"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

RADYUK, Dmitriy Prokof'yevich [Radziuk, D.P.]; BARMICHEV, V. [Barmichau, V.], red.; VALAKHANOVICH, I., tekh.red.

[On the road to a great upsurge] Pa shliakhu vialikaha uzdymu. Minsk, Vyd-va Akad.navuk BSSR, 1958. 164 p. (MIRA 12:3)
(White Russia--Economic conditions)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMICHEVA, M.

27

Refractometric determination of the oil content in flaxseeds. N. Rubinskii and M. Barmicheva. *Moslobeno-Zhirovoe Delo* **13**, No. 3, 32(1937). Results accurate to 0.01-0.27% were consistently obtained by crushing 20-1 g. of flaxseed in a hand mill and triturating 1.2-1.5 g. of the meal in a porcelain mortar with 1 g. of washed sand for 1 min. and then adding 7-8 g. C_6H_6Br for another 3 min. To obtain a representative *n* value, it is necessary to complete the filtration before the determination and compare the results with the *n* value of the C_6H_6Br. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, A.

Na reke Chusovoi. [On the river Chusovaia]. (Vokrug sveta, 1951, no. 6, p. 31-35). DLC: G1.V6

SO: Soviet Transportation and Communications, A bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, A.

IAgoda vkusnika (Tasty berry). Ris. L.Miloradovich. Leningrad, Detgiz, 1954. 47 p.

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

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84823

10.8000 2407, 2207, 2507

24.2120

S/020/60/134/005/006/023
B019/B060

AUTHORS: Barmin, A. A. and Gogosov, V. V.

TITLE: The Piston Problem in Magnetohydrodynamics

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 5, pp. 1041 - 1043

TEXT: The authors studied the motion of a piston in a conducting medium without presupposing restrictions in velocity or in the magnetic field. Piston and medium are assumed as being ideally conductive, and it is further presupposed that the internal energy of the medium be related to pressure and density by the relation $e = \gamma p(\gamma - 1)\varrho$. A diagram constructed in the velocity space served for determining the combinations of propagation rates of shock waves, of rarefaction waves, and of rotational discontinuities. The construction of this diagram presupposes the knowledge of relations between the absolute gas velocities u, v, w behind the shock waves, the velocities of rarefaction waves, and the discontinuities with respect to the Alfvèn velocity in the undisturbed medium. These relationships are discussed, and the diagram is then set up in the

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The Piston Problem in Magnetohydrodynamics S/020/60/134/005/006/023
B019/B060

velocity space. The mode of combination of waves in the plasma is inferred from the position of the piston velocity in the diagram. If Y^+ and Y^- correspond to fast and slow shock waves, P^+ and P^- to fast and slow rarefaction waves, and A to a discontinuity, the following combinations will be possible: P^+AY^-, Y^+AY^-, P^+AP^-, and Y^+AP^-. Moreover, the diagram includes planes and lines, where P^- and Y^-, P^+ and Y^+, and A, respectively, are vanishing. A. G. Kulikovskiy, G. S. Golitsin, I. A. Akhiyezer, R. V. Polovin, and G. Ya. Lyubarskiy are mentioned. The authors thank A. G. Kulikovskiy and G. A. Lyubimov for their discussions and remarks. There are 1 figure and 13 references: 11 Soviet and 2 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: May 19, 1960, by L. I. Sedov, Academician

SUBMITTED: May 8, 1960

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

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23805
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B104/B201

10 8000
3.2600 (1395,1482)

AUTHOR: Barmin, A. A.

TITLE: Discontinuity surfaces with liberation or absorption of energy in magnetohydrodynamics

PERIODICAL: Doklady Akademii nauk SSSR, v. 138, no. 1, 1961, 77-80

TEXT: A study has been made of discontinuity surfaces in an electrically conductive medium (conductivity being taken to be infinite) with arbitrary magnetic field, the internal energy being given by $p/(\gamma-1)\rho+C$. Conditions in the discontinuity are described by equations

$$v_1^2 = (\Delta h + h_1)z + 1; \quad (1)$$

$$v_2^2 = h_1 z + 1; \quad (2)$$

$$\Delta P = \Delta h\,[z - {}^1/_2(\Delta h + 2h_1)]; \quad (3)$$

$$\Delta P^* = \Delta h z; \quad (4)$$

$$\Delta R = \Delta h z/(h_1 z + 1); \quad (5)$$

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$$z^2\Delta h\,[2h_1-(\gamma-1)\Delta h]-2z\,[\Delta h\,(h_1^2+\gamma_2 P_1-1+q-$$
$$-{}^1/_2(\gamma_2-2)\,h_1\Delta h)+h_1 q]-\Delta h\,[\Delta h+2h_1]-2q=0. \qquad (6)$$

Indices 1 and 2 refer to quantities before or behind the discontinuity. $h_i = H_{ri}/H_{ni} = \tan\alpha_i$, where α_i is the angle between the magnetic field and the normal to the discontinuity surface; z is the cotangent of the angle of rotation of velocity in the discontinuity; v_1 and v_2 are the velocities of discontinuity relative to the gas before and behind the shock wave, the Alfvèn velocities being given by $V_{Ai} = H_n/\sqrt{4\pi\rho_i}$; a_+ and a_- are the velocities of, respectively, the fast and the slow magnetohydrodynamic wave: $\Delta P = P_2 - P_1 = (p_2 - p_1)\Big/\frac{H_n^2}{4\pi}$ is the jump of the reduced pressure in the discontinuity; ΔP^* is the jump of the total pressure in the discontinuity;

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for q holds: $q = (\gamma_2 - 1)Q\rho_1 \left/ \frac{H_n^2}{4\pi} + \frac{\gamma_2 - \gamma_1}{\gamma_1 - 1} \frac{p_1}{H_n^2/4\pi} \right.$, where Q is the formation energy being liberated or absorbed. A study of the system of equations (1) - (6) shows that during the development of discontinuity the following types of discontinuity arise: discontinuities with liberation of energy ($q > 0$) give rise to 1A) Super-Alfvén detonation waves. Relations $v_1^2 > a_{1n}^2$, $v_2^2 \leqslant a_{2n}^2$ hold, and the maximum condensation wave is attained with $\Delta h = 2h_1/(\gamma_2 + 1)$. 1B) Sub-Alfvén detonation. Inequalities $a_{1n}^2 < v_1^2 \leqslant 1$, $v_2^2 \leqslant a_{2n}^2$ hold here. Here, the reaction zone follows behind the slow magnetohydrodynamic shock wave. To calculate the detonation it is sufficient to know the initial density, the initial pressure, the magnetic field, q, and Δh or ε, which characterize the intensity of the explosion. 2A) Fast super-Alfvén burning. Here, the velocities satisfy the following inequalities: $a_{1n}^2 < v_1^2$, $a_{2n}^2 \leqslant v_2^2$. In gas dynamics, flames with forced velocities correspond to this type of explosion. 2B) Fast sub-

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Discontinuity surfaces with liberation

Alfvèn burning For the velocities holds: $a_{1-}^2 < v_1^2 \leqslant 1$, $a_{2-}^2 \leqslant v_2^2 \leqslant 1$. This type of explosion does not appear with such values of q_1, where sub-Alfvèn detonations arise. 2C) Slow super-Alfvèn burning. For the velocities holds: $1 \leqslant v_1^2 < a_{1-}^2$, $v_2^2 \leqslant a_{2-}^2$. The gas-dynamic pressure may both drop and rise here, and this form of explosion corresponds in gas dynamics to burning with subsonic velocity. 2D) Slow sub-Alfvèn burning. Here, for the velocities holds: $v_1^2 < a_1^2$ and $v_2^2 \leqslant a_{2-}^2$. No process in gas dynamics corresponds to this type. For calculating discontinuities of the type of burning it is sufficient to know the initial pressure, the initial density, the magnetic field, q, and v_1. In discontinuities with energy absorption ($q < 0$) the following types of discontinuity develop: 3A) A super-Alfvèn discontinuity with absorption of the type of a detonation. For the velocities holds: $v_1^2 \geqslant a_{1-}^2$, $v_2^2 < a_{2+}^2$. In this discontinuity, the reaction zone follows behind the fast magnetohydrodynamic shock wave. The pressure

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jump is positive for small $|q|$, and is negative for large $|q|$. For a given $q = q^*(\Delta h)$, $\Delta P = -P_1$, i.e., the pressure behind the discontinuity is vanishing. 3B) Sub-Alfvèn discontinuities with absorption of the detonation type. Here, for the velocities holds: $a_{1-}^2 \leqslant v_1^2 \leqslant 1$, $v_2^2 < a_{2-}^2$. The reaction zone moves behind the slow magnetohydrodynamic shock wave. With sufficiently large energy absorption this type of discontinuity does not arise $(2q < -\{2\gamma_2 P + (\gamma_2 - 1)(h_1^2 + 1)\})$. On a drop of q from 0 to q_c the condensation wave tends to infinity with fixed v_1, the jumps of the gas-dynamic pressure and of total pressure increase up to v_1^2 and $v_1^2(v_1^2 h_1^2 + h_1^2 + 1)$, respectively, where v_2^2 vanishes. 4A) Fast super-Alfvèn discontinuities with endothermic reaction. Inequalities $v_1^2 \geqslant a_{1+}^2$, $v_2^2 > a_2^2$ hold here, where $v_1^2 < v_2^2$. 4B) Fast sub-Alfvèn discontinuities with endothermic reaction: $a_{1-}^2 \leqslant v_1^2 \leqslant 1$, $a_{1-}^2 \leqslant v_2^2 < 1$. The absolute values of the

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Discontinuity surfaces with liberation... S/020/61/136/001/009/023
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pressure jumps, of the density jumps, and of the magnetic field grow with a drop of q in the two last-mentioned cases for given v_1. For a given $q = q^*(v_1)$, the pressure behind the discontinuity vanishes. 4C) Slow super-Alfvèn discontinuities with endothermic reaction: $1 \leqslant v_1^2 \leqslant a_{1+}^2$, $1 \leqslant v_2^2 \leqslant a_{2+}^2$. Here, the jump of ordinary pressure can be positive and negative. 4D) Slow sub-Alfvèn discontinuities with endothermic reaction: $v_1^2 \leqslant a_{1-}^2$, $v_2^2 < a_{2-}^2$. Here, the condensation wave tends to infinity for given v_1^2 with a drop of q, the pressure jumps and the magnetic field attain a determined value, in which v_2^2 vanishes. There are 4 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut mekhaniki Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Scientific Research Institute of Mechanics, Moscow State University imeni M. V. Lomonosov)

Card 6/7

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

41504
S/040/62/026/005/001/016
D234/D308

AUTHOR: Barmin, A. A. (Moscow)

TITLE: Investigation of surfaces of discontinuity with liberation (absorption) of energy in magnetohydrodynamics

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 5, 1962, 801-810

TEXT: The author considers surfaces of discontinuity at which exo- or endothermal reactions take place; it is assumed that the medium has infinite electric conductivity, the dependence of internal energy on pressure p and density ρ is $e = p/(\gamma-1)\rho + C$, γ and C change at the discontinuity, $p = R_0\rho T$, the flow of mass across the surface is not equal to 0, and there is a discontinuity in ρ. The magnitude and direction of the velocity and the magnetic field intensity are not restricted. It is found that in the general case two kinds of detonation and two kinds of shock ionization are possible (super-Alfven and infra-Alfven - in the first kind the ionisa-

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tion or detonation zones follow the fast shock wave, in the second they follow the slow shock wave). Furthermore, four kinds of burning discontinuities are possible (fast or slow, infra-Alfven or super-Alfven). The change of discontinuities of pressure, density, magnetic field, velocity, temperature and entropy is analyzed in detail. Conditions are derived under which infra-Alfven detonation and slow infra-Alfvén buring are possible. V. P. Demutskiy and R. V. Polovin are mentioned for their contributions in the field. There are 6 figures.

SUBMITTED: April 25, 1962

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

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

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

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

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L 43712-65 EWT(1)/EWP(m)/EPA(sp)-2/EWG(v)/EPR/EPA(w)-2/T-2/EWA(m)-2 Pd-1/Pab-10/Pe-5/Ps-4/Pi-4 IJP(c) GS

ACCESSION NR: AT5009750 UR/0000/64/004/000/0023/0032

66
B+1

AUTHOR: Barmin, A. A.

TITLE: The decay of an arbitrary magnetohydrodynamic discontinuity in the presence of a surface discontinuity with emission (absorption of energy)

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady soveshchaniya, v. 4. Riga, Izd-vo AN LatSSR, 1964, 23-32, and inserts following p. 32)

TOPIC TAGS: magnetohydrodynamic discontinuity decay, magnetohydrodynamic discontinuity radiation, super-Alfven detonation, sub-Alfven detonation, super-Alfven ionization, sub-Alfven ionization

ABSTRACT: The decay of an arbitrary magnetohydrodynamic discontinuity was solved earlier by V. V. Gogosov (PMM, 1961, 25, 1, 108). V. P. Demutskiy and R. V. Polovin (ZhTF, 1961, 31, 4, 419; ZTF, 1962, 32, 4, 1746) investigated events at the surface of the discontinuity in the presence of emission (absorption) of energy when the magnetic field is weak and the amount of energy is either small or

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ACCESSION NR: AT5009750

large relative to the square of the sound velocity. The present author solves the decay of an arbitrary discontinuity within an ideal gas with infinite conductivity in a magnetic field of arbitrary magnitude and direction. The emission (absorption) of energy takes place on the surface of the discontinuity, and the discussion covers the case of super- and sub-Alfven detonation and ionization (the four possible combustion fronts have not been investigated). Results in the form of diagrams are given for the illustrative case when the magnetic field and the velocity are in one plane on both sides of the discontinuity. Orig. art. has: 30 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 11Aug64 ENCL: 00 SUB CODE: ME

NO REF SOV: 008 OTHER: 000

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L 2802-66 EWT(1)/EWP(m)/EWA(d) [illegible] 5(k)/EWA(1) WW

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

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

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

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

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

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

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

Additional parameters are the magnetic Reynolds number and the interaction parameter

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

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ACCESSION NR: AP5021296

and the magnetic field is described by

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

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

ASSOCIATION: none

SUBMITTED: 17Nov64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 001

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APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BRON, V. A.; DIYESPEROVA, M. I.; SANOK, N. A.; Prinimali uchastiye: SEMAVINA, K. P.; BARMIN, A. N.

Interaction of refractories with manganese steel. Trudy Vost. inst. ogneup. no.2:83-100 '60. (MIRA 16:1)

(Refractory materials) (Manganese steel)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, B.P.; KONDRATOV, A.S.

Friction dynamic vibration damper. Mashinostroitel' no.2:12-13 F '63. (MIRA 16:3)

(Damping (Mechanics))

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

SHAL'NOV, V.A., kand.tekhn.nauk; BARMIN, B.F., kand.tekhn.nauk

Improved means for minor mechanization. Mashinostroitel' no.3: 14-15 Mr '63. (MIRA 16:4)

(Technological innovations)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, B.P., kand. tekhn. nauk; KONDRATOV, A.S., kand. tekhn. nauk

Resistance to vibration of boring bars. Vest. mashinostr. 43 no.7:59-64 Jl '63. (MIRA 16:8)

(Drilling and boring machinery—Vibration)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

KONDRATOV, A.S., kand.tekhn.nauk; BARMIN, B.P., kand.tekhn.nauk

Low frequency vibration damper for lathes. Mashinostroitel' no. 5:32-33 My '64. (MIRA 17:7)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

KUNDRATOV, A.G., kand.tekhn.nauk; [illegible], kand.tekhn.nauk

Criteria of the resistance to vibration of a technological system. Vest.mashinostr. [illegible] (MIRA 17:7)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

KONDRATOV, A.S., kand. tekhn. nauk; BARMIN, B.P., kand. tekhn. nauk

Effect of the vibration of the "machine tool-part-cutting tool" system on the durability of cutting tools. Izv. vys. ucheb. zav.; mashinostr. no.2:187-199 '64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut tekhnologii i organizatsii proizvodstva.

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

KONTRATOV, A.S.; BARMIN, B.P.

Relationship between the strength of cutting tools and the intensity of vibrations. Stan. i instr. 35 no.6:30-32 Je '64 (MIRA 17:8)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, B.P., kand. tekhn. nauk

Lobed flexible grinding wheel. Mashinostroitel' no.5:16-18 My '65. (MIRA 18:5)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, L.N , CHUCHMAREV, S.K., YESIN, O.A.

"Gas Permeability of Liquid Slags,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of Metallurgy, Moscow, July 1-6, 1957

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, L. N.

24-9-17/33

AUTHORS: Barmin, L. N., Yesin, O.A. and Chuchmarev, S.K.(Sverdlovsk)

TITLE: Study by the e.m.f. method of the properties of hydrogen which is dissolved in liquid slags. (Izucheniye svoystv vodoroda, rastvorennogo v zhidkikh shlakakh, metodom elektrodvizhushchikh sil)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp.114-118 (USSR)

ABSTRACT: For accurate determination of small quantities of H_2 dissolved in slag it is of interest to use the e.m.f. method which permits study of the behaviour of the hydrogen directly inside the liquid slags; for this purpose it is necessary to build a galvanic cell with oxygen and hydrogen electrodes. The authors of this paper considered it advisable to investigate the behaviour of a hydrogen electrode in slags and to compare two types of oxygen electrodes, namely, the gaseous one and the one made of solid magnesium oxides. Three types of circuits were studied, namely, the hydrogen, the hydrogen-oxygen with a barrier made of MgO and the hydrogen-oxygen with one slag. The experiments were carried out in a SiC furnace, the temperature being measured with a Pt-Pt Rh thermocouple. The diagram of the cell for the first two mentioned circuits

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

24-9-17/33

Study by the e.m.f. method of the properties of hydrogen which is dissolved in liquid slags.

is that shown in Fig.1, the diagram of the last mentioned circuit is shown in Fig.2. Data and the results are entered in tables and plotted in graphs. The authors have proved experimentally that the reversible hydrogen electrode can be materialised relatively simply for molten slags which do not contain easily reducible oxides. New experimental data confirm that solid magnesium oxide which is in contact with the liquid slag operates as a sort of oxygen electrode. The measurements have shown that the activity of the water dissolved in the slag is proportional to the square root of the activity of the calcium oxide; this is in agreement with the assumption that the hydrogen in the slag is present in the form of hydroxyl anions. The relation between the e.m.f. of the oxygen-hydrogen cell and the oxygen activity permits considering the negative magnitude of the e.m.f. as a measure of the basicity of the slag. There are 4 figures, 5 tables and 15 references, 5 of which are Slavic.

Card 2/2

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

BARMIN, L. N. Cand Tech Sci -- (diss) "Peculiarities of the behavior of hydrogen in liquid slags and metals." Sverdlovsk, 1956. 11 pp (Min of Higher Education USSR. Ural Polytechnic Inst im S. M. Kirov), 100 copies (KL, 22-56, 101)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

CHUCHMAREV, S.K., kand.tekhn.nauk, dotsent; YESIN, O.A., doktor tekhn.nauk, prof.; BARMIN, L.N., inzh.

Effect of electric current on the behavior of hydrogen dissolved in liquid metal. Izv. vys. ucheb. zav.; chern.met. no.5:59-64 My '58. (MIRA 11:7)

1.Ural'skiy politekhnicheskiy institut.
(Metals--Hydrogen content) (Liquid metals)

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BARMIN, L.N., inzh.; YESIN, O.A., doktor tekhn.nauk, prof.; CHUCHMAREV, S.K., kand.tekhn.nauk, dotsent

Effect of slag composition on the activity of the hydrogen dissolved in it. Izv.vys.ucheb.zav.; chern.met. no.6:65-73 Je '58. (MIRA 12:8)

1. Ural'skiy politekhnicheskiy institut. Rekomendovano kafedroy teorii metallurgicheskikh protsessov Ural'skogo politekhnicheskogo instituta.
(Slag--Analysis) (Hydrogen) (Activity coefficients)

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CHUCHMAREV, S.K.; YESIN, O.A.; BARMIN, L.N.

Cathodic behavior of hydrogen dissolved in molten oxides. Izv. vys. ucheb. zav.; chern. met. 4 no.8:9-17 '61. (MIRA 14:9)

1. Ural'skiy politekhnicheskiy institut.
(Slag) (Hydrogen-ion concentration)

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BARMIN, L.N.; YESIN, O.A.; CHUCHMAREV, S.K.

Determining water activity in slag by electrochemical methods. Trudy Ural. politekh. inst. no.93:28-38 '59. (MIRA 15:3)
(Slag) (Water) (Electromotive force)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

CHUCHMAREV, S.K.; BARMIN, L.N.

Effect of slag basicity on its penetrability to gas. Trudy Ural. politekh. inst. no.93:39-43 '59. (MIRA 15:3)
(Slag) (Hydrogen-ion concentration)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

SHURYGIN, P. M.; BARMIN, L. N.; YESIN, O. A.

Kinetics of oxide solution in molten silicates. Izv. vys. ucheb. zav.; chern. met. 5 no.12:5-11 '62. (MIRA 16:1)

1. Ural'skiy politekhnicheskiy institut.

(Oxides) (Silicates)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203630005-2

SHURYGIN, P.M.; BARMIN, L.N.; BORON[illegible]KOV. [illegible]

Kinetics of the dissolution [illegible] and silicon oxides in cryolite. Izv. [illegible] et. 5 no.4. 106-112 '62. (MIRA 16:5)

1. Ura[illegible]skiy politekh[illegible] i[illegible] metal[illegible]cheskikh p[illegible] v.
(N[illegible] metals—Electrometallurgy)
(Diffusion)

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REEL # 36

BARBOY, V.M.

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