L 23372-66 EWT(m) IJP(c)

ACC NR: AP6014019 SOURCE CODE: UR/0120/65/000/005/0037/0039

AUTHOR: Kolotov, O. S.; Lobanov, Yu. N.; Tulinova, N. I.

ORG: Scientific Research Institute of Nuclear Physics, MGU (Nauchno-issledovatel'skiy institut yadernoy fiziki MGU)

TITLE: Production and registration of short pulses of betatron injector electron current

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 37-39

TOPIC TAGS: betatron, electron trapping

ABSTRACT: For the study of processes related to the trapping of electrons in the betatron cycle and the subsequent behavior of these electrons during the first turns, pulses are needed which will not interfere with the registration of the previously injected electrons. Best results can be obtained with injectors operating during a part of a full turn time-period and filling a section of the circumference of thechamber with electrons. The necessary time interval is of the order of 10^{-8} to 10^{-9} sec. There are no difficulties in producing nanosecond pulses; however, there are considerable problems present during the design of injectors which without distortion transform voltage pulses into electron current bursts. The article describes such a low-

Card 1/2 UDC: 621.384.634.3

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ACC NR: AP6014019

distortion wide-band injector with minimum parasitic influences; it presents the cross-sectional view of the injector, its power supply circuitry, the diagram showing the location of the injector and the registering probes, the circuit for interference compensation in the probe circuits, and an oscillogram showing satisfactory agreement between the injector voltage pulse and the corresponding probe current pulse. Orig. art. has: 5 figures. [JPRS]

SUB CODE: 20 / SUBM DATE: 27Jul64 / ORIG REF: 004

Card 2/2 IC

L 11418-67 EWT(1) IJP(c) SOURCE CODE: UR/0057/66/036/009/1636/1638

ACC NR: AP6031266

AUTHOR: Andreyev,A.D.; Il'in,V.D.; Lobanov,Yu.N. 4/6

ORG: none

TITLE: High frequency discharge within a ring electrode

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 9, 1966, 1636-1638

TOPIC TAGS: discharge plasma, rf plasma, nitrogen, plasma density, plasma radiation, plasma electron temperature

ABSTRACT: The authors have investigated the excitation of nitrogen plasmas within a cylindrical chamber by a high-frequency voltage applied to a cylindrical electrode outside of and coaxial with the chamber. The cylindrical chamber was approximately 78 mm in diameter and 19 mm in altitude. /Abstractor's note: these figures are not given in the paper; they were obtained by scaling a drawing./ The plasmas were excited by applying 2 to 5 kV to 2 MHz from an impact excited oscillator to the external cylindrical electrode. The plasmas were photographed through the end wall of the chamber; the radiation emitted by the plasmas was detected with a photomultiplier and its pulsation was observed with an oscilloscope; and the electron density and temperature of the plasmas were measured with the aid of a probe in the center of the chamber. At high nitrogen pressures (1 torr) the visible discharge within the chamber was confined to a thin layer next to the wall. When the pressure was reduced, the discharge broke away from the wall and extended toward the center of the chamber. As the pressure was

UDC: 537.525.72

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ACC NR: AP6031266

decreased from 0.06 to 0.02 torr the radius of the region of greatest luminosity decreased from 38 to 24 mm. At low pressures, when the radiation came from regions of the chamber far from the walls, the radiation intensity pulsated at the 2 MHz excitation frequency; at high pressures, when the radiation came only from the immediate vicinity of the wall, it pulsated at twice the excitation frequency. The electron concentration decreased from 4×10^{11} to 2.6×10^{10} cm^{-3} as the gas pressure was reduced from 0.9 to 0.05 torr. The electron temperature remained practically independent of the exciting voltage at about 5 eV. Orig. art. has: 5 figures.

SUB CODE: 20 SUBM DATE: 30Oct64 ORIG. REF: 001

Card 2/2 bab

21(7)
AUTHORS: Druin, V. A., Lobanov, Yu. V., Polikanov, S. M.

SOV/56-37-1-6/64

TITLE: The Angular Distribution of the Fragments in a Nuclear Fission by Heavy Ions (Uglovoye raspredeleniye oskolkov pri delenii yader tyazhelymi ionami)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1, pp 38-40 (USSR)

ABSTRACT: In the introduction a number of earlier papers is briefly discussed. In nuclear fissions induced by neutrons, protons, α-particles, C^{12}-nuclei, and γ-quanta, an anisotropy in the angular distribution of fragments has already been found to exist. The present paper is a continuation of reference 9, where the authors had investigated the angular distribution in fissions induced by C^{12}-nuclei. Here they report about measurements of the anisotropy of the angular distribution of fragments in fissions of gold- and U^{238}-nuclei induced by C^{12}- and O^{16}-ions. The measurements were carried out on the 150 cm cyclotron of the AS USSR. The maximum ion energies were 78 and 100 Mev for C^{12} and O^{16} respectively. Fragments were recorded by means of a device which is shown in form of a

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The Angular Distribution of the Fragments in a Nuclear Fission by Heavy Ions

schematical drawing by figure 1. The aluminum foils picking up the fragments were arranged at angles of 90 and 135° with respect to the direction of radiation. The results obtained by the experiments are shown by a table. Gold was bombarded with C^{12}-ions of the energies of 66 and 78 Mev and with O^{16}-ions of the energies of 85 and 100 Mev, while U^{238} was bombarded only with C^{12} (78 Mev). The ratio of the yield of fission fragments emitted at 135 and 90° was measured, and so were the ranges of the fission products. Figure 2 shows the dependence of the yield ratio at 141 and 120° on the maximum angular momentum of the compound nucleus. Calculation of curves was carried out according to the formulas deduced by Strutinskiy on the basis of the statistical theory (Ref 2); the experimentally determined anisotropy coefficients only partly agree with the statistical curves. The authors finally thank G. N. Flerov for supervising work, V. M. Strutinskiy and G. A. Pik-Pichak for discussions. It is said in a footnote that the authors Lobanov and Polikanov are collaborators of the Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research).

The Angular Distribution of the Fragments in a Nuclear Fission by Heavy Ions SOV/56-37-1-6/64

There are 2 figures, 1 table, and 10 references, 4 of which are Soviet.

SUBMITTED: February 9, 1959

Card 3/3

OGANESYAN, Yu.TS.; LOBANOV, Yu.V.; MARKOV, B.N.; FLEROV, G.N.

[γ-Spektra in reactions with heavy ions] γ-spektry v reaktsiiakh s tiazhelymi ionami. Dubna, Ob"edinennyi institut iadernykh reaktsii, 1961. 16 p. (MIRA 14:11)
(Gamma rays--Spectra) (Nuclear reactions)

OGANESYAN, Yu.Ts.; LOVALOV, Yu.V.; MARKOV, B.N.; FLEROV, G.N.

[Gamma radiation of high-spin nuclei] γ-izluchenie iader s vysokim spinom. Dubna, 1962. 13 p. (MIRA 16:10)
(Nuclear spin) (Gamma rays)

S/057/63/033/004/015/021
B163/B234

AUTHORS: Indreash, G., Linev, A. F., Lobanov, Yu. V., Markov, B. N., and Oganesyan, Yu. Ts.

TITLE: Investigation of the γ-rays from the resonance system of a cyclotron

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, 1963, 462 - 469

TEXT: In order to produce intense beams at a radius near to the final one in the 300 cm cyclotron for the acceleration of heavy ions of the laboratory for nuclear reactions ОИЯИ (OIYaI) it was calculated that at a frequency of 5 Mc/s a potential difference $2V_o$ = 300 - 350 kv between the dees should be applied. It was found, however, that for dee voltages above 100 to 150 kv a strong electronic load of the resonance circuit spoiled its quality factor, and that the dee potential was considerably reduced (by the factor $\sim$1.5) when the external magnetic field was switched on. The distance between the dees and the cover of the chamber was 10 cm. The electron current over this gap was studied by recording the continuous spectrum of soft bremsstrahlung by means of a scintillation counter

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arranged outside the vacuum chamber, through a plexiglass window. The pulse recurrence frequency was varied between 10 and 150 c/s, the pulse duration from 0.2 to 3.0 m sec. The vacuum in the chamber varied from $1.5 \cdot 10^{-5}$ to $5 \cdot 10^{-6}$ torr. The γ-counting-rate N_γ increased by a factor of 10^6 to 10^7 when 2 V_0 was increased from 50 to 300 kv. The spectral distribution of the γ-rays drops steeply at $E_\gamma = e V_0$ and becomes much less intense for $e V_0 < E_\gamma < 2e V_0$. The measurement of this spectral distribution can be used to measure the dee voltage with an accuracy of 3%. The dependence of N_γ on the magnetic field strength H is characterized by a steep ascent up to 1000 oersted, and a constant value of N_γ between 1 and 16 kiloersted. For high H, N_γ is proportional to the duty factor. No dependence of N_γ on the vacuum was observed. There are 5 figures.

SUBMITTED: January 13, 1962 (initially)
June 2, 1962 (after revision)

Card 2/2

OGANESYAN, Yu.TS.; LOBANOV, Yu.V.; MARKOV, B.N.; FLEROV, G.N.

γ-Radiation from high-spin nuclei. Zhur. eksp. i teor. fiz. 44 no.4:1171-1179 Ap '63. (MIRA 16:4)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Gamma rays) (Nuclear spin)

L 41015-65 EWA(h)/EWT(m) Peb

ACCESSION NR: AP5007707 S/0367/65/001/001/0067/0071

AUTHOR: Lobanov, Yu. V.; Kuznetsov, V. I.; Perelygin, V. P.; Polikanov, S. M.; Oganesyan, Yu. Ts.; Flerov, G. N.

TITLE: A spontaneously fissionable isomer with a halflife of 0.0009 seconds

SOURCE: Yadernaya fizika, v. 1, no. 1, 1965, 67-71

TOPIC TAGS: spontaneous fission, isomer fission, short halflife isomer, radioactive decay, ion bombardment, plutonium target, uranium target

ABSTRACT: The authors have previously reported discoveries of short-lived, spontaneously decaying, nuclei with $13.5 \cdot 10^{-3}$ sec. and ~ 3.5 sec. half-lives (see, e.g., A. F. Linev, B. N. Markov, A. A. Pleve, S. M. Polikanov, Preprint OIYaI D-1693, 1964; V. P. Perelygin, S. P. Tret'yakova, ZhETF, 45, 863, 1963). In all probability, this considerable increase in spontaneous fission rates is due to the fact that fission proceeds from an excited rather than from a ground state. At the same time, several of the present authors predicted (V. A. Druin, N. K. Skobelev, B. V. Fefilov, V. I. Kuznetsov, Yu. V. Lobanov, Yu. Ts. Oganesyan, Preprint OIYaI R-1651, 1964) that there should exist still another nuclear isomer

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ACCESSION NR: AP5007707

with $Z \leq 100$ which would have a spontaneous fission period of about 3.5 sec.; consequently, they continued their search for other possible short-lived isomers with lifetimes within the millisecond region. They developed a method for the registration of periods down to $5 \cdot 10^{-4}$ sec. for fission fragments from spontaneous fission of nuclear heavy-ion reaction products and carried out experiments on the internal beam of the U-300 cyclotron of the OIYaI. The fission fragments were registered by means of glass detectors. After bombarding plutonium and uranium by neon and boron ions accelerated in the 310 cm machine, a spontaneously fission-able isomer was found with $Z \leq 99$, $A \leq 250$, and a half-life equal to 0.85±0.08 milliseconds. The absence of a corresponding fissionable nucleus with $T_{1/2}$ = 0.9 μsec. during the U + B^{11} reaction seems to indicate that the production cross section of the resulting isomer is two orders of magnitude smaller than the Pu + B^{11} production cross section. "The authors thank S. P. Tret'yakov and T. I. Rybakov for their help during the finishing and scanning of glass plates, and the personnel of the U-300 machine group for guaranteeing the continuity of the tests." Orig. art. has: 3 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute for Nuclear Studies)

SUBMITTED: 01Sep64 ENCL: 00 SUB CODE: NP
NO REF SOV: 008 OTHER: 000

Card 2/2

ACC NR: AP7008933 SOURCE CODE: UR/0357/66/004/003/0465/0467

AUTHOR: Kuznetsov, V. I.; Lobanov, Yu. V.; Perelygin, V. P.

ORG: Joint Institute for Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Half-life of isotope of element 102 with mass number 256

SOURCE: Yadernaya fizika, v. 4, no. 3, 1966, 465-467

TOPIC TAGS: ion acceleration, cyclotron, radioisotope, alpha decay

SUB CODE: 20,18

ABSTRACT: In 1963, an isotope of the 102nd element of mass number 256 (Donets, Ye. D., Shchegolev, V. A., Yermakov, V. A., Atomnaya Energiya (Atomic Energy), 16, 195, 1964) was synthesized in the reaction $U^{238} + Ne^{22}$. Its identification was made with the help of physical and chemical methods according to the characteristics of the daughter nucleus Fm^{252}. However, the measurement accuracy of the half-life of the 102^{256} nucleus was no more than 40%.

Experiments were performed in 1963 for studying the spontaneous fission of the nuclei formed in the $U^{238} + Ne^{22}$ reaction (Druin, V. A., Skobelev, N. K., Fefilov, B. V., Flerov, G. N., Preprint P-1580, OIYaI, 1964). The half-life $T_{\frac{1}{2}} = 10 \pm$ seconds measured in this paper coincided, within the limits of error, with that obtained for isotope 102^{256} in the paper of the first paragraph above. The yield of this spontaneously fissioning nucleus corresponded to the maximum cross section $3 \cdot 10^{-34}$ cm^2. From the character of the excitation function, it may be concluded that the reaction in this case is $U^{238}(Ne^{22},4n)102^{256}$. The

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absence of the effect in the controlled irradiation of the U^{238} target by Ne^{20} and O^{16} ions has permitted it to be finally established that the 102^{255} nucleus undergoes its spontaneous fission in a 10-second period. From the relationship of the alpha decay and the spontaneous fission of this nucleus, the period of the spontaneous fission was found to be $T_f \approx 1500$ sec.

The experiments described in the present paper were undertaken with a view to measuring more accurately the half-life of the isotope of the 102nd element with mass number 256. The experiments were conducted with the internal beam of a U-300 OIYaI cyclotron. A schematic diagram of the equipment was given in a previous paper (Lobanov, Yu. V., Kuznetsov, V. I., Polikanov, S. M., Oganesyan, Yu. Ts., Flerov, G. N.; Ya F, 1, 67, 1965). The beam of accelerated ions passed through an aluminum foil 6 microns thick, dividing the inner space of the equipment from the cyclotron vacuum chamber, and fell on the target turned by the active layer on the ion collector side. The nucleus formed as the result of the interaction between the accelerated ions and the target broke away from the target under the impact of the incident particle and fell on the collector, a continuous nickel strip 8 m long and 25 mm wide. In the experiments, the film moved at a velocity of 6-10 cm/sec. This provided optimum conditions for measuring a half-life on the order of 10 seconds. For cooling the target, the ion collector, and the nucleus collector the inner space of the equipment was filled with helium under a pressure of 40 mm of mercury.

ACC NR: AP7008933

In our experiments, we used a U^{238} and Pu^{242} target about 600 $\mu g/cm^2$ on a thin aluminum substrate; the bombarding particles were accelerated Ne^{22} and O^{18} ions. The intensity of the ion beam was 6-8 μa.

Special phosphorescent glasses and lavsan film, insensitive to small charged particles, were used as detectors of the fission fragments (Kapustsik, A., Perelygin, V. P., Tret'yakova, S. P., PTE, 5, 64, 1964; Fleischer, R. L., Price, P. B., Science, 140, 1221, 1963). The detectors were arranged along the film, practically continuously, their total length being 6 m.

In the irradiation of the U^{238} target by the accelerated Ne^{22} ions the recorded output of the spontaneously fissioned product with a half-life on the order of 10 seconds corresponded to a cross section on the order of $(2-3)\cdot10^{-34}$ cm^2. An especially large output of this product was recorded when Pu^{242} was irradiated by accelerated O^{18} ions.

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ACC NR: AP7008933

Experiments with plutonium targets were made with the energy of the oxygen ions ranging from 89 to 104 Mev and a film velocity of 6.6 cm/sec.

A figure shows the yield of the fission products as a function of the energy and shows that the short-lived component has a curve which agrees nicely with the 4n reaction curve. The maximum yield was recorded when the oxygen ion energy was 94 Mev, which corresponds to the partial cross section $7 \cdot 10^{-34}$ cm^2. For the reaction $Pu^{242}(O^{18},p3n)101^{256}$, a somewhat larger cross section of $9.0 \cdot 10^{-34}$ was obtained for an O^{18} ion energy of 104 Mev.

Thus, in the experiments involving the irradiation of plutonium targets with accelerated O^{18} ions two products of spontaneous fission with different half-lives were recorded. The short-lived component, whose excitation function corresponds to the 4n reaction, was apparently caused by the spontaneous fission of the 102nd element of mass number 256.

Another figure shows the distribution of the recorded fragments of the short-lived component in equal time intervals for one series of experiments. The half-life of the 102nd element nucleus was, according to our measurements, $T_{\frac{1}{2}} = 8.2 \pm 1.0$ seconds. This period was chiefly the result of the alpha decay of the 102^{256} nucleus; it agrees well with previous results (see the first two papers cited above). The half-life period of ~3 sec predicted in the paper (Viola, V. E., Seaborg, G. T., Nuclear Systematics for Heavy Elements, N. Y., 1965) agrees satisfactorily with our data.

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Further experimentation with this nucleus should give information on its alpha decay energy as well as a more accurate value for the period of spontaneous fission.

The authors are especially grateful to G. N. Flerov for the statement of the problem and his management of the work. They also thank V. A. Druin and Yu. Ts. Oganesyan for their assistance and their discussion of the results, and S. P. Tret'yakova and T. I. Rybakova for preparing the fission fragment detectors. Orig. art. has: 2 figures. [JPRS: 40,303]

L 13218-65 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c)/AFWL JD/DM

ACCESSION NR: AP4047420 S/0089/64/017/004/0310/0312

AUTHORS: Flerov, G. N.; Oganesyan, Yu. Ts.; Lobanov, Yu. V.; Kuznetsov, V. I.; Druin, V. A.; Perelygin, V. P.; Gavrilov, K. A.; Tret'yakova, S. P.; Plotko, V. M.

TITLE: Synthesis and physical identification of the isotope of the 104th element with mass number 260

SOURCE: Atomnaya energiya, v. 17, no. 4, 1964, 310-312

TOPIC TAGS: transuranium element, half life, spontaneous fission

ABSTRACT: In view of the fact that earlier estimates yielded a wide range of values for the half-life of the isotope 104^{260}, whereas experiments have shown that the element 102^{256} experiences spontaneous fission with a half-life of 1500 seconds, the authors developed a procedure for indicating the spontaneous fission, for use in searches

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L 13218-65
ACCESSION NR: AP4047420

for the 104th elements. The experiments were made with the internal beam of a 300-cm heavy-ion cyclotron. The target was Pu^{242} and Ne^{22} ions were used for bombardment, so that the investigated reaction was $Pu^{242}(Ne^{22}, 4n)104^{260}$. The equipment consisted essentially of a variable-speed belt conveyor to transport the reaction products from the target to the detectors. The fragment detectors were silicate and phosphate glasses. The distribution of the tracks over the detectors yields information on the lifetime of the nuclei synthesized in the reactions. The results of the experiments yielded a half-life of 0.3 ± 0.1 sec for the 104 element with mass number 260 under spontaneous fission. The correctness of the results was checked by examining the form of the excitation function, the cross sections at the maximum, and the lack of an effect in control experiments with other particles and other targets. "The authors thank A. F. Linev, A. N. Filipson, I. A. Shelayev, and the cyclotron crew for reliable operation of the cyclotron, S. M. Polikanov and Ye. D.

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ACCESSION NR: AP4047420

Donets for a discussion of the experimental results, and OyYaI director Professor D. I. Blokhintsev and the State Committee on the Use of Atomic Energy in the USSR for support of the work." Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 29Aug64

ENCL: 00

SUB CODE: NP, IC

NR REF SOV: 008

OTHER: 005

Card 3/3

SHTERENZON, A.L.; LOBANOV, Yu.Ye.; Prinimala uchastiye: BURYKINA, Ye.F.

Water and corrosion resistance of fluoroplast coatings. Lakokras.mat.i ikh prim. no.6:37-39 '62. (MIRA 16:1)

1. Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut.
(Protective coatings—Testing)

ACCESSION: AR4042248 S/0081/64/000/008/S019/S019

SOURCE: Ref. zh. Khimiya, Abs. 8S100

AUTHOR: Lobanov, Yu. Ye.

TITLE: Relaxation phenomena in adhesion of teflons to steel

CITED SOURCE: Sb. Vy*sokomolekul. soyedineniya. Adgeziya polimerov. M., AN SSSR, 1963, 79-82

TOPIC TAGS: steel, teflon, crystalling polymer, adhesion, relaxation phenomenon

TRANSLATION: Investigates the adhesion to steel of flourine-containing crystalline polymers, differing in the physical state of amorphous regions: teflon F-3 and Ftorlon F-42. Adhesion is determined by the speed of separation of coating from metal and characterized by the negative logarithm of separation speed. Study of the change of adhesion in time with holding of coatings in atmospheres of different hunidity showed that for F-3 there occurs an irreversible decrease

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ACCESSION NR: AR4042248

of adhesion; it is not restored after desorption of water when held over concentrated H_2SO_4. Coatings of F-42, when from the humid medium, show a rapid rise of adhesion. Distinctions in adhesion properties are connected with distinctions in the physical state of the amorphous regions. At a temperature of~20° F-3 is in a glasslike, and F-42 - in a highly elastic state. Reduction of adhesion after desorption of water occurs only when the molecules of polymer on to surface have sufficient mobility to be adsorbed anew by the surface. Therefore it is assumed that adhesion is determined by a reversible adsorptive-desorptional equilibrium of sections of molecules on the surface of sublayer and to a significant degree is determined by the mobility of molecules in the boundary layer; on this also depends the degree of orientation of molecules on the surface and the speed of establishment of equilibrium structure.

SUB CODE: OC, GC ENCL: 00

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L 8922-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 RPL
ACCESSION NR: AP4045434 RWH/WW/RM S/0190/64/006/009/1668/1675

AUTHOR: Shterenzon, A. L.; Lobanov, Yu. Ye.; Konovalova, S. F.

TITLE: Penetration of ftorlon with concentrated electrolyte solutions

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 9, 1964, 1668-1675

TOPIC TAGS: ftorlon polymer, polymer film, corrosion preventing film, polymer permeability, concentrated electrolyte penetration, polymer penetration factor

ABSTRACT: Ftorlon, a copolmer of tetrafluoroethylene and vinylidene fluoride, has been evaluated as a corrosion-resisting film in very aggressive electrolyte solutions such as concentrated H_2SO_4, H_3PO_4, KNO_3, KCl, HCl, HNO_3, NH_3, and CH_3COOH, at 42—50C. In the absence of a satisfactory explanation for the sharp differences in permeability of a given polymer with various electrolytes, an attempt was made to explain the mechanism of penetration of a chemically

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ACCESSION NR: AP4045434

stable polymer. Electrical conductivity measurements made it possible to calculate the penetration factor and hence the permeability of a ftorlon film. The absence of penetration of nonvolatile electrolytes, such as H_2SO_4, H_3PO_4, and salts, and the relatively high permeability of the film to volatile electrolytes (HCl, HNO_3), were established. This difference in permeability is explained in terms of a difference in sorption of the electrolytes on a polymer, which is determined by the work function of the electrolyte molecules from aqueous solution. The mechanism of penetration of nonswelling polymers with a low dielectric constant is similar for both electrolytes and gases and vapors, since the electrolytes are believed to be undissociated in such polymers. The near-exponential concentration dependence of the penetration factor was established with volatile electrolytes and was ascribed to the similar character of the change in electrolyte activity in aqueous solution with a change in concentration. Orig. art. has: 3 figures and 16 formulas.

L 8922-65

ACCESSION NR: AP4045434

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut, Sverdlovsk (Ural Scientific Research Institute of Chemistry)

SUBMITTED: 13Nov63 ATD PRESS: 3110 ENCL: 00

SUB CODE: MT NO REV SOV: 017 OTHER: 010

Card 3/3

KARYAKIN, N.A., prof., doktor tekhn.nauk; GRIBANOV, A.I., kand.tekhn. nauk; LOBANOV, Z.N.

Transients in lighting arcs with carbon electrodes. Svetotekhnika 5 no.7:8-13 Jl '59. (MIRA 12:9)

1. Moskovskiy energeticheskiy institut.
(Electric lighting, Arc)

ANDREASH, G.; LIEV, A.F.; LOBANOV, Yu.V.; MARKOV, B.N.; OGANESYAN, Yu.TS.

[Study of γ-rays in the resonance system of a cyclotron] Issledovanie γ-luchei rezonansnoi sistemy tsiklotrona. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1962. 16 p. (MIRA 15:2)

(Gamma rays) (Cyclotron)

LOBANOVA, A. [Lobanava, A.]

Smoke curing of ham. Rab.i sial. 34 no.11:24-3 of cover. N '58.
(MIRA 11:12)

1. Starshiy inzh. proizvodstvenno-tekhnicheskogo otdela Upravleniya myaso-molochnoy promyshlennosti sovnarkhoza BSSR.
(Ham)

LOBANOVA, A. A.

29730

Voprosy organizatsii i oplaty truda v molochnom zhivotnovodstvye. Sots. zhivotnovodstvo 1949, No. 5, s. 79-82

SO: LETOPIS' NO. 40

1. [illegible]OVA, A. A.

2. [illegible] (600)

4. Milking

7. Milking in two shifts on collective cattle farms. Sov. zootekh., 7, No. 3, 1[illegible]2. Kandidat Sel'skokhozyaystvennykh Nauk Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Zhivotnovodstva

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

LOBANOVA, A. A.

Dairying - Accounting

Paying workers in dairy-cattle breeding in accordance with the butterfat content in milk Sots. zhiv. 14 No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, June 1952 Uncl.

LOBANOVA, Anna Aleksandrovna, kand.sel'skokhozyaystvennykh nauk; RUMYANTSEVA, [illegible] Vasil'yevna; SORKINA, S., red.; LIL'YE, A., tekhn.red.

[New developments in the organization of machine milking of cows] Novoe v organizatsii mashinnogo doeniia korov. [Moskva] Moskovskii rabochii, 1957. 52 p. (MIRA 11:4)
(Milking machines)

LOBANOVA, Anna Aleksandrovna; RUMYANTSEVA, Tamara Vasil'yevna; KOSAUROV, S.D., red.; PYLAYEVA, A.P., red.; ZUBRILINA, Z.P., tekhn.red.

[Lowering labor expenditures in stock raising] Snizhenie zatrat truda v zhivotnovodstve. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1958. 54 p. (MIRA 11:6)
(Stock and stock-breeding)

ROGOZIN, G.M.; TSYNKOV, M.Yu., kand. sel'skokhozyaystvennykh nauk; LOBANOVA, A.A., kand. sel'skokhozyaystvennykh nauk; KUMYANTSEVA, T.V.; TRUDOLYUBOV, B.A., kand. sel'skokhozyaystvennykh nauk; KUDRYAVTSEV, P.N., doktor sel'skokhozyaystvennykh nauk; LITOVCHENKO, G.R., kand. sel'skokhozyaystvennykh nauk; KOLOBOV, G.M.; IOFE, M.Sh.; KHITRNKOV, G.G., doktor sel'skokhozyaystvennykh nauk; BADIR'YAN, G.G., doktor sel'skokhozyaystvennykh nauk; IVANOVA, A.A.; MAKAROV, A.P.; ALTAYSKIY, I.P.; SPIRIDONOV, A.L., kand. sel'skokhozyaystvennykh nauk; ZHUYKOV, G.G.; BANNIKOV, N.A., red.; IVANOVA, A.N., red.; ZUBRILINA, Z.P., tekhn. red.

[Economics and organization of stockbreeding on collective farms] Ekonomika i organizatsiia zhivotnovodstva v kolkhozakh. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 550 p. (MIRA 11:7)
(Stock and stockbreeding)

LOBANOVA, A.N.; VASIL'YEV, P.N.

Report on conferences on clinical anatomy held at Moscow City Clinical Hospital No. 2. Arkh. pat. 22 no. 10:90-94 '60. (MIRA 13:12)

1. Glavnyy vrach Moskovskoy gorodskoy klinicheskoy bol'nitsy No. 2 (for Lobanova). 2. Zaveduyushchiy patologoanatomicheskim otdeleniyem Moskovskog gorodskoy klinicheskoy bol'nitsy No. 2 (for Vasil'yev).

(ANATOMY, PATHOLOGICAL—CONGRESSES)

LOBANOVA, A.S.

Best varieties of potatoes for drying. Kons.i ov.prom. 12 no.8:29-33 Ag '57. (MLRA 10:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potatoes--Drying)

LOBANOVA, A.S.; POKROVSKAYA, M.Z.

Using the M-1 compound for longer preservation of potatoes in storage at dehydrating and canning factories. Kons. i ov. prom. 13 no.11:37-41 N '58. (MIRA 11:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potatoes--Storage)

LOBANOVA, A. S.

M-6

USSR/Cultivated Plants - Fruits. Berries.

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91821

Author : Lobanova, A.S.

Inst : Chelyabinsk State Pedagogical Institute.

Title : Biological Peculiarities of Hybrid Pear Seedlings in Chelyabinsk.

Orig Pub : Uch. zap. Chelyab. gos. ped. in-ta, 1957, 3, No 1, 125-140.

Abstract : This article cites the results of the 1951-1953 studies on the hybrid pears raised by P.A. Zhavoronkov at the Chelyabinsk Fruit and Vegetable Experimental Station. The makonal types were the individual types of Ussuriyskaya pear (Pyrus ussuriensis), and the paternal were the southern cultivated varieties. The hybrids had adequate winter resistance and a vegetative period of 159-186 days.

Card 1/2

LOBANOVA, A.S.

Find of the green alga Aegagropila sauteri Kütz. in a new locality. Bot.zhur. 44 no.11:1633 N '59.
(MIRA 13:4)

1. Kafedra botaniki Chelyabinskogo pedagogicheskogo instituta.
(Chebarkul', Lake--Algae)

METLITSKIY, L.V.; LOBANOVA, A.S.; POKROVSKAYA, M.Z.

Principles of the selection of potato varieties for areas of raw products supplying the vegetable dehydration industry. Kons.i ov.prom. 15 no.11:28-32 N '60. (MIRA 13:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potatoes--Varieties)

LOBANOVA, A.S.; POKROVSKAYA, M.Z.

Use of maleic hydrazite for preventing potato and onion germination. Kons. i ov. prom. 17 no.8:29-33 Ag '62. (MIRA 17:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.

LITLITSKIY, L.V.; LOBANOVA, A.S.; POKROVSKAYA, [illegible]Z.; TSEMEN[illegible]NA, V.[illegible]

Principles of the selection of potato varieties for the raw material supply zones of the dried vegetables industry. Trudy VNIIKOP no.11: 85-101 '62. (TIA 17:9)

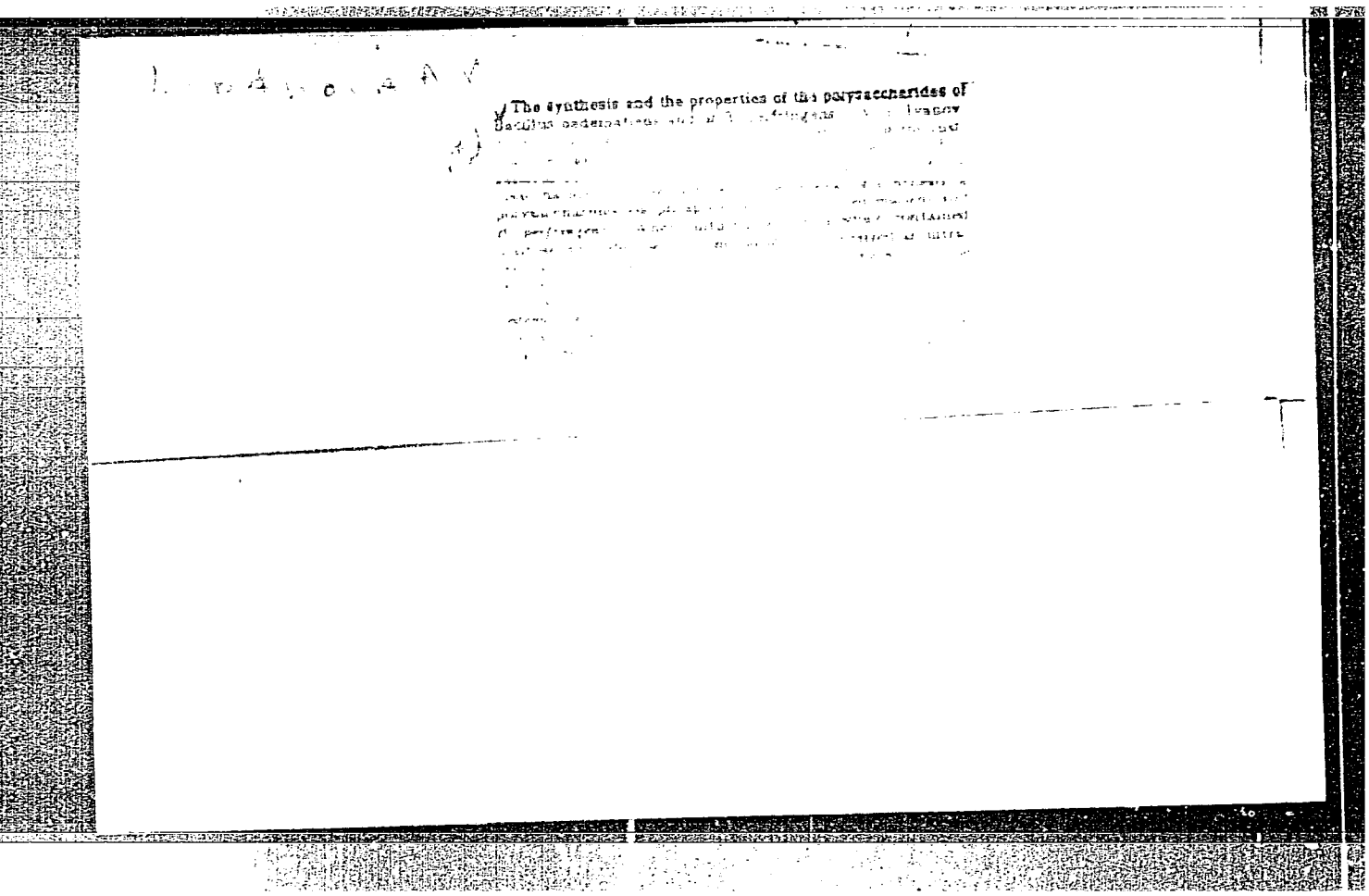
LOBANOVA, N. V.

[illegible] perfringens and some of its [illegible] and N. V. Lobanova (Biochem. [illegible] Control Inst., Ministry Health [illegible] *Biokhimiya* 19, 257-66(1954).—The [illegible] *C. perfringens* in bacterial suspension is [illegible] in extn. and has a zone of optimal [illegible] Ions of Mg and of Co augment the [illegible] ext. of *C. perfringens*; Mn under [illegible] effect on the activity of the enzyme.

B. S. Levine

Lobanova, A.V.

The properties of phosphorylase and of amylase of Clostridium perfringens. A. K. Volchok, V. I. Ivanov, and A. V. Lobanova (Ministry Health U.S.S.R., Moscow). *Biokhimiya* 20, 522–6(1956).—*C. perfringens* strain SR-12 was used. Phosphorylase and amylase of *C. perfringens* sharply rises intra- and extracellularly when the cells are grown in a medium contg. polysaccharides as the source of carbohydrates. Phosphorylase of *C. perfringens* can be distinguished from phosphorylase of muscles and of potatoes in that it is able to split maltose. B. S. Levine



The synthesis and the properties of the polysaccharides of

PRYADKINA, M.D.; GAVRILENKOVA, V.Yu.; LORANOVA, A.V.

Biological and chemical properties of the GKI plague allergen, Report No.1. Zhur. mikrobiol. epid. i immun. 40 no.5:72-77 My '63. (MIRA 17:6)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha.

YEGOROVA, A.G.; GIMMERVERT, R.V.; LOPASHOVA, Ye.V.; YELENSKAYA, A.N.; LOBANOVA, A.Ya.; KHANZHINA, Ye.B., red.; SHILLING, V.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[System of preparing the rye-bread dough in an N.F.Gatilin outfit] Rezhim prigotovleniia testa dlia rzhanogo khleba v agregate N.F.Gatilina. By A.G.Egorova i dr. Leningrad, 1961. 16 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Khlebopekarnaia promyshlennost', no.1) (MIRA 14:10)
(Dough) (Baking—Equipment and supplies)

YEGOROVA, A.G.; KAZANSKAYA, L.N.; LOBANOVA, A.Ya.; MELIKHOVA, Z.V.; BESPALOVA, I.G.; SHCHERBACH, V.A.

[Using the new yeast and lactic acid bacteria strains in making tin rye bread] Prigotovlenie rzhanogo formovogo khleba s primeneniem novykh shtammov molochnokislykh bakterii i drozhzhei. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1963. 28 p.
(MIRA 17:9)

BANKOVSKIY, Yu. [Bankovskis,J.] (Riga); LOBANOVA, E. (Riga)

Analytic application of 8-mercaptoquinoline (thiooxine) and its derivatives. Report XVI. Colorimetric method of determination of rhenium with 6-chlor-8 mercaptoquinoline. Vestis Latv ak no.1: 97-106 '60. (EEAI 9:11)

1. Akademiya nauk Latviyskoy SSR, Institut khimii.
(Quinolinethiol)
(Colorimetry)
(Rhenium)
(Chloroquinolinethiol)

KOBYL'SKAYA, M.V.; KORNILOV, M.F.; SEMENOV, S.S.; PYSHKINA, N.I.; PUSTOVALOVA, Ye.K.; KUZNETSOVA, O.A.; Prinimali uchastiye: KSENOFONTOVA, tekhnik; AYZENBERG, Z.M., tekhnik; LOBANOVA, E.M., tekhnik

Using acid asphalt for the preparation of superphosphate phosphorous fertilizer. Trudy VNIIT no.12:119-129 '63.
(MIRA 18:11)

LOBANOVA, G. M., PAKHOMOV, V. I., REX, I. S.,

"X-ray Investigation of $N(CH_3)_4$ Hg X_3."

report presented at the Symposium on Ferroelectricity and Ferromagnetism, Leningrad, 30 May-5 June 1963.

LOBANOVA, G. M.

3(5) PHASE I BOOK EXPLOITATION SOV/2681

Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii

Geologiya i rudnyye mestorozhdeniya Dal'nego Vostoka (Geology and Ore Deposits of the Far East) Moscow, Izd-vo AN SSSR, 1959. 94 p. (Series: Its Trudy, vyp. 18) 1,500 copies printed.

Ed.: Ye. A. Radkevich; Ed. of Publishing House; N. R. Kun; Tech. Ed.: A. P. Guseva.

PURPOSE: The publication is intended for mining geologists, geochemists, and mining engineers.

COVERAGE: This collection of articles deals with the characteristics of various polymetallic ore deposits in the (Soviet) Far East. Individual articles discuss sulphostannates in Southern Primor'ye and Zabaykal'ye, skarns, sulfides, and aplitic dikes. No personalities are mentioned. References accompany each article.

AVAILABLE: Library of Congress

STRUCHKOV, Yu.T.; LOBANOVA, G.M.

X-ray study of ortho-tungsten esters. Vest Mosk. un. Ser. mat., mekh., astron., fiz., khim. 14 no.2:169-178 '59 (MIRA 13:3)

1. Kafedra kristallografii i kristallokhimii, Institut elementoorganicheskikh soyedineniy AN SSSR.
(Tungsten compounds)

LOBANOVA, G. M.

Aplite dikes of the postmineralization period. Trudy IGEM no.18:64-71 '59. (MIRA 12:10)
(Japan Sea region--Dikes (Geology))

LOBANOVA, G.M.

Example of horizontal zoning in the distribution of ore deposits. (MIRA 12:10)
Trudy IGEM no.18:72-76 '59.
(Maritime Territory--Ore deposits)

LOBANOVA, G.M.

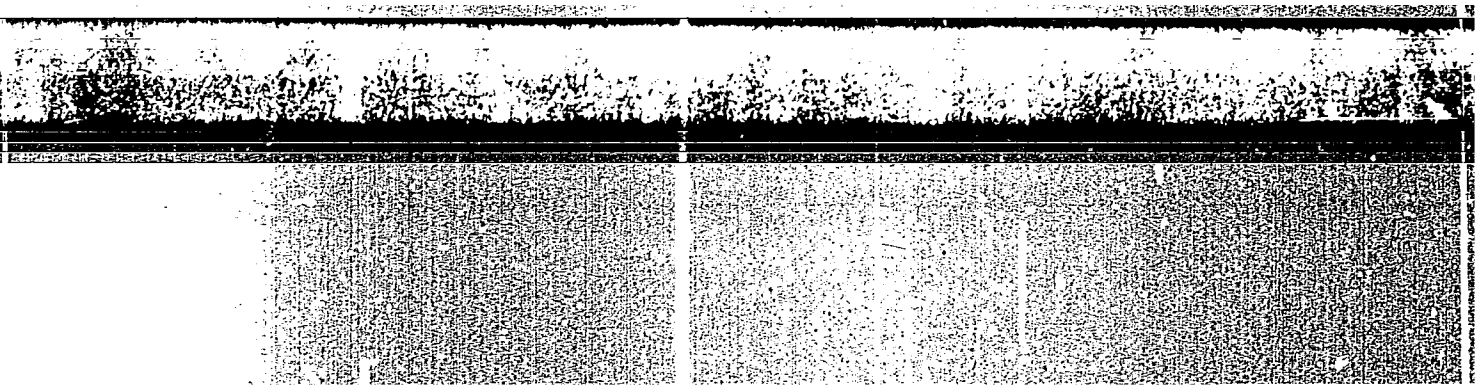
Occurrences of cuspidine and monticellite skarns in the deposits of the southern Maritime Territory. Zap. Vses. min. ob-va 89 no.5:523-541 '60. (MIRA 13:10)

(Maritime Territory--Skarns)

RADKEVICH, Ye.A.; TOMSON, I.N.; LOBANOVA, G.M.; KALANTAROV, A.P., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[Geology and metallogeny of typical ore regions in the Maritime Territory] Geologiia i metallogeniia tipovych rudnych raionov primor'ia. Moskva, Izd-vo. Akad. nauk SSSR, 1962. 128 p. (Akademiia nauk SSSR. Institut geologii rudnykh mestorozhdenii, petrografii, mineralogii i geokhimii. Trudy, no.58). (MIRA 15:10)

(Maritime Territory—Ore deposits)



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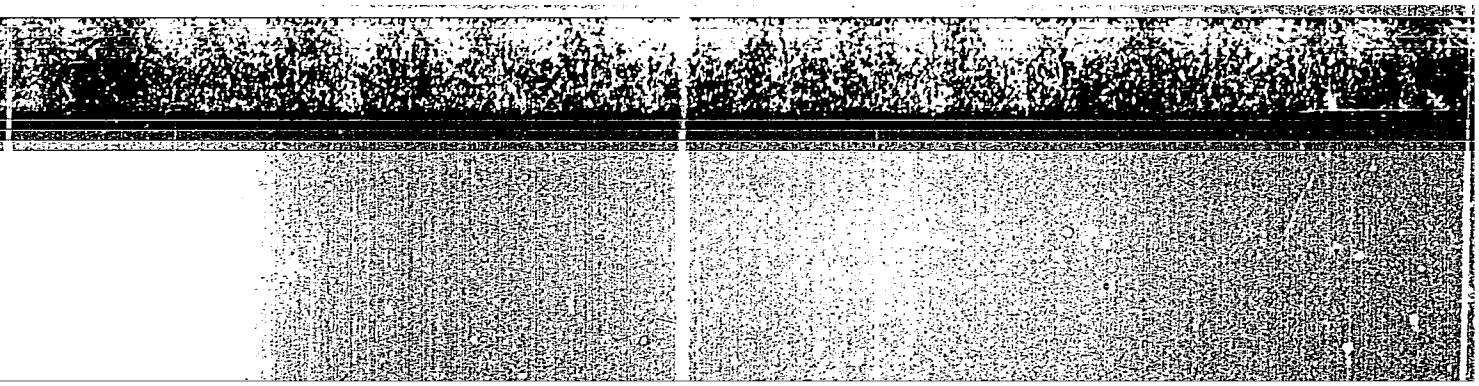

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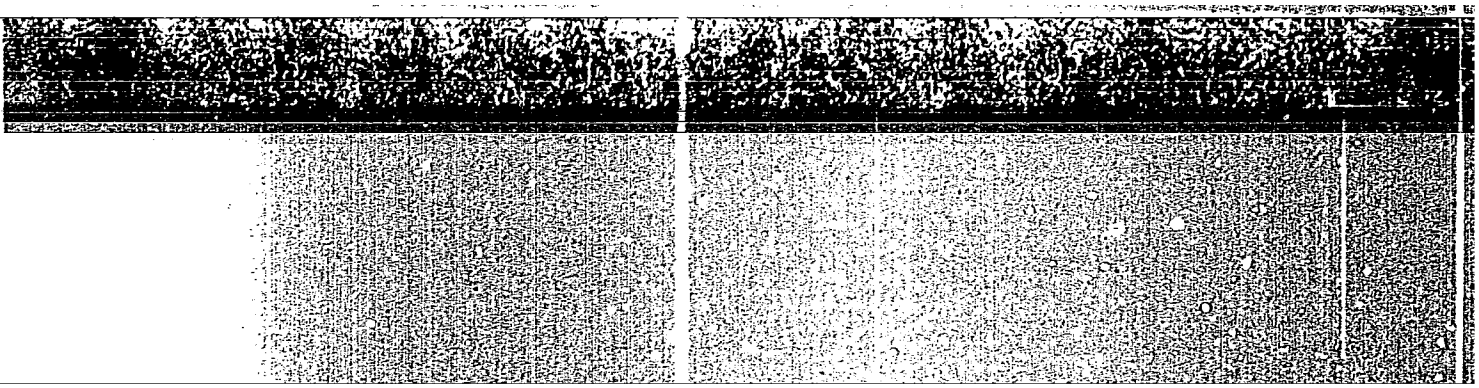

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930320012-1"

TOMSON, I.N.; IVANOV, I.B.; KONSTANTINOV, R.M.; LOBANOVA, G.M.; POLYAKOVA, O.P.

Absolute age of Mesozoic magmatic complexes and ore formations in eastern Transbaikalia. Izv. AN SSSR. Ser. geol. 28 no.12:31-40 D'63. (MIRA 17:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.

LOBANOVA, G.M.; SANIN, B.P.

Geology and composition of ores of the Savinskoye No.5 deposit. (MIRA 16:11)
Trudy IGEM no.83:141-160 '63.

COUNTRY	:	USSR V
CATEGORY	:	Pharmacology and Toxicology. Toxicology
ABS. JOUR.	:	RZhBiol., No. 1 1959, No. 4765
AUTHOR	:	Lobanova, G. T.; Tenyakov, P. T.
INST.	:	Chkalov Oblast Branch of All-Union Chemical*
TITLE	:	Effect of Sulfur Dioxide upon Ascorbic Acid Content in the Blood of Animals
ORIG. PUB.	:	Vestn. Chkalovskogo obl. otd. Vses. khim. o-va im D.I.Mendeleyeva, 1957, vyp. 7, 85-87
ABSTRACT	:	Ten rabbits were subjected to the action of SO_2 in a concentration of 0.5 mg/liter for 2 hours daily during a period of 14 days. The content of ascorbic acid (AA) in the blood was determined by the method of Starostina and Soloveychik before the poisoning and 2, 7 and 14 days after the beginning of the experiment. The average content of AA in the blood of the control ani-

*Society im D. I. Mendeleyev

CARD: 1/2

V

COUNTRY :
CATEGORY :

ABS. JOUR. : RZhBiol., No. 1 1959, No. 4765

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : mals was 0.54-0.545 mg%. As a result of the action of SO_2, a decrease of AA was observed as follows: after 2 days by 19%, after 7 days by 18% and after 14 days by 27%.-- R. S. Vorob'yeva
cont'd.

CARD: 2/2

FD-1467

USSR/Electronics - Relays

Card 1/1 : Pub. 90-4/14

Author : Lobanova, I. K.

Title : Engineering method for calculating an electronic relay with cathode coupling

Periodical : Radiotekhnika 9, 29-35, Sep/Oct 1954

Abstract : Relationships are derived which make possible determination of all parameters of the circuit of an electronic relay with cathode coupling to provide for normal operation of the circuit. Allowances are made for deviations in circuit parameters, and tube type 6N8S is chosen for its low amplification factor. Diagram; nomogram.

Institution :

Submitted : March 8, 1954

9(4) PHASE I BOOK EXPLOITATION SOV/2184

Lobanova, Inna Nikolayevna

Poluprovodnikovyye diody i triody (Semiconductor Diodes and Triodes) Moscow, Izd-vo DOSAAF, 1958. 92 p. 50,000 copies printed.

Ed.: A.I. Grigor'yeva

PURPOSE: This book is intended for radio amateurs of DOSAAF desiring an elementary knowledge of semiconductor devices.

COVERAGE: The author presents a simple discussion of physical processes in semiconductors. She describes the construction and principle of operation of crystal diodes and transistors. She also discusses the parameters and characteristics of Soviet junction-type and point-contact diodes and triodes and presents practical circuits for amplifiers and other devices using transistors. The reader is expected to have a fundamental knowledge of radio, vacuum-tube theory, and secondary-school mathematics. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Card 1/4

Semiconductor Diodes and Triodes SOV/2184

Card 2/4

AVAILABLE: Library of Congress

JP/fal
9-21-59

BLOKH, R.L.; YESAYAN, V.A.; LOBANOVA, I.N.

Diphenylamine test as an index of the inflammatory process in chronic gastritis. Lab.delo 6 no.3:23-26 My-Je '60. (MIRA 13:7)

1. Bal'neologicheskiy institut (dir. - dotsent I.S. Savoshchenko), Pyatigorsk.

(STOMACH--INFLAMMATION) (DIPHENYLAMINE)

ZHILINSKIY, Kazimir Yanovich; RAUSH, Oskar Ivanovich; LOBANOVA, K.I., inzh., retsenzent; FAVOROV, B.P., inzh., retsenzent; SOSIPATROV, O.A., red.; KOROVENKO, Yu.N., tekhn. red.

[Handbook on the heat insulation of ships] Spravochnik po sudovoi teploizoliatsii. Leningrad, Sudpromgiz. 1963. 340 p. (MIRA 17:3)

GRUSHMAN, Roman Petrovich; LOBANOVA, K.I., inzh., retsenzent; REZNIKOV, M.V., inzh., retsenzent; RAUSH, O.I., nauchn. red.; PENOVA, Ye.M., red.; SHISHKOVA, L.M., tekhn.red.

[Ship insulation specialist] Sudovoi izolirovshchik. Leningrad, Sudpromgiz, 1963. 149 p. (MIRA 17:3)

25(1) PHASE I BOOK EXPLOITATION SOV/2571

Liteynoye proizvodstvo; bibliograficheskiy ukazatel' literatury po 1955 g. (Production of Castings; Bibliographical Index of Literature Through 1955) Moscow, Mashgiz, 1959. 687 p. 2,000 copies printed.

Compilers: M. I. Myshkina, K. N. Lobanova, V. I. Rudakova, and L. L. Gordon; Ed. (Title page): N. V. Sokolov, Professor (Deceased); Ed. (Inside book): N. N. Barbashin, Candidate of Technical Sciences; Tech. Ed.: B.I.Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This book is intended for scientific, engineering, and technical personnel, for instructors and students at schools of higher technical education, and for librarians and bibliographers.

COVERAGE: This comprehensive bibliography covers books, scientific papers, and articles dealing with the production of castings published in the Russian language up to and including 1955.

Card 1/8

LOBANOVA, K.P. (Moskva)

Hygienic conditions in the production of the new sunthetic fiber nitron. Gig.truda i prof.zab. 3 no.6:8-11 N-D '59. (MIRA 13:4)

1. Institut gigiyeny truda i profzabolevaniy AMN SSSR.
(TEXTILE INDUSTRY--HYGIENIC ASPECTS)

IEVINA, S.D.; ROTENBERG, Z.A.; LOBANOVA, K.P.; ASTAKHOVA, I.I.

Electrophysical properties of systems consisting of powderlike metals and organic semiconductors. Zhur.fiz.khim. 39 no.7:1760-1763 Jl '65. (MIRA 18:8)

1. Institut elektrokhimii AN SSSR.

S/020/60/132/05/46/069
B004/B011

24.7700

AUTHORS: Levina, S. D., Lobanova, K. P., Plate, N. A.

TITLE: Electric Properties of Systems Consisting of Polymers and Metals

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5, pp. 1140-1143

TEXT: The authors proceed from papers by A. T. Vartan'yan (Refs. 1, 2), A. V. Topchiyev, M. A. Geyderikh, B. E. Davydov, V. A. Kargin, et al. (Ref. 5) who had dealt with the influence of the introduction of metal atoms in polymers on their physical properties. The authors wanted to study the electric properties of compositions in which the metal particles are surrounded by a nonconductive polymeric layer. The problem was to be solved whether electron transitions are possible under such conditions. The authors used highly disperse iron powder which was obtained from iron oxide by reduction by means of hydrogen at 450-500°C, and passivated by dipping into benzene. Plates were pressed from iron powder and polyisoprene (natural rubber) for the first experiments. The dependence of

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Electric Properties of Systems Consisting of Polymers and Metals

log σ (σ = electrical conductivity) on 1/T of a sample with 20% of rubber was linear between +50°C and -40°C, as is typical of semiconductors. The thermo-emf (5 μv/deg) and the Hall constant had the same sign as p-type semiconductors. Similar results were obtained with iron and polystyrene. In order to obtain a more uniform distribution of the polymer, the iron was subjected to a vibrational grinding process in monomeric medium according to the method devised by V. A. Kargin and N. A. Plate. The monomers used were isoprene, styrene, methyl methacrylate, and acrylonitrile. Polymerization occurred in consequence of vibrational grinding. The results (Table 1, Fig. 1) show that in this case the thermo-emf and the Hall constant had the sign of the n-type semiconductors. It is concluded therefrom that in vibrational grinding, beside the more uniform distribution, there occurs also another type of bond between metal and organic substance. The authors mention papers by R. Kh. Burshteyn, M. I. Pavlova, and S. L. Kiperman (Refs. 6, 7), N. A. Shurmovskaya and R. Kh. Burshteyn (Ref. 8), and thank A. N. Frumkin, Academician, V. A. Kargin, Academician, and R. Kh. Burshteyn, Professor, for their assistance and advice. There are 1 figure, 1 table, and 9 references: 7 Soviet and 2 British.

Card 2/3

Electric Properties of Systems Consisting of Polymers and Metals

S/020/60/132/05/46/069
B004/B011

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: February 24, 1960, by A. N. Frumkin, Academician

SUBMITTED: February 24, 1960

Card 3/3

0125

S/020/61/141/003/013/021
B101/B117

15.8340

AUTHORS: Levina, S. D., Lobanova, K. P., and Vannikov, A. V.

TITLE: Effect of thermal action on systems consisting of polymers and disperse metals

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 662-664

TEXT: In a previous paper (DAN, 132, 1110 (1960)) it was shown that systems of organic polymers and highly disperse metals have semiconductor properties. These systems are characterized by low electric resistance. p-type and n-type semiconductors were prepared by changing the method of production. (The type of semiconductor was determined on the basis of the thermo-emf.) The system Fe - polyisoprene yielded p-type semiconductor when precipitating the finished polymer from benzene solution. If polymerization was conducted by vibration grinding, n-type semiconductors were produced. The present study deals with the systems Fe - polyisobutylene (I) and Fe - polyethylene (II). (I) was introduced from 1% toluene solution into the system. Samples with 10, 20, and 30% (I) were prepared. With 10% (I), the specific resistance was $1 \cdot 10^{-2}$ ohm·cm, with

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Effect of thermal action ...

20%, $1 \cdot 10^{-1}$ ohm·cm. The sign of current carriers corresponded to that of p-type semiconductors. The temperature dependence of the specific resistance was like that in metals. Therefore, it is assumed that metal particles were in contact during molding. With 30% (I), the resistance was $> 1 \cdot 10^4$ ohms. If this system was heated in vacuo at 180-200°C, it acquired new properties. At room temperature, the specific resistance dropped to 2-4 ohm·cm. Electrical conductivity dropped with decreasing temperature, and the function $\log \sigma = f(1/T)$ behaved as in impurity semiconductors. The curve for this function consisted of two sections with different values of the activation energy ΔE: between 0 and 180°C, $\Delta E = 0.07$ ev, between 0 and -50°C, $\Delta E = 0.66$ ev. This system was an n-type semiconductor. Electrical conductivity of pure (I) changes between 30 and 160°C linearly, and returns to the initial value during cooling. Thus, the behavior of the system Fe - (I) is not due to a change of (I) because of thermal treatment. It is concluded that n-type semiconductors obtained by vibration grinding of Fe + polyisoprene were formed by heat during grinding. The system Fe - (II) obtained by precipitation of (II) from o-xylene solution at 140°C was also heated in vacuo at 250°C for a considerable time. Resistance was 14 ... at room temperature. The

Card 2/3

samples showed no semiconductor properties. Only after grinding and molding the samples once more and heating them in vacuo for a longer period, a behavior was observed similar to that of the system Fe - (I). The easier structural change of (I) during heating is explained by the tertiary C atom. A paper by V. A. Kargin, N. A. Plate (Vysokomolek. soyed., 1, 330 (1959)) is mentioned. There are 2 figures and 9 references: 6 Soviet and 3 non-Soviet. The three most recent references to English-language publications read as follows: D. D. Eley, Res. in Appl. Ind., 12, 293 (1959); A. Epstein, B. S. Wildi, J. Chem. Phys., 32, 324 (1960); Semiconductors, Ed. N. B. Hannay, Am. Chem. Soc., Monogr., N. Y., 1959.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences USSR)

PRESENTED: July 11, 1961, by A. N. Frumkin, Academician

SUBMITTED: July 8, 1961

LEVINA, S.D.; LOBANOVA, K.P.; BERLIN, A.A.; SHERLE, A.I.

Electric properties of the systems consisting of tetracyanoethylene and metal powders. Dokl.AN SSSR 145 no.3:602-604 Jl '62. (MIRA 15:7)

1. Institut elektrokhimii AN SSSR. Predstavleno akademikom A.N.Frumkinym.

(Ethylene) (Metals)

L 63469-65 EWP(e)/SPA(s)-2/EWT(m)/EWP(1)/EWP( )/T EWP(t)/EWP(k)/
EWP(z)/EWP(b)/EWA(c) IJP(c) JD/HW/RM

ACCESSION NR: AP5019796 UR/0076/65/039/007/1760/1763
541.13

AUTHOR: Levina, S. D.; Rotenberg, Z. A.; Lobanova, K. P.; Astakhova, I. I.

TITLE: Electric properties of systems consisting of powdered metals and organic semiconductors

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 7, 1965, 1760-1763

TOPIC TAGS: phthalonitrile, powder metal, nickel phthalocyanine, cobalt phthalocyanine, organic semiconductor, electric conductivity, thermoemf

ABSTRACT: Systems made up of powdered nickel and cobalt and the semiconducting compound phthalocyanine were prepared in a vacuum at 250-400°C by reacting phthalonitrile vapors with the powdered metals, on the surface of which a phthalocyanine film was formed. The powders were pressed into tablets, and the electrical conductivity σ and thermoemf α were measured. The data for all samples obey the equation $\sigma = \sigma_0 \exp(-\Delta E/kT)$. The thermoemf was found to be virtually independent of the temperature, indicating an activation of conduction due to an increase in the carrier mobility. The semiconductor-type relation observed between the conductivity and the

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L 63469-65
ACCESSION NR: AP5019796

temperature indicates that the electric current, in passing from one metallic grain to the next, traverses thin films of metal phthalocyanine, which sheathes these grains. The observed increase in electrical conductivity with rising temperature of the reaction by which the samples were prepared is attributed to the fact that the role of the thinnest nickel and cobalt phthalocyanine films in the conduction is strongly enhanced: as the temperature rises, the phthalocyanine vapors diffuse deeper into the channels and pores of the powder, forming thin films of phthalocyanines (10^{-5}-10^{-6} cm); at the same time, the breakdown of certain metallic grains probably takes place. Thus, the surface of the metals increases, the phthalocyanine films become thinner, and the conductivity rises. "We thank Academician A. N. Frumkin for his interest and for reviewing the results." Orig. art. has: 4 figures, 2 tables.

ASSOCIATION: Institut elektrokhimii, Akademiya nauk SSSR (Institute of Electrochemistry, Academy of Sciences SSSR)

SUBMITTED: 24Apr64 ENCL: 00 SUB CODE: EM, SS

NO REF SOV: 007 OTHER: 007

Card 2/2

ACC NR: AP6035591 SOURCE CODE: UR/0364/66/002/011/1343/1345

AUTHOR: Levina, S. D.; Astakhov, I. I.; Lobanova, K. P.; Rotenberg, Z. A.

ORG: Institute of Electrochemistry, Academy of Sciences, SSSR, Moscow (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Crystalline structure of phthalocyanine and the conductivity of systems which consist of metal coated with phthalocyanine film

SOURCE: Elektrokhimiya, v. 2, no. 11, 1966, 1343-1345

TOPIC TAGS: phthalocyanine, crystal structure analysis, cobalt, semiconducting film, nickel

ABSTRACT: The author report that the electrophysical properties of metal powders or polished metals coated with thin phthalocyanine films are being studied at their laboratory. The films are obtained by treating metals with phthalonitrile vapors at temperatures from 250 to 400C. The systems obtained have differing crystalline structure (α and β modifications) and varying semiconducting properties. The purpose of the present study was to investigate the structure of the films and to coordinate the data obtained with the conductivity. Cobalt and nickel were selected as substratum metals. The results obtained indicate that there is no

Card 1/2 UDC: 621.315.592:547

ACC NR: AP6035591

unequivocal relationship between the crystalline modification of both nonmetallic phthalocyanine forms and metal derivatives and the conductivity. Further investigations are being conducted to elucidate the role of other factors necessary besides the type of crystallinity for obtaining either p- or n-type conductivity of phthalocyanine films.

SUB CODE: 07,11 / SUBM DATE: 08Apr66/ ORIG REF: 006/ OTH REF: 006

Card 2/2

AUTHOR: Lobanova, L.; Ryabov, I. 107-57-3-25/41

TITLE: High-Stability Discriminator Circuit (Kontur diskriminatora s vysokoy stabil'nost'yu)

PERIODICAL: Radio, 1958, Nr 3, pp 35 - 36 (USSR)

ABSTRACT: Discriminator circuits used in FM transmitters and receivers must have a high stability. The authors present the results of an experimental investigation of the tuning stability of differently-designed discriminator circuits. The tuning stability of the discriminator circuits was investigated when connecting them to one and the same circuit (fig.1) and with equal steepness of the discriminator characteristic (1/4.5 v/kc) at a frequency of 6.5 megacycles. Figure 2 shows a graph of the stability of four different coil designs. Curve 4 belongs to the coil with the highest stability. It is shown in figure 4 and has a layer winding with two wires under a thread pitch of 0.35 mm, applied to a polystyrene cartridge. There are 2 diagrams, 1 circuit diagram, 1 sketch, 1 graph and 1 table.

1. Transmitter--Circuits--Stability 2. Receivers--Circuits--Stability

Card 1/1

SMIRDINA, N., kand.tekhn.nauk; LOBANOVA, L., inzh.

Heat insulation of rural underground networks. Sel'. stroi. no.7:19-21 '62. (MIRA 15:8)

(Insulating materials) (Pipe)

L 43723-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-1 WW
ACCESSION NR: AP5008495 S/0207/64/000/006/0031/0038

AUTHOR: Lobanova, L.F. (Moscow)

TITLE: Problem of the entry of a compressible gas into a uniform magnetic field

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1964, 31-38

TOPIC TAGS: compressible gas, compressible gas flow, steady flow, magnetic field, uniform magnetic field, ideal fluid, ideal flow, Mach number effect, supersonic flow, subsonic flow, flow characteristic, Reynolds number, electric field, inviscid flow, edge effect, end effect

ABSTRACT: The author investigates the influence of end effects associated with the spread of current during the entry of a compressible gas into a uniform magnetic field concentrated in the electrode zone of a flat channel. In the investigation of the change in the mean flow characteristics along the cross section of a flat channel, it is assumed that: 1) the flow is steady; 2) the fluid is ideal, i.e., inviscid and non-heat-conducting; 3) the electric conductivity of the medium is constant; 4) the Hall effect may be neglected; 5) the magnetic

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ACCESSION NR: AP5008495

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Reynolds number and the magnetic interaction parameter are small; and 6) the magnetic field beyond the electrodes is zero, and in the region occupied by the electrodes it is constant and perpendicular to the plane of flow. The effect of the Mach number, of the boundary value of the electric field potential, and the relation of the length of the electrodes to the channel width on the mean flow characteristics is also investigated. The calculations show that in moving along a channel a subsonic flow accelerates, while at the same time the density and pressure do not fall. As supersonic flow slows down, its density and pressure increase. Orig. art. has: 6 figures and 21 formulas.

ASSOCIATION: none

SUBMITTED: 20May64 ENCL: 00 SUB CODE: EM, ME

NO REF SOV: 002 OTHER: 001

Card 2/2

L 2802-66 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) WW

ACCESSION NR: AP5021296 UR/0040/65/029/004/0609/0615

AUTHORS: Barmin, A. A. (Moscow); Kulikovskiy, A. G. (Moscow); Lobanova, L. F. (Moscow)

TITLE: Linearized problem on supersonic flow at the inlet into an electrode zone of a magnetohydrodynamic channel

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 4, 1965, 609-615

TOPIC TAGS: supersonic flow, supersonic gas flow, magnetohydrodynamics, two dimensional flow

ABSTRACT: The effect of an electromagnetic field on supersonic flow of a gas is studied. The problem is visualized as being linear, and the magnetic field is given and variable along the length of the channel. The problem is one of stationary two-dimensional supersonic flow of a gas in a flat channel $-a < y < a$, $-\infty < x < \infty$. The channel walls serve as insulators for $x < 0$ and as conductors for $x > 0$. The gas is ideal with constant conductivity σ, obeying Ohm's Law in the form

$$j = \sigma\left(E + \frac{v}{c} \times H\right).$$

Additional parameters are the magnetic Reynolds number and the interaction parameter

$$R_m = \frac{4\pi\sigma U a}{c^2}, \qquad N = \frac{\sigma H_0^2 a}{\rho U c^2},$$

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ACCESSION NR: AP5021296

and the magnetic field is described by

$$\mathbf{H} = H(x)\,\mathbf{e}_z, \qquad H(x) = \begin{cases} H_0 & \text{при } x > 0 \\ H_0 (k^2+1)\, e^{\pi x/a} (1 + k^2 e^{\pi x/a})^{-1} & \text{for } x < 0 \end{cases}$$

where e_z is a unit vector perpendicular to the plane of flow, and k is a parameter characterizing the magnetic field profile. Some dimensionless parameters are defined for computational use in calculating the electric field. These parameters are incorporated into the linearized hydrodynamics equations. The dimensionless potential parameter is differentiated with respect to the coordinate variables. A plot is made of the electrical current field and its dissipation along coordinate directions of the channel. A numerical solution is set up for an orthogonal grid of coordinate points. Computations were carried out on a Strela computer for various combinations of parameter values. The computed values are plotted and compared in cross-referenced parametric plots. The authors identify a point where a steady state condition prevails and the two dimensional approach may be dropped in favor of the simpler one dimensional problem. Orig. art. has: 8 equations and 7 figures.

ASSOCIATION: none

SUBMITTED: 17Nov64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 001

Card 2/2

BARMIN, A.A.; KULIKOVSKY, A.G.; LOBANOVA, L.F. (Moscow)

"Linearized problem of supersonic flow at the entry of the MHD-generator"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964

Lobanova L. I.

68-58-2-4/21

AUTHORS: Yerkin, L.I., Lobanova, L.I. and Bernatskaya, M.A.

TITLE: Coking of Eastern Coals with the Application of Stamp Charging (Koksovaniye vostochnykh ugley s primeneniyem trambovaniya)

PERIODICAL: Koks i Khimiya, 1958, Nr 2, pp 23-30 (USSR)

ABSTRACT: Studies of coking Eastern coals using stamp charging were carried out on an experimental oven, 400 mm wide and a capacity of 220-250 kg with stamp charging. The quality of coke was tested on a small drum and expressed in indices of the standard drum. Results of coking Bureinsk and Bazoysk gas coals - Table 1; tests of blends from Kuznets coals at the normal degree of crushing - Table 2, at various methods of crushing and various degrees of fineness of blends - Table 3; results of testing Karagandinsk coals - Table 4. Conclusions: Coking with stamp charging is advantageous only for certain coals and coal blends. Its application is most effective for blends containing considerable proportions of gas and weakly coking coals, which normally charged, produce poor coke. The volatile content of blends suitable for stamp charging can be increased to 30-31% and their coking ability lowered to 11-13 mm. For the successful application of stamp charging, a correct choice of the method and degree of

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Coking of Eastern Coals with the Application of Stamp Charging

crushing of coal blends is particularly important. The higher the coking ability of the blend and its volatile content, the higher should be its degree of fineness. The degree of compacting of the charge is related to its coking ability and degree of fineness. There are 4 tables and 1 figure.

ASSOCIATION: VUKhIN

AVAILABLE: Library of Congress

Card 2/2 1. Coal - Processing 2. Coke - Production

IVANOVA, L.I.; SOLOV'YEV, N.P.

Reducing formaldehyde and simple amines odor of fabrics after crease-resistant finish. Tekst. prom. 25 no.3:54-57 Mr '65 (MIRA 18:5)

1. Ivanovskiy nauchno-issledovatel'skiy institut khimicheskoy bumazhnoy promyshlennosti.

Zo BANOVA, L. I.

5(1) PHASE I BOOK EXPLOITATION SOV/2127

Koksokhimicheskoye proizvodstvo; sbornik statey (By-Product Coking Industry; Collection of Articles) Moscow, Metallurgizdat, 1959. 240 p. 2,500 copies printed.

Ed.: R. S. Filippov; Ed. of Publishing House: A. A. Bevyakin; Tech. Ed.: P. G. Islent'yeva

PURPOSE: The book is intended for engineers and technicians in the by-product coking industry and in scientific research institutes. The book may also be used by students in secondary and higher technical schools.

COVERAGE: The articles in this collection on the by-product coking industry appeared originally either in the periodical Koks i khimiya (Coke and Chemistry) or in other publications during 1955-1958. The book discusses the development of raw-material reserves for coking, technology of the manufacture of coke, quality of coke and further enlargement of the number of chemical coking products obtained. Some articles are devoted to a new procedure for preparing and beneficiating coals, new methods for coking, and to the mechanization and automation of industrial processes. References accompany individual articles.

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