

L 12658-65

ACCESSION NR: AT4046118

6

Is determined by its content in the initial tellurium and amounts to 5×10^{-3} - $2 \times 10^{-2}\%$. It was found that silicon, iron, aluminum and sodium impurities are very poorly removed by zone melting. They must be removed by remelting the initial tellurium, when the above-mentioned impurities pass into the slag. A technological scheme for the complex utilization of the raw material to obtain a T-AI grade tellurium as the main product, and tellurium compounds of commercial purity as by-products, is proposed, and the main technical data for the furnace are given. The initial tellurium T-1 contains about 1% impurities and up to 10-15% tellurium oxides. The most interesting among all tellurium compounds is tellurium trioxide, then, to a lesser extent, tellurium dioxide, telluric acid and tellurium nitrate. The different amounts of impurities found in different samples are tabulated, along with the analytical data for tellurium compounds obtained by processing the waste metal. By using waste metal, the loss of initial tellurium and the cost of the extra-pure tellurium obtained can be reduced considerably. "The tellurium analyses were carried out by V. A. Kuzina, N. G. Shepeta, V. V. Druz', and V. A. Turova." Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 27Nov63

ENCL: 00

SUB CODE: MM

Card 2/2 NO REF SOV: 001

OTHER: 001

L 9400-56 EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b)/EWA(h) IJP(c) RDW/JD
ACC NR: AP5026781 SOURCE CODE: UR/0286/65/000/017/0069/0069

INVENTOR: Breusov, O. N.
ORG: none

16 27
B

TITLE: Method of refining commercial tellurium. Class 40, No. 174364 [Announced by the Plant of the West-Siberian Council of the National Economy (Predpriyatiye zapadnosibirskogo sovnarkhoza)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 69

TOPIC TAGS: tellurium, metal melting

ABSTRACT: This Author Certificate introduces a method for refining commercial tellurium. To increase the purity of the final product, the initial tellurium is mixed with phosphoric anhydride and treated at a temperature of about 800C. [AZ]

SUB CODE: 11, 13/ SUBM DATE: 06Apr64/ ATD PRESS: 4153

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UDC: 669.777

E 22142-66 EWT(m)/ETC(f)/EWG(m)/EWF(t) IJP(c) REN/JD/JG

ACC NR: AP6012956

SOURCE CODE: UR/0078/65/010/009/1990/1992

AUTHOR: Breusov, O. N.; Revzina, T. V.; Druz', N. A.

ORG: none

TITLE: Synthesis and certain properties of lithium tellurite

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 9, 1965, 1990-1992

TOPIC TAGS: inorganic synthesis, tellurium compound, lithium compound, x ray diffraction analysis, specific density

ABSTRACT: Lithium tellurite was obtained by reacting a solution of "chemically pure" lithium oxide hydrate with an excess of freshly precipitated tellurium dioxide. Later the excess of tellurium dioxide was filtered off and the solution of lithium tellurite evaporated to near dryness. To determine the properties of lithium tellurite, it was made into a more pure product by first being dissolved in water; the solution was filtered and evaporated in a carbon dioxide-free atmosphere. The preparation obtained in this manner contained 84.18% TeO_2 and 15.75% Li_2O (theoretical 84.23% and 15.77%, respectively). The pycnometric density of lithium tellurite, determined in toluene, was equal to 3.83 ± 0.02 . Biaxial crystals are formed with a negative indicatrix of $N_g > 1.78$ and $N_p = 1.676 \pm 0.003$. The lithium tellurite was also studied by x-rays. The x-ray diffraction pattern of Li_2TeO_3 indicated rhombic syngony. The parameters of the unit cell were: $a = 8.79 \text{ \AA}$;

Card 1/2

UDC: 546.34:244:548.736

L 22142-66

ACC NR: AP6012956

$b = 10.52 \text{ kX}$; $c = 7.10 \text{ kX}$. The number of formula units found in the unit cell were $z = 7.989 = 8$. The calculated density was $\rho_{\text{calculated}} = 3.836$. The probability spatial group was $D_{2d}^2 = P 2_2 2$. The solubility of Li_2TeO_3 in the 30-80 C range, in water, was studied. The compound does not form crystalline hydrates and dissolves congruently. Its solubility decreases with an increase in temperature. Orig. art. has: 1 figure and 3 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 10Apr64 / OTH REF: 002

Card 2/2

BK

BREUSOV, O.N.; PETROVA, L.M.; LYANDUSOV, B.G.; KORSHUNOV, B.G.; DERBIN, M.M.

Apparatus with continuous action for the chlorination of high-melting
metals. Prom.khim.reak. i osobo chist.veshch. no.2:46-48 '63.
(MIRA 17:2)

BREUSOV, O.N.; KOROTKEVICH, M.N.; ODINTSOVA, V.G.; TSIBULEVSKAYA, K.A.; DRUZ', N.
A.

Preparation of germanium sulfides of reactive grade. Prom.khim.reak. 1
osobo chist.veshch. no.2:49-53 '63. (MIRA 17:2)

BREUSOV, O.N.; REVZIN, G.Y.; LESHCHENKO, V.V.; ZELENTSOV, D.P.; DERBIN, M.M.;
VERNEDUBOV, N.P.; MAKAROV, G.I.

Obtaining analytically pure tellurium by the zone melting method and reprocessing of its wastes to tellurium compounds of pure reaction. Prom.khim.reak. i osobo chist.veshch. no.2:54-60 '63. (MIRA 17:2)

BREUSOV, V.

Correct work standards are the basis for a system of wages.
Mas. ind. SSSR 29 no.5:40-41 '58. (MIRA 11:10)
(Ment industry--Production standards) (Wages)

BREUSOV, YU. N., KARPEYSKIY, M. YA., KHOMUTOV, R. M., SEVERIN, YE. S.,
GOTTIKH, B. P. (USSR)

"Synthesis of Certain Biologically Active Hydroxylamine
Derivatives."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 August 1961

BRUSOVA, L.M.

14-002

243/120 Granovskiy, V.L., Luk'yanov, I.G., Spivak, G.Y. and Sirotenko, I.G. SOV. J. Plasma Phys. 1959, Vol. 4, No. 8. Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol. 4, No. 8, pp. 1339 - 1358 (USSR) I.M. Rudomiy and N.G. Kovalevskiy - "New Data on X-ray Radiating Pulse Discharges" V.A. Kharuzhynskiy and I.M. Rudomiy - "Investigation of the nature of the neutralization in powerful gas discharges in chambers with conducting walls" K.A. Borzupov et al. - "Investigation of the Gas Discharge in a Conical Chamber" S.M. Gorkovskiy et al. - "A Turn of Plasma in Transverse Magnetic Field" I.G. Kasayev - "Data on the Division of a Cathode Spot on Mercury in a Low-pressure Arc" (see p 1289 of the Journal) L.L. Robinson (England) - "A New Theory of the Cathode Spot" (see 1955 of "Sov. Journal") L.M. Rudomiy and N.G. Kovalevskiy - "Current Distribution on the Surface of Electrodes in Electric Pulse Discharges" L.S. Kuznetsov - "Some Properties of Gas Discharges in Low-voltage Halogen Counters" G.Y. Glotkov and V.L. Granovskiy - "Comparison of the Initial De-ionisation in the Isotopes of Hydrogen (H and D)"

L.A. Akol'shina commented some results on the pre-breakdown wavelet phase at low pressures. V.V. Kuznetsov and L.M. Rudomiy - "Charge-density distribution in a filamentary plasma" L. Peharik of Czechoslovakia communicated some information on the wave-like phenomena in gas-discharge plasma. E.M. Ruzhnev dealt with the problem of the determination of the energy of fast ions in pulse discharges. D.B. Kadomtsev - "Convective instability of a plasma string" L.L. Ruzhnevskiy and V.D. Shafranov - "Theory of a High-temperature Plasma String" The fifth section was presided over by N.A. Kaptsay and dealt with high-frequency currents in gases. The following papers were sent: V.V. Kuznetsov - "Formation of Ultra-high Frequency Pulse Discharges in Inert Gases" G.I. Pakeyuk - "Influence of the Boundary Conditions on the Formation and Maintenance of High-frequency Discharges" P.A. Rul'nik et al. - "Investigation of a Self-maintained Ultra-high Frequency Pulse Discharge and the Process of its Development" S.M. Zastavker and G.E. Solov'ev - "Some Results of the Investigation of the Formation of Low-pressure High-frequency Discharges" G. Margman (USA) - "Conductivity of Weakly Ionized Plasmas" A. Kuronikoy - "The Conditions of Transition From High-frequency Corona Discharge at Atmospheric Pressures" V.Ye. Golant - "The relationship between the Characteristics of the Ultra-high Frequency Current and the Direct Current in Gas Discharges" R.B. Jazov'yar analysed the conductivity of the disintegrating plasma in the window of a resonance discharge tube. S.M. Lazitskiy and L.P. Shabatkin dealt with the applicability of the probe method to high-frequency discharges (see p 1238 of the Journal) The paper by V. Ye. Mitsuk et al. was devoted to the investigation of the ultra-high frequency plasma by means of the Stark effect. S.M. Lazitskiy et al. dealt with the problem of electric fields in high-frequency discharge at low pressures. Ya. Redman of Rumania read a paper entitled "High-frequency Discharges in Methane". The work of the sixth section was devoted to the problems of plasma and its radiation; the section was presided over by V.A. Fabrikant. The following papers were read: Yu.M. Kagan - "Method of Probe Methods of Plasma Investigation" V.I. Drosdov - "Oscillographic Measurements in Plasma" V.A. Shchegolev and A.S. Shchegolev - "Investigation of the Movement of Plasma" B. Hanne of Germany - "Investigation of the Transit Time"

CARD 1/1

KARPEYSKIY, M.Ya.; BREUSOV, Yu.N.

Structure of the enzyme-inhibitor complex of aspartic transaminase
with L-cycloserine. Biokhimiia 30 no.1:153-160 Ja-F '65.

(MIRA 18:6)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN
SSSR, Moskva.

BREUSSOV, YU.N., SEVERIN, E.S., KHOMUTOV, R.M. AND KARPEISKIY, M.YA. (5)

"The mode of interaction of some cyclic derivatives of hydroxylamine with pyridoxal and palp-enzymes.

Paper presented at the Symposium on Biological and Chemical aspects of pyridoxal catalysis, Rome, Italy 21-31 Oct 1962

L 10392-66 EWT(1)/EWA(m)-2

ACC NR: AP5026906

SOURCE CODE: UR/0109/65/010/010/1865/1872

AUTHOR: Breusova, L. N.

32

ORG: none

29

TITLE: Potential gradient in the positive column of a pulsed discharge

21, 44, 55

B

SOURCE: Radiotekhnika i elektronika, v. 10, no. 10, 1965, 1865-1872

TOPIC TAGS: electric discharge, gas discharge

ABSTRACT: An experimental investigation of the positive column in H₂, Ne, and A is reported. Square-pulse 3x10⁻⁸ to 3x10⁻³-amp discharges at a repetition rate of 20-200 per sec (lower rates corresponding to heavier currents) were used. A hot-cathode experimental tube was equipped with an extended throat carrying three anodes which served for measuring voltage gradients along the positive column. Ne- and A-filled tubes had a diameter of 18.5 mm and a pressure of 0.5±0.03 torr; 10.5-, 18.5-, and 32-mm H₂-filled tubes were tested at pressures between 0.05 and 3 torr. These conclusions are reported: (1) In the case of H₂ filling, establishment of the potential gradient E corresponding to a stationary discharge undergoes two stages: (a) an "electric" E fall-off due to

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UDC: 621.385.001.4

2

L 10392-66

ACC NR: AP5026906

increased concentrations of charged particles and their redistribution within the positive column, and (b) a "thermal" E fall-off due to the heating of gas at the column axis and redistribution of the gas density over the column cross-section; (2) In the case of Ne and A, the thermal stage was not observed because E varies very little within the pressure range corresponding to the heating of these gases under the conditions of the experiment; (3) The abrupt drop of E with the current rise, starting from a few ma, is due to a transition from the direct electron-shock Ne and A gas ionization to a stepwise ionization; the presence of metastable highly-populated excitation levels is conducive to the development of the stepwise ionization; (4) With pulse currents going into hundreds of amperes, an arc pinch effect and increased potential gradients were observed in all three gases. "In conclusion, the author wishes to thank B. N. Klyarfel'd for formulating the problem, valuable advice, and his constant interest." Orig. art. has: 6 figures, 3 formulas, and 1 table. 44.55

SUB CODE: 09 / SUBM DATE: 25May64 / ORIG REF: 006 / OTH REF: 005

jw
Card 2/2

BREUSTEDT, A., prof. dr.

Application of preventive measures in free-end prosthesis.
Fogorv., szemle 58 no.3:71-75 Mr '65

1. Kcziemeny a Berlini Humboldt-Egyetem (Charite) Fogaszati
protetikai poliklinikajarol (igazgato: prof. dr.med. dent.
hab. A. Breustedt).

Brevdo, B. P.

137-1957-12-23661

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 117 (USSR)

AUTHOR: Brevdo, B. P.

TITLE: The Production of Cylindrical Gears by Hot Rolling (Izgotovleniye tsilindricheskikh zubchatykh koles metodom goryachey prokatki)

PERIODICAL: Mashinostroitel', 1957, Nr 5, pp 26 - 30

ABSTRACT: A description of domestic and foreign practice in the utilization of rolling mills in the making of gears; this may be accomplished in two ways, viz., by unit rolling and by rod rolling. The latter method is more productive and achieves greater accuracy, but is limited to gears with small modules and with hubs having a length which does not exceed the width of the crown. The surface of teeth obtained by hot rolling is noted for its accuracy and finish. Structural peculiarities of several varieties of mills of the TsNIITMASH type are described.

S. G.

1. Cylindrical gears-Production
2. Cylindrical gears-Hot rolling

Card 1/1

SIMONOV, V.V.; BREVDO, G.D.; VUGIN, R.B.; YEGOROV, A.Ye.

Rotational speed of cones of three roller bits. Trudy MINKHIGP no.40:
32-41 '63. (MIRA 16:4)
(Oil well drilling—Equipment and supplies)

SIMONOV, V.V.; BREVDO, G.D.

Dependence of bit torques on axial load. Neft. khcz. 43 no.6:
16-18 Je '65. (MIRA 18:7)

BREVDC, G.D.; SIMONOV, V.V.; SOLOV'YEV, Ye.M.

Effect of the parameters of drilling practices on the rotation speed
of a bit roller. Izv.vys.ucheb.zav.; neft' i gaz 7 no.4:23-27
'64. (MIRA 17:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika Gubkina.

BREVDO, G.V.; MEDVEDEV, Yu.A.

Pathogenesis and the pathogenetic method of preventing and treating inflammatory infiltrates forming at the site of intramuscular injections of an aminazine solution. Zhur. nevr. i psikh. 62 no.2:216-218 '62. (MIRA 15:6)

1. Kafedra psikhiiatrii (zav. - prof. S.S. Mankhin) Leningradskogo pediatricheskogo instituta, 3-ya Leningradskaya psikhonevrologicheskaya bol'nitsa imeni Skvortsova-Stepanova (glavnyy vrach N.D. Bulkin).

(~~CHLORPROMAZINE~~-TOXICOLOGY)
(INJECTIONS, INTRAMUSCULAR) (INFLAMMATION) ✓

DREYDO, V. I.

USSR .

Influence of intermolecular interaction on rotational isomerism. M. V. Vol'kenshtein and V. I. Dreydo (Inst. High-Molecular Compds., Acad. Sci. U.S.S.R., Leningrad). *Zhur. Fiz. Khim.* 28, 1313-18 (1954); cf. *C.A.* 47, 2832f. — A math. discussion. The decrease of the difference in energy (ΔE) between the gauche and trans isomers of 1,2-C₂H₄Cl₂ (I) and of 1,3-C₂H₄Br₂ (II) upon transition from the vapor phase to the liquid is calculated. The fall of ΔE is due to orientation interactions. In the liquid phase values of ΔE for I and II are 40 and 770 cal./mole, resp. These results are in accord with exptl. data. J. W. Loweberg, Jr.

BREVENOV, N.N. nauchnyy sotrudnik

Taming of the plasma. IUn.tekh. 6 no.2:61-65 '62. (MIRA 15:2)

1. Institut atomnoy energii imeni I.V.Kurchatova.
(Plazma (Ionized gases))

BREVENOV, N.N.; TOMASHCHUK, Yu.F.

Effect of local perturbations of a magnetic field on the
confinement of particles in a magnetic adiabatic trap.
Atom. energ. 13 no.5:421-428 N '62. (MIRA 15:11)
(Magnetic fields)
(Plasma (Ionized gases))

BELXAYEV, V.A.; HRIVNOV, N.N.

Electrostatic channel for injecting an ion beam into a magnetic
trap. Atom.energ. 13 no.6:581-583 D '62. (MIRA 15:12)
(Ion beams) (Magnetic fields)

S/089/63/014/004/002/019
A066/A126

AUTHORS: Brevnov, N.N., Matulis, A.I.

TITLE: The passage of a plasmoid through an adiabatic trap with magnetic mirrors

PERIODICAL: Atomnaya energiya, v. 14, no. 4, 1963, 354 - 358

TEXT: The behavior of a plasmoid was studied as it passed through an adiabatic trap of the "Orgenok" type [N.N. Brevnov et al., Atomnaya energiya, v. 13, no. 5, 421 (1962)] along its axis. The plasmoid was obtained by means of a coaxial plasma injector [J. Marshall. Phys. Fluids, 3, 13 (1960)]. A time of 400 μ sec elapsed between the application of voltage to the injector electrodes and the opening of the valves. Hydrogen was injected in a quantity of 45 μ g. The injector supplied two successive plasmoids with velocities of 10^7 and $2 \cdot 10^6$ cm/sec. The residual gas in the trap chamber had an initial pressure of 10^{-6} mm Hg. The variations in the plasmoid dimensions, the velocities of the plasmoids in the magnetic field, and the energy density were studied from pictures of an COP(SFR) high-speed camera, using magnetic probes and calorimeters equipped

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The passage of a plasmoid through an

S/089/63/014/004/002/019
A066/A126

with sensitive thermocouples. The first plasmoid traversed the 350 cm long trap within 90 μ sec. The jets formed by division of the plasmoids and glowed 700 μ sec in the trap. The development of the jets is attributed to instabilities peculiar to plasma bordering on a magnetic field with curved lines of force. There are 8 figures.

SUBMITTED: July 27, 1962

Card 2/2

L 45588-65 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 Pz-6/Po-4/Pab-10/P1-4 IJP(c)

VW/DM/AT

ACCESSION NR: AP5009119

S/OC89/65/018/003/0256/0257 ⁵¹_B

AUTHOR: Bortnikov, A. V. Brevnov, N.N.; Zhukovskiy, V.G.; Romanovskiy, M.K.

TITLE: Adiabatic compression of a plasma with hot ions (Description of installation and first experiments)

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 256-257

TOPIC TAGS: plasma compression, plasma ion, adiabatic compression, plasma injection, magnetic mirror

ABSTRACT: The adiabatic compression apparatus is intended for an investigation of the behavior of plasma with hot ions in a magnetic field that increases with time. A diagram of the installation is shown in Fig. 1 of the Enclosure. The plasma is produced by injecting atomic hydrogen ions with energy 10 keV (or molecular ions with energy 7 keV). The ions move in a homogeneous magnetic field around the axis of the installation almost perpendicular to the axis, are reflected by a magnetic mirror, and are trapped by azotite. The growing magnetic field detaches the ions from the channel and compresses them to a stationary magnetic mirror, after which further

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ACCESSION NR: AP5009119

radial and longitudinal plasma compression is produced by the compression coils. The stationary field is 2000 Oe, the maximum rising field and the field of the compression coil in the mirrors is 30 kOe, and the mirror ratio is 3. The ion current (1--5 mA) is injected in pulses whose duration can be varied from 1 to 500 msec. The initial gas pressure prior to injection of the ions is 10^{-8} mm Hg. Experiments are reported on the dependence of the ion charge exchange time on the flux of fast neutral atoms and on the dependence of the plasma potential on the amplitude of the ac component of the injection current. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 13Aug64

NR REF SOV: 000

ENCL: 01

SUB CODE: ME

OTHER: 000

Cord. 2/3

L 22525-66 EWT(m)/EWA(h)

ACC NR: AP6007954

SOURCE CODE: UR/0089/66/020/002/0149/0151

AUTHORS: Brevnov, N. N.; Maksimov, Yu. S.; Tsyplenkov, V. S.

ORG: none

TITLE: Registration of hydrogen-ion fluxes with a semiconductor radiation detector

SOURCE: Atomnaya energiya, v. 20, no. 2, 1966, 149-151

TOPIC TAGS: radiation detector, plasma diagnostics, semiconductor device, hydrogen ion, pn junction, silicon

ABSTRACT: The purpose of the investigation was to check on the feasibility of using semiconductor nuclear radiation detectors for plasma diagnostics. To this end, a surface-barrier p-n junction was produced on n- and p-type silicon by special chemical treatment. The detectors were placed in a beam of atomic hydrogen ions accelerated to 15 kev (Fig. 1). The characteristics show that the output signal of the counter is linearly proportional to the ion flux density for all ion energies up to a certain limit, after which saturation sets

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UDC: 539.16.07

L 22525-66

ACC NR: AP6007954

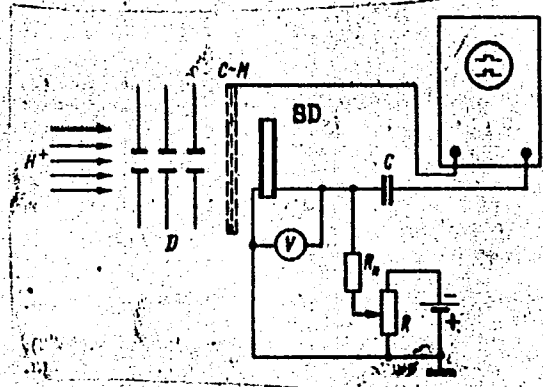


Fig. 1. Experimental setup.
 D -- beam-collimating diaphragms,
 C-M -- monitor, SD - semiconducting
 detector.

in. The linear sections corresponding to different particle energies have different slopes, the curve being steeper the higher the particle energy. A formula is presented for the upper limit beyond which the semiconductor detectors are made useless by the nonlinearity. The lower energy threshold, imposed by the noise in the system, is

Card 2/3

L 22525-66

ACC NR: AP6007954

0

approximately 2 kev, and can be reduced if special measures are adopted to decrease the noise of the detector and of the amplifier. Orig. art. has: 5 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 10Apr65/ ORIG REF: 002/ OTH REF: 003

Card 3/3 BLG

L 29671-66 EWT(1)/ETC(f) IJP(c) AT
ACC NR: AT6012691

SOURCE CODE: UR/3136/65/000/988/0001/0022
61

AUTHOR: Bortnikov, A. V.; Brevnov, N. N.; Zhukovskiy, V. G.; Romariovskiy, M. K. ^{B+}

ORG: State Committee on Use of Atomic Energy SSSR, Institute of Atomic Energy
im. I. V. Kurchatov, Moscow (Gosudarstvennyy komitet po ispol'zovaniyu atomnoy
energii, Institut atomnoy energii)

TITLE: Investigation of plasma in the "AS" installation

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 988, 1965. Issledovaniye plazmy v ustanovke AS, 1-22

TOPIC TAGS: plasma research, plasma compression, plasma injection, plasmoid acceleration, plasma stability, cyclotron resonance, magnetic mirror

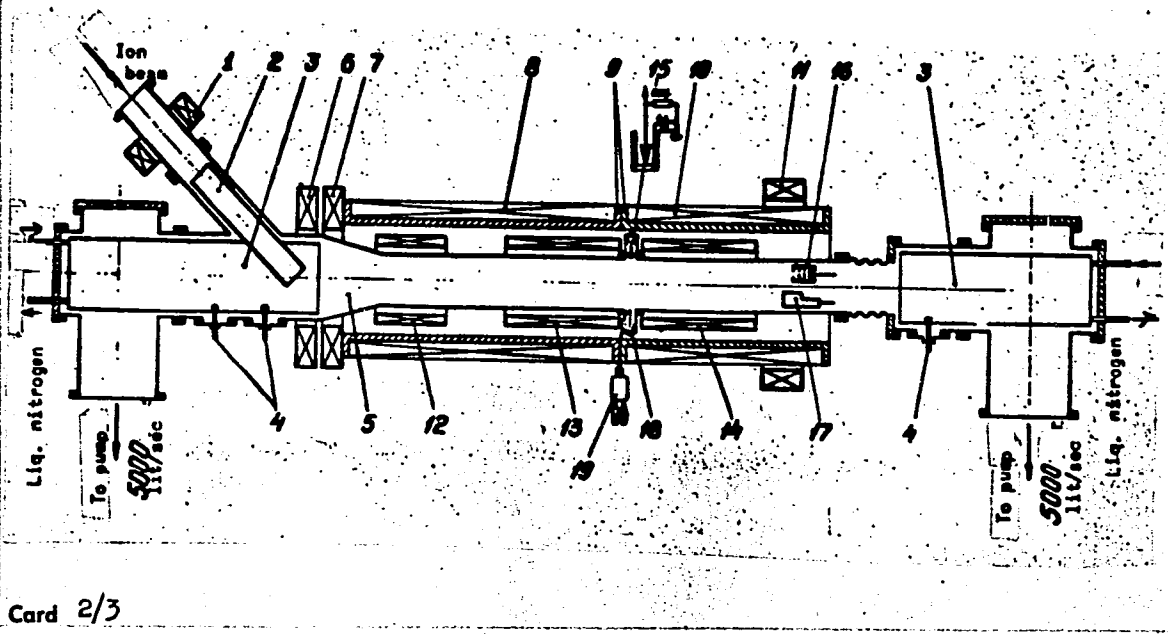
ABSTRACT: The authors describe the "AS" (adiabatic compression) apparatus for the study of a plasma produced by injection of fast ions. An axially-centered cylindrical plasmoid is detached from the injector by means of a pulsed magnetic mirror, is accelerated toward a stationary magnetic mirror, and is compressed by a time-increasing magnetic field of mirror configuration. The initial ion energy can reach 10 keV. The article contains a description of the installation (Fig. 1), the auxiliary apparatus, and the measurement details. Measurements were made of the density and potential of the plasma, the lifetimes of the fast ions, and the

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ACC NR: AT6012691

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ACC NR: AT6012691

Fig. 1. Schematic diagram of "AS" installation. 1 - Magnetic lens, 2 - channel, 3 - azotite, 4 - titanium evaporators, 5 - chamber, 6,7,8,10,11 - stationary magnetic field coils, 9 - copper screen, 12 - detachment coil, 13,14 - compression coils, 15 - neutral particle detector, 16 - secondary ion energy spectrum analyzer, 17 - current receiver, 18 - rod probe, 19 - palladium leak valve.

onset and development of oscillations at the ion-cyclotron frequency. The initial plasma density was found to be proportional to the injection current and amounted to 10^{18} cm⁻³ fast ions at a current of 5 ma. In the absence of injection-current pulsations, the plasma potential did not exceed +30-40 v and was independent of the injection current or of the neutral-gas pressure. Cyclotron instability with an increment time of 20-30 μ sec developed in the plasma after detachment from the source, lasted for about 100 μ sec, after which it decreased exponentially, apparently as a result of self-stabilization. The lifetime of the fast ions depended only on the charge exchange with the neutron molecules. The development of cyclotron instability did not cause additional ion losses. The plasma decayed after compression with a characteristic time of 500 μ sec. This is several times smaller than the charge exchange time, and the reason for this behavior is not yet clear. The experimental plasma lifetime of the fast ions increased approximately in proportion to the pressure. Orig. art. has: 11 figures and 8 formulas.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 005/ OTH REF: 005
Card 3/3 *cc*

L 10679-63
JD/JG

EPF(n)-2/EWT(m)/EWP(q)/BDS--AFFTC/ASD/ESD-3/AFWL/SSD--Pu-4--

ACCESSION NR: AP3002270

S/0089/63/014/006/0585/0586

AUTHOR: Brevnova, N. V.; Vartanova, L. I.; Polikarpov, V. I.; Yuzvuk N. N.

TITLE: Deposition of cesium and rubidium from Co sub 2 on various materials

SOURCE: Atomnaya energiya, v. 14, no. 6, 1963, 585-586

TOPIC TAGS: deposition of radiation isotopes, cesium, rubidium, xenon, krypton

ABSTRACT: The deposition coefficients of Cs sup 130 and Rb sup 91 on various pipe materials during the passage of the carbon dioxide containing xenon and krypton were estimated. Work was carried out in the experimental channel of a research reactor. Carbon dioxide, after passing the active zone containing uranium, was filtered, and entered a pipe 0.1 cm diameter, 100 cm long. The rubidium and cesium isotopes formed during the decay of xenon and krypton were deposited on the walls. The deposition coefficient for Cs sup 139 was found to be 1.6×10^{-2} cm sup -1, that for Rb sup 91 - 2.2×10^{-2} cm sup -1. "In conclusion the authors express their gratitude to V. A. Aksenov for help in the work and discussion of the results." Orig. art. has: 1 figure and 5 equations.

ASSOCIATION: none

Card 1/2

RAZUVAYEV, G.A.; PETUKHOV, G.G.; GALIULINA, R.F.; BREVENOVA, T.N.

Investigating the reactivity of phenyllithium by means of
exchange reactions. Zhur.ob.khim. 31 no.7:2347-2349 J1 '61.
(Lithium) (Benzene) (MIRA 14:7)

VYAZANKIN, N.S.; RAZUVAYEV, G.A.; BREVNOVA, T.N.

Reactions of tetrapropyl- and tetraisopropyltin with benzoyl peroxide. Zhur. ob. khim. 34 no. 3:1005-1009 Mr '64.
(MIRA 17:6)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete imeni N.I.Lobachevskogo.

VYAZANKIN, N.S.; RAZUVAYEV, G.A.; BREVNOVA, T.N.

Synthesis and properties of tert-butyl ester of
 β -(trimethylsilyl)-perpropionic acid. Dokl. AN SSSR 163
no.6:1389-1392 Ag '65. (MIRA 18:8)

1. Laboratoriya stabilizatsii polimerov AN SSSR, Gor'kiy.
2. Chlen-korrespondent AN SSSR (for Razuvayev).

BREWINSKI, W.

TECHNOLOGY

Periodicals: NORMALIZACJA. Vol. 26, no. 9, Sept. 1958

BREWINSKI, W. Building fittings and their standardization. p. 435.

Monthly List of East European Accessions (EEAI) IC, Vol. 8, No. 2,
February 1959, Unclass.

BREXNJAK, M.

Investigations concerning the temperature of steam in vats during the heating of beech peeling logs. p.34

DRVNA INDUSTRIJA. (Institut za drvno-industrijska istrazivanja) Zagreb, Yugoslavia. Vol. 10, no.3/4, March/April 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no.9, Sept 1959

Uncl.

BREY, V.V., inzh.

Experimental study of the performance of the disk-type diggers of
sugar beet combines. Trakt. i sel'khoz mash. no.2:31-33 F '64.
(MIRA 17:3)

1. Ukrainskaya mashinospytatel'naya stantsiya.

BREYDBARD, B.M.

ZHIDOVICH, A.I., kandidat tekhnicheskikh nauk; BREYDBARD, B.M., mladshiy
nauchnyy sotrudnik.

For an efficient increase in cop weight for cotton spinning
machines. Tekst.prom. 16 no.11:20-23 N '56. (MIRA 9:12)
(Spinning machinery)

BREYDBARD, B.M.; KORNILOVA, G.V., starshiy nauchnyy sotrudnik

New standards of tubes and bobbins. Tekst.prom. 22 no.4:31-32
Ap '62. (MIRA 15:6)

1. Rukovoditel' laboratorii izdeliy tonkikh secheniy TSentral'nogo nauchno-issledovatel'skogo instituta vspomogatel'nykh materialov i zapasnykh detaley k tekstil'nomu oborudovaniyu (for Breydbard).
2. Laboratoriya izdeliy tonkikh secheniy TSentral'nogo nauchno-issledovatel'skogo instituta vspomogatel'nykh materialov i zapasnykh detaley k tekstil'nomu oborudovaniyu (for Kornilova).
(Spinning machinery--Standards)

BREYDO, A.Ye.

"Manual on hygienic aspects of the merchant marine" by L.M. Starokadomskii. Reviewed by A.E. Breido. Gig. 1 san. 24 no.10:87-90 '59.

(NAVAL HYGIENE)

(STAROKADOMSKII, L.M.)

(MIRA 13:1)

BREYDO, A.I.

BREYDO, A.I.; ZHILOV, G.M.

Experience with automatic operation of automatic block system feeding points. Avtom., telem. i svyaz' no.12:22-25 D '57. (MIRA 10:12)

1. Zamestitel' nachal'nika Leningrad-Vitebskoy distantzii signalizatsii i svyazi Oktyabr'skoy dorogi (for Breydo). 2. Starchiy inzhener Dorproyekta (for Zhilov).

(Railroads--Signaling--Block system)

BREYDO, A.I.

Using the PNO-2/250 autotransformer for testing high-voltage lines of automatic block systems. Avtom. telem. i sviaz' 2 no.12:32-33 D '58. (MIRA 11:12)

1.Zamestitel' nachal'nika Leningrad-Vitebskey distantsii signali. (Electric transformers) (Railroads--Signaling--Block system)

BREYDO, A.I.

We are building semiautomatic block systems. Avtom.telem. i sviaz'
4 no.11:19-21 N '60. (MIRA 13:11)

1. Zamestitel' nachal'nika Leningrad-Vitebskoy distantzii signalizatsii
i svyazi Oktyabr'skoy dorogi.
(Railroads--Signaling--Block system)

BREYDO, A.I.

Introduction of communication and automatic control equipment by drawing on unexploited production potentials. Avtom., telem. i sviaz' 4 no.4:21-23 Ap '60. (MIRA 13:6)

1. Zamestitel' nachal'nika Leningrad-Vitebskoy distantzii signalizatsii i svyazi Oktyabr'skoy dorogi.
(Railroads--Electric equipment)

BREYDO, A.I.

Use of electrolytic condensers in a.c. circuits. Avtom., telem.
i sviaz' 5 no.5:32-34 My '61. (MIRA 14:6)

1. Zamestitel' nachal'nika Leningrad-Vitebskoy distantsii signalizatsii
i svyazi Oktyabr'skoy dorogi.

(Railroads—Electric equipment)

(Electric capacitors)

BREYDO, A. I.

Rail networks with a twofold use of the transmission channel.
Avtom. telem. i svyaz' 5 no.9:19-24 S '61. (MIRA 14:10)

1. Zamestitel' nachal'nika Leningrad-Vitebskoy distantzii
signalizatsii i svyazi Oktyabr'skoy dorogi.

(Railroads--Signaling)

(Railroads--Communication systems)

~~BREYDO, Al'bert Itskovich; ZHIL'TSOV, P.N., inzh., retsenzent;~~
KHMEL'NITSKIY, L.I., inzh., red.; VOROTNIKOVA, L.F.,
tekhn. red.

[Operation of electric interlocking systems] Ekspluatatsiia
ustroistv elektricheskoi tsentralizatsii. Moskva, Trans-
zheldorizdat, 1963. 53 p. (MIRA 16:7)
(Railroads--Signaling--Interlocking systems)

BREYDO, A.I., kand. tekhn. nauk

Use of track circuits with valve converters. Avtom., telem.
i sviaz' 8 no.5:27-30 My '64. (MIRA 17:10)

1. Nachal'nik Leningrad-Baltiyskoy distantzii Oktyabr'skoy
dorogi.

BREYDO, A.I., kand. tekhn. nauk; SEMENYUTA, N.F., assistant

Useful textbooks. Avtom., telen. i sviaz' 9 no.6:46 Je '65.
(MIRA 18:8

1. Nachal'nik Leningrad-Baltiyskoy distantsii Oktyabr'skoy dorogi (for Breydo). 2. Kafedra avtomatiki, telemekhaniki i svyazi Tashkentskogo instituta inzhenerov zheleznodorozhnogo transporta (for Semenyuta).

BREYDO, A.I., kand. tekhn. nauk

Scientific organization of work in control and test stations. Avtom.,
telem. svyaz' 9 no.9:16-22 S '65. (MIRA 18:9)

1. Nachal'nik Leningrad-Baltiyskoy distantsei signalizatsii i svyazi
Oktjabr'skoy dorogi.

L 29190-66

ACC NR: AP6019082

SOURCE CODE: UR/0239/65/051/005/0621/0625

AUTHOR: Barbashova, Z.I.; Breydo, G. Ya.ORG: Institute of Evolutionary Physiology im. I. M. Sechenov, AN SSSR, Leningrad
(Institut evolyutsionnoy fiziologii AN SSSR)

TITLE: Changes in the osmotic resistance of erythrocytes with muscle training

SOURCE: Fiziologicheskij zhurnal SSSR, v. 51, no. 5, 1965, 621-625

TOPIC TAGS: rat, hypoxia, hematopoiesis

ABSTRACT: White rats were trained by making them swim for increasing lengths of time in a tank filled with water at a temperature of 30°C. The training was continued for 4 months. The degree of training acquired was determined on the basis of the increased general resistance of the rats shown by the capacity to swim with a load, change in body temperature (as indicated by the rectal temperature) immediately after swimming with a load, and resistance to hypoxia produced by rapid reduction of the pressure to 134 mm in a chamber in which the rats were placed. The osmotic resistance of the erythrocytes (the resistance of erythrocytes to hemolysis in NaCl solutions containing 0.36-0.56% NaCl) was higher for the rats trained in muscular effort than for control rats. In the case of rats that had been overtrained and showed a decrease in general resistance, the osmotic resistance of erythrocytes did not increase but, on the contrary, often decreased. No changes in the hemopoiesis of rats with an increased osmotic resistance of erythrocytes were found. It was established in former work by Barbashova that the osmotic resistance of erythrocytes increased in rats that were trained to withstand the effects of hypoxia. Orig. art. has: 2 figures and 1 table. JPRS

SUB CODE: 06/ SUBM DATE: 30Dec63/ ORIG REF: 002
Card 1/1 UDC: 612.111.17

SAPROKHIN, M.I.; BREYDO, G.Ya.; OSTROUMOV, N.A. [deceased]

Influence of the cervical sympathetic nerve on respiratory reflexes during stimulation of the vagus nerve; influence of the sympathetic nerve on afferent nerve cells. Mat. po evol. fiziol. 3:102-109 '58.

(MIRA 12:4)

(RESPIRATION)

(VAGUS NERVE)

(NERVOUS SYSTEM, SYMPATHETIC)

BARHASHOVA, Z.I.; BREYDO, G.Ya.

Changes in the osmotic resistance of erythrocytes in muscular training. Fiziol. zhur. 51 no.5:621-625 My '65.

(MIRA 18:6)

1. Institut evolyutsionnoy fiziologii imeni Sechenova AN SSSR, Leningrad.

AUTHOR: Breydo, I.

107-58-3-39/41

TITLE: A Useful Beginning (Poleznoye nachinaniye)

PERIODICAL: Radio, 1958, Nr 3, p 63 (USSR)

ABSTRACT:

Recently a series of lectures was held in Leningrad on small-size radio parts. The lectures were organized by NTORiE imeni A.S. Popov. The lectures dealt with materials for producing small-size receivers, capacitors, resistors, transformers, induction coils, printed circuits and technological questions. Some of the most interesting lectures were: "Physics and Technology of Electrotechnical Materials Used in the Manufacture of Radios" by N. Bogoroditskiy; "Capacitors Made of Paper and Tape" by L. Zakgeym; "Non-wire Resistors" by B. Gal'perin; "Magnetic Materials" by V. Mes'kin. In the reports it was pointed out that there is a tendency to reduce the dimensions of the radio parts. Tantalum capacitors were listed as example for the effort made in this direction. However, there are certain obstac-

Card 1/2

A Useful Beginning

107-58-3-39/41

cles in the development of new, small-size parts. Frequently, such parts are not manufactured immediately after their development is completed, because there are no orders from the consumers who do not know that these parts have been developed. Therefore it is necessary to publish information on new developments in periodicals on electronics, radio engineering, etc.

1. Radio equipment--Miniatureization

Card 2/2

AUTHOR: Breydo, I. SOV/107-59-1-19/51
TITLE: The Measurement of Microcurrents (Izmereniye mikrotokov)
PERIODICAL: Radio, 1959, Nr 1, pp 21-24 (USSR)
ABSTRACT: This is the first installment of a two-part article on the measuring of microcurrents. The author outlines general information on existing methods of measuring microcurrents of up to 10^{-16} amp, by using circuits with electronic tubes. He recommends the use of the following tubes: 1E1P, 2E2P, 6ZH1ZH, and 6ZH7. There are 9 circuits, one graph and 3 Soviet references.

Card 1/1

SOV/107-59-2-38/55

9(2)

AUTHOR:

Breydo, I.

TITLE:

Microcurrent Amplifiers (Usiliteli mikrotokov)

PERIODICAL:

Radio, 1959, Nr 2 pp 48-51 (USSR)

ABSTRACT:

This is the second part of an article (see "Radio", 1959, Nr 1) describing various direct current amplifier systems, which are used for measuring purposes, remote control, automatic gear adjustment, precise recording etc. The article gives also the parameters for the evaluation of direct current amplifiers and various circuit diagrams with a short description of each. In highly sensitive direct current amplifiers, one or several intermediate cascades are used for voltage amplification. In direct current amplifiers of average sensitivity the input tubes may be used for voltage amplification. Direct current amplifiers, which are intended for control operations, contain usually from 1 to 3 voltage amplifying cascades. Direct current amplifiers for automatic gear adjustment

Card 1/2

Microcurrent Amplifiers

SOV/107-59-2-38/55

and precise recording are additionally supplied with electron drift correctors. The ultimate stage of direct current amplifiers is usually working on comparatively powerful tubes (6N8S, 6P6S etc.). To achieve better linearity and stability, there are used cathode followers and various variants of balanced cascades. Direct current amplifiers are fed from regulated sources. In amplifiers with few cascades the anode feeding may be stabilized using a stabilizer and a current regulator tube for the filament. Direct current amplifiers of small sensitivity are fed by a.c. or rectified current. There are 10 diagrams, 2 graphs, and 3 Soviet references.

Card 2/2

9(

S/107/60/000/01/011/059

AUTHOR: Breydo, I.

TITLE: Low-Power Thyratrons²⁵

PERIODICAL: Radio, 1960, Nr 1, pp 9-14 (USSR)

ABSTRACT: The author describes the design and application of thyratrons with cold and hot cathodes. He explains the basic thyatron circuits with the aid of circuit diagrams and graphs. The data of the following 17 thyratrons are compiled in a table: TG1B, TG1-0,02/0,5, TG1-0,1/0,3, TG1-0,1/1,3, TG3-0,1/1,3, TG1-1/0,8, TG1-1,6/1,3, TG1-3,2/1,3, TG1-6,4/1,3, TG1-2,5/4, TG11-3/1, TGI-1-10/1, TG11-35/3, TKh1B, TKh3B, TKh4B, and MTKh90. There are 8 graphs, 11 circuit diagrams, 1 table and 4 Soviet references. ✓

Card 1/1

117 AND 118 SERIES 119 AND 120 SERIES

PROCESSES AND PROPERTIES INDEX

BC

B-23

Various of sensitivity of photographic plates with wave-length in the blue-violet region. I. I. Kozlov and G. N. Korobovskii (Comp. rend. Acad. Sci. U.S.S.R. 1940, 23, 702-703) Using the light of a 200, 250, 310, 360, 400, 450, and 500 m μ . The sensitivity of the following types of plates and films has been determined: (a) those requiring development: diapositive, high-sensitivity emulsions, orthochromatic, isochromatic, and the "ST"; (b) those not requiring development: aristotype (visible blackening) paper, and glass film. In group (a) all types show max. sensitivity at ~450 m μ , with a sharp decrease on the long- λ side and a more gradual decrease on the short- λ side to ~1/3 of the max. sensitivity at 200 m μ . With the diapositive plates the max. is widened into a broad band of nearly uniform sensitivity. The sensitivity of the curves is undoubtedly due to the identity of the solid phases (AgBr and a little AgI in gelatin). In group (b) the curves for the two films are quite different, the aristotype paper (photosensitized medium AgCl) reaching max. sensitivity near the short- λ limit of the experiment and the glass film at 450 m μ .

T. H. G.

Leungzeid State Optical Inst.

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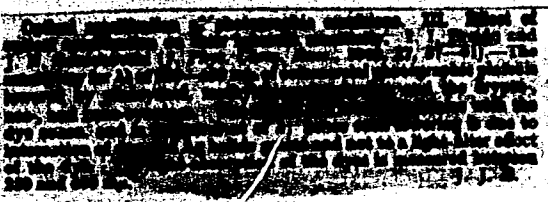
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PROCESSES AND PROPERTIES INDEX

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COMMON ELEMENTS

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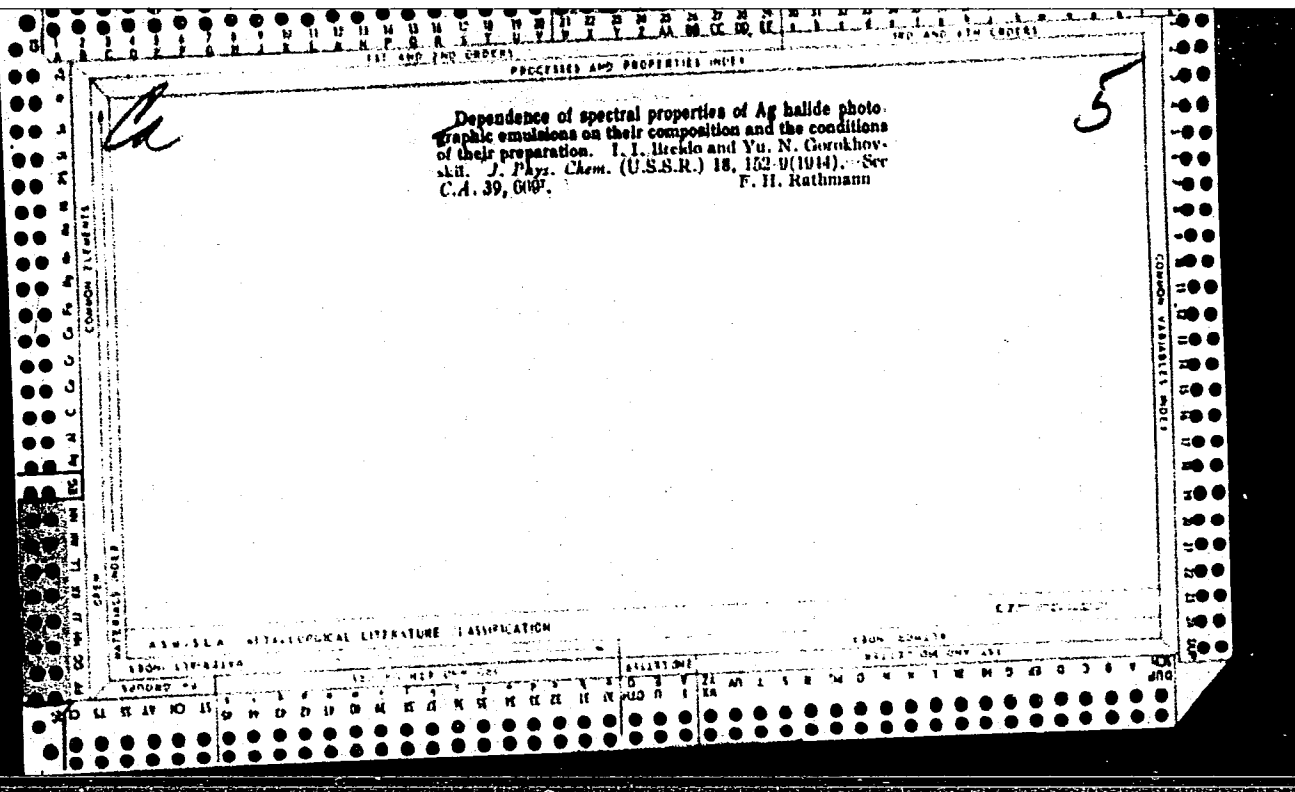
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COMMON ELEMENTS MATERIALS INDEX OPEN SIDE ELEMENTS INDEX

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BREYDO, I. I.

PA 39/49T104

USSR/Physics
Films (Photography) - Sensitivity
Light - Absorption
Apr 49

"The Nature of the Spectral Distribution of the Natural Light-Sensitivity of Silver-Halide Photographic Films," I. I. Breydo, Yu. N. Dorokhovskiy, State Opt Inst, Leningrad, 4 pp

"Dok Ak Nauk SSSR" Vol IXV, No 5

Previous experiments indicated that photochemical light-sensitivity of photographic films would increase with increasing absorption of light by the silver halide. In long-wave region of natural light-sensitivity, this actually held
39/49T104

USSR/Physics (Contd) Apr 49

turne. In ultraviolet section of spectrum, however, coefficient of absorption of silver halide increased rapidly with decrease in wave length of ultraviolet radiation, while light-sensitivity of photographic film decreased. Attempts to explain these phenomena in the spectral distribution of light-sensitivity. Submitted by Acad A. N. Terenin, 14 Jan 49.

39/49T104

BREYDO, I.I.

Optic qualities of photographic layers, and the nature of spectral distribution
of their own photo-sensitivity
Usp. nauch. fot., no.1, 1951

BREIDO, I. I.

4000

USSR

546 771.534.553 : 771.534.555
 Spectral Distribution of Light Scattered by Photographic Layers and the Influence
 of Sensitization on Resolving Power. I. I. BREIDO and P. K. PRUSS. *Zh. tekhn.
 Fiz.*, 1932, 23, 515-524.—The distribution depends on the size of the emulsion
 particles which is related to the wavelength scattered. Sensitization, by
 affecting the particle size, may vary the wavelength scattered and thus affect
 the resolving power.

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8292* Dependence of the Resolving Power of Photographic Materials on the Wave Length of the Light Acting Upon Them. (In Russian.) I. I. Brezhe and P. Kh. Pruss. *Doklady Akademii Nauk SSSR*, new ser., v. 82, Feb. 21, 1952, p. 893-896.

The resolving power of 5 emulsions for various wave lengths was determined experimentally. Data are tabulated and charted.

BREDO. 1-1

Photo

✓ Spectral distribution of dispersion of light by photographic layers and the influence of sensitization on resolving power. I. I. Breido and P. Kh. Pruss. *Voprosy Nauch. Fot. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 3, 129-40(1955). Panchromatic sensitization increases the resolving power of highly dispersed photographic materials but not that of less-dispersed materials. Eurlila Mayerle

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MST

BREYDO, I.I.

Contact determination of the resolving power of photographic materials. Usp.nauch.fot.no.4:111-116 '55. (MLRA 9:4)
(Photographics optics)

BREYDO, I. I.

Investigating the phenomena of nonreciprocity of recent
photographic plates. Izv.GAO 19 no.6:112-121 '55.
(MIRA 13:5)
(Astronomical photography--Apparatus and supplies)

BREYDO, I. I.

(Main Astronomical Observatory)

"Modern Photographic Materials," a report presented at the Conference of Commission on Astronomical Instruments Construction of the Astronomical Council, AS USSR, 10-12 Feb 56.

Sum. No. 1047, 31Aug 56

BREYDO, I.I.

Evolution of the latent photographic image in recent photographic materials. Izv.GAO 20 no.2:141-148 '56. (MIRA 13:5)
(Astronomical photography--Apparatus and supply)

BREYDO, I.I.

Requirements for photographic plates used in astronomy. Zhur. nauch.
i prikl. fot. i kin. 2 no.3:219-225 My-Je '57. (MIRA 10:6)
(Astronomical photography)

BREYDO, I.I.; MARKBLOVA, A.A.

Properties of Kodak photographic plates used in astronomical
photography. Izv.GAO 21 no.3:161-173 '58.

(MIRA 13:4)

(Astronomical photography--Apparatus and supplies)

BREYDO, I.I.

Catalog of characteristics of photographic plates used in
astronomy. Izv.GAO 20 no.5:156-167 '58. (MIRA 13:5)
(Astronomical photography--Apparatus and supplies)

AUTHORS: Breydo, I.I.; Kruglyakova, L.V. SOV-77-3-5-7/21

TITLE: The Relation of the Resolution of Small Details in the Multiple Copying to the Nature of the Operative Light Beam (Zavisimost' razresheniya melkikh detaley pri mnogokratnom kopirovaniy ot kharaktera deystvuyushchego svetovogo puchka)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 5, pp 359-362 (USSR)

ABSTRACT: The object of the study was to determine how the resolution of small details at various stages of the duplicating process was effected by replacing the white light source by ultra-violet and using a parallel copying beam instead of a diffused one. For the experiment, double-positive A, double-negative A and positive MZ photographic materials were used. The resolution of the various materials was found by the contact method, projecting a special line pattern onto them and later measuring the degree of reproduction. This was carried out in both white and ultra-violet light. The copying process went through five stages, yielding 2 intermediate positives, two duplicates and one final positive. The resolution of the pattern lines was determined in each case. It was found that the resolution of small details falls sharply

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SOV-77-3-5-7/21

The Relation of the Resolution of Small Details in the Multiple Copying to the Nature of the Operative Light Beam

during copying, particularly in the first stages. The resolution can be considerably improved by ultra-violet light instead of white and a parallel copying beam instead of a diffuse form. Further experiments showed that altering the development conditions had little effect on resolution and that the use of an ultra-violet parallel copying beam is a more effective means of improving the resolution of small details in multiple-copying than the use of special films with a high resolving power. There are 3 tables, 1 graph and 2 Soviet references.

ASSOCIATION: Leningradskiy institut kinoinzhenarov (Leningrad Institute of **Motion Picture Engineers**)

SUBMITTED: January 12, 1957

1. Photographic films--Processing results 2. Photographic films--Test results

Card 2/2

SOV/58-59-9-21633

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 9, pp 310 - 311 (USSR)

AUTHORS: Breydo, I.I., Markelova, A.A.

TITLE: Infrared Photographic Materials and Their Hypersensitization

PERIODICAL: Izv. Gl. astron. observ. v Pulkove, 1958, Vol 21, Nr 3, pp 174 - 181
(English résumé)

ABSTRACT: The article describes the results of studying infrared plates of domestic production, as well as of the Agfa and Ilford firms. Means of heightening the sensitivity of these plates are discussed. It is shown that hypersensitization by means of water or ammonia proves to be very effective in a number of cases. The article describes a laboratory method of sensitizing photographic plates to infrared rays by means of bathing them in a solution of an appropriate dye.

The authors' résumé

Card 1/1

3(1)

AUTHOR: Breydo, I.I.

SOV/33-35-4-13/25

TITLE: A Comparison of the Properties of Photographic Plates for Photographing Extended and Point Objects (Sravneniye svoystv fotoplastinok pri fotografirovani protyazhennykh i tochechnykh ob"yektov)

PERIODICAL: Astronomicheskii zhurnal, 1958, Vol 35, Nr 4, pp 634-642 (USSR)

ABSTRACT: The author found, by comparing with the results of photographic observations made with different kinds of plates with the Slusarev mirror-lense camera at Pulkovo, that the sensitometric sensitivity of plates is a satisfactory characteristic of their practical sensitivity for photographic observations of stars. The author found by photometry of several photographs with the aid of the photometer of A.V. Markov (Ref 7, 8), that the form of the astrocharacteristic curves (which give the dependence of the star image on the magnitude of the star) does not essentially depend on the properties of the plate and on the conditions of development, but mainly on the properties of the telescope objective. The author thanks D.Ye. Shchegolev and N.V. Fatchikhin for photographs.

Card 1/2

A Comparison of the Properties of Photographic Plates for Photographing Extended and Point Objects SOV/33-35-4-13/25

There are 8 figures, 3 tables, and 9 references, 6 of which are Soviet, 1 American, 1 German, and 1 Dutch.

ASSOCIATION: Glavnaya astronomicheskaya observatoriya AN SSSR (Main Astronomical Observatory AS USSR)

SUBMITTED: April 13, 1957

Card 2/2

AUTHOR: Breydo, I.I. SOV/77-4-1-12/22

TITLE: Scientific Discussion (Nauchnaya diskussiya) Remarks About Sensitometric Test of Photographic Materials Intended for Astronomy (Zamechaniya o sensitometricheskikh ispytaniyakh fotograficheskikh materialov, prednaznachayemykh dlya astronomii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 1, p 67 (USSR)

ABSTRACT: The author answers suggestions by K.V. Vendrovskiy and B.A. Shashlov on the sensitometrical testing of photographic material, especially for astronomical photography, according to GOST-2817-50 and thinks that the testing system might be corrected in the near future. In this respect he refers to the catalogue of photographic plates for spectroscopy and astronomy of the firm "Kodak." There are 2 Soviet references.

Card 1/1

23(5)

SOV/77-4-2-10/18

AUTHORS: Breydo, I.I., Markelova, A.A.

TITLE: The Influence of Triethanolamine and Ammonia Hypersensitization on the Spectral Sensitivity of Photographic Materials (Vliyaniye gipersensibilizatsii trietanolamina i ammiakom na spektral'nyu chuvstvitel'nost' fotomaterialov)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 135-136 (USSR)

ABSTRACT: The article begins with a reference to the short work also published by I.I. Breydo [Ref. 1] which stated that hypersensitization by triethanolamine did not alter the spectral sensitivity of photographic materials. However, the authors came to rather different conclusions, after having determined the spectral sensitivity of several photographic materials before and after hypersensitization by triethanolamine and ammonia.

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SOV/77-4-2-10/18

The Influence of Triethanolamine and Ammonia Hypersensitization
on the Spectral Sensitivity of Photographic Materials

The exposures made ranged from 0.05 to 90 secs., sometimes 750 secs., and were made on an ISP-73 spectrosensitometer. The results of the experiments were as follows: 1) for some types of photographic plates (e.g. Agfa Phovotechnische C Ortho) the increase of sensitivity after hypersensitization does not depend on the wavelength, and the form of the spectral sensitivity curve remains invariable; 2) for other types of plates (e.g. Agfa Astro panchromatisch, Kodak 1-M) hypersensitization proved much more effective for the region of additional sensitivity than for natural sensitivity, so that the spectral sensitivity curve changes. However increase of the effectiveness of hypersensitization with increasing exposure is the same for all λ for these materials, too; 3) only in one case (Ilford HP-3 plate) was the increase in the

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SOV/77-4-2-10/18

The Influence of Triethanolamine and Ammonia Hypersensitization
on the Spectral Sensitivity of Photographic Materials

effectiveness of the hypersensitization with increasing exposure greater for the region of natural sensitivity than for additional sensitivity; 4) hypersensitization by triethanolamine and ammonia gave analogous results; this corresponds to the data produced by Vendrovskiy and Sheberstov for white light [Ref. 2]. The authors drew the following conclusions from these results: hypersensitization by triethanolamine or ammonia can have two effects; 1) it can cause a general increase of light sensitivity over both regions: This effect is virtually non-existent at short exposures, i.e. such hypersensitization reduces the deviations from interactivity at long exposures. Increase of sensitivity is equal for all wavelengths, the effectiveness of the hypersensitization depending on the type of emulsion; 2) it can have a specific effect on certain

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types of sensitizers, leading to a considerable growth mainly of the additional sensitivity of the corresponding panchromatic and especially infra-red materials [Ref. 3]. The effectiveness of the hypersensitization varies for the regions of natural and additional sensitivity. The authors mention that the results obtained for Ilford HP-3 plates do not follow this system entirely. It is evident that in some cases the increase of sensitivity due to the first of the two effects mentioned does not extend entirely to the region of additional sensitivity. However the authors stress that in the latter case, the form of the spectral sensitivity curve will change with increased exposure in contrast to the generally held opinion [Ref. 4]. There are 4 Soviet references.

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The Influence of Triethanolamine and Ammonia Hypersensitization
on the Spectral Sensitivity of Photographic Materials.

ASSOCIATION: Glavnaya astronomicheskaya observatoriya AN SSSR (Main
Astronomical Observatory of the AS of the USSR)

SUBMITTED: December 10, 1958

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23(5) 5 (1)

SOV/77-4-2-14/18

AUTHOR: Breydo, I.I.

TITLE: Deviations from the Law of Interchangeability at Long Exposures of Modern Photographic Materials Used in Astronomy and Spectroscopy (Otkloneniya ot zakona vzaimozamestivosti pri dlitel'nykh vyderzhkakh u sovremennykh fotograficheskikh materialov, primenyayemykh v astronomii i spektroskopii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 144-148 (USSR)

ABSTRACT: The author states that, regarding problems of astrophotography, he and his colleagues have studied over several years the deviations from the law of interchangeability at long exposures in a great number of photographic plates and films of Soviet and non-Soviet production. Some of the data they produced have already been published: in the present article

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the author sums up the entire data and draws a few general conclusions. The photographic materials were subjected to varying exposures in a FSR-4 sensitometer; illumination was reduced by using neutral grey gelatin or glass (NS-10 glass was used) light filters, and was kept constant. In all cases a Chibisov metolhydroquinine developer was used at a temperature of 20° C. Figure 1 shows curves corresponding to various exposures for the films Pankrom 10 from Nr 2 factory and for Kodak OaD from which it is seen that for the former the deviation from the law of interactivity increases considerably with increased exposure while the latter shows a comparatively small general deviation. Isoopaques, corresponding to an optical density $D=1.0+D_0$, are shown for several materials (Figure 2): It is shown that for different materials the isoopaques vary both in respect of the minimum and the steepness

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of their curves. Statistical data on the light sensitivity and the contrast coefficient at various exposures are given for the most characteristic materials (Tables 1 and 2); these show that the deviations from the law of interchangeability(K) at long exposures vary from 1.8 to 21 for different materials. Table 2 shows that Nr 2 factory has succeeded in increasing the light sensitivity of their films at large exposures and reducing K at the same time. The author feels that in the face of this data it is useful to know how to control the form of the isooaque, and that the emulsion factors determining this form should be studied more thoroughly. He shows from the results in Tables 1 and 2 that with most materials γ increases in direct proportion to the exposure. Figure 3 gives a light sensitivity-development time curve for

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non-sensitized plates from Nr 2 factory exposed for (1) 0.05 secs; 2) 90 secs., which shows that the latent image centers formed at large exposures develop faster. Figure 4 shows light sensitivity - $\lg t$ curves for different periods of development of Agfa Astro plates, from which it can be seen that K increases at large exposures. The author's general conclusion from all these data is that factories should include in their film catalogues details of the light sensitivity of the film not only for one but for several exposures. There are 5 graphs, 2 tables and 14 references, 11 of which are Soviet, 1 American, 1 German, and 1 French.

ASSOCIATION: Pulkovo, glavnyy astronomicheskaya observatoriya akademii nauk SSSR (Pulkovo, Chief Astronomical Observatory of the AS USSR)

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BREYDO, I. I., SHCHEGOLEV,³ Ye.

"A Map-Scheme of the Reverse Side of the Moon."

paper presented at IAU Symposium on the Moon, Leningrad, USSR, 6-8 Dec 60.

- (1) The photographs of the reverse side of the Moon were reduced independently at the Pulkovo Observatory. The details were revealed by the projection method and only the most reliable formations noted. A map-scheme of the distribution of dark and bright objects, containing 107 details, was compiled.
- (2) The comparison of the eastern region of the scheme with photographs and maps of the visible side of the Moon showed a high degree of reliability of detection of regions with san albedo which differs from that of the surroundings (maria, flooded ring mountains, ray systems.) The detection of details of the relief is exceedingly difficult.

S/035/60/000/011/004/010
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 11,
pp. 25-26, # 11089

AUTHORS: Bryzdo, I.I., Markelova, A.A.

TITLE: m Hypersensitization of Photographic Materials by Triethanolamine

PERIODICAL: Izv. Gl. astron. observ. v Pulkove, 1960, Vol. 21, No. 4, pp. 190-
199 (Engl. summary)

TEXT: It is shown, on a great many photographic materials of various types, that hypersensitization by triethanolamine is a very effective method of increasing the photosensitivity in cases when photomaterials are exposed for a long time; it reduces deviations from interchangeability. The effectiveness of hypersensitization is different for different photomaterials. In some cases it is possible to raise the sensitivity by as much as 2 or 3 times. Hypersensitization affects only slightly the contrast coefficient. A comparison of the effect of hypersensitization by triethanolamine and ammonia shows that the nature of their action is similar. Spectral sensitivity curves of some photomaterials do not change after hyper-

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On Hypersensitization of Photographic Materials by Triethanolamine
sensitization; in other materials the preferential effect of hypersensitization
is observed in the region of additional sensitivity leading to changes in the
shape of the curves.

On the basis of authors summary

Translator's note: This is the full translation of the original Russian abstract.

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S/560/61/000/009/001/009
D045/D114

AUTHORS: Breydo, I. I., Markelova, A. A., and Shchegolev, D. Ye.

TITLE: The identification of authentic objects on the Moon's far side by the first photographs taken of this side

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. No. 9, Moscow, 1961, 30-40

TEXT: The study was conducted to identify authentic details on the first photographs of the Moon's far side taken on October 7, 1959 by the automatic interplanetary station, to determine their selenographic coordinates, and on this basis to compile a map of the Moon's far side with an approximate distribution of the brightness of the revealed details. For this purpose, contact positives from negatives obtained by telerecording pictures of the Moon's far side, double-negatives obtained from the same negatives, and prints of pictures obtained from a magnetic tape were used. These prints were enlarged approximately 10 times. Lenses with focal lengths of 200 and 500 mm. had been used for taking the pictures. The coordinates of

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The identification of authentic objects ...

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the details of the lunar surface were determined by using the known coordinates of the automatic station at the moment of photographing, and calculating and tracing a network of selenographic coordinates in the external perspective projection. The terminator line, calculated according to the selenographic coordinates of the Sun at the moment of observation, was plotted onto the network, and the angle of phase determined. The network copied and printed on diapositive plates was superimposed on a set of prints designed for determining the coordinates of the details of the Moon's far side. The diameter of the Moon's disk on these prints was 20 cm. A map-chart of the Moon's far side showing the approximate distribution of brightness of the revealed details is included. It is accompanied by a table in which all objects and details marked on the map are described as to their color and form. The map-chart was compared with maps and atlases of the visible side of the Moon and the border zones on the chart with photographs contained in the atlas of the Likskaya observatoriya (Likskaya Observatory). Since almost all the details plotted on the map-chart actually seemed to exist, it was assumed that the objects on the Moon's far side, plotted on the map-chart according to photographs taken by the automatic station, were authentic.

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