POLYANSKIY, V.A. (Moskva)

Diffusion and conduction in a partially ionized multitemperature gaseous mixture. PMTF no.5:11-17 S-O '64. (MIRA 18:4)

10.2000 17.4460
26.2181

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S/179/61/000/005/002/022
E032/E414

AUTHOR: Polyanskiy, V.A. (Moscow)

TITLE: Effect of Joule heating on heat transfer at the critical point

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye. no.5, 1961, 11-15

TEXT: The aim of this work was to investigate the reduction in the heat transfer to the surface of a body, moving with hypersonic speed, due to the application of a magnetic field. Previous workers did not take Joule heating into account in such calculations. Assuming all physical characteristics of a fluid to be constant (viscosity, thermal conductivity, etc) the equations of magnetohydrodynamics for an incompressible fluid may be written down in the form

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$$\operatorname{div} \mathbf{V}^* = 0$$

$$(\mathbf{V}^* \nabla)\mathbf{V}^* = -\frac{1}{\rho^*}\nabla p^* + \frac{1}{4\pi\rho^*}\operatorname{rot}\mathbf{H}^* \times \mathbf{H}^* + \nu\Delta\mathbf{V}^*$$

$$\operatorname{div}\mathbf{H}^* = 0$$

$$\operatorname{rot}\mathbf{V} \times \mathbf{H}^* - \nu_m \operatorname{rot}(\operatorname{rot}\mathbf{H}^*) = 0$$

$$(\mathbf{V}^* \nabla) T^* = \varkappa\Delta T^* + \frac{1}{\rho^* c_p}\mathbf{V}^*\nabla p^* + \Phi + \frac{\nu_m}{4\pi\rho^* c_p}(\operatorname{rot}\mathbf{H}^*)^2 \qquad (1)$$

Here Φ is the dissipation function, ν_m is the magnetic viscosity, k is the temperature diffusivity and

$$\Phi = \mu\left(\frac{\partial u_i^*}{\partial x_k} + \frac{\partial u_k^*}{\partial x_i}\right)\frac{\partial u_k^*}{\partial x_i}$$

$$\nu_m = \frac{c^2}{4\pi\sigma}, \quad \varkappa = \frac{k}{\rho^* c_p}$$

In addition, the generalized Ohm's law is given by

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$$j^* = \sigma(E^* + \frac{1}{c}\mathbf{V}^* \times \mathbf{H}^*) \qquad (2)$$

Within this framework, the author considers the flow of a liquid in the neighbourhood of the critical point. The external, constant magnetic field H_0 is taken to be perpendicular to the surface of the body (Fig.1) which is assumed to be nonconducting. The usual approximations of boundary-layer theory are then made in Eq.(1) and in order to estimate the magnetic terms, the analysis is limited to the one-dimensional flow along a nonconducting wall in a transverse magnetic field. Integration of the induction equations

$$H_0 \frac{du^*}{dy} + \nu_m \frac{d^2 H_x^*}{dy^2} = 0$$

subject to the boundary conditions on the wall

$$H_x^* = 0; \; dH_x^*/dy = 0$$

yields

$$\frac{H_x^*}{H_0} = -\frac{\delta}{L} R_m \int_0^1 \frac{u^*}{V} d\eta \qquad \left(R_m = \frac{VL}{\nu_m}\right)$$

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Here δ is the thickness of the boundary layer, L is a linear dimension and R_m is the Reynolds number. Assuming that $R_m < 1$, it turns out that

$$\frac{H_x^*}{H_0} \sim \frac{\delta}{L} \tag{3}$$

Since div $\underline{H}^* = 0$ it follows that

$$\frac{H_y^*}{H_0} \sim 1 \tag{4}$$

Using the notation

$$\xi = x\left(\frac{a_0}{\nu}\right)^{\frac{1}{2}}, \quad \eta = y\left(\frac{a_0}{\nu}\right)^{\frac{1}{2}}, \quad u = u^*(a_0\nu)^{-\frac{1}{2}}, \quad v = v^*(a_0\nu)^{-\frac{1}{2}}$$
$$\mathbf{H} = \frac{\mathbf{H}^*}{H_0}, \quad p = p^*(\rho_0 a_0 \nu)^{-1}, \quad T = T^* c_p (a_0 \nu)^{-1} \tag{5}$$

and

$$S = \frac{H_0^2}{4\pi\rho_0 a_0 \nu_m}, \quad \beta = \frac{\nu_m}{\nu}, \quad P = \frac{\nu}{\varkappa} \tag{6}$$

where a_0 has the dimensions of sec^{-1}, Eq.(1) can be written in the form

$$u\frac{\partial u}{\partial \xi}+v\frac{\partial u}{\partial \eta}=-\frac{\partial p}{\partial \xi}+S\beta\left(H_\eta\frac{\partial H_\xi}{\partial \eta}-H_\eta\frac{\partial H_\eta}{\partial \xi}\right)+\Delta u$$
$$\frac{\partial p}{\partial \eta}=0,\ \frac{\partial}{\partial \eta}(uH_\eta)-\beta\frac{\partial}{\partial \eta}\left(\frac{\partial H_\eta}{\partial \xi}-\frac{\partial H_\xi}{\partial \eta}\right)=0$$
$$\frac{\partial u}{\partial \xi}+\frac{\partial v}{\partial \eta}=0,\ \frac{\partial}{\partial \xi}(uH_\eta)-\beta\frac{\partial}{\partial \xi}\left(\frac{\partial H}{\partial \xi}-\frac{\partial H_\xi}{\partial \eta}\right)=0 \qquad (7)$$
$$u\frac{\partial T}{\partial \xi}+v\frac{\partial T}{\partial \eta}=u\frac{\partial p}{\partial \xi}+\frac{1}{P}\frac{\partial^2 T}{\partial \eta^2}+\left(\frac{\partial u}{\partial \eta}\right)^2+S\beta^2\left(\frac{\partial H_\eta}{\partial \xi}-\frac{\partial H_\xi}{\partial \eta}\right)^2$$

The boundary conditions then take the following form:
(a) on the wall

$$u=v=0,\quad T=T_w^*\,c_p(a_0\nu)^{-1},\quad p(0,0)=p_{w0}^*(\rho_0 a_0)^{-1}$$
$$H_\xi=0,\quad H_\eta=1 \qquad (8)$$

(b) on the surface of the boundary layer

$$u=\frac{a}{a_0}\xi,\quad v=-\frac{a}{a_0}\eta,\quad T=T_\infty c_p(a_0\nu)^{-1}$$

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In terms of the current function $\psi = \xi f(\eta)$ and $G = \xi g(\eta)$ (liquid and magnetic field respectively), the new variables are given by

$$u = \xi f'(\eta), \quad v = -f(\eta), \quad H_\xi = \xi g'(\eta), \quad H_\eta = -g(\eta) \tag{9}$$

The temperature and the pressure are then sought in the form of an expansion in powers of ξ (only first and second terms are retained):-

$$p = p_0 + C\xi^2 \quad (C = \text{const}), \quad T = T_0 + (T_w - T_0)\theta_1(\eta) + \xi^2\theta_2(\eta) \tag{10}$$

In these expressions T_w is the dimensionless wall temperature. Substitution of Eq.(9) and (10) into Eq.(7) yields the following ordinary set of differential equations

$$\begin{gathered} f'^2 - f''f - f''' + S\beta g g'' = -2C \\ \beta g''' - f''g - f'g' = 0, \quad \beta g'' - f'g = 0, \quad \theta_1'' + Pf\theta'_1 = 0 \\ \theta_2'' + Pf\theta_2' - 2Pf'\theta_2 = -2CPf' - P(f''^2 + S\beta^2 g''^2) \end{gathered} \tag{11}$$

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The constant C is then determined by integrating the angular momentum equation for a nonviscous liquid. The effect of the magnetic field on the pressure distribution at the wall in the neighbourhood of the critical point is neglected. The final set of equations then becomes

$$p = \text{const} - \frac{1}{2}\xi^2 \tag{13}$$

the boundary conditions being as follows:
(a) on the wall

$$f = f' = g' = 0, \quad g = -1, \quad \theta_1 = 1, \quad \theta_2 = 0$$

(b) on the surface of the boundary layer

$$f' = \frac{a}{a_0}, \quad \theta_1 = 0, \quad \theta_2 = -\frac{1}{2}\left(\frac{a}{a_0}\right)^2 \tag{16}$$

This set of equations was integrated by the Runge-Kutta method (using the "Setun'" electronic computor) for different values of the parameter S and with $\beta = 10^6$ and P = 0.71. The tangential stress on the wall was calculated from the formula

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so that

$$\frac{\tau}{\tau_0} = \frac{f''(0)}{[f''(0)]_0} \qquad (17)$$

The subscript o indicates the values of the quantities in the absence of the field. The heat transfer to the wall was calculated from the expression

$$q = k\frac{\partial T^*}{\partial y}\bigg|_{y=0} = -\frac{ka_0^{\frac{2}{3}}\nu^{\frac{1}{2}}}{c_p}[(T_0 - T_w)\theta_1'(0) - \xi^2\theta_2'(0)] \qquad (18)$$

Curve 1 in Fig.2 represents the variation in the tangential stress and curve 2 the variation in the heat transfer to the wall as a function of S. In the latter case, Joule heat was not taken into account so that

$$\frac{q}{q_0} = \frac{\theta_1'(0)}{[\theta_1'(0)]_0} \qquad (19)$$

Curve 3 shows the variation in the heat transfer in the presence of Joule heating. In this case, Eq.(19) was replaced by

$$\frac{q}{q_0} = \frac{\theta_1(0) - \theta_2(0)}{[\theta_1(0) - \theta_2(0)]_0} \qquad (20)$$

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As can be seen from Fig.2, Joule heating always leads to an increase in the heat transfer to the wall, although the actual magnitude of the increase is small (5%). The maximum change is found to occur at S = 1.5 (20%). This occurs for the following approximate values of the parameters:

$a_o \sim 5 \times 10^3$ sec^{-1}, $\rho_o \sim 1.6 \times 10^{-3}$ kg/m^3, $\sigma \sim 300$ mho/m

$H_o \sim 3800$ Oe.

It follows that although the magnetic field does give rise to a reduction in the heat transfer, the reduction is rather small (20 to 25%) and requires large magnetic fields (3000 Oe). This is of particular importance to the possible application of this method to bodies moving with hypersonic velocities in the upper layers of the atmosphere, since the medium parameters selected above correspond to this case. V.Rossov is mentioned in connection with his investigation on heat transfer at the critical point. There are 5 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet bloc. The reference to an English language publication reads as

Card 9/10

POLYANSKIY, V.A., inzh.

Some problems in methods for working out power balances and in determining the technical and the efficiency indices of factory heat and electric power plants which utilize secondary resources of power. Trudy LIEI no.29:50-68 '59. (MIRA 13:5)
(Power engineering) (Electric power plants)

POLYANSKIY V.A.

OGIYEVSKIY, V.M., prof., doktor tekhn. nauk; STOROZHENKO, A.M., inzh.; POLYANSKIY, V.A.

Investigating vibration conditions of the operation platform of percussion-rope boring machines. Bezop. truda v prom. 2 no.2: 24-27 F '58. (MIRA 11:2)

1. Magnitogorskiy gorno-metallurgicheskiy institut (for Ogiyevskiy, Storozhenko). 2. Ufimskiy nauchno-issledovatel'skiy institut gigiyeny truda i profzabolevaniy (for Polyanskiy).
(Boring machinery--Vibration)

VIASOV, L.N.; ISANINA, T.G.; LEVINA, R.G.; POLYANSKIY, V.A.

Effect of noise from motor-testing installations on the health of the population. Gig. i san. 24 no.4:68-69 Ap '59. (MIRA 12:7)
(NOISE, effects,
indust. noise on health of population in surrounding areas (Rus))

POLYANSKIY, V.B.

Distribution of induced potentials in the cerebral cortex of rabbits under the influence of light stimuli of various brightness. Zhur.vys.nerv. deiat. 13 no.2:301-308 Mr-Ap'63. (MIRA 16:9)

1. Chair of Physiology of Higher Nervous Activity Moscow University.

(ELECTROENCEPHALOGRAPHY) (LIGHT--PHYSIOLOGICAL EFFECT)

POLYANSKIY, V.B.

Connection between spike discharges and evoked potentials in the visual cortex in rabbits. Zhur. vys. nerv. deiat. 15 no.5: 903-910 S-O '65. (MIRA 18:11)

1. Kafedra fiziologii vysshey nervnoy deyatel'nosti Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

GUSEL'NIKOV, V.I.; POLYANSKIY, V.B.

Functional interrelationships of some brain divisions in pigeons. Nauch.dokl.vys.shkoly; biol.nauki no.2:60-66 '59.
(MIRA 12:6)

1. Rekomendovana kafedroy fiziologii vysshey nervnoy deyatel'nosti Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(BRAIN)

GUSEL'NIKOV, V.I.; POLYANSKIY, V.B.

Reaction of rhythmic transformation in different sections of a pigeon is brain in response to a doubled rhythmic light stimulus. Nauch. dokl. vys. shkoly; biol. nauki no.1:83-87 '62. (MIRA 15:3)

1. Rekomendovana kafedroy fiziologii vysshey nervnoy deyatel'-nosti Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

(BRAIN)
(ELECTROPHYSIOLOGY)

VORONIN, L.G.; GUSEL'NIKOVA, K.G.; IORDANIS, K.A.; BETELEVA, T.G.; LINKOVA, N.V.; POLYANSKIY, V.B.

Effect of electric stimulation of the reticular formation on conditioned reflex activity. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 6:195-202 '61. (MIRA 14:12)

1. Iz Laboratorii sravnitel'noy fiziologii vysshey nervnoy deyatel'nosti, zav. - L.G.Voronin.
(CONDITIONED RESPONSE)

POLYANSKIY, Viktor Ivanovich; LEBEDEV, V.

Gusev. Kaliningrad, Kaliningradskoe knizhnoe izd-vo, 1963. 50 p. (MIRA 17:4)

POLYANSKIY, V.I. DECEASED

SEE ILC

BIOLOGY/ BOTANY

POLYANSKIY, V.I., kapitan

Rocket and nuclear stronghold of the United States and its allies in the Mediterranean basin. Mor.sbor. 44 no.1:80-87 Ja '61. (MIRA 14:3)

(Mediterranean Sea region--Military bases)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342020016-2"

POLYANSKIY, V. I.

Air pirates on the sea lanes. Vest.Vozd.Fl. no.10:83-86 O '60.
(MIRA 13:11)

(Freedom of the seas) (United States--Air force)

POLYANSKIY, Vladimir Ivanovich, prof. [1907-1959]; PETROVICHEVA, O.L., red.; MALAKHOV, A.G., khud.-tekhn.red.

[In the tropics of Southern China] V tropikakh IUzhnogo Kitaia. Leningrad, Izd-vo Leningr.univ., 1960. 118 p. (MIRA 14:1)

(China, Southern--Description and travel)
(China, Southern--Vegetation and climate)

POLYANSKIY, V.K. [Polians'kyi, V.K.]; RVACHEV, V.P. [Rvachov, V.P.];
KOVAL'SKIY, L.V. [Koval's'kyi, L.V.]

Method of formation of light beams with given energy distribution in a given spectral range. Ukr. fiz. zhur. 10 no.6:682-683 Je '65.
(MIRA 18:7)

1. Chernovitskiy gosudarstvennyy universitet.

L 2820-66 EWT(1)/EPF(c) IJP(c) WW/GG

ACCESSION NR: AP5016180 UR/0051/65/018/006/1057/1064
535.51:535.361

44,55

AUTHORS: Rvachev, V. P; Polyanskiy, V. K. 44,55

TITLE: On the passage of polarized light through a light-scattering surface

21,44,55

SOURCE: Optika i spektroskopiya, v. 18, no. 6, 1965, 1057-1064

TOPIC TAGS: light transmission, light polarization, light scattering, light scattering glass

ABSTRACT: Inasmuch as little attention has been paid in the past to the scattering of light by rough (matte) surfaces, the authors analyze this phenomenon and show that when plane-polarized light passes through a matte interface, the plane of polarization is rotated by an amount that depends on the angle of observation. This circumstance, as well as an account of the polarization phenomena occurring inside the layer, make it possible to resolve the transmitted light flux into three components: 1) polarized, but changing its state of

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ACCESSION NR: AP5016180

polarization as a result of single interaction with the matte interface; 2) polarized by changing the state of polarization as a result of double reflection within the layer; 3) depolarized. The intensities of the different components are estimated and the directions in which they appear are indicated. Apparatus for direct measurement of the brightness, making it possible to obtain three equations for determining the three components, is described. The apparatus is shown in Fig. 1 of the Enclosure. It was used to measure the scattering of a monochromatic beam (λ = 555 nm) of polarized light by ground glass. The experimental results are in satisfactory agreement with the theory at angles up to 25°. The depolarized component was found to be too small to be determined reliably. At angles larger than 25° the calculated plane of polarization is larger than the measured one and the discrepancy increased with increasing angle. An explanation for the discrepancy is offered. Orig. art. has: 7 figures and 12 formulas.

ASSOCIATION: None

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L 2820-66

ACCESSION NR: AP5016180

SUBMITTED: 17Apr64 ENCLOSURE: 01 SUB CODE: OP

NR REF SOV: 005 OTHER: 000

Card 3/4

L 2820-66

ACCESSION NR: AP5016180

ENCLOSURE: 01

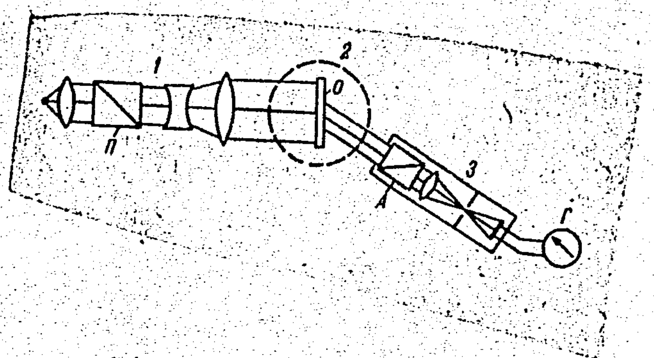

Fig. 1. Diagram of installation for the measurement of the brightness of polarized light in a transmitted beam.

1 - Illuminator, 2 - goniometer with tested sample, 3 - measuring device, П - polarizer, O - investigated object, A - analyzer, Г- galvanometer.

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342020016-2"

L 31498-66 EWT(1) IJP(c) WW/GG
ACC NR: AP6013027 SOURCE CODE: UR/0051/66/020/004/0701/0708

AUTHOR: Polyanskiy, V. K.; Rvachev, V. P.

ORG: none

53
B

TITLE: Concerning the reflection of light by rough surfaces

SOURCE: Optika i spektroskopiya, v. 20, no. 4, 1966, 701-708

TOPIC TAGS: light reflection, surface roughness, light diffraction, geometric optics, light scattering, light polarization, optic brightness

ABSTRACT: The authors point out in the introduction that the two standard methods used to investigate the interaction between light and a rough surface, the diffraction method and the geometric-optics method, wherein the rough surface is assumed to be a random aggregate of microscopic areas, each reflecting separately, have actually very little in common. The purpose of the present investigation was to investigate the scattering properties of rough surfaces in polarized light and explain some of the observed phenomena on the basis of both the geometric-optics and diffraction concepts. The experimental setup used for this purpose (Fig. 1) is based essentially on a brightness-measuring apparatus described by the authors earlier (Tr. GOI v. 24, No. 143, 3, 1955). The measurements were made on a plate of black glass with refractive index 1.515, one surface of which was polished and

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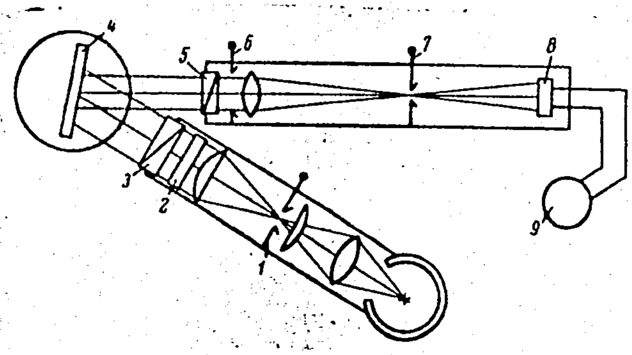

Fig. 1. Optical diagram of setup. 1 - Aperture diaphragm of illuminator, 2 - interference light filter (550 nm), 3 - polarizer, 4 - object, 5 - analyzer, 6 - field diaphragm, 7 - aperture diaphragm of receiver, 8 - photomultiplier, 9 - reading device.

the other one was roughened mechanically. The degree of polarization and depolarization of the light beam was determined for different angles and compared with the calculations based on both approaches. The results show that the zero-order diffraction approximation is more detailed than the geometric-optics approximation, and provides a satisfactory explanation for the depolarization of the light and for the dependence of the polarization on the scattering conditions. It also explains the shift of the maximum of the scattering indicatrix toward the larger observation angles. Orig. art. has: 5 figures and 3 formulas.

SUB CODE: 20/ SUBM DATE: 26Feb65/ ORIG REF: 013

Card 2/2 mc

VASHCHENKO, V.I.; POLYANSKIY, V.K.; TIMOFEYEV, V.B.

Polarizing action of prism spectral instruments. Zhur. prikl. spektr. 3 no.5:456-458 N '65. (MIRA 18:11)

KOVAL'SKIY, L.V. [Koval's'kyi, L.V.]; POLYANSKIY, V.K. [Polians'kyi, V.K.]

Polarizing effect of spectral instruments. Ukr. fiz. zhur. 10 no.1: 95-98 Ja '65. (MIRA 18:4)

1. Chernovitskiy gosudarstvennyy universitet.

RVACHEV, V.P.; POLYANSKIY, V.K.

Penetration of polarized light through a light-scattering surface. Opt. i spektr. 18 no.6:1057-1064 Je '65.

(MIRA 18:12)

POLYANSKIY, V.M.

Automatic navigational echo depth sounder. Inform. sbor. TSNIIMF no.74: Sudovozh. i sviaz' no.19:20-32 '62. (MIRA 16:6)

(Echo sounding)

POLYANSKIY, V.M.; SPIRIDONOV, V.B.

Electron microscopy of the structure of the SAP material.
Metalloved. i term. obr. met. no.12:37-39 D'63. (MIRA 17:2)

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S/149/61/000/001/008/013
A006/A001

11.2221

AUTHORS: Polyanskiy, V.M., Bogolepov, M.G., Litvintsev, A.I., Panov, A.V.

TITLE: Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1961, No. 1, pp. 112 - 120

TEXT: The presence of a great amount of adsorbed gases in solid aluminum is explained by the hygroscopic nature of oxides in the metal. Adsorbed H_2O is retained in the metal until about 510°C when its intensified decomposition by aluminum takes place ($2Al + 3H_2O = Al_2O_3 + 3H_2$). Since adsorption is connected with the magnitude of the specific surface of the adsorbent, a particular high amount of adsorbed gases can be expected in aluminum powders; and since the pulverization of molten Al in the production of powder is connected with a high crystallization rate of the metal, the amount of dissolved gases in the powders must exceed that in the cast metal. An investigation was made to reveal the amount and composition of gases in aluminum powders and to determine the interaction of the gases with the powder material. Degassing of powders and kinetics of gas liberation were also investigated. The experiments were made with powders whose composition is

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given below:

Table 1 Chemical Composition of Initial Aluminum Powders

No of powder	Content, %				
	Al	Al_2O_3	Fats	Moisture	Other components
1	95,55	3,94	0,37	0,01	0,13
2	86,4	13,08	0,27	0,07	0,23

Gas extraction was performed in a vacuum device included into the gas filling system of a mass spectrometer (Figure 1). Pressed cylindrical samples were placed into the extraction assembly and heated by electric current passed through a molybdenum wire. The quantitative analysis of extracted gases was made by heating the sample to 170 and 450°C and by taking mass spectra at each of these temperatures in the range of mass numbers 1 - 44. The results obtained (given in Table 2) show that at 170°C the gas extracted is water vapor. At a higher temperature the gas composition changes. Its basic components are H_2 and CO; a small amount of CH_4 appears and the amount of H_2O vapors diminishes sharply. The temperature

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Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

zones of maxima of individual gas component liberation were determined by heating the pressed powder specimens in a vacuum at a rate of 23° per minute. Curves of vacuum changes (kinetic curves), ion current curves of the components (H_2^+ and H_2O^+) and temperature curves of the specimens were recorded on the tape of a multi-spot electronic self-recording potentiometer. The kinetic curves were obtained for initial powders (undegassed powders); technically pure Al samples (AD-1); for specimens degassed by heating in vacuum and subsequently held in wet atmosphere with 100% relative moisture at 25°C; for specimens degassed by heating in air and in air under an activated carbon layer, in inert gas stream and in a vacuum. To reveal the possibility of degassing pressed powder specimens by heat treatment experiments were made in different media. (Figure 4). It is shown that degassing of powders by heating is possible under the condition that the vapors or gases liberated are removed by vacuum treatment or by an inert gas flow. The following method was found to be the most suitable one: after degassing, heat treatment of the specimen in an argon flow (0.05 O_2, 0.23 N_2, the rest argon) by heating to 600°C subsequent cooling to 250° at a rate of 6° per minute, and then to 20°C at a rate of 15° per minute.

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A006/A001

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

Table 2

Results of the quantitative analysis of a gas extracted in a vacuum from aluminum powders and a AD-1 alloy

No. of № порошка, powder	Temperature Температура, °C ture, °C	Gas components, % Компоненты газа, %					Total volume Общий объем of the gas, газа, нсм³/г ncm³/g
		H_2O	H_2	CO	CH_4	N_2	
2	170	100	—	—	—	—	6,16
1	•	100	—	—	—	—	2,14
2	450	1,48	76,5	18,0	1,70	2,32	12,2
1	•	—	67	30,9	2,1	—	2,86
АД-1	•	—	100	—	—	—	$2,18 \cdot 10^{-3}$

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Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

Table 3: Qualitative analysis and kinetics of gas liberation from AD-1 alloy and pressed aluminum powders, held in a wet chamber after preliminary degassing and vacuum heating

Holding time in the chamber, hrs / Время выдержки в камере, час	No. of powder / № порошка	Temperature (°C) of maxima / Температура (°C) максимумов для	
		H_2O	H_2
70	2	200	—
405	1	200	360
—	АД-1, недегазированный	—	360

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Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

Table 4: Composition and kinetics of gas liberated from initial aluminum powders

No. of powder (№ порошка)	Temperature (°C) of maxima for (Температуры (°C) максимумов для) H_2O		H_2				CO	CH_4
2	185	430	310	360	410	430	410	410
1	200	450	310	360	440	450	420	420

Card 6/11

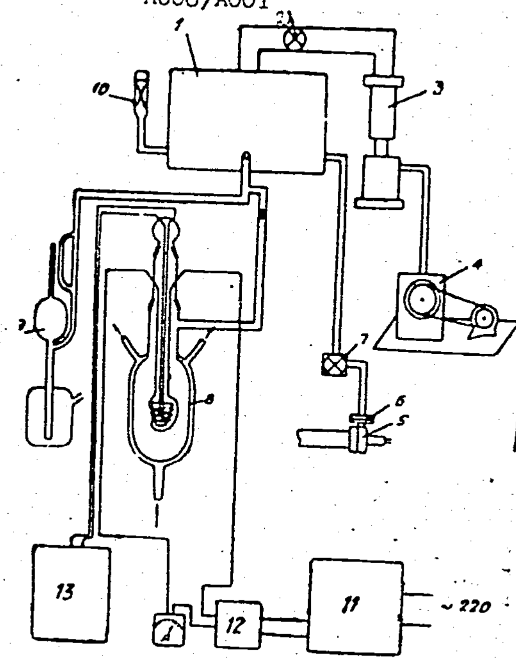
88504

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

S/149/61/000/001/008/013
A006/A001

Figure 1

Schematic drawing of a gas filling system of the mass-spectrometer: 1 - filling cylinder; 2 - filling cylinder valve; 3 - ДРН-10 (DRN-10) diffusion pump; 4 - ВН-461 (VN-461) fore-vacuum pump; 5 - ion source of mass-spectrometer; 6 - diaphragm; 7 - gas filling tap of the mass spectrometer; 8 - extraction assembly; 9 - compression manometer; 10 - ЛТ-2 (LT-2) manometric lamp; 11 - voltage stabilizer; 12 - laboratory autotransformer; 13 - electronic self-recording potentiometer.



Card 7/11

88504

S/149/61/000/001/008/013
A006/A001

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

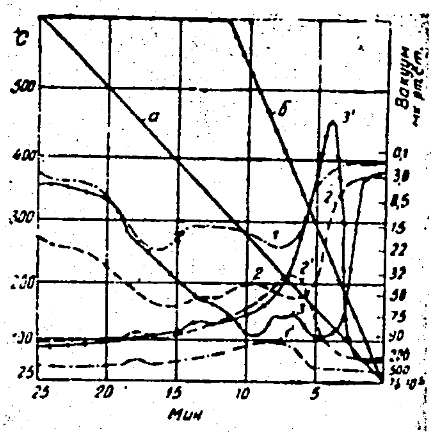


Figure 2

Kinetic curves of H_2O liberation from pressed aluminum powders 1, 2, 3 - vacuum curves; 1', 2', 3' - H_2O^+ curves; 1, 1' - powder No. 1; 2, 2', 3, 3' - powder No. 2; Heating rate 23°/min (a) and 52°/min (b)

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88504

S/149/61/000/001/008/013
A006/A001

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

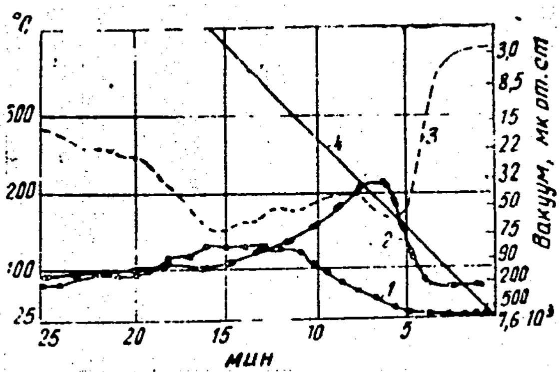


Figure 3

Nature of pressure and ion current changes during annealing of a non-treated specimen 1 - H_2^+, 2 - H_2O^+, 3 - curve of pressure changes; 4 - temperature changes of the specimen

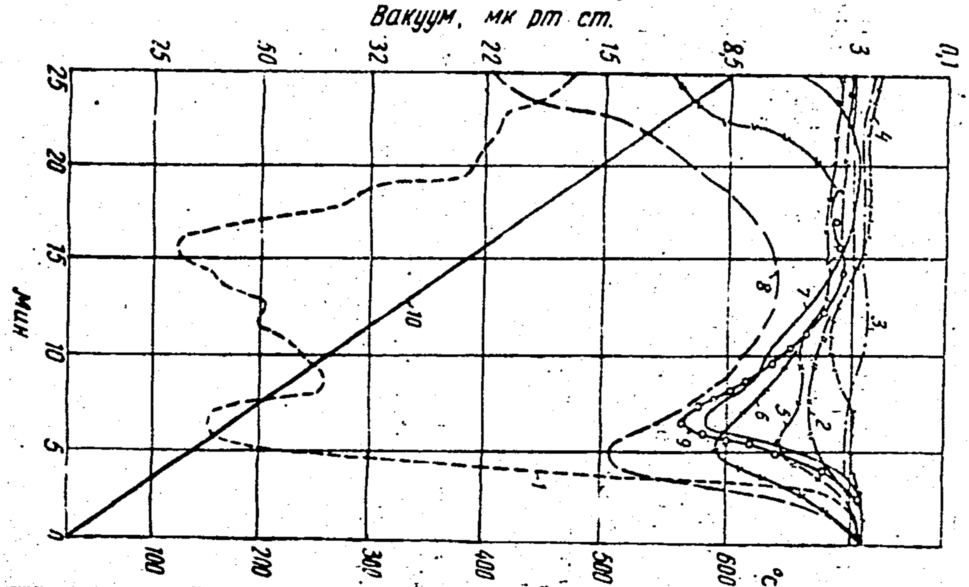
Card 9/11

88504

S/149/61/000/001/008/013
A006/A001

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

Figure 4



Card 10/11

88504

S/149/61/000/001/008/013
A006/A001

Investigation of Gases in Aluminum Powders on a Mass-Spectrometer

Figure 4

Vacuum changes during heating of specimens after different heat treatment; 1 - non treated; 2 - vacuum-annealed and held in air for 5 min; 3 - annealed in an argon flow up to 600°C, cooled in the flow to 250°C in a furnace and then to 30°C by high-speed process; held in air for 10 min; 4 - non treated AD-1 specimen; 5 - annealed in a vacuum and heated to 600°C in air; 6 - annealed in air to 600°C; 7 - annealed in an argon flow up to 600°C and extracted from the flow at 600°C; 8 - annealed in air to 600°C under a layer of activated carbon; 9 - annealed in a vacuum up to 600°C and held in a wet chamber at 25°C for 20 hrs; 10 - temperature changes of the sample.
There are 4 tables, 4 figures and 3 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute); Laboratoriya izmeritel'nykh priborov (Laboratory of Measuring Instruments)

SUBMITTED: December 28, 1959

Card 11/11

31234

S/145/61/000/011/002/004
D221/D303

26.4181
10.3200

AUTHORS: Polyayev, V. M., Candidate of Technical Sciences, Docent, and Bashmakov, Engineer

TITLE: Calculating the turbulent boundary layer during coolant feeding through a porous wall

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, no 11, 1961, 118-128

TEXT: The authors consider a plane plate situated in a stream of compressed gas. It is assumed that a film is maintained along the whole length of the plate. The authors quote the equations of the steady turbulent flow which are solved under the following assumptions: The speed of the liquid film with respect to the wall is neglected; the temperature of the film is equal to the boiling temperature of the coolant; the losses due to heat transfer are small, and the heat is used for raising the temperature and evaporation of the coolant; the thermal capacity of the bound-

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31234

S/145/61/000/011/002/004
D221/D303

ary layer is constant; chemical interaction and secondary effects are disregarded, and it is assumed that Pr=1. The authors reduce the problem to analysis of a dynamic boundary layer. After mathematical manipulation a relationship is deduced which allows the dimensionless speed for a known Reynolds number to be determined. The numerical computations demonstrate that this equation is well approximated by a linear relationship. The latter is a function of the wall temperature, and to a lesser extent of the flow speed.

$$Re_{x',w} = \frac{1}{xC_o}\left[\varphi^2_1 - \frac{2(x\varphi_1 J_o - 1)}{(xJ_o)^2} e^{x\varphi_1} J_o \qquad (28)\right.$$

permits also evaluation of changes in the dimensionless speed φ_1 during the variation of J_o at constant speed u_∞. The total flow of the coolant is considered when it is fed through a porous element of length ℓ, and for a total length of plate L. This results in

$$G = \frac{Ab\mu_w g}{x\, C_o} e^{x \frac{\lg Re_{x,\,w} - 1{,}29}{0{,}2065}} \qquad (33)$$

where the coefficient of dynamic viscosity can be determined from an approximate formula due to Stepanov,

$$\mu_w = \left[\sum_{i=1}^{n} \frac{c_i}{\mu_i} \sqrt{\frac{m}{m_i}} \right]^{-1}$$

By the assumption of $b = \pi D$,

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Calculating the turbulent boundary ... S/145/61/000/011/002/004
D221/D303

$$G = 2{,}75A \cdot b\, \mu_w e^{1{,}935\, lg\, Re_{x,w} - 1{,}29} \quad (34)$$

can be used for pipes. Curves illustrating the relationship between the specific flow of coolant and the Reynolds numbers as well as experimental results of Kinney and Abramson are plotted. The comparison reveals a good agreement, although for higher intensity of feed there is an increase of discrepancies in the above. There are 2 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: G. Kinney, E. Abramson and G. Sloop, NACA Rep. 1087, 1952

ASSOCIATION: MVTU im. N. E. Baumana (MVTU imeni N. E. Bauman)

Card 4/4

L 39787-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/GS/GD-2

ACC NR: AT6012376 SOURCE CODE: UR/0000/65/000/000/0098/0101

AUTHOR: Polyanskiy, V. M.

ORG: none

TITLE: Investigation of the fine-structure of two-phase alloys of titanium

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 98-101

TOPIC TAGS: mechanical property, annealing, alloy, titanium, titanium alloy, metal property, electron microscopy, x ray spectroscopy/ VT14 alloy

ABSTRACT: The fine structure and its influence on the mechanical properties of the alloy VT14 (Ti + 4% Al + 4% Mo + 1% V) were studied. The structure of the alloy specimens annealed at 950, 850, 800, and 700C and of specimens annealed at 850C and aged for 1--8 hours at 450--600C was determined by means of electron microscopy, x-ray spectroscopy, and microdiffraction methods. Photographs of alloy microsections are presented. The fine structure of annealed VT14 alloy specimens is characterized by the presence of slip lines and, possibly, twins inside the martensite layers, the formation of an intermediate phase (presumably α''), and segregation of the alloying elements on the crystal lattice defects of the α and α' phases. It is shown that the peculiarities of the fine structure of the annealed VT14 alloy specimens are

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L 39787-66

ACC NR: AT6012376

typical of the two-phase titanium alloys of the type ($\alpha + \beta$). It is suggested that annealing temperature increases the flow limit by fostering the deposition of finely dispersed β-phase deposits. The strengthening of the alloy by aging is associated with the deposition of atoms of the alloying elements on the slip planes inside the martensite layers and on dislocations and with the formation of the α-phase. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 001/ OTH REF: 001

Card 2/2 mlP

POLYANSKIY, V M

20

PHASE I BOOK EXPLOITATION SOV/5685

Fridlyander, I. N., Doctor of Technical Sciences, and B. I. Matveyev, Candidate of Technical Sciences, eds.

Teploprochnyy material iz spechennoy alyuminiyevoy pudry [SAP]; sbornik statey (Heat-Resistant Material From Baked Aluminum Powder [SAP]; Collection of Articles) Moscow, Oborongiz, 1961. 122 p. Errata slip inserted. 3,550 copies printed.

Reviewers: M. F. Bazhenov, Engineer, and M. Yu. Bal'shin, Candidate of Technical Sciences; Ed.: M. A. Bochvar, Engineer; Ed. of Publishing House: S. I. Vinogradskaya; Tech. Ed.: V. I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE : This collection of articles is intended for scientific workers and engineers in the institute and plant laboratories of the metallurgical and machine-building industry; it may also be useful to instructors and advanced students.

COVERAGE: The 12 articles contain the results of research on the structure, properties, and manufacture of semifinished products

Card 1/5

from sintered aluminum powder. The technology for the manufacture of aluminum powder and briquets is described as are sintering processes, and pressing, rolling, drawing, and sheet-stamping methods. The dependence of the properties of semifinished products on the aluminum-oxide content of the powder, on the degree of hot and cold deformation, and on the stresses of pressing is investigated. Also investigated are the mechanical and corrosive properties of semifinished products, the mechanism of hardening of sintered aluminum powder, the reasons for blister formation, and the possibility of recrystallization. Data on sintered aluminum alloys are included. No personalities are mentioned. References in the form of footnotes accompany the articles.

TABLE OF CONTENTS:

Heat-Resistant Material From (Cont.) SOV/5685

and Properties of Pressed Articles From SAP [Sintered Aluminum Powder] 5

Stepanova, M. G., G. P. Zenkov, Ye. M. Lekarenko, and L. A. Sarul'. Aluminum Powder for SAP 17
The work was carried out with the participation of G. N. Pokrovskaya, Chief of TsZL; R. V. Nesterenko, Acting Chief of the Shop; and Engineers L. I. Kibitova, N. D. Chumak, and N. I. Kolobnev.

Matveyev, B. I., M. G. Stepanova, and N. I. Kolobnev. Effect of Specific Pressure in Pressing on Properties of Semifinished Products From SAP 30

Matveyev, B. I., S. I. Nomofilov, and V. A. Shelamov. Pressing of Semifinished Products From SAP 36
The work was carried out with the participation of Engineers A. V. Fedotova and I. R. Khanova, and Senior Technician L. S. Perevyazkin.

Card 3/5

AVAILABLE: Library of Congress

JA/wrc/jw
10-27-61

Card 5/5

characterized by the following: each vapor particle hitting the metal surface is reflected by the wall with a certain probability, and hits the surface again. Consequently, the vapor particle attains the evaporation surface several times. The Knudsen cell resembles an "absolutely black body". The vapor escaping through the effusion aperture does not disturb considerably the equilibrium. Further, the authors indicate the similarity between the characteristic features of radiation and evaporation. Under the given conditions the vapor pressure is equal to the third part of its energy formed per unit of volume (in this connection only the kinetic energy of the particles is taken into account). The integral density of radiation $\theta = \sigma T^4$ corresponds to the vapor pressure. The aforementioned similarity may be expressed in the following manner: the accomodation coefficient $\alpha = \eta/\nu$ corresponds to the degree of blackness ε, and the difference $1 - \alpha = \gamma$ corresponds to the reflection coefficient ρ. The evaporation is characterized by the following quantities: condensation constant η (i.e. by the number of particles which are con-

SOV/20-125-1-36/67

Calculation of a New Cell for Measuring the Pressure of Saturated Vapors of Metals

densed per unit of area and time), ν - the number of particles which, in the presence of an effusion aperture, hit the inner surface of the Knudsen cell per unit of time with respect to the unit of area. In the cell under investigation the vapor enters interaction with the sample surface and the cell walls. According to the authors, there is no interaction whatever between vapor particles and the walls, apart from physical adsorption. This may be brought about by fastening various materials (with complex composition of the molecular crystals) to the walls. The authors then determined the ratios of cell parameters at which the vapor contained therein corresponds to the "absolutely black body" (as in the case of the Knudsen cell). Further, an expression for the vapor pressure at the outlet of the cell is computed. This expression generalizes the formulae set up by Langmuir and Knudsen. The results of the computation of the cellular parameters are contained in a table. The cell in question may be imagined as a container that is filled to the brim with saturated vapor. There are 1 figure, 1 table, and 3 references, 1 of which is Soviet.

Card 3/4

SOV/20-125-1-36/67

Calculation of a New Cell for Measuring the Pressure of Saturated Vapors of Metals

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

PRESENTED: October 1, 1958, by I. P. Bardin, Academician

SUBMITTED: September 18, 1958

Card 4/4

LYUBITOV, Yu.N.; POLYANSKIY, V.M.

Design of a new cell for measuring saturated vapor pressure of metals. Dokl.AN SSSR 125 no.1:135-138 Mr-Ap '59.
(MIRA 12:4)

1. Institut metallurgii imeni A.A.Baykova. Predstavleno akademikom I.P.Bardinym.
(Vapor pressure--Measurement)

ACC NR: AR6035232

between the reliability and the quality indices of the automatic control system, considering that the entropy is the index of quality of the system's operation. Orig. art. has: 2 figures and a bibliography of 2 titles. [Translation of abstract]

[NT]

SUB CODE: 09, 20, 14

Card 2/2

137-58-3-6284

Determination of the Nickel and Chromium in Nichrome

10 cc of this solution are neutralized with NH_4OH, and 5 cc of a 10 percent potassium tartrate solution are added to it, together with 2 cc of an alcohol solution of dimethylglynoxym and enough NH_4OH to produce a faint odor. 15 cc of chloroform are extracted three times. After combining the extracts, Ni is determined by photocolorimetry. The following procedure is employed for determination of Cr: a pH of 3-4 is established in 10 cc of the solution: "trilon B" is added in excess and the solution is heated in a waterbath until it acquires a stable color, at which point it is subjected to colorimetric inspection under a green light filter.

K.K.

Card 2/2

POLYANSKIY, V.M.; LITVINTSEV, A.I.; RAKOV, A.V.

Investigating gases in aluminum powder by mass spectrometry. Izv. vys. ucheb. ucheb. zav.; tsvet. met. 4 no. 1:112-120 '61. (MIRA 14:2)

1. Moskovskiy institut stali, laboratoriya izmeritel'nykh priborov. Rekomendovana kafedroy metallurgii redkikh metallov Moskovskogo instituta stali.
(Aluminum) (Gases in metals)

Kolkhoznik

GUTMAN, Ye. I., redaktor; DZYUBA, M.L., redaktor; POLYANOVSKIY, V.N., redaktor; YUROVITSKIY, Ye. N., redaktor; ABROSIMOV, M.A., redaktor; GERASIMOV, P.K., redaktor; D'YAKOV, M.I., redaktor; SAVEL'YEV, B.V., redaktor; TSITSIN, N.V., redaktor; YAKUSHKIN, I.V., redaktor

[Collective farmer's calendar for 1948] Kalendar' kolkhoznika na 1948 god. [n.p.] Gos. izd-vo sel'khoz. lit-ry [n.d.] 78 p. (MIRA 10:4)

(Collective farms)

DOLGUSHIN, D.A., akademik, redaktor; POLYANOVSKIY, V.N., redaktor; ZUBRILINA, Z.P., tekhnicheskiy redaktor

[Methods and results in plant breeding and seed production] Metody i rezul'taty selektsionno-semenovodcheskoi raboty. Pod red. D.A. Dolgushina. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 135 p. (MIRA 9:11)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina.

(Plant breeding)

POLYANOVSKIY, V.N.; KARULIS, Ye.Ya.; MOROZOV, D.N., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor

[For good harvests in the Baltic Republics] Za vysokie urozhai v Pribaltiiskikh respublikakh. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 317 p. (MLRA 10:3)
(Baltic States--Agriculture)

POLYANSKIY, V.N.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Analytical Chemistry

(3)

Extraction of molybdenum from hydrochloric acid solutions with ether. I. P. Alimarin and V. N. Polyanskii (M. V. Lomonosov Inst. of Fine Chem. Technol., Moscow). *Zhur. Anal. Khim.* 8, 200-9(1953).—Small quantities of Mo were successfully extd. from 5-6*N* aq. HCl solns. with ether. One extn. yielded 84.5% of the Mo present. 4 extns. increased the yield to approx. 99.5%. It is preferable to carry out the extn. in an automatic app. M. Hosch

NF 3-51

POLYANSKIY, V.M.; YAKUSHENKOV, A.A., kand.tekhn.nauk

Economic efficiency in the use of radio navigation systems in the merchant marine. Inform.sbor.TSNIIMF no.60 Sudovozh. i sviaz' no.15:7-13 '61. (MIRA 16:2)
(Radio in navigation)
(Merchant marine—Cost of operation)

POLYANSKIY, V.N.

Use of molybdenum salts for enhancing negative images. V. N. Polyanskii. *Poligraf. Proizvodstvo* 1954, No. 2, 16; *Referat. Zhur., Khim.* 1955, No. 8468.—A new Mo intensifier analogous to a U intensifier is proposed. As a result of intensification are formed the compds. $Fe(MoO_3)(CN)_3$ and $Fe(MoO)(CN)_3$ which form a colored layer stopping actinic rays, but do not affect the grain structure of the neg. To prep. this intensifier 1.5 g. of $K_3Fe(CN)_6$ and 1.5 g. $(NH_4)_2MoO_4$ are dissolved in 50 ml. H_2O each. The solns. are combined and 15-20 ml. 40% AcOH is added to the combined solns. Prior to treating the negatives with the intensifier they are moistened with water. In treating positives the effect of high concns. of AcOH on acetylcellulose should be taken in account. The Mo intensifier can be used also for toning positives brown. M. Hoseh

was

LFH

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342020016-2"

POLYANSKIY, V. P.

Agriculture & Plant & Animal Industry

Organization of work on the Kalinin Collective Farm. Saratovskoe obl. gos. izd-vo, 1949

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

OVSYANNIKOV, A.N.; SALGANIK, V.A.; VOROTELYAK, G.A.; POLYANSKIY, V.S.

Ways of increasing the effectiveness of breaking ore with holes drilled with rock drills. Gor. zhur. no.12:10-12 D '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog.

(Krivoy Rog Basin--Boring)

POLYKOVSKIY, V. S.

Composition of quartz inclusions from pegmatites of Maydantal. Zap. Vses. min. ob-va 91 no.4:472-477 '62. (MIRA 15:10)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.

(Tien Shan—Quartz) (Tien Shan—Pegmatites)

POLYANSKIY, V.V.

Cr

18

1ST AND 2ND ORDERS — 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Preparation of pure chromic anhydride. V. V. Polyanskii. *Trans. Inst. Pure Chem. Reagents, Sci. Tech. Dept. U. S. S. R.* No. 300, 143-54(1920).—Pure CrO_3 is prepd by interaction of technical H_2SO_4 and either tech. $K_2Cr_2O_7$ or $CaCrO_4$. The former presents no novel features. $CaCrO_4$ is prepd. by addn. to a soln. of $Na_2Cr_2O_7$ first of $Ca(OH)_2$ in a paste form, and then of a $CaCl_2$ soln.: $Na_2Cr_2O_7 + CaO = Na_2CrO_4 + CaCrO_4$ and $Na_2CrO_4 + CaCl_2 = CaCrO_4 + 2NaCl$. The soln. is concd. on a water bath, the pptd. $CaCrO_4$ collected and dried. $CaCrO_4$ is dissolved in 2 pts. H_2O, to which is added 1 pt. of H_2SO_4, d. 1.84; this is stirred, allowed to stand on the water bath, decanted from $CaSO_4$, washed with H_2O, the operation repeated until no more $CaSO_4$ is formed, the filtrate evapd. until first formation of crystals, allowed to stand, filtered off and this repeated

until most of the CrO_3 is removed. The collected CrO_3 is treated with HNO_3, d. 1.4, filtered, washed with HNO_3, heated on a sand bath at 60-100° and stirred until dry, yield 70%. The mother liquor contg. H_2SO_4 is concd. and re-used. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

L'VOV, B.K.; POLYANSKIY, Ye.A.

Rare elements in the granitoids of the Dzhabyksko-Suundun group of massifs in the Southern Urals. Vop.magm.i metam. 2:96-114 '64.
(MIRA 18:3)

BORISOVA, I.V., kand. ekonom. nauk; KISLOVA, T.A., dots.; MAKAROV, N.A., starshiy prepodavatel'; POLYANSKIY, Ye.V., dots.; GRINSHPON, F.O., red.; MALYAVKO, A.V., tekhn. red.

[Economics, organization, and planning in forestry] Ekonomika, organizatsiia i planirovanie lesnogo khoziaistva. L'vov, Izd-vo L'vovskogo univ., 1961. 302 p. (MIRA 15:3)
(Forests and forestry--Economic aspects)

POLYANSKIY, Yu., inzh.

Reference sheet. Radio no.7:54-58 Jl '63. (MIRA 16:7)

(Radio--Interference)

MAKSIMENKO, P.; POLYANSKIY, Yu.

Radio frequencies for industrial and medical high-frequency systems. Radio no.5:56-57 My '63. (MIRA 16:5)
(Medical electronics) (Ultrasonic waves--Industrial applications)

VLADIMIROV, A.S.; POLYANSKIY, Yu.A.

Small television pulse oscilloscope. Elektrosviaz' 18 no.4:61-67 Ap '64. (MIRA 17:6)

POLYANSKIY, Yu. I.

POLYANSKII, YU. I.

"Reconstruction Of The Nuclear Apparatus Of Bursaria Trucatella O. F. Mull. Under Experimental Isolation Of The Conjugating Couples. Laboratory Of Zoology Of Invertebrates (Chief: Prof. V. A. Dogel), Petergofsk Biological Institute." (p. 91) by Polyanskii, Yu. I.

SO: PREDECESSOR OF JOURNAL OF GENERAL BIOLOGY. (Biologicheskii Zhurnal) Vol. VII, 1938 No. 1

~~POLYANSKY, J.~~ POLYANSKIY, Yu. I.

"Soviet protistology during the last twenty years." (p 88) by V. Dogiel, J. Polyansky and A. Strelkov

SO: Advances in Contemporary Biology (Uspekki Sovremennoi Biologii) Vol. VIII, No. 1, 1938

POLYANSKIY, YU. I.

Practicum in the zoology of invertebrates. ch. 1. Leningrad, Narkompros RSFSR, 1941.

1. Invertebrates.

VERZILIN, Nikita Nikolayevich; D'YAKONOVA-SAVEL'YEVA, Ye.N., red.; VASIL'YEV, L.L., red.; IVANOV, A.V., red.; KOLOSOV, N.G., red.; MAKAROV, P.O., red.; POLKANOV, A.A., red. [deceased]; POLYANSKIY, YU.I., red.; STEPANOV, D.L., red.; SHVETSOVA, E.M., red.; YASHCHURZHINSKAYA, A.B., tekhn. red.

[Cretaceous sediments in the northern part of the Fergana Valley and their oil potential] Melovye otlozheniia severa Ferganskoi vpadiny i ikh neftenosnost'. Leningrad, Gostoptekhizdat, 1963. 219 p. (Leningradskoe obshchestvo estestvoispytatelei. Trudy, vol. 70, no.2). (MIRA 16:12)

POLYANSKIY, Yu.I., prof.

Professor V.A. Dogel'; on the 40th anniversary of his teaching career. Vest. LGU 2 no.4:159-162 Ap '47. (MIRA 12:9)
(Dogel', Valentin Aleksandrovich, 1882-)

POLYANSKIY, YU. I. PA 16T91

USSR/Geology Mar 1947
Minerology

"The Leningrad Society of Natural Scientists,"
Yu. I. Polyanskiy, 1 p

"Vestnik Leningradskogo Universiteta" No 3

Founded in 1868. Has four departments: zoology, botany, physiology, geology and minerology. Present President is Member - Correspondent of the Academy of Science of the USSR, Prof. Valentin Aleksandrovich Dogel'. Short outline of work of the society.

16T91

POLYANSKIY, V. I.

Flagellata

Experimental research on the variability of Euglena gracilis Klebs in culture media. Uch. zap. Ped. inst. Gerts. No. 70, 1948.

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

POLYANSKIY, YU.I.

Parasites

Origin and evolution of some ecological groups of parasitic protozoa. Uch zap. Ped. inst. Gerts. 70, 1948.

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

[illegible]

Infusoria

Infusoria from the intestines of echinoidea. Paraz. sbor. no. 13, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342020016-2"

POLIANSKII, Yu. I.

Infusoria

Certain parasitic infusoria comprising sea mollusks and holothurioidea. Paraz. sbor. no. 13, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

POLYANSKIY, Yu.I.

Some new and little known parasitic nematodes in the intestines of marine fish. Trudy zool.inst. 12:133-147 '52. (MLRA 6:6)

POLYANSKIY, Yu.I.

Two new species of digenetic trematoda from fish of the Northern Atlantic. Paraz.sbor. 14:266-280 '52.

(MLRA 6:6)

(Parasites--Fish) (Atlantic Ocean--Trematoda)

POLYHNSKIY, Yu. I.

BYKHOVSKIY, B.Ye.; POLYANSKIY, Yu.I.

Contributions to the study of marine monogenetic trematoda of the Gyrodactylidae Cobb. family. Trudy Zool.inst. 13:91-126 '53.

(Trematoda) (Parasites--Fishes) (MLRA 7:5)

POLYANSKIY, Yu. I.

36862. **POLÎANSKIĬ, ÎURIĬ IVANOVICH.** Dal'neĭshie nablîudeniîa nad kholodoustoĭchivost'îu nekotorykh massovykh vidov litoral'nykh bespozvonochnykh. (Akademiîa nauk SSSR. Zoologicheskiĭ institut. Trudy, 1953. t. 13, p. 190–206, tables) 25 refs. Text in Russian. ***Title tr.:*** Further observations on the cold resistance of some mass species of littoral invertebrates.

Contains the results of observations made in 1950–51 at the Murmansk Biological Station. The cold-hardiness of *Balanus balanoides*, *Mytilus edulis*, *Cyamium minutum*, *Actinia equina* and some other invertebrates is shown (tables 1–7). Almost all mass littoral species have a high, but different, degree of cold resistance, which apparently depends on

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their life conditions during the winter. The capacity to withstand low temperature is an important biological adaptation of littoral invertebrates of northern seas. The specialization of organisms has no influence on the cold resistance.

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POLYANSKIY, Yu. I., professor, otvetstvennyy redaktor; PRAVDIN, I.F., professor, zasluzhennyy deyatel' nauki Karelo-Finskoy SSR, redaktor; SMIRNOV, A.F., kandidat biologicheskikh nauk, redaktor; BASKAKOVA, Ye., redaktor; POD'YEL'SKAYA, K., tekhnicheskiy redaktor.

[Materials of the Conference called by the Karelian Branch of the U.S.S.R. Academy of Sciences and the Karelian section of the All-Union Scientific Research Institute of the Fish Industry of Lakes and Rivers, on the problem of increasing fish productivity in the Karelian lakes and rivers] Materialy soveshchaniia po probleme povyshenila rybnoi produktivnosti vnutrennikh vodoemov Karelo-Finskoi SSR, sozvannogo Karelo-Finskim filialom Akademii nauk SSSR i Karelo-Finskim otdeleniem VNIORKh 11-13 marta 1953 g. Petrozavodsk, Gos. izd-vo Karelo-Finskoi SSR, 1954. 194 p. [Microfilm] (MLRA 8:2)

1. Akademiya nauk SSSR. Karelo-Finskiy filial, Petrozavodsk. Institut biologii. 2. Direktor Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR (for Polyanskiy). 3. Zaveduyushchiy sektorom zoologii Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR (for Pravdin). 4. Direktor Karelo-Finskogo otdeleniya Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva (for Smirnov).
(Karelia--Fish culture)

POLYANSKIY, Yu.I.

Temperature

7185. **Resistance to temperatures below freezing of certain littoral and sub-littoral molluscs of the Barents Sea in the embryonic and post-embryonic stages of development.** Iu. I. Polianskii. *Trud. Murmansk biol. Sta.*, 1955, 2, 17–31; *Referat. Zh. Biol.*, 1956, Abstr. No. 86237.—Egg-masses laid by three species of gastropod —*Lacuna pallidula*, *L. vincta*, and *Littorina obtusa* were exposed to the influence of low temperatures (from −4° to −18°). A mixture of kitchen salt with snow and ice was used for lowering the temp. The temp. of the egg-masses became equal to that of the surrounding medium. The capacity of the embryos for further development served as a criterion of their vitality. It was shown that the embryos of *L. pallidula* and *Lit. obtusa* in all stages of development were able to endure prolonged cooling to −12°, −13°, −15°, and at −15° only single individuals died. This enables the molluscs to withstand the severe winter and spring conditions of existance in the littoral zone. The resistance to low temp. decreases in the summer and autumn months. The maintenance of the embryos of the winter generation at comparatively high temp. lowers their cold resistance. The resistance to low temp. of the sublittoral *L. vincta* is lower than that of the littoral species. In contra-distinction to the embryos, adult individuals of *L. pallidula* die after 10 hr. exposure to −12° to −13° and adult *L. vincta* do not withstand prolonged chilling to −4° to −6°. (Russian)

J. P. Harding

POLYANSKIY, Yu.I.

Materials on the parasitology of fishes in northern seas of the U.S.S.R.
Trudy Zool.inst. 19:5-170 '55. (MIRA 9:1)

1.Murmanskaya biologicheskaya stantsiya i Zoologicheskiy institut
Akademii nauk SSSR.
(Parasites--Fishes)

POLYANSKIY, Ivan Ivanovich, professor; POLYANSKIY, V.I., redaktor; POLYANSKIY, Yu.I., redaktor; ANIKIYEV, V.V., redaktor; LEONT'YEVA, L.A., tekhnicheskiy redaktor

[Seasonal phenomena in nature; a manual for teachers] Sezonnye iavleniia v prirode; posobie dlia uchitelei. Izd. 6-oe (2-oe posmertnoe). Pod red. V.I.Polianskogo i IU.I.Polianskogo. Leningrad, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, Leningradskoe otd-nie, 1956. 295 p. (MIRA 10:1)

(Phenology)

POLYANSKIY, Yu.I.; SHUL'MAN, S.S.

Variation in the parasite fauna of fishes in accordance with the age of the host. Trudy Kar.-Fin. fil. AN SSSR no.4:3-26 '56.
(MLRA 10:2)

(Parasites--Fishes)

POLYANSKIY, Yu.I.

Valentin Aleksandrovich Dogel', 1882-1955. Vest.Len.un.11 No.3: 55-62 F'56. (MLRA 9:7)
(Dogel', Valentin Aleksandrovich, 1882-1955)