"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

Electrostatic analyzer with ...

regulate the ion-optical properties of each sector separately. A circuit diagram for the supply of electrodes wherein the voltages arrive at the deflecting electrodes by way of voltage dividers is discussed. There are 6 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute)

SUBMITTED: August 16, 1961

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

35536
S/020/62/142/006/008/019
B104/B108

24,7700 (1043,1035,1055,1385)

AUTHORS: Korsunskiy, M. I., and Genkin, Ya. Ye.

TITLE: The interpretation of the $L_{\beta 2}$ emission band of niobium

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 6, 1962, 1276-1277

TEXT: In a previous work the authors had corrected the $L_{\beta 2}$ emission band of niobium (Izv. AN SSSR, ser. fiz., 25 (1961)). The clear cutoff in the corrected band corresponds to the Fermi energy limit (Fig. 1). If all five electrons of the outer shell were collectivized in solid niobium, the width of the emission band would be 15.6 ev. The width of the corrected band, however, is only 12.1 ev and it is assumed that only some of the five electrons are collectivized. It has been shown by T. G. Berlincourt (see below) that niobium has a positive Hall coefficient, p-type conductivity prevails. This is in agreement with the opinion stated above. The short-wave part of the emission band is attributed to the collectivized electrons, while the long-wave part is attributed to the non-generalized electrons. In solid niobium, 1.1 to 1.3 electrons are collectivized in

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/058/62/000/007/045/068
A061/A101

9.4177
26.2420

AUTHORS: Korsunskiy, M. I., Pastushuk, N. S., Litvinova, L. B., Mokhov, G. D., Reznik, M. B.

TITLE: Negative photoconductivity in mercury-doped selenium layers

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 32, abstract 7E245 (In collection: "Fotoelektr. i optich. yavleniya v poluprovodnikakh". Kiyev, AN USSR, 1959, 220 - 226)

/B

TEXT: The photoconductivity of amorphous Se layers doped with mercury vapors was investigated. The layers were produced by evaporation of Se in vacuum and condensation on a glass backing. A comparatively low-inertial positive photoconductivity and an inertial negative one were observed when illuminating the layers with white light. On an increase in the concentration of mercury atoms in the layers the value of positive photoconductivity dropped, while that of negative photoconductivity rose to a certain limit, and thereupon dropped. Both negative and positive photoconductivity were examined as functions of the layer temperature, of the intensity and the spectral composition of light. In addition,

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/849/62/000/000/006/016
A006/A101

AUTHORS: Borovikova, G. P., Korsunskiy, M. I.

TITLE: On the effect of micro-admixtures upon the X-ray emission spectrum of germanium L-series

SOURCE: Vysokotemperaturnyye metallokeramicheskiye materialy. Inst. metallo-ker. i spets. spl. AN Ukr.SSR. Kiev, Izd-vo AN Ukr.SSR, 1962, 40 - 45

TEXT: The authors studied the effect of admixtures in amounts as low as 10^{-3} to 10^{-2} at.% upon the X-ray spectrum of Ge L-series using specimens with proportioned admixture content. Experiments were made with one pure Ge specimen (admixture amount below 10^{13} cm^{-3}) and four Ge specimens with different amounts of antimony. The concentration of the antimony admixtures varied within $5.6 \cdot 10^{17}$ - $4.8 \cdot 10^{18}$ cm^{-3}. The authors studied the correlation between the displacements of spectral lines L_{β_6} and L_{γ_5} in respect to lines $L_{\alpha_{1,2}}$ and L_{β_1} respectively, (as established in a previous investigation) and the concentration of antimony admixtures in germanium. The experiments were carried out on a

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On the effect of micro-admixtures upon...

high-vacuum high-intensity X-ray spectrograph with a curved mica crystal, using a mixed method of exciting the X-ray spectra. The addition of 10^{-3} to 10^{-2} at.% antimony to single-crystal germanium was found to cause the displacement of spectral lines L_{β_6} in respect to $L_{\alpha_{1,2}}$ and of lines L_{γ_5} in respect to L_{β_1} of germanium toward the short wavelength side by: 1 - 2 ev. The magnitude of displacement $\Delta E_{\beta_6-\alpha_{1,2}}$ is proportional to the cube root of the concentration of admixture atoms. It was observed that the wavelength of lines $L_{\alpha_{1,2}}$ and L_β of germanium with antimony decreased as a result of the displacement of $M_{IV,V}$ levels in respect to L_{III} and L_{II} levels. This displacement is approximately five times less than that of level N, in respect to $M_{IV,V}$ levels. The authors thank V. Ye. Lashkarev and Ye. G. Miselyuk for the specimens made available. There are 2 tables and 2 figures.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/849/62/000/000/005/016
A006/A101

AUTHORS: Korsunskiy, M. I., Genkin, Ya. Ye.

TITLE: L-series of niobium in different compounds

SOURCE: Vysokotemperaturnyye metallokeramicheskiye materialy. Inst. metalloker. i spets. spl. AN Ukr.SSR. Kiev, Izd-vo AN Ukr.SSR, 1962, 36 - 39

TEXT: Information is presented on preliminary results obtained by the investigation of L-spectra of niobium in compounds of Nb with nitrogen (6.32; 6.8; 8.1; 10.2; 11.9; 12.6% N), silicon, and hydrogen. These investigations continue studies presented by L. Pauling at a seminar in 1960, dealing with L-spectra of niobium in its nitride, carbide and diboride. The present studies are being conducted by the department of general and experimental physics in cooperation with the Institute of Sinters and Special Alloys of AS UkrSSR. The L_{β_2} line was selected as a comparison line. The exposure was selected in such a manner that the Nb $L\beta$ lines in the investigated compound and in pure Nb had the same intensity. L_{β_2} and L_{γ_2} emission bands undergo strong changes in shape during

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S/849/62/000/000/005/016
A006/A101

L-series of niobium in different compounds

the transition to Nb compounds with nitrogen and to various concentrates. These changes indicate a considerable difference in the nature of bond of the substances investigated. The spectra obtained can be divided into two groups. Group one includes spectra of Nb in combination with nitrogen at 6.32, 6.8 and 12.6% N concentration; spectra of Nb in combination with Nb_5Si_3 and spectra of previously investigated compounds NbN, NbB_2 and NbC. In these spectra the L_{β_2} band is not displaced and its shape changes in that the outline of the compound band remains within the contour of the L_{β_2} band of pure Nb. The atomic charge does not change substantially. The second group includes emission spectra of substances whose L_{β_2} bands are displaced and do not remain within the contour of L_{β_2} bands of pure Nb, i.e. the band occupied by valent electrons is displaced toward the side of lesser energies, and expands. Such spectra are shown by Nb-nitrides with weight concentrations of 8.1; 10.2; 11.9% N and a Nb-hydride specimen. In these compounds a partial transition of electrons takes place from hydrogen to Nb (in Nb hydrides) and from nitrogen to Nb (in compounds with nitrogen). There are 2 figures and 1 table.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/181/62/004/010/060/063
B102/B104

AUTHORS: Korsunskiy, M. I., Genkin, Ya. Ye., and Lukashenko, L. I.

TITLE: The L_{III} and L_{II} absorption edges of niobium

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2986 - 2987

TEXT: The wavelengths of the L_{II} and L_{III} edges of the emission spectrum of metallic niobium, $\lambda_{L_{III}} = (5223.5 \pm 0.2)$ X and $\lambda_{L_{II}} = (5022.9 \pm 0.3)$ X, should agree with the corresponding absorption edges. Since no data are available for the L_{II} absorption edge, and since for L_{III} the only published value is $\lambda_L = 5212.1$ X which disagrees with the corresponding value from the emission spectra, the absorption edge wavelengths were measured again. The authors used an X-ray spectrograph with a quartz analyzer ($d_{\infty} = 3336.00$ X, R = 700 mm). The results were:
$\lambda_{L_{III}} = (5223.6 \pm 0.4)$ X and $\lambda_{L_{II}} = (5022.8 \pm 0.5)$ X.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/181/62/004/010/060/063
B102/B104

The L_{III} and L_{II} absorption...

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina
(Khar'kov Polytechnic Institute imeni V. I. Lenin)

SUBMITTED: June 18, 1962

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ZASHKVARA, V.V.; KORSUNSKIY, M.I.

Electrostatic analyser with a linearly distributed potential on deflecting electrodes. Zhur.tekh.fiz. 32 no.7:840-847 Jl '62. (MIRA 15:8)

1. Khar'kovskiy politekhnicheskiy institut.
(Electric apparatus and appliances)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; GENKIN, Ya.Ye.; VERKHOGLYADOVA, T.S.

Corrected L_{B_2} niobium emission band and bonding forces in the system niobium - nitrogen. Porosh.met. 2 no.4:35-38 Jl-Ag '62. (MIRA 15:8)

1. Khar'kovskiy politekhnicheskiy institut imeni V.I.Lenina i Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(X-ray spectroscopy) (Crystal lattices)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

45012

S/139/62/000/006/023/032
E039/E435

26.1420

AUTHORS: Korsunskiy, M.I., Reznik, M.B., Truten', R.M.

TITLE: Possible method of measuring the concentration of ions formed by hydroionization

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.6, 1962, 152-156

TEXT: A stream of ions is injected with a velocity u inside a metallic cylinder to which they transfer their charge and change the potential v of the cylinder. The rate of change of v is determined by means of an electrometer. A simple method is developed for determining the mass spectrum of heavy negative ions and the total quantity of light ions in the flow from a hydroionizer of the Mikulin type. It is shown that there are negative ions with masses from 10^{-15} to 10^{-14} g on unit charge and that the mass spectrum is linear over this range. A method is also developed for determining the ratio of the numbers of positive and negative charges $Z = N_+/N_-$ from the limiting value of the potential curve and the mass spectrum, and verified by measurements on the rate of discharge of a metal sphere (10 cm dia) when placed

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Possible method of measuring ...

in the stream of ions. A comparison of the rates of discharge of the sphere when charged positively and negatively gives a value of the ratio Z which agrees to within 10% of the value obtained from the mass spectrum. There are 5 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I.Lenina (Khar'kov Polytechnic Institute imeni V.I.Lenin)

SUBMITTED: June 7, 1961

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; GRECHKO, Ye.A.; KHROL', A.I.

Dependence of the relaxation time of the anomalous photoconductivity of selenium on the wavelength, and the electron bonding energy in long-lived traps. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk no. 2:14-18 '63. (MIRA 17:6)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.

Nature of the anomalous photoconductivity of amorphous selenium. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk no. 2:31-39 '63. (MIRA 17:6)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; GENKIN, Ya.Ye.

Change in the character of the bonding forces in the system niobium - nitrogen. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk no. 2:70-75 '63. (MIRA 17:6)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

45346
S/181/63/005/002/028/051
B104/B102

24.7700

AUTHORS: Korsunskiy, M. I., and Poetushuk, N. S.

TITLE: Adhesion levels in amorphous selenium doped with mercury

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 559-563

TEXT: The kinetics of the photoconductivity of amorphous selenium with Hg impurities was studied in the ranges 360 - 460 mμ and 600 - 720 mμ at different light intensities and temperatures. The photoconductivity-relaxation curves were found to be S-shaped (FTT, 3, 8, 1961; 2, 3, 1960) like the relaxation curves of the monopolar photoconductivity in CdS single crystals observed by Ryvkin and Paritskiy. This proves the existence of adhesion levels with 0.37 ev in amorphous selenium. Some parameters of the semiconductor were estimated from the S-curve by a method suggested by Paritskiy and Ryvkin. The adhesion level concentration is $2 \cdot 10^{13}$ cm^{-3}. The quantum yield between 360 and 460 mμ is $2 \cdot 10^{-2}$ and the carrier lifetime is >0.0017 sec, and between 600 and 720 mμ it is $8.5 \cdot 10^{-5}$ and >0.31 sec, respectively. The effective carrier

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; LAGUNOV, A.S.; BAYVEL', L.P.

Using induction transducers in measuring displacements at high temperatures. Izm. tekh. no.8:16-19 Ag '63. (MIRA 16:10)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/048/63/027/003/011/025
B117/B234

AUTHORS: Korsunskiy, M. I., and Genkin, Ya. Ye.

TITLE: X-ray spectra of niobium in the α-phase range of the niobium-oxygen system

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 3, 1963, 362-363

TEXT: Fluorescence spectra were taken of niobium in compounds having different concentrations of nitrogen (0.27, 0.45, 0.51% by weight) and the emission bands of $L\beta_2$ in the α-phase range were examined. It was shown that the short-wave part of the band directly adjoining the Fermi boundary remains practically unchanged, pointing to the conclusion that the number of collective electrons remains constant or scarcely alters. The spectral intensity of the long-wave maximum increases. Its width slightly decreases, indicating a longer life of the bound valency electrons, but the increased spectral intensity can be ascribed only to a change in the symmetry of the ψ function of the bound valency electrons; i.e. the symmetry of their wave

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

S/048/63/027/003/019/025
B106/B238

AUTHORS: Korsunskiy, M. I., and Lukashenko, L. I.

TITLE: Optimum excitation conditions for X-ray spectra in the 5 - 10 Å range

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 3, 1963, 409-414

TEXT: The optimum excitation conditions for soft X-rays with wavelengths of 5 - 10 Å were calculated. The electrons in the anode housing were assumed to propagate in straight lines. The probability of continuous radiation at a frequency ν when the electrons are slowed down was calculated with Kramer's formula, and the energy losses of the electrons determined with Widdington's formula. Results: 1) The condition $E_0/E_\nu \gg 1$, where E_0 is the energy of the absorption edge and E_ν the energy corresponding to the frequency ν, is fulfilled when fluorescent radiation is excited by a continuous spectrum or when absorption spectra are studied employing non-photographic recording of the X-rays. In this case, an element furnishing the greatest possible radiation intensity in

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the 5 - 10 Å range is recommended. The element must be of high Z and must lie at the base of a rising part of the curve $\mu M/\sigma Z = f(Z)$, where μ is the linear absorption coefficient of the anode material for a radiation with frequency ν, M the atomic weight of the anode material, and σ the density of the anode material. The voltage on the tube corresponding to this element is read off from Fig. 1. 2) The element for the anode must be chosen in such a way that the wavelength of the line of maximum intensity in the exciting series is a little shorter than that of the absorption edge of the series containing the line to be excited. Here again, the voltage is read off from Fig. 1. 3) When the investigation of the absorption spectrum features photographic recording of the X-rays, in which case $E_o/E_\nu \ll 2$, it may be assumed that the intensity of radiation for $\varphi < 80°$ in the 5 - 10 Å range is directly proportional to the atomic number Z of the anode element. 4) The X-ray tubes must be designed to ensure a small angle of incidence φ between the electron beam and the surface of the anode. 5) The fact that Kramer's formula, Widdington's law and the assumption that the absorption coefficient μ is proportional to $Z^4\lambda^3$ are only approximations affects the choice of the optimum values of E_o and Z.

The basic conclusions in this paper must therefore be regarded as being

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just as approximate as the assumptions made. The partial atomic absorption coefficients do not obey the $Z^4\lambda^3$ law. Calculations showed that replacing Z^4 by Z^5 at the given wavelength does not cause an error of more than 20% in the determination of E_0. Increasing the index of Z further has practically no effect on the determination of E_0. There are 2 figures and 1 table.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute imeni V. I. Lenin)

Figure 1. Legend: $f_\nu(t_\nu) = (\mu M/\rho Z)\cdot 1.07\cdot 10^{-6}E^2\tan\varphi$, where φ is the angle between the electron beam and the surface of the anode; $t_\nu = E_\nu/E_0$; $f_i(t_i) = (\mu M/\rho Z)\cdot 1.07\cdot 10^{-6}E_i^2\tan\varphi$, where μ_ν is the linear absorption coefficient of the anode when the frequency of radiation of the spectral line studied is ν, and E_i is the ionization energy of the i-th level,

Card 3/4 which determines the series of spectral lines studied,

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; PASTUSHUK, N.S.

Trapping levels in amoprhous selenium doped with mercury.
Fiz. tver. tela 5 no.2:559-563 F '63. (MIRA 16:5)

1. Khar'kovskiy politekhnicheskiy institut imeni V.I.Lenina.
(Selenium) (Photoconductivity)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

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L 9868-63 EWA(h)/EWT(1)/BDS--AFFTC/ASD/ESD-3/AFWL--WW/IJP(C)
ACCESSION NR: AP3001363 S/0048/63/027/006/0829/0830

60
59

AUTHOR: Korsunskiy, M. I.; Genkin, Ya. Ye.

TITLE: Experimental verification of methods of correcting x-ray spectra [Report of the Sixth Conference on X-Ray Spectroscopy held in Odessa from 2 to 16 July 1962]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 6, 1963, 829-830

TOPIC TAGS: correction of x-ray spectra, x-ray lines of niobium

ABSTRACT: Recently there has been great interest in methods for correcting apparatus x-ray spectra for the purpose of bringing out fine structure details. But so far there have been no experimental checks of the validity of the various correction methods. The present paper gives the results of an experimental attempt to check the "quality" of such correction in the specific case of the L beta sub 2 emission band of solid niobium. The results of correction of this band in the spectra of solid niobium and the niobium-nitrogen system are given

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by M. I. Korsunskiy and Ya. Ye. Genkin (Izv. AN SSSR, Ser. fiz., 25, 1028, 1961). The correction procedure included determination of the location of the short wavelength edge of the emission band, determination of the dispersive distortion parameter and use of special direct and inverse matrices "with abrupt drop". The value of the distrotion parameter beta arrived at was 1.33 eV. Since in practice one can only reduce the distortion parameter, in the present work the spectrum was re-recorded using a quartz crystal with constant d = 3336.00 X, which afforded a two-fold increase in resolution. (The constant of the previous crystal was d = 4246.02 X, and corrected by the same matrix procedure.) The new corrected curve agrees closely with the old corrected curve. The new value of beta is 1.20 eV. The values of the Fermi level deduced from the spectra obtained by means of the two crystals agree within 0.15 eV. Thus, the validity of the correction procedure proposed by the authors earlier is substantiated; the procedure, however, is not applicable to spectral intensity distribution curves in which there are significant fluctuations within intervals smaller than 0.7 the distortion parameter. Orig. art. has: 2 figures.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 17882-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/AS(mp)-2/AFWL/SSD/SSD(a)/AFETR/ESD(gs)/
ACCESSION NR: AP4049255 ESD(t) RDW/JD S/0361/64/000/001/0003/0008

AUTHOR: Korsunskiy, M. I.

B

TITLE: Spectral distribution of the quantum yield for the process of electron capture by long traps of amorphous selenium

SOURCE: AN Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1964, 3-8

TOPIC TAGS: selenium, electron capture, quantum yield, photoconductivity

ABSTRACT: The purpose of the work was to ascertain the influence of the energy of a quantum absorbed by selenium on the probability of the electron falling in a long trap. The results are limited to the red end of the visible spectrum. An analysis of the level scheme and of the corresponding kinetic equations shows that when selenium is illuminated, the penetration of the electrons into long traps

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L 17682-65

ACCESSION NR: AP4049255

proceeds both via the c-band and directly from the v-band (resonance penetration). When the quantum energy is smaller than 2 eV resonance penetration predominates. The energy of the level of the electrons in the long trap, through which the resonance penetration takes place, is located 2.18 eV from the bottom of the v-band. The long trap is associated with a potential barrier for the electrons, with a height more than 0.6 eV above the bottom of the c-band. A condition is established under which the conductivity in light is independent of the light intensity, and it is shown that this condition holds over a wide range of intensities, up to several times 10 W/cm^2 when the wavelength exceeds 0.6 μ. Orig. art. has: 4 figures, 15 formulas and 1 table.

ASSOCIATION: None

SUBMITTED: 20Jan63 ENCL: 00

SUB CODE: OP, NP NR REF SOV: 005 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4020299 S/0139/64/000/001/0055/0062

AUTHORS: Korsunskiy, M. I.; Pastushuk, N. S.; Parkhomovskiy, G. D.

TITLE: Elimination of the nonphotoconductive interlayer effect in the investigation of amorphous selenium layer photoconductivity mixed with mercury. 2

SOURCE: IVUZ. Fizika, no. 1, 1964, 55-62

TOPIC TAGS: true photoconductivity, amorphous layer, selenium, low resistivity layer, photosensitivity, photoconductivity

ABSTRACT: An analytical and experimental study has been conducted to determine the magnitude of true photoconductivity in a 10^{-4} cm amorphous layer of selenium covered by a low resistivity layer (as compared to the selenium piece). By comparing the photosensitivity determined by

$$\gamma_1 = \left(\frac{\Delta\sigma_m^c}{\Delta\sigma_m^c}\right)_{I=\text{const}}$$

to that determined by

$$\gamma_2 = \left(\frac{I_c}{I_0}\right)_{\Delta\sigma_{Hm}^c = \Delta\sigma_{Hm}^0}$$

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4020299

the formulas derived for the photoconductivity give the true value for the selenium layer. In the above $\Delta\sigma_m$ - specific maximum positive photoconductivity of selenium, I- light intensity, subscript c- yellow light, and subscript k- red light. It is shown that the true change in the selenium layer conductivity upon exposure to light of proportional intensity exceeds the observed change in conductivity ten to a hundredfold. Orig. art. has: 19 formulas, 5 figures, and 1 table.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V. I. Lenina (Kharkov Polytechnical Institute)

SUBMITTED: 14Sep62 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 002

Card 2/2

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

BR

ACCESSION NR: AP4011763 S/0181/64/006/001/0254/0256

AUTHORS: Korsunskiy, M. I.; Pastushuk, N. S.

TITLE: The spectral distribution of anomalous photoconductivity in amorphous selenium

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 254-256

TOPIC TAGS: photoconductivity, anomalous photoconductivity, intrinsic absorption, spectral sensitivity, photoelectric effect

ABSTRACT: One of the peculiarities of anomalous photoconductivity in selenium is that the photoelectric effect through a wide range is independent of light intensity and is determined solely by the wave length. The sensitivity to blue light (which is strongly absorbed by selenium) is greater than to red. The purpose of the present paper is to refine the curves of spectral sensitivity in selenium with anomalous photoconductivity. The authors have shown that when anomalous photoconductivity is present in a layer of selenium illuminated by blue light, the photoconductivity is identical throughout the entire thickness of the layer. Confirmation is found for the view that the sensitivity of

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ACCESSION NR: AP4011763

anomalous photoconductivity in the region of intrinsic absorption ($\lambda < 0.53$ micron) is much less than in the long-wave part of the spectrum. The spectral distribution of the anomalous photoconductivity is illustrated graphically in Fig. 1. on the Enclosure. Orig. art. has: 2 figures and 4 formulas.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Kharkov Polytechnical Institute)

SUBMITTED:	02Aug62	DATE ACQ:	14Feb64	ENCL:	01
SUB CODE:	EM	NO REF SOV:	003	OTHER:	000

Card 2/3

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4011763

ENCLOSURE: 0

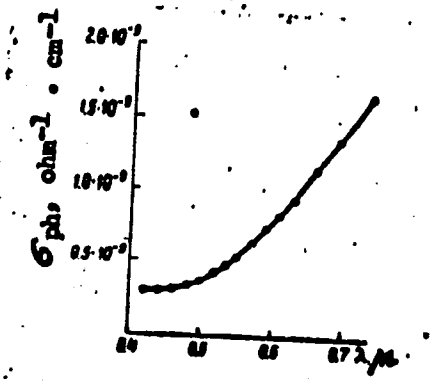

Fig. 1. Spectral distribution of anomalous photoconductivity in selenium

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KORSUNSKIY, M.I., akademik, doktor fiz.-matem. nauk, prof.; LAGUNOV, A.S., kand. tekhn. nauk, dotsent; BAYVEL', L.P., inzh.

Effect of the speed of motion of a surface in closing a magnetic flux on the indices of induction-type devices controlling the operation of power units. Izv. vys. ucheb. zav.; energ. 7 no.12: 7-12 D '64. (MIRA 18:2)

1. Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina. 2. AN KazSSR (for Korsunskiy). Predstavlena kafedroy obshchey i eksperimental'noy fiziki Khar'kovskogo politekhnicheskogo instituta im. V.I. Lenina.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4038773 S/0048/64/028/005/0832/0833

AUTHOR: Korsunskiy, M.I.; Genkin, Ya.Ye.

TITLE: X-ray emission bands and the magnetic properties of niobium /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep to 1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 832-833

TOPIC TAGS: x-ray spectrum, x-ray emission, magnetic susceptibility, niobium, covalent bond

ABSTRACT: The contribution of the collectivized electrons in metallic niobium to its magnetic susceptibility is calculated. The calculation is based on the conclusion of M.I.Korsunskiy, Ya.Ye.Genkin and T.S.Verkhoglyudova (Dokl.AN SSSR,142,1276, 1962; Poroshkovaya metallurgiya,No.4(10),35,1962), drawn from the relative intensities of the short wavelength portions of the $L\beta_2$ and $L\gamma$ emission bands and other lines of the fluorescence L-spectra of niobium, that the statistical weight of the d-states in the wave functions describing the collectivized electrons in metallic niobium is nearly unity and the weight of the $d_{5/2}$ state is twice that of the $d_{3/2}$

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ACCESSION NR: AP4038773

state. This conclusion makes it possible to calculate the magnetic moment per collectivized electron. The effective number of collectivized electrons contributing to the magnetization is calculated in the almost free electron approximation, and the effect of the lattice on the motion of the electrons is taken into account with the aid of the result of A.G.Thorsen and T.C.Berlincourt (Phys.Rev.Letters,7,224, 1961) that the effective mass of the electrons in niobium is approximately one electron mass. The value $(1.6 \pm 0.3) \times 10^{-6}$ is obtained for the susceptibility. From the near agreement of this calculated value with the experimental value given by C.J.Kriessmann (Revs.Mod.Phys.25,122,1953), it is concluded that the magnetic susceptibility of niobium is due mainly to the collectivized electrons, and that the conclusions of Korsunskiy and Genkin (loc.cit.) concerning the states of the valence electrons in niobium not only make it possible to determine the nature of the conduction and the sign of the Hall coefficient in niobium from x-ray data, but also to determine the magnetic susceptibility. The small temperature dependence of the susceptibility reported by Kiessmann (loc.cit.) is ascribed to the electrons participating in the covalent bonds. Orig.art.has: 5 formulas.

Card 2/3

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ACCESSION NR: AP4038773

ASSOCIATION: Institut yadernoy fiziki Akademii nauk KazSSR (Institute of Nuclear Physics, Academy of Sciences, KazSSR)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP,EM NR REF SOV: 005 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4042005 S/0057/64/034/007/1285/1292

AUTHOR: Zashkvara, V.V.; Korsunskiy, M.I.

TITLE: Experimental investigation of the electron optical properties of an electrostatic analyzer with a linear distribution of potential on the deflecting electrodes

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.7, 1964, 1285-1292

TOPIC TAGS: electron optics, electrostatic analyzer

ABSTRACT: An electrostatic analyzer of the type discussed earlier (V.V.Zashkvara and M.I.Korsunskiy,ZhTF 32,840-847,1962) was constructed and tested. In this type of analyzer the potential on each cylindrical deflector falls linearly from a maximum on the central arc to a minimum at each edge. With such an instrument it is possible separately to adjust the first order electron optical properties (focus and dispersion) and the second order properties (aberrations) by altering the potential distribution on the deflectors. The analyzer employed 180° deflection by cylindrical electrode surfaces of 9.1 and 10.9 cm radius. Each deflector consisted of a stack of 17 plates, 0.4 mm thick and of suitable shape, separated by 1 mm glass insulators. The plates of each deflector were connected together in pairs (the two

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ACCESSION NR: AP4042005

outermost, the two next outermost, etc.) and fed from a stabilized power supply through a voltage divider. An 0.1 mm diameter hot tungsten wire served as the object for the electron optical experiments. The electrons were accelerated to 1000 eV by a 6 mm diameter 25 mm long cylindrical electrode with an 0.5 mm slot. This electron source was placed 35 cm from the entrance to the analyzer, and the angular beam divergence was limited to 3 x 10^{-3} in the horizontal plane and 3 x 10^{-2} in the vertical plane. The image was photographed at 4 cm from the analyzer. By properly adjusting the potential distribution on the deflectors, it was possible to achieve a dispersion greater by a factor 8.3 than that which would be obtained with a similar analyzer employing equipotential deflection electrodes. This increase in dispersion was accompanied by some deterioration of the image, but the resolving power was increased by a factor 3.3. Orig.art.has: 26 formulas, 4 figures and 1 table.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im.V.I.Lenina (Khar'kov Polytechnic Institute)

SUBMITTED: 15Jun63

ENCL: 00

SUB CODE: EC, NP

NR REF SOV: 002

OTHER: 000

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 1990-66 EWT(1)/EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD/AT
ACCESSION NR: AP5018668 UR/0361/65/000/002/0023/0034

AUTHOR: Korsunskiy, M. I.; Garger, K. S.

TITLE: Concerning the nature of the drop in conductivity following cessation of illumination of anomalously-photoconducting amorphous selenium

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1965, 23-34

TOPIC TAGS: selenium, photoconductivity, impurity center

ABSTRACT: The article deals with the kinetics of the photoconductivity of a superconductor (amorphous selenium) which contains other impurity centers besides long traps, in response to illumination and in darkness. It is shown that under certain conditions, and at sufficiently low temperatures, such superconductors should exhibit both anomalous photoconductivity and a color memory. This memory, however, is only partial, since a certain drop in conductivity takes place after the illumination is removed. The dependence of this drop in conductivity on the

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ACCESSION NR: AP5018668

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wavelength is analyzed and it is shown that the decrease in conductivity at short wavelengths should be largest. In the case when the impurity centers are surrounded by a potential barrier, then the maximum decrease in conductivity can occur at all wavelengths, depending on the relation between the concentrations of the long traps and the impurity centers. By plotting the conductivity both after removal of the light and after reapplication of the light, it is possible to determine the various parameters characterizing the impurity centers from the conductivity relaxation curves. Orig. art. has: 3 figures and 30 formulas.

ASSOCIATION: None

SUBMITTED: 28Aug64 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 005 OTHER: 000

Card 2/2 DP

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 54761-65 EWT(l)/EPA(w)-2/EEC(t)/EWA(m)-2 Pz-6/Pi-4 IJP(c) AT
ACCESSION NR: AP5015630 UR/0057/65/035/006/1063/1067

AUTHOR: Zashkvara, V.V.; Körsunskiy, M.I.; Kosmachev, O.S.

TITLE: Correction of the angular aberrations of a two-sector electrostatic analyzer

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 1063-1067

TOPIC TAGS: electron optics, particle spectroscopy, spherical aberration, electrostatic analyzer, nonuniform electric field

ABSTRACT: This paper reports a continuation of earlier work presented in a series of papers by two of the present authors (ZhTF 34,1285, [illegible],340,1962; PTE 3,21,1959; Tr.Kuybyshev.politekhn. inst., [illegible]iz.25,No.3,43,1959). The geometry of a 180° electrostatic [illegible] of special construction for the angular divergences [illegible] in the radial and axial directions were investigated experimentally with a 1 keV electron beam. The construction and theory [illegible] analyzer are discussed in the references cited above. The electrodes were laminated and the potential on them varied linearly

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in the axial direction. In the present work the 180° sector was replaced by two identical 90° sectors of which the fields could be independently adjusted. The aberrations were minimized by separately [illegible] the fields of the two sectors in accordance with the theory [illegible] in the earlier papers. It was found that the resolving power could be increased by a factor of 5 over that attainable with the [illegible] instrument, and that the luminosity could be increased by [illegible] of magnitude while decreasing the resolving power by a factor [illegible]. It is concluded that other aberrations can also be corrected by employing more independently adjustable sectors. Orig.art.has: [illegible] figures and [illegible]

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ed by employing more independently adjustable sectors. Orig.art.has: 1 formula, 3 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 17Aug64 ENCL: 00 SUB CODE: EM,NP

NR REF SOV: 004 OTHER: 000

Card 2/2

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

EPA(s)-2/EPF(w)-2/EWA(m)-2

ACCESSION NR: AP5018295 UR/0057/65/035/007/1193/1201

533.9

20
17
3

AUTHOR: Korsunskiy, M. I.; Gorbanko, E. N.

TITLE: Determination of some characteristics of an electronic-ionic oscillatory ... discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1193-1201

TOPIC TAGS: discharge tube, electron oscillation, ion oscillation, charge exchange, secondary emission

ABSTRACT: The authors have investigated the discharge in a longitudinal magnetic field between four plane parallel electrodes 6 cm apart of which the first carries ... the center a hot filament and the second and third are provided with central ... Electrodes 1 and 3 were kept at ... and ... and 4 were maintained at the same ... the current to each electrode and ... at electrode 3 ... to ion impact) were measured in air at pressures from ... x 10^{-4} to 10^{-3} mm Hg with applied potentials from 1 to 3 kV. The authors have described their apparatus in more detail elsewhere (ZhTF 35, 1265, 1965 [see abstract AP5018307]).

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ACCESSION NR: AP5018295

The processes occurring in such a discharge are discussed at some length and [illegible] are derived for calculating from the experimental data the following [illegible] fraction of the ions that execute a substantial number of oscillations in electrode 3 [illegible] strikes electrode 1 [illegible] average number of [illegible] descendants arising from charge exchange collisions until the last descendant is captured on electrode 3 (the "multiplication factor"). These formulas are based on certain plausible assumptions concerning the pressure dependence of the quantities involved. The experimental data are compatible with these assumptions. It was found that the multiplication factor and the residual ion energy increased linearly with the applied potential and that the fraction of the ions that completed a substantial number of oscillations depended strongly on the size of the opening in electrode 3. With a 20 mm diameter opening in the electrode this fraction decreased from 0.5 to 0.2 when the applied potential was increased from 1 to 3 kV; when the opening was small (5.5 mm) the fraction of ions executing a substantial number of oscillations increased slightly with increasing applied potential. The average path length of such an ion and its charge exchange descendants was estimated to be 520 cm at 8×10^{-4} mm Hg with a

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L 60335-65
ACCESSION NR: AP5018295

2 kV applied potential. Orig. art. has: 24 formulas, 5 figures, and 3 tables.

ASSOCIATION: Politekhnicheskiy institut imeni V.I.Lenina, Khar'kov (Polytechnic Institute)

SUBMITTED: 06Jul64 ENCL: 00 SUB CODE ME, NP

NO REF SOV: 006 OTHER: 003

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EWT(1)/EPA(s)-2/EPA(w)-2/EWA(m)-2

ACCESSION NR: AP5018307 UR/0057/65/035/007/1265/1272
533.9

AUTHOR: Korsunskiy, M. I.; Gorbenko, E. N.

TITLE: On some properties of an electronic-ionic oscillatory discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1265-1272

TOPIC TAGS: discharge tube, oscillation, electron oscillation, ion oscillation

ABSTRACT: In order to investigate discharges analogous to the Penning discharge in which, however, it is ions rather than electrons that oscillate through an opening in one of the electrodes, the authors have constructed and operated a four-electrode discharge tube. The electrodes were four 20 cm diameter, 1 cm thick copper disks mounted parallel to each other on a 6 cm spacing. The edges of the electrodes extended beyond the quartz wall of the chamber and were water cooled. Electrodes 1, 2, and 3 had 2 cm diameter openings in their centers, and electrode 1 carried a hot tungsten filament. Electrodes 2 and 4 were maintained at the same high positive potential (up to 3 kV) with respect to electrode 3, electrode 1 was kept at a moderate positive potential with respect to electrode 3. A longitudinal magnetic field up to 5×10^4 A/m was provided. The behavior of

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the discharge tube for various electrode potentials and gas (air) pressures was observed and is described in considerable detail. The potentials on and the currents to all the electrodes were measured, the heat dissipated at electrode 3 was determined by measuring the temperature rise of the cooling water, and the discharge was observed visually. It was anticipated that electrodes 1, 2, and 3 would give rise to a Penning type discharge and that the ions produced by the oscillating electrons would execute analogous oscillations through the opening in electrode 3. It was found that the discharge was stable when the gas pressure exceeded 6×10^{-4} mm Hg. When electrodes 1 and 3 were maintained at the same or [illegible] the same potential, the discharge did not differ from that in a two-electrode tube. When the potential difference between electrodes 1 and 2 was considerably less than that between electrodes 2 and 3 and between 3 and 4, however, oscillations of the anticipated type occurred, even though the transverse [illegible] of the ions were considerable. The presence of ionic oscillations was indicated by an electron component in the current [illegible] and by the presence of cathode sputtering on the side of electrode [illegible] electrode 3.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 06138-67 EWT(1)/EWI(m)/EWP(t)/ETI IJP(c) AT/JD
ACC NR: AP6031172 SOURCE CODE: UR/0361/66/000/002/0076/0078

AUTHOR: Korsunskiy, M. I.; Trofimov, O. A.; Garger, K. S.; Daukeyev, D. K.

57
13

ORG: none

TITLE: Concerning the spectral distribution of anomalous photoconductivity of amorphous selenium in the near ultraviolet

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 76-78

TOPIC TAGS: spectral distribution, photoconductivity, selenium, UV spectrum, electron trapping

ABSTRACT: The dependence of the anomalous photoconductivity σ on wavelength in films of amorphous selenium is measured. The conductivity of samples is lower for blue light than for red even though selenium is more absorptive in the blue. This property is not predicted by the phenomenological theory based on the hypothesis of long-lived trapping centers. A recent model of long-lived trapping centers in the form of a colloidal dispersion of an alloy in amorphous selenium predicts a positive sign of the derivative $\frac{d\sigma}{d\lambda}$ in the visible region. Also a short wavelength minimum is predicted, indicating a minus sign for $\frac{d\sigma}{d\lambda}$ in the near ultraviolet. These predictions are experimentally veri-

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L 06138-67

ACC NR: AP6031172

fied. Orig. art. has: 1 formula, 1 table, 1 figure.

SUB CODE: 20/ SUBM DATE: 23Apr65/ ORIG REF: 006

Card 2/2 mE

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 06137-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6031174 SOURCE CODE: UR/0361/66/000/002/0083/0092

AUTHOR: Korsunskiy, M. I.

ORG: none

TITLE: Long-lived trapping centers of amorphous selenium

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 83-92

TOPIC TAGS: selenium, spectral distribution, electron trapping, photoconductivity

ABSTRACT: It is shown that the potential barrier surrounding the long-lived trapping centers is not rectangular, but grows thinner at the top, and that the behavior of the change in cross section with energy can be explained by the hypothesis that the potential barrier surrounding the trapping center is the Coulomb potential. The parameters of the trapping center are calculated viz: the height of the potential U = 3.75 ev, the binding energy of the electron in a trapping center E = 3.6 ev, and the width of the potential well $\alpha = 38.4 \cdot 10^{-8}$ cm. The lifetime of an electron in a trap with the given parameters turns out to be of the order of 10^{75} years. An explanation is given for the spectral distribution of anomalous photoconductivity observed in experiments. It is shown that in the model considered here for long-lived trapping centers, that $\frac{d\sigma_\infty}{d\lambda} > 0$ in the visible spectrum. It is also shown that in the short wave region,

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ACC NR: AP6031174

$\frac{d\sigma_\infty}{d\lambda}$ should become zero and change sign. The hypothesis that the long-lived trapping center is a colloidal particle dispersed in amorphous selenium is advanced. Orig. art. has: 19 formulas, 4 figures.

SUB CODE: 20/ SUBM DATE: 07May65/ ORIG REF: 006

Card 2/2 MAE

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 15644-66 EWT(1)/EWT(m)/ETC(F)/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD/AT

ACC NR: AP6003808 SOURCE CODE: UR/0181/66/008/001/0263/0264

AUTHOR: Korsunskiy, M. I.; Fridman, V. M.

ORG: Institute of Nuclear Physics, AN KazSSR, Alma-Ata (Institut yadernoy fiziki AN KazSSR)

TITLE: On some properties of a high-voltage photoelectric effect in thin CdTe layers

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 263-264

TOPIC TAGS: photoelectric effect, photoelectromotive force, photoelectric cell, cadmium telluride

ABSTRACT: An investigation was made of the high-voltage photoelectric effect in cadmium telluride thin layers. Two methods were used to measure the capacity C of the layers: 1) The quantity of electricity Q in a specimen was determined by charging (by illuminating) to a potential V_{ph}, and discharging (after illuminating) on a ballistic galvanometer calibrated with the aid of a normal solenoid. The ratio Q/V_{ph} represented the capacity C. 2) A known capacity C_0 (electrostatic voltmeter) was connected to a layer charged to a potential V_{ph}. The potential difference V was then measured. C was calculated from the relationship $V(C + C_0) = V_{ph}C$. The values obtained by both methods coincided. The C of the specimens appeared to be of the order of 10 cm, thus considerably exceeding the capacity expected on the basis of geometrical conditions. The large capacity of CdTe layers indicates that these

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Card 2/2

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L 06303-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015497 (A) SOURCE CODE: UR/0181/66/008/005/1625/1627

40
B

AUTHOR: Volchek, A. D.; Garger, K. S.; Korsunskiy, M. I.

ORG: Institute of Nuclear Physics, AN KazSSR, Alma-Ata (Institut yadernoy fiziki AN KazSSR)

TITLE: The lux-ampere characteristic of amorphous selenium at constant irradiation

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1625-1627

TOPIC TAGS: photoconductivity, selenium, spectral memory, dark conductivity, lux ampere characteristic

ABSTRACT: The behavior pattern of amorphous Se specimens with anomalous photoconductivity under simultaneous irradiation by two monochromatic light sources was investigated. A Se specimen was irradiated at a wavelength of ~650 mμ, and with a constant irradiation at a wavelength of 450 mμ. The equations of the kinetics of dark and light conductivities agree with the experimental data; the value of the dark conductivity is a function of the light intensity. Orig. art. has: 2 figures, 5 formulas.

SUB CODE: 20/ SUBM DATE: 02Dec65/ ORIG REF: 002

Card 1/1 gd

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 21711-66 EWT(1)

ACC NR: AP6004888 SOURCE CODE: UR/0057/66/036/001/0132/0138

AUTHOR: Zashkvara,V.V.; Korsunskiy,M.I.; Kosmachev, O.S.

65
B

ORG: none

TITLE: Focusing characteristics of an electrostatic mirror with a cylindrical field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 1, 1966, 132-138

TOPIC TAGS: electron optics, mass spectrometry, electrostatic field , electrode potential, charged particle, ion energy

ABSTRACT: The authors discuss focusing of charged particles by the electrostatic field between two coaxial cylindrical electrodes. The ions are assumed to originate in a point source on the common axis of the electrodes and to enter and leave the inter-electrode region through circular slots in the inner electrode. Charged particles with a certain energy, depending on their charge and mass, the potential difference between the electrodes, the radii of the electrodes, the distance between the slots in the inner electrode, and the position of the source, will be brought to a focus on the axis. It is proposed to employ such a system of electrodes to record the energy spectrum of charged particles by keeping fixed the positions of the source and detector and varying the potential on the electrodes. The focusing conditions are derived. It is shown that not only first order, but also second order focusing occurs if the angle between the initial trajectory and the axis is 42° 20'. The authors also calculated the second

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L 21711-66

ACC NR: AP6004888

order aberrations and the effect of finite source size, but in the present paper they only discuss the results and do not present the calculations. The energy resolution can be improved by employing multiple focusing with suitable irises in the intermediate image planes to eliminate oblique trajectories. The linear dispersion in energy of the cylindrical capacitor is approximately equal to that of a 180° spherical analyzer of equal size. The quality of focusing is adequate for analysis of ion beams with an angular divergence of 360° in the radial plane and several degrees in the axial plane. Orig. art. has: 17 formulas, 2 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 03May65/ ORIG REF: 002 OTH REF: 000

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L 28083-66 EWT(m)/ETC(f)/EWG(m)/EWP(t)/ETI IJP(c) RDW/JD

ACC NR: AP6015609 SOURCE CODE: UR/0020/66/168/002/0318/0319

AUTHOR: Korsunskiy, M. I. (Academician AN KazSSR); Fridman, V. M.

ORG: Institute of Nuclear Physics, Academy of Sciences KazSSR (Institut yadernoy fiziki Akademii nauk KazSSR)

TITLE: Spectral distribution of the high voltage photoelectric effect in CdTe thin films

SOURCE: AN SSSR. Doklady, v. 168, no. 2, 1966, 318-319

TOPIC TAGS: photoelectric effect, photo emf, heat effect, cadmium telluride

ABSTRACT: An investigation was made of the effect of the substrate temperature during the deposition of a CdTe thin film on the spectral distribution of the short-circuit current. It was found that with substrate temperatures higher than 310C, no sign inversion occurs when the incident light wavelength is varied in the range of 450—900 mμ. At substrate temperatures of 250—300C, the sign reverses when the wavelength is shortened; with decreasing temperatures, the inversion can be obtained at increasing wavelengths. The above results are compared with those of Adirovich (E. I. Adirovich, V. M. Rubinov, and Yu. M. Yuabov. Izv. AN UzSSR, ser. fiz-matem., no. 6, 63, 1964), who obtained sign inversion by changing the angle of the deposition of the molecular beam. In order to establish whether it is the substrate temperature or the oblique deposition that is primarily responsible for the

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, M.I.; GENKIN, Ya.Ye.

X-ray emission spectra of niobium and zirconium and the nature of interatomic bonding of these elements. Izv.AN SSSR.Ser.fiz. 1 no.10:1701-1709 O '65. (MIRA 18:12)

1. Institut yadernoy fiziki AN Kaz.SSR, Alma-Ata. Submitted July 5, 1965.

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L 00345-66 EWT(1)/EPA(s)-2/EWT(m)/EWP(w)/EPF(n)-2/T/EWP(t)/EWP(b) IJP(c)
JD/WW/JG
ACCESSION NR: AP5019224 UR/0056/65/049/001/0124/0126

AUTHOR: Kikoin, I. K.; Senchenkov, A. P.; Gel'man, E. V.; Korsunskiy, M. M.; Naurzakov, S. P.

TITLE: Electric conductivity and density of metallic vapor

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 124-126

TOPIC TAGS: mercury, electric conductivity, pressure effect, temperature dependence, high temperature research

ABSTRACT: The article describes an investigation of the electric conductivity of mercury in the transcritical range of temperatures and pressures. The experiments were carried out in a chamber in which pressures up to 4000 atm could be established by means of gaseous argon compressed with a thermal compressor. The mercury was contained in a capillary whose mid-section could be heated electrically to 2000C. The transcritical conditions were established only in the middle part of the capillary. The mercury was activated in a reactor before the experiments, and its density was determined by measuring the γ radiation from the Hg^{203}. The measured quantities were automatically recorded with multichannel automatic plotter. The

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family of curves plotted at different pressures made it possible to determine the "electrical equation of state" $r = f(\rho, T)$ and the thermodynamic equation for the density $\rho = \phi(P, T)$ (r = resistivity, ρ = density, T = temperature, P = pressure). The critical temperature of mercury was found to be 1450 ± 50C. The measurement accuracy was insufficient to determine the temperature coefficient of resistivity, but it was found to be negative at densities below 7--8 g/cm^3 and close to zero at higher density. A more detailed description of the results and of the experiments will be published elsewhere. Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 19Feb65 ENCL: 00 SUB CODE: EM, TD

NO REF SOV: 001 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, O.V.

PHASE I BOOK EXPLOITATION SOV/4054

Akademiya nauk SSSR. Institut nauchnoy informatsii

Khimicheskaya promyshlennost' SSSR (The Chemical Industry of the USSR) Moscow, Goskhimizdat, 1959. 457 p. Errata slip inserted. 4,100 copies printed.

Sponsoring Agency: USSR. Gosudarstvennyy nauchno-tekhnicheskiy komitet.

Ed.: R. S. Romm; Tech. Ed.: P. V. Pogudkin; Editorial Board: A. P. Vinogradov, S. I. Vol'fkovich, N. M. Zhavoronkov, M. I. Ivanov, V. S. Kiselev, I. A. Lunacharskaya (Scientific Secretary), S. S. Medvedev, B. D. Mel'nik, A. N. Planovskiy, A. Ya. Ryabenko (Chief Ed.), and A. V. Topchiyev.

PURPOSE: This book is intended for the personnel of the chemical industry. It will be of interest to the general reader interested in the development and structure of the Soviet chemical industry.

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The Chemical Industry of the USSR

COVERAGE: This book contains 18 articles on various aspects of the Soviet chemical industry. Among the developments in the production of raw materials for the manufacture of chemical products discussed are: 1) the use of raw materials synthesized from natural gas and petroleum to replace food products in the production of synthetic rubber, alcohol, detergents, etc.; 2) the production of acetylene from natural and petroleum gases for the synthesis of vinyl chloride, acrilonitrile, chloroprene, trichloroprene, 1, 4-butadiene, and other organic substances, based on methods developed by M. G. Kucherov, A.Ye. Favorskiy and others; 3) the production of acetylene from saturated hydrocarbons by cracking methane (and its homologs) at 1450° in an electric arc between two special electrodes in a gas reactor, by pyrolysis (thermal oxidation) of methane in an improved furnace designed by B. S. Grinenko, by high-temperature pyrolysis of propane and butane in tubular furnaces, or by other methods of producing acetylene for the production of synthetic rubber, ethyl alcohol, and other organic substances; 4) the synthesis of halogen derivatives of aliphatic hydrocarbons for the production of solvents, refrigerants, pharmaceutical products, etc., and 5) the production of rubber accelerators from nitrogen-containing aliphatic hydrocarbons. The history of plastics production in the Soviet Union is reviewed, and names, locations, and products of plants as well as the names of outstanding personalities in the field are given. The technical level and prospects of further development of different branches of the plastics industries are also discussed

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along with methods of manufacturing plastic articles. A special apparatus designed by Ye. M. Mogilevskiy and designated "VA" which permits preparation of viscose solution in one operation is discussed. It is being used to replace the complex, conventional equipment with great savings in space. General trends in the technology of synthetic fiber production are also discussed. A historical review of synthetic rubber production and the achievements of outstanding Soviet scientists in this field are given as well as names, locations and products of synthetic rubber plants. Rubber production and the manufacture of rubber goods are similarly reviewed. Statistical data and outstanding personalities in the development of the aniline dyes, paints and lacquers, mineral fertilizers, insecticides and fungicides, sulfuric acid, soda, mineral salts, radioactive and stable isotopes, and chemical reagents industries are given. Catalytic processes and automation and automatic devices used in the chemical industry are also discussed. Thirty-eight photographs included in the book show outside and interior views of some Soviet chemical industry plants, as well as their manufacturing, material-handling and laboratory equipment. Numerous personalities and facilities are identified in the body of the text. References accompany individual articles.

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The Chemical Industry of the USSR

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The Chemical Industry of the USSR SOV/4054

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, O.V.

Publication of new books on the technology of basic organic synthesis. Khim.prom. no.8:718-720 D '59. (MIRA 13:6)
(Chemistry, Organic--Synthesis)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, O.V.

Industry of basic organic synthesis in England. Khim. prom. no.4:343-348 Je '60. (MIRA 13:8)
(Great Britain--Chemistry, Organic--Synthesis)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, O.V.

Some problems involved in the development of the fundamental organic synthesis industry in capitalist countries. Khim.prom. no.6:434-443 Je '61. (MIRA 14:6)

(Chemistry, Organic—Synthesis)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

PAVLOV, Boris Alekseyevich; TERENT'YEV, Aleksandr Petrovich, prof. Prinimal uchastiye KORSUNSKIY, O.V.; RUKHADZE, Ye.G.; ZITSER, A.I., red.

[Course in organic chemistry] Kurs organicheskoi khimii. Izd.5., perer. Moskva, Khimiia, 1965. 686 p. (MIRA 18:5)

1. Chlen-korrespondent AN SSSR (for Terent'yev).

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

Korsunskiy, S. G.

KORSUNSKIY, S.G.

Acoustical study of the vibrato in artistic voices. Probl.fiziol. akust. 1:159-165 '49. (MIRA 10:11)

1. Akusticheskaya laboratoriya Moskovskoy konservatorii.
(VIBRATO) (SINGING) (MUSIC--ACOUSTICS AND PHYSICS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, S.G.

Acoustical study of the loudness of a singer's voice. Probl.fiziol. akust. 2:153-160 '50 (MIRA 10:11)

1. Komissiya po fiziologicheskoy akustike pri Otdelenii biologicheskikh nauk AN SSSR, Moskva.
(SINGING) (MUSIC--ACOUSTICS AND PHYSICS)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, S.G.

Effect of the spectrum of the perceived sound on its pitch. (MIRA 10:11)
Probl.fiziol.akust. 2:161-165 '50

1. Komissiya po fiziologicheskoy akustike pri Otdelenii biologicheskikh nauk AN SSSR, Moskva.
(HEARING) (MUSICAL PITCH)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, Saul Grigor'yevich; SIMONOV, Igor' Dmitriyevich; GINZBURG, Z.B., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Electric musical instruments] Elektromuzykal'nye instrumenty. Moskva, Gos.energ.izd-vo, 1957. 63 p. (Massovaia radiobiblioteka, no.271) (MIRA 10:11)

(Musical instruments, Electric)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSHUNSKIY, S.G.

6(5) SOV/1930

PHASE I BOOK EXPLOITATION

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zvukozapisi

Trudy...Vyp. 2. (Transactions of the All-Union Sound-recording Scientific Institute) Nr 2. Moscow, 1957. 164 p. Errata slip inserted. 1,000 copies printed.

Editorial Board: L.F. Apollonova, V.S. Vembora, D.F. Vasilevskiy, A.A. Vrablevskiy, S.A. Gribkova, L.O. Grigorian, B.B. Kazanskiy, V.I. Kozhemyako, L.A. Puget, Ye.I. Regirer, M.A. Rosenblit; Tech. Ed.: S.A. Gribkova.

PURPOSE: This collection of articles may be useful to scientists, engineers, specialists, and technicians dealing with sound-recording techniques.

COVERAGE: The articles are the results of research carried out at VNIIZ in 1954-1955. Most of the articles deal with magnetic recording, both for tape, wire, disk, or drum. References various physical processes on tape are mostly Soviet. appear separately after each article.

Table of Contents

Lagun, A.M. On the Problem of Selecting the Type and Parameters of the Drive Motor for a Three-Motor Broadcast Tape Recorder 131

The author lists and discusses the requirements of the drive motor. His article is a continuation of the previous article. There are no references.

Lagun, A.M. Two-speed Synchronous Drive Motor for a Broadcast Tape Recorder 143

The author reports on the results of investigation of the audibility of nonlinear distortions caused chiefly by overmodulation in recording. She also discusses the effect of distortion level and its duration on audibility. There are 5 references: 2 Soviet, 2 German, and 1 English.

Kazanskiy, I.D., and S.M. Kapranskiy. Call Signal Apparatus 157

The authors explain the operating principle and describe characteristics of a tuning-fork call-signal apparatus designed and developed by VNIIZ. They refer to a mechanical call-signal apparatus designed by V.F. Mal'tsev and discuss the advantages of the new apparatus, which is basically an automatic musical instrument. There are 6 references: 5 Soviet, 2 English, and 1 German.

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KUKHTIY, F.; VINOKUROV, A., mekhanik; KORSUNSKIY, V.

Renovation of the KM-1400 trench digger. Prom.stroi.i inzh. soor. 4 no.5:54 S-O '62. (MIRA 16:1)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya Nikopol'skogo gidrostroya (for Kukhtiy). 2. Starshiy proizvoditel' rabot proizvodstvenno-tekhnicheskogo otdeleniya Nikopol'skogo gidrostroya (for Korsunskiy).
(Excavating machinery)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

Korsunskiy, V.B.

93-5-12/19

AUTHORS: Korsunskiy, V. B., Usachev, V. V., Mazur, A. A., Chief Engineers of the Refineries Under Construction

TITLE: Over-all Designing of Refineries (Za kompleksnoye proyektirovaniye neftepererabatyvayushchikh zavodov) Organization of Refinery Designing (Ob organizatsii proyektirovaniya neftepererabatyvayushchikh zavodov)

PERIODICAL: Neftyanoye Khozyaystvo, 1957, Nr 5, pp. 47-51 (USSR)

ABSTRACT: The planned expansion and construction of large refineries in the Soviet Union calls for a great deal of work on the part of designing engineers. This work is useless unless it is properly and efficiently organized. The Minister of the Petroleum Industry of the USSR, M. A. Yevseyenko, raised this question at the 20-th Congress of the Communist Party of the USSR, but so far no measures have been taken to improve designing. Three shortcomings in designing refineries and petrochemical plants are discussed, namely: 1) the separation of individual designing organizations from the projects designed by them; 2) the distribution and separation of

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Over-all Designing of Refineries (Cont.)

designing organizations from each other; 3) a large number of designing organizations designing the same plants. The following organizations are now engaged in designing new refineries: Giproneftezavod (State Institute for the Design and Planning of Oil Refineries), Giproazneft' (State Institute for the Design and Planning of the Azerbaydzhan Petroleum Industry), Lengiprogaz (Leningrad State Institute for the Design and Planning of Synthetic Liquid Fuel and Gas Plants), Giprogrozneft' (State Institute for the Design and Planning of the Groznyy Petroleum Industry), and branch offices of the Giproneftezavod and Lengiprogaz. From time to time, the plants are located at a distance of several thousand kilometers from the designing organization. For example, the Molotovskiy Refinery is designed in Leningrad, the Yaroslavl' Refinery by the Rostov-on-Don branch office of the Giproneftezavod, and the designing of the Fergana, Irkutsk and certain other refineries is done in Baku. Designing of individual refinery installations and units is often done on a subcontract basis by special designing organizations belonging to other ministries. The designing work could be done by the main designing organization, which would avail itself of the

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Over-all Designing of Refineries (Cont.)

services of specialists on a consultative basis. As a result there are sometimes ten or even more organizations designing the same plant. Such an arrangement results in volumes of unnecessary correspondence, dealing with the changes in the designing schedule. It takes weeks and sometimes even months to solve problems which ordinarily should be solved within an hour. Chief engineers in charge of refinery designing visit the construction site once or twice a year, while directors and heads of other sections of the designing institute visit those plants even less frequently. As a rule, the engineers never see the units designed by them. Blueprints are frequently prepared too late or prematurely. There is a lack of coordination among various specialized construction crews. Isolation and separation of general designing organizations frequently upset the over-all designing schedule, cause duplication of work and lead to ignorance on the part of one institute of what other institutes are doing. In designing the Stalingrad Refinery it was discovered that a cinder dump had been superimposed over industrial-waste treating plants and the industrial-waste treating plant over a trunk pipeline. This situation had to be

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Over-all Designing of Refineries (Cont.)

remedied without the participation of the general designer, i.e. Giproazneft', while the cinder dump was designed by ROTER, the treating plant by RO Vodokanalproyekt and the pipeline by Giprotransneft'. A somewhat similar situation occurred in connection with the laying of a pipeline (Lengiprotransneft') over a dike, designed by the Khar'kov Promtransproyekt Institute across the Tat'yanka Arm. The dike was constructed before the plans for the pipeline arrived and consequently it had to be cut to a depth of one meter and after the pipeline had been laid it had to be backfilled. These examples show the harmful effects of the multiplicity of designing organizations, their isolation from each other and from the construction projects on the course and speed of the construction of refineries. This situation can be remedied, first of all, by having all the designing done in one institute of designing, for example, in Giproneftezavod. This institute should have specialists representing the allied fields and all the bibliographic material and archives dealing with the construction of refineries should be transferred there. The institute should be made responsible for the selection of refinery sites, development of general plants, designing problems

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BUROVOY, I.A.; KORSUNSKIY, V.I.

Method for the removal of large settling particles from apparatus with a fluidized bed. Khim.prom. 41 no.6:453-455 Jo '65.
(MIRA 18:8)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KRICHEVSKIY, G.Ya.; KORSUNSKIY, V.I.; DENISOVA, I.A.

Waste heat utilization in the roasting of granulated copper-zinc charge mixtures in a fluidized bed. TSvet. met. 36 no.10: 35-40 O '63. (MIRA 16:12)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, V.I.; KRICHEVSKIY, G.Ya.

Nomogram for calculating heat conditions of furnaces for the roasting in a fluidized bed of copper-zinc concentrates and charge mixtures. TSvet. met. 38 no.8:38-42 Ag '65.
(MIRA 18:9)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KRICHEVSKIY, G.Ya.; KORSUNSKIY, V.I.

Experimental determining of the coefficient of heat transfer in furnaces with a fluidized bed for the roasting of sulfide materials. Khim.prom. 41 no.6:441-442 Je '65.

(MIRA 18:8)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

Korsunskiy, V. M.

82553

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B006/B060

24.7700

AUTHORS: Korsunskiy, V. M., Lisitsa, M. P.

TITLE: Infrared Absorption and Hole Band Structure of Tellurium

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1619-1623

TEXT: L. I. Korovin and Yu. A. Firsov suggested the use of data on infrared absorption for clarifying some particulars concerning the valency zone structure of tellurium. Their group-theoretical investigations revealed that two variants are relevant for the form of the energy spectrum of the hole band: one ellipsoid in the center of the Brillouin zone or two ellipsoids in the C-direction. A decision can be made when the form of the band, which is established by the type of isoenergetic planes is known. To determine such a form was the main task confronting the investigations. In the course of them, the authors examined the edge of characteristic absorption for two directions of the light vector and background absorption. The test pieces used for the purpose were made of tellurium single crystals, that had been produced at the Leningradskiy institut poluprovodnikov (Leningrad Institute of Semiconductors). Foils were cut in parallel

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Infrared Absorption and Hole Band Structure of Tellurium

to the C-axis, then ground and polished. As a consequence of such treatment, differently oriented microcrystals formed on the surface of the test pieces, so that the reflection coefficients of the latter were practically the same for both polarizations ($E \parallel C$, $E \perp C$) in the whole spectral range. The experimental error in the determination of the reflection coefficient did not exceed 5%. On taking account of all other factors, the total error was found to be $\Delta k/k \simeq 15\%$. In Fig. 1, the transmissivity and reflectivity curves are shown for natural and polarized light for two specimens (Specimen 1: 0.83 mm thick, impurity concentration $\simeq 10^{14} cm^{-3}$, Specimen 2: 0.37 mm thick, impurity concentration $\simeq 10^{16} - 10^{17} cm^{-3}$). Only the curves D and $D_{\parallel}$ (penetrability in the ordinary or in the $E \parallel C$-polarized light, respectively, for Specimen 1) exhibit a minimum at $\lambda = 11 \mu$. By making use of these data and results from Ref. 7, the authors calculated the absorption curves for polarized light; they are shown in Fig. 2. The position of the absorption edge was then determined from the point of inflection (1st line of the table) and by means of the extrapolation of the linear part of the curve to the point of intersection with the abscissa (2nd line).

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Infrared Absorption and Hole Band Structure of Tellurium

S/181/60/002/007/035/042
B006/B060

The results are:

$\nu_{\parallel}$ cm^{-1}	$h\nu_{\parallel}$ ev	$\nu_{\perp}$ cm^{-1}	$h\nu_{\perp}$ ev
2800	0.39	2600	0.32
2530	0.315	2470	0.308

The thermal width of the forbidden band was found to be 0.33 ± 0.01 ev. Some problems concerning the structureless background bordering with the characteristic absorption edge and extending far into the longwave region, are discussed next. It appears certain that it is closely related to the free carriers. That the absorption coefficient in the background is dependent on polarization, is explained by the dependence of the effective carrier mass on the direction. The main issue is then first discussed, namely, the hole absorption band shape in the region $\lambda = 11\ \mu$. It is shown in Fig. 3. The three possible functions (4), (5), and (6) for $k(\nu)$, based on the one- or the two-ellipsoid model, are written down. A number of experimental results admits only (5) and (6) for selection, and the fact that the absorption band is symmetrical

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L 19465-63 EPF(c)/EWT(1)/EWT(m)/BDS AFFTC/ASD/SSD Pr-4 RM/WW/MAY

ACCESSION NR: AT3002205 S/2941/63/001/000/0119/0127

AUTHORS: Korsunskiy, V. M.; Faydy*sh, A. N. A9B

TITLE: Luminescence and excitation energy transfer in anthracene crystals

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminestsentsiya. Moscow. Izd-vo AN SSSR. 1963, 119-127

TOPIC TAGS: absorption, luminescence, exciton, organic crystal

ABSTRACT: A thorough analysis was made of the absorption and luminescence spectra of pure anthracene crystals and anthracene mixed with 3.9×10^{-6}, 3.9×10^{-5} and 7.8×10^{-5} mol/mol naphthacene in a temperature range 300-90K. From the data gathered calculations were made to determine the probability of excitation energy transfer and the diffusion length of exciton displacement using a phenomenological argument and the microscopic theory of M. Trilifaj (Chekh. Fiz. Zh., 8, 510, 1958). These calculations indicate that the dipole-dipole resonance theory of excitation energy transfer could be used in studying energy transfer processes in organic crystals. In the region investigated, the excitation energy transfer was shown to vary only slightly with temperature. Orig. art. has: 5 figures, 3 formulas, and 2 tables.

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ZIMA, V.L.; KORSUNSKIY, V.M.; FAYDYSH, A.N.

Spectra and the conditions for the transfer of electron excitation energy in pure and doped anthracene crystals. Izv.AN SSSR.Ser. fiz. 27 no.4:519-523 Ap '63. (MIRA 16:4)
(Anthracene crystals—Spectra)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNSKIY, V.M. [Korsuns'kyi, V.M.]; FAYDYSH, A.N. [Faidysh, O.M.]

Energy transfer in anthracene crystals with admixtures of phenazine and acridine. Ukr. fiz. zhur. 8 no.6:677-683 Je '63. (MIRA 16:7)

1. Kiyevskiy gosudarstvennyy universitet im. Shevchenko.
(Anthracene crystals--Spectra) (Quantum theory)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

L 10588-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3001396 S/0020/63/150/004/0771/0774

65
64

AUTHOR: Korsunskiy, V. M.; Faydy*sh, A. N.

TITLE: Migration of energy of the triplet level in benzophenone crystals

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 771-774

TOPIC TAGS: triplet exciton, transfer of energy, benzophenone, naphthalene, naphthacene, phosphorescence, energy, triplet level

ABSTRACT: To demonstrate "triplet exciton", the transfer of energy of the triplet level from donor to acceptor molecule or transfer between similar molecules, the transfer of energy from benzophenone crystals to admixtures of naphthalene or naphthacene was studied. Phosphorescence spectra of benzophenone with different concentrations of naphthalene or naphthacene are given. The triplet level of benzophenone was lowered while that of the dissolved naphthalene increased. Since naphthalene does not emit at Lambda 365 millimicrons, the emission must be explained by energy transfer from the benzophenone. In naphthacene the energy is transferred to the first excited singlet as demonstrated by the presence of afterglow in the excited material (Lambda = 436 millimicrons) and by the decrease in the duration of phosphorescence in benzophenone caused by

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L 10588-63
ACCESSION NR: AP3001396

the decrease in the duration of phosphorescence in benzophenone caused by addition of naphthacene. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Kiyevskiy gosudarstvenny*y universitet im. T. G. Shevchenko (Kiev State University)

SUBMITTED: 25Dec62 DATE ACQD: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 006 OTHER: 006

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

ACCESSION NR: AP4020313 S/0302/64/000/001/0028/0031

AUTHOR: Derkach, V. P. (Candidate of technical sciences); Zhivkova, T. P.; Korsunskiy, V. M.; Oreshkevich, A. I.

TITLE: Luminescent matrix for photorecording images produced by electronic computers

SOURCE: Avtomatika i priborostroyeniye, no. 1, 1964, 28-31

TOPIC TAGS: luminescent matrix, computer, computer output, computer output photorecording, EL-510 phosphor, EL-460 phosphor

ABSTRACT: Experiments with recording the output information of computers on luminescent 256 x 256-element plates ("matrices") and photographing it are described. Each element is 0.5 x 0.5 mm, and the distance between elements is 0.5 mm. A line-by-line exposure is used to ensure higher speed and contrast of the plates coated with EL-510 (green) and EL-460 (blue) phosphors.

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GOLUB, A.I.; KORSUNSKIY, Ye.I.; LYANDE, A.Ye., spetsred.; DAMASKINA, G.B., red.; YAROV, B.M., tekhn. red.

[Advanced operating methods for wrapping machines] Peredovye metody raboty na zavertyvaiushchikh mashinakh. Moskva, Pishchepromizdat, 1956. 29 p. (MIRA 11:8)
(Wrapping machines)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

SALAMOV, K.P.; BERNAR, D.N.; KORSUNSKIY, Ye.V.

Building underground units for a continuous steel casting plant by the open caisson method. Osn., fund. i mekh. grun. 7 no.3:18-21 '65. (MIRA 18:6)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNTSEV, A. V.

Korsuntsev, A. V.

The following isamong dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

"Current-Limiting Cutouts, for Protecting High-Voltage Condenser Batteries against Puncture." 22 June 1953. A procedure was developed and verified experimentally for calculating the protective action (amplitude of the passing current) for a current-limiting cutout of any type which functions in a system of condenser batteries. The procedure of typical tests was firmly established.

SO: M-1048, 28 Mar 56

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

GERTSIK, A.K., inzhener; KALININ, Ye.V., kandidat tekhnicheskikh nauk; KORSUNTSEV, A.V., kandidat tekhnicheskikh nauk; MERKHALEV, S.D., inzhener.

Reinforced insulator strings for oberhead lines. Elektrichestvo no.3:69-72 Mr '56. (MLRA 9:6)

1.Nauchno-issledovatel'skiy institut postoyannogo toka.
(Electric insulators and insulation)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNTSEV, A.V.

MARCHENKO, Ye.A., kand.tekhn.nauk; ROZOVSKIY, Yu.A., kand.tekhn.nauk; SHUR, S.S., kand.tekhn.nauk; KORSUNTSEV, A.V., kand.tekhn.nauk, red.; DEMKOV, Ye.D., red.; MEDVEDEV, L.Ya., tekhn.red.

[Series capacitors] Prodol'naia emkostnaia kompensatsiia linii elektroperedachi. Moskva, Gos. energ. izd-vo, 1957. 47 p. p. (MIRA 11:4)

1. ORGRES, trust, Moscow.
(Condensers (Electricity))

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

KORSUNTSEV, A.V.

Using the theory of similitude for calculating the pulse characteristics of concentrated ground connections. Nauch. dokl. vys. shkoly; energ. no.1:217-222 '58. (MIRA 11:10)

1.Nauchno-issledovatel'skiy institut postoyannogo toka.
(Electric currents--Grounding) (Dimensional analysis)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825010011-3

AUTHOR: Korsuntsev, A.V., Candidate of Technical Sciences 105-58-5-8/28

TITLE: The Application of the Similarity Theory for the Calculation of the Pulse Characteristics of Punctiformly Distributed Grounds (Primeneniye teorii podobiya k raschetu impul'snykh kharakteristik sosredotochennykh zazemliteley)

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 31-35 (USSR)

ABSTRACT: The impossibility of experimentally determining the natural amount of grounds in the case of high pulse currents caused the laws of similarity of these processes to be studied. The development of a method based upon the theory of similarity (Refs 8, 10, 11) formed the subject of the problem to be solved by the Institute for Parallel Current. Derivation of similarity criteria was based upon the conception of the spark zone. The boundaries of this zone, which is affected by the discharge in the ground, are determined by the critical gradient of the potential $E_{breakdown}$, whereas the internal resistance is assumed to be equal to zero. The investigations carried out at the Institute with respect to the characteristics of ground discharges confirm the existence of ramifications of the

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channel, of a low voltage drop in the channel, and of the possibility of utilizing the conception of a "spark zone" for purposes of carrying out calculations in practice. It was shown that the influence exercised by configuration and the position of individual elements of the ground steadily lose its importance with increasing current, and that total dimensions acquire basic importance. The measurements of such a more or less symmetric construction of grounding are best characterized by the distance s between the geometric center of the ground lead on the surface of the earth and its most remote point. This distance is described as the characteristic dimension of grounding, and is here assumed to be s = 15 m. The data available make it possible to disregard the inductivity and the capacity of the electrodes (Ref 5) in the case of such a distance. The so-called Π-theorem of the similarity theory (Ref 8) is applied. The number of variables is here restricted to two dimensionless Π_1 and Π_2. The experimental curve $\Pi_1 = f(\Pi_2)$ fully represents all complicated processes actually taking place in the ground. The similarity-criteria (17) and (18) of the criterion equation (19) $\Pi_1 = F(\Pi_2)$ are derived. In order to check the possibility of constructing the criterion curve (19), the data

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available in publications (Refs 3,4,6,7) were used. In spite of the fact that experiments were carried out by different authors and under different conditions and amperages, an average curve was obtained with sufficient accuracy, with deviations of individual values of about 8%. This proves that the curves obtained can be used for calculations carried out in practice. The curves consist of two sections: a horizontal one with low values of Π_2, and one declining in the range of high Π_2 values, each ground lead having its own horizontal section. The declining sections coincide for all ground leads. The physical significance of this development is the following: The horizontal section of the curve for each ground lead corresponds to the constant value of the resistance R_u ("pulse resistance" of the ground lead) in that domain of Π_2 values which corresponds to low amperages. Within this domain there is no spark zone round the electrode or, if there is, it is negligible. - With an increase of current, and thus also with an increase of Π_2-values the spark zone begins to develop (salient point of the

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