"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULIN, Mikhail Grigor'yevich, doktor istor. nauk; BABAKHODZHAYEV, A.Kh., doktor istor. nauk, otv. red.; DESYATNIK, F.M., red. izd-va; KARABAYEVA, Kh.U., tekhn. red.

[Developing the national economy and culture of Afghanistan, 1955-1960] Razvitie natsional'noi ekonomiki i kul'tury Afganistana 1955-1960. Tashkent, Izd-vo Akad. nauk Uzbekskoi SSR, 1961. 149 p. (MIRA 14:8)

1. Zamestitel' direktora Instituta vostokovedeniya AN Uzbekskoy SSR (for Pikulin)
(Afghanistan--Economic conditions) (Afghanistan--Culture)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

RUSTAMOV, Uzbek Agzamovich, kand.istor.nauk; PIKULIN, M.G., kand.ekon. nauk, otv.red.; KNOPOV, B.I., red.; BARTSEVA, V.P., tekhn.red.

[Modern Kashmir; studies in the history, economics and culture] Sovremennyi Kashmir; ocherki istorii, ekonomiki i kul'tury. Tashkent, Izd-vo Akad.nauk Uzbekskoi SSR, 1960. 158 p. (MIRA 13:12)

(Kashmir)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KLAUSTING, Ye.A.; LEYKIN, I.M.; SABIYEV, M.P.; IMSHENETSKIY, V.I.; CHERNER, M.I.; Prinimali uchastiye: PIKULIN, S.A.; KONSTANTINOVA, T.A.; KOVAL', F.Ya.; KRYZHEPOL'SKAYA, B.P.; SHUL'GA, Ye.A.; NIKITIN, V.N.; DOROFEYEVA, A.N.

From practices of producing 19G steel at the Kommunarskiy Metallurgical Plant. Stal' 22 no.2:155-159 F '62. (MIRA 15:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i Kommunarskiy metallurgicheskiy zavod.
(Kommunarskiy--Steel alloys--Metallurgy)
(Rolling (Metalwork))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

IMSHENETSKIY, V.I., inzh.; KOVAL', F.Ya., inzh.; PIKULIN, S.A., inzh.

Mechanical properties of hot-rolled and normalized 09G2 sheet steel. Stal' 22 no.7:643-647 Jl '62. (MIRA 15:7)

1. Kommunarskiy metallurgicheskiy zavod.
(Sheet [redacted]—Testing)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KURMANOV, M.I., kand.tekhn.nauk; IMSHENETSKIY, V.I., inzh.; SOLOV'YEVA, G.G., PIKULINA, L.M.

Investigating causes of the low toughness of thick sheet (up to 50mm.) M16C steel corresponding to State Standard 6713-53. Trudy Ukr.nauch.-issl.inst.met. no.5:223-233 '59. (MIRA 13:1)

1. Ukrainskiy institut metallov i Zavod im. Voroshilova.
(Sheet steel—Testing)
(Steel—Metallography)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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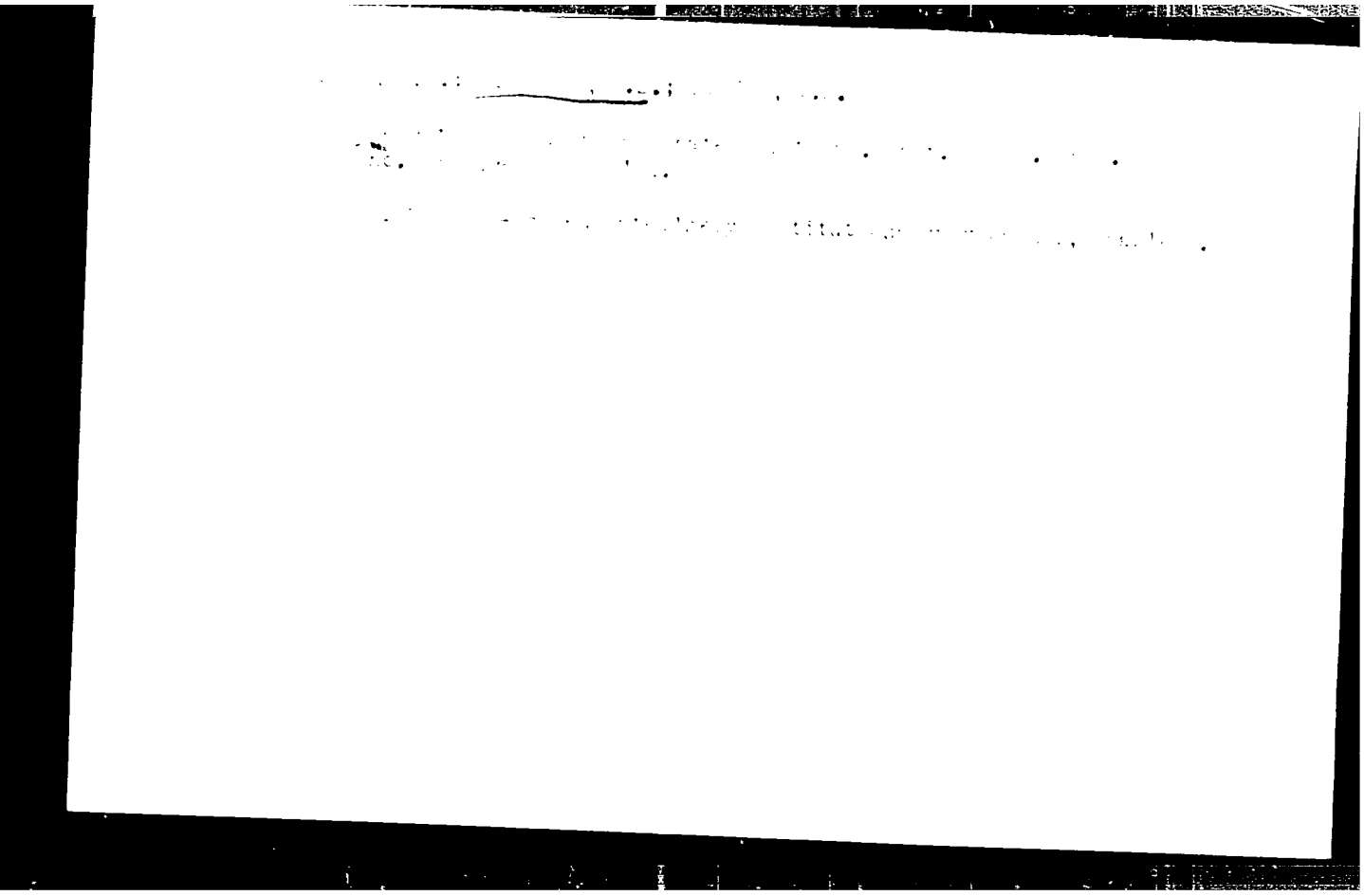

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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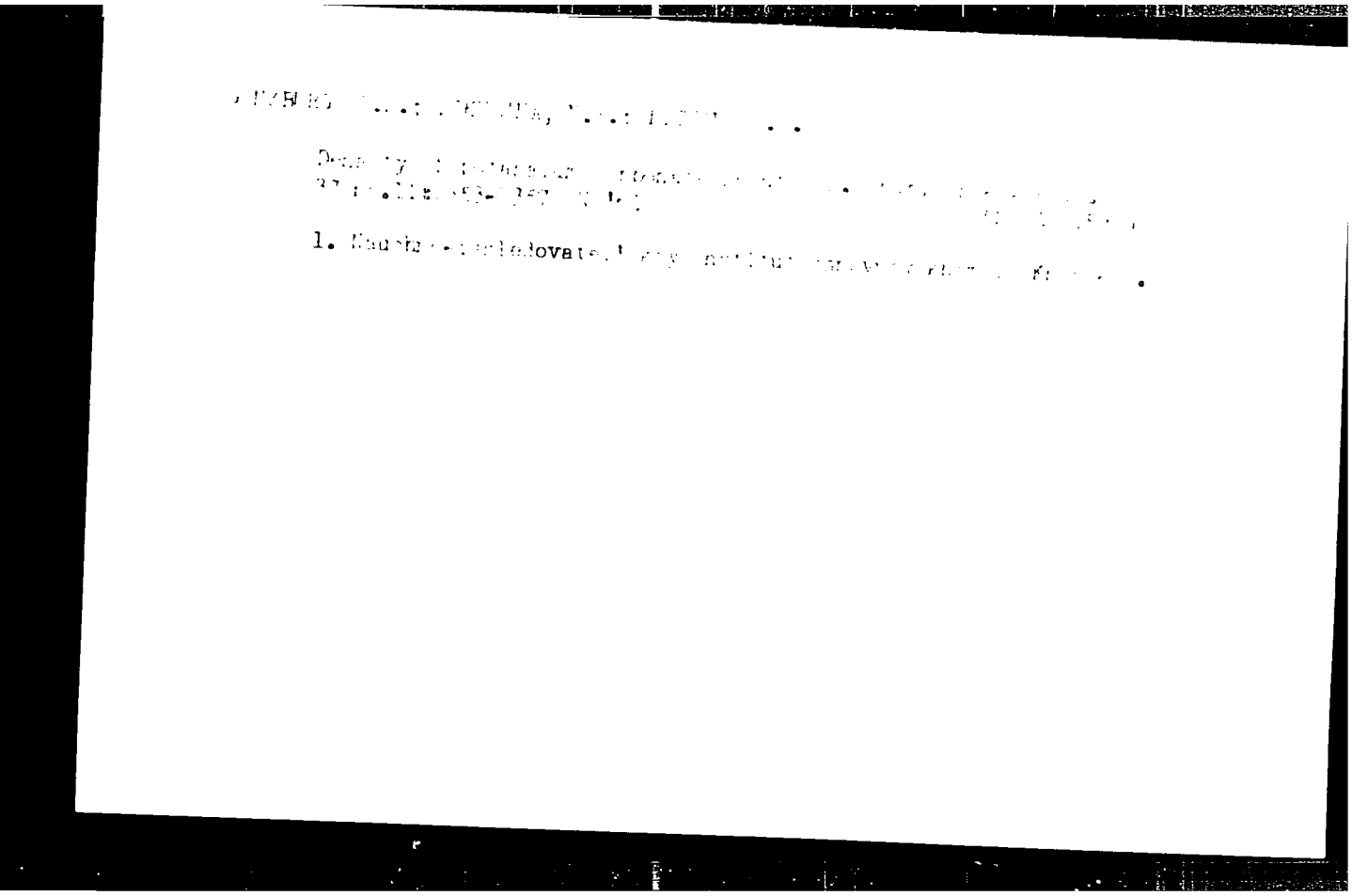


APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

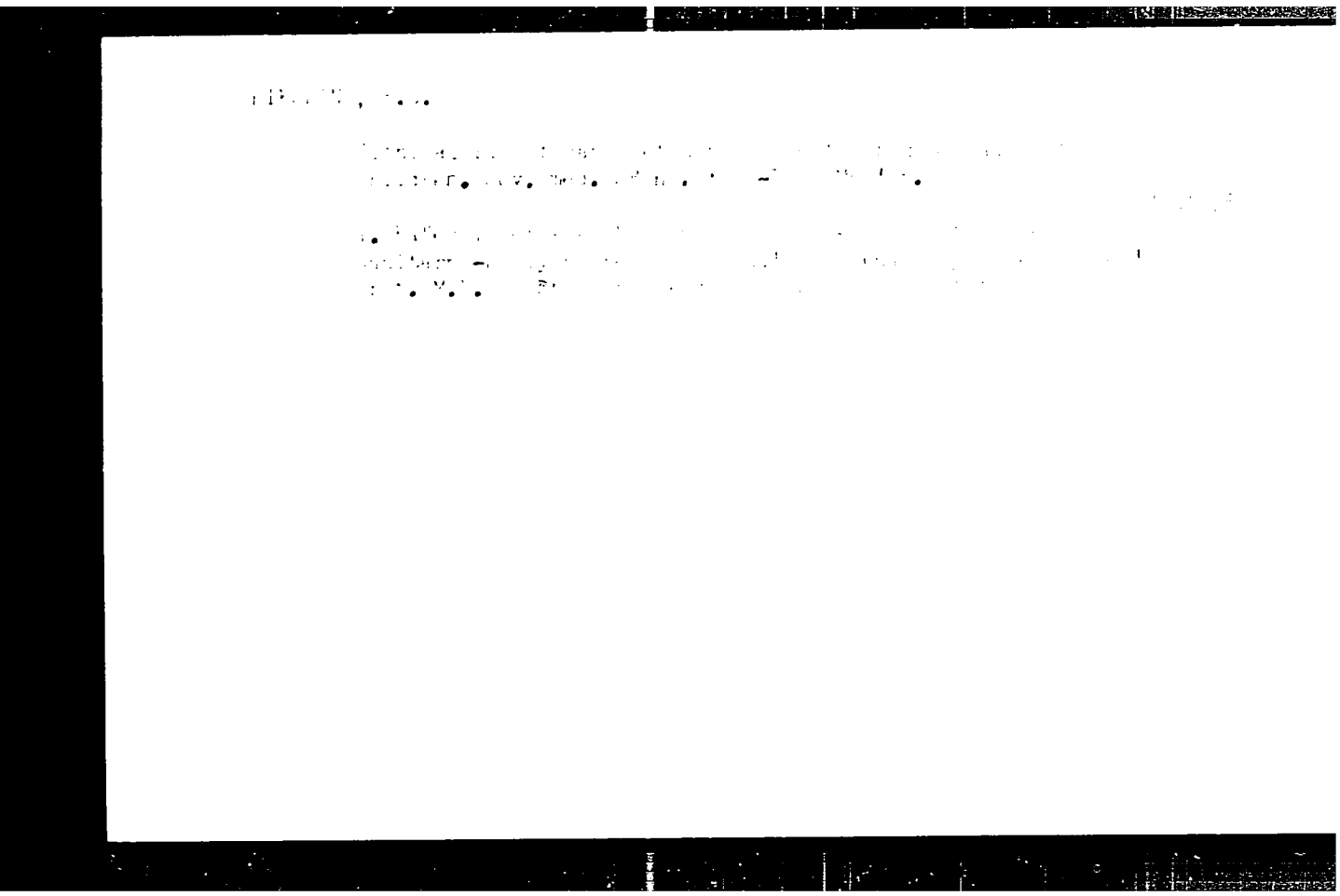
"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULEV, N.A.

Integrating electrodynamic vibration pickup. Priborostroenie no.3:9-10 Mr '62. (MIRA 15:4)
(Electric instruments)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240



APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

GUL', Yu.P.; MINYAYLOVSKIY, K.N.; PIKULINA, L.M.

Effect of thermal deformation on the properties of [illegible] steel. Izv. vys. ucheb. zav., chern. met. 8 no.10:110-[illegible] '65. (MIRA 18:9)

1. Kommunarskiy gornometallurgicheskiy institut i Dneprope'rovskiy metallurgicheskiy institut.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

GINZBURG, D.M.; PIKULINA, N.S.; LITVIN, V.P.

System NH_3 - H_2S - H_2O. Zhur.prikl.khim. 38 no.9 [illegible]
S '65. (MIRA [illegible])

1. Nauchno-issledovatel'skiy institut osnovnoy khimii, Khar'kov.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULSKA, H.

"A Comparison of the Plate- and Drop- Counting Techniques for the Quantitative Estimation of Bacteria in A Suspension" p. 34. (Acta Microbiologica Polonica, Vol. 2, No. 1, 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress March, 1954, Uncl.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULSKA, H.

Comparison and evaluation of the plate method and of the drop method in bacterial count. Acta microbiol Pol 2 no.1:34-43 '53. (EMAL 3:3)

1. Z Zakladu Mikrobiologii Ogolnej Wydzialu Biologii i Nauki o Ziemi UMCS w Lublinie.
(BACTERIA,
*counting, drop & plate technics, comparison)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PI[illegible]SKI, A.
M. SA[illegible], R[illegible]Z. [illegible]. 1[illegible]1, 1[illegible], 2[illegible]-300

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULSKI, A.,
M. SAGAJLO, Roczniki Chem. 11, 289-3[illegible] (1931)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

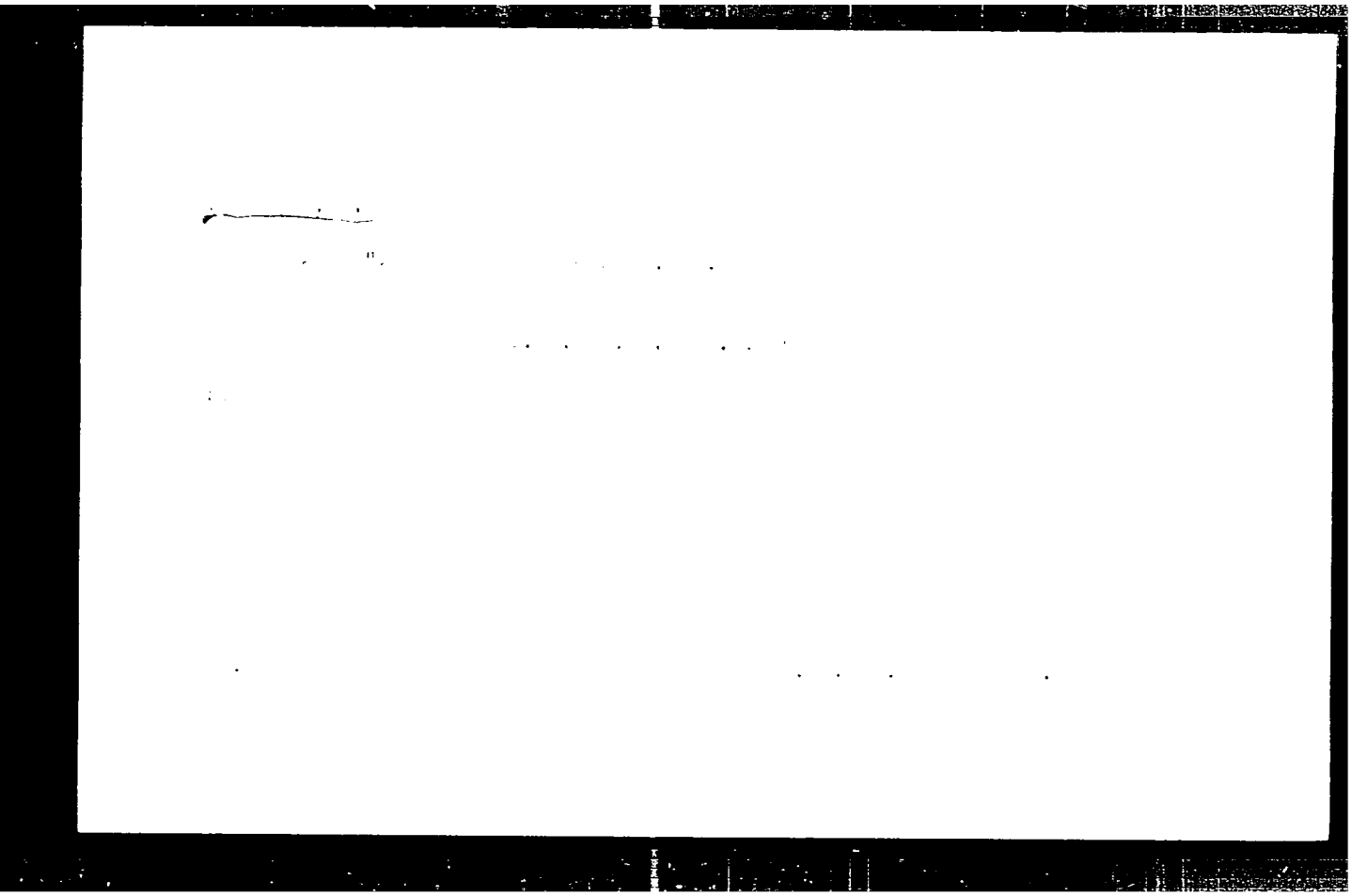
PIKULINSKI, Aleksander

Scope of action of the investments of the Wieprz-Krzna Canal in the Lublin Voivodeship as well as the calculation of the present yield per ha of major produce and an attempt to evaulate the increase of yields for the year 1980. Postepy nauk roln 10 no.5:125-132 '63.

1. Wojewodzka Pracownia Planowania Regionalnego przy Wojewodzkim Komitecie Planowania Gospodarczego, Lublin.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240



APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKULSKI Jozef

POLAND/Processing of Natural Gases and Petroleum, Motor and Rockets Fuel, Lubricants. H.

Abs Jour : Ref Zhur - Khimiya, No 19, 1958, 65582

Author : Pikulski Jozef
Inst : -
Title : Methods Applied in the USSR for Salt Elimination and Desulfurization of Petroleums.

Orig Pub : Wiadom. naft., 1958, 4, No 3, 59-60

Abstract : A short description of a Baku establishment for the hydro-purification of petroleums, and methods introduced in the USSR for desulfurization, as well as practical methods of anticorrosive protection of reservoirs for petroleums and petroleum products.

Card 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

L 63278-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 JAJ/RM UR/0366/65/001/006/1147/1151

ACCESSION NR: AP5015128 547.841

23
B

AUTHORS: Daukshas, V. K.; Pikunayte, L. A.; Sadlauskayte, I. A.

TITLE: Aminoalkyl esters of 5-oxy-benzodioxane-1,4

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 6, 1965, 1147-1151

TOPIC TAGS: synthesis, aromatic hydrocarbon, benzodioxane, amino ester, adreno active agent

ABSTRACT: The present investigation, a continuation of previous work of V. Daukshas, B. Puodzhyunayte, and A. Shvegzhdayte (Nauchn. tr. VUZov Lit. SSR, Khimiya i. khim. tekhnol., 3, 55, 1963) was undertaken with the view of developing new adreno-active agents. The following compounds were synthesized: 5-(γ-alkylaminopropoxy), 5-(α-alkylaminomethyl-β-alkylaminoethoxy)- and 5-(β γ-dialkylaminopropoxy) benzodioxane-1,4. The physical properties of the above compounds are tabulated. It was found that the compounds possess hypotensive activity. Orig. art. has: 3 tables and 2 equations.

ASSOCIATION: Vil'nyusskiy gosudarstvennyy universitet imeni V. Kapsukasa (Vil'no State University)

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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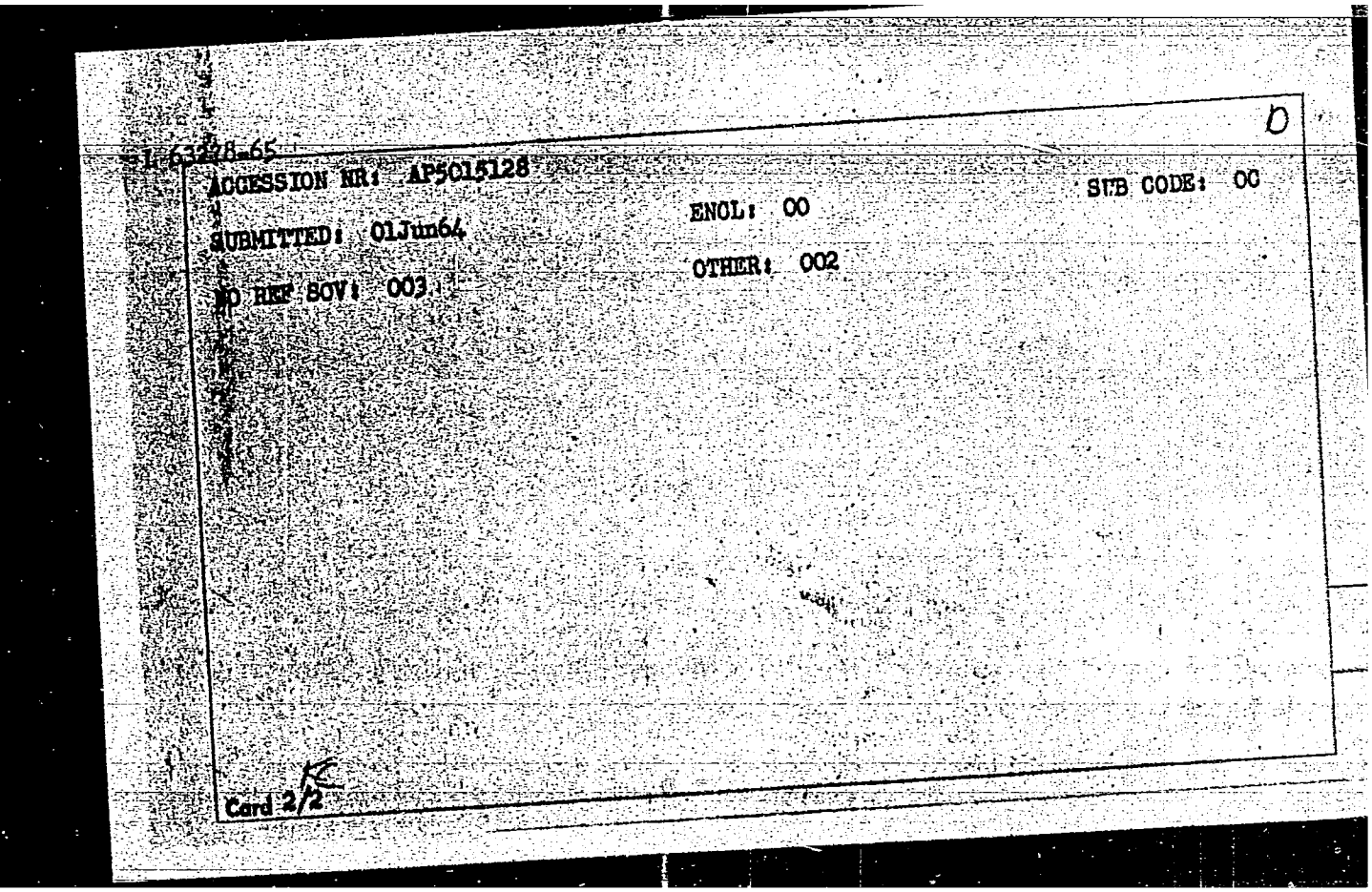

L 63228-65

ACCESSION NR: AP5015128

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: OC

NO REF SOV: 003

OTHER: 002

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

DAUKSHAS, V.K. [Dauksas, V.], PIKUNAYTE, L.A. [Pikunaite, L.]

Synthesis of new aryl hydroxy derivatives of N-substituted propylamine and ethylenediamine. Zhur. VKHO 9 no. 3:352-354 '64. (MIRA 17:5)

1. Vil'nyusskiy gosudarstvennyy universitet imeni Kapsukasa.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

[redacted]

[redacted]V, V. [redacted].

"The Behavior of Suspended Alloys During Crystallization." Cand Tech Sci, Chair of Foundry Production, [redacted] scow [redacted]st [redacted] Ferrous Metals and Gold imeni [redacted]. A. Baikov, [redacted] SSR, Moscow, 1954. (KL, No 7, Feb 55)

Sc: Sum. No. 681, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUNOV, M.V.

Radiographic method of investigating nonmetallic inclusions in copper and its alloys. Zav.lab.21 no.7:833-834 '55.
(MLRA 8:10)

1. Moskovskiy institut tsvetnykh metallov i zolota imeni M.I.Kalinina
(Copper alloys) (Radiology, Industrial)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUNOV, M. V.

Category : USSR/Solid State Physics - Morphology of Crystals. F-7
Crystallization

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6700

Author : Spasskiy, A.G., Pikunov, M.V.
Title : Concerning the Behavior of Suspended Impurities during Crystallization

Orig Pub : Sb. nauch. tr. [illegible] in-t [illegible] vet. [illegible] i [illegible], 1955, No [illegible], 368-380

Abstract : An experimental investigation was made of the crystallization of salol, diphenylamine, [illegible], benzyl, and naphthalene, in which the impurities were lycopodium, carbon, aluminum oxide, chromium oxide, and starch. The observations were made visually with the aid of a [illegible] microscope, as well as with photographs taken at definite time intervals (from 2.5 to 800 seconds). The critical speeds at which the impurities are forced back by the "crystallization pressure" during the growth of the crystal have been established. The influence of the nature of the substance and of the impurity as well as of the speed of crystallization and of the

Card : 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Category : USSR/Solid State Physics - Morphology of Crystals. [illegible]
Crystallization

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6700

crystallographic orientation on the forcing-back of the impurity have been explained, with allowances made for the produced interphase surface tensions. The authors believe that at high crystallization speeds the inertia of the particle will also manifest itself. The phenomenon of separation of gas bubbles on the growing crystals is described in detail. The strong influence of extraneous particles (impurities) of non-metallic character on the structure of the metallic ingot is noted. A scheme is detailed for the behavior of the suspended impurities during the ingot-crystallization process, and certain data are given concerning an experimental verification of the premises suggested by the authors.

Card : 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

NIKITIN, Georgiy Mikhaylovich; PIKUNOV, M.V., redaktor; EL'KIND, L.M., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Fluxes in the production of nonferrous metal alloys] Flisy v proizvodstve splavov tsvetnykh metallov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 31 p.

(Nonferrous metals--Metallurgy) (MLRA 9:8)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KUDYUMOV, A.V.; PIKUNOV, M.V.

Permanent core with the ability to give. Lit. proizv. no.2:26 F '58. (MIRA 11:3)

(Coremaking)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

18.7500

75396
SOV/149-2-5-14/

AUTHOR: Pikunov, M. V.

TITLE: Analysis of the Homogeneous Crystallization of Solid Solutions

PERIODICAL: Tsvetnaya metallurgiya, 1959, Vol 2, Nr 5, pp 151-159 (USSR)

ABSTRACT: The homogeneous crystallization of solid solutions results of two processes advancing simultaneously: (1) deposition of new crystals whose compositions conform with the solidus-liquidus equilibrium at any point of the dropping temperature; (2) reaction between the molten matter and the crystals formed earlier, whose composition must be altered to conform with the solidus-liquidus equilibrium at the particular temperature. The first process is provided by diffusion in the liquid phase and the second by diffusion between the solid and liquid phases. Since the latter is a slow process, a rapid crystallization may lead to its incompleteness;

Card 1/4

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Analysis of the Homogeneous Crystallization of Solid Solutions

75396
SOV/149-[illegible]

i.e., to the formation of zonar crystals. This case, well-known due to other investigations such as that by Petrov, D. A., is termed nonhomogeneous crystallization. In the case of homogeneous crystallization, the mass of the liquid phase, dm, that turns into the solid phase within the temperature interval dt, includes dm_1, the mass of the liquid taken by the newly deposited solid phase, and dm_2, the mass of the liquid taken by earlier crystals to make their composition consistent with the new equilibrium. Their values are defined by: $dm_1 = \frac{m_1 dc_1}{c_s - c_1}$; $dm_2 = \frac{m_s dc_s}{c_s - c_1}$; $dm = dm_1 + dm_2 = \frac{[illegible]}{(q-n)t^{\circ}}$, where m_1 and m_s are the masses of the liquid and solid phases at t° C; c_1 and c_s are the compositions of two phases; dc_1 and dc_s are their change within the temperature interval dt; c_1 is the composition of the alloy; q and n are proportionality factors defined by

Card 2/4

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Analysis of the Homogeneous Crystallization of Solid Solutions

75396
SOV/149-2-5-22/32

$q = \frac{c_s}{t}$ and $n = \frac{c_l}{t}$ or $q = \frac{c_l}{t}$ and $n = \frac{c_s}{t}$ depending on the position of c_l right or left of the point where solidus and liquidus curves join. The average composition, c_x, of dm is defined by $c_x = \frac{nqt^2}{c_l}$. The integrals of dm_1 and dm_2 in the interval from t_l to t_s respectively are $M_1 = \int_{t_s}^{t_l} \frac{n(qt-c_l)}{(q-n)^2 t^2}\,dt = \frac{nq}{(q-n)^2} \ln\frac{q}{n} - \frac{n}{q-n}$ and $M_2 = \int_{t_s}^{t_l} \frac{q(c_l-nt)}{(q-n)^2 t^2}\,dt = \frac{nq}{(q-n)^2} \ln\frac{n}{q} + \frac{q}{q-n}$; q and n exchange their places if solidus and liquidus curves diverve at dropping temperatures. M_2 determines the duration of a homogeneous crystallization, since the solid-liquid reaction is a

Card 3/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Analysis of the Homogeneous Crystallization of Solid Solutions

75396
SOV [illegible]

slow process. Several binar solid solut[illegible] [illegible]firm the author's theory are discussed. [illegible] figures; 2 tables; 12 equations; and 10 [illegible] Soviet, 4 U.S., and 1 British. The U.S. [illegible]: Eborall, M., J. Inst. Metals, Nr 2, 1949; [illegible] A., J. Inst. Metals, Nr 2, 1949; Cohen, M., [illegible] W., Metals Technol., Vol [illegible], Nr 8, [illegible]; [illegible] R., J. Inst. Metals, Nr 2, 1939. The British [illegible]: Hansen, M., Structure of Binary Alloys.

ASSOCIATION: Krasnoyarsk Institute of Nonferrous Metals (Krasnoyarskiy institut tsvetnykh metallov)

SUBMITTED: April 6, 1959

Card 4/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

18(5)

SOV/128-59-3-8/31

AUTHOR: Pikunov, M.V., and Kurdyumov, A.V., Candidates of Technical Sciences

TITLE: Castings from Brittle Materials

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 3, pp 16-18 (USSR)

ABSTRACT: For the various branches of the industry it has become necessary to use materials resistant to high temperaturea and chemical influences. Such materials but are difficult to cut and machine and are not possible to form by pressure as they do not have any elasticity. The best method of workability for such materials is casting. But the main obstacle for the latter method are the appearance of cracks caused by shrinkage and inner heat pressure of the casting. This dependance between temperature and pressure of the core material is represented in one drawing and is well known for die casting and pressure die casting. It is necessary that the core material has a greater coefficient of heat expansion than the material of the casting.

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Castings from Brittle Materials SOV/128-59-7-

Graphite, carbon, coke, etc., or an other melting material are suited as a core material, where the core material had been previously cast in aluminum. In all cases preheating of the core material to 200° or up to 500° Celsius is necessary. When casting complicated shapes, like e.g. pistons, pouring of the complete shape is not possible. In such cases the core consists of several parts. Cracks caused by the pressure originating from the cooling-off of the material are a disadvantage too when casting brittle materials, like e.g. cast iron with a high percentage of chromium, silicium, diabase, etc. A table is offered listing the deformations of the materials when cooling-off. Such cooling-off shall be done slowly and uniformly, and the casting should not betaken from the mold too early. The final solution of the experiments made revealed that employment of the centrifugal casting method (700 rpm) with graphite cores preheated from 800° to 850°C will yield the best results. After pouring the mold was deposited for 5 to 6 hrs. at a temperature of 800°C, afterwards was cooled down to room temperature

Card 2/3

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

within 20 to 24 hrs. There are 3 graphs, 1 diagram, and 4 references, 3 of which are Soviet and 1 English.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

5 (4)

AUTHOR: Pikunov, M. V.

05825

TITLE: On the Crystallization of a Solid Solution

SOV/76-33-10-23/45

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 10, pp 2253 - 2256 (USSR)

ABSTRACT: The equilibrium crystallization of solid solutions is usually represented as the sum of two processes, i.e. precipitation of the solid solution along the solidus lines and interaction of the precipitated solid solution with the liquid. The second process is not mentioned at all in publications (D. A. Petrov (Ref 1)), two possibilities are suggested (N. M. Vittorf (Ref 5)), or it is incorrectly assumed that diffusion takes place only in one direction, i.e. from the highly melting crystal component into the liquid (I. V. Gorbachev (Ref 6)). It is shown here that the average composition of the substance that passes from the liquid to the crystals during equilibrium crystallization may be defined by a curve c_x running between the solidus and the liquidus line (Fig 1). The interaction between the precipitated solid solution and the liquid is brought about by transition of the highly melting crystal component into the liquid and simul-

Card 1/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

On the Crystallization of a Solid Solution

05825
SOV/76-33-10-23/45

taneous transition of the low-melting component from the liquid into the crystal. There are 2 figures and 10 Soviet references.

ASSOCIATION: Institut tsvetnykh metallov i zolota im. M. I. Kalinina, Moskva (Institute for Nonferrous Metals and Gold imeni M. I. Kalinin, Moscow)

SUBMITTED: March 24, 1958

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

ACC NR: AT6034482 (A) SOURCE CODE: UR/0000/66/000/000/0157/0163

AUTHOR: Pikunov, M. V.; Koroleva, N. P.; Marunova, K. V.; Pavlova, Ye. I.

ORG: GIREDMET

TITLE: Growing single crystals of rhenium by zone melting with an electron beam

SOURCE: Rost i nesovershenstva metallicheskikh kristallov (Growth and defects of metal crystals). Kiev, Naukova dumka, 1966, 157-163

TOPIC TAGS: rhenium, metal zone refining, single crystal growth, x ray diffraction study, crystal impurity

ABSTRACT: The authors studied the effect of composition of the starting material, and of the speed and number of passes on the quality and purity of single crystals of rhenium obtained by zone melting with an electron beam. The total amount of impurities (some 26 elements), originally about 2×10^{-2}%, was reduced after three or four passes to about 3×10^{-3}%, the limit of detectability. The atmosphere (vacuum or hydrogen) had little effect on purification. Surprisingly, no direct connection was found between the degree of purification and the vapor pressure of the impurities. For instance, iron and molybdenum were removed at about the same rate, although their vapor pressures, at the temperature of rhenium melting, differ by a factor of 1000. After two or three passes, the rhenium rods became single crystals. Their

Card 1/2

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ACC NR: AT6034482

microstructure and preferential direction of growth was investigated by electropolishing and subsequent x ray diffraction. The microhardness in different planes was also investigated. Orig. art. has: 5 figures and 3 tables.

SUB CODE: 11,13/ SUBM DATE: 22Jun66/ ORIG REF: 002/ OTH REF: 007

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUNOV, M.V.

Nonequilibrium melting of alloys. Zhur. fiz. khim. 38 no.9:
2283-2286 S '64. (MIRA 17:12

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

L 15195-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) Pad ASD(m)-3 MJW/JD/HW/JG/CZ/MLK
ACCESSION NR: AT4048717 S/0000/64/000/000/0218/0221

AUTHOR: Pikunov, M. V., Petukhova, A. S., Voskresenskaya, L. A., Izotova, I. P., 5

TITLE: Distribution of lead and cerium in iron, nickel, austenitic steel and the nickel alloy E1765 *

SOURCE: Vsesoyuznoye soveshchaniye po splavam redkikh metallov, 1963. Voprosy* teorii i primeneniya redkozemel'ny*kh metallov (Problems in the theory and use of rare-earth metals); materialy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 219-221

TOPIC TAGS: iron alloy, nickel alloy, austenitic steel, lead distribution, cerium addition, steel solidification, steel X-ray analysis, liquation, alloy E1765*

ABSTRACT: The influence of cerium addition on the distribution of lead in iron, nickel, austenite steel and alloy E1765* was investigated by determining the different absorption coefficients under X-ray for the alloy components. The tests involved annealed specimens of Kh15N25 steel containing 0.6% each of Pb and Ce, nickel with 0.2% of each and alloy E1765* with 0.05% of each. The results showed that cerium additions has no effect on the lead distribution in austenitic steel, but does cause a more even distribution in iron. No primary crystallization of lead and cerium compounds occurred in either iron or steel.

Card 1/2 *[E 1765 alloy designation should be EI 765 alloy designation]

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L 15195-65

ACCESSION NR: AT4048717

Cerium addition induced changes in the solidification of the E1765* alloy with Pb; after annealing, the Ce and Pb-enriched inclusions did not dissolve, as is usually the case if only Ce or only Pb are added. It may be assumed that Ce additions cause a shift in the alloy composition to a region where crystallization is terminated by the solidification of a eutectic containing not Pb but some complex compound of Pb, Ce and possibly Ni. Since luminous inclusions in the E1765 with 0.05% Pb and Ce were more numerous than those in nickel with 0.2% of each, a sharply increasing liquation of Cr, Mo, Ti and Al in the presence of Ce and Pb may be assumed. Orig. art. has: 5 microroentgenograms.

ASSOCIATION: None

SUBMITTED: 13Jun64 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000

Card 2/2

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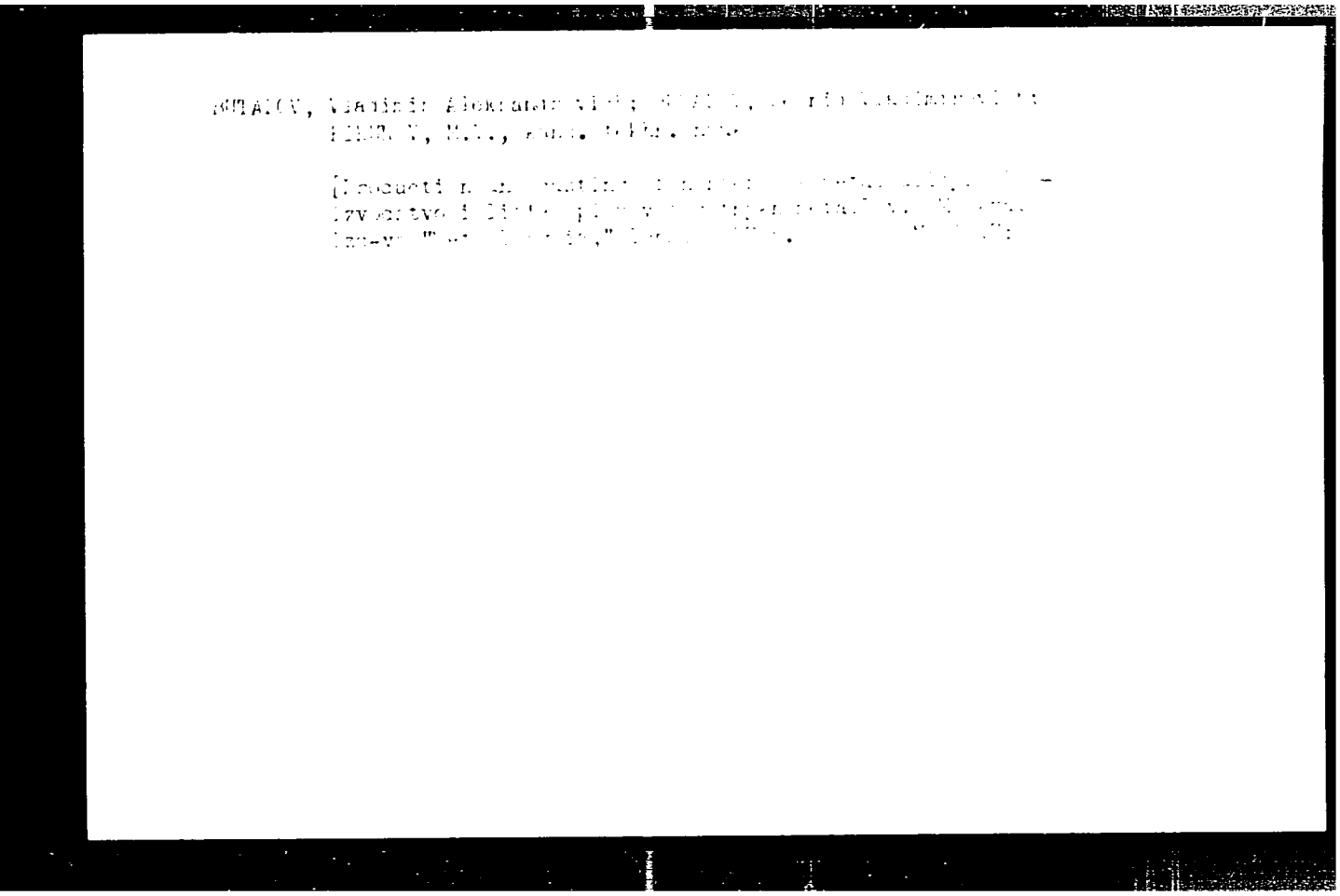

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

SPASSKIY, A.G.; PIKUNOV, M.V.; ROGOVA, S.T.

Certain conditions for the purification of melts by recrystallization. Issl. splav. tsvet. met. no.4:75-84 '63. (MIRA 16:8)

(Liquid metals) (Crystallization)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KALABUSHKIN, V.S.; PIKUNOV, M.V.

Metal filtration. Sbor. nauch. trud. GINTSVETMET no.33:285-28
'60. (MIRA 15:3)
(Liquid metals) (Filters and filtration)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KURDYUMOV, A.V.; PIKUNOV, M.V.

Special features in the technology of melting and casting alloys of calcium fluoride and magnesium. Sbor. nauch. trud. GINTSVETMET no.33:277-284 '60. (MIRA 15:3)
(Magnesium alloys--Founding)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

SPASSKIY, A.G.; PIKUNOV, M.V.; KURDYUMOV, A.V.; LEBEDEV, Ye.A.

Metal cleaning from scab by filtration. Lit. proizv. no.12:22-24 D '61. (MIRA 14:12)
(Founding--Defects) (Filters and filtration)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

S/137/62/000/005/053/150
A006/A101

AUTHORS: Kurdyumov, A. V., Pikunov, M. V.

TITLE: Some peculiarities in the technology of melting and casting calcium and magnesium fluoride alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 31 - 32, abstract 5G205 ("Sb. nauchn. tr. In-t tsvetn. met. im. M. I. Kalinina", 1960, v. 33, 277 - 284)

TEXT: Pure CaF_3 and MgF_2 were used as initial materials for the manufacture of the alloys. The fluorides were melted in crucibles made of electrode graphite. Gas and electric furnaces assuring heating up to 1,300°C were employed as melting units. The alloy was prepared by previous mixing of powderlike salts, taken in a given ratio, and subsequent melting of the mixture. Graphite or graphite-chamotte were the most suitable materials for the manufacture of molds in fluoride casting. In all cases the alloy temperature was 1,060 - 1,120°C, and the temperature of the mold prior to casting was 750 - 850°C. Prior to casting the mold was dried and roasted at 800 - 850°C. The filled molds were

Card 1/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

S/137/62/000/004/035/201
A006/A101

AUTHORS: Kalabushkin, V. S., Pikunov, M. V.

TITLE: Filtration of metal

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 38, abstract 4G246 ("Sb. nauchn. tr. In-t tsvetn. met. im. M. I. Kalinina", 1960, v. 33, 285 - 288)

TEXT: The authors studied the permeability of lump filters. The investigation method consisted in passing a definite quantity of liquid metal (5 - 7 kg) through a layer of lump material, and in recording the filtration time. The filtration rate was then calculated according to formula

$$\omega = G/\gamma \tau F \text{ cm/sec} \qquad (1)$$

where G is the weight of the filtered metal, in g; γ is the specific metal weight; τ is the filtration time, sec; F is the cross-sectional area of the filter in cm^2. Aluminum was used as test metal; its specific weight at 750 - 800°C is 2.38 g/cm^3. The filter material was crushed magnesite of fraction 4, with lump sizes d within a range of 0.5 - 0.8; 0.8 - 1.0; 1.0 - 1.5 and 1.5 -

Card 1/2

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S/137/62/000/004/035/201
A006/A101

Filtration of metal

20 cm. The magnesite lumps were placed in a steel tube of 50 mm in diameter, at whose lower end a steel net was fixed to retain the magnesite. The assembled filter was heated to 850°C prior to the test. For laminar filtration $\omega = KJ$; for turbulent filtration $\omega = A\sqrt{a}J$, where $K = ad^2$, $J = (h+H)/H$. In the cases investigated, the filtration rate was calculated by formula $\omega = (4.45 + 0.01\ h^2 + 0.001\ H^2)\ [(h + H)/H]\ \sqrt{d}$. The metal discharge through the filter should be derived by formula (1).

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KURDYAMOV, A.V.; PIKUNOV, M.V.

Special characteristics of melting and founding calcium and magnesium fluoride alloys. Lit. proizv. no.9:39-41 S '61. (MIRA 14:9)

(Magnesium founding)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

3/128/61/000/012/003/004
A004/A127

AUTHORS Spasskiy, A.G., Pikunov, M.V., Kurdyumov, A.V., Lebedev, Ye A

TITLE Removing films from metals by filtration

PERIODICAL Liteynoye proizvodstvo, no. 12, 1961, 22 - 24

TEXT: The authors point out that quite a number of alloys during melting and pouring are considerably contaminated with oxide films which reduce their technological and mechanical properties and the quality of components. They enumerate a number of metal purification processes and report on tests which were carried out to remove films from aluminum alloys by filtration. These tests were carried out during the semi-continuous casting of ingots of the Д16 (D16) and АК6 (AK6) alloys by A.G. Spasskiy, M.V. Pikunov and A.V. Kurdyumov. Prior to the casting process, filtration was studied by simulating metal filtration with water with pieces of paper representing the films. Lumps of crushed magnesite bricks were used as filtering agent. The filtration results showed that a lump filter of 50 mm thickness holds back 50 - 70% of particles 1 x 1 mm in size, while a filter of 100 mm thickness detains 90 - 95% of such particles. During the filtration of the D16 alloy, melted in a graphite crucible

Card 1/4

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Removing films from metals by filtration

S/128/61/000/012/003/004
A004/A127

ble at 750°C, the lump filter was placed in the spout, which was preheated to 700°C. 5 - 7 ingots 50 mm in diameter and 150 mm high were cast in succession. The number of films and their total area were counted on the fracture. Three lots of ingots were cast - without filtration, with filtration through lumps of magnesite brick of 5 - 10 lump size and with filtration through lumps of a melt consisting of equal parts calcium and magnesium fluorides of the same lump size. As a result of these tests it was found that ingots cast without filtration contained 12% impurities, those with magnesite filtration 3% and with fluoride filtration 1%. This filtration method was tested under service conditions with the AK6 alloy, the tests being carried out by Yu. I. Birevaya, L. A. Kats, S.A. Baranovskiy and A.M. Babarikina. Eleven ingots 110 mm in diameter were cast at a rate of 10 cm/min directly from the melting furnace at 750°C. The following filtering material was used: magnesite brick, an alloy of equal parts of calcium and magnesium fluorides and magnesite brick impregnated with liquid flux of the 2 compositions: No. 1 - 40% NaF, 60% Na_3AlF_6; No. 2 - 64% NaF, 36% NaCl. The following filtering results were obtained: average impurity without filtration 5%; with filtration through magnesite 1.5%; with filtration through magnesite impregnated with No. 1 flux 0.9%; idem with No. 2 flux 0.5% and filtration through the fluoride alloy 0.3%. Although this filtration meth-

ard 2/4

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

Removing films from metals by filtration

ed yielded good results the metal purity was still insufficient, which could be explained by the fact that the metal, after passing through the filter, ran in an open flow, thus oxidizing again and contaminating with film. Another test series was carried out under industrial conditions with the participation of Ye. Khodakov, V.V. Solov'yeva, M.G. Kasheyev and I.I. Ger yev, where the filtration system was changed in such a way as to prevent the oxidation of the metal after filtration. Under these conditions the average contamination amounted to 1.7% without filtration and 0.24% with filtration The results obtained make it possible to conclude that filtration through lump filters in the semi-continuous casting of aluminum alloys improves the metal purity considerably as regards film. The filter should be placed in the distributing funnel, while crushed magnesite brick, either with or without flux impregnation, and fluoride alloys can be used as filtering material. Magnesite and fluoride alloys are heavier than aluminum and there is no chemical reaction up to 1,000°C Further tests with lump filters carried out during pressure casting by M.V. Pikunov Ye.Ya. Lebedev and A.G. Spasskiy showed the applicability of this filtration method also for pressure casting. Various Al-alloys - АЛ9В (AL9V), АЛ34 (AL34), АЛ14Ч (AL14Ch) and others - were cast in this way at the Moskovskiy zavod malolitrazhnykh avtomobiley (Moscow Small-Displacement Car Plant) Crushed magne-

Card 3/4

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Removing films from metals by filtration.

S/128/[illegible]
A004/A127

site brick in lumps of 12 - 15 mm, calcinated prior to use at 900°C was used as filtering material. Also the filtration of the UAM 4-1 (TsAM 4-1) zinc a[illegible]y resulted in a considerably improved metal purity. There are 8 figures, [illegible] and [illegible] references: 4 Soviet-bloc and 3 non-Soviet-bloc

Card 4/4

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

15 2240
18 1200

28052 S/128/61/000/009/008/009
A054/A127

AUTHORS: Kurdyumov, A.V.; Pikunov, M.V.

TITLE: The technological pecularities of melting and casting calcium and magnesium fluoride alloys

PERIODICAL: Liteynoye proizvodstvo, no. 9, 1961, 39 - 41

TEXT: Corrosion-resistant alloys containing calcium fluoride and magnesium fluoride have a low ductility. They are difficult to machine and more suitable for casting. However, their pecularities in melting and casting require measures which differ from the conventional conditions. The usual refractory materials containing various oxides cannot be used for alloys containing calcium and magnesium fluoride, because these dissolve and adsorb the oxides which makes their castability deteriorate. The use of metallic crucibles is also limited due to the high temperatures involved. The best results were obtained when these alloys were melted in electrode-graphite crucibles in gas or electric furnaces at temperatures up to 1,300°C. After crystallization gas porosity similar to the honeycomb porosity in steel and copper can often be observed in these alloys which can be reduced by remelting. This shows that porosity is the result

Card 1/3

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08052 S/128/61/[illegible]
A054/A127

The technological peculiarities of melting and...

the alloy is the purity of constituents. For some properties of fluoride alloys the following values were obtained:

Eutectic alloy (52% CaF_2, 48% MgF_2)	Parameters	Eutectic alloy (52% CaF_2, 48% MgF_2)	Parameters
Specific gravity, g/cm^3		Heat conductivity as compared with that of copper	
at 2[illegible]	[illegible]	at 40[illegible]	[illegible]
at 1[illegible]	[illegible]	at 2[illegible]	[illegible]
Coefficient of heat expansion			
at [illegible]	10.3 x 10^{-6}		
at [illegible]	14.9 x 10^{-6}		

There are 2 figures, 2 tables and 3 references: 2 Soviet bloc and 1 non-Soviet bloc. The reference to the English-language publication reads as follows: [illegible] Fuseya and oth. Journal Soc. Chemical Industry, Japan, n. 4, v. 36, 193[illegible].

Card 3/3

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

AUTHORS: [illegible]

TITLE: Filtering [illegible]

PERIODICAL: Liteynoye proizvodstvo, no. 6, 1965, [illegible]

TEXT: The authors discuss the filtering of liquid metals in the production of secondary aluminum to purify the melt from iron. This method easily removes impurities, i. e. oxide, flux, slag etc. Filtration is of particular importance with the casting of tall molds when the velocity of motion of the metal is high, particularly during the initial stage. Decreased metal velocity in the riser diminishes the danger of slag foam and thickeners. Before filtration the permeability of lump filters should be determined. For this purpose the tests described in this article were carried out. The time required to filtrate 5 - 7 tons of liquid metal was recorded and the filtration rate determined according to formula $w = G : \gamma T F$ cm/sec. The following symbols were used: G = weight of filtered metal in grams, γ = specific gravity of the metal and F = cross section of the filter in sq cm according to L. S Leybenzon [illegible]: Dvizheniye prirodnykh zhidkostey i

Card 1/5

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

S/126/63/[illegible]
A104/A137

Filtering of metals

gazov v poristoy srede (Movement of Natural Liquids and Gases in a Porous Medium), OGIZ, Gostekhizdat, 1947). Tested was A-1 aluminum with a specific weight of 2.38 g/cu cm at 750 - 800°C. Crushed four-fraction magnesite served as a filter; its d lump dimensions were: 0.5 - 0.8; 0.8 - 1.0; 1.0 - 1.5; 1.5 - 2.0 cm. Magnesite lumps were placed in a 50 mm diameter steel tube with a steel net at its bottom. This filter, shown in Figure 1, was pre-heated to 850°C. During several tests the effect of the filter lump dimensions (d), thickness of the filter layer (H) and pressure (h) on the filtration rate (w) was studied. The results are shown in Table 1. Extreme cases are pure laminar and pure turbulent filtrations. The Darci formula $w = K \cdot j$ is applicable to laminar filtration; K is the coefficient proportional to the diameter square of particles (d); j is the hydraulic deviation i.e. the ratio of the pressure drop in the direction of filtration (h + H) to the thickness (H) of the filtering layer. Formulae [illegible] for turbulent filtration [illegible] results in the characterization of the movement of liquid aluminum through a lump filter. The data obtained were therefore used to determine the empirical dependence of the filtration rate on variable factors according to formula (1):

Card 2/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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20222

S/128/60/000/000/001/007
A104/A133

...tering of metals

$$w = (4.45 + 0.01h^2 + 0.001H^2)\,\frac{h+H}{H}\,\bar{d}\,.$$

If the exit end of the filter is immersed in the metal at a constant depth (Figure 2), value H should be replaced by the effective height (H) of the filter according to formula (2):

$$w = (4.45 + 0.01h^2 + 0.001H^2)\,\frac{h-Hi}{H}\,.$$

The metal consumption through the filter is calculated according to formula (1). If the active cross section of the net holes is smaller than the cross section of the filter, then value F should be substituted by the active cross section reduced by 10 - 20%. There is 1 table, 2 figures and 1 Soviet reference.

Card 3/5

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

20222

S/128/60/000/006/001/00?
A104/A133

Filtering of metals

Fig. 1

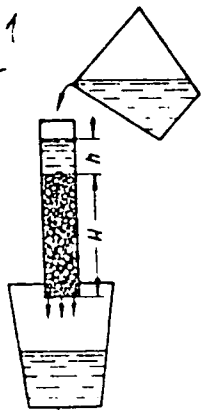
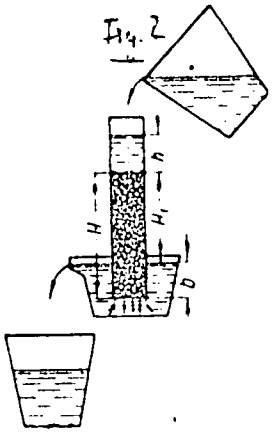


Fig. 2



Card 4/5

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20222

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A104/A133

Filtering of metals

Table:

d average in cm	0.65	0.65	0.9	0.9	1.25	1.75	1.75	1.25	1.25	1.25	1.25	1.25	1.25	1.25
h in cm	5	5	5	10	5	5	5	5	11	16	20	5	5	5
H in cm	35	25	35	30	35	35	20	20	20	20	20	27	19	10
w in cm/sec experimental data	5.3	9.9	6.7	7.5	7.4	8.4	8.8	7.2	10.7	14.3	19.5	6.8	7.2	7.1
calculated according to formula (*)	5.4	9.5	6.4	8.1	7.6	8.9	8.4	7.2	10.5	15.0	19.8	6.8	7.2	8.1

Card 5/5

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ORLOV, Nikolay Dmitriyevich, kand.tekhn.nauk; MIRONOV, Vladimir Mikhaylovich; SPASSKIY, A.G., doktor tekhn.nauk, retsenzent; KURDYUMOV, A.V., kand.tekhn.nauk, retsenzent; PIKUNOV, M.V., kand.tekhn.nauk, retsenzent; CHURSIN, V.M., kand.tekhn.nauk, retsenzent; POZDNYAK, N.Z., inzh., retsenzent; ZASLAVSKIY, D.M., inzh., retsenzent; RUBTSOV, N.N., prof., doktor tekhn.nauk, red.; POMERANTSEV, S.N., inzh., red.; RYBAKOVA, V.I., inzh., red.izd-va; MODEL', B.I., tekhn.red.

[Founding handbook; shaped castings of heavy nonferrous metals] Spravochnik liteishchika; fasonnoe lit'e iz splavov tiazhelykh tsvetnykh metallov. Pod red. N.N.Rubtsova. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 402 p. (MIRA 13:11)

(Nonferrous metals--Founding)
(Founding--Handbooks, manuals, etc.)

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Leningrad. Politekhnicheskiy institut

Sovremennyye dostizheniya liteynogo proizvodstva; trudy mezhvuzovskoy nauchno-tekhnicheskoy konferentsii (Recent Achievements in Founding: Transactions of the Scientific and Technical Conference of Schools of Higher Education) Moscow, Mashgiz, 1960. 336 p. Errata slip inserted. 4,000 copies printed.

Resp. Ed.: Yu. A. Nekhendzi, Doctor of Technical Sciences, Professor; Eds.: N. G. Girshovich, Doctor of Technical Sciences, Professor, and K. P. Lebedev, Docent; Managing Ed. for Literature on Heavy Machine Building (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer; Tech. Eds.: Ye. A. Dlugokanskaya, and L. V. Shchetinina.

PURPOSE: This book is intended for the technical personnel of foundries. It may be used by students of the field.

COVERAGE: This collection of articles discusses problems in founding processes. Individual articles treat the melting of metals and their alloys, mechanization and automation of casting processes, aspects of the manufacture of steel, cast iron, and nonferrous metal castings. No personalities are mentioned. References accompany individual articles.

4. Magnitskiy, O. N., and B. B. Gulyayev. Investigation of the Region of Solidification in Castings 25

5. Pikunov, M. V. Behavior of Suspended Admixtures During Crystallization 32

6. Rabinovich, Ye. Z. Mechanism of Molten Metal Flow 35

7. Khafuz, I. M. Casting Properties and the Selection of the Method of Pouring the ZhS Type (Oxide) Film-Forming Alloys 41

8. Rabinovich, B. V. Hydraulics in Gating Systems 46

9. Postnov, L. M. Theory of Shrinkage Porosity 61

II. MECHANIZATION AND AUTOMATION IN FOUNDING

10. Shestopal, V. M. New Methods in Planning Casting Shops and Plants 77

11. Yegorenkov, I. P. Development of the Manufacture of Founding Machinery 91

Card 3/9

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KUZNETSOV, G.M.(Moskva); PIKUNOV, M.V. (Moskva)

Nonuniformity of concentration in solid solutions near the solidus temperature. Izv.AN SSSR.Otd.tekh.nauk.Met.i topl. no.3:44-47 My-Je '60. (MIRA 13:6)
(Alloys--Metallography) (Phase rule and equilibrium)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

KIRILOV, F.K., inzh.

Review of the creative efforts of silk manufacturers. Tekst. prom. 21 no.10:30 O '61. (MIRA 14:10)

1. Byuro tekhnicheskoy informatsii Kirzhachskogo shelkovogo kombinata.
(Kirzhakh—Silk manufacture—Exhibitions)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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PIKUNOV, V.S.

Frost resistance of orchards. Priroda 50 no.1:113-114 Ja '61.
(MIRA 14:1)

1. Glavnyy Botanicheskiy sad AN SSSR, Moskva.
(Plants—Frost resistance)
(Fruit trees)

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PIKUNOV, V.S., agronom

For the fruit grower. Nauka i zhizn' 27 no.3:77 Mr '60.
(MIRA 13:6)

1. Glavnyy botanicheskiy sad AN SSSR.
(Plants--Frost resistance)

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PIKUNOV, V.S., agronom

Use of natural seedlings in establishing artificial tree plantations.
Biol. v shkole no.2:83-84 Mr-Ap '59. (MIRA 12:4)

1. Proftekhshkola No.2, Moskva.
(Landscape gardening)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, A.L. (Tambov)

Method of basing geometrical constructions on a plane and in a space. Mat. pros. no.3:201-208 '58. (MIRA 11:9)
(Geometry)

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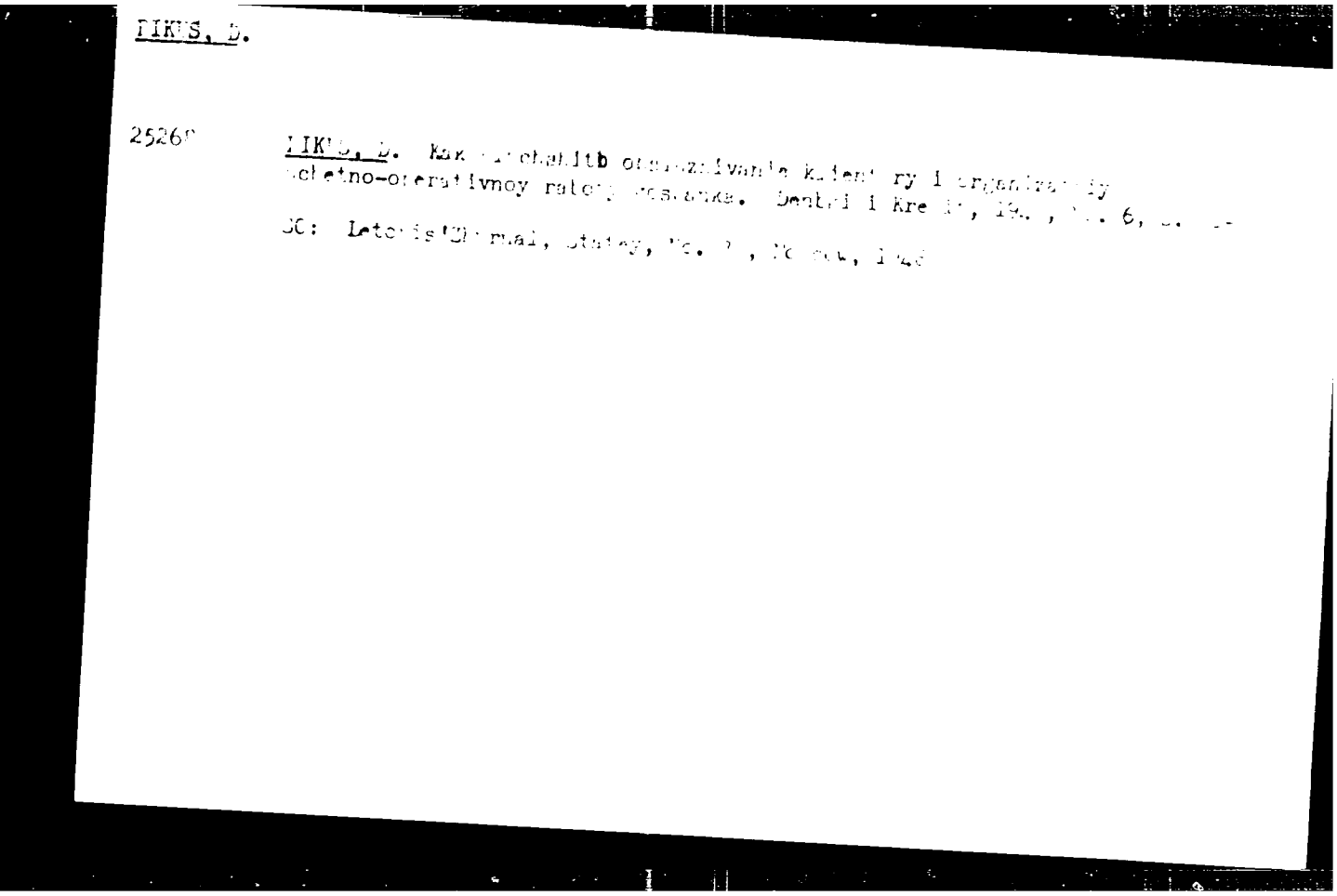

PIKUS, D.

25268 PIKUS, D. Kak [illegible] obsluzhivanie klientury i organizatsiy uchetno-operativnoy raboty [illegible]. Denbgi i Kre[illegible], 19[illegible], [illegible] 6, [illegible]

SO: Letopis'Zhurnal, Statey, No. [illegible], Moscow, 1948

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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PIKUS, D.L.

Mathematical Reviews
Vol. 14 No. 7
July - August 1953
Geometry

Pikus, D. L. The isoperimetric problem in the Lobačevskiĭ plane. Trudy Sem. Vektor. Tenzor. Analizu 9, 456–461 (1952). (Russian)

Without reference to the literature the isoperimetric problem in the hyperbolic plane is solved by adapting Steiner's "Viergelenkverfahren" to hyperbolic geometry.

H. Busemann (Los Angeles, Calif.).

8-9-54 LL

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

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PIKUS, D.L.

Isoprimetric problem in the Lobachevski plane. Trudy Sem.po vekt.i tenz.anal. no.9:456-461 '55. (MLRA 8:8)
(Geometry, Plane)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, D.L.

The axiom about congruence of triangles in a weakened formulation.
Usp.mat.nauk 12 no.3:359-362 My-Je '57. (MIRA 10:10)
(Geometry, Plane)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, D.L.

Group-theoretic construction of a two-dimensional geometry of constant curvature. Trudy Sem.po vekt.i tenz.anal. no.12:365-396 '63. (MIRA 16:6)
(Geometry, Non-euclidean) (Groups, Theory of)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G., kand. sel'skokhozyaystvennykh nauk

Annual legumes and the protein problem. Nauka i pered. op v sel'khoz 9 no.5:44-45 My '59. (MIRA 12:8)

1. Odesskiy sel'skokhozyaystvennyy institut.
(Legumes) (Forage plants)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

USSR/Cultivated Plants. Grains.

Abs Jour : Ref Zhur-Biol., No 15, 195[illegible], 68121

Author : Pikus, G.
Inst : ~~Odessa Publishin~~ Society for the Spr[illegible] of Political and Scientific Knowledge.
Title : Adaptability of Corn Hybrids.

Ori Pub : Byul. sil's'kogospod. inform. Odes'k. vid. T-v [illegible] poshir. polit. i nauk. znan', 195[illegible], No 2, 47-51

Abstract : No abstract.

Card 1/1

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

BLAZHEVSKIY, Ye.V., dvazhdy Geroy Sotsialisticheskogo Truda; VOVCHENKO, I.V., kand. sel'khoz. nauk, zasl. agronom Ukr.SSR; VOROB'YEV, N.Ye., st. nauchn. sotr.; GESHELE, E.E., doktor biol. nauk, prof.; ZUBRITSKIY, A.A., agronom; KISEL'GOF, Z.S., inzh., zasl. mekhanizator sel'skogo khoz. Ukr.SSR; KLYUCHKO, P.F., kand. sel'khoz. nauk; KORCHAGIN, A.Ye.; LEBEDEV, Ye.M., st. nauchn. sotr.; NASYPAYKO, V.M., kand. sel'khoz.nauk; PIKUS, G.P., kand. sel'khoz.nauk; REKACH, V.N., doktor sel'khoz. nauk, prof.; SPIVAK, I.I., zootekhnik; TEMCHENKO, L.V., kand. sel'khoz. nauk; FEDULAYEV, A.A., agronom; YAKOVENKO, V.A., kand. tekhn.nauk; KITAYEV, I.A., kand. sel'khoz. nauk, red.; MUSIYKO, A.S., akademik, red.; VINNITSKIY, S.P., red.; MOLCHANOVA, T.N., tekhn. red.

[For high corn yields] Za bol'shuiu kukuruzu. [By] E.V. Blazhevskii i dr. Odessa, Odesskoe knizhnoe izd-vo, 1962. 173 p. (MIRA 16:7)

1. Zven'yevoy kolkhoza im. Gor'kogo Kotovskogo rayona na Odesshchine (for Blazhevskiy). 2. Glavnyy agronom sovkhoza "Bessarabskiy" (for Korchagin). 3. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (for Musiyko).
(Ukraine--Corn (Maize))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, Grigoriy Pimanovich [Pikus, H.P.]; SHMATKO, Yu.G. [Shmatko, IU.H.], kand.sel'skokhoz.nauk, glavnyy red.; PAL'KO, Yu.G. [Pal'ko, IU.H.], red.

[Practices of the collective farm in establishing a stable feed supply] Dosvid kolhospu po stvorenniu mitsnoi kormovoi bazy. Kyiv, 1960. 30 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.16). (MIRA 14:2)

(Odessa Province--Feeds)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, Grigoriy; KOSTIVENKO, A.I., red.

[Principles of the theory of semiconductor devices] Osnovy teorii poluprovodnikovykh priborov. Moskva, Nauka, 1965. 448 p. (MIRA 19:1)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G. YA.

Mass spectrometer investigation of gases in electron tubes with oxide thermal cathodes. N. D. Morgulis and G. Ya. Pikus (State Univ., Kiev). *Doklady Akad. Nauk S.S.S.R.* 102, 1103–6 (1955).—The amt. and the compn. of residual gases in vacuum tubes with hot oxide cathodes were investigated with a mass spectrometer. The mass spectrometer was used in the range of mass up to 50. The tubes were thoroughly evacuated and degassed with an atomized Ba gas absorber located near the cathode. The total initial gas pressure was 10^{-4}–10^{-3} mm. Hg after the oxide cathode was included. The gas compn. was measured during the operation of the tube for a total of 300 hrs., and again after 330 hrs. of the tube recuperation time. The results are presented graphically. Two phenomena are singled out for particular attention: O may remain present in measurable concn. even after 300 hrs. of operation, which is attributed to its continuous evolution from the oxide cathode; and H and He pressure rose continuously in the app. during the 330 hrs. after the run, which was attributed to the diffusion through the Mo glass from the outside air (cf. Alpert and Buritz, *C.A.* 48, 4888e; Rogers, *et al.*, *C.A.* 48, 11805e). W. M. Sternberg

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G. YA. Cand Physico Mathematical ...

PIKUS, G. YA.: "A mass-spectrometric investigation of oxide cathodes." Min Higher Education Ukrainian SSR. Kiev State U imeni T. G. Shevchenko. Kiev, 1956. (Dissertation for the degree of Candidate in Sciences).

So: Knizhnaya Letopis', No 36, 1956, Moscow.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G. Ya.

Mass spectrometric investigation of oxide cathodes during life. G. Ya. Pikus (T. G. Shevchenko State Univ., Kiev). *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 20, 1085–98(1956).—The expts. were made in sealed-off tubes at pressures of 10^{-7}–10^{-8}. The tubes had a curvature radius of 100 mm. on a 60° arc. The ions formed in the ionization chamber were accelerated to 800 v. and collected in a Faraday cage. The collector currents were of the order of 10^{-14} amp. and they were measured in bridge circuit by using electrometer tetrodes. The resolution $\Delta m/m$ was of the order of 0.01. The cathodes were activated and life tested in a separate attachment connected to the ionization chamber by capillaries and also attached to an oil-vapor pump. Electronic tubes could also be attached directly to the mass spectroscope. After activation, the life tests were run (a) without emission, (b) at 4 v. anode voltage, 7 ma. emission to avoid dissocns. in the gas, (c) at 240 v. anode voltage, 7 ma. emission. Initial readings of tubes running according to (a) and (b) show peaks corresponding to H_2 and $N_2 + CO$, also Cl^{35} and Cl^{37}. It can be shown by dissocn. of CO to C^+ that the $m = 28$ peak is mainly due to N_2. Peaks with $m = 12$–16 are also apparent, which are attributed to CH_4 and other org. compds. Such peaks and the peak $m = 18$ (H_2O) are more pronounced in operation (c). Curves are given for the change in intensity of the peaks in lifetests (a), (b), and (c). In tests (a) and (b) all curves drop with exception of peak $m = 4$ which increases considerably. In test (c), the peaks increase to a max. in 100–50 hrs. and then drop gradually with exception of peak $m = 4$. The increase is attributed to gas (mostly H) freed

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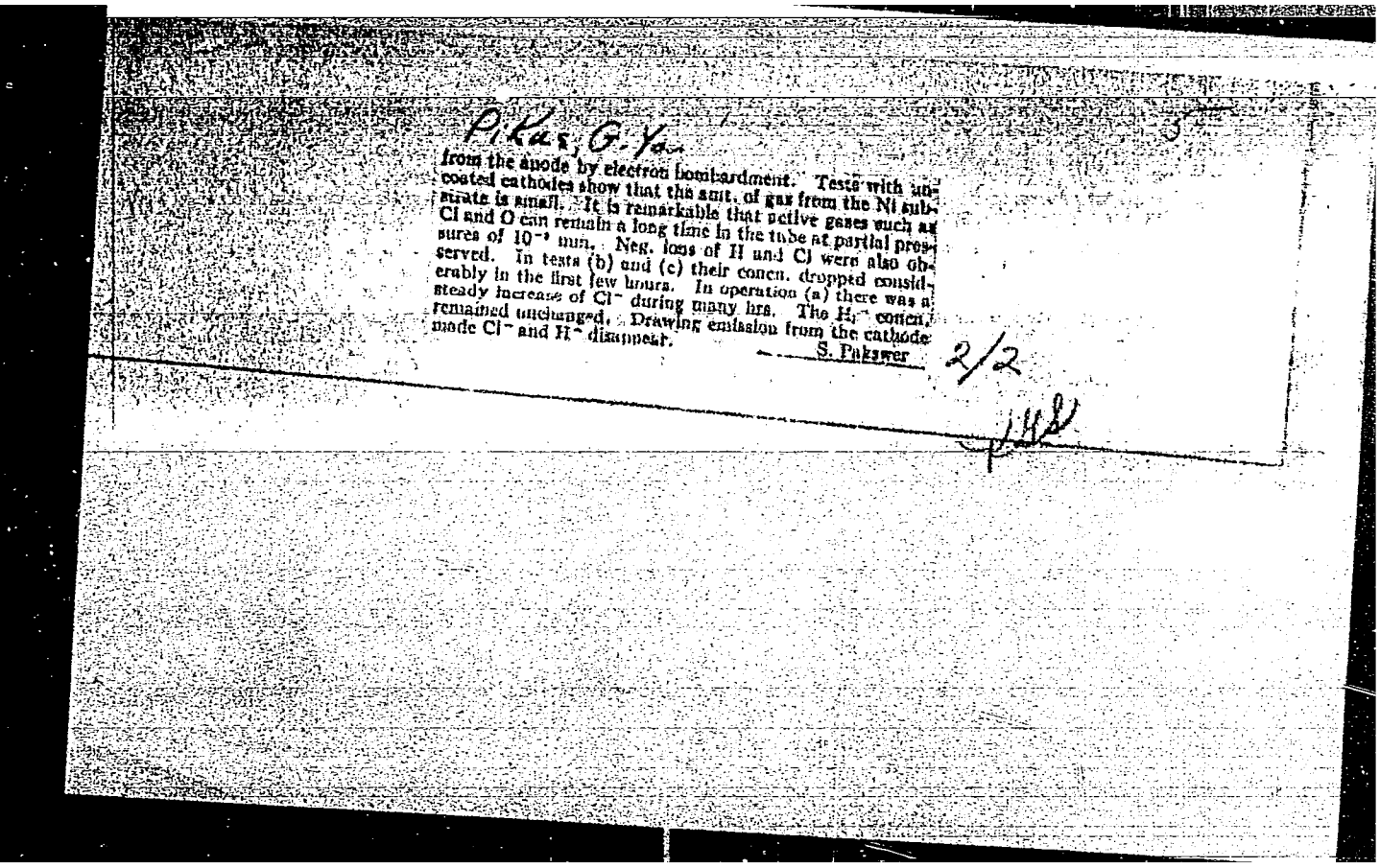

P. Kas; G. Ya.

from the anode by electron bombardment. Tests with uncoated cathodes show that the amt. of gas from the Ni substrate is small. It is remarkable that active gases such as Cl and O can remain a long time in the tube at partial pressures of 10^{-9} mm. Neg. ions of H and Cl were also observed. In tests (b) and (c) their concn. dropped considerably in the first few hours. In operation (a) there was a steady increase of Cl^- during many hrs. The H_2^- concn. remained unchanged. Drawing emission from the cathode made Cl^- and H^- disappear.

S. Pakarer

2/2

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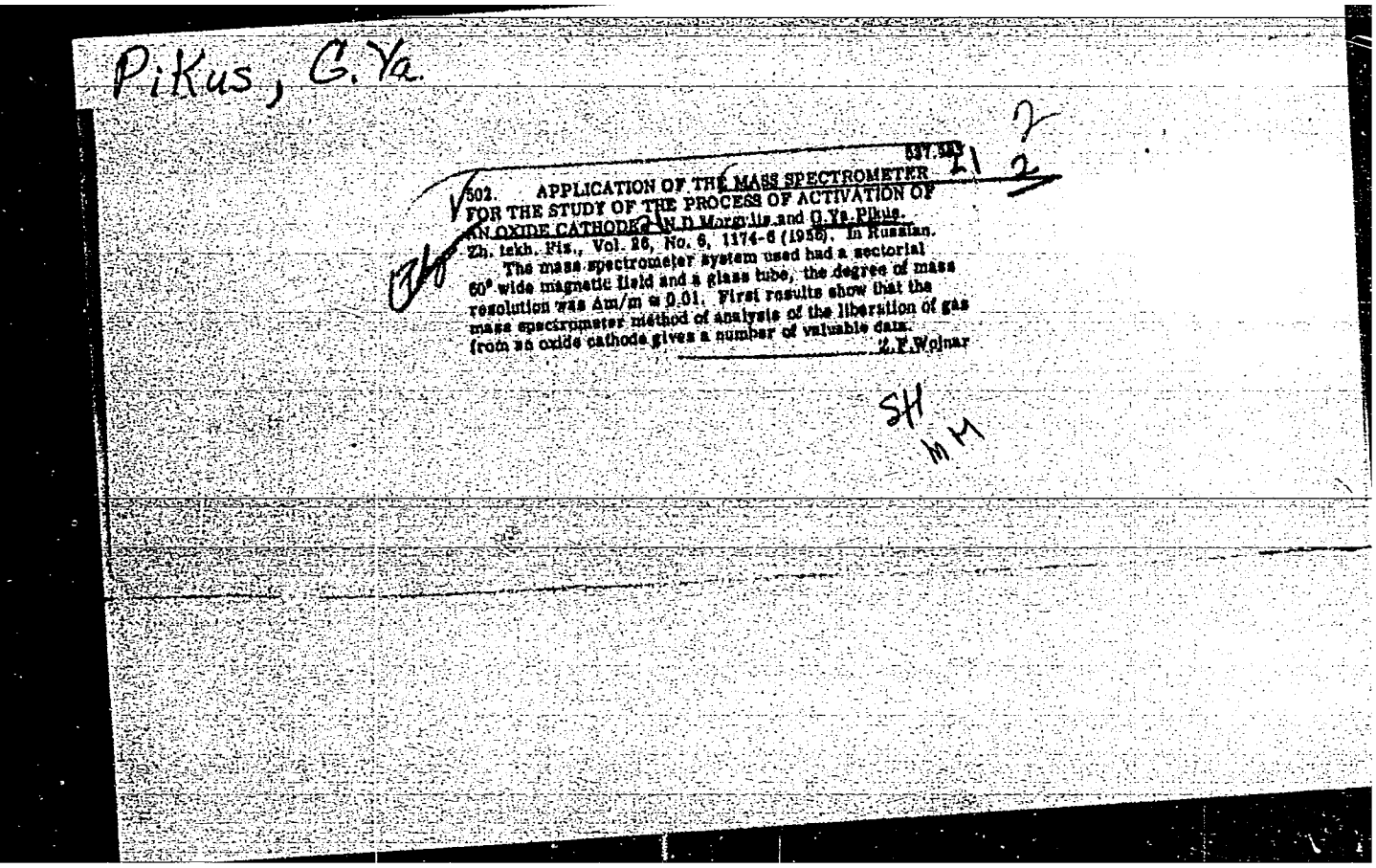

Pikus, G. Ya.

537.533

502. APPLICATION OF THE MASS SPECTROMETER FOR THE STUDY OF THE PROCESS OF ACTIVATION OF AN OXIDE CATHODE. N. D. Morgulis and G. Ya. Pikus. Zh. tekh. Fiz., Vol. 26, No. 6, 1174-6 (1956). In Russian.

The mass spectrometer system used had a sectorial 60° wide magnetic field and a glass tube, the degree of mass resolution was Δm/m = 0.01. First results show that the mass spectrometer method of analysis of the liberation of gas from an oxide cathode gives a number of valuable data.

Z. F. Wojnar

SH
MM

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

S/0181/64/006/001/0324/0326

ACCESSION NR: AP4011783

AUTHOR: Pikus, G. Ye.

TITLE: Effect of deformation on the optical spectrum of crystals of wurtzite type

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 324-326

TOPIC TAGS: deformation, crystal deformation, optical spectrum, wurtzite, crystal splitting, spin-orbital splitting, valence band, degeneracy, wave function

ABSTRACT: In crystals with wurtzite lattice structure (CdS, CdSe, and others), the valence band is triply degenerate. In expressing the wave functions of the three bands, according to the model of D. I. Thomas and I. I. Hopfield (Phys. Rev., 116, 537, 1959; 119, 570, 1960), spin-orbital splitting is greater than crystal splitting, but according to J. L. Birman (Phys. Rev., 114, 1490, 1959), crystal splitting is greater than spin-orbital splitting. The author proposes, in line with previous work, that measurements on line displacements during deformation may determine which of the two models is valid for a particular crystal and may also determine all the parameters characterizing the spectrum at any particular point. He uses an equation from his previous work (ZhETF, 41, 1258, 1507, 1961)

Card 1/2

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ACCESSION NR: AP4011783

to arrive at a determination of the amount of line splitting resulting from definite values of deformation. From this he obtains an expression for the energy spectrum permitting computation of terms of the equation. Results show that there can be no doubt that deformation of a crystal definitely causes a change in distance between lines. By measuring simultaneously the displacement of all three lines, it is possible to determine the ratio of changes in energy levels. By knowing this ratio in addition to the distance between lines in the undeformed crystal, all three constants required for the principal equation may be determined, and, consequently, the proper model may be selected. "In conclusion, I wish to thank V. Sobolev for acquainting me with his experimental data before its publication." Orig. art. has: 1 figure, 1 table, and 4 formulas.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 23Aug63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 004

Card 2/2

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20783

S/[illegible]/003/001/[illegible]
B102/B214

9.3120 (1003, 1137, 1140)
26.2531

AUTHOR: Pikus, G. Ya.

TITLE: Investigation of the process of vaporization of oxide cathodes

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, [illegible]

TEXT: Experimental investigation of the vaporization of oxide [illegible] not only of practical and technological interest (determination of the durability and optimum operation of oxide cathodes) but also of interest from the point of view of physics (determination of the physico-chemical processes occurring and of their effect on the thermionic properties, the nature of the donor centers, etc.). The publications up to now are concerned very little with real cathodes. The object of the work described here was to study qualitatively and, in some cases quantitatively, the vaporization products of real oxide cathodes in a high vacuum and using highly accurate mass-spectroscopic methods. The objects investigated were industrially manufactured standard cathodes, such as those used in tubes of the type 6H8C (6N8S). They consist of a core of silicon nickel with [illegible]

Card 1/4

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20783

S/181/61/003/[illegible]
B102/B214

Investigation of ..

and 0.08-0.15%Mg) and an equimolar carbonate mixture (Ba, Sr)CO_3; the oxide layer is 100μ thick, and the oxide-coated area ≈ 0.6 cm^2. The cathodes were activated by heating them from 900 to 1400°K in steps of 50°. The emissivity of the activated cathode at 1150°K was found from the volt-ampere characteristic to be 1-3 a/cm^2. The cathode temperatures were measured by an optical micropyrometer. There was a difficulty in the mass-spectroscopic determination of the Ba^+ ions, because these ions resulted not only from the vaporization of Ba atoms but also from the dissociation of BaO by electron impact in the ionization chamber. This difficulty was circumvented by determining the current ratio I_{Ba^+}/I_{BaO^+} as a function of the energy of the ionizing electrons. The mass spectrometer was subjected to a special quantitative standardization. The following are the results of repeated experiments: The vaporization of oxide cathodes leads principally to the appearance of neutral atoms and molecules (BaO, Ba, Sr, Ni); strontium oxide was not detected. Vaporization of BaO: The principal product of vaporization is BaO. In the range of 1150-1450°K, the rate of vaporization of BaO is a linear function of temperature. The heat of vaporization is found from the slope of the straight line to be Q = 3.7-4.1 ev. The rate of

Card 2/4

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B102/B214

Investigation of ...

vaporization decreases very rapidly during the first few hours when the cathode is in action (in the first 5-6 hours, it decreases to 1/8-1/10), and more slowly later. The vapor pressure of BaO at 1200°K decreases in 10-15 hours from $1\text{-}3\cdot10^{-7}$mm Hg to $1.5\text{-}3\cdot10^{-8}$mm Hg. Vaporization of Ba: The degree of vaporization and the heat of vaporization depend on the time for which the cathode has been in operation. Initially, $Q \approx 2.5$, and after 15 hours Q = 3.9 ev. This indicates the existence of two components of Ba vaporization, one more volatile (Q near the Q-value of the metal) and the other less so (Q near the Q-value of BaO). Compared to BaO, Ba is only a small fraction of the vaporization products: less than 0.5% in the case of the less volatile component and 3.5% in the case of the more volatile one. The latter is assumed to be colloidal Ba formed as the product of reduction of BaO. Vaporization of Sr: Sr is vaporized chiefly as a free metal. Its rate of vaporization is also a linear function of temperature, and Q lies between 3.0 and 3.2 ev. The rate of vaporization decreases by nearly two orders of magnitude in a relatively short time even though the heat of vaporization remains practically unchanged in this interval. The rate of Sr vaporization is approximately a few percent of that of BaO. Vaporization of Ni: The vaporization of Ni from the core of the cathode is of special

Card 3/4

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B102/B214

Investigation of ...

interest. The rate of vaporization is again a linear function of temperature, and the heat of vaporization amounts to 4.0-4.1 ev. The vapor pressure was about two orders of magnitude less on the cathode than on the core. At 1200°K, it amounted to 10^{-9}-10^{-10} mm Hg (on pure Ni: 1.5 $\cdot 10^{-8}$ mm Hg). The rate of vaporization of Ni was practically independent of time. Professor N. D. Morgulis, Corresponding Member AS UkrSSR, is thanked for interest and advice, and V. F. Shnyukov for help in measurements. There are 8 figures and 23 references: 11 Soviet-bloc and 12 non-Soviet-bloc

ASSOCIATION: Kiyevskiy Ordena Lenina gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev "Order of Lenin" State University imeni T. G. Shevchenko)

SUBMITTED: September 15, 1960

Card 4/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012408

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G. Ye.

Threshold current from a semiconductor laser. Fiz. tver. tela
7 no. 12:3536-3547 D '65 (MIRA 19:1)

1. Institut poluprovodnikov AN SSSR, Leningrad.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

PIKUS, G. Ye.; ARKHOV, A.G.

Line width of a semiconductor laser. Fiz. tver. tela 7 no. 12: 3548-3557 D '65 (MIRA 19:1)

1. Institut poluprovodnikov AN SSSR, Leningrad.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001240

L 17658-66 EWT(1)/T IJP(c)
ACC NR: AP6002734 SOURCE CODE: UR/0056/65/049/006/1904/1912

AUTHORS: Aronov, A. G.; Pikus, G. Ye.

ORG: Institute of Semiconductors, Academy of Sciences SSSR (Institut poluprovodnikov Akademii nauk SSSR)

TITLE: Indirect optical transitions in crossed electric and magnetic fields

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1965, 1904-1912

TOPIC TAGS: semiconductor carrier, optic transition, phonon, valence band, conduction band, light absorption, magnetooptics, energy band structure

ABSTRACT: This is a continuation of earlier work by one of the authors (Aronov, FTT v. 5, 552, 1963), where it was shown that measurements in crossed electric and magnetic fields make it possible to determine the effective masses of semiconductor carriers. In this paper it is shown that measurements of indirect transitions in crossed

Card 1/3

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fields increase appreciably the sensitivity of the method, thus permitting a determination of the structure of bands between which no direct transitions were observed, and also to determine the frequencies of the corresponding phonons. The analysis is carried out for semiconductors in which the extrema of the valence and conduction bands are at different points in momentum space. From calculation of the absorption coefficient and its variation in weak electric fields it is deduced that measurement of the absorption-coefficient variation greatly increases the sensitivity of magneto-optical methods for indirect transitions, making it possible to use these methods to determine the band structure of the semiconductors. It is shown that the presence of the electric field gives rise to additional measurable change in absorption, which increases the sensitivity of the method. An experiment in crossed fields should yield a set of lines corresponding to different nonequivalent extrema, and measurement of the frequencies in the conduction and the valence bands make it possible to determine the components of the effective mass tensor in both bands. Expressions for the angular variation of the frequencies were presented by the authors elsewhere (FTT v. 6, 506, 1964). Authors

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ACC NR: AP6002734

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thank A. I. An'selm, G. L. Bir, V. L. Gurevich, Ye. K. Kudinov, B. D. Laykhtman, S. D. Pavlov, and Yu. A. Firsov for a discussion and advice. Orig. art. has: 3 figures and 33 formulas.

SUB CODE: 20/ SUBM DATE: 06Jul65/ ORIG REF: 006/ OTH REF: 009

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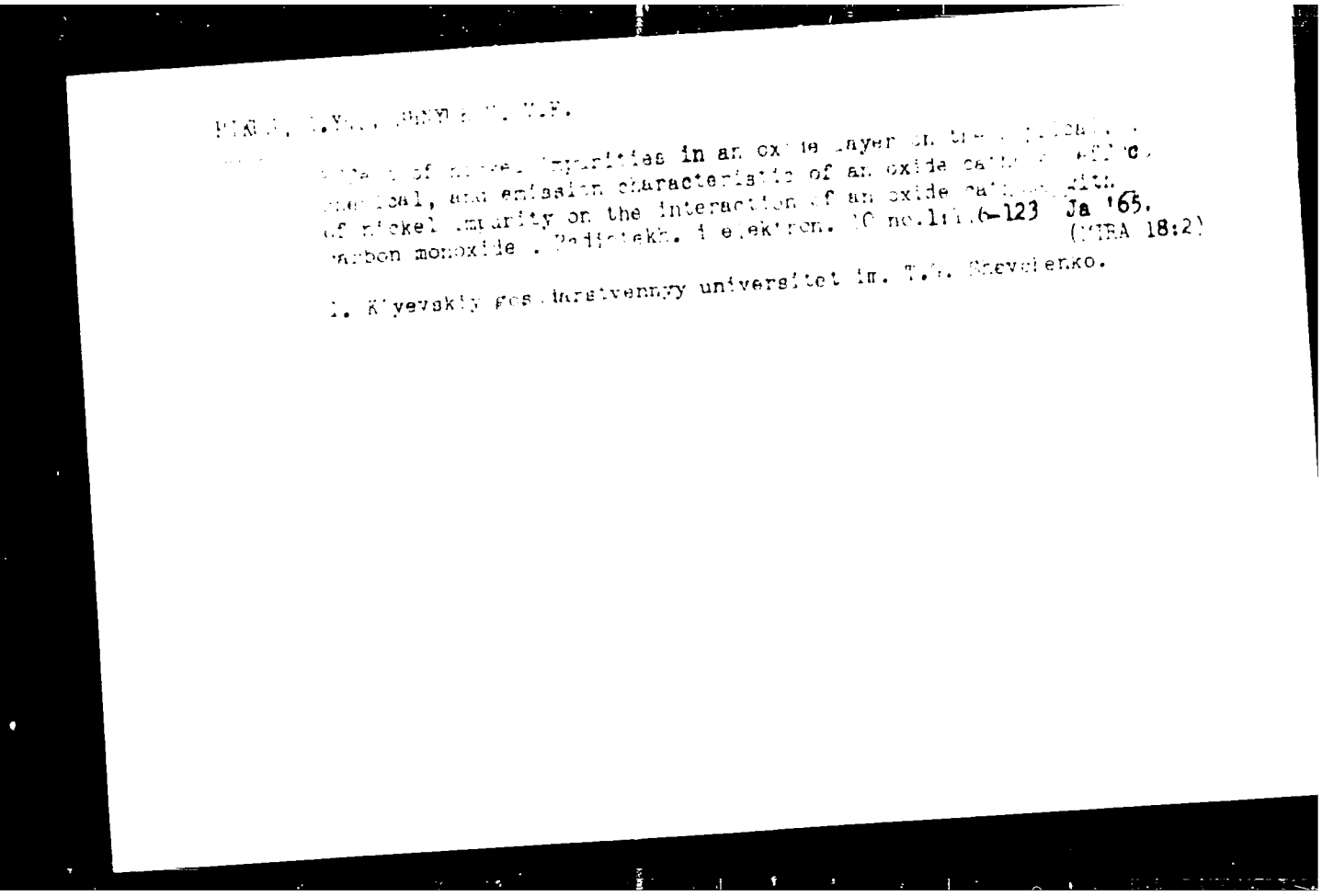

[illegible], [illegible], [illegible] V.F.

[illegible] of nickel impurities in an oxide layer on the [illegible] [illegible]ical, and emission characteristic of an oxide cath[illegible] [illegible] of nickel impurity on the interaction of an oxide cath[illegible] with carbon monoxide. Radiotekh. i elektron. 10 no.1:116-123 Ja '65. (MIRA 18:2)

1. Kiyevskiy gosudarstvennyy universitet im. T.G. Shevchenko.

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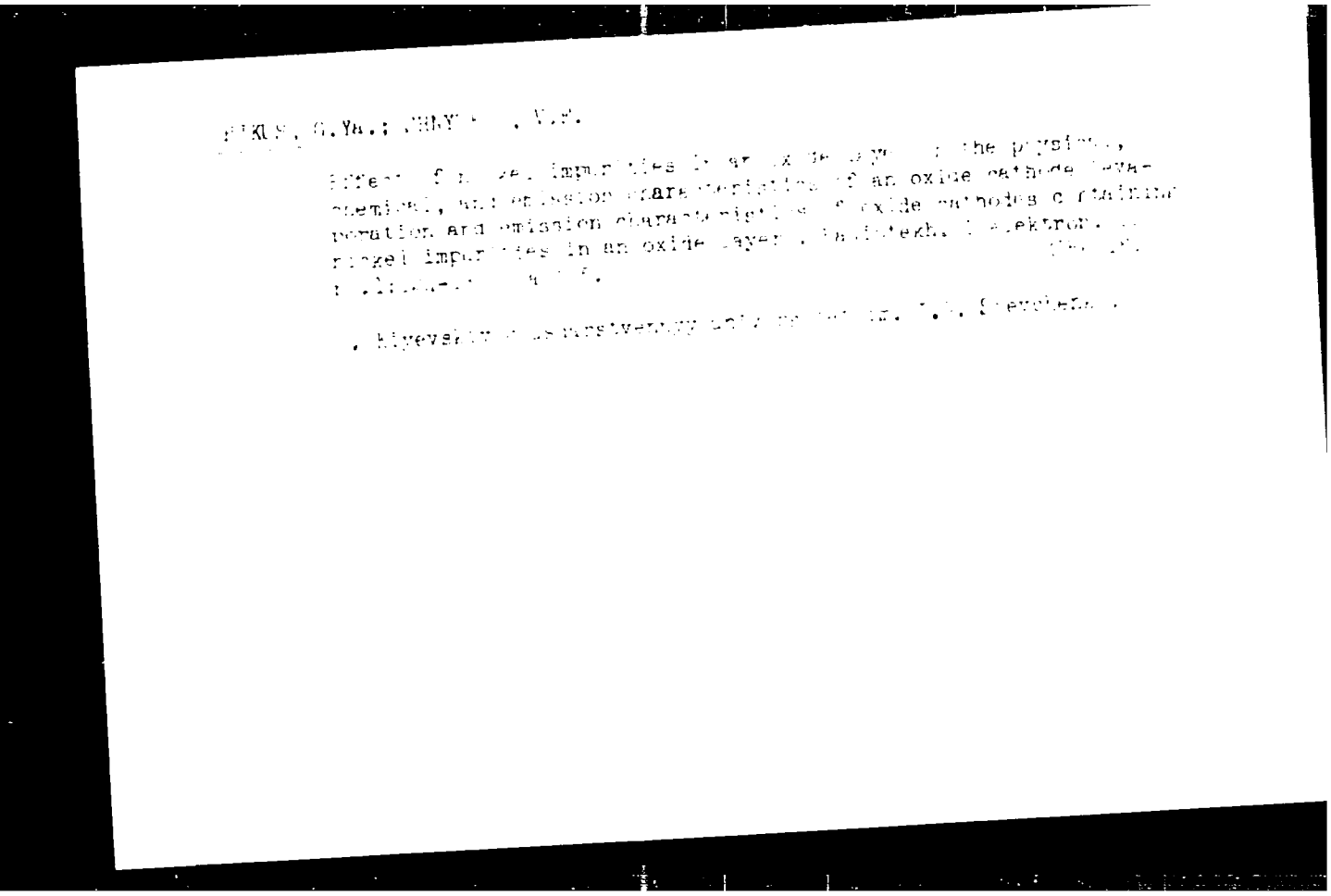

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PIKUS, G.Ya.

Investigating the process of oxide cathode evaporation. Fiz. tver. tela 3 no. 3:736-745 Mr '61. (MIRA 14:5)

1. Kiyevskiy Ordena Lenina gosudarstvennyy universitet imeni T.G. Shevchenko.

(Cathodes)

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PIKUS, G.Ya.

Mass spectrometer with a high-vacuum mass analyzer. Prib.i tekh. eksp. no.2:104-106 Mr-Ap '60. (MIRA 13:7)

1. Kiyevskiy gosudarstvennyy universitet.
(Mass spectrometry)

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AUTHOR: Pikus, G.Ya.

TITLE: A Mass Spectrometer with a High-vacuum Mass Analyzer

PERIODICAL: Pribory i tekhnika eksperimenta, 1960 No 2 pp 104 - 106 (USSR)

ABSTRACT: A brief description is given of a laboratory prototype of a mass spectrometer with a glass analyzer. Provision is made for careful outgassing so that a pressure of about 10^{-8} mm Hg or less can be obtained in the analyzer and thus ensure the absence of chemically-active gases at low residual pressure and the use of a photomultiplier as the detector ensured a high sensitivity of the spectrometer. The mass spectrometer was designed for studies in cathode electronics and the physics of ultrahigh vacuum (outgassing of oxide cathodes, negative ion emission, evaporation of the cathode material, etc). The basic design was later used to construct two similar mass spectrometers which are now satisfactorily working at Kiyev State University and the Institute of Physics of the Ac.Sc., Ukrainian SSR. The working specification of the instrument is as follows radius of the central ion trajectory 100 - 150 mm.

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