to iron oxides. Discusses importance of dissociation pressure of oxide (partial oxygen pressure), Baikov's theorem, behavior of various systems involved, and the Chaudron reaction. Discusses applicability of results to reduction of oxides other than iron oxides, and reduction and decomposition of salts composed of oxides. 12 ref.

ASSOCIATION OF METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND COLUMNS

3RD AND 4TH COLUMNS

5TH AND 6TH COLUMNS

7TH AND 8TH COLUMNS

9TH AND 10TH COLUMNS

11TH AND 12TH COLUMNS

13TH AND 14TH COLUMNS

15TH AND 16TH COLUMNS

17TH AND 18TH COLUMNS

19TH AND 20TH COLUMNS

21ST AND 22ND COLUMNS

23RD AND 24TH COLUMNS

25TH AND 26TH COLUMNS

27TH AND 28TH COLUMNS

29TH AND 30TH COLUMNS

31ST AND 32ND COLUMNS

33RD AND 34TH COLUMNS

35TH AND 36TH COLUMNS

37TH AND 38TH COLUMNS

39TH AND 40TH COLUMNS

41ST AND 42ND COLUMNS

43RD AND 44TH COLUMNS

45TH AND 46TH COLUMNS

47TH AND 48TH COLUMNS

49TH AND 50TH COLUMNS

51ST AND 52ND COLUMNS

53RD AND 54TH COLUMNS

55TH AND 56TH COLUMNS

57TH AND 58TH COLUMNS

59TH AND 60TH COLUMNS

61ST AND 62ND COLUMNS

63RD AND 64TH COLUMNS

65TH AND 66TH COLUMNS

67TH AND 68TH COLUMNS

69TH AND 70TH COLUMNS

71ST AND 72ND COLUMNS

73RD AND 74TH COLUMNS

75TH AND 76TH COLUMNS

77TH AND 78TH COLUMNS

79TH AND 80TH COLUMNS

81ST AND 82ND COLUMNS

83RD AND 84TH COLUMNS

85TH AND 86TH COLUMNS

87TH AND 88TH COLUMNS

89TH AND 90TH COLUMNS

91ST AND 92ND COLUMNS

93RD AND 94TH COLUMNS

95TH AND 96TH COLUMNS

97TH AND 98TH COLUMNS

99TH AND 100TH COLUMNS