BALYCHEV, O.N.; ZHILKO, E.I.; SHIBAYEV, I.P.

Device for an automatic selection of an optimum permissible deviation of the temperature of charge-hole circumference from its mean temperature. Sbor. trud TSNIICHM no.30:28-32 '63. (MIRA 16:10)

(Blast furnaces—Equipment and supplies)
(Automatic control)

ZHILKO, E.I.; MITROPOL'skiy, Yu.I.

Some problems in the design of arithmetic elements for control computers. Sbor. trud TSNIICHM no.30:72-81 '63. (MIRA 16:10)

(Electric computers--Design and construction)

GALYATIN, V.M.; KALINSKIY, D.N.; Prinimali uchastiye: KUROCHKIN, I.F.; DUVANOV, A.I.; SOLOV'YEV, Yu.F.; GERASIMOV, Yu.V.; GROSVAL'D, V.G.; SHASHKOV, V.N.; VOLKOV, A.A.; ZHILKO, E.I.; MITROPOL'SKIY, Yu.I.; FEDOSEYEV, S.V.; GONCHAROV, F.I., rabotnik; SHEMETOV, P.Ye., rabotnik; CHUPRINA, I.A., rabotnik; DEMIN, P.Ye., rabotnik; GONCHARENKO, P.V., rabotnik; SIMANYUK, G.N., rabotnik

Investigating power and technological parameters of rolling on the 2350 medium sheet mill. [Sbor. trud.] TSNIICHM no.29:138-148 '63. (MIRA 17:4)

1. Sotrudniki TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (for Gerasimov, Grosval'd, Shashkov, Volkov, Zhilko, Mitropol'skiy, Fedoseyev). 2. Listoprokatnyy tsekh Magnitogorskogo metallurgicheskogo kombinata (for Goncharov, Shemetov, Demin, Chuprina, Goncharenko, Simanyuk).

BOGDANOV, A.V.; ZHILKO, E.I.; FEDOSEYEV, S.V.

Operating magnetic memory unit (MOZU) for a special-purpose electronic computer. Sbor. trud TSNIICHM no.30:94-101 '63. (MIRA 16:10)

(Magnetic memory(Calulating machines))

KALINSKIY, D.N.; ZHILKO, E.I.; GALYATIN, V.M.

Determining the static current component of a rolling-mill motor. Sbor. trud TSNIICHM no.30:108-115 '63. (MIRA 16:10)

(Rolling mills--Electric driving)

ZHILKO, E.I.; MITROPOL'SKIY, Yu.I.

High-reliability logical circuits equipped with ferrite transistor cells. Sbor. trud TSNIICHM no.30:82-92 '63. (MIRA 16:10)

(Electronic computers--Design and construction)

BALYCHEV, O.N.; ZHILKO, E.I.; MAKEYEV, I.F.; SHIBAYEV, I.P.

Command and executive device for automatic control of a charge distributor depending on the gas temperature along the charge hole circumference of a blast furnace. Sbor. trud TSNIICHM no.30:23-27 '63. (MIRA 16:10)

(Blast furnaces—Equipment and supplies)
(Automatic control)

ZHILKO, E.I., insh.

Using logical circuits for controlling technological processes.
Sbor.trud.TSNIICHM no.14:246-257 '58. (MIRA 12:5)
(Electronic control)

ZHILKO, Vladimir Vasil'yevich; LAZARCHIK, K., red.; ZEN'KO, M., tekhn. red.

[Erosion control in White Russia]Bor'ba s eroziei pochv v Belorusskoi SSR. Minsk, Gos.izd-vo sel'khoz. lit-ry BSSR, 1962. 39 p. (MIRA 15:11)

(White Russia--Erosion)

ZHILKO, V. V.

"The Role of Amelioration in Raising the Fertility of Peat-Bog Soils (on the Basis of Actual Practices of the Mayak Sotsializma Kolkhoz of Rudensk Rayon, Minsk Oblast)." Acad. Sci. Belorussian SSR, Inst. of Amelioration, and Water and Bog Economy, Minsk, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

ZHIL'KOV, E.A.; STRATONOVICH, R.L.

Thermodynamics of phase transitions in certain systems. Izv. vys. ucheb. zav.; fiz. no.6:15-18 '63. (MIRA 17:2)

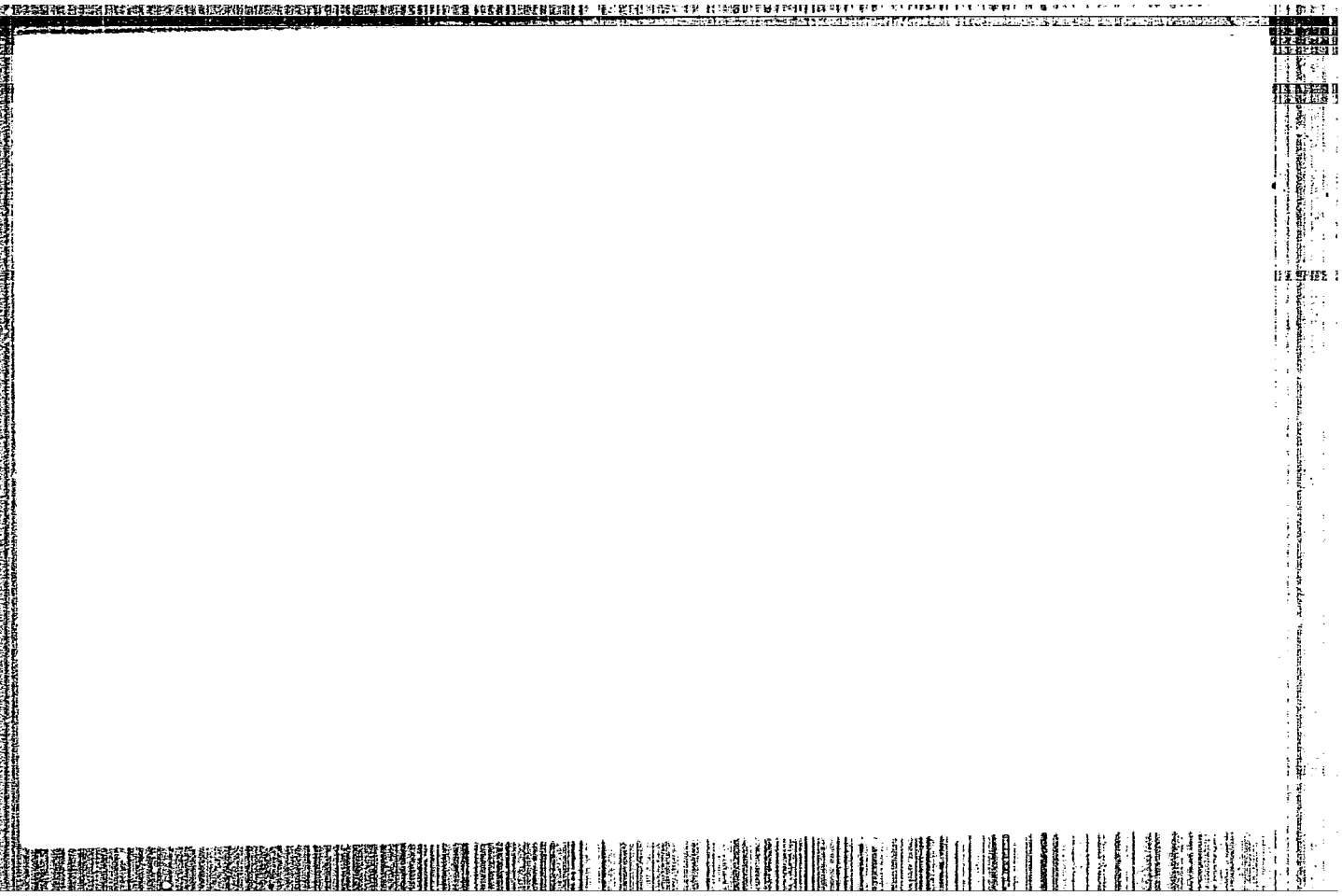
1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

VIL'KOV, E.A.

Statistical theory of the critical point. Izv. vys. ucheb. zav.; fiz. no.4:54-60 '64 (MIRA 17:8)

Statistics for certain systems. Ibid.:168-172

1. Fizicheskiy institut imeni Lebedeva.



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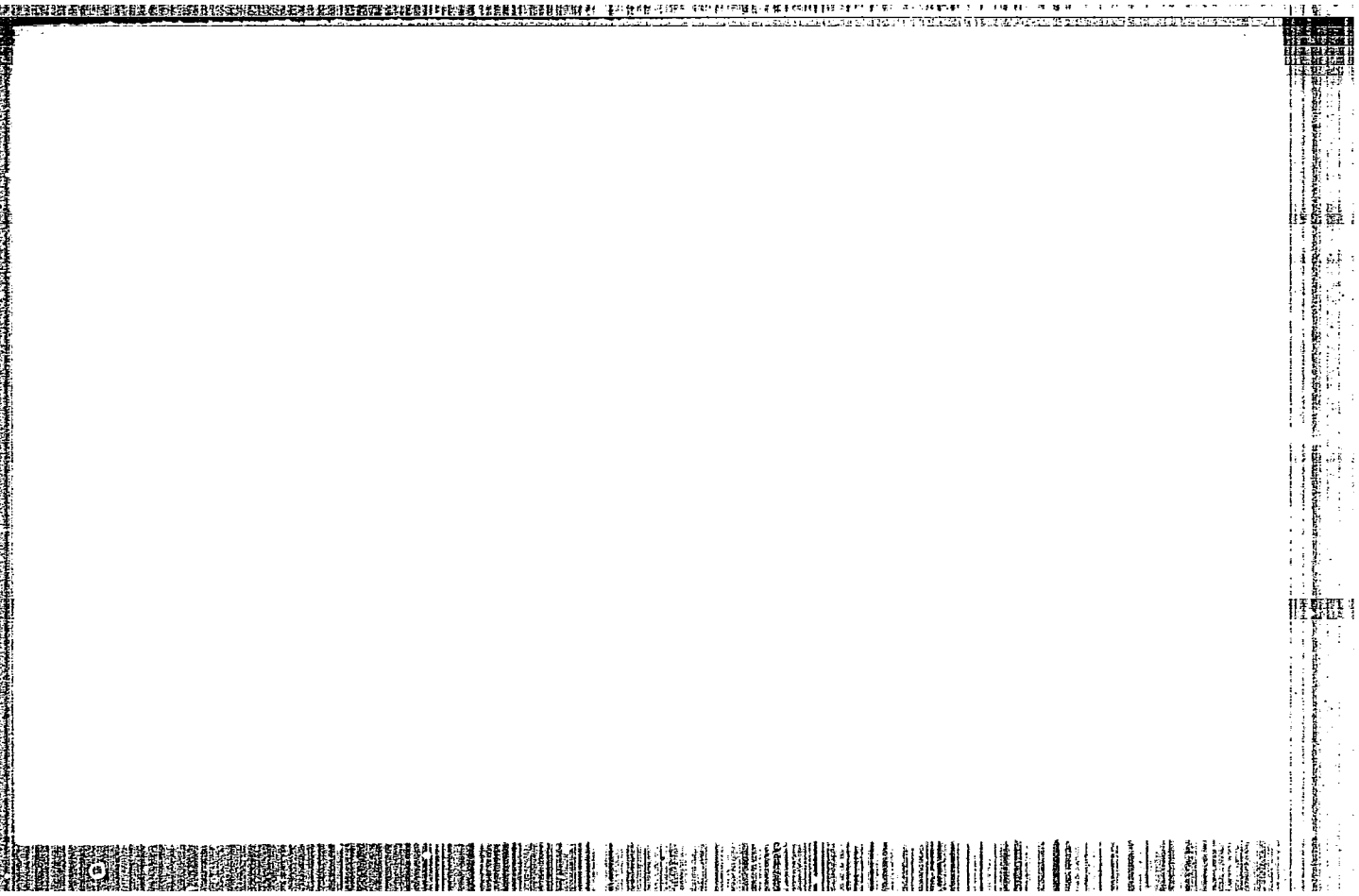

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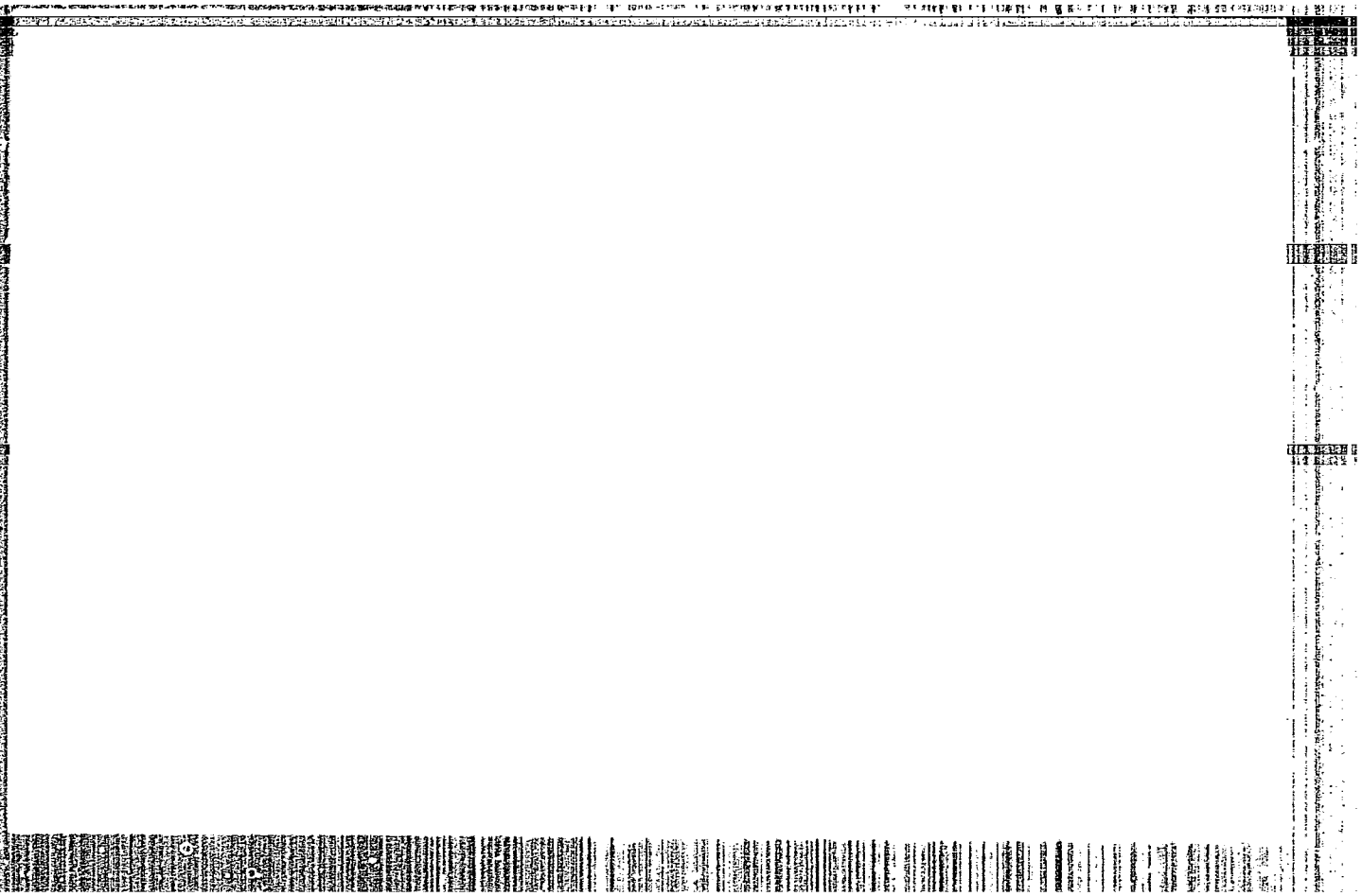

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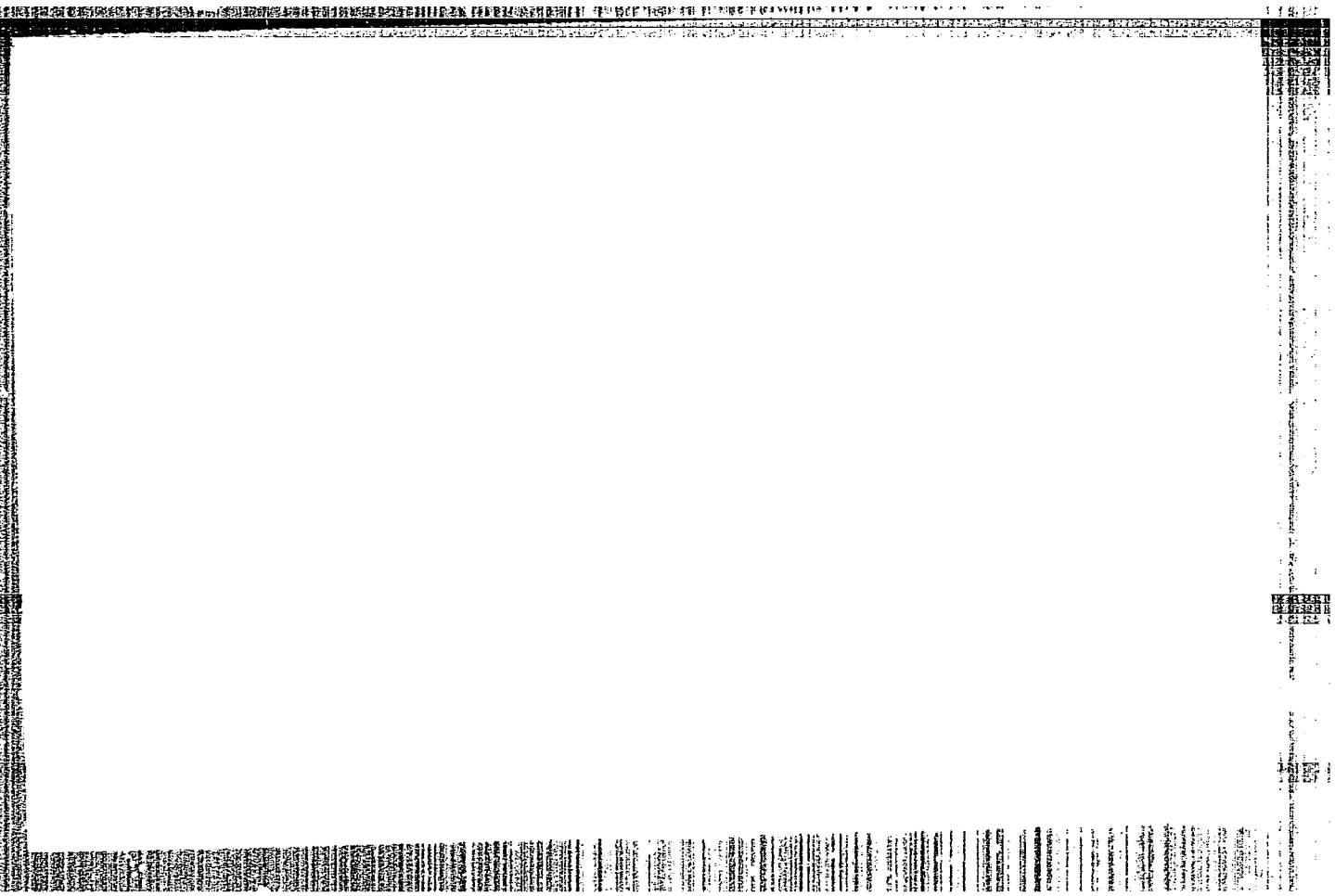


APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064810017-2"

STRATONOVICH, R.L.; ZHIL'KOV, E.A.

Some relations between thermodynamic functions and its theoretico-informational interpretation. Vest.Mosk. un. Ser. 3: Fiz., astron. 20 no.2:44-52 Mr-Ap '65. (MIRA 18:5)

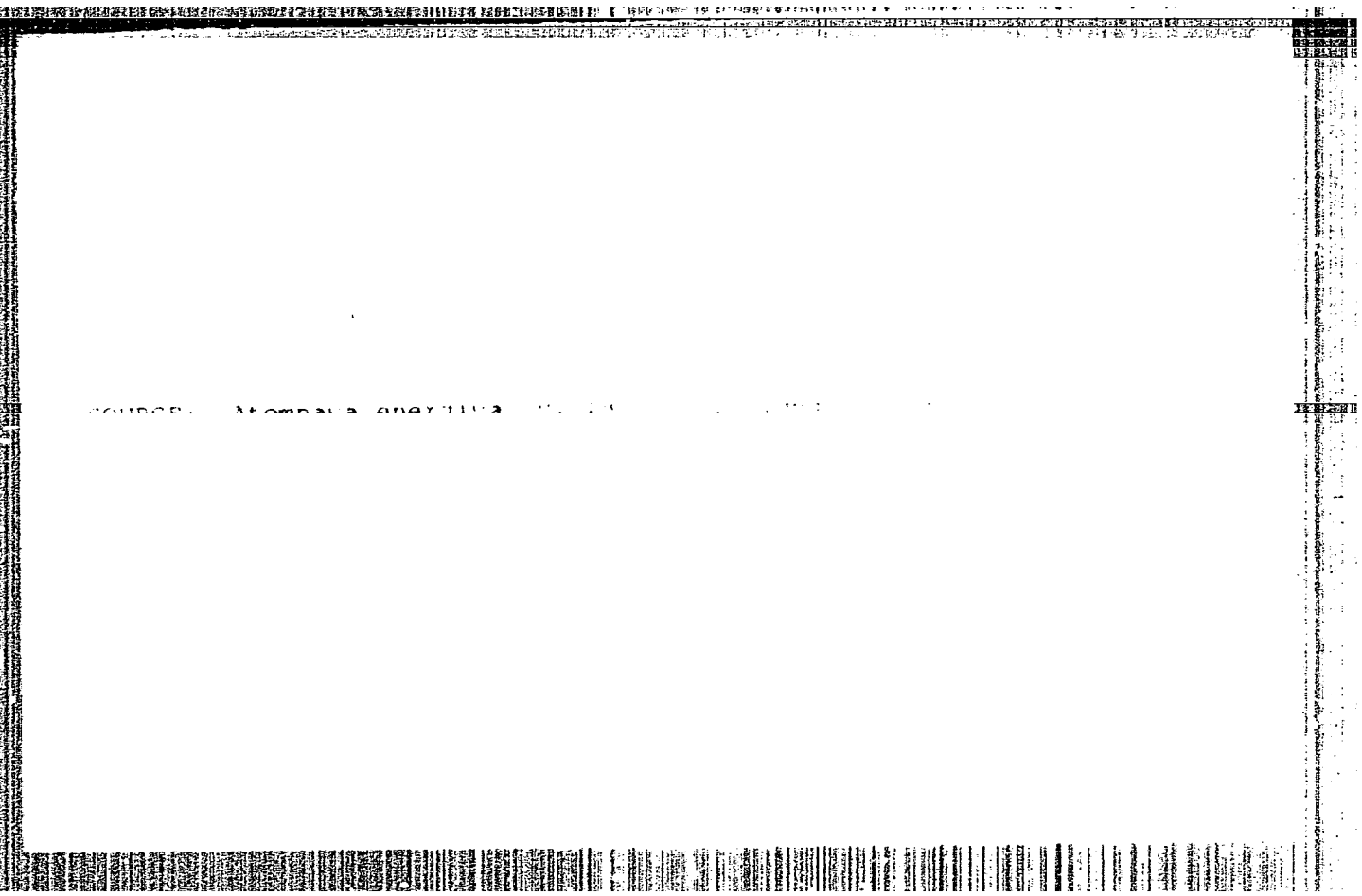
1. Kafedra obshchey fiziki dlya mekhaniko-matematicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta.

ZHIL'KOV, E.A.

Stability of a cluster in a proton synchrotron with automatic control. Prib. i tekh. eksp. 10 no.1:17-20 Ja-F '65. (MIRA 18:7)

ZHIL'KOV, E.A.

Passage throught the critical energy zone in a self-controlled accelerator. Atom. energ. 18 no.6:634-636 Je '65. (MIRA 18:7)



Stability criteria are derived from the solution of the equation for

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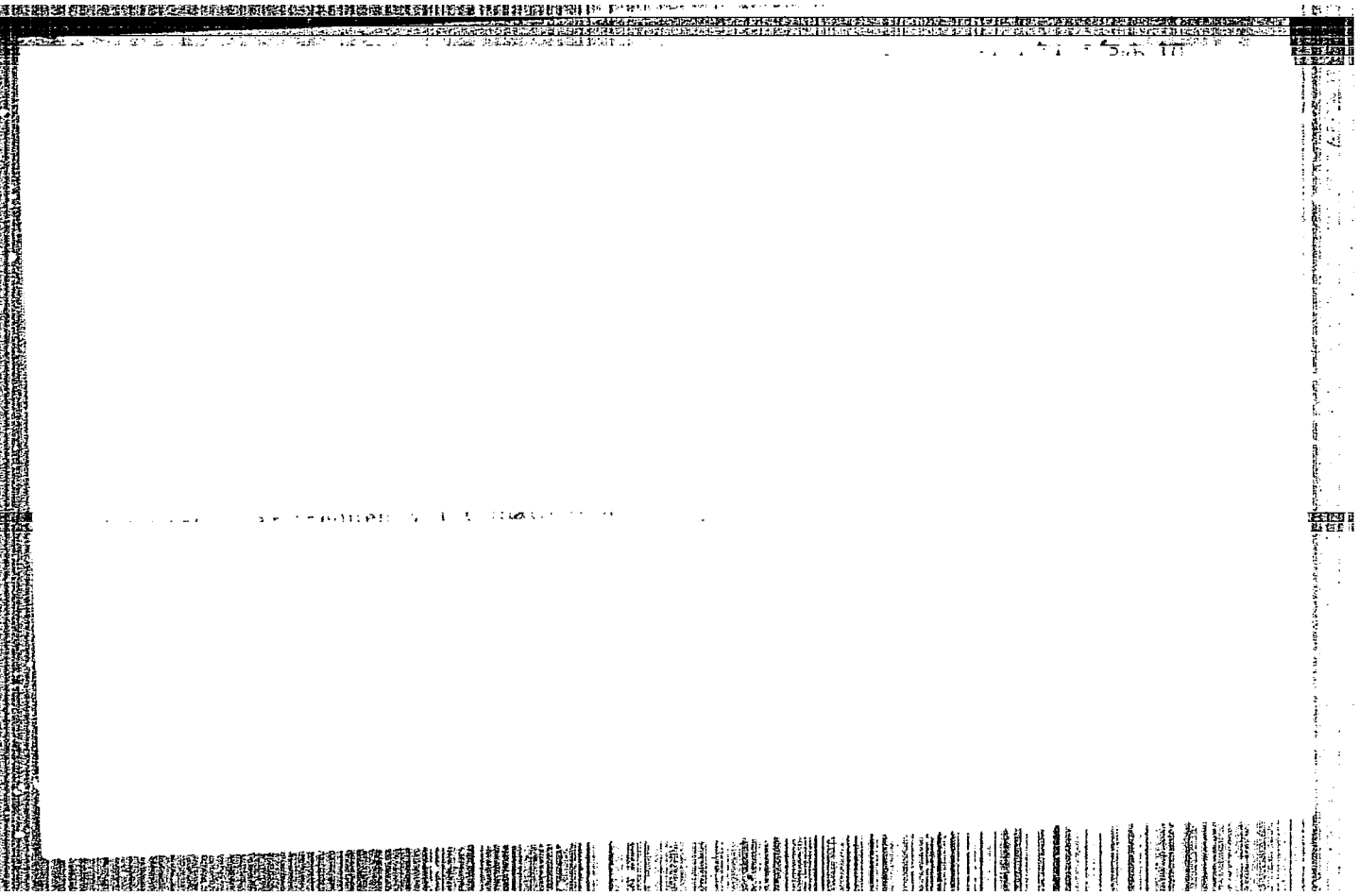

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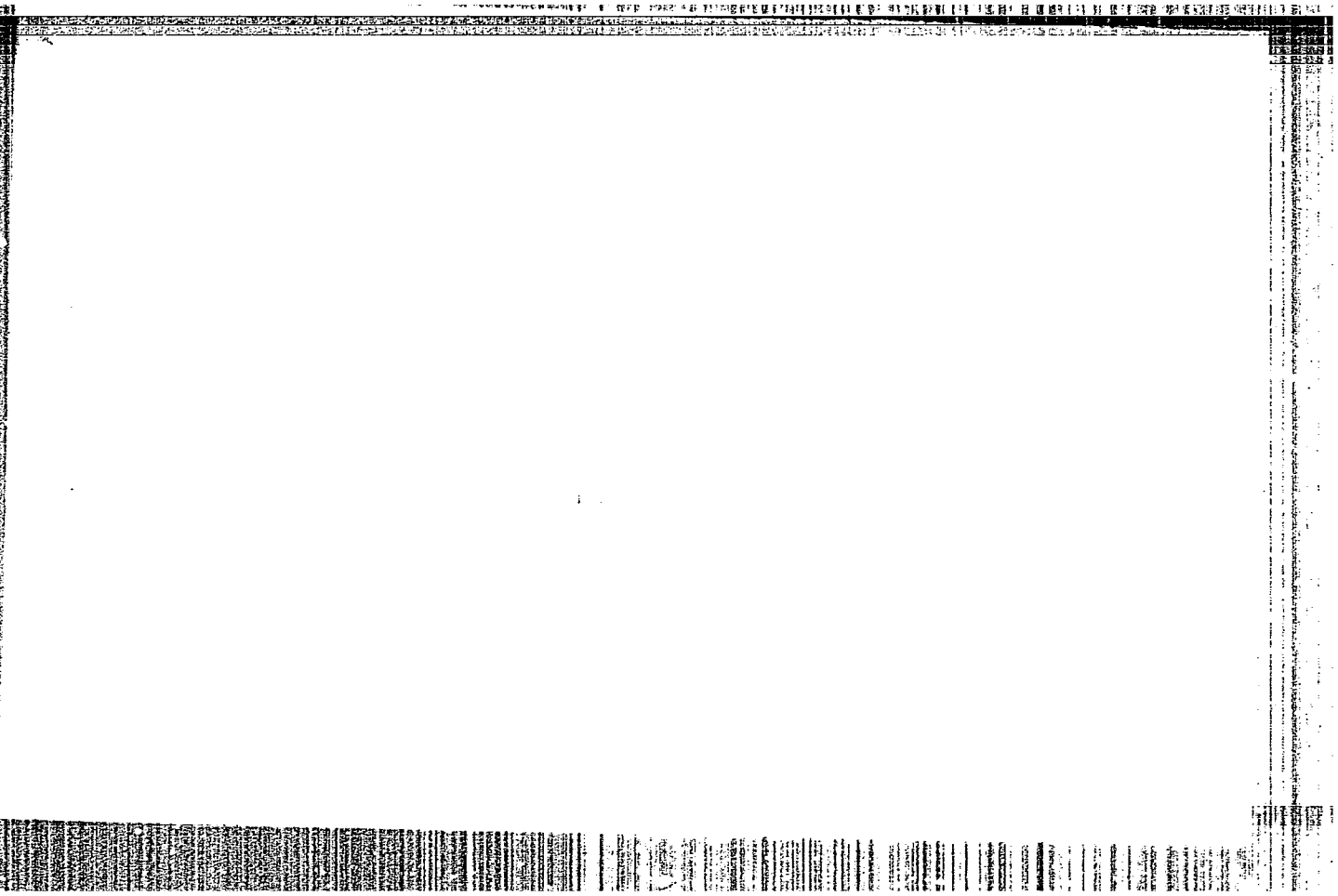

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ZHIL'KOV, E.A.; LEBEDEV, A.N.

Phase stability of a system of particles in accelerators with automatic control. Atom. energ. 18 no.1:22-28 Ja '65.
(MIRA 18:2)

ZHIL'KOV, E.A.

Phase stability of a cluster of particles in an accelerator with automatic control. Atom. energ. 18 no.1:58-59 Ja '65.
(MIRA 18:2)

Zhilkov, L. G.

Hydraulic Engineering

Hydraulic separation of soils is the basis for intensive construction by hydraulic fill. Gidr. i mel. 4 No. 9, 1952.

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

ZHILKOV, L.G., kand.tekhn.nauk

Suction dredge with hydrovibrators. Gidr.i mel. 14 no.11:61-63 N '62. (MIRA 15:12)

(Dredging machinery)

ZHILKOV, Leonid G., k.t.n. inzh.

Water sorting of soils. Khidrotekh i melior 9 no.7:200-201 '64.

TSAREVSKIY, Aleksey Mikhaylovich, kandidat tekhnicheskikh nauk; ZHILKOV, Leonid Georgiyevich, kandidat tekhnicheskikh nauk; PUGAVKO, Boris Tulianovich, inzhener-konstruktor; MOROZ, I.I., redaktor; ISLENT'YEVA, P.G., tekhnicheskiy redaktor.

[Minor hydraulic engineering equipment; new machines for the dredging of lakes, canals and small rivers] Malaia gidromekhanizatsiia; novye mashiny dlia ochistki prudov, kanalov i malykh rek. Moskva, Izd-vo "Znanie," 1954. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii, Ser. 4, no.23) [Microfilm]
(Dredging machinery) (MLRA 7:11)

41463

S/044/62/000/009/062/069
A060/A000

16.8110

AUTHORS: Zhill', I.K., Dekol'n, P.A.

TITLE: On the stability of forced oscillations in nonlinear automatic control systems

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 46, abstract 9V244 K ("Mezhdunar. federatsiya po avtomat. upr. 1-y Mezhdunar. kongress po avtomat. upr.", Moscow, AN SSSR, 1960, 12 pp, ill.)

TEXT: In investigating forced oscillations of a system by the method of harmonic balancing, it is proposed that the following equation be analyzed graphically:

$$F = AN(A)\left|\frac{1}{N(A)} + L(j\omega)\right|, \quad (1)$$

where F is the amplitude of the perturbing input quantity, A is the amplitude of the forced oscillations, N (A) is the equivalent amplification factor of the nonlinear element, L (jω) is the phase-amplitude characteristic, instead of

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On the stability of forced oscillations in ....

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analyzing the equation

$$F = A\left|1 + N(A)\,L(j\omega)\right|, \quad (2)$$

in which the product N (A) L (jω) is complicated, particularly in the presence of hysteresis (in that case N (A) is complex). It is indicated that in the presence of hysteresis in the nonlinear element the unstable forced oscillations correspond to the branch of the amplitude characteristic enclosed between the points at which their tangent is vertical. In the absence of hysteresis amplitude, jumps may be observed at a frequency ω only in the case that the point U (ω), V (ω) lies inside the circumscribing family of circles

$$U^2 + V^2 + \frac{N + (N + AN')}{N(N + AN')}\,U + \frac{1}{N(N + AN)} = 0, \quad (3)$$

where U and V are the real and imaginary parts of L (jω).

[Abstracter's note: Complete translation] V.S. Vatolin

Card 2/2

ZHIL'MO LASLO

18(0) PHASE I BOOK EXPLOITATION SOV/1728

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,600 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Eds. of Publishing House: V.S. Rzhevnikov, and A.N. Dernov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical personnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Bardin on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of two articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nicholas Grant, and John Elliott (M.I.T., USA) describing their meeting with Bardin in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major portion of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles treating the metallurgy of nonferrous metals. The fifth part consists of three articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No personalities are mentioned.

TABLE OF CONTENTS:

Modern Problems in Metallurgy SOV/1728

Card 11/12

ZHILNENKOV, I.V.

Temperature coefficient of the dielectric constant of sorbed water. Zhur. fiz. khim. 36 no.11:2406-2412 N'62.
(MIRA 17:5)

1. Voronezhskiy sel'skokhozyaystvennyy institut.

ZHIL'NIKOV, G.G.

Economic efficiency of various mining systems. Nauch.trudy MGI no.30: 67-74 '60. (MIRA 14:3)

(Coal mines and mining—Costs)

ACC NR: AP7005647 SOURCE CODE: UR/0413/67/000/002/0094/0094

INVENTOR: Kusherbayev, N. I.; Zhil'nikov, V. D.; Gubanov, L. A.

ORG: None

TITLE: A gravimetric correction meter. Class 42, No. 190597 [announced by the Kazakh Affiliate of the All-Union Scientific Research Institute of Exploratory Geophysics (Kazakhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta razvedochnoy geofiziki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 94-95

TOPIC TAGS: gravimeter, error correction

ABSTRACT: This Author's Certificate introduces a gravimetric correction meter based on Author's Certificate No. 167047. The instrument is designed for a wider distance measurement range, measurement of corrections during operation with gravitational variometers and gradiometers and also for increased productivity. The unit contains a range finder, a device for automatic summation of the quantities measured and correction scales in gravitational force derivative units.

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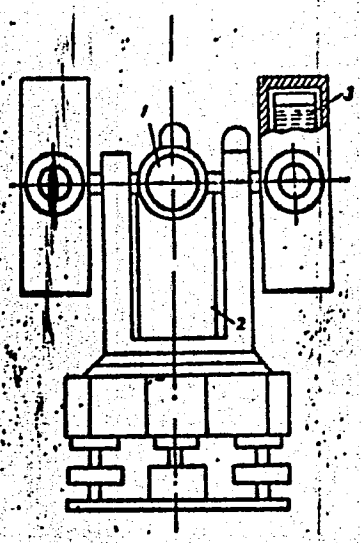
UDC: 550.831

ACC NR: AP7005647



1—range finder; 2—automatic summation unit; 3—scales

SUB CODE: 08/ SUBM DATE: 29Jan66

Card 2/2

ZHIL'NIKOV, V.I., inzh.

Hydrogenation of rosin. Masl.-zhir. prom. 27 no. 4:26-27 Ap '61.
(MIRA 14:4)

1. Voronezhskiy zhirovoy kombinat.
(Voronezh—Rosin)

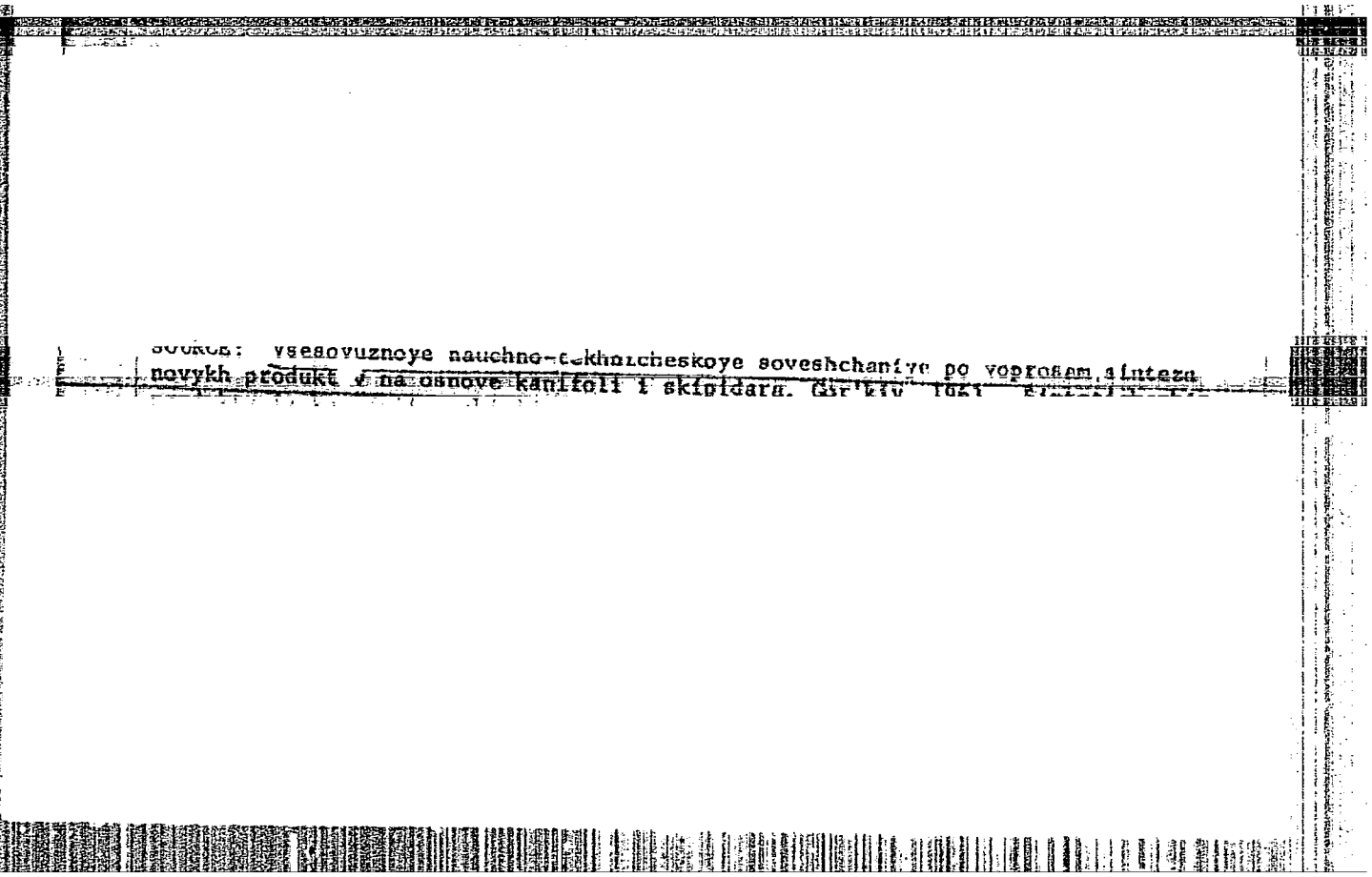
ZHIL'NIKOV, V.I.; SLUKIN, A.D.; SHATALOV, V.P.; KHLOPOTUNOV, G.F.

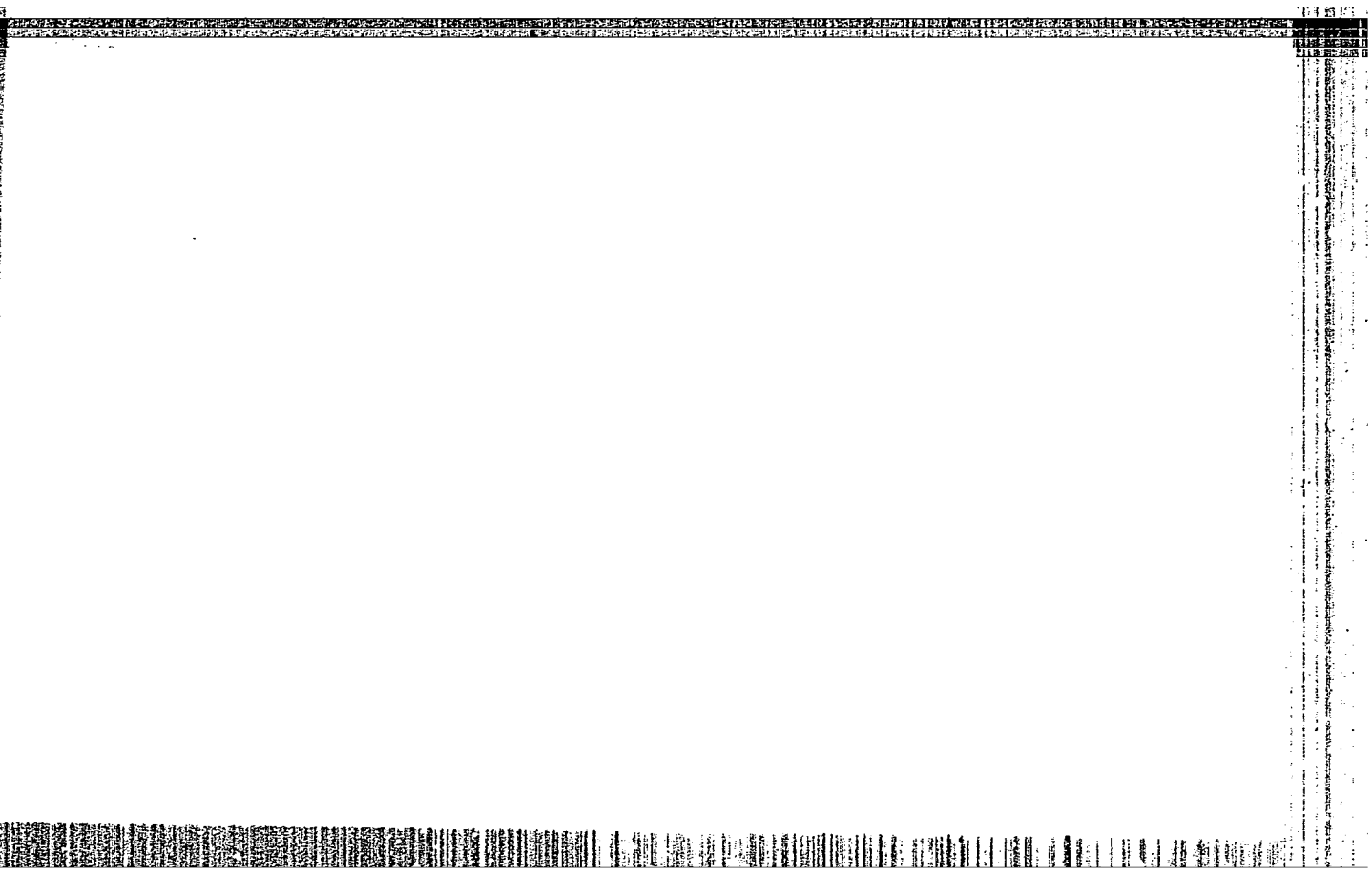
Rosin emulsifier for butadiene-styrene rubbers. Gidroliz. i lesokhim.prom. 16 no.3:21-23 '63. (MIRA 16:5)

1. Voronezhskiy zhirkombinat (for Zhil'nikov). 2. TSentral'no-Chernozemnyy sovet narodnogo khozyaystva (for Slukin). 3. Voronezhskiy zaovd sinteticheskogo kauchuka (for Shatalov, Khlopotunov).
(Rubber, Synthetic) (Emulsifying agents)

SHATALOV, V.P.; KHLOPOTUNOV, G.F.; SLUKIN, A.D.; ZHIL'NIKOV, V.I.

Hydrogenation of rosin under atmospheric pressure. Gidroliz. i lesokhim. prom. 16 no.6:5-7 '63. (MIRA 16:10)





APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064810017-2"

SHATALOV, V.P.; KHLOPOTUNOV, G.F.; SLUKIN, A.D.; ZHIL'NIKOV, V.I.; SOTNIKOV, I.F.

Investigating the process of colophony hydrogenation on a palladium catalyst. Gidroliz. i lesokhim. prom. 17 no.6:22-24 '64. (MIRA 17:12)

L 34414-66

ACC NR: AT6022229 SOURCE CODE: UR/0000/66/000/000/0007/0013

AUTHOR: Kukush, V. D.; Oychinnikov, I. K.; Tsar, Ya. P.; Zhilkov, V. S.; Pasechnik, V. F.; Bobol', N. K.; Volkov, V. M.

22 B+1

ORG: none

TITLE: Device for measuring deviations in the power level 9M

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio, 22d, 1966. Sektsiya radioizmereniy. Doklady. Moscow, 1966, 7-13

TOPIC TAGS: power meter, electric measuring measurement, generator

ABSTRACT: A device for measuring the output power of uhf generators is described. The device operates on the principle of a balanced static calorimeter used for precise power measurements in the centimeter and millimeter ranges. The system incorporates a balanced static calorimeter and a measuring block. The balanced calorimeter consists of two identical coaxial loads, i.e., an hf load and a compensated load. D-c heaters are incorporated directly in the loads. The measuring block consists of three basic sections: a d-c amplifier, a measuring circuit, and stabilized power supply sources. The following data were obtained in experiments with the device which characterize its efficiency: voltage standing wave ratio of the terminal section is practically

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L 34853-66

ACC NR: AP6021790

transformers have three terminals (two end terminals and a center tap each). The end terminals of opposite transformer sections are connected to each other through rectifier diodes. The load and a ballast resistor are tied to transformer secondary center taps connected in pairs as indicated. This arrangement increases the efficiency of the unit with respect to the reference voltage source and assures an abrupt limiting of the output voltage when the linear range of the characteristic is exceeded (see Fig. 1). Orig. art. has: 1 figure. [BD]

SUB CODE: 09/ SUBM DATE: 12Mar65/ ATD PRESS: 5032

Card 2/2 FV

ZHIL'NIKOVA, A., vagonovozhataya; ANASHKINA, Ye.

Comments by leaders of the competition for titles of brigades and shock workers of communist labor. Zhil.-kom. khoz. 10 no.7:3 '60.
(MIRA 13:10)

1. Upravleniye tramvaynogo khozyaystva g. Stalinska Kemerovskoy oblasti (for Zhil'nikova). 2. Master Fabriki-prachechnoy No.4 Kirovskogo rayona g. Moskvyy (for Anashkina).
(Stalinsk--Street railways--Employees) (Moscow--Laundry industry)

ZHIL'NIKOVA, A.V.; KNYAZEV, A.D.

Automatic lamp rooms in Kuznetsk Basin mines. Adm.-byt. komb. ugol'. shakht. no.4:53-57 '61. (MIRA 15:8)

1. Gosudarstvennyy inzhenerno-proyektnyy institut po proyektirovaniyu shakhtnogo stroitel'stva v Kuzbasse.
(Kuznetsk Basin--Mining engineering--Safety measures)

14(8) PHASE I BOOK EXPLOITATION SOV/1585

Spravochnik po okhrane truda i tekhnike bezopasnosti (Handbook on Industrial Safety and Safety Engineering) Moscow, Metallurgizdat, 1958. 470 p. 12,000 copies printed.

Compilers: P. I. Raylo and M. Ye. Zhilo; Ed. of Publishing House: A. I. Brushteyn; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: The handbook is intended for those individuals in national economic councils and industrial establishments responsible for workers' safety. It may also serve as a safety engineering manual for engineering and technical personnel in ferrous metallurgy and for workers of planning organizations.

COVERAGE: This handbook is an enlarged edition of the volume published by Metallurgizdat in 1948. It contains the following material dealing with the improvement of health conditions at work: 1) instruction on the conduct of compulsory preliminary and periodical medical examinations; 2) sanitation standards when planning industrial establishments (N101-54), with changes introduced as of Jan 1, 1958; 3) sanitation regulations governing the transport, storage, accounting, and work with radioactive substances, approved on

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April 14, 1957. The handbook contains decrees, directives, instructions, and other data on the industrial safety of workers and safety engineering in force as of August 1, 1958. There are no references, and no personalities are mentioned.

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Handbook on Industrial (Cont.) SOV/1585

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AVAILABLE: Library of Congress

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Card 17/17

SHELEKETIN, Aleksandr Vital'yevich; KARPUSHINSKIY, Naum Savvich; ZHILO, M.Ye., red.; ISLENT'YEVA, P.G., tekhn.red.

[Improvement of working conditions at iron ore agglomeration factories] Ozdorovlenie uslovii truda na aglomeratsionnykh fabrikakh zheleznoi rudy. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1960. 117 p. (MIRA 13:12)

(Sintering--Hygienic aspects)

SHTROMBERG, Yakov Abramovich, kandidat tekhnicheskikh nauk; ZHILO, M.Ye., redaktor; AVRUTSKAYA, R.F., redaktor izdatel'stva; MIKHAYLOVA, V.V., tekhnicheskiy redaktor

[Dust removal ventilation in rolling mills] Obespyliva iushchaia ventiliatsiia prokatnykh stanov. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 71 p. (MIRA 10:9)

(Factories--Heating and ventilation)

GUZEV, Yefim Matveyevich; DESYATNIK, Yudko Froimovich; ROMANOV, Petr Nikolayevich; KHOROSHILOV, Vasiliy Ivanovich; ZHILO, M.Ye., redaktor; AVRUTSKAYA, R.F., redaktor izdatel'stva; [redacted], A.I., tekhnicheskiy redaktor

[Safety engineering in the preparation, loading, unloading and reprocessing of ferrous scrap] Tekhnika bezopasnosti pri zagotovke, pogruzke, razgruzke i pererabotke loma chernykh metallov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 103 p. (MIRA 10:9)
(Scrap metal industry--Safety measures)

ZHILO, M. YE.

VOLKOV, Yuriy Nikovayevich; ZHILO, M.Ye., red.; AVRUTSKAYA, P.F., red. izd-va; KARASEV, A.I., tekhn. red.

[Safety engineering in wire drawing] Tekhnika bezopasnosti pri volochenii provoloki. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 86 p. (MIRA 11:7)
(Wire drawing—Safety measures)

RAYLO, P.I.; ZHILO, M.Ye.; BRUSHTEYN, A.I., red.izd-va; DOBUZHINSKAYA, L.V., tekhn.red.

[Handbook on labor protection and safety engineering] Spravochnik po okhrane truda i tekhnike bezopasnosti [Sost. P.I.Raylo, M.E. Zhilo] Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 470 p. (MIRA 12:1)
(Metallurgical plants--Safety measures)

ZHILO, M.Ye.

Constanly study and introduce positive results of research on the sanitation of working conditions. Metallurg 6 no.11:35-37 N '61. (MIRA 14:11)

(Metallurgy--Hygienic aspects)

ZHILO, M.Ye.

Practices in improving working conditions in open-hearth furnace plants. Metallurg 7 no.8:31-33 Ag '62. (MIRA 15:9)
(Open-hearth process--Hygienic aspects)

RAYLO, P.I.; ZHILO, M.Ye.; BRUSHTEYN, A.I., red. izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Manual for labor protection and safety engineering] Spravochnik po okhrane truda i tekhnike bezopasnosti. Moskva, Metallurgizdat, 1962. 478 p. (MIRA 15:6)
(Industrial safety) (Industrial hygiene)

OSTROUKHOV, Mark Yakovlevich. Prinimala uchastiye ZHILO, N.L., kand. tekhn. nauk; MANCHINSKIY, V.G., kand. tekhn. nauk, dots., retsenzent; SHAROPIN, V.D., red.

[Slag formation process in the blast furnace] Protsess shlakoobrazovaniia v domennoi pechi. Moskva, Metallurgizdat, 1963. 222 p. (MIRA 18:8)

BABARYKIN, N.N.; GALATONOV, A.L.; SAGAYDAK, I.I.; SHPARBER, L.Ya.; TSVERLING, A.L.; YAKOBSON, A.P.; BORTS, Yu.M.; ZHILO, N.L.; KOPYRIN, I.A.; OSTROUKHOV, M.Ya.

Experimental smelting with a reduced slag output. Stal' 24 no.12:1069-1075 D '64. (MIRA 18:2)

1. Magnitorskiy metallurgicheskiy kombinat i Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii.

BOL'SHAKOVA, L.I.; ZHILO, N.L.

Effect of barium oxide on the viscosity of blast furnace slags. Izv. vys. ucheb. zav.; chern. met. 5 no.5:44-50 '62. (MIRA 15:6)

1. Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii.
(Slag--Testing) (Barium oxide)

ZHILO, N.L.; KALININA, Z.M.

At the Chelyabinsk Metallurgical Research Institute. Stal' 22 no.9:816, 849 S '62. (MIRA 15:11)
(Chelyabinsk--Metallurgical research)

VYATKIN, G.P.; ZHILO, N.L.; OSTROUKHOV, M.Ya.

Viscosity of high-magnesium iron slags. [Sbor. trud.] Nauch.-issl.inst.met. no.4:26-32 '61. (MIRA 15:11)
(Slag)
(Viscosimetry)

SAGAYDAK, I.I. (Chelyabinsk); ZHILO, N.L. (Chelyabinsk); BOL'SHAKOVA, L.I. (Chelyabinsk)

Viscosity of the blast furnace slags from the Magnitogorsk Metallurgical Combine. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.3:50-57 My-Je '63. (MIRA 16:7)
(Magnitogorsk--Blast furnaces) (Slag) (Viscosimetry)

ZHILO, N.L.

Effect of calcium oxide and calcium fluoride on the viscosity of slags in the system MgO - SiO_2 - Al_2O_3. [Sbor. trud.] Nauch.-issl.inst.met. no.4:101-114 '61. (MIRA 15:11)
(Slag--Analysis)
(Viscosimetry)

VYATKIN, G.P.; ZHILO, N.L.; OSTROUKHOV, M.Ya.

Viscosity of high-magnesium blast furnace slags with 10 to 20% ferrous oxide. Izv. vys. ucheb. zav.; chern. met. 5 no.10:25-30 '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii.
(Slag--Testing) (Viscosimetry)

GUL'TYAY, I.I. (Moskva); ZHILO, N.L. (Moskva); RUDNEVA, A.V. (Moskva); SOKOLOV, G.A. (Moskva); TSYLEV, L.M. (Moskva)

Effect of potassium oxide on the viscosity of molten calcium-alumina-silicon systems corresponding to the composition of primary blast furnace slags. Izv. AN SSSR. Otd. tekh. nauk Met. i topl. no.2: 3-7 Mr-Ap '59. (MIRA 12:6)
(Potassium oxides) (Viscosity) (Slag)

PHASE I BOOK EXPLOITATION SOV/4558
SOV/16-8-5

Akademiya nauk SSSR. Institut metallurgii

Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya (Physicochemical Research Methods in Metallurgy and Metal Science) Moscow, Izd-vo AN SSSR, 1960. 251 p. (Series: Its: Trudy, vyp. 5) Errata slip inserted. 2,800 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: I.P. Bardin, Academician (Deceased); Ed. of Publishing House: V.A. Klimov; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles is intended for metallurgists and metal researchers.

COVERAGE: The collection contains articles on metallurgy, metal science, and physicochemical research methods. Separate articles discuss the structure and properties of some metals and alloys. The effect of cold treatment and inclusions on the properties of alloys are analyzed, and instruments and

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Physicochemical Research Methods (Cont.) SOV/4558

methods used in investigating the processes occurring in metals and alloys are described. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

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ZHILO, N.L. (Chelyabinsk)

Investigating the viscosity of synthetic and natural slags from the silicon-chromium production. Izv. AN. SSSR. Otd. tekh. nauk. Met. i topl. no.3:17-24 My-Je '61. (MIRA 14:7)
(Slag--Testing) (Viscosimetry)

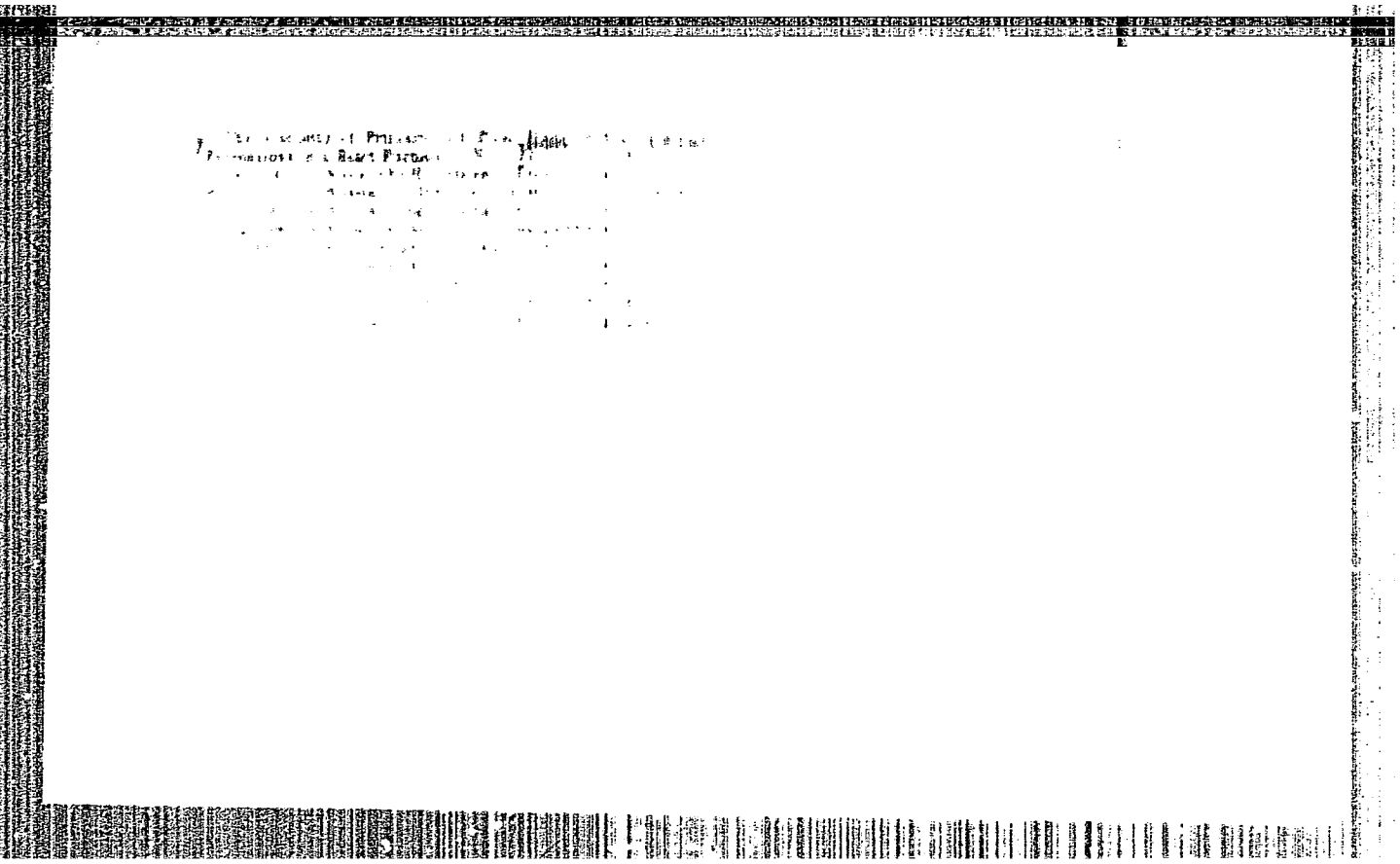
ZHILO, N.L.

Effect of lime and fluorite on the viscosity of slags in the production of chromium-silicon alloys. Stal' 21 no.6:525 Je '61. (MIRA 14:5)

(Slag--Analysis)

ZHILO, N.L. (Chelyabinsk); BOL'SHAKOVA, L.I. (Chelyabinsk)

Effect of the mineralogical composition of blast furnace slags on their physical properties. Izv. AN SSSR. Met. i gor. delo no.4:40-46 Jl-Ag '64. (MIRA 17:9)



ZHILO, N.L.

Studying slag viscosity and the best slag composition for making single-stage silicon-chromium alloys. Stal' 20 no.8:715 Ag '60. (MIRA 13:7)
(Silicon-chromium alloys) (Slag--Testing)

TSYLEV, L.M.; ZHILO, N.L.; SOKOLOV, G.A.

Viscosity of primary and final blast furnace foundry and converter iron slags. Trudy Inst.met. no.3:35-51 '58. (MIRA 12:3)
(Slag--Testing) (Viscosity)

RUDNEVA, A.V.; ZHILO, N.L.; SOKOLOV, G.A.

Effect of phase constitution on the physical properties of blast furnace slag. Trudy Inst.met. no.3:52-62 '58. (MIRA 12:3)
(Slag--Testing) (Phase rule and equilibrium)

ZHILO, N.L.; SOKOLOV, G.V.; RUDNEVA, A.V.

Calculating the activation energy of viscous flow in connection with studies on physical properties of molten slags. Trudy Inst.met. no.3: 87-97 '58. (MIRA 12:3)
(Viscosity) (Chemical reaction, Rate of) (Slag--Testing)

SOV/180-59-2-1/34

AUTHORS: Gul'tyay, I.I., Zhilo, N.L., Rudneva, A.V., Sokolov, G.A. and Tsylev, L.M. (Moscow)

TITLE: Influence of Potassium Oxide on the Viscosity of Melts of the System Lime-Alumina-Silica in the Range Corresponding to the Compositions of Primary Blast-Furnace Slags (Vliyaniye okisi kaliya na vyazkost' rasplavov sistemy izvest'-glinozem-kremnezem v oblasti, sootvetstvuyushchey sostavam pervichnykh domennykh shlakov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Metallurgiya i Toplivo, 1959, Nr 2, pp 3-7 (USSR)

ABSTRACT: Analyses of real blast-furnace primary slags (Ref 1) show an appreciable alkali content. The effect of alkalies on the physical properties of slags with 0.5 and 10% alumina has been described by some of the authors (Refs 1,2); the present work relates to melts with about 16% alumina. The experimental method used was as previously described (Refs 2,3), the apparatus (Ref 4) being slightly modified to increase thermocouple-sheath life. The range of compositions covered was: 10.8 - 48.7% CaO; 34.1 - 55.8% SiO_2; 15.0 - 17.5% Al_2O_3; 0.0 - 23.2% K_2O; 0.21 - 1.35 CaO/SiO_2. Table 1 shows the compositions

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Influence of Potassium Oxide on the Viscosity of Melts of the System Lime-Alumina-Silica in the Range Corresponding to the Compositions of Primary Blast-Furnace Slags

and viscosities at 1300, 1350, 1400, 1450 and 1500 °C and the temperatures at the start of crystallization and at a viscosity value of 60 poise. Fig 1 shows lines of equal compositions for different values of viscosity, 16% Al_2O_3 and 1450 °C. Fig 2 shows isotherms for the start of crystallization for 16% Al_2O_3 slags. The viscosity and temperature of the start of crystallization are shown in Figs 3 and 4, respectively, as functions of the lime : silica ratio for various K_2O contents. The results show that the introduction of K_2O into the slags produces an increase in viscosity and crystallization temperature, the effect being most marked with slags having high lime : silica ratios. Addition of K_2O also reduces the range of the most fluid compositions, while the slag-viscosity minimum rises from 8 to 13 poise. The authors have estimated the mineralogical compositions of their slags (Table 2). Slags with minimal viscosity at 1450°C are characterized by the predominance of

Influence of Potassium Oxide on the Viscosity of Melts of the System Lime-Alumina-Silica in the Range Corresponding to the Compositions of Primary Blast-Furnace Slags

pseudo-wollastonite and gehlenite. With acid slag, increasing viscosity is due to formation of anorthite and free silica; with basic slags to formation of larnite.

Card 3/3 There are 4 figures, 2 tables and 9 references, 5 of which are Soviet and 4 English.

SUBMITTED: June 6, 1958

Z.H.L.O N.L.

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Akademiya nauk SSSR. Institut metallurgii

Vyplavka ferrosplavov v domennoy pechi na dut'ye, obogashchennom kislorodom (Blast Furnace Production of Ferroalloys With Oxygen-enriched Blast) Moscow, Izd-vo AN SSSR, 1959. 142 p. Errata slip inserted. 2,700 copies printed.

Sponsoring Agency: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

Resp. Ed.: L. M. Tsylev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: A. N. Chernov; Tech. Ed.: Yu. V. Rylina.

PURPOSE: This collection of articles is intended for scientific and industrial personnel working on the introduction of intensified blast-furnace production of ferroalloys. It may also be useful to students of institutions of higher technical education.

COVERAGE: The articles in this collection present the results of investigations of blast furnace processes in the experimental production of ferroalloys, conducted at the Novo-Tul'skiy metallurgicheskiy zavod (Novo-Tul'skiy Metallurgical Plant). The

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first article discusses recent achievements in the production of ferroalloys in the Soviet Union. The other articles are concerned with such specific questions as the effect of oxygen-enriched blast on coke consumption, the connection between bridging of the charge and slag composition, analysis of reduction processes, slag formation, and viscosity of blast furnace slags. On the basis of mineralogical study of materials, conclusions are drawn concerning the limits of distribution of solid, plastic, and liquid phases of materials at points along the height of the blast furnace shaft. The effect of the composition of charge materials and melting conditions on the nature of phase transformations is established. Measures are discussed for reducing dust losses and improving conditions for cleaning waste gas in the blast furnace production of ferroalloys. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

According to the author, extensive tests showed the use of the oxygen-enriched blast to be very effective. Productivity of the furnace was increased 95 percent for ferromanganese and 53 percent for ferrosilicon. Consumption of coke was reduced by 290 kg. for each ton of ferromanganese produced, and by 200 kg. per ton of ferrosilicon (in comparison with figures for a furnace at an unidentified plant). The tests also demonstrated the feasibility of making silicomanganese in this

manner. Possibilities are said to exist for reducing the cost of oxygen by building high-output oxygen stations with steam-driven air compressors.

Gess-de-Kal'ye, B. A. Measures for Reducing Dust Losses and for Improving Conditions for Cleaning Waste Gas in the Blast Furnace Production of Ferroalloys 117

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ZHILO, N.L.; TSYLEV, L.M.

Metallurgical properties of sinters produced from Kursk Magnetic Anomaly, Krivoy Rog and Makeevka ores. Trudy Inst.met. no.5:3-7 '60. (MIRA 13:6)

(Sintering) (Iron ores)

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SOV/180-59-3-4/43

AUTHORS: Gul'tyay, I.I., Zhilo, N.L., Sokolov, G.A. and Tsylev, L.M.(Moscow)

TITLE: The Influence of Magnesia on the Physical Properties of Blast Furnace Slags

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 3, pp 20-24 (USSR)

ABSTRACT: Some results of an investigation of the influence of magnesia on the viscosity and crystallisation temperature of blast furnace slags are given. The investigation was carried out in order to obtain an optimum composition of blast furnace slags possessing a minimum viscosity and maximum desulphurising power, applicable to the operating conditions of the Magnitogorsk Works. The viscosity of slags of the system CaO - MgO - 15% Al_2O_3 - SiO_2 was studied using samples of industrial Magnitogorsk slags with additions of magnesia and, in some cases, of lime and on samples of synthetic slags made from pure oxides. The viscosity measurements were carried out in a rotating electro-viscosimeter designed by the Academy of Sciences of the USSR (Ref 13) using carbon crucibles at temperatures

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The Influence of Magnesia on the Physical Properties of Blast Furnace Slags

of 1400, 1450, 1500 and 1550°C. The experimental results are assembled in table 1. The results obtained indicated the range of compositions of slags of the quarternary system CaO-MgO-Al_2O_3-SiO_2 with a minimum viscosity: CaO from 27.5 to 44%; SiO_2 from 40 to 29.5%; MgO from 5 to 20% and Al_2O_3 - 15%. The ratio of CaO/SiO_2 in these slags varies from 0.80 to 1.30 and the ratio of (CaO + MgO)/(SiO_2 + Al_2O_3) from 0.82 to 1.30. In order to explain the influence of magnesia on the mechanism of the viscous flow of slags, calculations of the activation energy $E\eta$ were carried out for slags with minimum viscosity. The activation energy varies from 26.7 to 47.5 k cal/mol, whereupon the minimum value was possessed by a slag with a CaO/SiO_2 ratio of 1.01 and a (CaO + MgO)/(SiO_2 + Al_2O_3) ratio of 1.15 (Fig 4). There are 4 figures, 1 table and 13 references, 7 of which are Soviet and 6 English.

SUBMITTED: September 17, 1957

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ZHILO, N.L.

18(4) PHASE I BOOK EXPLOITATION SOV/1896

Akademiya nauk SSSR. Institut metallurgii

Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya (Metallurgy, Study of Metals, and Physicochemical Methods of Investigation) Moscow, Izd-vo AN SSSR, 308 p. (Series: Its: Trudy, vyp. 3) Errata slip inserted. 3,000 copies printed.

Resp. Ed.: I.P. Bardin, Academician; Ed. of Publishing House: A.N. Chernov; Tech. Ed.: I.F. Kuzmin.

PURPOSE: This book is of interest to researchers in metallurgy, as well as to the technical personnel of the metallurgical industry.

COVERAGE: This volume of the Trudy (Transactions) of the Institut metallurgii imeni A.A. Baykova (Metallurgical Institute im. A.A. Baykov) contains 31 studies on metallurgy, individual metals and alloys, and physicochemical methods of investigation. Some of the studies pertain to the reduction of titanomagnetites, the viscosity and other characteristics of blast furnace slag, dislocation in metals, cracking of metals due to corrosion, simultaneous

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solubility of metals at various temperatures, apparatus for measuring electrical resistance and for determining the melting point of alloys and metals, optical spectral analysis, quantitative determinations by the sublimation method, and aging of alloys. Each study is accompanied by references.

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