SIDOROV, N.Ye., kandidat tekhnicheskikh nauk; TOTSKIY, G.P., inzhener; PADALKA, P.G., inzhener.

Open-hearth pig iron with reduced manganese content. Metallurg no.12:6-7 D '56. (MLRA 10:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov (for Sidorov). 2. Yenakiyevskiy metallurgicheskiy zavod (for Totskiy and Padalka).

(Yenakiyevo--Blast furnaces) (Cast iron)

507/51-6-1-13/30

AUTHORS: Shklyarevskiy, I.N. and Padalka, V.G.

TITLE: Measurement of the Optical Constants of Copper, Gold and Nickel in the Infrared Region of the Spectrum (Izmereniye opticheskikh postoyannykh medi, zolota i nikelya v infrakrasnoy oblasti spektra)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 1, pp 78-84 (USSR)

ABSTRACT: The optical constants of copper, gold and nickel were measured in the region of 1-12 μ by means of the method described by Shklyarevskiy et al. (Refs 4, 5). Measurements were made on a number of pairs of samples and in each case reproducible values of the refractive index μ and the absorption index μχ were obtained. The results of measurements are given in Tables 1-3. The seven columns of each table give the wavelength λ, the angle of incidence of the light φ, the number of reflections m, the phase shift Δ, the azimuth ψ, the refractive index μ and the absorption index μχ. The optical constants were calculated from the usual formulae (Eqs 5 and 6) which give μ and μχ in terms of φ, ψ and Δ. Thick layers of copper were prepared by vacuum deposition on glass plates. Measurements of the optical constants of copper were made within five days. Control measurements carried out on freshly prepared samples yielded the same optical constants as the measurements

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Measurement of the Optical Constants of Copper, Gold and Nickel in the Infrared Region of the Spectrum

carried out after five days. The effect of a layer of copper oxide was neglected; according to Hodgson (Ref 6) such a layer should not affect the optical constants by more than a few per cent. The results obtained for copper are given in Table 1 and the derived optical constants are shown in Fig 1, where the open circles represent the authors' results and the black dots represent those of Försterling and Freederichsz (Ref 7). Layers of gold 1.5-2 μ thick were deposited on glass plates by vacuum deposition. No differences were found between optical constants derived from measurements made seven days after evaporation and optical constants derived from measurements carried out one month after preparation of the samples. The results are given in Table 2 and the derived optical constants are shown in Fig 2. Again open circles denote the present authors' results and the black dots those of Försterling and Freederichsz (Ref 7). Thin layers of nickel were deposited by vacuum deposition on glass plates. The results obtained are given in Table 3 and the derived optical constants in Fig 3, where open circles denote the present authors' values, and triangles show the optical constants obtained by Ingersoll (Ref 8) at $\lambda = 2$ μ.

Measurement of the Optical Constants of Copper, Gold and Nickel in the Infrared Region of the Spectrum

Using the classical Drude theory of free electrons in metals the authors calculated densities of free electrons, relaxation times and d.c. conductivities of copper, gold, nickel and silver. They are given in Table 4 together with results taken from Hodgson's and Beattie and Conn's work (Refs 6, 10). From the known values of μ and $\mu\chi$ it is possible to calculate the value of the absorption coefficient A given by

$$A = 1 - R = \frac{4\mu}{(\mu - 1)^2 + (\mu\chi)^2}$$

where R is the reflection coefficient of the metal. Dependence of the absorption coefficient A on wavelength is given for copper, silver, gold and nickel in Fig 7. The ordinate axis I applies to copper, gold and silver and the axis II applies to nickel. Acknowledgments are made to Professor K.D. Sinel'nikov for his advice. There are 7 figures, 4 tables and 12 references, 5 of which are Soviet, 3 English 2 German 1 Dutch and 1 translation.

SUBMITTED: March 24, 1956

Card 3/3

SOV/51-4-6-13/24

AUTHORS: Shklyarevskiy, I.N., Starunov, N.G. and Padalka, V.G.

TITLE: Measurement of Optical Constants of Silver in the Infrared Spectral Region (Izmereniye opticheskikh postoyannykh serebra v infrakrasnoy oblasti spektra)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 6, pp 792-795 (USSR)

ABSTRACT: Optical constants of metals are of great interest in the electron theory of metals if they are measured in the frequency region which satisfies the inequality given by Eq. 1 on p. 792: $\nu_0^2 \ll \omega^2 \ll \omega_0^2$, where ν_0 is the frequency of electron collisions with the crystal lattice and ω_0 is the frequency corresponding to the upper limit of the internal photoeffect. This frequency region lies usually in the infrared part of the spectrum. The present paper reports measurements of optical constants of silver in the 1-12 μ region using the methods described earlier (Refs 1, 2). In the first of these methods (Ref 1) the phase difference $\Delta = \delta_p - \delta_s$ between the p- and s- components is made equal to -180^0 by multiple reflection of light by two identical samples. The apparatus used is shown in Fig 1. Here S is the exit slit of a monochromator SMR-2; Z_1, Z_2, Z_3 and Z_4 are aluminized

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mirrors; P and A are a polarizer and an analyser, respectively, made of piles of six selenium plates which are placed at an angle of the order of 70° to the light-beam; M_1 and M_2 are the samples of the studied metal; B is a receiver. A parallel beam of monochromatic light passes through a polarizer, which is positioned at an angle of 45° to the plane of incidence, and falls at an angle φ on to samples M_1 and M_2. The angle of incidence is chosen to make $m\Delta = -180^\circ$, where m is the number of reflections from metal samples. Under these conditions the light reflected from metal samples may be extinguished by the analyser. Position of the analyser gives the value ψ', which is related to the azimuth of restored polarization ψ by the relationship $\tan \psi = \sqrt{\tan \psi'}$. Knowing the angle of incidence φ, the phase difference Δ and the azimuth ψ the optical constants can be easily calculated. The second method of "rotating analyser" (Ref 2) is based on a conversion of elliptically polarized into circularly polarized light. The apparatus is the same as in Fig 1. By a suitable choice of the angle of incidence φ, for a given wavelength, the condition $m\Delta = -90^\circ$ is satisfied and the amplitudes of the p- and s-components are made equal by a suitable rotation of the polarizer. Then the light reflected from metal surfaces

is circularly polarized. The modulated component which has passed through the rotating analyser disappears and the recording instrument shows only a constant signal. The azimuth of the restored polarization is obtained as in the first method, but Ψ now represents the angle between the chief direction of the polariser and the plane of incidence of light. From measured values of φ, Δ and Ψ the optical constants μ (refractive index) and $\mu\chi$ (absorption coefficient) are obtained. The optical constants of silver layers produced by evaporation in vacuum were measured by both these methods. The results are shown in the table on p. 795 whose columns give respectively the wavelength (in μ), the angles of incidence φ, the number of reflection m, the phase differences $-\Delta$, the azimuth Ψ, the refractive indices μ and the absorption coefficients $\mu\chi$. Fig 2 compares the values of the refractive index and the absorption coefficient (curves 1 and 2 respectively) obtained by the present authors (shown by open circles) with those of Forsterling and Freedericksz (Ref 7, shown by black dots) and those of Motulevich and Shubin (Ref 6 shown by half-black dots). All these values are shown as a function of wavelength and they agree well with each other, except for values of the refractive index in

Measurement of Optical Constants of Silver in the Infrared Spectral Region

the 3.5-6 μ region reported in Ref 6. In the spectral region where the inequality given by Eq. 1 on p. 792 is satisfied the conduction electron density N is independent of the wavelength λ. If N is constant it follows that $(\mu\chi)^2 - \mu^2 + 1 = f(\lambda^2)$ which should be a straight line. Such a straight line is shown in Fig 3. In the region 5-12 μ the slope of this line gives the conduction electron density as $7.4 \times 10^{22} cm^{-3}$. The experimental points in Fig 3 in the region 1-6 μ also lie on a straight line whose slope gives the conduction electron density as $5.2 \times 10^{22} cm^{-3}$, which is the same as the number of atoms of silver in 1 cm^3. The authors thank K.D. Sinel'nikov for his interest and advice. There are 3 figures, 1 table and 8 references, 4 of which are Soviet, 2 English, 1 German and 1 American.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo (Kharkov State University imeni A.M. Gor'kiy)

SUBMITTED: November 15, 1957

SOV/51-6-6-9/34

24(4), 24(3)

AUTHORS: Shklyarevskiy, I.N. and Padalka, V.G.

TITLE: The Anomalous Skin-Effect and the Optical Constants of Copper, Silver, Gold and Nickel in the Infrared Region (Anomal'nyy skin-effekt i opticheskiye postoyannyye medi, serebra, zolota i nikelya v infrakrasnoy oblasti spektra)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 6, Nr 6, pp 776-779 (USSR)

ABSTRACT: Recently the authors measured the optical constants of copper, silver, gold and nickel at infrared wavelengths and interpreted their results in terms of the classical free-electron theory of Drude (Refs 1, 2). From these optical constants the authors had deduced, inter alia, the d.c. electrical conductivities of these metals. These conductivities were found to be considerably smaller than the values obtained directly on massive samples. The reason for this discrepancy lies in the use of dispersion formulae of Drude which are valid only for the normal skin-effect, when the inequality $\ell \ll \delta$ is satisfied (ℓ is the mean free path of electrons and δ is the depth of the "skin" layer). For good conductors at room temperature the mean free path of electrons may be of the order of the depth of the skin layer, and at low temperatures this path may be considerably larger than δ, i.e. anomalous skin-effect

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ACCESSION NR: AT4036064 S/2781/63/000/003/0228/0231

AUTHORS: Demidenko, I. I.; Mitina, N. I.; Padalka, V. G.

TITLE: Investigation of plasmoids with the aid of thermocouples

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3, Kiev, Izd-vo AN UkrSSR, 1963, 228-231

TOPIC TAGS: plasma source, plasmoid, plasmoid acceleration, plasma temperature, plasma magnetic field interaction, thermocouple

ABSTRACT: The preparation of a bismuth-silver thermocouple for plasma research is described. The thermocouples were produced free-standing by evaporation in vacuum on a heated glass substrate and were used to investigate plasmoids from a Bostick source. The method

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ACCESSION NR: AT4036064

of separating the thermocouple from the substrate is described. The relative distribution of the energy of the plasmoids as a function of the distance from the source was measured with the thermocouples. The motion of the plasmoid past the thermocouple charged the latter to a certain negative potential which could be monitored on an oscilloscope. The passage of plasmoids in a longitudinal magnetic field (the field intensity approximately 0.06 Tesla) was also investigated with the thermocouples. The velocity of the plasmoid could be determined from the delay in the thermocouple signal, and was found to be (1--1.5) x 10^5 m/sec, which is considered by the authors to be an overestimate. It is concluded that the described thermocouples are sufficiently sensitive and can be used to investigate the diffusion of plasma transverse to a magnetic field. Orig. art. has: 7 figures.

ASSOCIATION: None

Card 2/4

ACCESSION NR: AT4036064

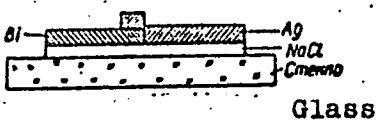
SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 01

SUB CODE: ME NR REF SOV: 002 OTHER: 001

Card 3/4

ACCESSION NR: AT4036064

ENCLOSURE: 01



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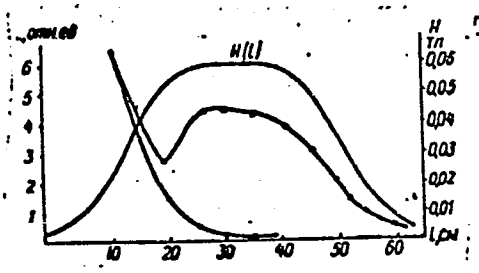

Tesla

Left - deposition of thermocouple on glass substrate (the melting of the salt causes the thermocouple to separate from the glass)

Right - relative distribution of plasmoid energy as a function of the distance from the source. H(L) - magnetic field distribution, crosses - in presence of magnetic field, dots - without field.

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24(4), 24(6) SOV/51-6-4-19/29

AUTHORS: Shklyarevskiy, I.N., Avdeyenko, A.A. and Padalka, V.G.

TITLE: Measurement of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K. (Izmereniye opticheskikh postoyannykh sur'my v infrakrasnoy oblasti spektra pri temperature 290 i 110°K)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 4, pp 528-532 (USSR)

ABSTRACT: The optical constants of antimony were measured at the wavelengths of 1-12 μ and at temperatures of 290 and 110°K, using the technique described by Avery (Ref 3) which is essentially a measurement of

$$\rho^2 = R_p/R_s ,$$

at two angles of incidence φ (R_p and R_s are the coefficients of reflection for light polarized in the plane of incidence and at rightangles to it). Avery obtained the refractive (μ) and absorption ($\mu\chi$) indices from a system of two equations

$$\rho_1^2 = f_1 (\mu, \mu\chi, \varphi_1) \text{ and } \rho_1^2 = f_2 (\mu, \mu\chi, \varphi_2).$$

This method of calculation is laborious and the authors used the method of intersecting circles (Ref 4). The procedure described here is applicable to the optical constants of metals for which $\mu \approx \mu\chi$; the optical constants of antimony satisfy this condition. The

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Measurement of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K

apparatus used for measurement of the optical constants of metals in the infrared region was described earlier (Ref 1). The apparatus used in studies of antimony differed from that described earlier (Ref 1) in one particular: instead of two samples on the gonometer table a cryostat was used with one sample in it. Fig 1 shows the external view of the apparatus. The following details are marked in Fig 1: the slit (S) of a monochromator ZMR-2, a polarizer P and an analyser A, the cryostat K and a receiver B (a photoresistor or a bolometer). The polarizer and analyser consisted each of a pile of selenium plates which had to be replaced every 3-4 months. Details of the cryostat are shown schematically in Fig 2. Measurements were made at 290 and 110°K (using liquid oxygen in the jacket of the cryostat). The apparatus had to be adjusted very carefully in order to avoid serious errors: first the selenium piles were adjusted and then the sample. Measurements were made on four samples; the values of the optical constants of the individual sample differed by no more than 5-8%. Control measurements, carried out using other methods (Ref 5), gave similar results. Fig 3 shows the refractive (curves a) and absorption (curves б) indices of antimony as a function of wavelength between 1 and 12 μ at temperatures of 290 (curves 1a, 1б) and 110°K

Measurements of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K

(curves 2a, 2б). The same figure contains the values of μ and $\mu\chi$ of antimony, obtained at room temperature and 2.45 μ wavelength, by Domanskiy and Noskov (Ref 6); these are shown as points 3a and 3б. From the mean values of the optical constants the authors constructed the wavelength dependence of the real $[\mu^2 - (\mu\chi)^2]$ and imaginary $[2\mu(\mu\chi)]$ components of complex permittivity; this is shown in Fig 4. Fig 5 shows the wavelength dependence of the absorption coefficient A calculated from

$$A = 4\mu/[(\mu + 1)^2 + (\mu\chi)^2].$$

The $A = f(\lambda)$ curves exhibit clear maxima which are due to interband transitions. From the positions of the maxima on the A curves the interband energy gap was calculated. It was found to be 0.18 eV at room temperature and 0.15 eV at 110°K. This compares well with the

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Measurements of the Optical Constants of Antimony in the Infrared Spectral Region at Temperatures of 290 and 110°K

values of 0.05 to 0.20 eV at room temperature reported by Smith (Ref 7). Acknowledgment is made to K.D. Sinel'nikov for his advice. There are 5 figures and 7 references, 5 of which are Soviet and 2 English.

SUBMITTED: May 19, 1958

PADALKA, V.G.

81921

24.5600

S/051/60/009/01/024/031
E201/E691

AUTHORS: Padalka, V.G. and Shklyarevskiy, I.N.

TITLE: A Contribution to the Technique of Measurements of the Optical Constants of Metals at Low Temperatures

PERIODICAL: Optika i spektroskopiya, 1960, Vol 9, Nr 1, pp 119-121 (USSR)

ABSTRACT: The authors describe a cryostat suitable for low-temperature measurements of the optical constants of metals, using one of the published polarization methods (Refs 2-6). The cryostat is in the form of a copper cylinder, fitted with windows. Samples are placed in this cylinder in such a way that they are in good contact with copper reservoirs in which liquid nitrogen is circulated. The sample positions can be adjusted from outside and the cryostat can be evacuated down to 5×10^{-6} mm Hg. Two cross-sections through the cryostat are shown in Fig 1 and its photograph is given in Fig 2. There are 2 figures and 9 references, 7 of which are Soviet and 2 English.

SUBMITTED: February 6, 1959

Card 1/1

PADALKA, V.G.; SHKLYAREVSKIY, I.N.

Determining the microcharacteristics of silver and gold from the optical constants in the infrared spectral region and from the conductivity at 82 and 295 K. Opt.i spektr. 11 no.4:527-535 O '61. (MIRA 14:10)
(Silver—Spectra) (Gold—Spectra)

32527
S/051/61/011/006/008/012
E039/E385

9.4177 (1035, 1138)

AUTHORS: Borisov, M.D. (Deceased), Demidenko, I.I. and Padalka, V.G.

TITLE: The absolute concentration of electrons in the forbidden zone from the transmission boundary of thin films of aluminium in the vacuum ultraviolet region

PERIODICAL: Optika i spektroskopiya, v.11, no.6, 1961, 769-771

TEXT: Previous studies of the optical properties of metals have been mainly in the infrared, visible and ultraviolet regions. It has been shown that films of alkali metals, opaque to visible light, were transparent in the ultraviolet region. The transmission boundary shifts to shorter wavelengths with a reduction in atomic weight: Cb - 4400 Å, Rb - 3600 Å, K - 3150 Å, Na - 2100 Å, Li - 2050 Å. For wavelengths shorter than the appropriate transmission boundary the alkali metals acquire the properties of a transparent medium. In the present work the transmission boundary for thin films of aluminium is determined and the concentration of electrons in the forbidden zone calculated. The radiation source is described in detail and consists

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The absolute concentration ....

optically transparent. If $\omega < \Omega$ the metal is opaque. The concentration of electrons in the forbidden zone N is related to the transmission boundary λ_o by the expression:

$$N = \frac{\pi c^2 m^*}{e^2 \lambda_o^2} \qquad (2)$$

where m^* and e are the effective mass and the charge of the electron. Assuming $m^* = m = 9.1 \times 10^{-28}$ g, for $\lambda_o = 800$ Å, then $N = 1.74 \times 10^{23}$ cm^{-3}. A value for N obtained by G.P. Motulevich and associates (Ref. 7: ZhETF, 38, 51, 1960) in the infrared region of the spectrum is less than half the above value. There are 1 figure and 7 references: 2 Soviet-bloc and 5 non-Soviet-bloc. The four latest English-language references mentioned are: Ref. 2: R.W. Wood, C. Lukens, Phys. Rev., 54, 332, 1938; Ref. 3: G. Sabine, Phys. Rev.,

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L 26966-65 EWT(1)/EPA(sp)-2/T/EEC(t)/EPA(w)-2/EWA(m)-2 Pz-6/Po-4/Pab-10/Pi-4
IJP(c) AT
ACCESSION NR: AP5003252 S/0057/65/035/001/0154/0156

AUTHOR: Demidenko, I. I./ Lomino, N.S./ Padalka, V.G./ Safronov, B.G./Sinel'nikov, K.D.

TITLE: On possible development of instabilities in a plasma captured by a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1965, 154-156

TOPIC TAGS: plasma, plasma instability, transverse magnetic field, longitudinal magnetic field

ABSTRACT: The development of instabilities in plasma bursts trapped by a transverse magnetic field and traveling parallel to it were investigated. The apparatus and the peculiarities of the [illegible] previously described by four of the present authors (ZhTF 34, [illegible]). In the present experiments the plasma bursts passed through a [illegible] ture in a screen located 30 cm from the point of capture and were [illegible] ous distances from the screen with a "plasmascope". When the screen was of dielectric material, or when it was of metal but floating, a tongue emerged from the more dense side of the plasma, grew and reached the wall of the chamber after the [illegible]

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ma burst had traveled some 60 cm from the screen. This instability is assumed to be of the Rayleigh-Taylor type and due to the rotation of the plasma, its inhomogeneity, and the presence within it of a net negative charge. When the screen was of metal and grounded, the development of this instability was almost entirely suppressed. Experiments were also performed with a screen containing a 4 mm wide slot instead of a circular aperture. In this case the instability did not [illegible]. The failure of flute instability to develop in the plasma sheets that passed through the slot is discussed briefly. Orig.art.has: 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov (Physico-technical Institute, AN UkrSSR)

SUBMITTED: 14 Aug64 ENCL: 00 SUB CODE: ME,EM

NR REF SOV: 004 OTHER: 005

Card 2/2

S/781/62/000/000/036/036

AUTHORS: Borisov, M. D. (deceased), Brzhechko L. V., Zykov V. G., Padalka V. G., Stepanenko I. A., Ternopol,A. M.

TITLE: Spectroscopic measurements of ion temperature and ion density

SOURCE: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tekh. inst. AN Ukr.SSR. Kiev, Izd-vo AN Ukr. SSR, 1962. 170-172

TEXT: Results are described, obtained with a model of the straight-line portion of racetrack apparatus for the study of discharge stability. The plasma was produced by the method of Colgate and Wright (ref. 1, Russian translation cited) in a glass tube 50 cm long and 8 cm in diameter, at a pressure of 10^{-2} mm Hg. An alternating longitudinal field up to 4000 G was produced by discharging a 3 microfarad capacitor; the field period was 14 microseconds. The field at the center of each coil was double the value, so that the mirror ratio was 2:1. The ion temperature and density were determined by studying the contour of the Balmer-series H_α line. It was estimated that only the Doppler effect and the

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statistical Stark effect contribute to the contour noticeably. Streak photographs have shown that the influence of radial plasma oscillations is small and the random motion of the ions does not affect the ion temperature appreciably. The correction for the apparatus function was determined with the aid of a Fabry-Perot interferometer. The experimentally obtained contour shows that the shape of the central portion is determined by the Doppler effect only, and the statistical Stark effect influences only the skirts (Holtzmark broadening). The ion temperature as determined from the half-width of the Gaussian curve was found to be approximately 4.5 eV, while the ion density ranged between 5×10^{14} and 10^{15} cm^{-3}. Were the hydrogen to be completely ionized, the density would be 3×10^{15} cm^{-3}. There is one figure.

S/051/62/012/002/018/020
E032/E514

18.8100

AUTHORS: Padalka, V.G. and Shklyarevskiy, I.N.

TITLE: Determination of the micro-characteristics of copper from the optical constants in the infrared region of the spectrum and the resistivity at 82 and 295°K

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 291-297

TEXT: In a previous paper the authors reported measurements of the optical constants of copper at room temperature. However, these measurements were not accompanied by measurements of the resistivity and the effect of the oxide coating was not allowed for. In the present paper they report simultaneous measurements of the refractive and adsorptive indices of copper in the infrared, and of the resistivity at 82 and 295°K. These results are corrected for the presence of a thin film on the surface. The optical constants were measured in the wavelength range 1-12 μ on vacuum-evaporated layers. The cryostat described by the authors in Ref.7 (Opt. i spektr., 9, 119, 1960) and the method described by the second of the authors and V. K. Miloslavskiy (Ref.8: Opt. i spektr., 3, 361, 1957) were employed. The effect of the surface

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subscript 0 denotes classical high-temperature values. Assuming that $\lambda = 6\ \mu$, it is found that the mean free path ℓ is approximately 300 and 460 Å at 295 and 82°K. It is estimated that the linear dimensions of the crystals forming the polycrystalline film are of the order of 1000 Å ($\sim v/\nu^{ed}$). Finally, present results yield $v/\sqrt{N} = 6.4 \times 10^{-4}\ cm^{5/2}\ sec^{-1}$ and $v/N = 2.9 \times 10^{-15} cm^4 sec^{-1}$, while the specific heat and surface impedance measurements yield 4.5×10^{-4} and 1.8×10^{-15} respectively. Acknowledgments are expressed to K. D. Sinel'nikov for discussions and interest. There are 5 figures and 2 tables.

SUBMITTED: February 14, 1961

Table 2

	T (в °K)	$N_a \cdot 10^{-n}$ (в см$^{-3}$) cm^{-3}	$N \cdot 10^{-n}$ (в см$^{-3}$) cm^{-3}	$\nu_0^{eo} \cdot 10^{-11}$ (в сек.$^{-1}$) sec^{-1}	$\nu_0^{el} \cdot 10^{-13}$ (в сек.$^{-1}$) sec^{-1}	$\nu^{el} \cdot 10^{-13}$ (в сек.$^{-1}$) sec^{-1}	$\nu^{ed} \cdot 10^{-13}$ (в сек.$^{-1}$) sec^{-1}	$u \cdot 10^{-7}$ (в см/сек.) cm/sec
Uncorrected for surface film	295	8.5	4.0	34.7	1.54	1.74	1.18	1.7
	82	8.5	4.0	2.68	0.23	0.77	1.20	1.6
Corrected for surface film	295	8.5	4.95	38.6	1.95	2.20	1.46	1.4
	82	8.5	4.95	2.98	0.28	0.97	1.48	1.4

Card 3/4

SINEL'NIKOV, K.D.; SAFRONOV, B.G.; PADALKA, V.G.; DEMIDENKO, I.I.

1055-1058 S '63. (MIRA 16:11)

BORISOV, M.D.; ZYKOV, V.G.; STEPANENKO, I.A.; TERNOPOL, A.M.; PADALKA, V.G.; BRZHECHKO, L.V.

[Plasma production by the radial compression method and measurement of certain plasma parameters] Poluchenie plazmy metodom radial'nogo szhatiia i izmerenie ee nekotorykh parametrov. Khar'kov, Fiziko-tekhn. in-t AN USSR, 1960. 277-294 p. (MIRA 17:3)

PADALKA, V.G.; KURILOV, Yu.V.

Changes in the bone marrow following correction of [illegible] heart defects with the use of extracorporeal circulation. Probl. gemat. i perel. krovi no.2:44-46 '65.

(MIRA 19:11)

1. Kafedra grudnoy khirurgii i anesteziologii (zav. - prof. S.A. Gadzhiyev) Leningradskogo instituta usovershenstvovaniya vrachey imeni Kirova.

L 43920-66 EWT(1) IJP(c) GD/AT (N)
ACC NR: AT6020398 SOURCE CODE: UR/0000/65/000/000/0021/0026

AUTHOR: Demidenko, I. I.; Lomino, N. S.; Padalka, V. G.; Safronov, B. G.; Sinel'nikov, K. D.

ORG: none

TITLE: Possible occurrence of instabilities in a plasma captured by a transverse magnetic field

SOURCE: AN UkrSSR. Issledovaniye plazmennykh sgustkov (Study of plasma clusters). Kiev, Naukova dumka, 1965, 21-26

TOPIC TAGS: plasma containment, plasma instability, plasmoid, plasma injection

ABSTRACT: This is a continuation of earlier investigations of plasma captured by a transverse magnetic field (ZhTF, 1964, v. 34, 1183 and elsewhere). Although the conditions in the earlier investigations were such that no instabilities could develop in the plasma, the authors show that such instabilities can develop after the plasmoid passes through a diaphragm which is installed at a sufficiently large distance from the point of injection of the plasma in the magnetic field. At the large distance from the injection point, the plasmoid has a sufficiently large ratio of longitudinal energy to transverse energy, and an appreciable density gradient. The instability begins to develop in the region of maximum plasma density, and the inhomogeneity of the density over the cross section of the plasmoid stimulates the development of the instability. Arguments are presented in favor of classifying this as a

Card 1/2

L 52020-65 EPF(n)-2/EPA(w)-2/[illegible]

[illegible] AP5012146 [illegible]826

AUTHOR: Demidenko, I.I.; Lomino, N.S.; Pidalka V.[illegible]

TITLE: Investigation of some properties of a plasma captured by a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 5, 1965, 823-826

TOPIC TAGS: plasma trapping, plasma [illegible]

Card 1/2

L 52020-65

ACCESSION NR: AP5012046

the first 30 or 40 cm, the polarization decreased only very slowly with distance

found, in accord with the [illegible] to inhibit the [illegible] of the captured plasma [illegible] eff. S, 157, 1962), to inhibit t[illegible] [illegible] of the captured plasma [illegible] eff.

has: 2 formulas and 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, Khar'kov (Physico-technical Institute, AN SSSR)

SUBMITTED: 18May64 ENCL: 00 SUB CODE: ME

NR REF SOV: 004 OTHER: 002

Card 2/2 710

RAEM(a)/SSD/AFWL/APETR/ESD(gs)/ESD(t) AT/JD/HM

ACCESSION NR: AP4044877 S/0020/64/157/006/1335/1337

115

AUTHORS: Demidenko, I. I.; Padalka, V. G.; Safronov, B. G.; Sinel'nikov, K. D. (Academician AN UkrSSR)

TITLE: Energy spectra of a plasma interaction with a transverse magnetic field

SOURCE: AN SSSR. Doklady*, v. 157, no. 6 1964, 1335-1337

TOPIC TAGS: plasma source, plasma magnetic field, plasma trapping, [illegible] plasma axial [illegible] plasmoid ionic component

ABSTRACT: This is a continuation of earlier tests by the authors [illegible] and the interaction [illegible]

Card 1/3

L 6728-65
ACCESSION NR: AP4044877

field was the same as used by the authors before, and the mass analyzer employed was that described by A. A. Kalmy*kov et al (pribory* i tekhn. eksp. No. 5, 142, 1963). The results indicate that the ability of the plasma ions to penetrate through the transverse magnetic field increases with increasing m/Z (m -- ion mass Z -- charge) and with decreasing ion energy. The plasma captured by the magnetic field contains much more hydrogen than the plasma [illegible]ected from the source. [illegible] field, the energy spectrum of [illegible] through the field shifts towards lower energies, whereas the energy [illegible]

[illegible]

hydrogen ions are situated [illegible]

[illegible]

Card 2/3

L 6728-65
ACCESSION NR: AP4044877

velocity. Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk UkrSSR (Physicotechnical Institute, Academy of Sciences, UkrSSR)

SUBMITTED: 21Feb64 ENCL:

SUB CODE: ME NR REF SOV: 003 OTHER:

Card 3/3

ACCESSION NR: AT4036065 S/2781/63/000/003/0232/0236

AUTHORS: Sinel'nikov, K. D.; Safronov, B. G.; Padalka, V. G.; Demidenko, I. I.

TITLE: Visual study of plasmoids

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3, Kiev, Izd-vo AN UkrSSR, 1963, 232-236

TOPIC TAGS: plasmoid, plasmoid acceleration, toroidal drift instability, plasma research, plasma magnetic field interaction, plasma diffusion

ABSTRACT: Apparatus is described for visual observation of the shape of a plasmoid moving in electric and magnetic fields. The apparatus

Card 1/4

ACCESSION NR: AT4036065

described can be used successfully even for plasmoids with relatively low ion concentration (10^8--10^9 cm^{-3}) which are difficult to investigate by their waves (for example, high speed photography and spectroscopy). The instrument (called "plasmoscope" by A. V. Zharinov) is based on accelerating the plasma electrons between grids and causing them to induce glow of a luminor on a flat glass. The techniques required for the preparation of the plasmoscopes are described. The apparatus was used to investigate the entry and passage of a plasmoid in a longitudinal homogeneous magnetic field and in a field of toroidal configuration, using a source of the Bostick type and a discharge from 1 microfarad capacitor at 4 kV. The plasmoid velocity was (7--8) x 10^4 m/sec. The broadening of the plasmoid in the homogeneous-field region may be due to differences in the angle at which the plasmoid enters the gradient field near the solenoid. In the case of toroidal configuration, it is assumed that the magnetic field compensates for the plasma polarization. The length of the toroidal part of the field must not exceed

Card 2/4

ACCESSION NR: AT4036065

the length of the plasmoid for such a model, and as the plasma moves along the helical solenoid the plasmoid passes through it only so long as its length exceeds the length of the helix. Otherwise a strong drift of the plasmoid is observed and the plasma does not get through. An experiment was performed to ascertain the effect to which the toroidal configuration can clear the plasmoid of the "tail" of heavy ions. The results indicate the feasibility of such a cleaning method. Orig. art. has: 6 figures.

ASSOCIATION: None

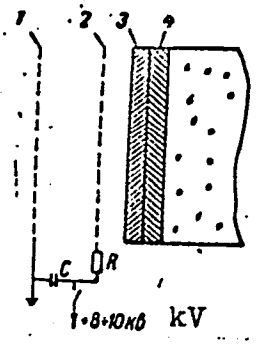
SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 01

SUB CODE: ME NR REF SOV: 001 OTHER: 001

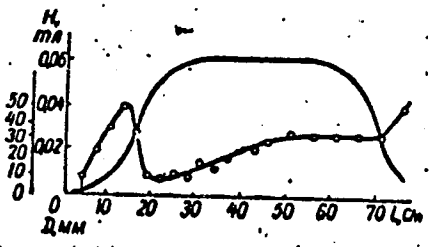
Card 3/4

ACCESSION NR: AT4036065

ENCLOSURE: 01



Tesla



Left - diagram of plasmoscope. 1 - grounded dense copper grid, 2 - accelerating grid, 3 - aluminum layer, 4 - luminor

Right - variation of plasmoid diameter with distance from source (lower curve) and magnetic field distribution (upper curve)

Card 4/4

ACCESSION NR: AP4041992 S/0057/64/034/007/1183/1190

AUTHOR: Domidenko, I.I.; Padalka, V.G.; Safronov, B.G.; Sinel'nikov, K.D.

TITLE: Interaction of plasma bursts with a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.7, 1964, 1183-1190

TOPIC TAGS: plasma, plasma-magnetic field interaction, plasmoid, plasma source

ABSTRACT: The behavior of plasma bursts on meeting a transverse magnetic field was investigated experimentally. The plasma bursts were produced by 15-kv discharges of a 3-microfarad capacitor bank through a conical plasma gun with plastic walls, and traveled at 2.3 x 10^6 cm/sec down an 8-cm-diameter copper drift tube. At 70 cm from the plasma gun the drift tube intersected, at right angles, a second copper tube 10 cm in diameter, in which an approximately uniform axial magnetic field of a strength up to 725 oe was maintained with a solenoid. The behavior of the plasmas was observed with magnetic probes, a shielded electric probe, and a "plasmascope" (a fluorescent screen which is photographed when the plasma impinges upon it). Mass spectroscopic analyses of the plasmas were also performed. When a plasma burst entered the transverse magnetic field, a portion of it passed through the field in

Card 1/3

ACCESSION NR: AP4041992

the original direction with reduced velocity, and a portion of it was "captured" by the field and traveled down the side tube in both directions along the lines of force. The captured plasma moved virtually parallel to the lines of force (the shadow image of a grid of 8-mm-diameter holes on 8-mm centers was quite sharp at 30 cm) and it traveled with a considerably greater velocity than the original plasma burst. The velocity of the captured plasma increased with increasing magnetic field, and amounted to 6.3×10^6 cm/sec in a field of 450 oe. The portion of the plasma traversing the magnetic field suffered a displacement perpendicular both to the field and to the direction of motion. It is suggested that this displacement is due to drift resulting from a longitudinal polarization of the plasma. The plasma consisted chiefly of H^+, C^+, O^+, Fe^+, C^{2+}, O^{2+}, and O^{3+}. Most of the heavy ions traversed the transverse field, and only H^+ and C^+ were found in the captured portion. The mechanism of the capture and acceleration of the plasma by the transverse magnetic field is discussed very briefly; it is not understood. The authors assert that a pure hydrogen plasma is much more easily captured by a transverse magnetic field than the impure plasmas investigated in the present work, and they call for further investigation of the role of the heavy ions in this process. Orig.art.has: 10 figures and 2 tables.

Card 2/3

ACCESSION NR: AP4041992

ASSOCIATION: none

ATD PRESS: 3081

ENCL: 00

SUBMITTED: 22Jul63

NR REF SOV: 003

OTHER: 002

SUB CODE: ME

Card 3/3

ACC NR: AP6033412 SOURCE CODE: UR/0057/66/036/010/1779/1786

AUTHOR: Demidenko, I.I.; Lomino, N.S.; Padalka,V.G.

ORG: none

TITLE: Characteristics of the interaction of a fast plasma with a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1779-1786

TOPIC TAGS: plasma gun, plasma injection, plasma magnetic field, transverse magnetic field, magnetic trap

ABSTRACT: The authors investigated the entrapment of hydrogen plasma bursts from a 17.5 cm long 7.2 cm diameter coaxial plasma gun powered by the 15 kV discharge of a 15 microfarad capacitor by a transverse magnetic field of strength up to 0.2 tesla. The plasmas travelled from the gun to the transverse magnetic field through an 80 cm long tube of glass or metal. The behavior of the plasmas was observed with both electric and magnetic probes and with 4 mm microwaves, and the composition of the plasma that traversed the magnetic field was recorded with a parabola type (Thompson) mass spectrometer. The plasmas from the coaxial gun had two components: a fast component with a velocity of 7×10^5 m/sec and a relatively low density, and a slow component with a velocity of 1.5×10^5 m/sec and a density exceeding 7×10^{13} cm^{-3}. The fast component was entrapped by very weak fields (0.01-0.02 tesla), and it is

UDC: 533.9

Card 1/2

Card 2/2

ACC NR: AP6033417 SOURCE CODE: UR/0057/66/036/010/1819/1825

AUTHOR: Demidenko,I.I.; Lomino,N.S.; Padalka,V.G.; Rutkevich,B.N.; Sinel'nikov,K.D.

ORG: none

TITLE: Investigation of the motion of a plasma burst in a nonuniform transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1819-1825

TOPIC TAGS: hydrogen plasma, plasma magnetic field, transverse magnetic field, nonhomogeneous magnetic field, plasma injection

ABSTRACT: This paper begins with a brief theoretical discussion in the drift approximation of the adiabatic motion of a plasma in a nonuniform transverse magnetic field. It is shown that the plasma is decelerated on entering a region of high transverse magnetic field strength and accelerated on leaving such a region, owing to the transformation of kinetic energy of forward motion into kinetic energy of rotation and vice versa. If the magnetic field becomes strong enough the plasma can be reflected. The authors tested their theoretical conclusions by firing plasmas from a conical plasma gun through an 80 cm long 7 cm diameter drift tube across a transverse magnetic field of up to 0.2T produced by a solenoid in a 12 cm diameter transverse tube. The magnetic field gradient was adjusted with the aid of soft iron shields within the plasma drift tube; these shields were covered with glass tubes to prevent the plasma from coming

UDC: 533.9

Card 1/2

PADALKA, Ye., tekhnik-leytenant; BOL'SHOV, Yu., mladshiy serzhant

Radio-controlled initator of a target. Voen. vest. 38 no. 6:70-72 Je '58. (MIRA 11:7)

(Military art and science)
(Night fighting(Military science))

PADALKA, Ye. N.

BELYAYEV, A.I.; ZHEMCHUZHINA, Ye.A.; PADALKA, Ye.N., kandidat tekhnicheskikh nauk; retsenzent; GULYANITSKIY, B.S., inzhener, retsenzent; DOKUKINA, Ye.V., redaktor; CHETVERIKOVA, L., tekhnicheskiy redaktor.

[Surface phenomena in metallurgical processes] Poverkhnostnye iavleniia v metallurgicheskikh protsessakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1952. 143 p. [Microfilm] (MLRA 7:10)

(Metallurgy) (Surfaces (Technology)) (Surface chemistry)

PADAIKA, Ye.S.

Laboratory work in determining the electroconductivity of electrolytes. Izv. vys. ucheb. zav.; fiz. no. 2, 175 '64. (MIRA 17.6)

1. Ivano-Frankovskiy meditsinskiy institut.

PADALKA, Yefim Sergeyevich; ZELENYUK, Ye.Ye., red.; SHAFETA, S.M., tekhn. red.

[Ultrasonics in the petroleum industry]Ul'trazvuk v neftianoi promyshlennosti. Kiev, Gostekhizdat USSR, 1962. 65 p. (MIRA 16:4)

(Petroleum industry)
(Ultrasonics--Industrial applications)

PADALKIN, V., gvardii podpolkovnik

In order to avoid conventions. Voen.vest. 43 no.7:107 Jl '63.
(MIRA 16:11)

PADALKIN YU. K.

USSR / Human and Animal Morphology, Normal and Patho- S-1
logic --General Problems

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59770

Author : Padalkin, Yu. K.

Inst : Rostov-on-Don Medical Institute

Title : Some Data Concerning the Topography of the Vessels and Nerves in the Human Gluteal Region

Orig Pub: Tr. Otchetn. nauchn. konferentsii (Rostovsk. n/D. med. in-t.) za 1956 g., Rostov-na-Donu, 1957, 197-198

Abstract: Using the method of laminar preparation followed by dioptography, it was shown on 20 legs from adult human corpses and 10 from the corpses of newborn babies, that the superior gluteal artery issued

Card 1/2

5

DOMBROVSKAYA, Ye.A.; PADALKINA, R.F.

Pulmonary adenomatosis. Vrach.delo no.11:121-122 N '60. (MIRA 13:11)

1. Patologoanatomicheskoye otdeleniye Pervoy gorodskoy bol'nitsy, kafedra patologicheskoy anatomii (zav. - prof. Sh.I.Krinitskiy) i klinika gospital'noy terapii (zav. - prof. N.M.Ivanov) Rostovskogo meditsinskogo instituta.
(LUNGS--TUMORS)

PADALKO, F., zasluzhennyy agronom RSFSR

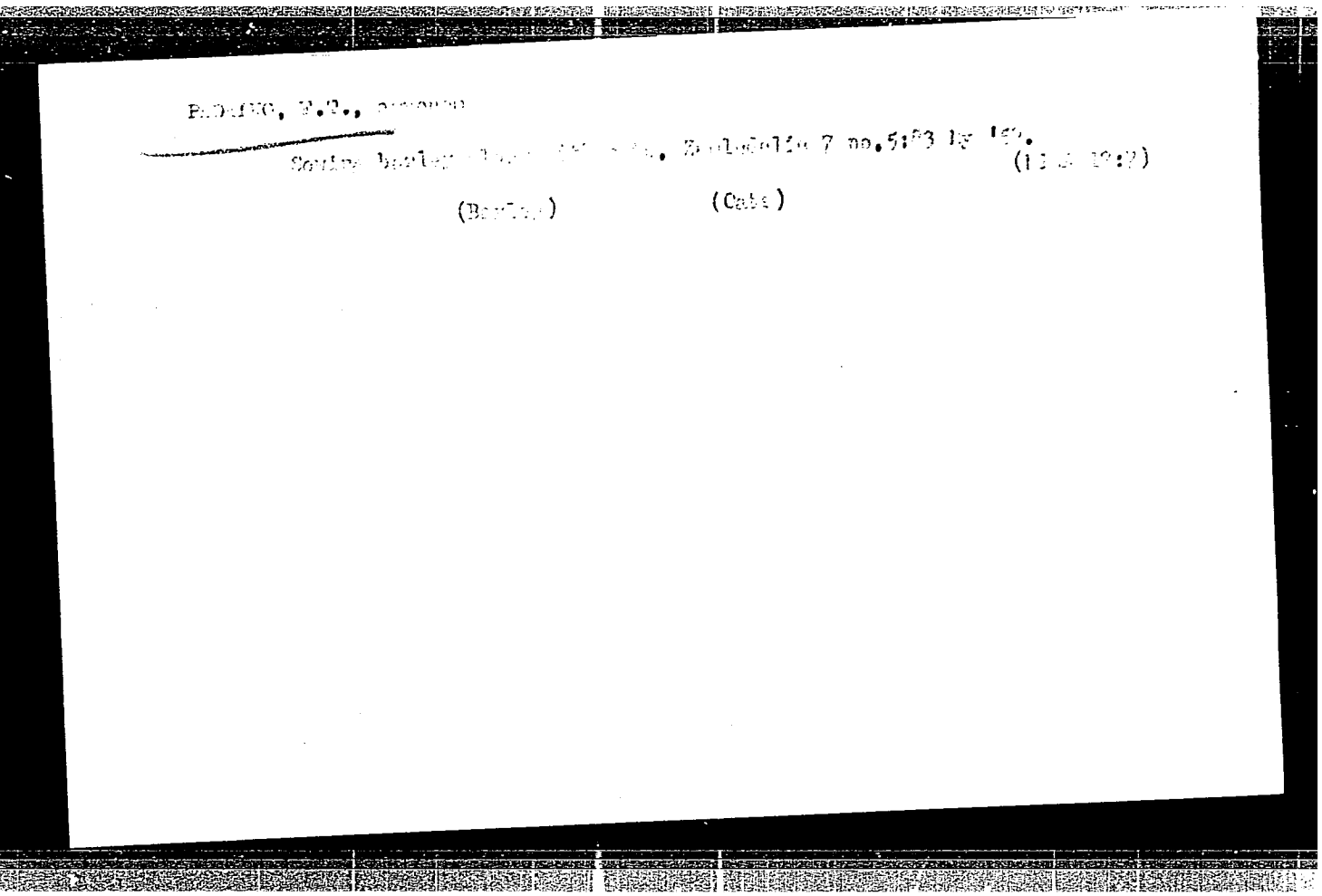
Chemistry and cultivation practices win over drought.
Zemledelie 26 no.2:59-60 F '64. (MIRA 17:6)

1. Direktor Zmeinogorskogo sveklosovkhoza Altayskogo kraya.

PADALKO, F.T., zasluzhennyy agronom RSFSR

Row placement of superphosphate. Zemledelie 27 no.4:39-41 Ap '65.
(MIRA 18:4)

1. Direktor Zmeinogorskogo sveklosovkhoza, Altayskogo kraya.



PADALKO, F.T.

Increasing the production of high-quality and inexpensive grain on experimental farms. Zemledelie 23 no.8:11-14 Ag '61. (MIRA 14:10)

1. Direktor Zmeinogorskogo sveklosovkhoza.
(Grain)

PADALKO, F.T.

Flailing sugar beet plants with a platform type reaper. (MIRA 13:3)
Sakh.prom. 33 no.10:58-60 O '59.

1. Zvenigorodskiy sveklosovkhoz Altayskogo kraya.
(Sugar beets) (Harvesting machinery)

PADALKO, F.T., zasluzhennyy agronom RSFSR

Remodeling the SKEM-3 for harvesting roots of seed plants. (MIRA 16:11)
Zemledelie 25 no.10:76-77 O '63.

1. Direktor Zmeinogorskogo sveklovichnogo sovkhoza.

PADALKO, F.T., zasluzhennyy agronom RSFSR

A state farm raises its farming level. Zemledelie 25 no.5: 7-11 My '63. (MIRA 16:7)

1. Direktor Zmeinogorskogo sveklovogo sovkhoza.
(Agriculture)

SYABRYAY, V.T.; BARANOVA, N.M.; PADALKO, I.O.

On the genesis of Buchakian stage sandstones found between Carboniferous strata. Dop.AN URSR no.6:568-574 '55. (MLRA 9:7)

1.Institut geologichnikh nauk AN URSR. Predstaviv diysniy chlen AN URSR M.P.Semenenko.
(Dnieper Lowland--Geology, Stratigraphic)

ACC NR: AP7005261 SOURCE CODE: UR/0003/67/000/001/0087/0088

AUTHOR: Bastrykin, A. N. (Docent; Candidate of technical sciences); Belikov, V. A. (Docent; Candidate of technical sciences); Zhadin, K. P. (Deceased; Docent; Candidate of technical sciences); Padalko, L. P. (Engineer)

ORG: Moscow Engineering-Economics Institute im. S. Ordzhonikidze (Moskovskiy inzhenerno-ekonomicheskiy institut)

TITLE: Computers and education

SOURCE: Vestnik vysshey shkoly, no. 1, 1967, 87-88

TOPIC TAGS: ~~nonmilitary training~~, computer technique, COMPUTER TECHNOLOGY, EDUCATION, MATHEMATICS, ECONOMICS

ABSTRACT:
One of the problems encountered in training students of technical and economic institutes of higher education is the practical mastery of computer technology. To this effect, the authors describe the experience at the Moscow Engineering-Economic Institute, where for several years the Ural-4 has been used for diploma projects in the Electric Stations and Systems Department. The authors conclude that the use of mathematical methods and computers will help improve the methodical cooperation between the Mathematics, Computer Technology, and Engineering departments. In addition, it is now practical to create manuals of a new type so that the solutions to problems contained therein will require the application of computers. Such a manual is being prepared.

SUB CODE: 09/ SUBM DATE: none/ ATD PRESS: 5114

Card 1/1 UDC: none

L 04435-67 EWT(1)
ACC NR: AP6014145 (A) SOURCE CODE: UR/0143/65/000/012/0017/0020

45
B

AUTHOR: Padalko, L. P. (Engineer)

ORG: Moscow Institute of Engineering Economics (Moskovskiy inzhenerno-ekonomicheskiy institut)

TITLE: Synthesizing the optimal configuration of an electric network by using a digital computer

SOURCE: IVUZ. Energetika, no. 12, 1965, 17-20

TOPIC TAGS: electric network, digital computer

ABSTRACT: The optimal configuration of an electric network that connects feed and load points requires simultaneous optimization with respect to two parameters: electric-energy loss and capital investment. The network is first represented in the form of a complete flow graph and then the graph is reduced to a residual graph

UDC: 621.316.3:518.5

Card 1/2

L 04435-67

ACC NR: AP6014145

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by eliminating nonessential branches. In the first step, the complete-graph network is made up of equal cross-section conductors; the natural current distribution is found. The currents flow over least-resistance branches and cause minimal energy losses. Then, more metal is assigned to the branches passing heavier currents. Thereafter, the branches are eliminated one by one and the increased-loss cost is balanced against the capital-investment saving. Appropriate formulas are suggested. It is expedient to make the many calculations involved on a digital computer; a procedure is outlined. Orig. art. has: 4 figures and 7 formulas.

SUB CODE: 09 / SUBM DATE: 26Apr65 / ORIG REF: 003

awm

Card 2/2

PADALKO, N. M. and MAU, E. R.

Padalko, N. M. and Mau, E. R.: "Winegrowing in the Tadzhik SSR", Byulleten' po plodovodstvu, ovoshchevodstvu i vinogradarstvu, No. 9, 1948, p. 75-85.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

PADALKO, N.V.; LAVROV, A.N., redaktor; FIALKINA, G.A., redaktor; MUKHINA, T.N., tekhnicheskiy redaktor

[Botany lessons in the learn-by-doing plot of the school] Uroki botaniki na shkol'nom uchebno-opytnom uchastke. Pod red. A.N. Lavrova. Moskva, Izd-vo Akademii pedagogicheskikh nauk RSFSR, 1954. 95 p. (MLRA 7:8)

1. Chlen-korrespondent APN RSFSR (for Lavrov)
(Botany--Study and teaching) (School gardens)

PADALKO, N.V., kandidat pedagogicheskikh nauk.

Summer work in botany in school gardens. Est. v shkole no.3: 43-48 My-Je '54. (MLRA 7:7)

1. Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(Botany--Study and teaching) (School gardens)

PADALKO, N.V.

POPOV, I.V.

Lessons in the school plot ("Lessons in botany in the school experimental plot." N.V.Padalko. Reviewed by I.V.Popov). Est. v shkole no.5:92-93 S-O '54. (MLRA 7:9)

1. Balashovskiy pedagogicheskiy institut
(School gardens) (Padalko, N.V.)

PADALKO, N.V., kandidat pedagogicheskikh nauk.

Practical lessons in the school experimental plot. Est. v shkole no.1:44-52 Ja-F '55. (MLRA 8:3)

1. Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(School gardens)

PADALKO, Nina Vasil'yevna; TRUYEVTSEVA, M.F., redaktor; DZHATIYEV, S.G., tekhnicheskiy redaktor

[Practical work on the school experimental plot (6th grade); manual for secondary school teachers] Prakticheskie zaniatiia na shkol'nom uchebno-opytnom uchastke (VI klass); posobie dlia uchitelei srednei shkoly. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 149 p. (MLRA 9:11)
(School gardens)

SHALAYEV, V.F.; PADALKO, N.V.; MEL'NIKOV, M.I.; PETRISHINA, O.L.; PROFERANSOVA, N.V., redaktor; SOKOLOVA, P.Ya., tekhnicheskiy redaktor

[General science instruction in connection with the bilogy course] Politekhnicheskoe obuchenie v sviazi s kursom biologii. Pod obshchei red. V.F.Shalaeva. Moskva, Izd-vo Akademii pedagog. nauk RSFSR, 1956. 174 p. (MLRA 10:2)

(Biology--Study and teaching)

VERZILIN, Nikolay Mikhaylovich; ZAVITAYEV, P.A.; KORSUNSKAYA, V.M.; PADALKO, N.V.; RYKOV, N.A.; SOKOLOV, N.L.; SHIBANOV, A.A.; YELAGIN, V.D., redaktor; GORNEK, V.P., tekhnicheskiy redaktor

[Working with pupils on school experimental plots] Metodika raboty s uchashchimisia na shkol'nom uchebno-opytnom uchastke. Pod red. N.M. Verzilina. [Moskva] Izd-vo Akademii pedagog. nauk RSFSR, 1956. 685 p. (MLRA 9:11)

1. Leningradskiy nauchno-issledovatel'skiy institut pedagogiki Akademii pedagogicheskikh nauk (for Verzilin, Korsunskaya, Rykov, Sokolov) 2. Yestestvennonauchnyy institut im. P.F.Lesgafta Akademii pedagogicheskikh nauk (for Shibanov) 3. Institut metodov obucheniya Akademii pedagogicheskikh nauk (for Zavitayev, Padalko) 4. Chlen-korrespondent APN RSFSR (for Verzilin)
(School gardens)

PADALKO, N.V., kandidat pedagogicheskikh nauk.

Developing an understanding of the formation of organic substances in plants. Est. v shkole no.6:27-34 N-D '56. (MLRA 9:12)

1. Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(Botany--Study and teaching)

PADALKO, N.V., kandidat pedagogicheskikh nauk,

Valuable aid in planning and organizing school grounds. ("City school grounds" by V.F. Alekseev. Reviewed by N.V. Padalko) Ger. khoz. Mosk. 31 no.2:40 F '57. (MLRA 10:4)

(Schoolhouses) (Alekseev, V.F.)

PADALKO, M.V., kandidat pedagogicheskikh nauk.

Developing the concept of plant respiration in students. Biol.v shkole no.4:29-34 Jl-Ag '57. (MLRA 10:8)

1.Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(Plants--Respiration--Study and teaching)

MURTAZIN, Gil'mulla Minnigaleyevich,; PADALKO, N.V.,red.; PROFERANSOVA, N.V., red.; TARASOVA, V.V.,tekhn. red.

[Conducting laboratory work in botany] Opyt provedeniia laboratornykh rabot po botanike. Moskva, Izd-vo Akad. pedegog. nauk RSFSR, 1958. 53 p. (MIRA 11:12)
(Botany--Laboratory manuals)

PADALKO, N.V., kand.pedagogicheskikh nauk

Fall work of students of grades 5-6 on the school experiment plot. Biol.v shkole no.4:56-61 Jl-Ag '60. (MIRA 13:7)

1. Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(Agriculture--Study and teaching)

MEL'NIKOV, M.I.; PADALKO, N.V.; MASH, R.D.

Using the materials of 22d Congress of the CPSU in teaching biology. Biol. v shkole no.1:12-18 Ja-F '62. (MIRA 15:1)

1. Institut obshchego i politekhnicheskogo obrazovaniya Akademii pedagogicheskikh nauk RSFSR.
(BIOLOGY--STUDY AND TEACHING)

PADALKO, Nina Vasil'yevna; KOPTEKOVA, L.A., red.; TARASOVA, V.V., tekhn.red.

[Formation of the concepts of plant nutrition and respiration] Formirovanie poniatii o pitanii i dykhanii rastenii. Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1959. 158 p.
(MIRA 14:1)

(Plant physiology--Study and teaching)

ACCESSION NR: AP4040467 S/0226/64/000/003/0016/0022

AUTHOR: Bal'shin, M. Yu.; Ry*bal'chenko , M. K.; Padalko, O. V.; Eskina, N. P.

TITLE: Some problems of fiber metallurgy

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 16-22

TOPIC TAGS: metal fiber, fiber compacting, fiber sintering, fiber metallurgy, metal felt, copper fiber, fiber structure, fiber compact property, molybdenum fiber

ABSTRACT: The properties of copper obtained by compacting and sintering of fibers 100 μ in diameter and 10—15, 5—8, and 2—4 mm in length have been studied. Test specimens were prepared by compacting copper felt obtained by filtration of a copper fiber suspension in glycerin. Specimens were then sintered in hydrogen at 980C for two hours. It was found that specimens made of fibers 10—15 and 5—8 mm long had the same strength, while specimens made of fibers 2—4 mm long had 10--15% less strength. Therefore, further experiments were conducted

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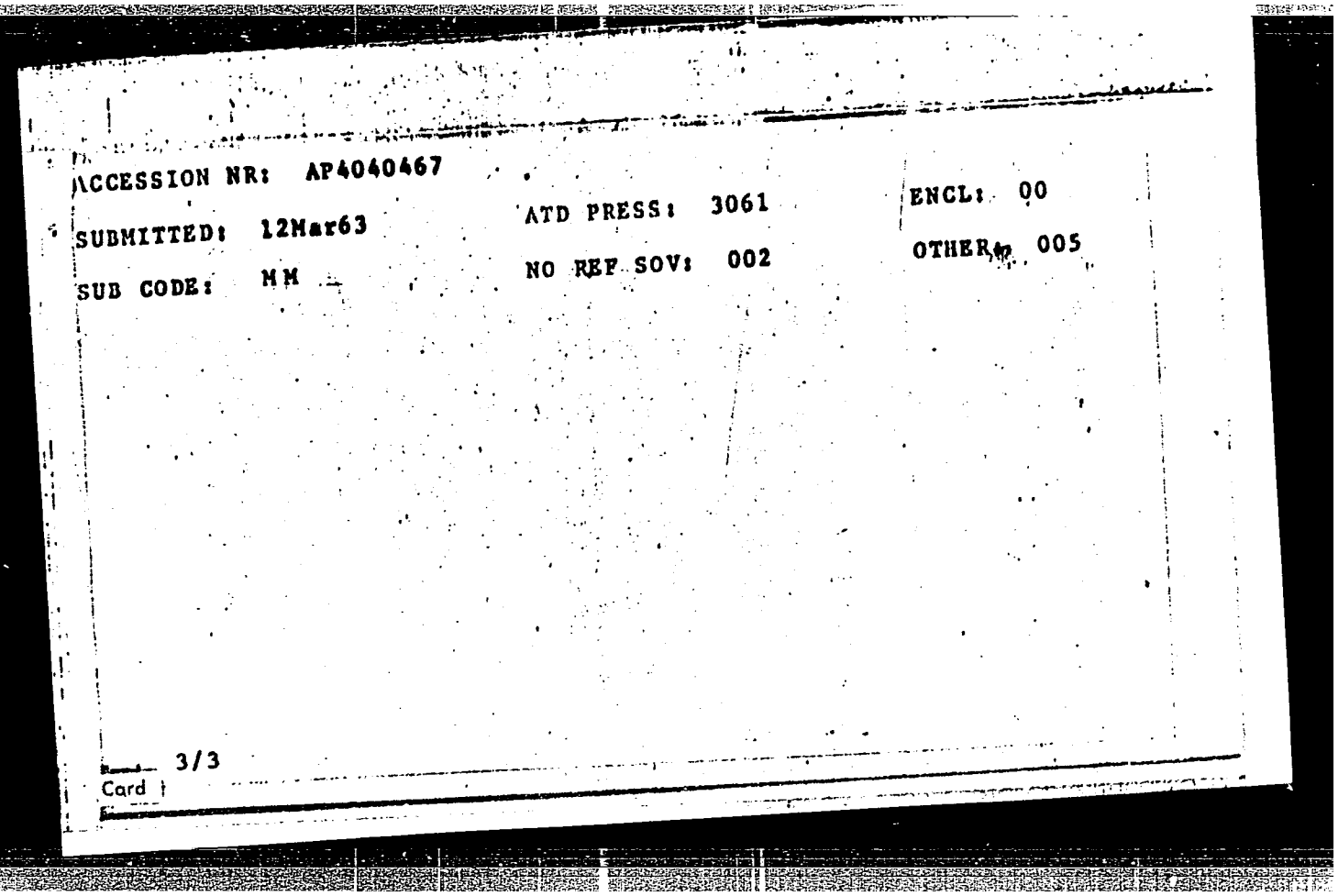
ACCESSION NR: AP4040467

with fibers 5—8 mm long. Fibers compact better than powders; for instance, the porosity of powder specimens compacted under a pressure of 20 to 30 dan/mm^2 varied from 36 to 26%, while fiber compacts made under the same pressure had a porosity of 30 to 20%. Fiber compacts, however, show much greater spring-back than powder compacts. After repeated compacting and sintering, the strength of fiber compacts is 31 dan/mm^2 compared with 22—24 dan/mm^2 for cast or sintered copper. Compacts made of fibers 50 μ in diameter have even higher strength. The impact strength of fiber compacts decreased with increasing tensile strength, with the same porosity, and varied from 0.62 to 2.5 kgm/cm^2. Copper fiber compacts impregnated with bakelite have a tensile strength 2—4 dan/mm^2 higher, but an impact strength 0.1—0.2 kgm/cm^2 less than unimpregnated compacts. Some experiments were also conducted with molybdenum fibers 50 μ in diameter. Molybdenum fiber compacts were found to have an impact strength of 1.40—1.58 kgm/mm^2; that is, several times higher than powder compacts. Orig. art. has: 6 figures, 3 tables, and 2 formulas.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni Baykov)

Card 2/3



ACCESSION NR: AP4040467

SUBMITTED: 12Mar63 ATD PRESS: 3061 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 005

3/3
Card 1

L 57540-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPR(n) ...

ACCESSION NR: AR5015164 UR/0137/65/000/005/G034/G034

SOURCE: Ref. zh. Metallurgiya, Abs. 5G203

AUTHOR: Rybal'chenko, M. K.; Padalko, O. V.

TITLE: The structure of sintered "molybdenum-zirconium dioxide" materials

CITED SOURCE: Tr. ...

TOPIC TAGS: sintering, sintered metal, molybdenum, zirconium dioxide, vacuum, hydrogen atmosphere, metallographic examination, X-ray examination, metal structure

TRANSLATION: The article presents the results of a metallographic and X-ray structural investigation of the change in structure of molybdenum-zirconium dioxide materials as a function of sintering conditions. Samples produced by hydrostatic pressing were sintered in a vacuum of 10^{-3} mm Hg and in a hydrogen atmosphere for 2.5 hrs. Sintering in a vacuum is accompanied ...

SUB CODE: MM ENCL: 00

Card 1/1

PADALKO, V., inzh.-mayor; GONCHARENKO, A., starshiy inzh.-leytenant

River barges form a floating bridge. Tyl i snab. Sov. Voor. Sil 21 no.10:74-75 O '61. (MIRA 15:1)
(Pontoon-bridges)

PADALKO, V.M.

Comparative evaluation of tests for biliary pigments in urine.
Lab. delo no.9:564-565 '64. (MIRA 17:12)

1. Kafedra fakul'tetskoy terapii (zaveduyushchiy - deystvitel'nyy chlen AMN SSSR prof. V.N. Vinogradov) I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova.

24064
S/054/61/000/002/002/005
B101/B217

24.6800

AUTHORS: Zarubin, P. P., Padalko, V. Yu., Saulit, V. R.

TITLE: A new ß-spectrometer with triple focusing of high order

PERIODICAL: Leningradskiy Universitet. Vestnik. Seriya fiziki i khimii, no. 2, 1961, 55-63

TEXT: The aim of the present investigation was to design a spectrometer which would allow for a complete analysis of ß-processes. For a magnetic spectrometer of this type, the following requirements are made: 1) Entry of short-lived ß-active nuclei into the target which serves a spectrometer source; 2) application of a source with a large surface; 3) analysis of ß-particles up to at least 15 Mev; 4) resolution of at least 0.5%; 5) aperture ratio of at least 10^{-4} - 10^{-5} cm^2 at a resolution of 0.5%; 6) least effect of scattering and -particle absorption upon measurements; 7) small detector background; 8) protection of the detector against direct radiation; 9) possibility of carrying out different correlation experiments. A multiply focused spectrometer meets all these requirements. The calculation of the potential distribution in the field of such a

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A new β-spectrometer ...

obtained: $\tau \equiv -\frac{}{} (1/r_0)B(\xi)+1$ (5). For the function $B(\xi)$, the following holds: $B(\xi) \equiv (er_0^2/mcv_0)\int_1^{\xi} \xi H(\xi)d\xi$ (6). ξ_F = const is written down and the solution for Eq. (3) sought. For $\xi(\tau)$, the following series is written down:

$$\rho(\tau)=1+\theta\sum_{p=0}^{\infty}\lambda_p\tau^{\frac{p+1}{2}}, \quad (10),$$

where θ is a parameter to be determined. For ξ_F, one finds:

$\xi_F = \pm(\sqrt{2}/\pi)(\sum_{k=0}^{\infty} R_k \xi^k + \sum_{k=0} E_k \xi^{k+1/2})$ (15), where $R_k = \sum_{i=0}^{k} [a_i/(1-2i)]$ $L^{(i)}_{2(k-i)+1} \cdot B(k-i+1/2, i+1/2)$ (16), and $E_k = \sum_{i=0}^{k} [a_i/(1-2i)] L^{(i)}_{2(k-i)+2} \cdot B(k-i+1, i+1/2)$ (17). The condition of focusing is fulfilled if all

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$\varphi_F = 120^0$ were calculated. At present, a spectrometer is under construction for the study of the β- and γ-radiation of short-lived isotopes; it was designed on the basis of data listed in the Table. The chamber of the spectrometer is schematically shown in Fig.3. The trajectories shown in Fig.3 were calculated according to V. R. Saulit (Ref.3: Izv. AN SSSR, seriya fiz., 18, 227, 1954). It is pointed out that the spectrometer may also be used as a β-spectrometer and permits correlation experiments. There are 3 figures, 1 table, and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. The reference to English-language publication reads as follows: F. M. Beiduk, E. J. Konopinski, Phys. Rev., 73, 1229, 1948

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A new β-spectrometer ...

Table. Numerical values of the function H = f(ρ).

Численные значения зависимости $H = f(\rho)$

ρ	H	ρ	H
0,601 669 04	0,009 919 04	1,096 742 17	1,095 164 7
0,611 721 62	0,026 986 78	1,138 458 75	1,121 897 4
0,622 012 04	0,064 346 31	1,171 224 47	1,137 699 3
0,632 563 74	0,102 173 52	1,199 398 41	1,147 984 1
0,643 403 63	0,140 521 51	1,224 667 44	1,154 833 8
0,654 562 93	0,179 419 88	1,247 886 78	1,159 308 8
0,665 983 93	0,218 943 24	1,269 573 14	1,162 034 4
0,677 992 69	0,259 049 48	1,290 056 61	1,169 344 1
0,690 358 19	0,299 892 49	1,309 567 63	1,163 741 0
0,703 237 58	0,337 632 16	1,328 272 53	1,163 198 9
0,716 708 59	0,384 012 32	1,346 298 15	1,163 062 9
0,730 869 31	0,427 497 69	1,363 714 91	1,160 095 0
0,745 845 00	0,472 123 94	1,380 681 35	1,157 741 3
0,761 803 89	0,518 086 94	1,397 179 24	1,154 957 0
0,778 975 96	0,565 682 19	1,413 287 17	1,151 802 3
0,797 691 40	0,615 293 83	1,429 048 27	1,148 326 7
0,818 467 11	0,667 566 48	1,444 498 87	1,144 572 1
0,842 158 42	0,723 546 80	1,459 670 10	1,140 572 1
0,870 452 25	0,785 322 79	1,474 588 64	1,136 360 9
0,907 707 81	0,858 306 81	1,489 277 80	1,131 961 6

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A new β-spectrometer ...

Fig. 3. Schematic representation of the spectrometer chamber. Legend: a) when used as β-spectrometer; 6) when used as γ-spectrometer; 1) window to let in particle or quantum beams striking the target; 2), 7), 11) detector slits; 3), 4), 8), 9), 12), 13) chambers with counters; 5) body of the chamber; 6) stop; 10) opening for evacuation; 14) removable part of the Pb+W protective block; 15) opening to introduce the Pb+W block and the stabilizer of the magnetic field; 16) target; 17) opening to introduce the target; 18) opening to check the intensity of the incident beam.

Card 9/9

SAULIT, V.R.; PADALKO, V.Yu.; TSAR'KOVA, Z.I., red.; ZHUKOVA, Ye.G., tekhn. red.

[How to prepare for the entrance tests to a school of higher education; physics] Kak gotovit'sia k priemnym ekzamenam v vuz; fizika. 2 ispr. izd. Leningrad. Izd-vo Leningr. univ. 1963. 286 p. (MIRA 16:10)

(Physics--Study and teaching)

SAULIT, Vitaliy Reyngol'dovich; PADALKO, Viktoriya Yur'yevna; IL'INA, M.Ye., red.; VODOLAGINA, S.D., tekhn.red.

[How to prepare for entrance examinations to institutions of higher learning; physics] Kak gotovit'sia k priemnym ekzamenam v VUZ; fizika. Leningrad, Izd-vo Leningr.univ., 1960. 261 p. (MIRA 13:7)

(Universities and colleges--Entrance requirements)
(Physics--Problems, exercises, etc.)

L 20313-66 EWT(1)/T JK

ACCESSION NR: AP5011269 UR/0016/65/000/004/0012/0013

AUTHOR: Khveshchenko, Ye. N.; Padalko, Z. F.; Devyatova, A. P.; Rodionova, A. P.; Mirotvortsev, Yu. I.; Mirgorodskiy, N. T. //

13

TITLE: Tularemia detection in Primorskiy kray

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1965, 12-13

TOPIC TAGS: man, tularemia, Primorskiy kray, serologic test, natural focus, rodent, tick

ABSTRACT: The first case of tularemia in Primorskiy Kray was reported in 1963 in the Ussurisk district, but no evidence of tularemia natural foci has been found to date by the Primorskiy Antiplague Station. On the basis of clinical symptoms, the case of a 56 yr old patient, a native of the area, was diagnosed as an eye-bubonic form of tularemia. The patient's tularin intradermal test proved positive and agglutination reaction was markedly positive with a titer of 1:400. A tularemia culture was not isolated. The patient was hospitalized in an infectious disease hospital and treated with

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ACCESSION NR: AP5011269

streptomycin. The patient was reexamined 3 mos after recovery at which time the agglutination reaction titer was 1:3200. It is assumed that the infection was transmitted through the water of the Lyuchikheza River in which the patient frequently washed. Intradermal tularin tests administered to village residents disclosed positive reactions in 18 persons, two of whom may be considered infected. The presence of various rodents and ticks in the area indicate that the extensive bacteriological investigation of the Antiplague Station should be continued to determine the natural foci of tularemia. Orig. art. has: None.

ASSOCIATION: Primorskaya krayevaya protivochumnaya stantsiya (Primorskiy Kray Antiplague Station)

SUBMITTED: 02Mar64 ENCL: 00 SUB CODE: LS

NR REF SOV: 000 OTHER: 000

Card 2/2 BK

PADALKO, Z.F.

PINIGIN, A.F.; VYBOROV, G.P.; PETUKHOVA, O.S.; ISTOMINA, T.I.; YUZHKOVA, R.N.; KORETS, B.V.; SVECHNIKOVA, L.D.; ZELIKMAN, Yu.Ya.; PADALKO, Z.F.; MIKHALOVSKAYA, Ye.M.; KALMYKOVA, A.D.; KOSTERIN, V.V.; BELKO, V.I.; KOSTENKO; MUSIKHINA

Distribution of brucellosis in Eastern Siberia and the Far East. Tez. i dokl.konf.Irk.gos.nauch.-issl.protivochum. inst.no.2:55-56 '57. (MIRA 11:3)

(SIBERIA, EASTERN--BRUCELLOSIS)
(SOVIET FAR EAST--BRUCELLOSIS)

KHUNDANOV, L.Ye.; DEVYATOVA, A.P.; PADALKO, Z.F.; LUK'YANOVA, V.I.; SHKURKO, Ye.D.

Comparative study on the effectiveness of antibiotics and γ-globulin in experimental melioidosis. Zhur. mikrobiol. epid. i immun. 32 no.7: 114-117 Je '61. (MIRA 15:5)

1. Iz Irkutskogo gosudarstvennogo nauchno-issledovatel'skogo protivochumnogo instituta Sibiri i Dal'nego Vostoka.
(MELOIDOSIS) (ANTIBIOTICS)
(GAMMA GLOBULIN)

KLETS, E.I.; SHCHEKUNOVA, Z.I.; PADALKO, Z.F.

Susceptibility of some species of rodents of the Maritime Territory to experimental plague. Izv. Irk. gos. nauch.-issl. protivochum. inst. 21:92-97 '59. (MIRA 14:1)
(MARITIME TERRITORY—RODENTIA—DISEASES) (PLAGUE)

KHVESHCHENKO, Ye.N.; SINTSOVA, N.V.; PADAIKO, Z.F.

Case of isolation of Listerella in Voroshilov. Izv.Irk.gos. nauch.-issl.protivochum.inst. 14:28-30 '57. (MIRA 13:7)
(RODENTS AS CARRIERS OF DISEASE) (VOROSHILOV--LISTERELLA)

M

USSR/Cultivated Plants - Fodders.

Abs Jour : Ref Zhur Biol., No 18, 1958, 82386

Author : Padamarchuk, A.S.

Inst : L'vov University

Title : Variability of the Vegetative and Generative Organs of Clover in the Second Year of Life.

Orig Pub : Dopovidi ta povidomlennya. L'vivs'k. un-t, 1957, vip. 7, ch. 3, 59-66

Abstract : Trials were carried out on the drained peat bogs of Sarnenskaya Experiment Station and the mineral soils of the Botanical Garden of L'vovskiy University, with 109 varieties and clover stands which were divided according to characteristics of stem formation into 8 types, according to the development of the root system - into 5 and according to height, conditionally - into 3

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USSR/Cultivated Plants - Fodders. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82386

types (short - to 60 centimers, medium height - 60-100 centimeters and tall - 100-140 centimeters). Investigations showed that the height of the plants does not characterize the fast ripening of the variety. Blossoming of the short and tall stands passed in the same period, and there were many stands which had identical height but matured in different periods. The more foliated clovers proved to be the fastest ripening ones. Plants of all three groups of foliation (weak, medium and good) are encountered in plants of different degrees of fast maturing. Majority of the specimens showed lesser winter resistance on peat soils than on the mineral ones. As the result of the investigation, 14 prospective clover species of Poles'ye and 30 varieties and stands of other selection and experimentation establishments were separated. The best stands of hybrid clover on drained peat bogs proved to be LDU-38, LDU-25; on mineral clayey

Card 2/3

PADANYI, A. 1948

(St. Janos Hosp. Budapest)

"Changes in the Histological Structure of the Thyroid and in the Peripheral Blood in the Course of Prolonged Methylthiouracil Administration."

Orvosi Hetilap 1948, 89/33(513-519)
Abst: Exc. Med. III, Vol. III, No. 3, p. 89

PADYANI, Alajos

PADANYI, Alajos, dr.

Artificial hypothermia in heart surgery. Orv. hetil. 95 no.22: 603-605 30 May 54.

1. A Budapesti Orvostudomanyi Egyetem Sebesztovabbkepzo (igazgato: Littmann Imre dr. egyet. tanar) kozlemenye

(HEART, surg.
artif. hypothermia in)
(BODY TEMPERATURE
hypothermia in heart surg.)