ACC NR: AT6036602

were recorded from one cerebral hemisphere with a bipolar frontal-occipital lead and with a unipolar lead from the parietal area. The cutaneous-galvanic reaction was tested by determining changes in cutaneous resistance to a constant current between two electrodes fastened to the palm and on the back of the hand.

Experimental results showed a definite depression of the alpha-rhythm and the appearance of more high-frequency components in the EEG in response to a single acoustic shock. However, no reliable differences in alpha-rhythm depression after stimuli of different intensity could be detected. Data on the character of EEG changes permit the conclusion that there is a clearly expressed reaction of the organism in response to acoustic shock, which is characterized by increased general tone of muscles, and increased preparedness and perception of stimuli. Experimental results showed that for three intensities of acoustic shock -- 5, 7.5, and 9 kg/m^2, -- a completely analagous pattern of changes was observed in the length of the RR interval of an EEG taken one sec after the shock: In 63% of the cases shortening of the interval was noted, in 14% lengthening, and in 21% of the cases there were no changes. In addition to objective registration of physiological functions, determinations of the discomfort caused by acoustic shocks took into account the psychophysiological reactions of the subjects. [W.A. No. 22; ATD Report 66-116]

Card 2/2 SUB CODE: 06 / SUBM DATE: 00May66

24471
S/109/61/006/006/012/016
D204/D303

9.3140

AUTHORS: Breytman, V.M., and Kuznetsov, V.S.

TITLE: Mathematical formulation of the corpuscular optics problem taking into account the space charge

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 6, 1961 993 - 998

TEXT: For a long time the solution of two dimensional and axially symmetric problems of corpuscular optics, taking into account the space charge, seemed to be impossible. The first break through was achieved by V.M. Breytman using pictorial and modelling techniques. The above methods demonstrated the existence of two basic types of problems on curvi-linear streams and became the basic source of information for formulating further mathematical analysis of the problem (Ref. 1: Metod rascheta ionnykh opticheskikh sistem s uchetom prostranstvennogo zaryada, Dokl. AN SSSR 1959, 127, 6, 1187); (Ref. 2: Matematicheskoye obosnovaniye metoda mo-

Card 1/3

Mathematical formulation of ...

delirovaniya dvumernykh poley, opisyvayemykh obobshchennym uravneniyem puassona na poverkhnosti trekhmernogo elektrolita Izv. vuzov MVO SSSR (Energetika), 1960, 3, 9, 46). In the present article, the author presents the mathematical formulation of two types of boundary conditions, the "straight" and "inverse" for a non-relativistic corpuscular stream with curvilinear trajectories of the particles. The work has been done in conjunction with the evaluation of methods of their computation using fast electronic computers. A system of differential equations is established for the motion of charged particles in an electromagnetic field. The boundary conditions are determined from the analysis of actual problems. Two types of problems are considered: 1) The direct problem. A system of external electrodes is given; no distribution of functions is available at any cross-section of the stream; 2) The inverse problem. The system of external electrodes is not given; the distribution of functions is given at one cross-section of the stream, e.g. at the collector. For simplicity's sake only systems with two electrodes as defined by boundary conditions are consi-

Card 2/3

Mathematical formulation of ...

dered. It is assumed that the particle stream has charges of one polarity only. Initial velocities are taken to be zero. The problems formulated above present evidently certain types of boundary problems which have not, hitherto, been studied by mathematicians or physicists and their attention is drawn to this effect. The authors acknowledge the help given by A.A. Dorodnitsyn and the interest taken in their work by N.N. Moiseyev. There are 3 figures and 13 references: 7 Soviet-bloc and 6 non-Soviet-bloc. The references to the four most recent English-language publications read as follows: I. Langmuir, K. Blodgett, Phys. Rev., 1923, 22, 347; 1924, 24, 49; J.R. Pierce, Rectilinear electron flow in beams, J. Appl. Phys, 1940, 11, 548; R. Helm and Oth., Electr. Commun., 1947, 24, 101; K. Spangenberg, F. Franklin Inst., 1941, 232, 365.

SUBMITTED: February 27, 1960

Card 3/3

L 18993-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/AB

ACCESSION NR: AT3002453 S/2935/62/000/000/0192/0206

62
59

AUTHOR: Vol'kenshteyn F. F.; Kuznetsov, V. S.; Sandomirskiy, V. B.

TITLE: Chemosorptional and catalytic properties of semiconductor film on metal [Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June, 1961]

SOURCE: Poverkhnostnyye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 192-206

TOPIC TAGS: chemosorption, semiconductor, catalysis, semiconductor-coated metal

ABSTRACT: Since many metals are always coated with a binary-compound film, chemosorption and catalytic processes actually transpire on the surface of a semiconductor. A theoretical investigation is offered of these processes. A rather thick semiconductor film that does not contain surface states and a positive contact potential difference are assumed; four energy schemes are

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L 18993-63

ACCESSION NR: AT3002453

3

considered. Qualitative properties of the film adsorbability and its catalytic activity are described by a set of differential equations. The effect of the film thickness on the work function is explored. It is found that: (1) With a specified nature and thickness of the film, its adsorbability with respect to a donor (acceptor) gas will be higher (lower) with a higher work function of the underlying metal, irrespective of the sign of the surface charge on the film; and (2) A similar relation exists between the catalytic film activity and the donor (acceptor) reaction. Orig. art. has: 3 figures and 36 formulas.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AN SSSR); Institut radioelektroniki AN SSSR (Institute of Radio and Electronics, AN SSSR); Institut kataliza AN SSSR (Institute of Catalysis, AN SSSR)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 001

Card 2/2

KUZNETSOV, V.S.

Generalized Child-Langmuir law for axially-symmetrical electron optics systems with finite plane cathodes. Radiotekh. i elektron. 7 no.8:1379-1384 Ag '62. (MIRA 15:8)
(Electron optics)

KUZNETSOV, V.S.

Determination of the shape of a beam of charged particles in uniform electrostatic field. Radiotekh. i elektron. 7 no.8: 1385-1392 Ag '62. (MIRA 15:8)
(Electron beams) (Electric fields)

KUZNETSOV, V. S.

95

S/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo instituta (Scientific Conference of the Moscow Engineering Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400 delegates participating. A review is given of these lectures that are assumed to be of interest for the readers of Atomnaya energiya. They are following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev, design of accelerators for superhigh energies; I. Ya. Pomeranchuk, analyticity, unitarity, and asymptotic behavior of strong interactions at high energies; A. B. Migdal, phenomenological theory for the many-body problem; Yu. D. Fivevskiy, deceleration of medium-energy antiprotons in matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect; M. I. Ryazanov, theory of ionisation losses in nonhomogeneous medium; Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of suboritical plasma;

Card 1/4

35

Nauchnaya konferentsiya... S/089/62/013/006/019/027
B102/B186

design of 30-Mev electron linear accelerator; Ye. G. Pyatnov, A. A. Glazkov, V. G. Lopato, A. I. Finogenov, O. N. Skepskiy, V. D. Selesnev, experimental characteristics of low-energy electron linear accelerators; G. A. Zeytlenk, V. M. Levin, S. I. Piskunov, V. L. Smirnov, V. K. Khokhlov, radiocircuit parameters of ЛУЭ (LUE)-type accelerators; G. A. Tyagunov, O. A. Val'dner, B. M. Gokhberg, S. I. Korshunov, V. I. Kotov, Ye. M. Moros, accelerator classification and terminology; O. S. Milovanov, V. B. Varakeiu, P. R. Zenkevich, theoretical analysis of magnetron operation; A. G. Tragov, P. R. Zenkevich, calculation of attenuation in a diaphragmated waveguide; Yu. P. Lazarenko, A. V. Ryabtsev, optimum attenuation length for linear accelerator; A. A. Zhigarev, M. Ye. Yeliseyev, review on trajectographs; I. G. Morozova, G. A. Tyagunov, review on more than 500 ion sources; M. A. Abroyan, V. L. Komarov, duoplasmatron-type source; V. S. Kuznetsov, A. I. Solnyshkov, calculation and production of intense ion beams; V. M. Rybin (Ye. V. Armenskiy), inductive current transmitters of high sensitivity; V. I. Korosa, G. A. Tyagunov, kinetic description of linear acceleration of relativistic electrons; A. D. Vlasov, phase oscillations in linear accelerators; E. L. Burshteyn, G. V. Voskresenskiy, beam field effects in the waveguide of an electron linear accelerator; R. S. Bobovikov,

Card 3/4

42169
S/195/62/003/005/003/007
E039/E135

5.4800

AUTHORS: Vol'kenshteyn, F.F., Kuznetsov, V.S., and Sandomirskiy, V.B.

TITLE: The chemisorption and catalytic properties of semiconducting films on metals

PERIODICAL: Kinetika i kataliz, v.3, no.5, 1962, 712-723

TEXT: The case of a metal covered with a plane parallel film of uniform semiconductor (e.g. its oxide) containing donor and acceptor centres uniformly distributed throughout its volume is treated theoretically. Energy diagrams are given for coatings with a thickness L greater than the screening length ℓ and for the case when $L \leq \ell$ with a net positive or negative surface charge. Owing to mathematical difficulties only the sign of the following derivatives is determined for the various conditions:

$$\left.\begin{matrix}(d\varphi/dL)_{p,\ T,\ \chi} \\ (d\varepsilon/d\chi)_{p,\ T,\ L}\end{matrix}\right\} ; \qquad (7)$$

Card 1/3

$$\left.\begin{aligned}(d\theta/dL)_{p,\,T,\,\chi} &= (d\theta/d\varepsilon)_{p,\,T}\cdot(d\varepsilon/dL)_{p,\,T,\,\chi}\\ (d\theta/d\chi)_{p,\,T,\,L} &= (d\theta/d\varepsilon)_{p,\,T}\cdot(d\varepsilon/d\chi)_{p,\,T,\,L}\end{aligned}\right\}\quad (8)$$

$$\left.\begin{aligned}(dg/dL)_{p,\,T,\,\chi} &= (dg/d\varepsilon)_{p,\,T}\cdot(d\varepsilon/dL)_{p,\,T,\,\chi}\\ (dg/d\chi)_{p,\,T,\,L} &= (dg/d\varepsilon)_{p,\,T}\cdot(d\varepsilon/d\chi)_{p,\,T,\,L}\end{aligned}\right\}\quad (9)$$

Here: ε is the work function of the film, characterised by the position of the Fermi level at the external surface of the film; χ is the work function of the metal; θ is the adsorptive capacity of the film; g is the rate of reaction. It is shown that the adsorptive capacity and catalytic activity and selectivity depend on the thickness of the film. Experimental verification of this work is required. It should be noted that for L to be less than ℓ requires coating thicknesses of less than 10^{-4}-10^{-5} cm and for the coating to be considered as an independent phase L must be greater than 10^{-6} cm.
There are 3 figures.
Card 2/3

The chemisorption and catalytic ... S/195/62/003/005/003/007
E039/E135

ASSOCIATION: Institut fizicheskoy khimii AN SSSR
(Institute of Physical Chemistry, AS USSR)

Institut kataliza SO AN SSSR
(Institute of Catalysis, SO AS USSR)

Institut radiotekhniki i elektroniki AN SSSR
(Institute of Radioengineering and Electronics, AS USSR)

SUBMITTED: February 16, 1962

Card 3/3

24.7400

h2170

S/195/62/003/005/004/007
E039/E135

AUTHORS: Kuznetsov, V.S., and Sandomirskiy, V.B.

TITLE: The effect on the adsorption capacity of a volume charged semiconductor caused by the redistribution of impurities in the surface region

PERIODICAL: Kinetika i kataliz, v.3, no.5, 1962, 724-727

TEXT: The adsorption capacity of the surface of a semiconductor under given conditions depends on the level of the electrochemical potential. Redistribution of the impurity centres will affect this level and hence change the adsorption capacity of the semiconductor. The problem is examined theoretically in the framework of the electron theory of catalysis in semiconductors and involves the solution of a system of diffusion equations and Poisson's equation for the given system. If the fraction of charged adsorbing molecules is large there will be appreciable redistribution of impurity centres in the region near the surface, under the action of the electric field set up by the surface charge. Numerical estimates show that this effect can lead to an

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The effect on the adsorption capacity..

increase in the adsorption capacity by several tens of times. It is also shown that for the model considered, the general results do not depend on the type of semiconductor (n- or p-) or on the nature of the gas adsorbed (donor or acceptor). Experimental verification of these results is of interest but it should be noted that redistribution of impurity may lead to effects not considered in this paper.
There are 2 figures.

ASSOCIATION: Institut kataliza SO AN SSSR
Institute of Catalysis, SO AS USSR)
Institut radiotekhniki i elektroniki AN SSSR
(Institute of Radioengineering and Electronics, AS USSR)

SUBMITTED: June 6, 1962

Card 2/2

SOLNYSHKOV, A. I. ; KOMAROV, V. P.; KUZNETSOV, V. S.; ABROYAN, M. A.; IVANOV, N. F. ZHELEZNIKOV, F. G.; ROYFE, I. M.; ZABLOTSKAYA, G. R.; IVLEV, I. V. ; LATMANISOVA, G. M. and GERASIMOV, V. P.

Current Injector for a Strong Focussed Linac.

report presented at the Intl. Conf. on High Energy Accelerators, Dubna, August 1963.

ACCESSION NR: AT4035114 S/3092/63/000/001/0083/0096

AUTHOR: Kuznetsov, V. S.

TITLE: Design of ion-optical systems for direct-action accelerators with allowance for space charge

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury*. Elektrofizicheskaya apparatura; sbornik statey, no. 1, 1963, 83-96

TOPIC TAGS: charged particle beam, linear acceleration, focusing accelerator, electrostatic accelerator, ion beam, lens

ABSTRACT: The author derives, on the basis of the results of an earlier article ("Radiotekhnika i elektronika" VII, 1379, 1962), general relations between the parameters of the beam at the entrance and exit of an accelerator tube, and describes a method for calculating the optimal values of the input parameters of the beam. The

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ACCESSION NR: AT4035114

parameters involved are the beam radius, its divergence angle, the beam current, the electrostatic field intensity, and the charge and mass of the particles. Questions involved in the design of focusing systems that ensure the required beam parameters in a specified lication and the shaping of the beam by means of electrostatic focusing ahead of the accelerator tube is also considered. It is shown that a parallel beam can be obtained at the output of the tube by using a lens system of suitable convergence, regardless of the conditions at the input. Since lenses made up of cylindrical electrodes are much weaker than lens-diaphragms (of the same diameter), it is advantageous to use for the shaping system of the accelerator tube parameters such that the main role in the shaping of the beam is played by the entrance lens of the focusing system, situated in front of the tube. The entrance lens in the tube itself, which is regarded as a diaphragm, is also part of the focusing system. Orig. art. has: 7 figures and 42 formulas.

Card 2/3

ACCESSION NR: AT4035114

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 07May64	ENCL: 00
SUB CODE: NP	NR REF SOV: 004	OTHER: 000

Card 3/3

KUZNETSOV, V.S.

Basic concepts of the method of activated complexes within the scope of the electronic theory of catalysis on semiconductors. Kin. i kat. 4 no.6:878-885 N-D '63. (MIRA 17:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.

IVANOV, N.F.; KUZNETSOV, V.S.; SOLNYSHKOV, A.I.

Formation of pulse ion beams carrying current of the order of hundreds of milliamperes in direct-acting accelerators. Elektrofiz. app. no.2:169-178 '64. (MIRA 18:3)

KUZNETSOV, V.S.

Origin of the compensation effect in chemical reaction occurring on the surface of semiconducting catalysts. Kin. i kat. 5 no.2: 277-283 Mr-Ap '64. (MIRA 17:8)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.

ACCESSION NR: AP4041065 S/0195/64/005/003/0541/0546

AUTHOR: Kuznetsov, V. S.

TITLE: The kinetics of chemisorption of gas by semiconductors

SOURCE: Kinetika i kataliz, v. 5, no. 3, 1964, 541-546

TOPIC TAGS: chemisorption, gas chemisorption, gas kinetics, semiconductor, kinetic isotherm, acceptor bond, activating complex, adsorption center filling, Debye length, Fermi level, boundary conditions, donor, charge isotherm, n type semiconductor, p type semiconductor, catalyst, Poisson equation, desorption, free energy, semiconductor charge

ABSTRACT: The expression for the kinetic isotherm of chemisorption by semiconductors is presented, based on the following considerations: 1- adsorption is unaccompanied by particle dissociation, 2- there exist adsorption centers of another kind, 3- chemisorption of particles is linked to the semiconductor surface by a "solid" acceptor bond, 4- it proceeds through formation of an activating complex connected by a solid acceptor bond with the surface, 5- the density of activating complexes is considerably below that of adsorbed particles, 6- filling of

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ACCESSION NR: AP4041065

adsorption centers is low, 7- thickness of the semiconductor is greater than the Debye length of screening. A formula is presented for the rate of change of density of the chemi-adsorbed particles.

$$\frac{dN}{dt} = \frac{\varkappa}{h} N^* p_e f_g + f_s - f^{\ddagger} + \mu_s - Q_a - \frac{\varkappa kT}{h} N e^{f^- - f^{\ddagger} - Q_d}, \qquad (1)$$

Formula (1) represents the rate of change of density of chemiadsorbed particles N where $\varkappa$ is the transport coefficient; h - Planck's constant; k - the Boltzmann constant; T - temperature; P - gas pressure; N* - density of adsorbed centers; Q_a and Q_d - the activation energies at zero temperature of adsorption and desorption process respectively; μ_s - the Fermi level, from the upper part of the valence zone; f^- - the free energy calculated for one molecule for the adsorbed molecules; f_g and f_s - the free energies of particles in the gaseous phase and adsorbed center; $f^{\ddagger}$ - the free energy of the activated complex in the absence of motion on the reaction coordinate. All energies are expressed in kT units. This is further developed by finding the position of the Fermi level on the surface of the catalizer according to the Poisson equation, the boundary conditions, the concentration of free donor levels and occupied acceptor levels. The formulas for kinetic isotherms of adsorption and charge are given for a number of partial cases

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ACCESSION NR: AP4041065

corresponding to different positions of the Fermi level, for n-type and p-type semiconductors. From the expressions of the charge isotherms it may be concluded that the change of the surface potential $\mu_{\infty} - \mu_s$ with time, caused by gas chemisorption, if $t < \tau$, is satisfactorily described by the formula

$$\mu_{\infty} - \mu_s = \gamma \ln(t + t_0) + c_0$$

where γ, t_0 and c_0 are some functions of temperature, parameters of the semiconductor and the adsorbed gas, t and τ expressions for time. Orig. art. has: 27 formulas and 5 figures.

ASSOCIATION: Institut kataliza SO AN SSSR (Institute of Catalysis SO AN SSSR)

SUBMITTED: 23Jan63 ENCL: 00

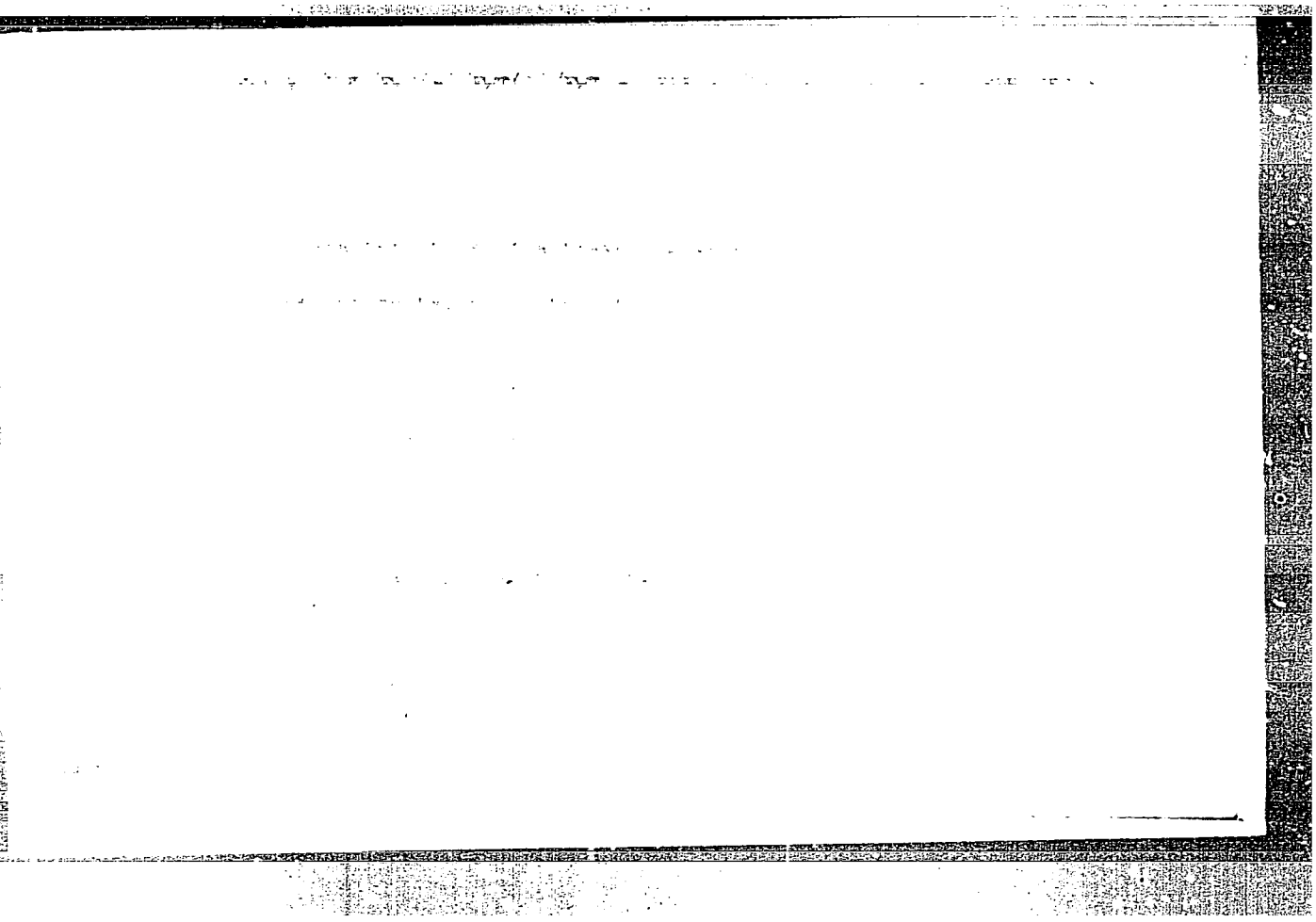
SUB CODE: SS, GC NO REF SOV: 007 OTHER: 001

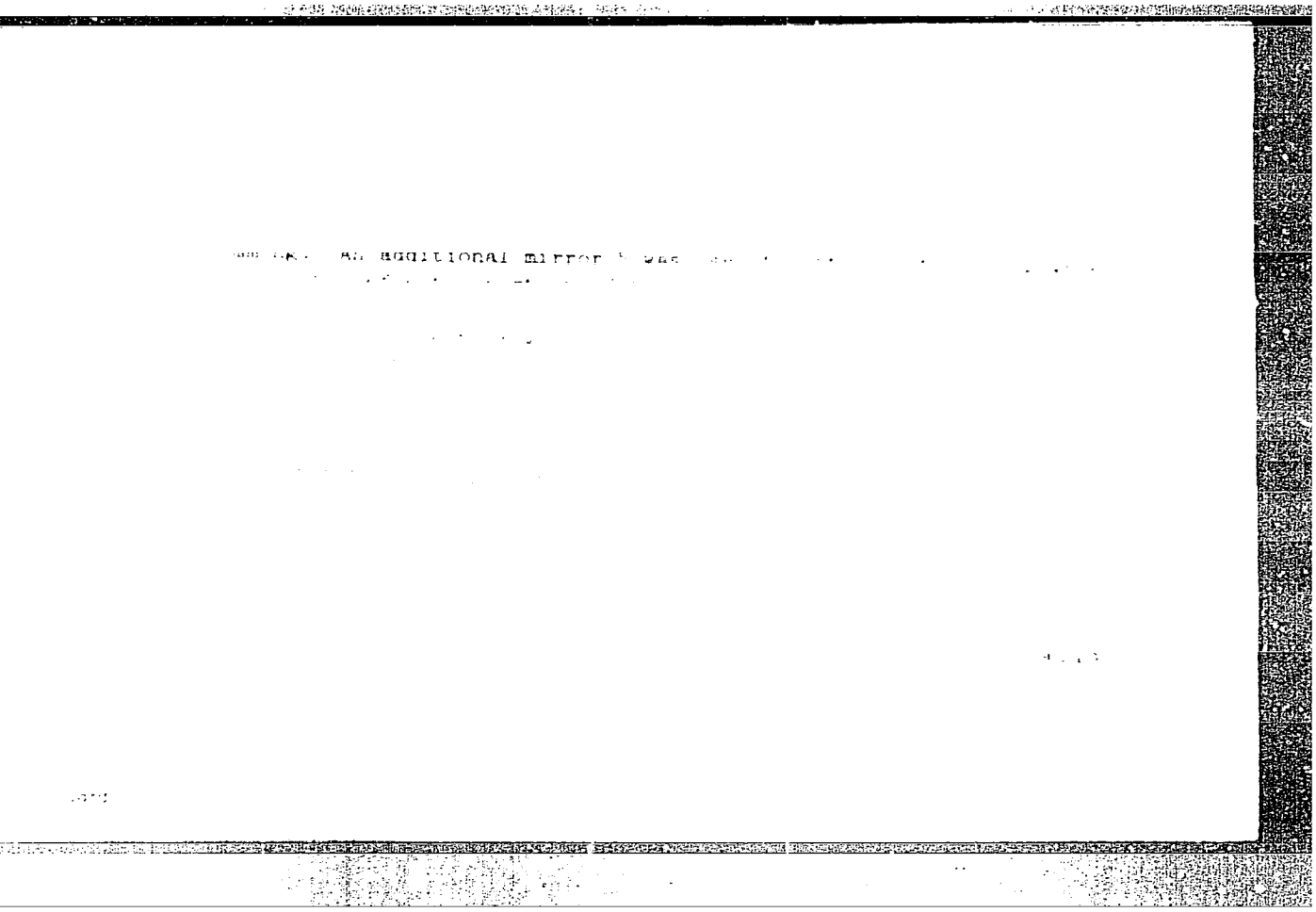
Card 3/3

KUZNETSOV, V.S.

Kinetics of gas chemisorption by a semiconductor. Kin. i kat. 5 no.3:541-546 My-Je '64. (MIRA 17:11)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.





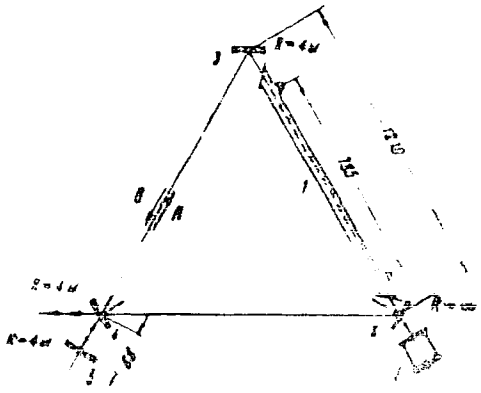


Fig. 1. Test equipment

Card 3/3

L 13597-66

ACC NR: AP6001010 (A) SOURCE CODE: UR/0286/65/000/022/0083/0083

AUTHORS: Kuznetsov, V. S.; Vikhman, V. S.; Leont'yev, K. L.; Zharov, N. A.

ORG: none

TITLE: Controllable light filter. Class 57, No. 176489

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 83

TOPIC TAGS: light filter, electrooptic effect

ABSTRACT: This Author Certificate presents a controllable light filter consisting of a polarizer, an analyzer, and (between them) a set of anisotropic plates, e.g., of cellophane, having rotational dispersion. For inertialess control of the light pass band of the filter, the filter is provided with sheets, e.g., of ammonium dihydrophosphate capable of electrooptical effects. Transparent electrodes, to which the controlling voltage is supplied, are applied to the sheets, which are placed in front of the analyzer (see Fig. 1).

Card 1/2 UDC: 535.345.66

L 13597-66

ACC NR: AP6001010

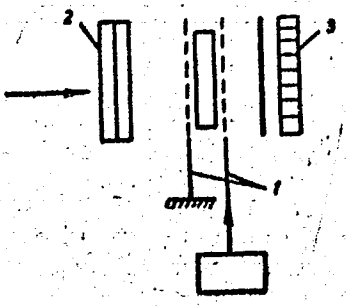


Fig. 1. 1 - Electrodes; 2 - polarizer; 3 - analyzer.

Orig. art. has: 1 diagram.

SUB CODE: 20/ SUBM DATE: 11Dec63

Card 2/2

KUZNETSOV, V.S.

Determining permitted range for temperature variations of the surrounding medium and the power supply voltage by conditions of a steady operation of ferrotransistor cells. Izv. vys. ucheb. zav.; prib. 8 no.5:80-85 '65. (MIRA 18:10)

1. Moskovskiy aviatsionnyy institut imeni Ordzhonikidze.

KUZNETSOV, V.S.

Experience in purifying oil field waste waters by coagulation in fields of the Petroleum Production Administration of the Association of the Tuymazy Petroleum Industry. Nefteprom.delo no.10:22-26 '65. (MIRA 19:1)

1. TSekh nauchno-issledovatel'skikh i proizvodstvennykh rabot neftepromyslovogo upravleniya "Tuymazaneft'".

L 59241-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-7 IJP(c) GS
ACCESSION NR: AT5007937 S/0000/64/000/000/0507/0512

AUTHOR: Abroyan, M. A.; Gerasimov, V. P.; Zheleznikov, F. G.; Zablotskaya, G. R.; Ivanov, N. F.; Ivlev, A. V.; Komarov, V. L.; Kuznetsov, V. S.; Latsnizova, G.M.; Royfe, I. M.; Solnyshkov, A. I.

TITLE: High-current injector of a linear accelerator with strong focusing

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 507-512

TOPIC TAGS: linear accelerator, strong focusing accelerator, electron optics

ABSTRACT: Conditions governing injection in linear proton accelerators determined the requirements on the ion beam, which were of the following order: energy, 700 kev; beam current, 400 milliamperes; beam diameter, 10 millimeters; pulse duration, 10-15 microseconds; energy stability, 0.5%; angular divergence, $\pm 5 \cdot 10^{-3}$ radian. The principal difficulties occur in the development of a system for producing and forming an ion beam with a large current from a powerful stabilized high-voltage source. For particle energy of 700 kev, a variation of the open machine is chosen which ensures good operational characteristics. In the case of large currents, the effect of the beam's spatial charge is substantial and must be taken into account. It

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L 59241-65

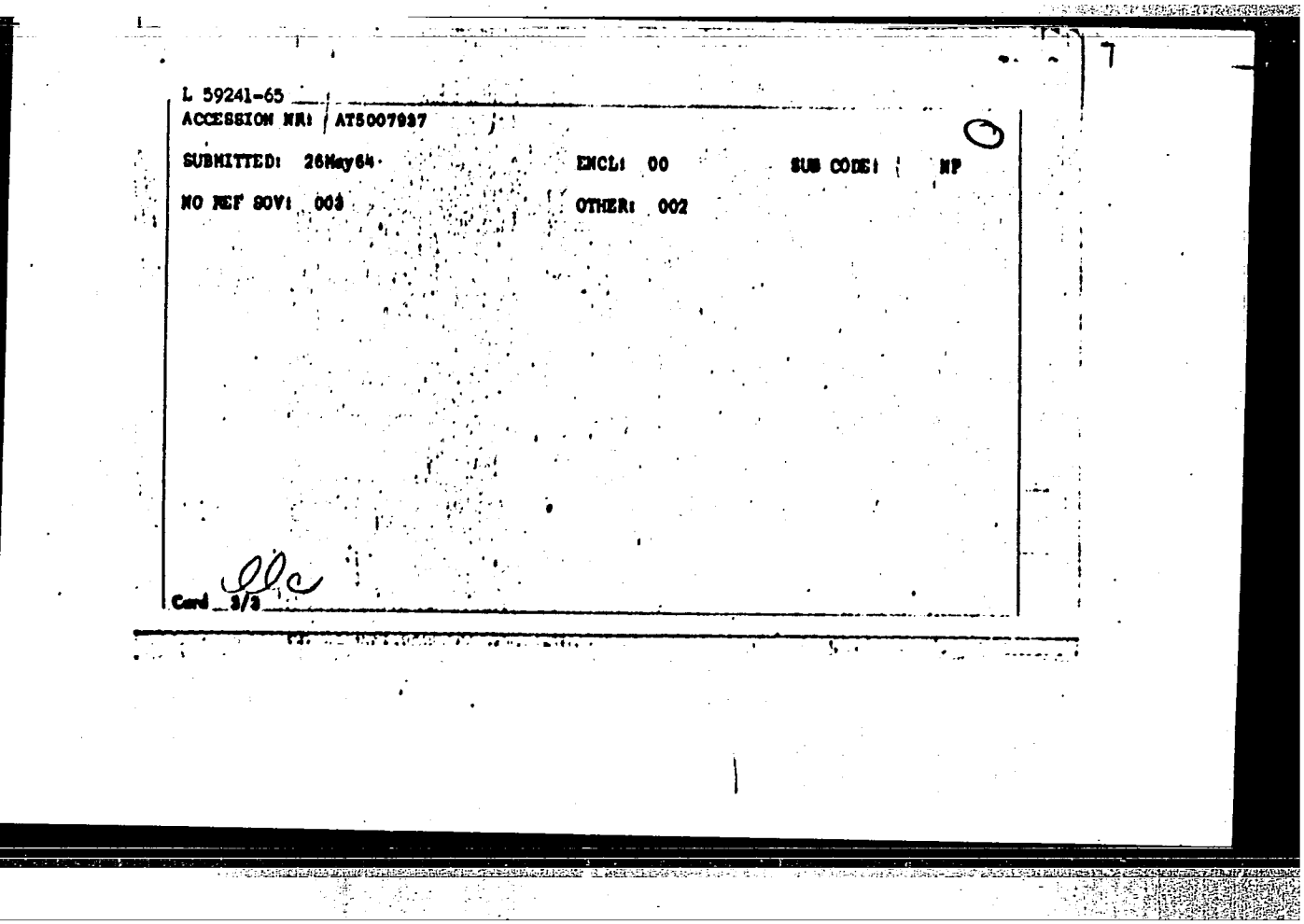
ACCESSION NR: AT5007937

3

considerably complicates the design of the ion-optical system. Experimental testing of the selected version of the optical system for a proton beam with a current of the order of 0.5 ampere confirmed the correctness of the theoretical conclusions and indicated the possibility of producing a proton injector with the above parameters. The author discusses the following topics: design of a system for forming the beam; the experimental setup (injector power supply, high-voltage stabilized power supply circuit, ion source, and current characteristics); the results of the measurements (e.g. current density distribution over tube cross-section). "In conclusion, the author thanks I. F. Malyshev for his constant interest and cooperation during the work, and also R. P. Zaytseva for doing the computer calculations." Orig. art. has: 8 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury imeni D. V. Yefremova GKAE SSSR (Scientific-Research Institute of Electrophysical Equipment, GKAE SSSR)

Card 2/3



L 59241-65
ACCESSION NR: AT5007937

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

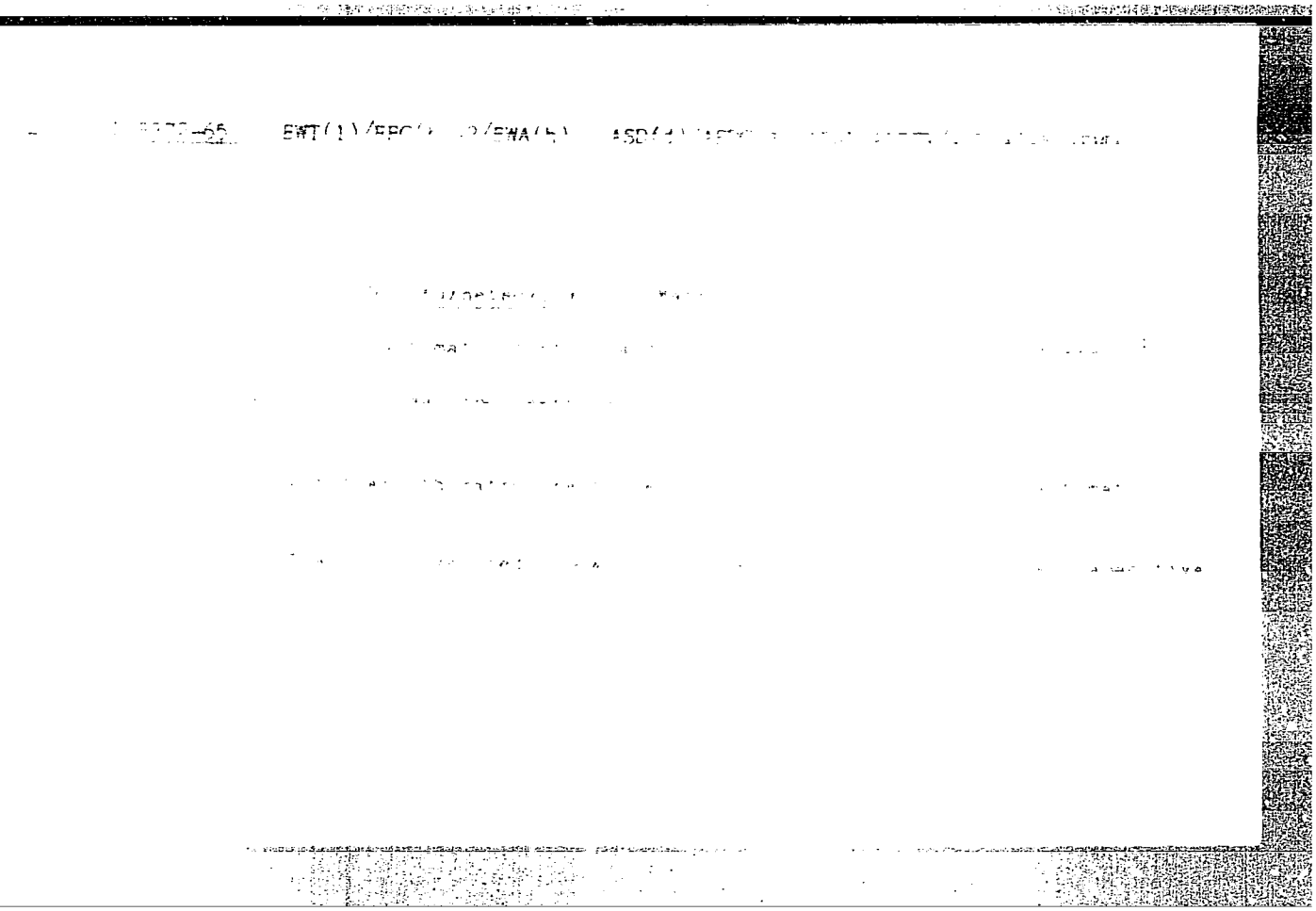
NO REF SOV: 003 OTHER: 002

Card 1/3

YEL'TSOV, A.V.; KUZNETSOV, V.S.; KOLESOVA, M.B.

Formation of a condensed imidazolone ring. Zhur. org. khim. 1 no.6: 1117-1121 Je '65. (MIRA 18:7)

1. Institut onkologii AMN SSSR, Leningrad.



within the range from 0 to 12 kv with an output voltage holding accuracy no worse

The rectifier gives a maximum load

YEL'TSOV, A.V.; KUZNETSOV, V.S.; EFROS, L.S.

Derivatives of imidazole. Part 3. Zhur.ob.khim. 33 no.12:3965-3972 D '63. (MIRA 17:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YEL'TSOV, A.V.; KUZNETSOV, V.S.; EFROS, L.S.

Derivatives of imidazole. Part 31. Zhur.ob.khim. 34 no.1:197-201 Ja '64. (MIRA 17:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

USSR/Diseases of Farm Animals - Diseases Caused by Bacteria and Fungi. R-2

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50173

Author : Ivanov, M.L., Levina, I.G., Studentsov, P.S., Kuznetsov, V.S.

Inst : State Scientific Control Institute of Veterinary Preparations.

Title : The Problem of Anti-Brucellosis Vaccination of Large Horned Cattle with Dry Brucella Vaccine.

Orig Pub : Tr. Gos. nauchno-kontrol'n. in-t po vetpreparatam, 1956, 6, 110-123.

Abstract : Vaccinations were performed with the live brucella No 19 strain vaccine. The vaccine was hypodermically injected in 5 ml doses to all barren cows, as well as to cows pregnant for up to 6 months. The agglutination reaction

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Abs Jour : Ref Zhur - Biol., No 11, 1958, 50173

served as a criterium of immunological reaction. If 15-20 days after vaccination the agglutination titer was lower than 1:200, the vaccination was repeated, and if even then the titer was still too low, a third vaccination was performed. Observations revealed that vaccinations make it possible to stop the spread of brucellosis enzooty and to put an end to abortions. In vaccinated healthy animals the blood serum reaction (BSR) disappears after 5-8 months, while in animals which were in the initial or latent stages of the disease prior to vaccination, BSR is preserved for a long period of time (over 2 years). These indicators may be utilized in order to differentiate between healthy and brucellosis afflicted animals in vaccinated herds. In some of the healthy animals immunological anti-reactivity towards the No 19 strain vaccine was observed. -- I.Ya. Panchenko.

KRAYCHIK, M.M., kand.tekhn.nauk; MAKSIMOV, V.N., inzh.; Prinimali uchastiye: KOTEL'NIKOV, V.L.; KUZNETSOV, V.S.; SKOMOROKHOV, S.T.

Effect of certain factors on the resistance of welded structures to brittle failure. Svar. proizv. no.4:6-9 Ap '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.
(Structural frames--Welding)
(Steel, Structural--Brittleness)

S/865/62/002/000/021/042
D405/D301

AUTHORS: Borshchevskiy, I.Ya., Belyakov, G.M., Gurovskiy, N.N., Kuznetsov, V.S., and Yuganov, Ye.M.

TITLE: Estimating the quality of speech reception and transmission under weightlessness conditions

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962, 215-217

TEXT: The investigations were conducted during periods of weightlessness ranging from 30 to 40 seconds on aircraft following a parabolic course. Four pilots participated in the experiments; 28 speech records were made during 23 flights. Ultra-shortwave ground and air radiostations were used. A tape-recorder was connected to the output of the ground station receiver; it recorded the entire cycle of speech reception and transmission. The quality of the speech was determined from a standard sentence (of 5 words) with subsequent frequency-spectrum analysis. The relative quality was assess-

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Estimating the quality ...

ed with reference to the pertinent experimental data prior to and after weightlessness. Conclusions: Weightlessness does not appreciably affect the quality of reception of speech ground signals. The quality of speech transmitted under conditions of weightlessness differs somewhat from that transmitted under normal flight conditions: the pronunciation is somehow forced, with an increase in vowel intensity. The frequency spectrum of speech under weightlessness conditions is analogous to that under normal flight conditions; at frequencies of 100-500 and 1000-2000 cycles the spectral components show a relative increase of 2-4 and 2-6 db respectively. The quality of speech changes but insignificantly under weightlessness conditions; thus it should be possible in principle to maintain good communications under such conditions. Further studies of the physiological characteristics of speech are necessary, in particular under more prolonged weightlessness conditions. There are 2 figures.

KUZNETSOV, V.T.

KUZNETSOV, V.T. (Saratov)

Introducing the concept of the function in secondary schools.
Mat. v shkole no.4:35-40 Jl-Ag '54. (MLRA 7:7)
(Functions)

KUZNETSOV, V.T.; SOROKA, A.K.

On the road to accelerated technical progress. Zhel.dor.transp. 42 no.5:65-71 My '60. (MIRA 13:9)

1. Nachal'nik Kanashskogo vagonoremontnogo zavoda (for Kuznetsov).
2. Glavnyy inzhener Kanashskogo vagonoremontnogo zavoda (for Soroka).

(Kanash--Railroads--Repair shops)

KUZNETSOV, V.T. (Kanash); SOROKA, A.K. (Kanash)

Mechanization and automation of production in the Kanash Car Repair Plant. Zhel.dor.transp. 44 no.4:60-64 Ap '62. (MIRA 15:4)

1. Nachal'nik Kanashskogo vagonoremontnogo zavoda (for Kuznetsov).
2. Glavnyy inzh. Kanashskogo vagonoremontnogo zavoda (for Soroka).
(Kanash--Railroads--Repair shops)

KUZNETSOV, V.

USSR /Chemical Technology. Chemical Products and Their Application
Corrosion. Protection from Corrosion. H-4

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

Author : Zobachev Yu., Bershteyn V., Kuznetsov V.

Title : Means of Protecting Inside Surfaces of Tankers from Corrosion.

Orig Pub: Morsk. flot, 1957, No 4, 15-18

Abstract: A presentation of the results of investigations of the causes of corrosion damage (CD) to inside surfaces and structures of a large number of foreign tankers. The average magnitude of CD averages 0.28 mm/year during the first 9 years of operation, and 0.38 mm/year during the

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Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

subsequent years. During transportation of dark grades of petroleum products the rate of corrosion of the ships is approximately 3 times less than in shipping of light petroleum products. Procedures for the protection of the tankers from corrosion are listed. Tanker structures made from clad stainless steel. The vinyl resin base coatings can be utilized over prolonged periods at temperatures not exceeding 50-60°, or on brief exposures to temperatures of 85-95°. Also effective is a coating of Saran, which is sometimes used with an aluminum powder filler. To enhance the quality of the protective coating use is made of etching primers containing phos-

USSR /Chemical Technology. Chemical Products and Their Application H-4
Corrosion. Protection from Corrosion.

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

phoric acid. Good results were also obtained with coatings based on epoxy-resins, ethynol- and neoprene lacquers. Other materials that can be used to protect inside surfaces of tankers include coatings having a base of furan- and phenol resins, thiokol, polyamides, etc. On a number of tankers corrosion is controlled by drying the air inside the tanker by means of a "Cargocare" unit. Corrosion inhibitors, which are added to the ballast water, are not utilized at the present time for economical reasons. Among the corrosion inhibiting agents that are added to the cargo the best results were obtained

Card 3/5

USSR /Chemical Technology. Chemical Products and Their Application H-4
Corrosion. Protection from Corrosion.

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

with "Santolen S". In the washing of surfaces of empty tankers use has been made of a 5% solution of Na_2SiO_3 in fresh water containing 1% (by weight) of NaOH. In the United States and England extensive use is made of cathodic protection, by means of Mg-anodes, for the corrosion control in ballast carrying tankers. A6Z3 alloy has been used for the anodes. In England a 2-step system of protection has been used, in which, during the initial stage, the primary anodes, weighing 60-80 kg each and installed inside the tanker, are supplemented by temporary, additional, anodes of circular

Card 4/5

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USSR /Chemical Technology. Chemical Products and Their Application
Corrosion. Protection from Corrosion. H-4

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

shape, by means of which a rapid formation of a protective calcareous layer on the metal, is effected.

Card 5/5

BARDINA, V.; ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.; STRUMPE, P.I., kand. tekhn.nauk, otv.red.; ARAKELOV, V.M., nauchnyy red.; PRESMAN, D.Ya., red.; FRISHMAN, Z.S., red.izd-va; KOTLYAKOVA, O.I., tekhn.red.

[Protection of tanks used on oil tankers] Protektornaia zashchita tankov neftenalivnykh sudov. Leningrad, Izd-vo Morskoi.transport. 1959. 47 p. (Leningrad. tsentral'nyi nauchno-issledovatel'skii institut morskogo flota. Trudy no.24) (MIRA 12:5)
(Tank vessels) (Tanks) (Corrosion and anticorrosives)

ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.

Use of anticorrosive protection for the internal surfaces of petroleum tank vessels. Mor.flot. 19 no.11:32-34 N '59. (MIRA 13:3)

1. Nachal'nik laboratorii korrozii TSentral'nogo nauchno-issledovatel'skogo instituta Morskogo flota (for Zobachev). 2. Starshiye inzhenery laboratorii korrozii TSentral'nogo nauchno-issledovatel'skogo instituta Morskogo flota (for Kuznetsov, Shcherbakov).
(Tank vessels--Cathodic protection)

KUZNETSOV, V. V.; VERZHBITSKAYA, L. V.

Role of micro-organisms in the process of iron corrosion in water. Mikrobiologiia 30 no.3:511-514 My-Je '61. (MIRA 15:7)

1. Yestestvennonauchnyy institut pri Permskom gosudarstvennom universitete imeni A. M. Gor'kogo.

(IRON BACTERIA)
(KAMA HYDROELECTRIC POWER STATION--IRON--CORROSION)

KUZNETSOV, V.V.; VERZHBITSKAYA, L.V.

Study of the conditions leading to the formation and development of pitting corrosion in the plant units and metallic structures of the Kama Power Station. Zhur. prikl. khim. 34 no.1:187-193 Ja '61. (MIRA 14:1)

1. Laboratoriya elektrokhimii Yestestvenno-nauchnogo instituta pri Permskom gosudarstvennom universitete imeni A.M. Gor'kogo.
(Kama Hydroelectric Power Station—Iron—Corrosion)

ACC NR: AR6034810 (N) SOURCE CODE: UR/0398/66/000/008/V008/V008

AUTHOR: Verzhbitskaya, L. V.; Kuznetsov, V. V.; Posyagin, G. S.

TITLE: Cathodic protection for steel in river water

SOURCE: Ref. zh. Vodnyy transport, Abs. 8V45

REF SOURCE: Tr. Yestestvenno-nauchn. in-ta pri Permsk. un-te, v. 11, no. 3, 1965, 85-88

TOPIC TAGS: protective coating, cathodic protection, corrosion protection, steel corrosion

ABSTRACT: Coatings made of Kuzbass varnish, EKA-15 paint, foamed plastics, EP-15 epoxy enamel, epoxy compound, and cement have been tested for use in cathodic protective coatings of steel 3 against corrosion in water from the Kama River. It is established that EKP-15 paint, Kuzbass varnish, foamed plastic, and EP-15 enamel all disintegrate under the effect of superimposed current, while the epoxy compound and cement coating of Portland cement were found to be good insulating materials, and, can be used for cathodic coatings with external current in Kama River water. [Translation of abstract]

SUB CODE: 11, 13/

Card 1/1 UDC: 620.197.5

ACC NR: AP7000335 SOURCE CODE: UR/0413/66/000/022/0093/0094

INVENTOR: Kuznetsov, Ye. V.; Tairakberova, D. M.

ORG: none

TITLE: A polymerization method. Class 39, No. 188666 [announced by the Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966 93-94

TOPIC TAGS: radical polymerization, unsaturated compound, polyelectrolyte acid, itacomic aicd, citraconic acid, amine

ABSTRACT: An Author Certificate has been issued for a method of radical polymerization of unsaturated compounds in amine media. The method is intended for the preparation of polyelectrolyte acids and involves the use of itaconic or citraconic acid as the monomer.

SUB CODE: 11, 07/ SUBM DATE: 24May65/ ATD PRESS: 5107

Card 1/1 UDC: 678.744.34.002.2

KUZNETSOV, V.I.; SUBBOTINA, N.I.; KARASIK, A.S.

Effect of the ultrasound on the absorption of hydrogen by metals during electrolysis. Zhur.prikl.khim. 38 no.6:1310-1315 Je '65. (MIRA 18:10)

1. Laboratoriya elektrokhimii Vsesoyuznogo nauchnogo instituta pri Permskom gosudarstvennom universitet imeni A.M.Gor'kogo.

KUZNETSOV, V.V.

Remarks on S.M.Beloglazov's article "Hydrogen distribution in steel during cathodic treatment in acid and its effect on microhardness." Fiz.-mat. i metalloved. 20 no.5:797-799 N '65. (MIRA 18:12)

1. Permskiy gosudarstvennyy universitet imeni A.M.Gor'kogo. Submitted July 16, 1964.

TUGARINOV, V.V.; KUZNETSOV, V.V.

Combined effect of X rays and streptomycin on the mutability in Chlorella. Dokl. AN SSSR 166 no.3:722-725 Ja '66.
(MIRA 19:1)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
Submitted March 1, 1965.

KUZNETSOV, V.V.

Methodology of aerial mapping of soils for irrigation purposes. Pochvovedenie no.8:10-17 Ag '65. (MIRA 18:9)

1. Laboratoriya aerometodov, Leningrad.

KUZNETSOV, V.V.

Kuznetsov, V.V. "On the characteristics of Uzbek pomegranate types", Doklady Akad. nauk Uzbek. SSR, No. 11, 1948, p. 28-30, (resume in Uzbek).

SO: U-3261, 10 April 53, (Letopis'zhurnal 'nykh Statey, No. 12, 1949

KUZNETSOV, V. V.

M-8

USSR/Cultivated Plants.- Fruits, Berries

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1741

Author : V.V. Kuznetsov
Inst : Not Given
Title : On the Characteristics of the Almond of the Ferganskaya Valley.

Orig Pub : Tr. Plod.-yagod. in-ta AN UzSSR, 1956, vyp 21, 73-88

Abstract : The author conducted research during 1949-1952 on almonds of Ferganskaya Oblast'. From 50 species of Amygdalus L. in central Asia, 8 species are encountered which can be incorporated into 2 subgenii. This is the karagachelistnyy almond (A. Ulmifolia M. Pop.), a species of the sub-genus of Amygdalopsis and of 7 species of subgenus Enamygdalus: the common almost (A. communis), very thorny almond (A. spinosissima Bge), bukharskiy almond (A. bucharica Kopsh.), brushy almond (A. Scoparia Apach.), almond of Petunnikov (A. Petunnikovii Litw.), almond Sveginzov (A. Sweginzovii Kochne) and Vavilova almond (A. Vavilovii M. Pop.). In the valley of Ferganskaya three species

Card : 1/2

USSR/Cultivated Plants.- Fruits, Berries M-8

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1741

are noted: Petunnikov, very thorny, karagatchelistnyy and the common almond, which are described in detail. The description of the 31 most interesting almond samples is given. The cultivation of the almond in Ferganskaya valley is most successfully developed in the foothill regions and in the valley zones with rather rare appearances of late spring frosts. According to the weight of the fruit (.1-2.0 g frequently 3.0 g and more), the output of kernels (60-70%), its oil content (on the average 68.5%), the Ferganskaya almonds are not inferior to the world standards. Thirteen of the best samples have been selected, recommended for wide utilization in the rayons of the oblast.

Card : 2/2

USSR/Cultivated Plants. Fruits. Berries. H

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68340

Asian conditions, the earliest bearing strains are the following: Renet Simirenko, Boyken, Winter Golden Parmen, which yield from 41.8 to 56.7 of their total production in the first sixteen years. When Landsberg Renet and Early Samarkand were crossbred in 1933, 187 hybrids were obatained. From the first year on these hybrids were grown on enriched soils. Their hybrid progeny is described, as well as the fourteen new apple strains which were isolated. It is pointed out that when quick-bearing strains are created, it is quite necessary to have one basic form which is both quick-bearing and also early-maturing. The early apple forms of Central Asia deserve special attention . The

Card : 2/3

USSR/Cultivated Plants. Fruits. Berries. M

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68340

strain Sibirka is also a strain which transmits its quick-bearing characteristics to its progeny well. -- I. S. Skandrakova

Card : 3/3

USSR / Cultivated Plants. Subtropical. Tropical. M-6

Abs Jour: Ref Zhur-Biol., NO 6, 1958, 25212

Author : Kuznetsov, V. V., Shreder, A. G.
Inst : The Fruit and Berry Inst. of the Academy of Sciences, Uzbek SSR
Title : Pecan Varieties for Tashkentskaya Oblast'

Orig Pub: Byul. nauchno-tekhn. inform., 1957, vyp. 1, 16-18

Abstract: The study of the pecan (Carla olivoformis) was begun in 1943 by the Fruit and Berry Institute of the Academy of Sciences, Uzbek SSR, and has shown that under the conditions prevalent in Tashkent the vegetation period lasts 200-220 days. The pecan is more frost-resistant than the walnut, starts to bear fruit from its 13th year and yields 10-16 kg. of nuts from a single tree. Late flowering at the end of May protect the pecan from spring

Card 1/2

M-8

COUNTRY : USSR
CATEGORY :

ABS. JOUR. : RZBiol., No. 12 1959, No. 87199

AUTHOR : Kuznetsov, V. V.
INST. :
TITLE : The Problem of Increasing the Productivity of Orchards and Expanding the Areas of Fruit Bearing Plantings in Zeravshanskiy Basin

ORIG. PUB. : Materialy po proizvodit. silam Uzbekistana, 1957, No 9, 343-350

ABSTRACT : In the Zeravshanskiy basin the orchards cover an area of 10 129 hectares. Recommendations are made concerning selection of species and varieties, and the agrotechnology. Considerable land reserves for expansion of the planted areas are available in the foothill and mountain zones of Samarkandskaya and Kashka-Dar'inskaya Oblast's. In the mountain districts, where precipitation is of at least 700 mm, medium size crops can be produced without irrigation.

CARD: 1/1

USSR / Cultivated Plants. Fruit Trees. Small Fruit Trees. M-7

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73151.

Author : Kuznetsov, V. V.; Shreder, A. G.
Inst : Not given.
Title : The Pecan - A Forst-Resistant Crop.

Orig Pub: Sad i ogorod, 1958, No 1, 53-55.

Abstract: In Tashkentskaya Oblast, pecan trees survive frosts to minus 27° and bear fruit; valuable forms have been brought out.

Card 1/1

KUZNETSOV, V.V.; SHREDER, A.G.

Pecan as a frost resistant nut crop. Trudy Bot.inst.Ser.6 no.7: 169-170 '59. (MIRA 13:4)

1. Plodo-yagodnyy institut im. R.R.Shredera AN UZSSR, Tashkent.
(Tashkent--Pecan)

MIRZAYEV, M.M.; KUZNETSOV, V.V.; CHEREVATENKO, A.S.; CHERNOVALOVA, V.P.; [redacted]; KUL'KOV, O.P.; AMINOV, Kh.; ZHIVOTINSKAYA, S.M.; SHREDER, A.G.; LEPLINSKAYA, A.A.; PAVLOV, A.K.; SHAPIROV, S.K.; KALMYKOV, S.S.; YAGUDINA, S.I.; GULYAMOV, Kh.; DZHALALOV, Dzh.[translator]; SAIDAKHMEDOV, S.[translator]; BONDARENKO, M., red.; KADYROVA, R., red.; BAKHTIYAROV, A., tekhn. red.

[Fruit of Uzbekistan] Frukty Uzbekistana. Tashkent, Gos. izd-vo UzSSR, 1960. 6 books in fold. Abrikos, persik, sliva. 84 p. Granat, inzhir, khurma. 40 p. IAblonia, grusha, aiva. 96 p. Mindal', orekh. 26 p. Vishnia, chereshnia. 18 p. Zemlianika, malina, smorodina. 36 p. (MIRA 16:7)

(Uzbekistan--Fruit--Varieties)

NATSVIN, A.V.; CHEREVATENKO, A.S.; VASIL'YEV, K.V.; PROTOSEVICH, L.A.; CHERNOVALOVA, V.P.; LEPLINSKAYA, A.A.; PAVLOV, A.K.; TASHMATOV, L.T.; SMIRNOV, P.K.; SOLDATOV, P.K.; KHAYDARKULOV, G.I.; TSEYTLIN, M.G., kand. sel'khoz.nauk; KUZNETSOV, V.V., kand. sel'khoz.nauk, otv. red.; KRIVONOSOVA, N.A., red.; SOROKINA, Z.I., tekhn. red.

[Best fruit and grape varieties for drying and preserving in the southwestern regions of Uzbekistan] Luchshie sorta plodovykh i vinograda dlia sushki i konservirovaniia v iugo-zapadnykh oblastiakh Uzbekistana. Tashkent, MSKh UzSSR, 1961. 162 p. (MIRA 15:7)

1. Institut sadovodstva i vinogradarstva im. R.R.Shredera. Samarkandskiy filial. 2. Samarkandskiy filial Instituta sadovodstva i vinogradarstva im. R.R.Shredera (for all except Kuznetsov, Krivonosova, Sorokina).

(Uzbekistan--Fruit--Varieties)
(Uzbekistan--Grapes--Varieties)

S/270/63/000/002/015/020
A001/A101

AUTHOR: Kuznetsov, V. V.

TITLE: The study of soil cover of deserts

PERIODICAL: Referativnyy zhurnal, Geodeziya, no. 2, 1963, 28 - 29, abstract 2.52.200 (In collection: "Aerometody izuch. prirodn. resursov", M., Geografgiz, 1962, 158 - 166)

TEXT: In desert zones, where vegetation does not form a continuous cover and in some places even is absent at all, the properties of landscape image on aerial photographs are due mainly to specific features of the soil cover. The texture of surfaces is then of a special importance: soils with mat surfaces are represented by a brighter shade than soils with a rough surface. Moreover, brightness contrasts depend on the moisture, mechanical and mineralogical composition of soil, as well as on the content of humus, ferric oxide, and other dyeing substances. Specific features of images of soils covered with vegetation are determined mainly by the state and species composition of the latter. Seasonal natural phenomena greatly affect appearance of soils an aerial photographs. The

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The study of soil cover of deserts

S/270/63/000/002/015/020
A001/A101

author lists criteria for identification of main types of soils in desert zones (brown soils, solonetz and solonchak, meadow-brown and alluvialstriated soils, gray-brown soils, gray desert soils, sandy massifs, "takyrs", solonchaks, meadow-gray desert soils, and old irrigated soils. In so far as in deserts is observed a particularly close relation of soils with geological conditions, relief and vegetation, decoding should be performed on the comprehensive basis taking into account all main elements of the landscape.

V. Pavlov

[Abstracter's note: Complete translation]

Card 2/2

KUZNETSOV, V.V.

Phenoclimatic evaluation of the germination conditions of the main fruit and berry crops and grapes in Tashkent Province. Mat. Fen. kom. Geog. ob-va SSSR no.1:71-84 '62.
(MIRA 17:3)

KUZNETSOV, V.V., kand.sel'skokhoz.nauk (Tashkent)

New early varieties of apple. Priroda 51 no.8:122 Ag '62.
(MIRA 15:9)

(Soviet Central Asia—Apple—Varieties)

KUZNETSOV, V.V.; KARABAYEV, K.K.; IBRAGIMOV, I.M.

Fossil land turtle of Kirghizia. Mat. po geol. Tian'-Shania no.4:135-146 '64. (MIRA 17:10)

ACC NR: AR7000880 SOURCE CODE: UR/0058/66/000/009/E097/E097

AUTHOR: Kuznetsov, V. V.; Kon'shina, E. N.

TITLE: Diffusion of electrolytic hydrogen through iron of various structure

SOURCE: Ref. zh. Fizika, Abs. 9E776

REF SOURCE: Tr. Yestestvennonauchn. in-ta pri Permsk. un-te, v. 11, no. 3, 1965, 21-23

TOPIC TAGS: annealing, electrolytic heat treatment, gas diffusion, electrolysis, hydrogen diffusion, iron

ABSTRACT: The diffusion of an electrolytic H_2 through nonannealed and annealed Armco-Fe at 16—18C is studied. It is determined that if Fe polarization occurs in a solution of chemically pure I N H_2SO_4, the H_2 diffusion rate through the Fe membrane depends only very slightly on the grain size of the membrane material. Introduction of As_2O_3 (10 mg/l As) into the electrolyte increases the H_2 diffusion rate through the membrane of annealed Fe, almost 10 times as compared with the diffusion through a membrane of nonannealed coarse grained Fe. It is assumed

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ACC NR: AR7000880

that the presence of As in the electrolyte increases the contribution of the boundary diffusion of hydrogen. I. Marchukova. [Translation of abstract]

[GC]

SUB CODE: 11/13

Card 2/2

KUZNETSOV, V.V., inzh.

Characteristics of the operation of the OS-4,5 grain cleaning machine. Trakt. i sel'khozmash. no.12:38 D '65. (MIRA 18:12)

1. Voronezhskiy zavod sel'skokhozyaystvennogo mashinostroyeniya.

KUZNETSOV, V.V.; KON'SHINA, E.N.

Diffusion of electrolytic hydrogen through bimetallic membranes.
Elektrokhimiia 1 no.9:1115-1118 S '65. (MIRA 18:10)

1. Yestestvenno-nauchnyy institut pri Permskom gosudarstvennom universitete imeni A.M. Gor'kogo.

SOLDATOV, G.A.; LEVITSKIY, V.K.; KHAINSON, A.M.; KUZNETSOV, V.V.; SPEKTOR, M.P.

Drying of mettlach tiles in radiation driers. Stek. i ker. 22 no.3:33-35 Mr '65. (MIRA 18:10)

KUZNETSOV, V.V.

Magnetic properties of rocks and ores in some iron-ore deposits in Central Asia. Trudy Sred.-Az.politekh.inst. no.12:168-175 '61. (MIRA 18:12)

21(7), 21(9)

AUTHORS: Kuznetsov, V. V., Mekhedov, V. N. SOV/56-35-3-5/

TITLE: The Formation of Tritium in Metals Under the Action of 120-660 MeV Protons (Obrazovaniye tritiya v metallakh pod deystviyem protonov s energiyey 120-660 MeV)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 587 - 591 (USSR)

ABSTRACT: It was the purpose of the present paper to supplement the data published in other papers (Refs 1-6) as well as to obtain new material concerning the formation of tritium in metals. Samples having the dimensions 2.6.15 mm were subjected to a proton beam of the synchrocyclotron. (Duration of irradiation: 2-5 minutes; intensity: 10^{11} - 10^{12} protons/sec). The tritium content in the irradiated target was determined by means of a "vacuum system" (Fig 1). This device consists of a system of tubes and containers in which pressure is low; the sample, the tritium content of which is to be determined, is melted in a 140 cm^3 quartz tube for 1,5 to 2 hours at a temperature of 900-1050°C in a

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hydrogen atmosphere at a pressure of 50 torr), on which occasion about 90% of the tritium escapes from the sample. A Geiger counter with a shield of 40 mm thickness is used as a recording device. Targets of the following materials were investigated: Al, Mg, Cu, Zn, Ag, Cd, (Fe), Pb, Sb, Au, Sn, Bi. The results obtained by the experiments (average cross sections at E_p = 120, 200, 300, 450, 500, 550, 600 and 660 MeV and the corresponding number of tests) are compiled in a table. Figure 2 shows the dependence of σ_{H^3} on the atomic weight of the target material at 660 and 450 MeV (slightly ascending straight line). Figure 3 shows the dependence of the H^3-production cross section in Al, Pb, and Fe on the proton energy. The results of measurements are discussed. Finally, the authors thank V.A.Khalkin, M.Ya.Kuznetsova, and V.I.Salatskiy for their assistance and Yu.D.Prokoshkin for his valuable comments. There are 3 figures, 1 table, and 11 references, 1 of which is Soviet.

The Formation of Tritium in Metals Under the Action of 120-660 MeV Protons SOV/56-35-3-5/6

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute of Nuclear Research)

SUBMITTED: April 2, 1958

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VOLOSHCHUK, V.I.; KUZNETSOV, V.V.; SULYAYEV, R.M.; FILIPPOV, A.I.; SHCHERBAKOV, Yu.A.

Measurement of particle ionization by the relative photometry of track photographs. Prib. i tekh. eksp. no.3:34-36 My-Je '60. (MIRA 14:10)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Photography, Particle track)
(Ionization)

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AUTHORS: Van Yun-yuy, Kuznetsov, V. V., Kuznetsova, M. Ya., Khalkin, V. A.

TITLE: Investigation of the Secondary (α,xn) Reactions on Bismuth

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 2 (8), pp. 230-234

TEXT: The authors determined the absolute production cross section and the relative yields of At^{210} and At^{211} from bismuth irradiated with 120- to 660-Mev protons under rigorous experimental conditions; the experimental data hitherto available in this field (among others those obtained by N. A. Perfilov, V. I. Ostroumov, and B. V. Kurchatov) partly show considerable divergence. High-purity bismuth (impurity concentration $<10^{-4}$%) was irradiated on the synchrocyclotron of the Laboratoriya yadernykh problem OIYaI (Laboratory of Nuclear Problems of the Joint Institute of Nuclear Research) with 120-660 Mev protons. In order to prevent astatine losses during the irradiation, the bismuth was filled

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into a quartz ampoule up to half its capacity. Irradiation lasted from five to 15 minutes. The proton beam intensity was determined from the Na^{24} production in the aluminum foil surrounding the lower half of the ampoule. The astatine was extracted from the bismuth three hours after the end of irradiation, and was precipitated together with the elementary tellurium. The α-absorption in the tellurium layer and in the film by which it was covered was experimentally determined, and it was found that 25% of the alpha particles of At^{211}(E_α = 5.86 Mev) and Po^{211}(7.44 Mev) and 30% of those of Po^{210}(5.3 Mev) were absorbed in the tellurium layer + film. The alpha activity of the astatine preparations of tellurium was measured by means of a scintillation counter (natural background 10 - 20 pulses/hour). Two half-lives, (7.3±0.2) hours and 140 days, were measured which corresponded to At^{211} and Po^{210}. Po^{210} forms in At^{210} decay ($T_{1/2}$ = 8.3 hours; K capture). The production cross sections measured for At^{211} and At^{210} as well as their ratios are given in a Table. Among other things, the following values were obtained:

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at E_p = 130 Mev - 0.52 and $0.33 \cdot 10^{-29} cm^2$; at E_p = 660 Mev - 2.60 and $2.14 \cdot 10^{-29} cm^2$ (for At^{211} and At^{210}, respectively). These values are accurate to within ±30%. The results obtained indicate that in the range of $120 \leq E_p \leq 660$ Mev the spectrum of the α-particles produced in bismuth disintegration hardly changes its shape. The production cross section of α-particles with E > 20 Mev was calculated and one obtains:

E_p [Mev]	130	170*	300	400	480*	530	580	660
$\sigma(E_\alpha > 20Mev)$, $[10^{-25} cm^2]$	0.42	1.03	1.58	1.55	2.03	2.28	1.82	2.1

The values with asterisks were calculated from a formula by V. V. Babikov. According to $P(E) = \frac{E-V}{\tau^2} \exp(-\frac{E-V}{\tau})$ with τ = 6 Mev, V = 12 Mev, the spectrum of the fast α-particles was calculated. The result obtained is shown in curve 1 of the Fig.; for comparison, the spectral curves from Refs. 2 and 5 have also been entered. The causes of the quantitative

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deviations are discussed. The authors finally thank V. N. Makhedov and also B. V. Kurchatov for his interest and advice. There are 1 figure, 1 table, and 19 references: 7 Soviet, 8 US, 2 Dutch, 1 Canadian, and 1 British.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: February 5, 1960

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AUTHORS: Van Yun-yuy, Kuznetsov, V. V., Kuznetsova, M. Ya., Mekhedov, V. N., Khalkin, V. A.

TITLE: Investigation of Secondary Capture Reaction of Lithium Nuclei by Lead

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3(9), pp. 527 - 535

TEXT: The present paper is a report on the radiochemical investigation of the formation of the astatine isotopes $^{19}At^{211,210,207}$ in the secondary reaction $_{82}Pb(Li,xn)_{85}At$ by bombarding lead with protons (80-660 Mev), deuterons (75-370 Mev) and alpha particles (210-810 Mev). The apparatus and method of measurement are described in Ref. 15. The lead targets (about 1 g) were enclosed in a quartz ampoule, and irradiated for 0.2-2 hours. For determining the yield, different thicknesses of lead foil were irradiated for 2-10 hours. The dependence of the astatine yield on the proton energy is given in Table 1:

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Proton Energy in Mev	Yield in μb At^{211}	At^{210}	At^{207}/At^{211}	Total Yield in μb
660	0.17	0.21	~1.3	~1.3
500	0.06	0.10	-	~0.35
340	0.03	0.08	-	~0.2
120	0.005	0.01	~1.1	~0.03
~80	~0.01	-	-	-

For E_p = 660 Mev, a case of At^{205} production was also recorded ($T_{1/2}$ = 25 min); At^{205}/At^{211} ~ 0.1. The yield of At^{211} as a function of the energy of the bombarding particles (α,p,d) is shown in Fig. 1. The highest yield (~0.3 μb) was obtained by bombardment with alpha particles, and this is only slightly dependent on the energy. When the alpha energy is high, At^{211} may be formed also by the alpha capture of Pb^{208} (and π^-n emission) or Pb^{207} (and π^- emission). The fraction of these reactions is, however, unimportant. Fig. 2 shows the At^{211} yield

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as a function of the target thickness. The yield increases monotonically from 0.03 to 0.3 mm, and remains constant with a further increase in thickness. In the discussion of the results, the authors compare the E_p dependence of the total production cross section of astatine isotopes from lead with that of iodine isotopes from tin (Fig. 3). An estimate of the energy spectra of the Li fragments and their production cross section from lead is made by a method suggested by B. V. Kurchatov et al. (Ref. 10). Assuming that Li^6, Li^7, and Li^8 have similar energy spectra, the spectrum may be described by $P(E)dE = \tau^{-2}(E-V)\exp(-(E-V)/\tau)dE$. The excitation functions of the most important production reactions of At isotopes by capture of Li^6 and Li^7 were calculated according to Jackson's method, and are represented in Fig. 4 ($\sigma = f(E_{Li})$). The ratio between the Li yields from lead was determined to be $Li^6:Li^7:Li^8 = 0.55:0.41:0.043$. The parameters V and τ from the spectrum formula are given in Table 2 for several yield ratios. The best agreement with the experiment is found for V = 6 - 10 Mev and τ = 10.5 - 11.5 Mev.

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Fig. 5 shows the Li spectrum for E > 30 Mev (V = 6 Mev, -11.5 Mev). From the astatine production B for a given proton energy and using the formula $B = N_0 \sigma^p_{Li} \sigma^{\overline{Li}}_{At} \Delta l$, the production cross section of Li nuclei σ^p_{Li}, and the production cross section of At^{211} averaged over the energy is calculated to be σ^p_{Li} = 3.- 4 mb and $\sigma^{\overline{Li}}_{At}$ = 0.1 b. Δl denotes the half thickness of the Pb target in which the production of At^{211} begins to deviate from the constant value. The authors thank Ye. N. Sinotov, A. S. Karamyan, and A. A. Pleve for help, and B. V. Kurchatov for critical remarks. The spectroscopic determination of the lead impurities was carried out by M. Farafonov of GEOKhI. There are 5 figures, 2 tables, and 29 references: 13 Soviet, 12 US, 1 Dutch, 1 British, 1 Italian, and 1 Canadian.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 12, 1960

Card 4/4

FUZNETSOV, V V

KUZNETSOV, V.V.

Production of tritium in lead and aluminum under the action of high-energy protons, deuterons, and α-particles. Zhur. eksp. i teor. fiz. 40 no.5:1263-1269 M., '61. (MIRA 14:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Tritium) (Collisions (Nuclear physics))

KUZNETSOV, V. V., SVESHNIKOV, A. G., SEMASHKO, N. N., BALEBANOV, V. M., VOLKOV, B. I., GLASKO, V. B., GROSHEV, A. L.,

"Motion of Individual Charged Particles in Helical-Symmetry Magnetic Field,"

report presented at the 6th Intl. Conf. on Ionization Phenomena in Gases, Paris, France, 8-13 Jul 63

BALEBANOV, V. M., GLASKO, V. B., GROSHEV, A. L., KUZNETSOV, V. V., SVESHNIKOV, A. G., SEMASHKO, N. N., SUZNETSOV, V. V.

"Study of Individual Charged Partilce Motion in "Fluted" Magnetic Fields,"

report presented at the 6th Intl. Conf. on Ionization Phenomena in Gases, Paris, France 8-13 Jul 63

KUZNETSOV, V. V., MALKAHOV, N. P., SEMASHKO, N. N., GROSHEV, A. L.,

"The Source of Hydrogen Ions for Mirror Machine Ogra,"

report presented at the 6th Intl. Conf. on Ionization Phenomena in Gases, Paris, France, 8-13 Jul 63