

BRODSKIY, V., inzh.

Self-dumping tractor train for peat transportation. Avt.
transp. 40 no.3:34 Mr '62. (MIRA 15:2)
(Peat-Transportation)

BRODSKIY, V.

Special-purpose vans. Avt.transp. 40 no.5:45 My '62.

(MIRA 15:5)

(Motortrucks--Bodies)

BRODSKIY, V. CHELNOKOV, V.

Organization of the work of the central dispatcher service in Riga.
Avt.transp. 42 no.1:13-15 Ja '64. (MIRA 17:2)

BRODSKIY, V.A. (Rostov-na-Donu)

Melanomas of the nervous system. Vop.neirokhir. 23 no.4:
39-41 JI-Ag '59. (MIRA 12:10)

1. Kafedra nervnykh bolezney i neyrokhirurgii Rostovskogo-na-Donu gosudarstvennogo meditsinskogo instituta.

(BRAIN NEOPLASMS, case reports,
melanoma (Rus))

(MELANOMA, case reports,
brain (Rus))

BELYANCHIKOV, V.N., redaktor; LYADEYEV, A.P., redaktor; BRODSKIY, V.A.,
redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor

[Catalog of principal parts of the SE-3 excavator] Katalog osnov-
nykh detalei ekskavatora SE-3. Moskva, Gos. nauchno-tekhn. izd-vo
mashinostroit. lit-ry, 1955. 70 p. (MLRA 8:7)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'nogo i dorozh-
nogo mashinostroyeniya.
(Excavating machinery)

LYADEYEV, A.P., redaktor; BRODSKIY, V.A., redaktor; AKIMOVA, A.G., redaktor
izdatel'stva; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Catalog of spare parts for B-t05A and B651 excavators] Katalog
zapasnykh chastei ekskavatorov B-505a i 3-651. Moskva, Gos. nauchno-
tekh. izd-vo mashinostroit. lit-ry, 1956. 103 p. (MLRA 9:10)

1. Vsesoyuznaya tekhnicheskaya kontora "Soyuzstroimekhzapchast'."
(Excavating machinery)

~~BRODSKIY~~ V.A., inzh., red.; LYADEYEV, A.P., red.; TIKHANOV, A.Ya.,
tekh.red.

[Catalog of spare parts for the E-153 excavator] Katalog zapasnykh
chastei ekskavatora E-153. Moskva, Gos.nauchno-tekh.nzd-vo
mashinostroit.lit-ry, 1957. 62 p. (MIRA 11:1)

1. Vsesoyuznaya Tekhnicheskaya Kontora "Soyuzstroimekhzapchast'."
(Excavating machinery)

LYADEYEV, A.P., redaktor; ~~BRODSKIY, V.A., redaktor~~; MODEL', B.I.,
tekhnicheskiiy redaktor

[Catalog of spare parts for E-258 and E-301 excavators] Katalog
zapasnykh chastei ekskavatorov E-258 i E-301. Moskva, Gos.nauchno-
tekhn. izd-vo mashinostroit. lit-ry, 1957. 96 p. (MLRA 10:10)

1. Vsesoyuznaya tekhnicheskaya kontora "Soyuzstroimekhzapchast' "
(Excavating machinery)

TANDILOVA, K.B.; BRODSKIY, V.A.

Wall bricks made with dolomite lime. Stroim. mat. 5 no.12:27-28
D '59. (Bricks) (Lime) (MIRA 13:3)

RAYKHLIN, N.T.; IVANOVA, S.N.; BRODSKIY, V.Ya.

Histochemical study of the enzymes in the diploid and polyploid cells of the liver. Biul. eksp. biol. i med. 59 no.6:110-113
Je '65. (MIRA 18:6)

1. Kabinet gistokhimii (zav. - kand. med. nauk N.T. Raykhlin),
otdel patomorfologii (zav. - deystvitel'nyy chlen AMN SSSR prof.
N.A. Krayevskiy) Instituta eksperimental'noy i klinicheskoy onko-
logii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin)
AMN SSSR i laboratoriya tsitologii (zav. - kand. biolog. nauk
V.Ya. Brodskiy) Instituta morfologii zhivotnykh (ispcinyayushchiy
obyazannosti direktora - prof. M.S. Mitskevich) AN SSSR, Moskva.

PROCESSES AND PROPERTIES INDEX

SA B 66

621.396.611.4 - 62 2912

Coupling of cavity resonators through small orifices. Brodski, V. B.
 Bull. Acad. Sci. URSS, Ser. Phys., 10 (No. 1) 17-22 (1946) In Russian.
 It is assumed that the coupling orifice is very small compared with λ ,
 and that the field distribution of standing waves is affected only in its
 immediate neighbourhood. Maxwell's equations are applied, and the results
 shown to correspond to Kirchhoff's equations for coupled tuned circuits.
 The physical interpretation suggests that maximum coupling is achieved
 when the magnetic field vectors on the surfaces around the orifice are
 parallel. A. L.

METALLURGICAL LITERATURE CLASSIFICATION

BRUBERLY, V. B., GOTSWY, B. S., and TORDAN, H. G.

"Application of Radioisotopes to Control Technological Processes,"
a paper presented at the Atoms for Peace Conference, Geneva, Switzerland,
1955

JORDAN, G.G.; ERODSKIY, V.B.; SOTSKOV, B.S.

[Using radioactive isotopes for controlling technological processes] *Primenenie radioaktivnykh izotopov dlia kontrolya tekhnologicheskikh protsessov. Moskva, 1955. 17 p.*

(MIRA 14:7)

(Radioisotopes—Industrial applications)

BRODSKIY, V.B.

Radioactive technique for measuring vacuum. Priborostroenie no.7:
8-13 J1 '56. (MLRA 9:8)
(Vacuum--Measurement) (Ionization chambers)

BRODSKIY, V. B.

"Automatic Control of Liquid Level by the Method of Reflected Radio Waves," by V. B. Brodskiy, Priborostroyeniye, No 11, Nov 56, pp 1-4

The article describes the construction and operation of the UKVUN-1 gage for measuring liquid level, which is based on the measurement of the phase difference between the incident and reflected radio wave. The comparison of phases is carried out with the aid of an automatic device which registers the positions for the minimal disturbance of the standing wave, resulting from the superposition of incident and reflected radio waves.

The UKVUN-1 gage consists of an ultrashort wave transducer and a measuring and registering device.

The accuracy of the level measurements is about 1.5%, and the level fluctuation range is 800 mm. The device operates on a frequency of 50 Mc and is best adapted for measuring the level of liquids having a high dielectric constant.

Sum 1274

SOV/112-59-1-1276

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1, p 171 (USSR)

AUTHOR: Brodskiy, V. B.

TITLE: High-Frequency Ferrite Application in an Automatic Control of the Proportional Flow of Two Liquids

PERIODICAL: Tr. 1-y Mezhvuzovsk. konferentsii po sovrem. tekhn. dielektrikov i poluprovodnikov, 1956, L., 1957, pp 408-409

ABSTRACT: A device using high-frequency ferrites is suggested for automatic control of the proportional flow of two liquids. Centimeter radio waves, amplitude-modulated at a low frequency, are fed from the oscillator G (see Fig.) into two waveguides which are immersed into the reservoirs V₁ and V₂; an automatic flow controller APP is installed on one of the reservoirs. The radio wave from the oscillator is applied to the ferrite insulator FI and passes into the waveguide 1. Reflected by the liquid, the wave passes through FI to 3 of the cross waveguide CB and passing through the ferrite valve FB1 is

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SOV/112-59-1-1276

High-Frequency Ferrite Application in an Automatic Control of the Proportional

absorbed in the ferrite valve FB2. The same phenomena occur with the other wave fed into the reservoir V_2 . In the waveguide section between FB1 and FB2, both waves combine and form a standing wave. Its node depends on the relative positions of the liquid levels which is sensed by a differential detector DCC. When the level deviates from its zero position (?), a low-frequency signal appears on DCC; this signal is fed via the amplifier Y to the APP. The expected accuracy of the device is better than the accuracy of other similar devices by 1 or 2 orders of magnitude. One illustration.

I. Ya. S.

(Translator's note: It is evident that a blueprint of the instrument, not the actual instrument, is described.)

Card 2/2

BRODSKIY, V.B.; NIKITSKIY, A.N.; PAVSHUK, I.S.

Compensating the drift of electrical length of cables in the UKVUM
instrument. Priborostroenie no.5:7-8 My '57. (MIRA 10:6)
(Electric circuits) (Measuring instruments)

BRUDSKIY, V. B.

AUTHOR
TITLE

BRODSKIY V.B.

Automatic Control of a Liquid Level by Means of the Phase Method Using Ultrashort Waves.

(Avtomaticheskii kontrol' urovnya zhidkosti fazovym metodom na ultrakorotkikh volnakh-Russian)

PERIODICAL
ABSTRACT

Avtomatika i Telemekhanika, 1957, Vol 18, Nr 7, pp 640-652 (U.S.S.R.)

The author gives the theory of the method and shows that the use of transition transformers and of a dielectric charge in the instrument leads make it possible to carry out measurements of the liquid level within a range which can be essentially greater (or smaller) than that in which the minimum of the steady wave is displaced. The author concludes as follows from his investigation:
1. The advantage of an automatic level control by means of a reflexion of radio waves consists of the fact that it is thus possible to carry out the level control of aggressive media which exist in technological spaces difficult to approach (through which γ -rays cannot penetrate) if the movable parts in the transmitter are lacking. 2.- A decrease of the displacement range of the minimum of the steady wave in the instrument leads in comparison to the level-displacement range can be reached by the charging of the instrument leads with a dielectricum as well as by means of the use of a transition transformer between the instrument leads and the cable. 3.- The error of this method can be reduced to the error of fixing a minimum in the instrument leads which for the experi-

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Automatic Control of a Liquid Level by Means of the Phase Method Using Ultrashort Waves. 103-7-5/11

mental construction is $\sim 0,5\%$ if the value of the electric parameters of the liquid remains unchanged. 4.-Other additional errors are introduced which are, however, very small. In addition the limits of the use of this method are shown; the errors of the method remain unchanged for modern dielectrics as long as the level control range does not exceed 10 m. (3 illustrations and 4 Slavic references).

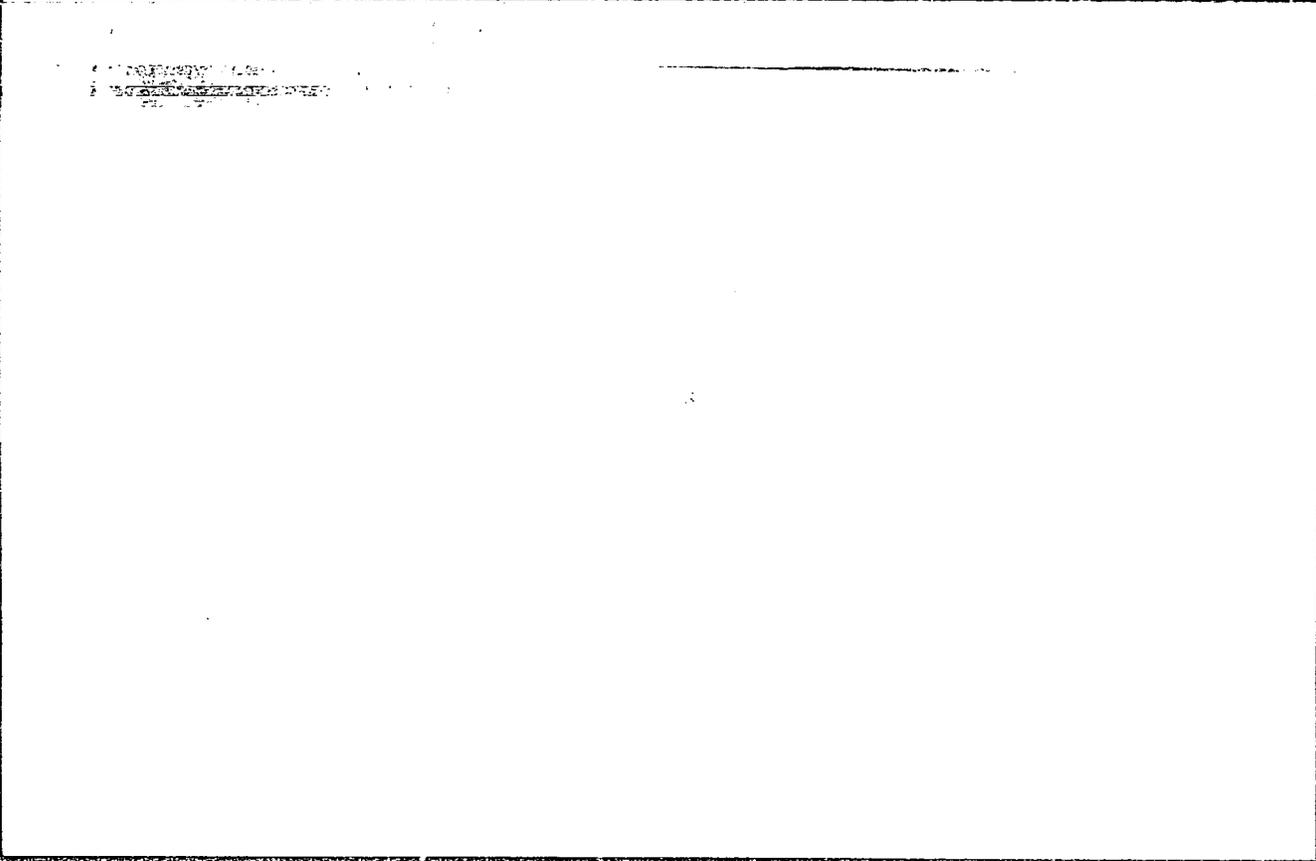
ASSOCIATION Not Given.
PRESENTED BY
SUBMITTED 12.9.1956
AVAILABLE Library of Congress.
Card 2/2

MEASUREMENTS & TEST GEAR

"Automatic Control of Liquid Level by Means of Detection of the Phase of UHF Waves," by V. B. Brodskiy, Avtomatika i Telemekhanika, No 7, July 1957, pp 640-652.

The theory of the method is developed and it is shown that the use of transition transformers and dielectric filling in the measuring line makes it possible to measure a liquid level over a range that may be considerably larger (or smaller) than the range over which the minimum of the standing wave is shifted.

The errors of the method are analyzed and the limits of its applicability are estimated.



AUTHOR: Brodskiy, V.B.

109-3-5-5/17

TITLE: The Problem of Wave Propagation in Waveguides Filled with a Medium Having Variable Permittivity and Permeability
(K voprosu o rasprostraneni voln v volnovodakh, zapolnennykh sredoy s peremennymi dielektricheskoy i magnitnoy pronitsayemostyami)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol III, Nr 5, pp 628 - 633 (USSR)

ABSTRACT: A regular waveguide filled with a medium whose permittivity and permeability are the functions of co-ordinates is considered. The medium is assumed to be limited by a surface S . The Maxwell equations for the system can be written as Eqs.(4), where \vec{j} and r are expressed by Eqs.(5). Eqs.(4) should fulfil the boundary condition expressed by Eq.(3), where $E_t | S_B$ is the tangential component of the electric field at the surface waveguide. The current densities \vec{j}_e and \vec{j}_m should satisfy the continuity equation. The first pair of Eqs.(4) represents the fields in an empty waveguide when subjected to the action of the currents expressed by Eqs.(5); the solution of Eqs.(4) can be written in terms of the eigen

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109-3-5-5/17

The Problem of Wave Propagation in Waveguides Filled with a Medium Having Variable Permittivity and Permeability

waves for a non-filled waveguide. By employing the method proposed by Vaynshteyn (Ref.1), the transverse field components $\vec{E}(t)$ and $\vec{H}(t)$ for the space "filled" with the currents can be expressed by:

$$\vec{E}(t) = \sum_q (C_q \cdot \vec{E}_q(t) + C_{-q} \cdot \vec{E}_{-q}(t)) + \vec{E}_p(t) \quad (6)$$

$$\vec{H}(t) = \sum_q (C_q \cdot \vec{H}_q(t) + C_{-q} \cdot \vec{H}_{-q}(t)) + \vec{H}_p(t)$$

where $\vec{E}_q(t)$, $\vec{H}_q(t)$ and $\vec{E}_{-q}(t)$, $\vec{H}_{-q}(t)$ are the transverse

components of the electric and magnetic fields of the eigen waves (for an empty waveguide), q denotes the waves propagating in the positive direction of the Z-axis and $-q$ corresponds to the waves propagating in the negative direction. The coefficients C_q and C_{-q} are expressed by Eqs.(7), in

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109-3-5-5/17

The Problem of Wave Propagation in Waveguides Filled with a Medium Having Variable Permittivity and Permeability

which V_1 is the volume between the cross-section z and z_2 (see the figure on p.629); N_q is the normalising coefficient which is expressed by Eq.(8), where S_p is the area of the cross-section of the waveguide and \vec{l} is a unit vector in the direction of the axis z . It is shown that the coefficients C_q and C_{-q} can also be expressed by Eqs.(17), where the coefficients \vec{W} are given by Eqs.(18) and (19), in which $E^{(i)}$ and $H^{(i)}$ are the longitudinal field components. The final system of the waveguide equations is expressed by Eqs.(20), which should fulfil the boundary conditions expressed by Eqs.(21). For the portion of the waveguide unoccupied by the medium, the field equations are in the form of expressions (22). A similar analysis is carried out for cavity resonators which are filled with a medium having variable ϵ and μ . The fields in the resonator are expressed in terms of solenoidal components and potential fields (see Eqs.(24)). The solenoidal components can be expressed by Eqs.(26), in which \vec{E}_q and \vec{H}_q

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109-3-5-5/17

The Problem of Wave Propagation in Waveguides Filled with a Medium Having Variable Permittivity and Permeability

are the eigen field components for an unoccupied resonator and the coefficients A_q and B_q can be expressed by Eqs.(27). Final expressions for A_q and B_q are in the form of Eqs.(31) and (32). The potential fields can be found from Eqs.(35). The author makes acknowledgment to B.Z. Katsenelenbaum for his interest in this work. There are 1 figure and 2 Soviet references.

SUBMITTED: March 5, 1957

AVAILABLE: Library of Congress

Card 4/4 1. Waves-Propagation-Theory

BRODSKIY, V.B.

Concerning V.B.Brodskii's article "Problems concerning wave propagation in wave guides containing a medium with variable permeability and specific inductive capacitance." Radiotekh. i elektron. 7 no.10:1845 0 '62. (MIRA 15:10)

(Wave guides)

(Brodskii, V.B.)

BRODSKIY, V. B.

AID Nr. 980-19 31 May

RF-BEAM SONING OF PLASMOIDS (USSR)

Brodskiy, V. B., B. M. Belitskiy, S. Ye. Zagik, V. A. Lyutomskiy, and
A. V. Spiridonov. Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, Apr 1963, 419-
425.
S/057/63/033/004/009/021

Simultaneous exposure of plasmoids to several focused rf beams placed in the plane normal to the direction of motion of the plasmoids was used to determine electron concentration in moving plasma. The method has a limiting resolving power of the order of a wavelength and is suitable for plasmas with electron concentrations of 10^{13} electrons/cm³ and over. Plasmoids were generated by a pulse-type coaxial plasma gun; rf beams had wavelengths of 8 mm and, in some cases, 3 cm. The plasma gun was 50 mm in diameter, 200 mm in length; the quartz tube was 100 mm in diameter. The results of measurements showed that at a distance of 100 cm from the gun plasma fills the entire tube; at about 150-200 cm from the gun, a larger plasmoid is preceded by a smaller one, the first

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AID Nr. 980-19 31 May

RF-BEAM SOUNDING OF PLASMOIDS (Cont'd)

S/057/63/033/004/009/021

traveling at 10^7 cm/sec, the second at twice this speed. The space between them is filled with plasma having an electron concentration between 10^{12} and 10^{13} electrons/cm³. At 300 cm from the gun, the plasmoids disintegrate substantially and are estimated to have an approximate lifetime of 30 μ sec. [JA]

(Oscillography)
(Plasma-Ionized gases)

Card 2/2

BRODSKIY, V.B.

AID Nr. 975-5 23 May

RADIO SOUNDING OF PLASMA MOVING AGAINST ELECTRODYNAMIC
ACCELERATION IN A COAXIAL ACCELERATOR (USSR)

Brodskiy, V. B., Ye. M. Belitskiy, A. T. Voronchev, N. V. Konyakhin,
and Yu. N. Starostin. Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, 1963, ...
426-... S/057/63/033/004/010/021

The relationship existing in a plasma between number of charged particles ejected both in and against the direction of electrodynamic acceleration has been evaluated to analyze processes occurring in a coaxial accelerator. A method is described for using two different wavelengths ($\lambda_1 = 0.8$ cm and $\lambda_2 = 3$ cm) simultaneously, by which the relationship between these quantities can be obtained. It was found that a plasmoid with a concentration of at least $n_1 > 10^{13}$ electrons/cm³ was moving in the direction of electrodynamic acceleration. The time it took for the plasmoid to cross the beam was

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AID Nr. 975-5 23 May

RADIO SOUNDING OF PLASMA [Cont'd]

S/057/63/033/004/010/021

$\tau_1 = 80 \mu\text{sec}$. A plasmoid with a concentration $n_2 \approx 10^{12}$ electrons/cm³ was moving in the reverse direction. Its time of crossing was $\tau_2 = 40 \mu\text{sec}$. Velocities of the plasmoid fronts moving in the direction of electrodynamic acceleration and against it were $V_1 = 10^7$ cm/sec and $V_2 = 4 \cdot 10^6$ cm/sec, respectively. Consequently, the relationship between the quantity of charged particles in plasmoids has the following form:

$$\frac{V_2 n_2 \tau_2}{V_1 n_1 \tau_1} \approx 0.02.$$

[KM]

(Oscillography) (Plasma - Doped gases)

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L 11388-65

ACCESSION NR: AP4044679

the first type the radiating system consisted of four open-end waveguides which made it possible to form identical radiation patterns in both the vertical and horizontal planes. Three of the

radiating elements were arranged in a line and the fourth was placed at the center of the line. The distance between the radiating elements was 1/4 wavelength. The radiating elements were arranged in a line and the fourth was placed at the center of the line. The distance between the radiating elements was 1/4 wavelength. The radiating elements were arranged in a line and the fourth was placed at the center of the line. The distance between the radiating elements was 1/4 wavelength.

Cont. 2/2

REF ID: A66000

ACC NR: AP6013118 SOURCE CODE: UR/0057/66/036/004/0640/0642

AUTHOR: Brodskiy, V.B.; Zagik, S.Ye.; Lyutomskiy, V.A. 76
72
E

ORG: none

TITLE: Measurement of the recombination coefficient of xenon in decaying plasmas

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 4, 1966, 640-642

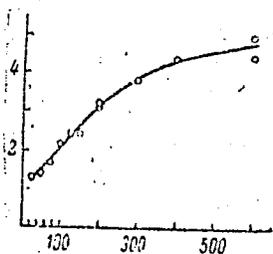
TOPIC TAGS: xenon, recombination coefficient, plasma decay, microwave,

ABSTRACT: The authors have measured the recombination coefficient of xenon at pressures from 20 to 600 mm Hg by following the decay of plasmas produced in a glass vessel by gamma rays from 5 μsec pulses of 1 MeV electrons on a lead target. The plasma decay was observed with the aid of a 10⁹ Hz klystron-type microwave resonator made of thin wires and mounted within the vessel. Ambipolar diffusion to the wires composing the resonator was negligible at the xenon pressures employed. That the electron temperature equilibration time was short compared with the lifetime of the plasma was evinced by the linear relation found between the reciprocal of the plasma density and the time of decay. Spectroscopically pure xenon was employed, and it was subjected to further purification in porous copper at 300°C and was dried in KOH and P₂O₅; it presumably contained less than 10⁻⁵% oxygen. The results of the measurements are shown in the figure, where 10⁶ times the recombination coefficient in cm³/sec is plotted on the vertical axis against the pressure in mm Hg on the horizontal axis.

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UDC: 533.922

ACC NR: AP6013118



The authors thank P.Ya. Glazunov, N.I. Vitushkin, A.N. Khatutskiy, and V.Ya. Khuyakov for great assistance with the measurements. Orig. art. has: 2 formulas and 3 figures.

Recombination coefficient v. pressure

SUB CODE: : 20

SUBM DATE: 15 Jun 65

ORIG. REF: 002

OTH REF: 001

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ZWI (1) / EWI (m) / EWF (t) / EII IJP (c) AT / JD

ACC NR: AP6013123 SOURCE CODE: UR/0057/66/036/004/0672/0678

AUTHOR: Brodskiy, V.B.; Zagik, S.Ye. 73
68
B

ORG: none

TITLE: Measurement of the attachment coefficient of thermal electrons in oxygen and air 27

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 4, 1966, 672-678

TOPIC TAGS: plasma decay, air, oxygen, microwave, electron attachment

ABSTRACT: The authors have measured the attachment coefficients of electrons in oxygen at 3 to 30 mm Hg and in ar at 15 to 150 mm Hg by following the decay of room temperature plasmas by a microwave technique. The plasmas were produced in a section of waveguide by 5 μsec pulses of 1 MeV electrons. H₁₁ waves at 10⁹ Hz were excited at one end of the waveguide section, and from their attenuation while traversing the waveguide, the electron concentration was calculated. Beginning of the measurements was delayed for a suitable time after termination of the electron pulse to permit thermalization of the electrons. A large part of the paper, including a mathematical appendix, is devoted to a discussion of thermalization of the electrons and the contribution of other processes than attachment to the change of the electron concentration. It is concluded that under the conditions of the experiment the change of the electron

Card 1/2 UDC: 533.922

ACC NR: AP6013123

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concentration during decay of the plasmas was due practically entirely to attachment. The attachment coefficients increased less rapidly than linearly with increasing pressure from about 4×10^{-13} cm³/sec at the low pressure end of the investigated pressure range to about 12×10^{-13} cm³/sec at the high pressure end of the range. The attachment coefficients were some 20-40% lower in oxygen than in air at pressures corresponding to the same oxygen concentration. The fact that the rate of increase of the attachment coefficient with increasing pressure was less at high pressures than at lower pressures speaks in favor of the attachment mechanism proposed by N.E. Bradbury (Phys. Rev., 44, 883, 1933). The authors thank P.Yu. Glazunov, V.A. Lyutomskiy, N.I. Vitushkin, A.M. Khatutskiy, and V.Yu. Khudyakov for assisting with the measurements. Orig. art. has: 23 formulas and 3 figures.

SUB CODE: 20 SUBM DATE: 15Jun65 ORIG. REF: 006 OTH REF: 007

Card 2/2 CC

"APPROVED FOR RELEASE: 08/22/2000

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APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000307010006-4"

ПРОСПЕКТЫ

PROBST, Abram Yefimovich, prof., doktor ekonomicheskikh nauk,; ALEKSANDROVA, Antonina Ivanovna,; BRODSKIY, Viktor Borisovich,; OVSYANNIKOV, Vasilii Ivanovich,; ROZENTRETER, Avenir Borisovich,;

[Prospects for developing the production of cast iron in electric furnaces in the eastern part of the U.S.S.R. (Eastern Siberia and the Far East). Perspektivy razvitiia vyplavki chuguna v elektricheskikh pechakh na Vostoke SSSR (Vostochnaia Sibir' i Dalnii Vostok). Moskva, Izd-vo Akad. nauk SSSR, 1958. 151 p. (MIRA 11:12)

(Far East--Cast iron)
(Siberia, Eastern--Cast iron)

BARDIN, I.P., akademik, otv.red.; STRUMILIN, S.G., akademik, red.; SHEVYAKOV, L.D., akademik, red.; SHCHERBAKOV, D.I., akademik, red.; ANTIPOV, M.I., red.; BELYANCHIKOV, K.P., red.; BRODSKIY, Y.B., red.; YEROFEYEV, B.N., red.; LIBERMAN, A.Ya., red.; MELESHKIN, S.M., red.; ORIOV, I.V., red.; SMIRNOV-VERIN, S.S., red.; RIKMAN, V.V., red.; SAMARIN, A.M., red.; SLEDZYUK, P.Ye., red.; SKOBNIKOV, M.L., red.; SOKOLOV, G.A., red.; FREY, V.I., red.; KHLEBNIKOV, V.B., red.; SHAPIRO, I.S., red.; SHIRYAYEV, P.A., red.; KUDASHEV, A.I., red.isd-va; KUZ'MIN, I.F., tekhn.red.

[Magnetite ores of the Kustanay Province and their exploitation]
Magnetitovye rudy Kustanaiskoi oblasti i puti ikh ispol'zovaniia.
Otvetsstvennyi red. I.P. Bardin. Moskva, Izd-vo Akad. nauk SSSR,
1958. 489 p. (Zhelezorudnye mestorozhdenia SSSR). (MIRA 12:2)

1. Russia (1923- U.S.S.R.) Ministerstvo geologii i okhrany neдр.
(Kustanay Province--Magnetite)

BRODSKIY, V. B., (Candidate of Economic Sciences)

"Prospects of Development of Electric blast furnace Production in
the East of the USSR (Eastern Siberia and the Far East)".

for this work author received award by the Academy of Sciences of the USSR, 1957.
Priroda, No. 2, 1958. pp. 113-114.

BRODSKIY, V. D.

PHASE I BOOK EXPLOITATION

SOV/5323

Banny, Nikolay Pavlovich, Viktor Borisovich Brodskiy, Iosif Grigor'yevich Gorelik, Yakov Antonovich Oblomskiy, Vyacheslav Viktorovich Rikman, and Lazar' Nisonovich Roytburd

Ekonomika chernoy metallurgii SSSR (Economics of Ferrous Metallurgy in the USSR) Moscow, Metallurgizdat, 1960. 566 p. Errata slip inserted. 5,700 copies printed.

Eds. (Title page): I. P. Bardin, Academician (Deceased), Ya. A. Oblomskiy, Docent, and V. V. Rikman, Docent. Ed. of Publishing House: Ye. S. Khutorskaya; Tech. Ed.: A. I. Karasev.

PURPOSE : This textbook is intended for students at metallurgical schools of higher education, in divisions of metallurgy at schools of higher technical education, and at engineering and economic schools of higher technical education. It may also be useful to engineering, technical, planning, and economic personnel in scientific, economic, and planning bodies, and in industry.

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Economics of Ferrous Metallurgy (Cont.)

SOV/5323

COVERAGE: The book discusses the role of ferrous metallurgy in the Soviet national economy. Principal laws of the development of ferrous metallurgy, the organization of management, planning principles, and problems of raw-material and fuel-and-power supply bases are examined. Considerable attention is given to the problem of technical progress and its effect on the economics of blast-furnace, steelmaking, and rolling production. The development of ferrous metallurgy in the Soviet Union, capitalist countries, and People's Democracies is briefly described. The introduction and Chs. 13,14, and 15 were written by Ya. A. Oblomskiy, Candidate of Economic Sciences, Docent, Moskovskiy gosudarstvennyy ekonomicheskij institut (Moscow State Institute of Economics); Chs. 1,2,3,4,11 (Sections 3,4, and 5), and 12, by I. G. Gorelik, Candidate of Economic Sciences, Docent, Moskovskiy inzhenerno-ekonomicheskij institut (Moscow Institute of Engineering Economics); Chs. 5,20,21, and 22, by L. N. Roytburd, Doctor of Economic Sciences, Professor, Moscow Institute of Engineering Economics; and Chs. 6,9, 11 (Sections 1 and 2), 18, 19,23, and 24, by N. P. Banny, Candidate of Economic Sciences, Docent, Moskovskiy institut stali (Moscow

Card 2/16

Economics of Ferrous Metallurgy (Cont.)

SOV/5323

Steel Institute) V. V. Rikman, Candidate of Economic Sciences, Docent, Moscow Steel Institute, and V. B. Brodskiy, Candidate of Economic Sciences, Gosudarstvennyy institut proyektirovaniya metallurgicheskikh zavodov (State Institute for the Design and Planning of Metallurgical Plants), wrote Chs. 7, 8, and 17 and Chs. 10 and 16, respectively. According to the Foreword, the book is based on Soviet and non-Soviet materials. The authors thank the Department of the Economics and Organization of Ferrous Metallurgy Enterprises of the Ural Polytechnic Institute, directed by A. S. Osintsev, Doctor of Economic Sciences, Professor, and L. I. Ulitskiy, Doctor of Economic Sciences, Professor. There are no references.

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1. Present level and prospective development of heavy industry in the USSR	9
Card 3/16	

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22 no.3:270-274 Mr '62. (MIRA 15:3)

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The organ and the cell. Some cytological and histological
problems. Analele biol 16 no.5:78-109 S-0 '62.

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ekz. 2r. 50k.--na latysh. yâ2.- (55-661)

656.13: 658.5

SO: Knizhuaya Letopis', Vol. 7, 1955

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DIMASHKO, A.D.; BRODSKIY, V.I.

Air hydraulic pressure accumulator. Ugol' Ukr. 3 no.8:34 Ag '59.
(MIRA 12:12)

1.Zavod im. 15-letiya Leninskogo kommunisticheskogo soyuza molodezhi
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(Hoisting machinery--Hydraulic driving)

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Automation of turbine heat emission. Elek. sta. 34 no.10;
30-33 0 '63. (MIRA 16:12)

BRODSKIY, V.L., inzh.

Turbines with normally decreased vacuum. Elek. sta. 36 no.1:
29-32 Ja '65. (MIRA 18:3)

BRODSKIY, V.M.

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in semiordered nonnormalized spaces. Sib. mat. zhur. 5 no. 2:
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(Refrigeration and refrigerating machinery)

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Automatic control of the operation of heaters in ventilation and
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(Air conditioning)

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AGAFONOVA, L.I., inzh.; BRODSKIY, V.N., inzh.; MIKHAYLOV, S.A., inzh.

Controlling the "dew-point" temperature in double-ventilator
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(MIRA 18:2)

GONCHARENKO, D.T., kand.tekhn.nauk; BRODSKIY, V.Sh., inzh.; DROZDOV, V.L.,
inzh.; NOVIKOV, Yu.A., inzh.

Scraper plows for coal mining. Mekh. i avtom.proizv. 19 no.3:14
Mr '65. (MIRA 18:4)

GONCHARENKO, D.I., kand. tekhn. nauk; DROZDOV, V.L., inzh.; NOVIKOV, Yu.A.,
inzh.; BRODSKIY, V.Sh., inzh.; KOZLOV, M.D.; GLUSHAKOV, V.A.

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sudden ejections of coal and gas in the Vostochnaya Mine.
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Donetskugol' (for Glushakov).

GONCHARENKO, D.I., kand.tekhn.nauk; DROZDOV, V.L., inzh.; NOVIKOV, Yu.A., inzh.;
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Goncharenko, Drozdov, Novikov, Brodskiy). 2. Upravlyayushchiy
trestom Proletarskugol' (for Petrenko). 3. Glavnyy inzh. shakhty
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DUSHCHINSKAYA, Aleksandra Georgiyevna; SYUDAROVA, Emma Petrovna;
KAZACHENOK, V., red.; KALECHITS, G., tekhn. red.

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1961. 343 p. (MIRA 15:1)
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BRODSKIY, Vitaliy Vladimirovich; VOLUZNEV, Anatoliy Grigor'yevich;
DUSHCHINSKAYA, Aleksandra Georgiyevna; SYUBAROVA, Emma
Petrovna; LAZARCHIK, K., red.; ZEN'KO, M., tekhn. red.

[Concise manual for the fruit grower]Kratkii spravochnik sa-
dovoda. [By]V.V.Brodskii i dr. 3., ispr. i dop. izd. Minsk,
Gos.izd-vo sel'khoz.lit-ry BSSR, 1962. 353 p. (MIRA 16:3)
(Fruit culture)

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Phase-contrast microscopy, its possibilities and application in normal and pathological histology. Usp. sovrem. biol. 33 no.2: 305-316 Mar-Apr 1952, (GML 22:2)

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(translation does not include illustrations).

ROSKIN, G.I.; BRODSKIY, V.Ya.

Nucleotides and nucleic acids in protozoan cell. Doklady Akad. nauk
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1. Presented by Academician A. I. Oparin 21 February 1953. 2. Moscow
State University imeni M. V. Lomonosov.

BRODSKIY, V. Ya.
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Cytology of experimental exudates; observations of live cells with
a phase-contrast microscope. Izv. AN SSSR. Ser. biol. no. 6:33-37
K-D '54. (MLRA 8:3)

(EXUDATES AND TRANSUDATES,
microscopy, phase-contrast)
(MICROSCOPY, PHASE,
of exudates)

BRODSKIE, V. YA.

(3)

Determination of tyrosine and tryptophan in protein solutions and in tissue slices by means of altered absorption spectra in the ultraviolet. V. Ya. Brodskii and I. M. Lunafenko (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 95, 313-16 (1954).—Treatment of pure aq. solns. of various amino acids with 0.2% HNO₃ (NaNO₂ soln. treated with AcOH) results in alteration of spectra of only the aromatic acids after 1.5 hrs. at 40°. The treatment results in a new max. at 310 m μ for tryptophan with displacement of the original max. to 270 m μ ; tyrosine shows a new max. at 300 m μ while the first one shifts to 265 m μ ; phenylalanine shows a small change with a weak max. at 350 m μ . If 1% HNO₃ is used both tyrosine max. are considerable after a 10-min. reaction while a rise of temp. to 60° gives max. absorption in 2 hrs. Tryptophan develops a strong max. at 310 m μ even with 0.2% HNO₃ within 10 min. and in 4 hrs. the 200-m μ max. vanishes, while the 310-m μ one shifts to 300 m μ ; with 1% HNO₃ the picture remains the same but the changes are more rapid (complete change in 2 hrs.). Expts. with histone solns. readily show the presence of tyrosine while casein soln. shows both tyrosine and tryptophan (abs. max. 400 and 290 m μ , resp.). The technique was applied to tissue-slice specimens with the use of selective filters for the photography. The use of 313-m μ filter shows the presence or absence of tryptophan since tyrosine absorption in this region is comparatively low, while the 436-m μ filter is used for tyrosine detn. or estn. Expts. with rabbit nerve-cell specimens showed that in the cytoplasm both these amino acids are present in considerable amts. in the tigroid; the site of axon attachment is almost devoid of them while the coatings of the neuron fibers are rich in the two acids; nuclear chromatin is rich in both amino acids. G. M. Kosolapoff.

BRODSKIY, V. Yu.

✓ Magnitude of the error in quantitative histochemical determination of substances by the methods of photographic and photoelectric cytophotometry. V. Yu. Brodskiy and St. I. Pelzulaev (A. N. Severtsov Inst. Animal Morphol., Moscow). *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1955, No. 6, 100-8. — The possible errors of cytophotometric methods are critically discussed. In cases of distribution of the sought substance in the form of discrete inclusions in the exam. area, the error rises with decrease of the area occupied by the inclusions and with increase of optical d. and contrast coeff. The practical use of cytophotometry in such cases is necessarily limited. A linear change of concn. in a given direction in a specimen with const. concn. in another direction may lead to max. error of about 18% with the usual limit about 10%. The error increases with increased difference of optical ds. at the boundaries of the exam. area and of the contrast coeff. Simultaneous detn. of a large heterogeneous area, such as a nucleus, belongs to the 1st category and is thus subject to serious errors. The same structure exam. photometrically with a narrow slit for the photocell is of the 2nd type and has a lower order of

error. It is suggested that such detns. be made with an automatically recording app. having a mobile narrow slit.

G. M. Kosolapoff

①

BRODSKIY, V. Ya.

USSR/Medicine - Cytology

Card 1/1 Pub. 22 - 44/59

Authors : Brodskiy, V. Ya.

Title : Quantitative determination of substances in structures of cells

Periodical : Dok. AN SSSR 102/2, 357-360, May 11, 1955

Abstract : The possibilities of photographic cytophotometry in determining the substances contained in structures of stomach and liver cells are discussed. The content of desoxyribonucleic acid in liver cells was used as an example to prove the suitability of the cytophotometric method. Twelve references: 8 Engl; 1 Scandinavian, 1 French and 2 USSR (1936-1953). Graphs.

Institution : Acad. of Sc., USSR, Inst. of Animal Morphology im. A. N. Severtsov

Presented by : Academician A. I. Oparin, February 17, 1955

Brodskiy, V. Ya.

Name: BRODSKIY, V. Ya.

Dissertation: An experiment in the quantitative cytochemical investigation of nucleinic acids in the nerve cells

Degree: Cand Biol Sci

Defended at
Publication
Institution: Acad Sci USSR, Inst of Animal Morphology imeni A. N. Severtsov

Defense Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 47, 1956

GOL'DIN, M.; BRODSKIY, V.; FEDOTINA, V.

Microspectrophotometry of protein inclusions in plant cells. Zhur.
ob.biol. 17 no.5:393-395 S-0 '56. (MIRA 9:12)

1. Institut mikrobiologii Akademii nauk SSSR, Institut morfologii
zhivotnykh imeni A.N.Severtsova Akademii nauk SSSR.
(PLANT CELLS AND TISSUES) (NUCLEOPROTEINS)
(SPECTROPHOTOMETRY) (FLUORESCENCE MICROSCOPY)

BRODSKIY, V.Ya. (Moskva)

Cytophotmetry; quantitative cytochemical methods. Usp.sovr.biol.
42 no.1:87-107 J1-Ag '56. (MIRA 9:10)
(CELLS) (PHOTOMETRY)

Brodskiy, V.Ya.

USSR/General Biology - General Histology.

B-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14345

Author : Brodskiy, V.Ya.

Inst :

Title : Quantity of Ribonucleic Acid Nerve Cells of Different Sizes.

Orig Pub : Dokl. AN SSSR, 1956, 111, No 6, 1340-1343

Abstract : To study the relation between the quantity of RNA in the cytoplasm and the volume of nerve cells, the method of UV-cytophotometry was used. For this purpose spinal cord motor neurons were chosen. It was established that the concentration of RNA in different neurons varies considerably, but the average concentration in different parts of the spinal cord is approximately the same: there is a direct proportion between the quantity of RNA and the volume of neurons. The quantity of protein in nerve cells is determined by their size, the quantity of RNA

Card 1/2

USSR/General Biology - General Histology

B-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14345

by the quantity of protein in the cytoplasm. The author believes that protein synthesis is accomplished by RNA, while protein renewal occurs constantly, not only when neuron activity is intense, but also when at rest.

USSR/General Biology. Cytology. General Cytology.

B

Abs Jour: Ref Zhur-Biol., No 17, 1958, 76211.

Author : Drodskiy, V. Ya.

Inst :

Title : Spread of Ribonucleic Acid in the Sensory and Motor
Nerve Cells According to Cytophotometric Data.

Orig Pub: Dokl. AN SSR, 1957, 112, No 2, 336-339.

Abstract: An attempt was made by means of photometry to explain the character of the spread of RNA in the nerve cell, and also the chemical difference between the tigroid bodies and the basic substances of cytoplasm. It was established that in a fixed nerve cell, the RNA is distributed in the form of dense and less dense condensations, but fills all of the cytoplasm without intervals. Irregularity of the distribution

Card : 1/2

USSR/General Biology. Cytology. General Cytology.

B

Abs Jour: Ref Zhur-Biol., No 17, 1958, 76211.

of RNA in the sensory cells is greater than in the motor cells. There is no basis for assuming that in a living cell, where the tigroid bodies are poorly observed, other relationships exist. In the opinion of the author, the tigroid body is not permanently an essential organoid, but a temporary condensation of the substances which diffusely fill the nerve cell.

Card : 2/2

USSR/General Biology. Cytology

B

Abs Jour : Ref Zhur-Biol., No 13, 1958, 57119

Author : Erodskiy V. Ya.

Inst : Not given

Title : Nucleic acids in the Motor Neurons of the Spinal Cord Under the Effect of Barbamyl and Urethan (Quantitative Cytochemical Analysis).

Orig Pub : Dokl. AN SSSR, 1957, 112, No 4, 753-755

Abstract : The effect of the anesthetics--barbamyl and urethan--on the content of ribonucleic acid and desoxyribonucleic acid in the motor neu-

USSR/General Biology. Cytology

B

Abs Jour : Ref Zhur-Biol., No 13, 1958, 57119

Abstract : of ribonucleic acid in the cytoplasm and nucleole under barbamyll anesthesia are decreased, while under urethan anesthesia they are somewhat increased. In the author's opinion the changes in the concentration of ribonucleic acid are connected not with the general anesthesia of the animal, but with the effect which barbamyll and urethan have on metabolism in the nerve cells.

Card 2/2

13

USSR/Human and Animal Morphology - (Normal and Pathological) 5
Blood and Organs of Hemopoiesis

Abs Jour : Ref Zhur Biol., No 6, 1959, 26168

Author : Brodskiy, V.Ya., Syetina, I.A.

Inst : -

Title : Ultraviolet Microscopy and Cytophotometry of Bone Marrow
under Normal Conditions and after Roentgen Irradiation.

Orig Pub : Biofizika, 1958, 3, No 1, 92-100

Abstract : Visually and cytophotometrically, the bone marrow of intact mice and mice irradiated with a lethal dose of Roentgen rays (700 r) was investigated in ultraviolet rays. In both cases only cells without morphologic signs of affection were taken into consideration. Aside from total determination of substances absorbing ultraviolet rays, quantitative determination of substances soluble in a cold (0 - 10°) solution of trichloroacetic acid (mostly nucleotides as well as free aromatic aminoacids,

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- 31 -

USSR/Human and Animal Morphology - (Normal and Pathological)
Blood and Organs of Hemopoiesis

S

Abs Jour : Ref Zhur Biol., No 6, 1959, 26168

some vitamins, etc.) and in hot (90°) solution of the same acid (RNA and DNA) was conducted. According to obtained data, under normal conditions about 95% of cells have nuclei which absorb intensively ultraviolet rays. The average amount of DNA is about the same in nuclei and is approximately $5.5 - 6.2 \times 10^{-12}$ g. The amount of RNA in the nuclei of less differentiated cells is greater than in mature ones. The ratio of the amount of nucleic acids to the amount of nucleotides is comparatively constant (1.5-1.8 for the nuclei of cells of myeloid order and 2.5 -3.0 for nuclei of cells of erythroid order). In the first minutes after irradiation, the absorption of ultraviolet rays by nuclei of cells decreases and after 6 months lucid nuclei are prevalent in all forms except normoblasts. With this, the amount of nucleic acids in the nuclei of morphologically-

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USSR/Human and Animal Morphology - (Normal and Pathological)
Blood and Organs of Hemopoiesis

S

Abs Jour : Ref Zhur Biol., No 6, 1959, 26168

unchanged cells does not decrease, and the amount of nucleotides decreases almost twice immediately after irradiation; after 5 hours it falls to 0 (except reticular cells and neutrophils, in whose nuclei a decreased quantity of nucleotides is preserved), after which it again increases reaching a normal level towards the end of the first 24 hours. 72 hours after irradiation, the structure of cells turns out to be disturbed and the amount of nucleic acids in the injured cells decreases 3-5 times; nucleotides disappear completely from the nuclei. The authors conclude from this that irradiation affection of cells is connected not with a preceding decrease of the amount of nucleic acids but with a disturbance of their metabolism, which becomes telling in the decrease of the number of nucleotides.
Bibliography, 28 items. -- Ya.Ye. Khesin.

Card 3/3

- 32 -

BRODSKIY, V.Ya., NECHAYEVA, N.V.

Quantitative cytochemical investigation of ribonucleic acid in ganglionic cells of the retina under conditions of normal function and fatigue [with summary in English]. *Biofizika* 3 no.3:269-273 '58 (MIRA 11:6)

1. Institut morfologii zhivotnykh AN SSSR im. A.N. Severtsova.
(NUCLEIC ACIDS)
(RETINA)

17(1)

AUTHOR:

Brodskiy, V. Ya.

SOV/20-123-3-47/54

TITLE:

On the Qualitative Heterogeneity of Ribonucleic Acid in Animal Cells (O kachestvennoy geterogenosti ribonukleinovoy kisloty v zhivotnykh kletkakh)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 546-549 (USSR)

ABSTRACT:

The place of the synthesis of ribonucleic acid (RNA) in the cell is questionable (Refs 1-4). Although the isotope method suggests a RNA synthesis both in the nucleus and in the cytoplasm (Refs 9,10), this assertion is the least confirmed and founded by facts. The existence of a molecular specificity of the RNA is not known (Refs 12,13); it is further unknown to which extent the qualitative composition of the RNA in the individual parts of the cell is identical. In order to solve this problem, the author used the cytospectrophotometric method and the photographic method. Figure 1 illustrates the method of the measuring of the relation $\beta(D_{265}/D_{280})$, i.e. the relation between the optical density of a RNA solution in ultraviolet rays with a wave length of 265 m μ to a solution with

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On the Qualitative Heterogeneity of Ribonucleic
Acid in Animal Cells

SOV/20-123-3-47/54

280 m μ). On the screen of the oscillograph of the cyto-
spectrophotometer the lgI_1 curves at wave lengths of 265 and
280 m μ were recorded following a selected direction. Then
the cell was treated with ribonuclease or with hypochlorous
acid and lgI_2 was recorded in the same structures. From the
curves recorded prior to the RNA elimination $E_1 = lg \frac{I_0}{I_1}$, from
those after the RNA-elimination $E_2 = lg \frac{I_0}{I_2}$ was determined.

The optical density of the RNA was determined according to
the formula $D_{RNA} = E_1 - E_2$, where E_1 denotes the optical
density of the nucleoprotein in the structure and E_2 the optical
density of the protein in the same structure after the RNA
removal. These quantities were determined in a similar way
by means of the photographic method (Refs 15,16). The cells
of protozoa (Paramecium caudatum, P.aurelia), insects (Moto-
neurons of Tenebrio molitor), anura (ganglionic cells from the
retina of Rana temporaria), mammals (cells from the mouse
liver). The following was found: 1) Index β varies in indivi-

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On the Qualitative Heterogeneity of Ribonucleic
Acid in Animal Cells

SOV/20-123-3-47/54

dual parts of the cell between 0.5 and 3.0. From this, it can be assumed that the RNA of the cell is a mixture of substances of different properties. 2) This variation is regular in cells of various types in all animals investigated. 3) Not the entire RNA is removed by ribonuclease. By hypochlorous acid a quantity of 25% can be additionally extracted. The occurrence of several RNA-forms in one and the same structure might be assumed, which give a mixed spectrum. There are certainly more types of RNA than two (nuclear origin and cytoplasmic origin), as has hitherto been maintained. 4) The mean values of β vary but little in various cells of different species of animals. 5) β is independent of the absolute quantity of the optical density of RNA at both wave lengths mentioned. The variability of β can actually be explained by the occurrence of several RNA-types and by no other factors. It can be concluded from this fact that either in the cytoplasm specific RNA-synthesis centers are existing or that the nuclear RNA is converted in the cytoplasm. B. V. Kedrovskiy, G. K. Khrushchov, L. S. Agroskin, A. D. Gruzdev and N. V. Korolev assisted in this investigation.

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On the Qualitative Heterogeneity of Ribonucleic
Acid in Animal Cells

SOV/20-123-3-47/54

There are 2 figures and 21 references, 6 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii
nauk SSSR (Institute of Animal Morphology imeni
A. N. Severtsov of the Academy of Sciences USSR)

PRESENTED: August 11, 1958, by A. N. Bakulev, Academician

SUBMITTED: August 7, 1958

Card 4/4

BRODSKIY, V.Ya.; NECHAYEVA, N.V.

Relation between quantitative variations of ribonucleic acid and the intensity of function and trophic condition of neurons (based on a cytochemical study of ganglionic cells of the retina). Dokl. AN SSSR 123 no.4:756-759 D '58. (MIRA 11:12)

1. Institut morfologii zhivotnykh imeni A.N. Severtsova AN SSSR. Predstavleno akademikom A.N. Bakulevym. (NUCLEIC ACIDS) (RETINA)

BRODSKIY, V.Ya.; NECHAYEVA, N.V.

Quantitative cytochemical study of the ribonucleic acid in the various neurons of the visual path under the action of a eight stimulus. TSitologiya 1 no.2:172-176 Mr-Apr '59.

(MIRA 12:9)

1. Laboratoriya tsitologii Instituta morfologii zhivotnykh AN SSSR, Moskva.

(NUCLEIC ACIDS)

(RETINA--INNERVATION)

24(0)

SOV/20-59-124-2-56/71

AUTHORS:

Brodskiy, V. Ya., Grayevskiy, E. Ya., Suyetina, I. A.

TITLE:

On the Ways of Action of the Ionizing Radiation on the Content of Free Nucleotides and Nucleosides in the Bone Marrow Cells
(O putyakh vliyaniya ioniziruyushchey radiatsii na sodержaniye svobodnykh nukleotidov i nukleozidov v kletkakh kostnogo mozga)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 440-443 (USSR)

ABSTRACT:

Nucleic compounds are early and easily depolymerized in the organism if radiation reaction develops. In vitro relatively small doses of irradiation are sufficient (Refs 4,8,10). The synthesis of nucleic acids is disturbed in directly irradiated as well as in screened body parts (Refs 11-13). Several investigations (Refs 14-16) have shown that the damage of the cells due to irradiation is not directly connected with the preceding change of the amount of nucleic acids. It had to be determined whether the changes of the content of free nucleotides is due to local irradiation effects or to remote action. Experiments were carried out with white mice of both sexes. They were irradiated with 700 r X-rays. The following variants were applied: 1) total irradiation; 2) irradiation of the right part of the body; 3) irradiation of one back extremity; 4) screening of both back extremities with lead plates of a

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thickness of 3 mm. The mice were killed 6 hours after the irradiation. The amount of nucleotides in the nuclei of the myeloblasts and neutrophils in the bone marrow of the irradiated and screened extremity was determined by means of ultraviolet cytophotometry. Figure 1 and 2 show the measurement results of the optical density (of the proportional concentration) of free nucleotides in the myeloblast nuclei of normal and irradiated animals. In the case of total irradiation the average optical density of the acid-soluble fraction decreases by five times approximately. Unexpectedly, the optical density is clearly reduced (by about 50 %) also in the screened extremities, irrespective of the size of the surface which was screened. From the experimental results the authors draw the conclusion that the remote action of irradiation exerts almost the same effect on the amount of nucleotides. A somewhat stronger effect at direct irradiation as compared to the screened bone marrow may be due to the fact that the factors causing the remote action had been formed in the immediate vicinity of the parts investigated. The problem of the connection between the dynamics of the change of the amount of nucleotides, a premature destruction of the cells in the irradiation-sensitive systems, and the suppression of their

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mitotic activity in the irradiated organism has hitherto not been solved. The reduction of the content of free nucleotides and nucleosides is due to remote action. The processes of destruction are totally, the disturbance of cell division is largely caused by the local action of irradiation (Ref 18).-There are 3 figures and 18 references, 9 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR (Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences, USSR)

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SUBMITTED: June 26, 1958

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reports to be submitted to the
1st Intl Congress of Histo-
chemistry and Cytochemistry,
Paris, France, 25 Aug-1 Sep '60.

RUSSKOLY, V. Ya. - "The nucleic acids of the nerve cell's nucleus and cytoplasm"

SKORING, E. V., VINCIGADSKY, V. V. and SUBROTHI, K. Ya. - "Histochemistry of extraembryonic connective tissue in pathological conditions"

FRIDMANSKIY, A. Ya. - "Some aspects of carbohydrate metabolism of the transitional epithelium"

GRANDJEV, G. B. - "The studies on the cell's secretory proteins with the aid of phenol acetone gel filtration procedure"

GRIGOROVA, G. PAVEL, M. P. RUSKOV, M. M. RAKOV, PAVEL, J. GURNOV, A. V. -- "Ultrastructural glomerular microtopography as a new field of histochemistry"

RYKOVA, G. B. - "Histochemical characteristics of diptheric polymyositis"

FRANCOY, I. B. - "The determination of sulfhydryl groups of proteins by means of the inhibitory indicator (bromocetylthiobenzot acid) method"

MALIN, P. E. - "Cytochemical and autoradiographic analysis of the role of nucleic acids in the synthesis of cellular proteins"

OLIVAROVA, G. - "The problem of the protein-polysaccharide complex in connective tissue in the development of rheumatic processes"

PULANOV, A. L. - "Histochemical contribution to the study of thymic lymphocyte secretion"

PERUMALAY, V. V. - "Some mechanisms controlling the chemical activity of the neuron mitochondria"

(A summary of this report has been received by the organizers of the Congress and is included in the program of the Congress)

Aspects of histochemistry and the nervous system (this is a proposed report, of which the exact title is not yet known. It is listed by general subject matter under Group III)

FRANCOY, M. A. - "Histochemistry in experimental cancer chemotherapy"

KOCHILY, G. I. - "Comparative histochemistry of neurons differing in their function"

BRADDADE, A. L. - "Presence of ribonucleoproteins in mitochondria of different animal cells and their functional importance" and "Cytochemical and cytophysical peculiarities of nerve tissue biological organization"

FRANCOY, M. A. - "Microchemical examinations of biological tissues in the light of recent pathological studies"

PERUMALAY, V. V. - "A comparative physical and chemical characteristics of precollagen and collagenase"

VASIL'EV, Yu. M. - "Histochemical studies of the connective tissue, changes observed in the course of development of induced sarcoma in rats"

ZHAROVSKY, I. B. - "Proteinic and nucleic composition of nuclear structures"

FRANCOY, M. A. and PRZYBYLOVICZ, K. A. - "On the histochemical studies of its fractions in protein histochemistry" by the incorporation of labeled amino acids.

BRODSKIY, V. YA.

"Quantitative Cytochemical Investigation of Nucleic Acids and Free Nucleotides During Synthesis of Protein in the Ganglionic Cells of the Retina"

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Cytology Laboratory of the Institute of Morphology, Imeni A. N. Severtsov, Academy of Sciences USSR, Moscow.

BRODSKIY, V. YA.

"The Cytochemistry of Nucleic Acids and Free Nucleotides in the Nuclei of Cells of Normal and Irradiated Bone Marrow."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Laboratory of Cytology of the Institute of the Morphology of Animals Academy of Sciences USSR, Moscow.

AGROSKIN, L.S.; BRODSKIY, V.Ya.; GRUZDEV, A.D.; KOROLEV, N.V.

Some problems in the quantitative spectrophotometric analysis
of the cell. Tsitologia 2 no.3:337-352 My-Je '60.

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1. Institut morfologii zhivotnykh AN SSSR, Moskva i Institut
tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novo-
sibirsk.

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(RETINA) (NUCLEIC ACIDS) (LIGHT—PHYSIOLOGICAL EFFECT)

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(MIRA 13:9)

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(MARROW) (NUCLEIC ACIDS) (X RAYS--PHYSIOLOGICAL EFFECT)

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(MIRA 14:2)

1. Institut morfologii zhivotnykh AN SSSR, Moskva i Gosudarstvennyy opticheskiy institut, Leningrad.
(RETINA) (CELLS) (MICROSCOPY)

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1. Laboratoriya tsitologii Instituta morfologii zhivotnykh AN SSSR, Moskva.

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(CELL NUCLEI)

(RETINA)

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(KARYOKINESIS)

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