SMIRNOV, V.N., starshiy prepodavatel'

Choosing the size of working areas across the pitch under the conditions of the Prokop'yevsk-Kiselevsk area. Izv. vys. ucheb. zav.; gor. zhur. no.8:31-37 '61. (MIRA 15:5)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy razrabotki mestorozhdeniy poleznykh iskopayemykh Kemerovskogo gornogo instituta.
(Kuznetsk Basin--Coal mines and mining)

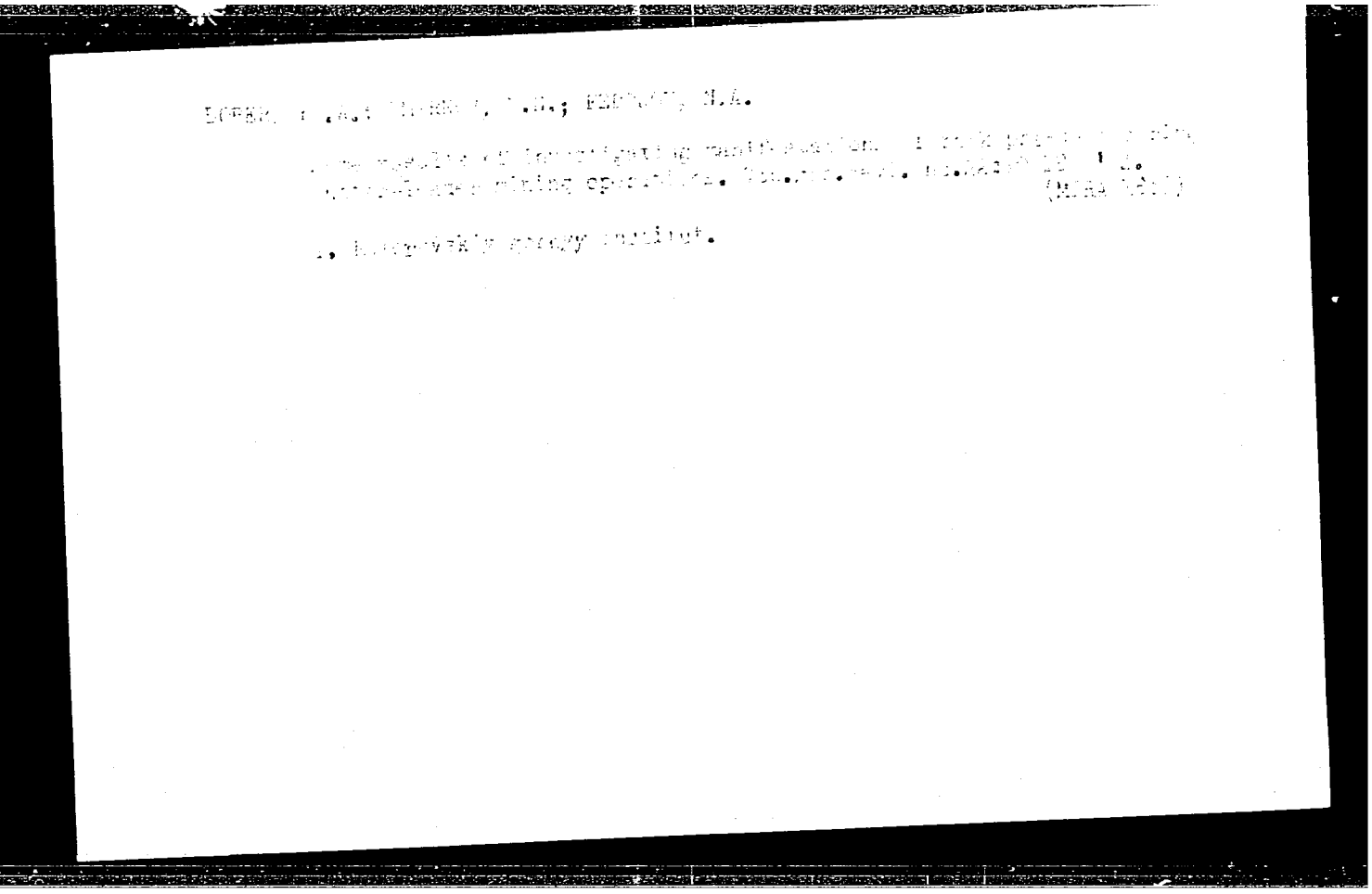
PETRENKO, A.A., inzh.; SMIRNOV, V.N., inzh.

New systems of sinking operations. Mekh.i avtom.proizv. 15 no.11: 41-43 N '61. (MIRA 14:11)
(Mining engineering--Technological innovations)

PETRENKO, A.A., gornyy inzh.; SMIRNOV, V.N., gornyy inzh.

Practice of using hardening filler in a mine. Gor. zhur. no.9: 32-34 S '62. (MIRA 15:9)

(Mine filling)



ARMENSKIY, Ye.V.; BORODULIN, A.I.; RYBIN, V.M.; SMIRNOV, V.N.

Measuring the average energy of electrons of a low-energy linear accelerator. Izm. tekh. no.11:44-45 N '65. (MIRA 18:12)

L 8611-65 EWT(1)/EWG(v)/EWA(d)/EEC-4/EEC(t) Pe-5/Pae-2 AFWL/SSD/BSD/
ASD(a)-5/AFMD(t)/AFETR/ESD(t) GW

ACCESSION NR: AR4038686 S/0269/64/000/003/0067/0068

SOURCE: Ref. zh. Astron. Otd. vy*p., Abs. 3.51.506

AUTHOR: Smirnov, V. O.

TITLE: Photometric study of two meteor spectra by the Cook and Millman method

CITED SOURCE: Tr. Odessk. un-ta. Yestestv. N., v. 152, no. 8, 1962, 55-60

TOPIC TAGS: photometry, meteor, meteor stream, meteor spectrum

TRANSLATION: A spectrophotometric analysis has been made of meteor spectra by the Cook-Millman method. The meteors (Perseids) were photographed on 12 August 1958 and 12 August 1960 by the station of the Odessa Astronomical Observatory "Botanicheskiy Sad" (a camera with F = 24, objective prism 17°) and the observatory base stations Mayky and Kryzhanovka. The first spectrum had two flashes (H = 90.5 and 86.5 km). The angles formed between the meteor paths and the direction of dispersion were 60 and 50° respectively. Processing of 20 traces on a MF-4 microphotometer gave 27 and 26 lines. Calibration and standardization were accomplished using the spectra of bright stars on the same negative. Circumpolar stars were removed for determination of the error of the field of this same camera without a prism. The author has

Card 1/2

L 8611-65

ACCESSION NR: AR4038686

obtained the relative intensities I_0 of spectral lines; it was found that SII λ6347 appears earlier than others, despite the considerable ionization potential (10 ev). NaI λ5897 (except H and K Ca II) was extremely strong. MgII λ4481 was stronger than MgI λ5173, which can indicate an ionization increase along the path. The absolute intensities (in ergs/cm^2·sec) were: $I_1 = 5.16 \cdot 10^{-5} I_0 s^{-1}$ and $I_2 = 2.15 \cdot 10^{-5} I_0 s^{-1}$, where S are relative units of spectral sensitivity. The author points out the need for obtaining a standard -- an artificial meteor spectrum. (The article contains misprints: on page 58 λ5897 should read λ6347 and λ6397 should read λ5897; in Table 1 Mu should read Mn. Editor's note.) I. Astapovich

DATE ACQ: 17Apr64 SUB CODE: AA, OP ENCL: 00

Card 2/2

L 31826-65 EWT(1)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EWA(m)-2 Pi-4/Po-4/Pz-6/
Pab-10 IJP(c) AT
ACCESSION NR: AP5004376 S/0056/65/048/001/0072/0077

AUTHOR: Kovan, I. A.; Kozorovitskiy, L. L.; Rusanov, V. D.; Smirnov, V. P.; Frank-Kamenetskiy, D. A. 55 51 B

TITLE: Magnetosonic resonance in a toroidal system

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 72-77

TOPIC TAGS: magnetosonic resonance, toroidal plasma system, magnetic sound amplification, plasma heating, Tokomak

ABSTRACT: To provide better conditions for prolonged plasma confinement, the authors used a toroidal chamber with longitudinal current, in which the possibility of excitation of magnetosonic resonance has never been considered previously. The experimental setup is shown in Fig. 1 of the Enclosure. A large ratio of longitudinal magnetic field to the field of the current pinch itself was used to obtain maximum plasma stability. The use of longitudinal currents in conjunction with a metallic screen, as described by V. D. Shafranov (Atom. energ., v. 13, 521, 1962) ensured equilibrium of the plasma column. The magnetic sound was excited by a

Card 1/4

L 31826-65
ACCESSION NR: AP5004376

ASSOCIATION: None

SUBMITTED: 04Jul64 ENCL: 01 SUB CODE: ME

NO REF SOV: 008 OTHER: 001 ATD PRESS: 3199

Card 3/4

tric probe.

Card 4/4

14

L 24218-65 EWT(m)/EPF(c)/EPF(n)-2/EPR Pr-4/Ps-4/Pu-4 DM

ACCESSION NR: AP5001268 S/0089/64/017/006/0463/0474

B

AUTHOR: Kurchatov, I. V. (deceased); Feynberg, S. M.; Dollezhal', N. A.; Aleshchenkov, P. I.; Drozdov, F. S.; Yemel'yanov, I. Ya.; Zhirnov, A. D.; Kazachenko, M. A.; Knyazeva, G. D.; Kondrat'yev, F. V.; Lavrenikov, V. D.; Morgunov, N. G.; Petunin, B. V.; Smirnov, V. P.; Talyzin, V. M.; Filippov, A. G.; Chikhladze, I. L.; Chulkov, P. M.; Shevelev, Ya. V.

TITLE: Pulse graphite reactor IGR

SOURCE: Atomnaya energiya, v. 17, no. 6, 1964, 463-474

TOPIC TAGS: pulse graphite reactor, high neutron flux pulse, nuclear reactor

ABSTRACT: The paper is a summary of the SSSR #322a report at the International Conference on Peaceful Uses of Atomic Energy in Geneva, 1964. It represents an elaboration of the description of the pulse graphite reactor IGR given by S. M. Feinberg at the Second International Conference. The pulse reactors are used when a high neutron flux is desirable. The described reactor was in opera-

Card 1/2

L 24218-65

ACCESSION NR: AP5001268

tion for several years, and is still working without failure. Orig. art. has: 6 figures

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 001

Card 2/2

SMIRNOV, V.P.

"Die polatographische bestimmung von ftorothan(1,1,1,-trifluor--2-chlor-2-bromathan) im blut."

Report submitted to the Oscillopolatography Course and Polarography Symp. Jena, GDR 10-15 Sep 1962

VALETOV, V.V.; VESNIK, M.I.; GONCHAROV, I.S.; DMITROV, D.V.; LUNEV, A.A.; MOKIN, M.I.; NESTEROV, S.N.; SMIRNOV, V.P.; ALEKSEYEV, S.A., retsenzent; KARKAZOV, A.G., retsenzent; KONDRATOVICH, V.M., retsenzent; LEVIN, B.M., retsenzent; MALIKOV, A.N., retsenzent; SEGALEVICH, S.M., retsenzent; SHPAGIN, A.I., retsenzent; SHTERN, L.T., retsenzent; YAKOBI, A.A., retsenzent; TIKHANOV, A.Ya., tekhn. red.; CHERNOVA, Z.I., tekhn. red.

[Establishing norms for the consumption of materials in machinery manufacture; manual] Normirovanie raskhoda materialov v mashinostroenii; spravochnik. Pod red. V.V.Valetova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. Vol.1. 1961. 583 p. (MIRA 15:2)

(Machinery industry)

SMIRNOV, V.P., inzh.; SHIBANOV, A.A., kand.tekhn.nauk

Using caisson shells made of panel-type elements. Transp. stroi. 14 no.7:16-18 Jl '64. (MIRA 18:1)

SMIRNOV, Vladimir Petrovich. Prinimali uchastiye: LADITSKIY, V.F., kand.tekhn.nauk; SHAPKIN, I.F., kand.tekhn.nauk; MIKHAYLOVICH, A.M., inzh.. KNORRE, G.F., prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki, red.; VORONIN, K.P., tekhn.red.

[Boiler units] Kotel'nye ustanovki. Pod red. G.F.Knorre. Moskva, Gos.energ.izd-vo. 1959. 303 p. (MIRA 12:8)
(Boilers)

SMIRNOV, Vyacheslav Pavlovich; ROSHCHINA, L., red.; NAZAROVA, V., mladshiy red.; NOGINA, N., tekhn. red.

[Tunisia; economic outline] Tunis; ekonomicheskii ocherk. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1962. 70 p. (MIRA 15:6)

(Tunisia—Economic conditions)

SMIRNOV, V. P

All-Union conference of industrial efficiency promoters, inventors, and innovators. Neftianik 1 no.12:27 D '56. (MIRA 12:3)
(Petroleum industry)

SMIRNOV, V.P., inzhener.

Tasks of efficiency promoters and inventors. Stroi.pred.neft.prom. 1 no.3:28-30 My '56. (MLRA 9:9)
(Petroleum industry) (Petroleum workers)

SMIRNOV, V.P.; LETOV, G.S.

Outbreak of pulmonary plague in Gichigan in the Mongolian People's Republic. Izv.Irk.gos.nauch.-issl.protivochum.inst. 20:105-106 '59. (MIRA 13:7)

(GICHIGAN (MONGOLIA)--PLAGUE)

SMIRNOV, V.P.

Effectiveness of chloropicrin disinfection of plague infested hides of wild rodents. Izv.Irk.gos.nauch.-issl.protivochum. inst. 20:121-123 '59. (MIRA 13:7)
(CHLOROPICRIN) (HIDES AND SKINS--DISINFECTION)
(PLAGUE)

SMIRNOV, V.P.

From the diary of a physician infected with experimental plague. Zhur. mikrobiol. epid. i immun. 40 no.5:68-72 My '63. (MIRA 17:6)

1. Iz Irkutskogo protivochumnogo instituta Sibiri i Dal'nego Vostoka.

ROZHNOVSKIY, Al'bin Antonovich; VAGANOV, P.V., kand.tekhn.nauk, retsenzent; SMIRNOV, V.P., gornyy inzh., retsenzent; NEGANOV, I.I., gornyy inzh., red.; SKOROBOGACHEVA, A.P., red.izd-va; ZEF, Ye.M., tekhn.red.

[Placer mining] Razrabotka rossypnykh mestorozhdenii. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 336 p. (MIRA 12:8)
(Hydraulic mining) (Dredging) (Mining engineering)

SMIRNOV, V.P.; KULIKOVA, V.L.; SHCHEMANOVA, Z.I.

Use of white rats for the determination of immunogenic properties of anticholera preparations. Zhur. mikrobiol., epid. i immun. 40 no.9:130 S'63. (MIRA 17:5)

1. Iz Irkutskogo nauchno-issledovatel'skogo protivochumnogo instituta Sibiri i Dal'nego Vostoka.

ACCESSION NR: AT4025314 S/0000/63/000/000/0237/0246

AUTHORS: Kovan, I. A.; Moskvin, Yu. L.; Rusanov, V. D.; Smirnov, V. P.

TITLE: Investigation of plasma parameters in a strong magnetic field with the aid of double electric probes

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 237-246

TOPIC TAGS: plasma, plasma diagnostics, probe method, double probe method, plasma in strong magnetic field, probe method accuracy, Larmor radius, probe characteristic dimensions, charged particle density, electron temperature, saturation current, effect of probe size, probe current, probe current derivative

ABSTRACT: In view of the doubtful reliability of data obtained with probes on a plasma in a strong magnetic field, when the particle

Card 1/2

ACCESSION NR: AT4025314

Larmor radius is comparable with the probe characteristic dimension, the authors have checked on the probe readings by other diagnostic means. The plasma parameters measured were electron temperature and charged-particle density at saturation. The electron temperature was determined by plotting the derivative of the current with respect to the voltage against the probe voltage. The charged-particle density was measured by determining the saturation current and also by measuring the derivative of the probe current with respect to the voltage in the vicinity of zero voltage. The effect of the probe size was also investigated. It is shown that the probe measurements deviate from the others by as much as 40% and become particularly unreliable in strong magnetic fields. Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 19Oct63 DATE ACQ: 16Apr64 ENCL: 01

SUB CODE: PH NO REF SOV: 005 OTHER: 003

Card 2/3

L 26662-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pt-10/Pab-10 IJP(c)
ACCESSION NR: AT5002708 S/3092/64/000/002/0090/0103

46
33
81

AUTHORS: Alekseyev, A. G.; Mozin, I. V.; Smirnov, V. P.

TITLE: Method and apparatus for magnetic measurements in an electron synchrotron with hard focusing, in the field range 500--10,000 Oersted

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura; sbornik statey, no. 2, 1964, 90-103

TOPIC TAGS: electron synchrotron, hard focusing, magnetic field, magnetic measurement

ABSTRACT: In view of the close tolerances that the magnetic field of a 6-BeV synchrotron with hard focusing must satisfy, apparatus and a test measurement procedure were developed to measure the magnetic field with the required accuracy. The measurements consist

Card 1/2

L 26662-65
ACCESSION NR: AT5002708

of determining the distortion in the distribution of the field and the gradient along the equilibrium orbit, measurement of the distortion and distribution of the gradient along the radius of the magnet, measurement of the relative gradient on the equilibrium orbit in the center of the electromagnet. The principle of the method developed consists of integrating the voltage from coils placed in the time-varying magnetic field. The theoretical premises underlying the different measurements are developed, after which the design of the measuring coils is described and the circuitry of the electronic integrator is described. A circuit for selecting the level of the measured field is described and the measurement accuracy discussed. Orig. art. has: 5 figures and 31 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP, EM

NR REF SOV: 000 OTHER: 003

Card 2/2

KOVAN, I.A.; KOZOROVITSKIY, L.L.; RUSANOV, V.D.; SMIRNOV, V.P.; FRANK-KAMENETSKIY, D.A.

Magnetoacoustic resonance in a toroidal system. Zhur. eksp. i teor. fiz. 48 no.1:72-77 Ja '65. (MIRA 18:4)

AL'SHITS, I., inzh.-khimik; SMIRNOV, V., kand.tekhn.nauk, inzh.-khimik

Ship rescue boats made of glass-reinforced plastics. Mor. flot 19 no.12:42-43 D '59. (MIRA 13:3)
(Boatbuilding) (Glass reinforced plastics)

SMIRNOV, V.P.

Plastics for anticorrosive cements (from "Applied Plastics," no.10, '59.) Bet. i zhel.-bet. no.11:530 N '60. (MIRA 13:11)
(Plastics)

SMIRNOV, Vladimir Petrovich; SHAPILOV, V.M., retsenzent; OSIPOVICH, F.A., red.; VITASHKINA, S.A., red.izd-va; RIDNAYA, I.V., tekhn.red.

[Manufacture and assembly of ship systems from plastic materials] Izgotovlenie i montazh sudovykh sistem iz plastmass. Moskva, Izd-vo "Rechnoi transport," 1962. 65 p.

(MIRA 15:5)

(Marine pipe fitting) (Pipe, Plastic)

SMIRNOV, V.P.

New plastic materials. Plast.massy no.3:75 '62. (MIRA 15:4)
(Great Britain--Glass reinforced plastics)

SEMENOV, A.; SMIRNOV, V.P.; SHVEDCHIKOV, A.; SHVEDCHIKOV, A.; SEMENOV, A.

Plastics abroad. Plast.massy no.4:70-71 '62. (MIRA 15:4)
(Plastics)

SMIRNOV, V.P.

Construction and testing of plastic lifeboats for inland navigation ships. Plast.massy no.8:40-46 '62. (MIRA 15:7)
(Lifeboats) (Glass reinforced plastics)

ACCESSION NR: AP4018170 S/0191/64/000/003/0059/0061

AUTHOR: Smirnov, V. P.; Sosunov, N.A.

TITLE: Electric resistance welding of plastics

SOURCE: Plasticheskiye massy*, no. 3, 1964, 59-61

TOPIC TAGS: resistance welding, electric resistance welding, plastic welding, plastic, pulsation welding, polyethylene tube welding, nichrome spiralling

ABSTRACT: One of the new methods for welding plastics is electric resistance welding with the use of special spirallings. This method, called pulsation welding, is already being used in a number of industries. This process consists of three stages: (1) preparation of the elements to be welded; (2) formation of the electric spiral and shaping it into plastic rings; (3) pulsation welding of the parts to be joined. The essence of this method is the joining of separate plastic parts by a layer with an electric spiral by means of flashing off contiguous surfaces. Plastics which have a high specific volumetric resistivity are welded by this method. These plastics include polyethylenes, polyamides, polystyrenes, etc. Polyethylene tubing, used as connecting pieces in polyethelene collar

Card 1/5

assemblies and having nichrome spiralling shaped in it, is welded by electric resistance. These collars are made in the form of cylinders on metal drums. One of these adaptations is shown in Figure 1. A special device with a step-down transformer is used for this type of welding. The device also has a timer which assures the requisite holding time for heating of the spiral after the transformer is cut in. The electric circuit diagram of this device is shown in Figure 2. The welding sequence is as follows: a seat for the collar is prepared in the tubing elements which are to be welded; the collar with the spiral is placed in the seat of the union or pipe bell and the tube to be joined is inserted here; the ends of the spiral are introduced on the outside and are joined by the current source; the heated spiral fuses the polyethylene layer and tube surface sticking to it. After heating up to about 120 C, the feed current is cut off and welding is completed. The heat-up usually takes from 30 to 40 seconds. The welding is effected at 36 volts. The timer controls the holding and current cutoff. Orig. art. has: 4 figures.

ASSOCIATION: None

ACCESSION NR: AP4018170

SUBMITTED: 00 DATE ACQ: 27Mar64 ENCL: 02

SUB CODE: IE, MA NO. REF. SOV: 000 OTHER: 000

Card 3/5

ACCESSION NR: AP4018170 ENCLOSURE: 01

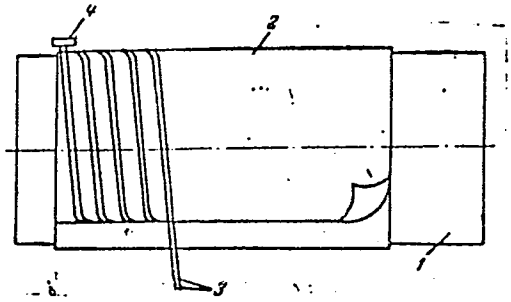


Fig. 1, Attachment for winding the electric spiral, 1-metal cylinder; 2-polyethelene layer; 3-nichrome wire; 4-stop.

Card 4/5

ACCESSION NR: AP4018170

ENCLOSURE: 02

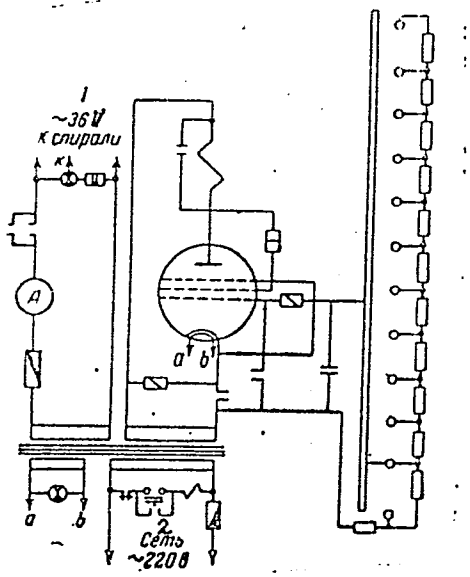


FIG. 2 Electrical diagram of attachment for electric resistance welding of plastics. 1-to spiral; 2- 220 volt circuit.

Card 5/5

SMIRNOV, V.P.

Testing of the welded seams of plastics. Plast. massy no.10:52-55 '65. (MIRA 18:10)

L 11892-66 EWT(l)/EPF(n)-2/ETC(m) IJP(c) WW

ACC NR: AP5028012 SOURCE CODE: UR/0386/65/002/008/0356/0360

44,55 44,55

AUTHOR: Rusanov, V. D. Smirnov, V. P.

60
54
B

ORG: none

21, 44, 55

TITLE: Investigation of oblique magnetic sound waves of large amplitude

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu (Prilozheniye), v. 2, no. 8, 1965, 356-360

TOPIC TAGS: magnetoacoustic effect, shock wave formation, nonlinear effect

ABSTRACT: This is a continuation of earlier investigations of linear oblique magnetic-sound waves (sometimes called whistles) (with I. A. Kovan et al., Conference on Plasma Physics, Salzburg, 1961, p. 205), and is devoted to an investigation of the transition to nonlinear waves. Large-amplitude shock waves were excited by a shock circuit of 15 Mc frequency. The magnetic field in the center of the exciting coil, which was 30 mm long and 40 mm in radius, increased to 800 oe within 2 x 10^{-8} sec (Fig. 1). The magnetic field in the homogeneous part of the solenoid ranged from 200 to 2000 oe. The measurements were made for values of $q = H_{z.max}/H_0$ ($H_{z.max}$--maximum value of the magnetic field in the circuit in the center of the group in the absence of a plasma, H_0--constant magnetic field) ranging from 0.2 to 1.7. The distance from the center of the loop to the magnetic probe ranged from 0 to 40 cm. The results confirmed experimentally the influence of the wave magnetic field on the wave propagation velocity. In addition, the dependence of the maximum wave magnetic field on the maximum excitation field was investigated. From the observed dependence of

Card 1/2

L 9242-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/GG

ACC NR: AP5022741 SOURCE CODE: UR/0181/65/007/009/2856/2858

AUTHOR: Smirnov, V. P. 44, 55

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet) 44, 55 43 B

TITLE: Band structure of cuprous oxide 27 27

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2856-2858

TOPIC TAGS: crystal theory, cuprous oxide, energy band structure 21, 44, 55

ABSTRACT: This paper gives preliminary data from a theoretical calculation of the energy structure of cuprous oxide in an attempt to explain experimental data on optical and magneto-optical absorption in crystals of this compound. For the upper valence band, $E(\Gamma_{25}^{+}) = 0.151$ atomic units, and for the lower conduction band $E(\Gamma_{1}^{+}) = 0.240$ atomic units. This gives the width of the forbidden as 0.089 atomic units (≈2.4 ev) which is very close to the experimentally observed value $\Delta E = 2.3$ ev. The theoretical data indicate that the Γ_{25}^{+} level originates about equally from the 2*p*-levels of oxygen and from the 3*d*-levels of copper. The next valence band ($k = 0$) is about 3 ev longer than the Γ_{25}^{+} band. However, it is not certain whether the symmetry of this band is Γ_{15}^{-} or Γ_{15}^{-}. These theoretical calculations (which were done on a digital computer) confirm Elliott's model (R. J. Elliott, *Phys. Rev.*, 124, 340, 1961). Orig. art. has: 5 formulas.

SUB CODE: 20/ SUBM DATE: 09Apr65/ ORIG REF: 004/ OTH REF: 004

Card 1/1 pu

2

SMIRNOV, V.P.

Calculating the band structure of copper oxide. Vest.LGU 20 no.22:7-19 '65. (MIRA 18:12)

I 06450-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6026731 SOURCE CODE: UR/0181/66/008/008/2519/2519

AUTHOR: Smirnov, V. P.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy universitet)

TITLE: Band structure of the cuprous oxide crystal

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2519

TOPIC TAGS: cuprous oxide, semiconductor band structure

ABSTRACT: The energy bands (upper valence band and lower conduction band) in the cuprous oxide crystal along axes of second, third, and fourth order in K-space were calculated. Also calculated were constants characterizing the curvature of the energy surfaces at extremal points of the bands (with wave vector K = 0). The effective mass for the conduction band was found to be equal to 0.456 of the electron mass, and constants A, B and C for the triply degenerate valence band were found to be respectively equal to -1.073, -0.205 and 0.453. Consideration of spin-orbital interaction (in accordance with the perturbation theory) leads to splitting of the upper valence band into two bands, Γ_7^+ and Γ_8^+. The splitting is equal to 0.06 eV (the Γ_7^+ band is higher than the Γ_8^+ band). This agrees with the experiment in order of magnitude: the distance between the limits of the yellow and green series of the exciton in the cuprous oxide crystal is equal to 0.13 eV. The one-electron parameter ξ_{3d} was used in the

Card 1/2

ALEKSEYEV, A.G.; MOLIN, I.V.; SMIRNOV, V.P.

Method and apparatus for magnetic measurements in a strong-focusing electron synchrotron in the 500 ÷ 10,000 oe. range. Elektrofiz. apparatura no.2:90-103 '64. (MIRA 18:3)

KURCHATOV, I.V., [deceased]; FEYNBERG, S.M.; DOLLEZHAL', N.A.; ALESHCHENKOV, P.I.; DROZDOV, F.S.; YEMEL'YANOV, I.Ya., ZHIRNOV, A.D.; KAZACHENKO, M.A.; KNYAZEVA, G.D.; KONDRAT'YEV, F.V.; LAVRENIKOV, V.D.; MORGUNOV, N.G.; PETUNIN, B.V.; SMIRNOV, V.P.; TALYZIN, V.M.; FILIPPOV, A.G.; CHIKHLADZE, I.L.; CHULKOV, P.M.; SHEVELEV, Ya.V.

Pulse graphite reactor IGR. Atom. energ. 17 no.6:463 D '64
(MIRA 18:1)

SMIRNOV, V. P.

Glass Manufacture

Operation of glass furnaces without cleaning gas flues by fire. Med. prom. no. 5, 1952.

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

1. SHIKOV, V.P.

2. USSR (600)

4. Furnaces

7. Cleaning gas ducts without burning them out and with recuperation of the tar, Stek. i ker. 10 no. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

SHIROV, V.P.

912. **Fritting of small glass products in a vacuum chamber.**—V. P. SHIROV (*Glass & Ceramics*, Moscow, 10, No. 10, 29, 1953). A vacuum chamber was constructed to simplify the process of fritting small glassware without incurring extra fuel costs. Glass products moulded between 600°–620° are put into one of the compartments of the chamber, where they cool gradually and uniformly. Use is made of the heat which the products give off and further heating is not required. A diagram of the apparatus is given. (1 fig.)

SMIRNOV, V. P.

USSR/Miscellaneous - Glass manufacture

Card 1/1 : Pub. 104 - 10/12

Authors : Smirnov, V. P.

Title : Gas heated annealing furnace

Periodical : Stek. i ker. 9, 30 - 31, September 1954

Abstract : Description of a new conveyer-type gas-heated furnace for the kilning of glass products. Drawings.

Institution : ....

Submitted : ....

SMIRNOV, V.P.

Simplified, continuous action, annealing furnace. Stek.i ker. 14 no.8:20-21 Ag '57. (MIRA 10:10)

(Glass furnaces)

AUTHOR: Smirnov, V. P. 72-58-3-12/15

TITLE: The Utilization Coefficient of Window Glass in Building Must be Increased
(Povysit' koeffitsiyent ispol'zovaniya okonnogo stekla na stroykakh)

PERIODICAL: Steklo i Keramika, 1958, [illegible], Nr 3, pp. 41-42 (USSR).

ABSTRACT: Following a suggestion by the author, glass-blocks were experimentally manufactured in the following way in the Berezicheskiy glassworks[illegible]" of the Council of National Economy of Kaluga: Sectors and blocks of 3 sections, as given in figures 1 and 2, were manufactured of sheets of window-glass of the dimensions 1ooo x 5oo x 3 mm. The weight of one section is 3,2 kilograms, that of a block 9,6 kilos and the quantity of glass required for one block is 1,8 m^2. These sections which were manufactured in glassworks, can be installed in buildings. By that means, less glass is broken during transportation, and the glass-scrap can be utilized, and the manufacturing expenses will be reduced in this way. Furthermore, qualified workers manufacturing the

Card 1/2

wooden window-cases, will no longer be required for construction. The mounting of the glassblock is simple and no skilled worker is required. Nor is a first-class lumber required for this purpose, since the glass-blocks are walled immediately in the voids. Besides the savings of high-quality lumber and qualified workers, the luminous area of the aperture of the window increases and any thermal loss in winter is avoided due to a complete hermetical seal.

There are 2 figures.

ASSOCIATION: Berezicheskiy stekol'nyy zavod (Glassworks)

AVAILABLE: 1. Glass--Applications

AUTHOR: Smirnov, V. P. SOV/72-58-7-12/19

TITLE: Common Salt - a Good Accelerator of Glass Melting (Povarennaya sol' khoroshiy uskoritel' varki stekla)

PERIODICAL: Steklo i keramika, 1958, Nr 7, pp. 40 - 41 (USSR)

ABSTRACT: M. P. Orlova, V. V. Pollyak and I. D. Tykachinskiy (Ref 1) state in their paper that 0,5% F, introduced additionally into the layer to the basic composition of glass increases the output of the tank furnaces by 10 - 15% in the case of maintainance of the usual glass melting temperature level. This is confirmed as well by the paper of the glass works Bytosh' and "Veliky Oktyabr'". The author assumes that for the acceleration of glass melting beside the fluorides also chlorides can be used successfully the chemical activity of which is not inferior to that of the fluorides. The editor is, however, of different opinion (Ref 1). Furthermore the use of fluorides demands protective measures which are not necessary in the case of chlorides. This is also confirmed by the attempt to use them in the

Card 1/3

Common Salt - a Good Accelerator of Glass Melting SOV/72-58-7-12/19

glass works Berezichi in the melting of medical glass. Still in 1946 common salt has been introduced into the layer exceeding the calculated composition by from 15 to 20 kg/per ton. The compositions of glass and layer are given in the table. The moisture content of the layer amounts to 3 - 4%. The glass melting is carried out in a tank furnace of the type "simpleks", at a maximum temperature of 1430° and in the case of a mass output of 500 kg/m^2 per day. By the introduction of common salt into the layer the output of the furnace was increased by 28% above the scheduled output; the quality of the glass mass was as well rapidly improved. Furthermore the preparation of the common salt is described as well as the melting process of the layer. There are 1 table and 1 reference, 1 of which is Soviet.

ASSOCIATION: Berezicheskiy stekol'nyy zavod (Berezichi Glass Works)

Card 2/3

Common Salt - a Good Accelerator of Glass Melting SOV/ 72-58-7-12/19

1. Glass--Processing 2. Sodium chloride--Applications 3. Glass--Properties
4. Glass--Test results

Card 3/3

SMIRNOV, V.P.

Operating glass furnaces with an increased heating area.
Stek.i ker. 17 no.4:35-37 Ap '60. (MIRA 13:8)
(Glass furnaces)

SMIRNOV, V. P.

Yearly output of double side-fired tank furnaces. Stek. i ker 17 no.8:35-36 Ag '60. (MIRA 13:8)
(Glass furnaces)

SMIRNOV, V.P.

Tank furnace for making colored and superimposed glass. Stek. i ker. 18 no.2:12-14 F '61. (MIRA 14:3)
(Glass furnaces) (Glass, Colored)

SMIRNOV, V.P.

Decorating glassware by printing a design from a printing plate.
Stek. i ker. 19 no.2:35-36 F '62. (MIRA 15:3)
(Glassware)

SMIRNOV, V.P.

Manufacture and preparation of glass molds. Stek. i ker. 22 no.4: 38-40 Ap '65. (MIRA 18:5)

CHERKES, L.A.; STRUKOV, A.I.; VOLGAREV, M.N.; SMIRNOV, V.P.

Cirrhosis and tumors of the liver in choline and protein insufficiency. Vop.pit. 19 no.1:3-16 Ja-F '60. (MIRA 13:5)

1. Iz laboratorii patologicheskoy fiziologii (zav. - prof. L.A. Cherkes) Instituta pitaniya AMN SSSR i iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.I. Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(LIVER NEOPLASMS experimental)
(LIVER CIRRHOSIS experimental)
(CHOLINE deficiency)
(PROTEIN deficiency)
(NUTRITION DISORDERS experimental)

SMIRNOV, V. P., Cand. Medic. Sci. (diss) "On Question of Primary Cancer of Liver (Clinical-anatomical and Experimental Investigation)," Moscow, 1961, 16 pp. (Acad. Med. Sci. USSR) 250 copies (KL Supp 12-61, 288).

SMIRNOV, V.P.

Experimental tumors of the liver in protein-choline insufficiency. Arkh. pat. 23 no.2:51-59 '61. (MIRA 14:2)
(LIVERS--TUMORS) (PROTEINS) (CHOLINE)

SMIRNOV, V.V.

Histoanatomical data on the characteristics of cancer of the liver. Trudy 1-MMI 18:88-98 '62. (MIRA 17:4)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.I.Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

SMIRNOV, V.P., dotsent, kandidat tekhnicheskikh nauk.

Comparative characteristics of ash washing units used for low and compound pressure hydraulic ash removal in heat-power electric plants. [Trudy] MVTU no.15:90-135 '52. (MLRA 8:5)
(Steam power-plants) (Ash disposal)

SMIRNOV, V.P., kandidat tekhnicheskikh nauk, dotsent.

Adjustment and testing of the VS 175/210 type of ash-sluicing apparatus designed by V.P. Smirnov for periodical sluicing in hydraulic ash removal systems in thermal electric power plants. [Trudy] MVTU no.59:88-108 '55. (MLRA 9:5)
(Ash disposal)

SMIRNOV, V.P., kandidat tekhnicheskikh nauk, dotsent.

Adjustment and industrial testing of the experimental VS-3,0 continuous sluicing apparatus designed by V.P.Smirnov for hydraulic ash removal systems in thermal electric power plants. [Trudy] MVTU no.59:109-123 '55. (MLRA 9:5)
(Ash disposal)

SMIRNOV, V. P.

"Electrospark Strengthening of Cutting Tools," Avtomobil'naya i Traktornaya Promyshlennost' (1950) No 12, pp 17/20.

B-73331, 1 Apr 54

SMIRNOV, V. P.

"Electrolytic Deposition of Alloys on a Copper Base for Protective-Decorative and Technical Purposes." Sub 5 Nov 51, Moscow Inst of Nonferrous Metals and Gold imeni M. I. Kalinin /Cand. Technical Sci./.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

SMIRNOV, V. I.

Electric Spark

Toughening dies by means of an electric spark. Avt. trakt. prom. No. 1, 1952

Monthly List of Russian Accessions, Library of Congress, June 1952 Unclassified

SMIRNOV, V.P.

SMIRNOV, V.P., inzh.

Building up electrodes by electric arc in a nitrogen jet. Mashinostroitel' no.1:24-25 Ja '58. (MIRA 11:1)
(Electroplating)

30862
S/054/61/000/004/002/009
B108/B138

24, 7000 (1143, 1144, 1385)

AUTHOR: Smirnov, V. P.

TITLE: Semi-classical approximation in band theory

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 4, 1961, 35 - 38

TEXT: The author considers the uniform motion of a particle in a periodic potential field: $\left(-\frac{d^2}{dx^2} + V(x)\right)\psi(x) = \varepsilon\psi(x)$ with $V(x + a) = V(x)$. Functions corresponding to an allowed energy level have to fulfill the boundary conditions $\psi(a) = \lambda\psi(0)$, $\psi'(a) = \lambda\psi'(0)$ where $|\lambda| = 1$. This problem is solved in semi-classical approximation within one elementary cell $(0,a)$. It is assumed that $\varepsilon < V_{max}$ (Fig. 1). The domains I and II are interrelated by the formulas

Card 1/4

S/054/61/000/004/002/009
B108/B138

Semi-classical approximation...

$$q^{-\frac{1}{2}} \exp\left(-\int_x^{x_1} q\,dx'\right) \sim 2p^{-\frac{1}{2}} \sin\left(\int_{x_1}^{x} p\,dx' + \frac{\pi}{4}\right),$$
$$q^{-\frac{1}{2}} \exp\left(\int_x^{x_1} q\,dx'\right) \sim p^{-\frac{1}{2}} \cos\left(\int_{x_1}^{x} p\,dx' + \frac{\pi}{4}\right); \qquad (3)$$

and the domains III and II by

$$q^{-\frac{1}{2}} \exp\left(-\int_{x_2}^{x} q\,dx'\right) \sim 2p^{-\frac{1}{2}} \sin\left(\int_{x}^{x_2} p\,dx' + \frac{\pi}{4}\right),$$
$$q^{-\frac{1}{2}} \exp\left(\int_{x_1}^{x} q\,dx'\right) \sim p^{-\frac{1}{2}} \cos\left(\int_{x}^{x_1} p\,dx' + \frac{\pi}{4}\right). \qquad (4)$$

where $q = (V(x) - \varepsilon)^{1/2}$, $V(x) > \varepsilon$ and $p = (\varepsilon - V(x))^{1/2}$, $V(x) < \varepsilon$. By linear combination of these expressions the author obtains the transcendental

Card 2/4

Semi-classical approximation...

equation $\cos\beta = \operatorname{ch}(\alpha + \ln 2) = \cos ka = f(\varepsilon)$ where $\beta \equiv \int_{x_1}^{x_2} p\,dx'$. The effective masses are determined by two-fold differentiation of the above transcendental equation. Parameters b and c are introduced: $\left[-\frac{d^2}{dx^2} + bV\left(\frac{x}{c}\right)\right]\cdot\psi(x) = \varepsilon\psi(x)$. The depth of the potential well is proportional to b, the lattice constant is proportional to c. The number of bands in the potential well is calculated as

$$n = \left[\frac{c\sqrt{b}}{\pi}\int_0^a \sqrt{V_{max} - V(x)}\,dx + \frac{1}{\pi}\arccos 0{,}8\right]. \qquad (13).$$

The author thanks Professor P. P. Pavinskiy for discussion. There are 2 figures and 3 references: 2 Soviet and 1 non-Soviet.

Card 3/4

30868
S/054/61/000/004/009/009
B102/B138

24,7000 (1136, 1143, 1385)

AUTHOR: Smirnov, V. P.

TITLE: Effective mass calculation in band theory

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 4, 1961, 149 - 151

TEXT: A relation derived by P. P. Pavinskiy (Vestnik Leningr. un-ta, no. 10, 1961), $m/m_1^* = 1 - 2\int v^{(1)}\frac{du^{(1)}}{dx}\,dx$, (1), is used for variational calculation of the effective mass m_1^*. The problem is solved for one-dimensional motion of a particle in a periodic field V(x), with period a. The extremum of the l-th band is assumed to be at k = 0. Integration is carried out over a unit cell, $u^{(l)}$ is the normalized wave function at the bottom (or ceiling) of the l-th band and $v^{(l)}$ is a periodic function, which satisfies the relation $A^{(l)}v^{(l)} \equiv (-\frac{d^2}{dx^2} + V(x) - \mathcal{E}_l)v^{(l)} = 2\frac{du^{(l)}}{dx}$,

Card 1/4

Effective mass calculation...

where ε_1 is the energy at the bottom (ceiling) of the l-th band. With $v^{(l)} = v_1^{(l)} + v_2^{(l)}$, $v_1^{(l)} = 2\sum_{n=1}^{l-1} \frac{\int u^{(n)} \frac{du^{(l)}}{dx} dx}{\varepsilon_n - \varepsilon_l} u^{(n)}$, $(n = 1,2...l)$, and $v_2^{(l)}$ can be determined from the condition $I(v_2^{(l)}) = -2 v_2^{(l)} \frac{du^{(l)}}{dx}, 2dx$, which gives the minimum of $v_2^{(l)}$ in the subspace $\Omega_2^{(l)}$, in which the operator $A^{(l)}$ is positively definite. For the bottom of the band $(l = 1)$, this minimum is given by $I(v^{(1)}) = \frac{m}{m_1^*} - 1$, from which the effective mass can be determined. A similar method can be also used in the three-dimensional case, provided a relation analogous to (1) holds and the l-th zone has an extremum at $k = 0$ and is not degenerate at this point. The periodic amplitude of the wave function satisfies

$$\left[-(\nabla - i\vec{k})^2 + V(\vec{r})\right] u_{\vec{k}}^{(l)}(\vec{r}) = \varepsilon_l(\vec{k}) u_{\vec{k}}^{(l)}(\vec{r}). \qquad (9)$$

and for small $\vec{k}$

Card 2/4

Effective mass calculation...

$$u_k^{(l)}(\vec{r}) \quad u^{(l)}(\vec{r}) + i\sum_\alpha k_\alpha v_\alpha^{(l)}(\vec{r}) + \sum_{\alpha\beta} k_\alpha k_\beta w_{\alpha\beta}^{(l)}(\vec{r}) \qquad (10),$$

$$\varepsilon_l(\vec{k}) = \varepsilon_l + \sum_{\alpha\beta} k_\alpha k_\beta m\left(\frac{1}{m_l^*}\right)_{\alpha\beta}. \qquad (11)$$

hold. From these equations the tensor of the reciprocal effective mass, $\frac{1}{m_1}$, can be determined:

$$m\left(\frac{1}{m_l^*}\right)_{\alpha\beta} - \delta_{\alpha\beta} = \left(\int u^{(l)} d\vec{r}\right)^{-1} \int u^{(l)}\left[\nabla_\alpha v_\beta^{(l)} + \nabla_\beta v_\alpha^{(l)}\right] d\vec{r}.$$

If the coordinate axes coincide with the principle axes of this tensor,

$$m\left(\frac{1}{m_l^*}\right)_{\alpha\alpha} - 1 = 2\int u^{(l)}(\vec{r})\,\nabla_\alpha v_\alpha^{(l)}(\vec{r})\,d\vec{r} \qquad (16)$$

$$m\left(\frac{1}{m_l^*}\right)_{\alpha\alpha} = 1 - 2\int v_\alpha^{(l)}(\vec{r})\,\nabla_\alpha u^{(l)}(\vec{r})\,d\vec{r}.$$

Card 3/4

S/054/61/000/004/009/009
B102/B138

Effective mass calculation...

results. The author thanks Professor P. P. Pavinskiy for discussion.
There are 4 references: 3 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: T. Bardeen. Chem. Phys., 6, 367, 1938.

Card 4/4

31985
S/142/61/004/004/006/018
E192/E382

9,9700 (1327)

AUTHORS: Bobrovnikov, M.S., Starovoytova, R.P. and Smirnov, V.P.

TITLE: The efficiency of excitation of surface waves by a lumped source on an impedance plane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 4, 1961, 432 - 438

TEXT: The problem of lumped excitation of an infinite impedance plane by a magnetic current filament is considered. The plane has an isotropic impedance and represents the simplest delay system. The impedance plane, whose surface coincides with the coordinate plane y, z (see Fig. 1), is excited by an infinitely long magnetic current filament j^m, which is parallel to the axis y, which is situated at a distance x_o from the impedance plane; thus:

$$j^m = I^m \delta(x - x_o)\delta(z)$$

Card 1/6

The efficiency of ....

where $x = x_o$ and $z = 0$ are the coordinates of the source, and I_m is the amplitude of the source.

Under these excitation conditions only the three field components are produced, namely - E_x, E_z and H_y. The component H_y can be found by solving the Maxwell equations, while the other field components can be expressed in terms of H_y. The boundary condition at the impedance surface is:

$$E_z = Z H_{y/x=o}$$

where Z is the surface impedance. It is shown that the surface-wave component of the magnetic field is given by:

Card 2/6

The efficiency of ....

$$P_{изл} = \frac{I^{m^2} k}{c} \left\{ \frac{\pi}{4} + \sum_{n=1}^{\infty} \frac{\Gamma\left(\frac{1}{2}\right)\Gamma\left(n-\frac{1}{2}\right)}{(1-Q^2)^n (kx_0)^{n-1}} \times \right. \tag{12}$$

$$\left. \times \left[\frac{1}{4}(1-Q^2) I_{n-1}(2kx_0) - I_n(2kx_0)\left(n-\frac{1}{2}\right)\left(\frac{1}{4kx_0} + \frac{Q}{2n-1}\right)\right]\right\}$$

where $Z = -iQ$. By analyzing the above formulae (and comparing the results with some experimental data) it is concluded that a plane electromagnetic wave impinging on an infinite uniform impedance plane does not excite surface waves. On the other hand, when the surface waves are excited by a lumped source, the efficiency of excitation depends on the delay coefficient $\beta = h_o/k$ and the distance of the source from the impedance plane. An optimum height for the source above the impedance plane can be determined for every given value of β . Thus, for example, for $\beta = 1.25$ the highest

Card 4/6

The efficiency of ....

efficiency of $\eta = 0.981$ is reached for $x_o/\lambda = 0.16$. The excitation efficiency near to unity can be achieved for compratively low values of the delay coefficient ($\beta = 1.05 - 1.2$).

There are 5 figures and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The four English-language references mentioned are: Ref. 1 - A.L. Cullen - PIEE, 1957, C 104, no. 6, 237; Ref. 2 - G.I. Rich, PIEE, 1955, B 102, no. 2, 237; Ref. 3 - A.L. Cullen, PIEE, August, 1955, 101, 4, 225 and Ref. 4 - I.W. Dunkan, IRE Trans., 1959, MTT-7, no. 2, 257

ASSOCIATION: Kafedra radiofiziki Tomskogo gos. universiteta im. V.V. Kuybysheva (Department of Radio Physics of Tomsk State University im. V.V. Kuybyshev)

SUBMITTED: August 28, 1960 (initially)
November 3, 1960 (after revision)

Card 5/6

SMIRNOV, V.P.

Effective masses of an electron moving in a periodic field. (MIRA 14:8)
Vest LGU 16 no.16:34-39 '61.
(Electrons)

4055

S/142/62/005/003/001/009
E192/E382

9.3700

AUTHORS: Bobrovnikov, M.S. and Smirnov, V.P.

TITLE: Field in the near zone of the source for the case of lumped excitation of an impedance plane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 5, no. 3, 1962, 321 - 325

TEXT: The general expression for the magnetic-field component H_y for the case of an infinite impedance plane whose surface coincides with the coordinate system yz (see Fig. 1) and is excited by a magnetic-current thread j^m, situated at a distance x_o from the impedance plane and parallel to the axis y is in the form (Ref. 1. The authors and R.P.Starovoytova, Izv. vuzov SSSR - Radiotekhnika, 1961, v.3, no. 4, 432):

Card 1/ 4

S/142/62/005/003/001/009
E192/E382

Field in the near zone ....

$$H_y = -\frac{2KI^m}{c} \int_{-\infty}^{\infty} \frac{\left(\cos x_o v - \frac{iKZ}{v} \sin x_o v\right)}{v + KZ} \cdot e^{ivx} \cdot e^{ihz} dh \quad (1)$$

for $x_o \leqslant x \leqslant \infty$

$$H_y = -\frac{2KI^m}{c} \int_{-\infty}^{\infty} \frac{\left(\cos xv - \frac{iKZ}{v} \sin xv\right)}{v + KZ} \cdot e^{ivx_o} \cdot e^{ihz} \cdot dh \quad (2)$$

for $0 \leqslant x \leqslant x_o$

Card 2/4

Field in the near zone ....

where I^m is the amplitude of the magnetic current, $Z = iQ$ is the reactive impedance and $v = \sqrt{K^2 - h^2}$. The radiation field and the surface wave for the far zone in such a system was determined in Ref. 1. However, Eqs. (1) and (2) can be also used to determine the field in the near zone. The field is given by the general expression:

$$H_y = H_y^{\Gamma} + A\int_L \frac{e^{ihZ}}{v + KZ}\, dh \qquad (6)$$

where the first component represents the surface wave, whilst the second component gives the non-surface wave. The integral can be evaluated comparatively easily and it is shown that the non-surface wave is approximately given by:

Card 3/4

S/142/62/005/003/001/009
E192/E382

Field in the near zone ....

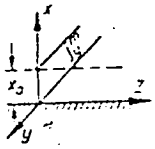
$$H_y^{\text{пл}} \sim H_0 \cdot e^{iKZ+i\frac{\pi}{4}} \cdot \frac{1}{Q^2} \cdot \sqrt{\frac{1}{2\pi KZ}} \cdot \frac{1}{KZ} \qquad (14)$$

This shows that in the case of lumped excitation, the non-surface wave decreases as $1/(KZ)^{5/2}$, i.e. faster than for the case of an ideally conducting plane. The non-surface wave for the near zone was calculated by a digital computer and the results are given in a figure. There are 4 figures.

ASSOCIATION: Laboratoriya radiofiziki SFTI pri Tomskom gos. universitete im. V.V. Kuybysheva (Radiophysics Laboratory, SFTI, of Tomsk State University im. V.V. Kuybyshev)

SUBMITTED: June 5, 1961

Fig. 1:



Card 4/4

S/058/62/000/006/105/136
A062/A101

9,1700

AUTHOR: Smirnov, V.F.

TITLE: Directivity diagrams of horizontal ring antennas

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 16, abstract 6Zh113 ("Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te", 1960, no. 39, 72 - 76)

TEXT: Results are given of a study of arrays of ring antennas, consisting of azimuthally oriented vibrators, in which the current has an equal amplitude while the phase changes by 2π along the circle on which they are arranged. An expression is obtained for the electric field intensity of two vibrators arranged around a conducting cylinder. The current in the vibrators is distributed according to $\sin m\alpha$ law, wherein m is the number of wavelengths that can be placed on the circle on which the vibrators are arranged. Directivity diagrams are calculated for $\lambda/4$ vibrators at $m = 0.4; 0.5; 1.0; 2.0; 3.00$. It is noted that the directivity diagram which is near to the circular one ($E_{min}/E_{max} = 0.7$) can be obtained by using two $\lambda/4$ vibrators, fed in phase opposition. When increasing the length of the circle on which the vibrators are arranged, the directivity diagram acquires a lobe nature.

B. Panchenko

[Abstracter's note: Complete translation]

FEL'DSHTEYN, A.L.; SMIRNOV, V.P.

Characteristic impedance of a rectangular wave guide. Radiotekhnika 18 no.4:78 Ap '63. (MIRA 16:5)

1, Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Wave guides)

ACCESSION NR: AP4040750 S/0142/64/007/002/0171/0179

AUTHOR: Bobrovnikov, M. S.; Mironov, V. L.; Smirnov, V. P.

TITLE: Excitation of surface waves by a discretely-distributed non-projecting source

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 2, 1964, 171-179

TOPIC TAGS: surface wave, directional pattern, antenna configuration, antenna directivity

ABSTRACT: An analysis is made of surface-wave launchers consisting of several arbitrarily spaced parallel unphased magnetic-current filaments imbedded in an impedance plane. The efficiency of surface-wave excitation of such a source is compared with that of a concentrated source. The amplitude ratios and phase relations at which no surface waves are excited, or at which the launched surface waves propagate in one direction only, are determined analytically. It is

Card 1/2

ACCESSION NR: AP4040750

shown in particular that in the case when there are only two current filaments, the surface-wave launching efficiency exceeds that of a concentrated source, and that directional launching of the surface waves is possible if the currents are properly phased. Orig. art. has: 10 figures and 16 formulas.

ASSOCIATION: None

SUBMITTED: 06Dec62	DATE ACQ:	ENCL: 00
SUB CODE: EC	NR REF SOV: 001	OTHER: 001

Card 2/2

L 25751-65

ACCESSION NR: AP5002039 S/0142/64/007/005/0589/0596

AUTHOR: Bobrovnikov, M. S.; Mironov, V. L.; Smirnov, V. P.

TITLE: Exciting surface waves by continuously distributed nonsalient sources

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 5, 1964, 589-596

TOPIC TAGS: surface wave, surface wave excitation

ABSTRACT: Two types are considered of continuously distributed nonsalient surface-wave exciters having spatial AM and FM of currents in the aperture of the source; these modulations permit attaining a high efficiency of excitation. One type permits obtaining a symmetrical excitation while the other, a directional excitation. Powers of two symmetrical surface waves, propagating to the right and to the left from the source, are given by formulas 17 and 18; the power of a directional surface wave is given by the integral formula 27. A practical realization of the surface-wave excitation is believed possible by using distributed-

Card 1/2

L 25751-65

ACCESSION NR: AP5002039

coupling systems (IRE Trans., 1961, MTT, v. 9, no. 6, 573). Orig. art. has: 8 figures and 34 formulas.

ASSOCIATION: none

SUBMITTED: 18Mar63 ENCL: 00

SUB CODE EC NO REF SOV: 003 OTHER: 002

Card 2/2

SMIRNOV, V.P.; BABICH, M.S.; GOSHIN, G.G.

Excitation of a system consisting of an impedance cylinder in an impedance plane by a magnetic current loop coaxial to the impedance cylinder. Radiotekh. i elektron. 9 no.10:1812-1820 O '64. (MIRA 17:11)

BOBROVNIKOV, M.S.; GOSHIN, G.G.; SMIRNOV, V.P.

Effective excitation of radial cylindrical surface waves.
Radiotekh. i elektron. 10 no.6:1023-1028 Je '65.
(MIRA 18:6)

L 61473-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-1 DM

ACCESSION NR: AP5020190 UR/0089/65/018/005/0508/0509

AUTHOR: Vilenskiy, V. D.; Smirnov, V. P.

TITLE: Turbulent Couette flow

SOURCE: Atomnaya energiya, v. 18, no. 5, 1965, 508-509

TOPIC TAGS: couette flow, turbulent flow, pressure gradient, flow velocity

ABSTRACT: Couette flow in a flat duct under a longitudinal pressure gradient was studied considering the possibility of four types of flow based on the relation between the rate of motion at the wall and the magnitude and the direction of pressure gradient. Orig. art. has: 2 graphs, 1 formula.

ASSOCIATION: none

SUBMITTED: 14Nov64 ENCL: 00 SUB CODE: ME

NR REF SOV: 000 OTHER: 000 NA

Card 1/1

SMIRNOV, V.P.

Excitation of surface waves. Izv. vys. ucheb. zav.; fiz. no.5: 182-184 '63. (MIRA 16:12)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni Kuybysheva.

FEL'DSHTEYN, Aleksandr L'vovich; YAVICH, Lev Rafaelovich; SMIRNOV, Vitaliy Petrovich; PERETS, R.I., red.; BUL'DYAYEV, N.A., tekhn. red.

[Manual on the elements of waveguide technology] Spravochnik po elementam volnovodnoi tekhniki. Moskva, Gosenergoizdat, 1963. 359 p. (MIRA 17:2)

SMIRNOV, V.P., inzhener, redaktor; PEVZNER, A.S., redaktor; TOKER, A.M., tekhnicheskiy redaktor; SMOL'YAKOVA, M.V., tekhnicheskiy redaktor.

[Fire prevention norms in planning the construction of lumberyards] Protivopozharnye normy stroitel'nogo proektirovaniia skladov lesnykh materialov (N129-55). Moskva, Gos.izd-vo lit-ry po stroit. i arkhitekture, 1955. 24 p. (MLRA 9:6)

1.Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
(Fire prevention--Laws and regulations) (Lumberyards)