"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKE, M.E., red.; BRONSHTEYN, A.N., red.; MATVEYEV, N.I., red.; POLYAKOVA, V.V., red.p FILIMONOV, L.N., red.; TRUSOV, N.S., tekhn.red.

[Papers read at the Second All-Union Conference of Spectroscopic Assayers of Nonferrous Metals] Materialy 2-go Vsesoiuznogo soveshchaniia spektroskopistov-analitikov tsvetnoi metallurgii. Red. kollegiia M.E.Britske, i dr. Moskva, Nauchno-tekhn.ob-vo tsvetnoi metallurgii, 1957. 128 p. (MIRA 11:3)

1. Vsesoyuznoye soveshchaniye spektroskopistov-analitikov tsvetnoy metallurgii, 2d, Moscow, 1955.
(Nonferrous metals) (Assaying)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKE, M.E.

Investigating conditions for ionization and excitation in the plasma of an arc discharge. Fiz.sbor. no.4:338-341 '58.
(MIRA 12:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov.

(Electric discharges through gases)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

AUTHORS: Britske, M.E. and Burovoy, I.A. SOV/136-58-9-8/21

TITLE: Automatic Flame Spectrophotometer for Finding the Contents of Metals in Process Solutions (Avtomaticheskiy plamennyy spektrofotometr dlya kontrolya soderzhaniya metallov v tekhnologicheskikh rastvorakh)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 9, pp 39-42 (USSR)

ABSTRACT: The authors point out the advantages of flame spectrophotometry for the rapid analysis of eg. electrolytes required for the automation of production processes. They note that flame photometry has not been much used in the USSR and attribute this to lack of standard equipment, suitable for works use, and go on to describe equipment (Fig 1) developed by themselves and intended both for rapid continuous analysis and automatic analysis of laboratory samples. In this the test solution is sprayed with the aid of compressed oxygen into a flame in front of the slit of a UM-2 monochromator, The combustion is automatically controlled by pressure regulators. The intensity of the lines of the element being determined is measured with FEU-19M or FEU-22 photomultipliers for the

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visible and infra-red ranges, respectively. The voltage to the installation is stabilized by a standard type PR stabilizer and rectified by a type PT rectifier. The measuring block consists of a cathode repeater and a type EPP-09 recorder or a type EPD-R controller. For automatic analysis of samples a special arrangement enables 30 1-2-ml samples to be dealt with at a rate of one every 40 seconds. The mean error of analysis is under 2%. With simple precautions the equipment remains stable (Fig 3) and need not be calibrated more than once per shift. The authors intend next to produce the equipment in a form suitable for installation directly in the works. An

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Automatic Flame Spectrophotometer for Finding the Contents of Metals in Process Solutions SOV/136-58-9-8/21

experimental batch of automatic flame spectrophotometers is now being produced by Gintsvetmet.

There are 3 figures and 1 table.

ASSOCIATION: Gintsvetmet

Card 3/3 1. Electrolytes--Analysis 2. Spectrophotometers--Applications 3. Flames--Spectra

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

28 (5)

AUTHORS: Britske, M. E., Lavrova, Ye. A. SOV/32-25-8-26/44

TITLE: Application of the Photo-electric Stylometer FES-1 for the Analysis of Nonconductive Powders

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 970 - 971 (USSR)

ABSTRACT: For comparison a non-resolved beam of the arc is being used in the instrument FES-1, which causes difficulties in the analysis of powders. Therefore, a light filter was inserted in the channel in the present case, which filter permits the passage of only a narrow wave-range of the spectrum. To stabilize the intensity of the spectrum the blowing-in of the sample method according to A. K. Rusanov was applied. Sodium is used as inner standard. Determinations of lead, zinc, and copper on ores and flotation residues of the lead-zinc production were made (Table), the influence of the blowing-in velocity, of the current intensity of the arc and the chemical composition of the sample were investigated and it was established that these factors do not cause an appreciable displacement of the calibration dia-

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Application of the Photo-electric Stylometer FES-1 for the Analysis of Nonconductive Powders SOV/32-25-8-26/44

grams (Figure). There are 1 figure and 1 table.

ASSOCIATION: Gosudarstvennyy institut tsvetnykh metallov (State Institute of Non-ferrous Metals)

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKE, M.E.

Turbulent flames as the source of light for the analysis of solutions by flame photometry. Zav.lab. 30 no.12:1465-1469 '64. (MIRA 18:1)

Evaluation of the sensitivity and reproducibility of flame photometric analysis. Ibid.:1454-1458

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, V.G.

Radiocommunication for car-couplers and yardmasters. Avtom., telem. i sviaz' 2 no.6:39 Je '58. (MIRA 11:6)

1. Starshiy elektromekhanik Ziminskoy distantsii signalizatsii i svyazi Vostochno-Sibirskoy dorogi.
(Railroads--Electronic equipment)
(Railroads--Making up trains)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, V.S.

Dismountable cement-mold center for making collecting mains and conduits, Biul. Stroi. tekh, [illegible], no.11, 1952

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, Ya.V.

Study of tyrogliphid mites found in mills and granaries. Nauk.zap. L'viv.nauk.pryrod.muz. AN URSR 3:33-42 '54. (MIRA 8:5)
(Mites)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, Ya. V. [Bryts'kyi, IA.V.]

Comparative effectiveness of the action of benzene hexachloride dichloroethane, and the solution of benzene hexachloride in dichloroethane on soil insects. Pratsi Inst. agrobiol. AN URSR 5:17-23 '54. (MIRA 11:7)

(Insecticides)
(Soil disinfection)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

SIROTINA, M.I.; BRITSKIY, Ya.V.; CHERNAYA, G.S.

Indices for short-term forecasting of the abundance, vitality and fecundity of Colorado beetle. Dokl. AN SSSR 156 no. 2: 448-451 My '64. (MIRA 17:7)

1. Nauchno-issledovatel'skiy institut zemledeliya i zhivotnovodstva zapadnykh rayonov UkrSSR. Predstavleno akademikom Ye.N. Pavlovskim.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, Ya.V., Cand Biol Sci -- (diss) "Ground entomorfauna of the western ~~timber~~ forest steppe of the UkSSR." L'vov, 1959, 15 pp (Min of Agr UkSSR. Ukrainian Acad of Agr) 150 copies (KL, 35-59, 113)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSKIY, Ya.V. [Bryts'kyi, IA.V.], kand. biolog. nauk; FARINA, B.S.

Efficiency of the combined use of insecticides, herbicides and mineral fertilizers for the control of wireworms in corn fields. Khim. prom. [Ukr.] no.3:42-43 Jl-S '64.

(MIRA 17:12)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

KOSTOUSOV, A.I.; BRITSKO, K.M.; VOLODIN, Ye.I.; GRECHUKHIN, A.I.; DEGTYARENKO, N.S.; DOBROSKOK, A.N.; MARDANYAN, M.Ye.; NAYDENOV, I.A.; PROKOPOVICH, A.Ye.; TELYATNIKOV, L.P.; USPENSKIY, Ya.K.; KHLYNOV, V.N.; PERL'SHTEYN, Ye.A., nauchnyy red.; YEVSEVICHEV, V.I., red.; BUDOVA, L.G., tekhn.red.; NADEINSKAYA, A.A., tekhn.red.

[Machine-tool manufacture in Japan] IAponskoe stankostroenie. Pod obshchei red. A.E.Prokopovicha i M.E.Mardaniana. Moskva, TSentr. biuro tekhn.informatsii, 1959. 461 p. (MIRA 13:9)

1. Moscow (Province) Oblastnoy sovet narodnogo khozyaystva. (Japan--Machine tool industry)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

KALININA, V.F.; ROMANOV, A.D.; BRITSKO, K.M., red.; KUPCHE, P.P., tekhn. red.

[Design of the elements for watch mechanisms and devices]Konstruirovanie i raschety elementov chasovykh mekhanizmov i priborov. Penze, TSentr. biuro tekhn. informatsii sovnarkhoza, 1960. 167 p. (MIRA 16:3)
(Glockmaking and watchmaking)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

Britsyn K. I.

56-2-42/51

AUTHORS: Vavilov, V. S. , Britsyn, K. I.

TITLE: On the Quantum Yield of the Atomic Photo-Effect in Germanium (O kvantovom vykhode vnutrennego fotoeffekta v germanii)

PERIODICAL: Zhurnal Eksperimetal'noy i Teoreticheskoy Fisiki, 1958, Vol. 34, Nr 2, pp. 521 - 523 (USSR)

ABSTRACT: First the authors shortly refer to earlier works dealing with the same subject. The authors carried out measurements of the quantum yield of the atomic photo-effect in germanium of the N-type within the range of wave lengths of from 1,5 to 0,254 μ. The quantum yield Q is defined as the ratio (number of excess free carriers / number of absorbed photons). In the experiments germanium monocrystals with the specific resistance from 9 10 to 20Ω were used. The original diffusion length was about 1,5 mm. The plate-shaped crystals (0,3 - 0,6 mm thick and 1 cm^2 surface) were irradiated with monochromatic light from one side. At the opposite side of the plates there was an N-P-transition which had been pro-

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On the Quantum Yield of the Atomic Photo-Effect in Germanium

duced by the melting of indium. Also the light sources used are given. Within the ultraviolet range the luminescent compound Lumogen (with a constant yield of luminescence) as well as the photomultiplier ФЭУ-25 were used as recorders for the bands 366, 313, 289 and 254 m μ. Also the formula for the calculation of the quantum yield is given. The total reflection coefficient occurring in this formula was measured by means of integral photometer sphere. A diagram shows the curve $R(h\nu)$ as well as the values of the quantum yield for the photo-energies from 0,83 to 4,9 eV computed by means of the above formula. This curve clearly shows the important increase of Q, which, however, does not begin with the double minimum work function of the electron ($\sim$1,4 eV), but at higher energies. The increase of the quantum yield becomes slower with great $h\nu$; i.e. the mean energy ε , which must be expended for the production for an electron-hole pair, increases. A certain increase of ε was also observed in the investigation of the propagation of fast electrons in germanium with increasing energy of the electrons. There are 1 figure, and 8 references, 7 of which are Slavic.

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56-2-42/51

On the Quantum Yield of the Atomic Photo-Effect in Germanium

ASSOCIATION: **Moscow State University**
(Moskovskiy gosudarstvennyy universitet)

SUBMITTED: November 21, 1957

AVAILABLE: Library of Congress

1. Germanium-Atomic photo effect 2. Quantum yield-Measurement

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

AUTHORS: Vavilov, V. S., Britsyn, K. I. SOV/56-34-5-60/61

TITLE: On the Quantum Yield of the Photo-Ionisation in Silicon (O kvantovom vykhode fotoionizatsii v kremnii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 5, pp. 1354 - 1355 (USSR)

ABSTRACT: It was shown in two previous works (Refs 1,2) that the quantum yield of the internal photo effect in germanium crystals in the case of sufficiently high photon energies can reach considerably higher values than unity. This increase of the quantum yield can be explained by collision ionisation by primary electrons or holes (which on occasion of the absorption of the photon have become free and have the necessary excess momentum). A similar phenomenon could also be expected in silicon. For the investigation of the photo effect in silicon the author used crystals with P-N-transitions which could be expected to occur by thermo-diffusion of phosphorus in silicon of the P-type. To obtain a sufficient sensitivity in the short-wave range crystals were produced in which the depth of the P-N-transition under the

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illuminated surface did not exceed over 2μ. The same experimental arrangement served in these measurements and in those with germanium. Reference is made concerning a complication, which occurs as compared to germanium. In the range of the photon energies of $E_g < \hbar\nu < 2E_g$ ($E_g \sim 1,1$ eV denoting the width of the forbidden band of silicon) the quantum yield was set equal to 1. The experimental dependence of the reflection coefficient R and of the product of the quantum yield Q with the collective coefficient (koeffitsiyent sobiraniya) on the photon energy $\hbar\nu$ is illustrated in a diagram. At about $\hbar\nu \sim 3,25$ eV a remarkable increase of this quantity begins. The course taken by the curve tends to show an increase of the quantum yield and thus a presence of ionisation by collision by the carriers liberated in the absorption of the photons. The results resemble those from the measurements by McKay (Ref 6). The authors express their gratitude to V.M. Malovetskiy, V.M.Patskevich and L.V.Belova for their assistance in the production of the crystals with the P-N-transitions.

Card 2/3 There are 1 figure and 6 references, 4 of which are Soviet.

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On the Quantum Yield of the Photo-Ionisation in Silicon SOV/56-34-5-60/61

ASSOCIATION: Moskovskiy gosudarstvenny universitet (Moscow State University)

SUBMITTED: February 27, 1958

1. Silicon crystals--Photoconductivity 2. Electrons--Properties
3. Photons--Properties

Card 3/3

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~~24(5)~~ 24,5400 SOV/181-1-10-20/21

AUTHORS: Vavilov, V. S., Britsyn, K. I.

TITLE: On the Spectral- and the Temperature Dependence of the Quantum Yield in Silicon

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 10, pp 1629 - 1631 (USSR)

ABSTRACT: Already in an earlier paper the authors showed that the absorption of photons with an energy exceeding e.g. 3 ev in silicon is accompanied by a carrier production with a yield that exceeds unity. This was assumed to be due to an impact ionization by carriers having kinetic energy excess. An increase of the quantum yield with the energy of the absorbed photons was observed also in germanium, indium antimonide and other semiconductors. It was the aim of the present paper to obtain more accurate data concerning photoionization in silicon. For the investigation of the process of photoionization the changes of steady photoconductivity are used. In the case of a sufficiently high concentration of the adhesion centers a considerable increase of the photocurrent may, however, occur, which renders interpretation

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On the Spectral- and the Temperature Dependence of the Quantum Yield in Silicon

of experimental results more difficult. For their investigation the authors used silicon single crystals of the p-type with P-N transitions. The depth of the position of the P-N transition fluctuated in the various crystals between 2 and 40 μ. For these samples the spectral and the temperature dependence of the photoionization quantum yield was investigated for a photon energy up to 4.9 ev. The investigations were carried out by employment of a method which permitted excluding the influence of adhesion centers and also permitted separation of the phenomena directly connected with photon absorption and impact ionization by carriers with kinetic energy excess. Some of the results are shown in the two diagrams. Figure 1 shows the dependence of the so-called "effective quantum yield" $Q\alpha$ on $h\nu$ (in ev) at 100, 300, and 400°K. The curves take a similar course: at low (ν 1 ev) quantum energies the yield increases slightly, after which $Q\alpha$ remains constant over a range of nearly 2 ev, and then increases more or less steeply with further increasing $h\nu$. Figure 2 shows the function $Q=f(h\nu)$ for the same temperatures. After the plane part of the curve the

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On the Spectral- and the Temperature Dependence of the Quantum Yield in Silicon

ascending branches begin; the yield increase begins the sooner, the higher the temperature: at 400°K the ascending branch begins at 2.95 ev, at 100°K only at 3.4 ev. This temperature dependence of the quantum yield is within the range of impact ionization. This dependence is considered to be due to a temperature-dependent decrease of the widths of the forbidden band. An additional shift of the impact ionization range towards lower photon energies may be connected with an increase of the relative number of "indirect" electron transitions with photon participation with rising temperature. The authors finally thank S. G. Kalashnikov, B. M. Vul, M. N. Alentaev, and V. A. Chmyrenkov for valuable comments

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR Moskva (Physics Institute imeni P. N. Lebedev of the AS USSR, Moscow). Moskovskiy gos. Universitet, Fizicheskiy fakul'tet (Moscow State University, Department of Physics)

SUBMITTED: March 24, 1959

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B006/B063

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AUTHORS: Vavilov, V. S., Britsyn, K. I.

TITLE: The Effect of a Strong Electric Field on Light Absorption in Silicon

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 8, pp. 1937 - 1939

TEXT: The effect of strong fields on light absorption and the field-induced shift of the main absorption band was first mentioned by F. F. Vol'kenshteyn, and a theory was developed by L. V. Keldysh. The authors of the present paper made experiments concerning the effect of strong fields on light absorption in polycrystalline silicon. Silicon has a forbidden band width of not much more than 1 ev, and the effective carrier mass is much smaller than m_e. The silicon sample used for these experiments had a resistivity of about 10^{11} ohm.cm at T = 100°K (experimental temperature). This had been effected by neutron bombardment in a reactor ($\sim 10^{18} n/cm^2$). Previous experiments had shown that near the absorption edge a new band with a maximum at 1.8 μ appeared due to

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The Effect of a Strong Electric Field on Light Absorption in Silicon

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defects. The experimental arrangement is shown in Fig. 1 and briefly described. In the spectral region corresponding to phononic transitions from the valency band to the conduction band there was a considerable shift of the absorption edge by 150 A at $E = 5.10^4$ v/cm (Fig. 2). It may be seen from Fig. 2 that the application of a field entails a considerable increase in the absorption coefficient in the wavelength range of 0.8 - 0.9 μ. The amount of the shift observed, $\Delta\lambda$, and its dependence on the field strength in the sample are in good agreement with theoretical predictions. The strength of the effect and the slight change in conductivity seem to justify the assumption that this is a pure field effect. The measurements were made at E = const. The authors thank L. V. Keldysh, M. N. Alentsev, S. G. Kalashnikov, and B. M. Vul for their discussions. There are 2 figures and 5 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet Fizicheskiy fakul'tet Kafedra poluprovodnikov (Moscow State University, Department of Physics, Chair of Semiconductors)

SUBMITTED: January 25, 1960

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S/051/60/008/06/018/024
E201/E691

AUTHORS: Britsyn, K.L. and Vavilov, V.S.

TITLE: On the Process of Photoionization in Silicon

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 6, pp 861-867 (USSR)

ABSTRACT: The paper reports data on the wavelength and temperature dependences of the quantum yield (number of electron hole pairs generated by one photon) of absorption of photons with energies up to 4.9 eV in silicon. By the use of p-type Si with pn junctions produced by thermal diffusion of phosphorus (Fig 1) the effect of capture (trapping) centres was avoided. The short-circuit current I in the external circuit (Fig 1) between the n-type and p-type regions (which is produced by weak excitation in the fundamental absorption-band region) is proportional to the number, n, of generated electron-hole pairs: $I = \alpha q N$, where q is the electronic charge. The coefficient α is smaller than unity and is a function of the geometry of the crystal, the diffusion lengths of the charge carriers, the rate of surface recombination, the carrier mobilities and the absorption coefficient of light (Ref 9). The quantum yield, Q, can be found from:

$$Q = \frac{I}{\alpha q N_0 (1 - R)},$$

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On the Process of Photoionization in Silicon

where $R_{h\nu}$ is the reflectivity of silicon (shown in Fig 2) and $N_{h\nu}$ is the number of photons per second which is measured by means of a calibrated thermal pile (the apparatus is shown in Fig 3). It was found that the quantum yield, Q, depends on temperature only in the region where collision ionization is produced by carriers liberated on absorption of photons (Figs 8 and 9). On increase of temperature the collision-ionization region is shifted towards the lower photon energies which is partly due to reduction of the forbidden band in silicon. Acknowledgments are made to B.M. Vul, S.G. Kalashnikov, M.N. Alentsev and V.A. Chuyenkov for their advice. There are 9 figures and 14 references, 5 of which are Soviet, 3 English, 3 Czechoslovak, 1 German and 2 translations into Russian.

SUBMITTED: October 19, 1959

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

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S/181/61/003/008/032/034
B111/B102

24.3600(1035, 1385, 1482)

AUTHORS: Britsyn, K. I., and Vavilov, V. S.

TITLE: Effect of a high-frequency electric field upon the edge of the fundamental band of optical absorption by silicon

PERIODICAL: Fizika tverdogo tela, v. 3, no. 8, 1961, 2497 - 2499

TEXT: The effect of an outer electric field causes the edge of the fundamental band to be blurred; in the experiment, this appears as a "shift" of the edge. For silicon and in fields of an order of 10^5 v/cm, this shift must have a value of the order of $\Delta\lambda \simeq 100$ Å in the region where the absorption coefficient drops sharply. In addition, it exceeds the Stark effect by two orders of magnitude. In theoretical studies, this electro-optical effect is always supposed to be of very low inertia, unlike absorption by non-equilibrium carriers observed in semiconductor crystals. In Ref. 4 (FTT, II, 1937, 1960) the authors had given the results of experiments, in which the electro-optical effect in silicon single crystals was observed in constant fields. The aim of the present work was to study the same effect in h - f electric fields. Measurements were performed at

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about 100°K, with the silicon single crystals being placed in a vacuum of 10^{-6} mm Hg; the resistivity of the crystals was 10^{11} ohm.cm (at 100°K) and the period of h - f oscillations was 10^{-7} sec. Monochromatic light ($\lambda = 0.93\mu$), passed through the crystal and modulated by the variable field, fell upon a photomultiplier. A double-ray pulsed oscilloscope visualized the change in light intensity as a function of E. The oscillograms showed that the pulse-front corresponding to the decrease in transmissivity of the crystal delay did not exceed $2 \cdot 10^{-8}$ sec with respect to the front of the voltage applied. By interpreting the oscillograms, the authors found absorption in silicon to change sharply with changing wavelength in the spectral round 1μ. It is finally observed that, apart from the possibility of h - f light modulation in a semiconductor by a field, this result is significant as it confirms that the shift of the edge is not caused by temperature effects or other effects connected with the carriers. L. V. Keldysh (Ref. 1: ZhETF, 34, 1138, 1958) is mentioned. There are 3 figures and 4 references: 3 Soviet and 1 non-Soviet.

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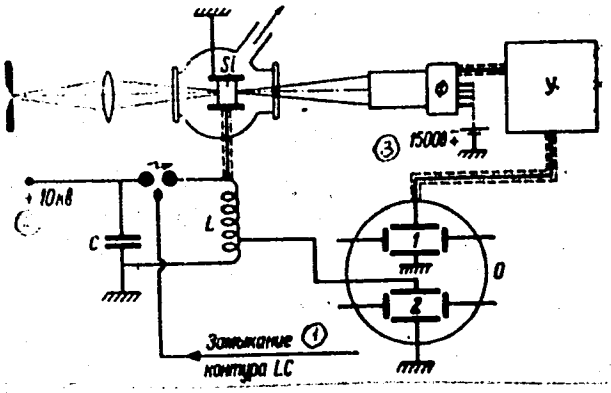
27302

S/181/61/003/008/032/034
B111/B102

Effect of a hi[illegible] lectric.

ASSOCIATION: Fizic[illegible]y institu[illegible] . . Lebedeva AN SSSR, Moskva
(Insti[illegible]te of Phys[illegible] . . N. Lebedev AS USSR, Moscow)

SUBMITTED: April 2[illegible],



Фиг 1.

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, K.I.; VOLKOV, B.A.; MATVEYEV, V.V.; SMIRNOV, A.A.

Effect of an electric field on the position of the optical absorption "edge" in polycrystalline CdS films. Fiz. tver. tela 7 no.8:2536-2538 Ag '65. (MIRA 18:9)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

L 16123-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4/Pb-4 ESD(dp)/ESD(ga)/ESD(t)/AFWL/ASD(a)-5/APMD(t)/RAEM(a)/IJP(c) JD

ACCESSION NR: AP5000688 S/0181/64/006/012/3730/3732

AUTHORS: Britsy*n, K. I.; Matveyev, V. V.

TITLE: Effect of thermal oxidation of silicon on the position of the absorption band due to oxygen atoms in 9.1 micron region

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3730-3732

TOPIC TAGS: silicon, silicon dioxide, oxygen, absorption band, ir absorption, thin film, ir spectrometry

ABSTRACT: The effect of oxygen dissolved in silicon was determined from the characteristic infrared absorption spectrum at wavelengths near 9μ. The absorption spectra of the oxidized silicon were measured to determine the influence of the thickness of thermally grown SiO_2 film on the position of the absorption band due to the vibrations of the oxygen dissolved in the silicon. The samples were thin p- and n-type silicon plates cut from ingots, with specific resis-

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L 16123-65

ACCESSION NR: AP5000688

tivity 7.5 ohm-cm. The silicon was oxidized at 900C in an oxygen atmosphere. The thickness of the grown SiO_2 film ranged from 20 to 6000 A. The absorption spectra were measured at room temperature with a double beam ir spectrometer having a resolution of approximately 3 cm^{-1} near 9 μ. The shift in the absorption band measured from the 1106 cm^{-1} level increased with increasing thickness of the silicon and decreased with increasing oxide film thickness. Its thickness variation indicates that it is due to a superposition of absorption in the $Si--O_2$ "vibrator" and in the SiO_2 film. It is concluded that an account of this shift leads to a greater accuracy in the determination of the concentration of oxygen atoms in silicon. Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 14Jul64 ENCL: 00

SUB CODE: SS, OP NR REF SOV: 001 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

L 6340-66 EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5019881 UR/0181/65/007/008/2536/2538

AUTHOR: Britsyn, K. I.; Volkov, B. A.; Matveyev, V. V.; Smirnov, A. A.

TITLE: Effect of electric field on the position of the optical absorption edge in polycrystalline CdS layers

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2536-2538

TOPIC TAGS: cadmium sulfide, absorption edge, temperature dependence, electric field, forbidden band, polycrystal

ABSTRACT: The authors investigated the effect of the electric field and the dimensions of the crystallites on the position of the absorption edge in cadmium sulfide films obtained by vacuum evaporation. The apparatus used was similar to that employed by one of the authors earlier (Britsyn, with V. S. Vavilov, Opt. i spektr. v. 6, 861, 1960), except that the resolution and the sensitivity were increased. The results show that for films with crystal dimensions a > 100 Å the edge of the optical absorption is weakly pronounced, but when a ~ 1--3 μ, the absorption curve is similar to that for bulky single crystals, but is shifted in the long-range region. The temperature coefficient determined from this ratio $dE_g/dT \sim 10^{-4}$ ev/deg, agrees with data for single crystals. An ac field of 5×10^3 v/cm with frequency 16 cps shifted the absorption range in the region of λ = 5100 Å by an

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L 6340-66

ACCESSION NR: AP5019881

amount $\Delta\lambda = 15$ Å. An approximate expression is derived for the width of the forbidden band as a function of the applied electric field and of the crystallite dimensions. The calculated expression agrees well with the experimental data. The frequency shift of the absorption is also calculated and is found to agree with the experimental data. Orig. art. has: 4 formulas.

ASSOCIATION: none

SUBMITTED: 19Mar65 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 001 OTHER: 002

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

L 19312-66 EWA(h)/EWT(l)/EWT(m)/T/EWP(t) IJP(c) GG/AT/WW/JD

ACC NR: AP6003780 SOURCE CODE: UR/0181/66/008/001/0163/0165

AUTHORS: Britsyn, K. I.; Smirnov, A. A.

77
76
8

ORG: none

TITLE: Change in the width of the forbidden band of silicon in the electric field of a pn junction

27

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 163-165

TOPIC TAGS: silicon, pn junction, forbidden band, light absorption, absorption edge, line shift, electric field

21,44,55

ABSTRACT: The authors investigated the variation of the absorption of light in the optical-activity region in the electric field of a pn junction of silicon, for the purpose of determining the shift of the absorption edge occurring when light passes through a strong electric field region and observing the Keldysh-Franz effect without the need for high resistivity samples or for strong electric fields capable of overheating the sample. The samples were prepared by diffusion of phosphorus in n-type silicon of 7.5 ohm-cm resistivity

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L 19312-66

ACC NR: AP6003780

to a depth 4 -- 5 μ. The optical system of the apparatus made it possible to measure the transmittivity and reflectivity of silicon, and the light receiver was a photomultiplier with stable power supply. At a wavelength of 1 μ in an average field of 5×10^4 v/cm the measured shift of the absorption edge was 0.14 ev, which agreed with the Keldysh theory. The frequency dependence of the method and means of improving its accuracy are briefly discussed. The authors thank V. I. Lipchenko for supplying the silicon with the pn junctions. Orig. art. has: 3 figures

SUB CODE: 20/ SUBM DATE: 09Jul65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 nst

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, M.L.

PHASE I BOOK EXPLOITATION 328

Britsyn, Nikolay Lukich

Nagrev v elektricheskom pole vysokoy chastoty (Heating in High-frequency Electric Fields) 2d ed., rev. and enl. Moscow, Mashgiz, 1957. 62 p. (Bibliotechka vysokochastotnika-termista, vyp. 15) 10,000 copies printed.

Ed. (title page): Fogel', A.A., Candidate of Technical Sciences; Reviewer: Donskoy, A.V., Doctor of Technical Sciences, Professor; Ed. of Publishing House: Gofman, Ye.K.; Tech. Ed.: Speranskaya, O.V.; Editorial Board of Series: Fogel', A.A., Candidate of Technical Sciences (Chairman), Spitsyn, M.A., Candidate of Technical Sciences, Slukhotskiy, A.Ye., Candidate of Technical Sciences, (Ed. of this issue), Glukhanov, N.P., Candidate of Technical Sciences, and Bamuner, A.V., Engineer. Chief Ed. of the Leningrad Division of Mashgiz: Bol'shakov, S.A.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

Heating in High-frequency Electric Fields (Cont.) 328

PURPOSE: This booklet is one of a series published in order to acquaint the reader with the experimental work in the High-frequency Institute imeni Prof. Vologdin, V.P., as well as with other developments in this field in the USSR and abroad. Its aim is to promote the use of high-frequency methods, and it is intended for a wide circle of industrial workers interested in high-frequency heating-methods.

COVERAGE: The author describes the effect of high-frequency heating of nonconductors and semiconductors in the magnetic and electric fields. Descriptions are given of heating methods used in drying moist materials (like food stuff, silk cocoons, and lumber), molding of thermosetting materials, welding of thermoplastic materials and other industrial purposes. There are 4 bibliographical references, all Soviet.

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Heating in High-frequency Electric Fields (Cont.) 328

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27 May 1958

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSIN, M.L.

AUTHORS: Kostenko, M.P., Alekseyev, A. Ye., SOV/105-58-7-30/32
Lyuter, R.A., Zavalishin, D. A.
Gnedin, L. P., Britsin, M. L.

TITLE: Leonid Nikolayevich Gruzov (Deceased)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 93-95 (USSR)

ABSTRACT: Professor Leonid Nikolayevich Gruzov, Doctor of Technical Sciences, Engineer-Colonel, Head of the Kafedra elektropitaniya ustanovok svyazi Voyennoy krasnoznamennoy akademii svyazi (Department of Electric Supply of Telecommunication Equipment at the Krasnoznamennaya Military Academy of Telecommunication) a prominent expert in the field of electric machines, died on October 17th, 1957, at the age of 51. He graduated with distinction from the Donskoy politekhnicheskiy institut (Don Polytechnical Institute) in 1927, was then aspirant at the Leningradsky politekhnicheskiy institut (Leningrad Polytechnical Institute), assistant, and finally docent at the same institute. He combined his scientific and pedagogical activity with that of an engineer. He published a series of papers on the transient modes of operations of electric machines and of power supply systems.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

Leonid Nikolayevich Gruzov SOV/105-58-7-30/32

He worked as engineer in the "Elektrosila" works as well. He took part in World War II. In 1947 he took his degree as Doctor of Technical Sciences. He developed a method for the investigation of electric machines. He was first head of the Department of Theoretical Electrical Engineering, then of the Department of Electric Supply Plants at the Military Academy of Telecommunication. He published more than 30 scientific papers, textbooks and manuals. There is 1 photograph.

1. Scientific personnel--USSR

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, N.L.

Heating process in an electric high-frequency field. [Izdaniia] LONITOMASH no.30:423-440 '52. (MLRA 8:1)
(Induction heating) (Dielectric heating)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, N.L.

Nagriv v elektricheskom pole vysokoi chastoty (Heating in high-frequency electric fields). Pod red. A.A. Fogelia. Moskva, Mashgiz, 1954. 52 p. (Bibliotechka vysokochastotnika-termista, no. 15)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, N.L.; FEDOROVA, I.G.

Welding plastic material smeltable under heat. [Izd.] LONITOMASH no.33:217-241 '54. (MLRA 8:2)
(Plastics--Welding)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

89344

S/191/61/000/001/009/015
B101/B205

15.8450

AUTHORS: Fedorova, I. G., Shelina, T. A., Britsyn, N. L.

TITLE: Application of high-frequency heating in manufacturing tubes from glass-reinforced plastics

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 35-37

TEXT: This is a report on attempts of accelerating the hardening of tubes made of glass-reinforced plastics (GRP), which are used as props. The work has been carried out by Nauchno-issledovatel'skiy institut tokov vysokoy chastoty im.prof. V. P. Vologdina (Scientific Research Institute of High-frequency Currents imeni Professor V. P. Vologdin) in cooperation with Laboratoriya anizotropnykh struktur IKhF AN SSSR (Laboratory of Anisotropic Structures, Institute of Chemical Physics AS USSR) and Leningradskiy zavod sloistykh plastikov (Leningrad Plant for Laminated Plastics). The tubes are manufactured by winding GRP sheets round metal rods which are then heated by electric coils. Hardening is continued in chamber kilns at 120-180°C. On account of the low thermal diffusivity of the material, heating and hardening take 6-20 hr, depending on the wall thickness of the

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tubes and the types of resin. Therefore, the possibility of high-frequency heating has been examined. Tests were made with GRP on the basis of different resins: a) 70% epoxy and 30% phenol resin; b) P-2 (R-2), an aniline-formaldehyde resin with zinc stearate. In order to prevent the resin from flowing off, the tubes were rotated with 2-5 rpm. Heating was done in a condenser field, with the metal rod serving as grounded electrode. The optimum strength for epoxy-phenol resin was reached after heating for 2 hr (instead of 20 hr) and for R-2 after 30 min (instead of 6 hr). The heating time could thus be reduced to one-tenth. The limit compressive strength of epoxy-phenol and R-2 resin was 4500 and 3500 kg/cm^2, respectively. Heating with 20-25 Mc/sec proved to be most favorable. The second electrode of the condenser has been designed in the form of a semi-cylinder (I), a cylinder (II), and plane-parallel plates (III) (see Fig.8). The following capacities were calculated per cm of tube length: 350 $\mu\mu$f (I); 700 $\mu\mu$f (II); and 150 $\mu\mu$f (III). Alternative III was chosen since it facilitates the automation of the process. An apparatus designed by the Scientific Research Institute of High-frequency Currents has an insulated chamber containing h-f plates, a feeding mechanism for tubes, and a drive for rotating rods. A h-f current is generated by an ЛГД-32

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(LGD-32) tube generator and fed to the condenser by a coaxial feeder. The following technical data are presented: rated power of tube generator: 55 kva; mains voltage: 380-220 v; consumption of cooling water: 2.5 m^3/hr; dimensions of electrodes: 1100·1600 mm; electrode potential: 6-10 kv; frequency: $20 \cdot 10^6$ cps; motor power: 5 kw; cost of treatment per kg of tube: 25-35 kopecks. Performance of the plant:

External tube diameter, mm	wall thickness mm	length mm	output pieces/hr	number of tubes in the condenser, pieces
60	5- 7	1500	10	10
80	5-10	1500	10	10
110	7-12	1500	5	5
140	7-15	1500	5	5

There are 8 figures, 1 table, and 1 Soviet-bloc reference.

Legend to Fig.8. I: semicylinder; II: cylinder; III: plane-parallel plates; 1: electrode; 2: air gap; 3: tube; 4: rod.

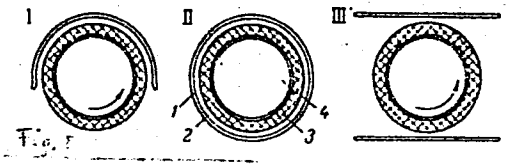

Fig.8

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, N.L.; FEDOROVA, I.G.; SHELINA, T.A.

Accelerated preheating of tabletted molding powders. Plast.massy no.5:29-30 '61. (MIRA 14:4)
(Phenol condensation products)

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L 38851-66 EWP(j)/EWT(m) IJP(c) RM

ACC NR: AR6011878 SOURCE CODE: UR/0081/65/000/016/S061/S061

32
B

AUTHOR: Britsyn, N. L.; Shelina, T. A.; Knyazhskaya, G. S.

TITLE: Welding of polyamides by heating in a high-frequency electric field

SOURCE: Ref. zh. Khimiya, Abs. 16S427

REF SOURCE: Tr. Vses. n.-i. in-ta tokov vysokoy chastoty, vyp. 5, 1964, 131-138

TOPIC TAGS: welding, polyamide

ABSTRACT: In the HF welding of polyamides of Soviet brands P-68, P-6, P-8, P-10, and also Rilsan, tricresol was introduced into the weld zone in order to increase the range of the visco-fluid state. The welding was carried out at a frequency of 27 Mc by limiting the final gap, equal to the single thickness of the material. This type of welding does not decrease the mechanical strength of the polyamides because of the short duration of the heating. A change in the mechanical strength of the polyamide weld joint with time (6 months in closed storage and under atmospheric conditions) was demonstrated. The data of experimental investigations were utilized in the development of a technological process for sealing storage battery tanks. V. Pruslin. [Translation of abstract]

SUB CODE: 13, 11

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYN, S.I. (Kursk)

Fractionating column. Khim. v shkole. no.2:51-52 Mr-Ap '58.
(Distillation apparatus) (MIRA 11:3)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

VOYTKUNSKIY, Yaroslav Iosifovich; SOLOV'YEV, V.I., kand. tekhn. nauk, retsenzent; GIRS, I.V., kand. tekhn. nauk, nauchn. red.; BRITSYNA, I.M., red.

[Resistance of water to the movement of ships] Soprotivlenie vody dvizheniiu sudov. Leningrad, Sudostroenie, 1964. 411 p. (MIRA 17:8)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYNA, M. P.

26229 Konferentsiya po geomorfologii kavkaza, (Moskva, 1948 G.) Problemy fiz. geofgraii, XIV, 1949, s. 151-52

SO: LETOPIS' NO. 35, 1949

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITSYNA, M.P.

Occurence of Khvalynian chocolate clays and some questions on the paleography of the Caspian Depression. Trudy Inst.geog. no.62:5-27 '54.
(Caspian Depression--Clay)
(Caspian Depression--Paleography)
(MIRA 8:5)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

MASHBITS, Ya.G. ; BRITSYNA, M.P.

Foreign geographers visit the U.S.S.R. Izv. AN SSSR. Ser.geog. no.1:154-156 Ja-F '63. (MIRA 16:2)
(Visitors, Foreign) (Geography)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

S/078/62/007/004/011/016
B106/B101

AUTHORS: Deychman, E. N., Rodicheva, G. V., Britsyna, Zh. A.

TITLE: Study of indium sulfates. The system $In_2(SO_4)_3 - H_2SO_4 - H_2O$

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 877-884

TEXT: The compounds forming in the system $In_2(SO_4)_3 - H_2SO_4 - H_2O$ were studied by measuring the specific electrical conductivity, pH value, and solubility. The measurement of electrical conductivity was made in solutions with constant concentration of $In_2(SO_4)_3$ and varying quantities of sulfuric acid, as well as in an isomolar series. The following results were obtained: The acid salt $In_2(SO_4)_3 \cdot H_2SO_4$ or $InH(SO_4)_2$, which can also be considered as complex acid $H[In(SO_4)_2]$, is formed in solution and in the solid phase (in solution, the two forms are in dynamical equilibrium). Both forms are little stable, and dissociate in the solution according to: $H[In(SO_4)_2] \rightleftarrows H^+ + [In(SO_4)_2]^-$; $[In(SO_4)_2]^- \rightleftarrows [InSO_4]^+ + SO_4^{2-}$;

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Study of indium sulfates. ...

$InH(SO_4)_2 \rightleftharpoons In^{3+} + H^+ + SO_4^{2-}$, respectively. In the presence of sulfate ions, no acidity range was found in which indium occurred as cation only. This indicates the formation of anion complexes of indium in strongly acid medium as well as at pH ~ 4. Determinations of solubility (Fig. 5) showed that the two hydrates $In_2(SO_4)_3 \cdot 10H_2O$ and $In_2(SO_4)_3 \cdot 5H_2O$ were stable in the concentration range 1-22% H_2SO_4. The acid indium sulfate $HIn(SO_4)_2 \cdot 3.5H_2O$ is formed in the concentration range 22-69% H_2SO_4. The two little stable complex acids $H_4In_2(SO_4)_5 \cdot 4H_2O$ and $H_3In(SO_4)_3$ which are formed besides the mentioned acid $H[In(SO_4)_2]$ were found for the first time in the concentration range 72-93% H_2SO_4. The solubility of complex indium acid is very low at a sulfuric acid content of 71% ($8 \cdot 10^{-7}$% $In_2(SO_4)_3$); therefore, practically no indium ions are present in the solution. In this manner, indium can be separated from some other elements which form soluble sulfates in solutions of ~ 70% sulfuric acid. The individual character of all compounds found in the system $In_2(SO_4)_3 - H_2SO_4 - H_2O$ was confirmed by

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

thermographic, crystal-optical, and x-ray diffraction studies. There are 7 figures and 3 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: April 7, 1961

Fig. 5. Solubility (20°C) in the system $In_2(SO_4)_3$ - H_2SO_4 - H_2O.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

DEYCHMAN, E.N.; BRITSYNA, Zh.A.

Interaction between indium fluoride and hydrogen fluoride.
Zhur.neorg.khim. 9 no.4:803-806 Ap '64. (MIRA 17:4)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITTAIN, Robert; PSZCZOLKOWSKI, Andrzej [translator]

River technology and historical development. Kwart hist nauki i tech 8 no.3:355-359 '63.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

GOLUB, F.M.; ARIPOV, U.A.; BRITUN, A.I.; SHAKIROV, M.Sh.; SATTAROV, R.K.

Regeneration of injured tissues and the possibility of its course being affected during the action of X rays on the body. Experimental data. Med.zhur. Uzb. no.11:16-21 N '60. (MIRA 14:5)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. F.M.Golub) i kafedry rentgenologii i meditsinskoy radiologii (zav. - dotsent G.S.Kuznetsov) Samarkandskogo gosudarstvennogo meditsinskogo instituta imeni I.P.Pavlova.

(X RAYS—PHYSIOLOGICAL EFFECT) (WOUNDS AND INJURIES)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

GOLUB, F.M., prof.; BRITUN, A.I.

Morphology of calluses in experimental fractures at different periods following general roentgen irradiation. Med. zhur. Uzb. no.12:53-55 D '61. (MIRA 15:2)

1. Iz kliniki fakul'tetskoy khirurgii Samarkandskogo gosudarstvennogo meditsinskogo instituta imeni Pavlova.
(CALLUS) (FRACTURES) (RADIATION--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

S/242/63/000/001/001/001
A066/A126

AUTHORS: Golub, F.M., Professor, Britun, A.I.

TITLE: A contribution to the problem of normalizing the healing of fractures in the case of radiation disease (an experimental investigation)

PERIODICAL: Meditsinskiy zhurnal Uzbekistana, no. 1, 1963, 11 - 14

TEXT: The healing of bone-fractures was studied in 120 rabitts exposed to overall irradiation in a single dose of 400 - 600 r and in 20 controls. The second metatarsal bone was cut through with scissors 1 day, 1, 3, 4 or 6 months after irradiation, and x-ray pictures of the fractures were taken 10, 15, 30, 45, 60, 75 and 90 days later. The animals were then killed, and the broken bones were studied histologically. While the fractures of the controls healed completely within 60 - 75 days, the bones of the irradiated rabbits showed fissures, false articulations, and failing restoration of the medullary canal after 90 to 120 days. Normal healing had been achieved previously in cases where the bone and the nerve were cut through simultaneously. An injection of 10 - 12 ml of an

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A contribution to the problem of normalizing ....

alcohol-novocaine solution (10° alcohol, 0.25% novocaine) into the soft tissue of the distal third of the femur blocked the afferent nerve fibers and thus stimulated the formation of callus considerably without causing morphological changes of the axons. The bones treated this way healed within 60 - 75 days. This result was obtained regardless whether the solution was injected into the injured leg or into the contralateral extremity, and is attributed to a reflex mechanism in the latter case. The experiments under consideration indicated various ways of counteracting the harmful effect of irradiation on the regeneration of bones. There are 4 figures.

ASSOCIATION: Kafedra fakul'tetskoy khirurgii Samarkandskogo meditsinskogo instituta (Department of Divisional Surgery of the Samarkand Medical Institute)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

GOLUB, F.M.,prof.; BRITUN, A.I.

Acceleration of the healing of fractures in irradiated animals.
Eksper. khir. i anest. no.2:22-27'63. (MIRA 16:7)

1. Iz kliniki fakul'tetskoy khirurgii (zav.-prof.F.M. Golub)
Samarkandskogo meditsinskogo instituta imeni Pavlova.
(RADIATION SICKNESS) (FRACTURES)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITUN, A. I. "Features of Bone Healing in Irradiated Animals (Possible Normalization of Regenerative Processes During Radiation Sickness and Shock.)" Prolonged blocking of the peripheral nervous system with novocaine depressed the negative influence of ionizing radiation in rabbits irradiated with 400-600 r.

[redacted]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

GOLUB, F.M., prof.; BRITUN, A.I., kand. med. nauk; SATTAROV, R.K.

Normalization of traumatic regeneration of osseous tissue in radiation sickness. Nauch. trudy SamMI 22:5-10 '63. (MIRA 17:9)

1. Iz kafedry fakul'tetskoy khirurgii Samarkandskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITUN, A.I., kand. med. nauk

Materials on the healing of experimental open bone fractures in radiation sickness. Nauch. trudy SamMI 22:44-48 '63. (MIRA 17:9)

1. Iz kafedry fakul'tetskoy khirurgii Samarkandskogo meditsinskogo instituta.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

46266-65 MT(m)

ACC NR: AR6011863 SOURCE CODE: UR/0299/65/000/020/M016/M016

AUTHOR: Golub, F. M.; Britun, A. I.; Dokuchayeva, N. F. 26 B

TITLE: Special characteristics of fractures in animals exposed to prolonged small dose irradiation (Roentgeno-morphological investigation)

SOURCE: Ref. zh. Biologiya, Abs. 20M95

REF SOURCE: Nauchn. tr. Samarkandsk. med. in-t, v. 31, 1964, 39-44

TOPIC TAGS: radiation biologic effect, bone, animal experiment

ABSTRACT: Experiments were conducted on 110 rabbits. In the first series healing of an open fracture of the second metatarsal bone was investigated in nonirradiated rabbits. In the second series healing of fractures was investigated in rabbits irradiated with single 400 to 600 r doses. In the third series healing of fractures was investigated in rabbits irradiated daily with 5 to 10 r doses (400 to 600 r cumulative dose). Bone fragments were compared and a soft bandage dressing was placed for 2 to 3 days. Histomorphological and X-ray examinations of the fracture showed that in the first series bones of rabbits were completely restored in 60 to 75 days. In the second series the area of the fracture was filled with cartilage and fibrous tissue in 90 to 120

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

ACC NR: AR6011863

days and a fissure of varying size was found between the fragments, and in several cases a tendency for formation of a pseudojoint was noted. In rabbits of the third series retardation of callus restoration was markedly expressed. In 90 to 120 days the cortical layer appeared in the form of bone tissue without the characteristic layered structure (the cortical layer becomes thinner at the site of the fracture) and passability of the bone marrow canal was not restored, and in some cases a tendency for formation of a pseudojoint was noted. N. S. [Translation of abstract].

SUB CODE: 06

Card 2/2 fv

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BEKNAZAROVA, Z.N., kand.med.nauk; BRITUN, M.N.

Case of osteomalacia in a 4-year old girl. Med. zhur. Uzb. no.10: 64-65 '61. (MIRA 14:10)

1. Iz kafedry detskikh bolezney (zav. - dotsent B.Kh.Karakhodzhayev) i kafedry rentgenologii i radiologii (zav. - dotsent G.S.Kuznetsov) Samarkandskogo meditsinskogo instituta.
(OSTEOMALACIA)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

S/128/63/000/001/003/008
A004/A127

AUTHORS: Britva, Ya.D., Zhukov, N.F., Zhurba, V.K., Pecherskiy, Ye.A.

TITLE: On the problem of pressing rate in die-casting machines

PERIODICAL: Liteynoye proizvodstvo, no. 1, 1963, 10 - 11

TEXT: To vary the pressing rate during die-casting, it is necessary to change over from the differential feed of the hydraulic fluid to the cylinder to the non-differential feed. An accurate determination of the change-over moment requires a device which measures the rate of pressing. A prototype model of a device determining the average speed of the plunger over a distance of at least 10 mm has been developed by the Novosibirsk "Siblitmash" Plant. The time intervals in which the plunger travels the necessary section of stroke are determined by two contact pickups which are mounted on the path of travel of the press plunger. The authors present a brief description of operation and a block diagram of the device. There are 2 figures.

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IAkov Mironovich Britvan, on his 60th birthday. Pat. fiziol. i eksp. terap. 7 no.2:87 Mr-Ap'63. (MIRA 16:10)
(BRITVAN, IAKOV MIRONOVICH, 1903 -)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

TAL'YANKER, M.Ya.; BRITVAN, V.Ya.; GIZ, M.S.; GRINBERT, Ya.F.

Boring bars for fine boring machines. Mashinostroitel' no.7:23 Jl '64. (MIRA 17:8)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, Ya. M. and PILAT, V. M.

Britvan, Ya. M. and Pilat, V. M. - "On tenioid anemia", Vracheb. delo, 1949, No. 5, paragraphs 457-58.

SO: U-4630, 16 Sept. 53, (Letopis ''Zhurnal 'nykh Statey, No. 23, 1949.)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, Ya.M.; KUDISH A.G.

Significance of the central nervous system in the mechanism of the genesis of periodic respiration. Arkh. pat., Moskva 12 no. 6:35-41 Nov-Dec 50. (CLML 20:4)

1. Of the Department of Pathological Physiology (Head--Prof. Ya. M. Britvan), Vinnitsa Medical Institute Institute, Vinnitsa.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, YA. M., KUDISH, A. G.

Respiration

Effect of various types of hypoxia upon respiration of animals in early age. Medych. zhur. 20, no. 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

Britvan, Ya. M.

Effect of oxygen deficiency of the organism on the development of parabiotic reactions of the respiratory and vascular centers. Ya. M. Britvan, Z. A. Makarova, and S. B. Mazo (Med. Inst., Vinnitsa). *Arkh. pato.* 16, No. 8, 35–44(1954).—In cats under amytal narcosis the stimulability and lability of respiratory and circulatory centers are lowered. In initial stages of O deficiency there is absent or is but weakly displayed the phase of reflex compensatory increase of respiration rate. With increase of O deficiency the stimulability of the above centers falls progressively; the O deficiency was experimentally caused by $NaNO_2$. The lability of the centers declines also with gradual transition to the deeper stages of parabiotic block; this is very abrupt in the terminal phases. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, Ya.M.; KUDIN, A.G.

Electrocardiographic changes in anoxia produced with sodium nitrate.
Biul. eksp. biol. i med. 38 no.9:18-23 S '54. (MLRA 7:12)

1. Iz kafedry patologicheskoy fiziologii (zav. prof. Ya.M.Britvan) Vinnitskogo meditsinskogo instituta.
(ELECTROCARDIOGRAPHY,
eff. of anoxia prod. with sodium nitrate in dogs)
(ANOXIA, effects,
on EGG in dogs, prod. with sodium nitrate in dogs)
(NITRATES, effects,
sodium nitrate causing exper. anoxia, eff. on EGG in dogs)

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T

USSR/Human and Animal Physiology. Nervous System.
Higher Nervous System. Behavior.

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93651.

Author : Britvan, Ya. M., Mel'nichuk, S.P.
Inst : AS USSR
Title : Influence of Experimental Neurosis on Course of Extero- and Interoceptive Conditioned Reflexes in Dyspnea.

Orig Pub: V sb.: Probl. fiziol. tsentr.nervn. sistemy, M.-L., AN SSSR, 1957, 84-91.

Abstract: In 5 dogs, after collapse of UNA brought about by shutting off of the extero- or interoceptive respiratory reflexes, there developed a conditioned reflex dyspnea to a bell and to irritation of the rectum. If with normal UNA conditioned reflex dyspnea arose

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93651.

only with simulation by fortified irritants, then after collapse of UNA the adequacy of the conditioned reaction was disturbed and distorted, especially for interoceptive reflexes. Weakening and distortion of respiratory reflexes were retained even after general neurotic influences had quieted down. According to clinical observations, impairment of the function of the brain cortex is extremely important in the mechanism of development of bronchial asthma. -- A.M. Ryabinovskaya.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

USSR/Human and Animal Physiology (Normal and Pathological). T
Nervous System. Human Electroencephalogram.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79982.

Author : Britvan, Ya. M.; Mazrukhin, I.A.
Inst :
Title : On the Changes of the Electroencephalogram During Catatonic and Paranoid Forms of Schizophrenia.

Orig Pub: Sb. nauchn. tr. Vinnitsk. med. in-ta, 1957, 10, 68-75.

Abstract: Changes of EEG in patients with catatonic and paranoid forms of schizophrenia were similar, and consisted of a general decrease of cortical activity, frequent absence of a-rhythm, strengthening of β-rhythm; often, of the appearance of sharp waves and peak-like fluctuations. During the action of light stimulation and nitroglycerin administration, there was no reaction.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

USSR/Human and Animal Physiology (Normal and Pathological). T
Nervous System. Human Electroencephalogram.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79982.

subsequently, an irregular α-rhythm sometimes appeared; sometimes, slow waves and δ-waves were strengthened.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

USSR/Human and Animal Physiology - Respiration. T

Abs Jour : Ref Zhur Biol., No 3, 1959, 12850

Author : Britvan, Ya.M., Safronova, G.B.

Inst : Vinnitsa Medical Institute

Title : Respiratory Disturbance Provoked by Recurrent Painful Stimuli in Experimental Neurosis

Orig Pub : Tr. Vinnitsk. med. in-ta, 1958, 15, No 1, 5-18

Abstract : Conditioned respiratory reflexes (dyspnea) were developed in dogs by combining a bell with electric stimulation of the skin. The condition of neurosis, induced by recurrent painful stimuli, was accompanied by changes in the reflexes, which acquired an erotic or phase character. Changes in the reflexes were distinguished by inertia, but they were reversible and confirmed the disturbance of the regulatory role of the cortex of the cerebral hemisphere. -- S.B. Aronova

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

USSR/Human and Animal Physiology - Respiration. T

Abs Jour : Ref Zhur Biol., No 3, 1959, 12851

Author : Britvan, Ya.M., Tupikova, T.M.

Inst : Vinnitsa Medical Institute

Title : Importance of Subcortical Segments of the Brain in the Mechanism of Periodic Disturbance of Respiration.

Orig Pub : Tr. Vinnitsk. med. in-ta, 1958, 15, No 1, 19-29

Abstract : Introduction of a 2.5% solution of novocain into the anterior segment of pons Varolii promoted in cats a prolonged arrest of respiration with subsequent intermittent respiration and also caused a fluctuation in the level of the arterial blood pressure. Injection of novacain into the brain tissue in front of the quadrigeminal body did not produce a disturbance of respiration and arterial pressure. -- S.N. Aronova

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, Ya.M., prof. (Vinnitsa)

Problem of central mechanisms in disorders of respiratory regulation in the light of modern experimental data. Pat.fiziol. i eksp.terap. 3 no.6:13-21 N-D '59. (MIRA 13:3)
(RESPIRATION)
(CENTRAL NERVOUS SYSTEM physiol.)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVAN, Ya.M., prof.

"Regulation of respiration in man" by M.E.Marshak. Reviewed by IA.M.Britvan. Fat. fiziol. i eksp. terap. 7 no.1:89-91 Ja-F'63. (MIRA 16:10)
(RESPIRATION) (MARSHAK, M.E.)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

L 11381-67 EWT(1) SCTB DD/GD

ACC NR: AT6036505 SOURCE CODE: UR/0000/66/000/000/0075/0076

AUTHOR: Britvan, Ya. M.; Lychko, V. G.; Belkaniya, Yu. S. 20

ORG: none

TITLE: Electrophysiological investigations of the central mechanisms of gravitational collapse [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 75-76

TOPIC TAGS: brain bioelectricity, orthostatic test, human physiology, electroencephalography, biologic acceleration effect

ABSTRACT: The present paper contains an analysis of data on the relationship between the development of orthostatic collapse, more properly termed gravitational collapse, and the initial functional state of the cortex and subcortical parts of the brain as determined from bioelectric activity. Collapse was induced in cats by keeping them in a head-upward body position, which involves greater gravitational stress than a horizontal position. Changes in the functional state were produced by means of anes-

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thetics, blockade of the reticular formation, elimination of proprioception, vestibular de-afferentation, and by placing the animal in a preliminary position with the head down. Brain bioelectric activity was recorded with an 8-channel EEG manufactured by the "Alvar" Company. Potentials were taken off from the sensorimotor and occipital regions of the brain, specific nuclei of the thalamus and anterior hypothalamus, the midbrain reticular formation, and the pons variolii. Arterial pressure and respiration were recorded simultaneously with brain biocurrents.

The experiments showed that in cats of the control series of experiments, prolonged maintenance of a vertical position results, after 6 to 10 hrs, in severe gravitational collapse with complete extinction of brain bioelectric activity, a drop in arterial pressure to 20--30 mm Hg, and terminal respiratory dysfunctions. The following stages were observed in brain bioelectric activity changes: initial desynchronization, a mixed wave phase, slow activity dominance, "zones of silence", and complete extinction. In the slow activity phase there appeared third-order waves of arterial pressure and periodic respiration, reflecting a state of threat and the struggle of basic nervous processes. Cortical--subcortical

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interactions produced nonuniform results at various stages of collapse, depending on the rapidity with which collapse developed. General diffuse inhibition of biopotentials was often seen long before the appearance of significant arterial hypotension. The function of the respiratory center was frequently impaired more seriously than that of the vasculomotor center.

In ether-anesthetized cats, the onset of gravitational collapse was considerably faster. Changes in bioelectric activity appeared at different times in the various brain centers. Respiratory excitation was not seen in the initial period. Aminazine in a doze sufficient to blockade the reticular formation of the brain stem did not prevent the development of collapse; the appearance of frequent spikes of high voltage spindle-type rhythms in all leads was characteristic. It should be noted that biopotentials often persisted into the stage of considerable arterial pressure drop accompanied by profound respiratory distress.

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L 11381-67

ACC NR: AT6036505

In cats curarized with listenon, as in cats subjected to bilateral vestibular de-afferentation and cats kept for 1 to 1.5 hrs before the experiment in a head-down position, gravitational collapse developed rapidly, within 1 hr. The initial desynchronization was less pronounced and certain of the above-described bioelectric activity phases did not appear. It was often possible to produce collapse for a second time in the same animal after a short period.

Thus, our investigations demonstrate the existence of regularities in the bioelectric reactions of the brain to changes in the gravitational field vector. It was shown that the rapidity of development and severity of gravitational collapse depend on the initial functional state of the central nervous system, which determines the capacity to mobilize antigravitational mechanisms. [W.A. No. 22; ATD Report 66-1167]

SUB CODE: 06 / SUBM DATE: 00May66

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

YUGOSLAVIA / General and Special Zoology. Insects. Harmful Insects and Arachnids. Pests of Fruit and Berry Cultures. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64109.

Author : Britvec, B.
Inst : Not given.
Title : Problems of Protecting Peach Gardens on the Northern Adriatic Seacoast.

Orig Pub: Tehn. pregl., 1957, 9, No 1, 5-9.

Abstract: All the insecticides (systox, methasystox, "fosforno" 20, B-805 f, chlorodox, Ciba C-570 in a concentration of up to 2% and lindane of up to 5%) 1-1 used in 1955-1956 against the principle pest, the buprestid Capnodis tenebrionis, which destroys up to 65% of young trees 1-1 were ineffective. Satisfactory re-

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVENKOV,V.I.

Manufacture of plates and labels for machines. Stan. i instr.26 no.10:34 0'55. (MLRA 9:1)
(Marking devices)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

GRIVA, Zanis; VANADZINS, Z.; BRIVERE, A., red.

[Land and sea] Zeme un jura. Riga, Latvijas valsts izdevnieciba, 1964. 1 v. [In Latvian and Russian]
(MIRA 18:6)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306920018-2

BRITVIC, Marin, Potpukovnik dr.

Some concepts about the organization of medical service in a future war. Voj. san. pregl., Beogr. 12 no.7-8:401-406 July-Aug 55.

1. Katedra vojnih i vojno-sanitetskih predmeta VMA.
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med. serv. organiz. in future war (Ser))

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