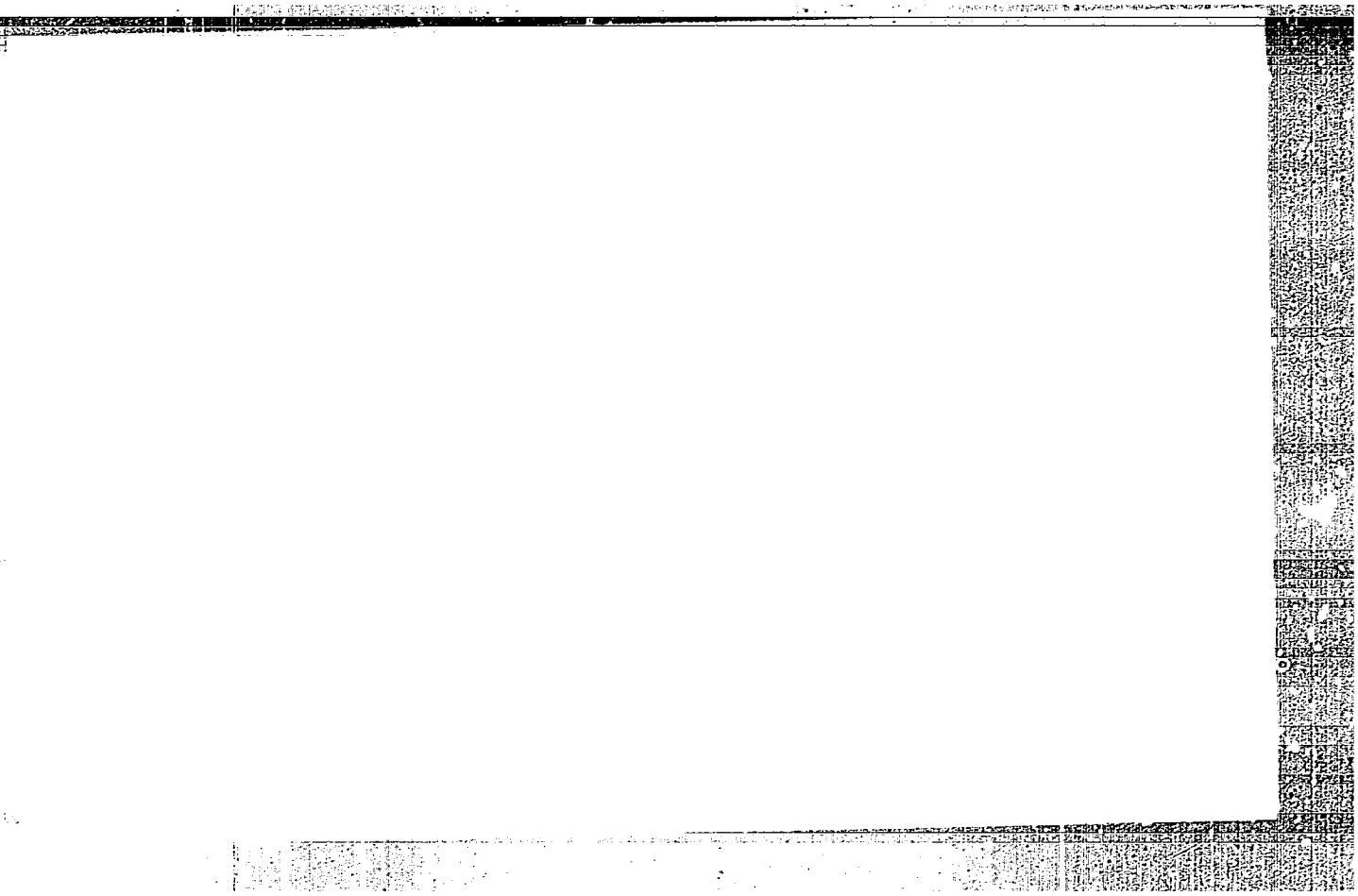
NAZARENKO, N.D.

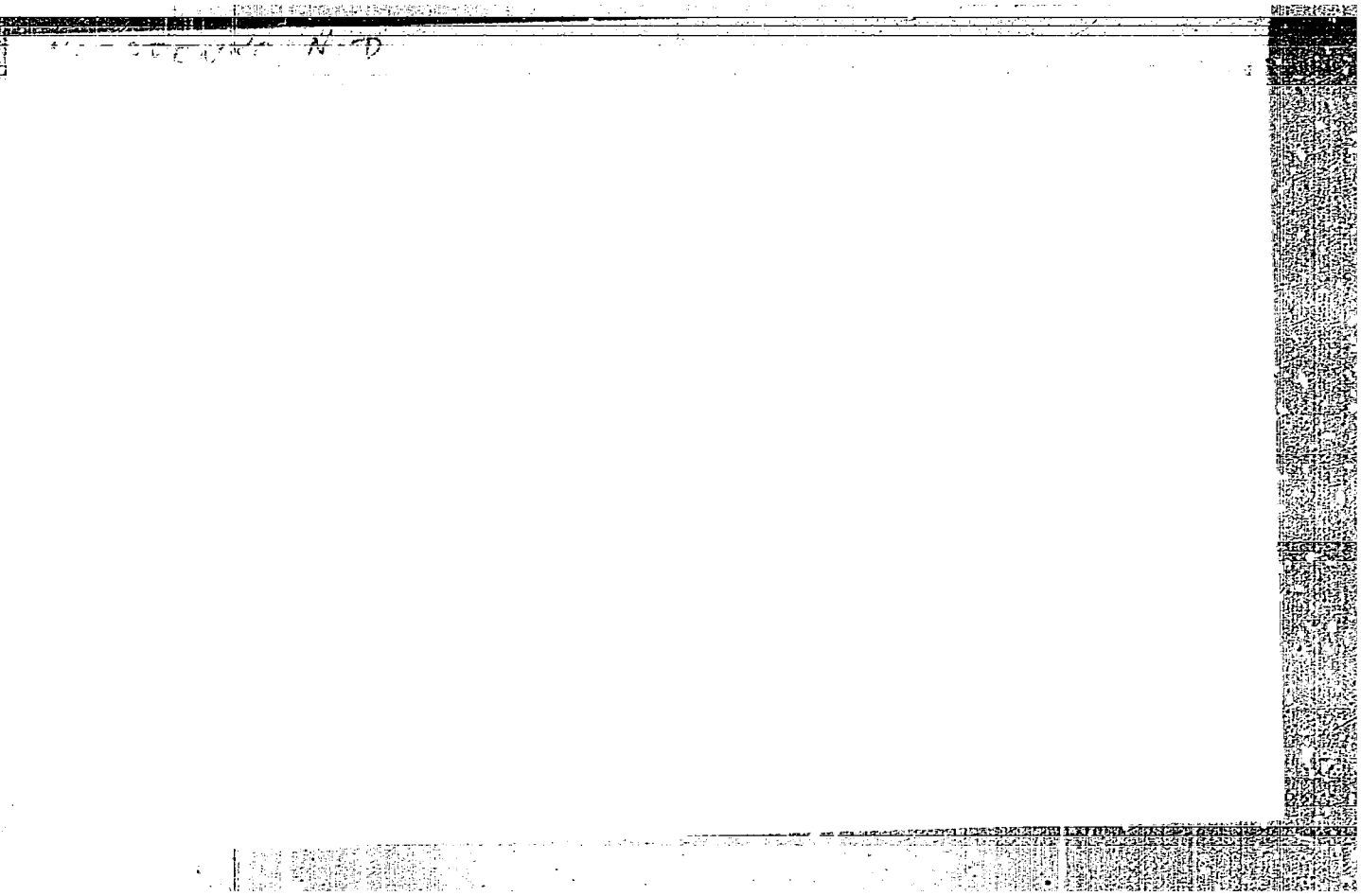
KATNARSKIY, I.S.; NAZARENKO, N.D.

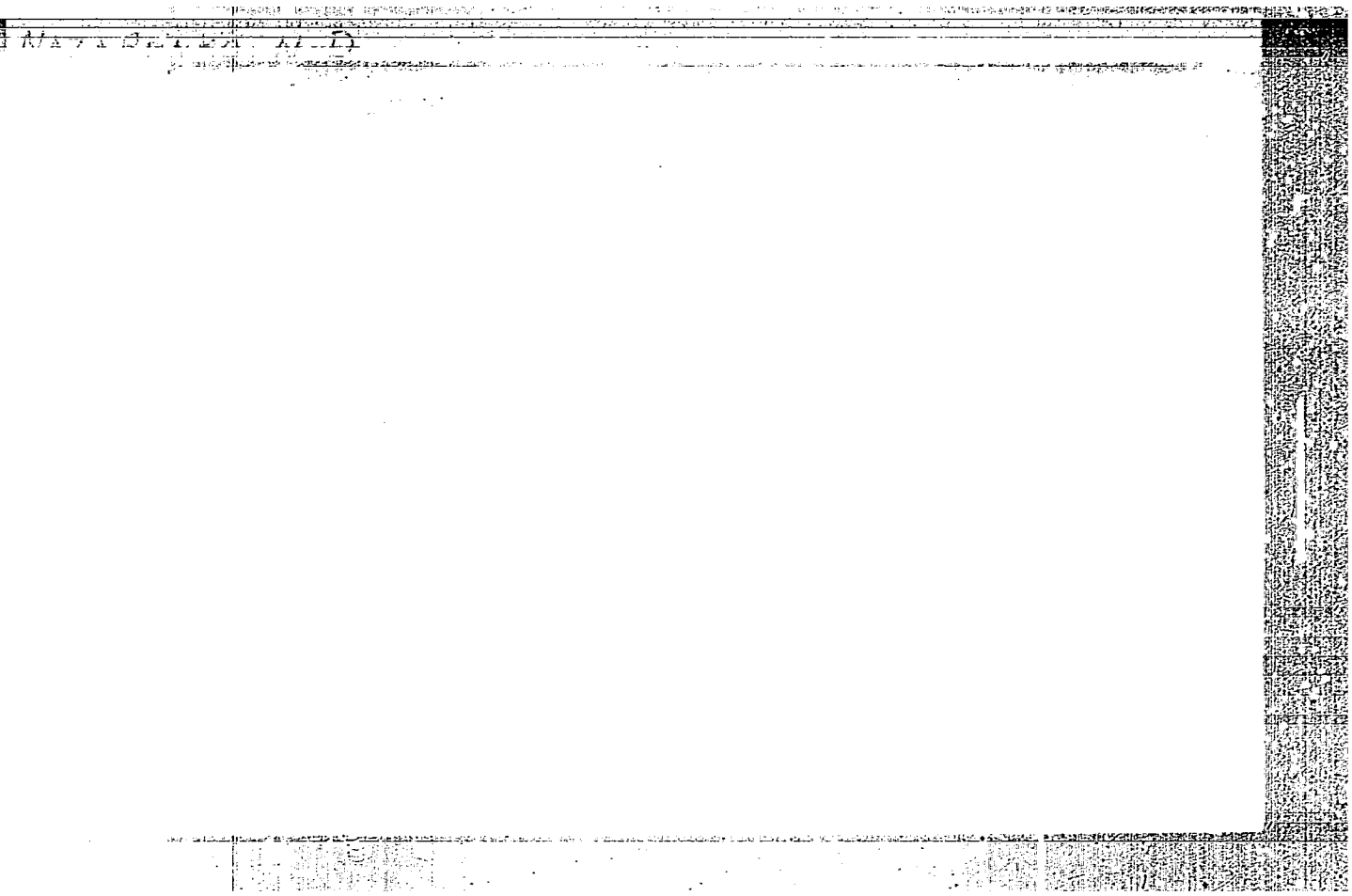
Investigating the hydration of the magnesite mixture and its effect on sintering during the burning process. Ogneupory 22 no.9:392-398 '57. (MIRA 10:11)

1. Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina.
(Refractory materials) (Magnesite)



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136220





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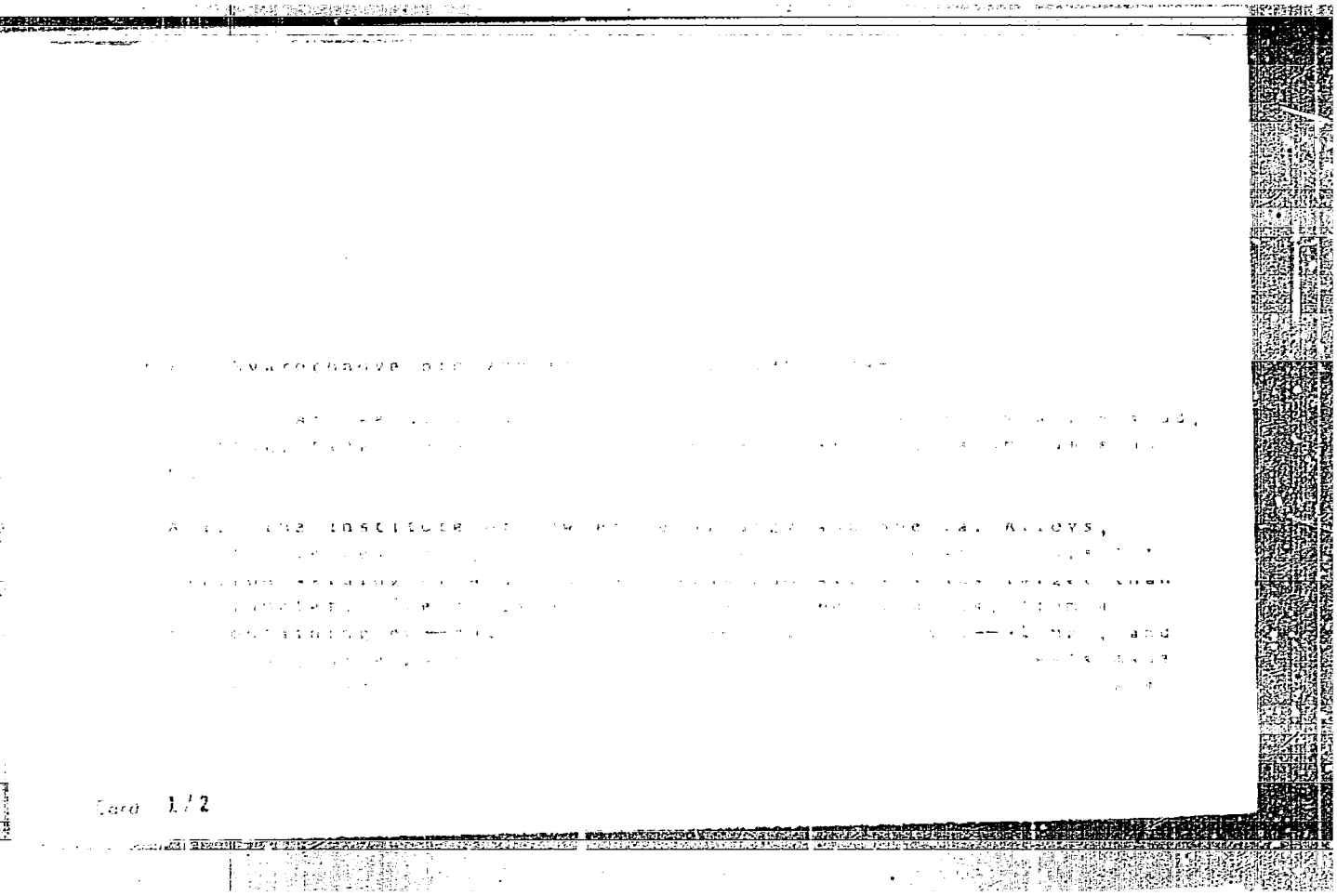
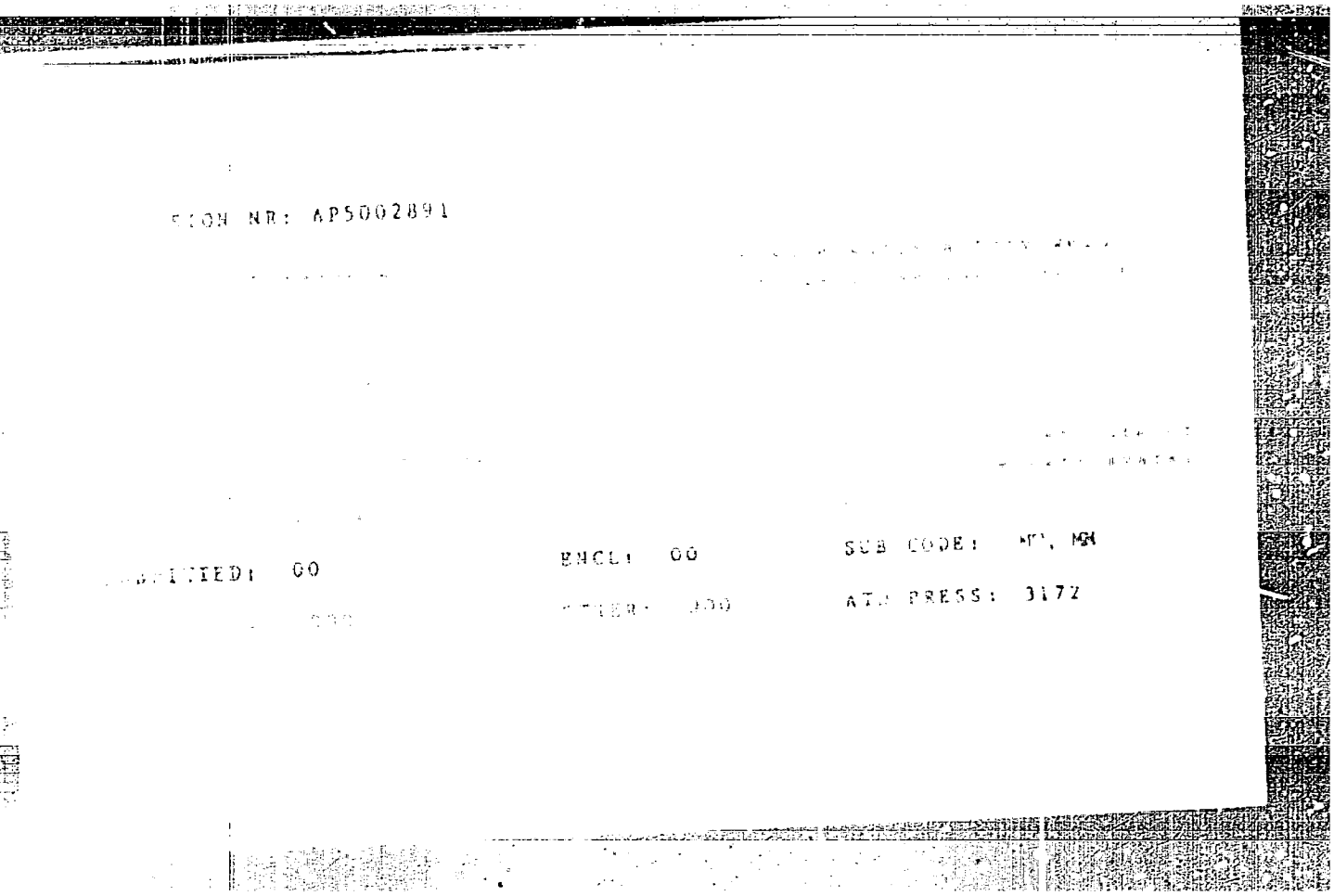


Card 1/2



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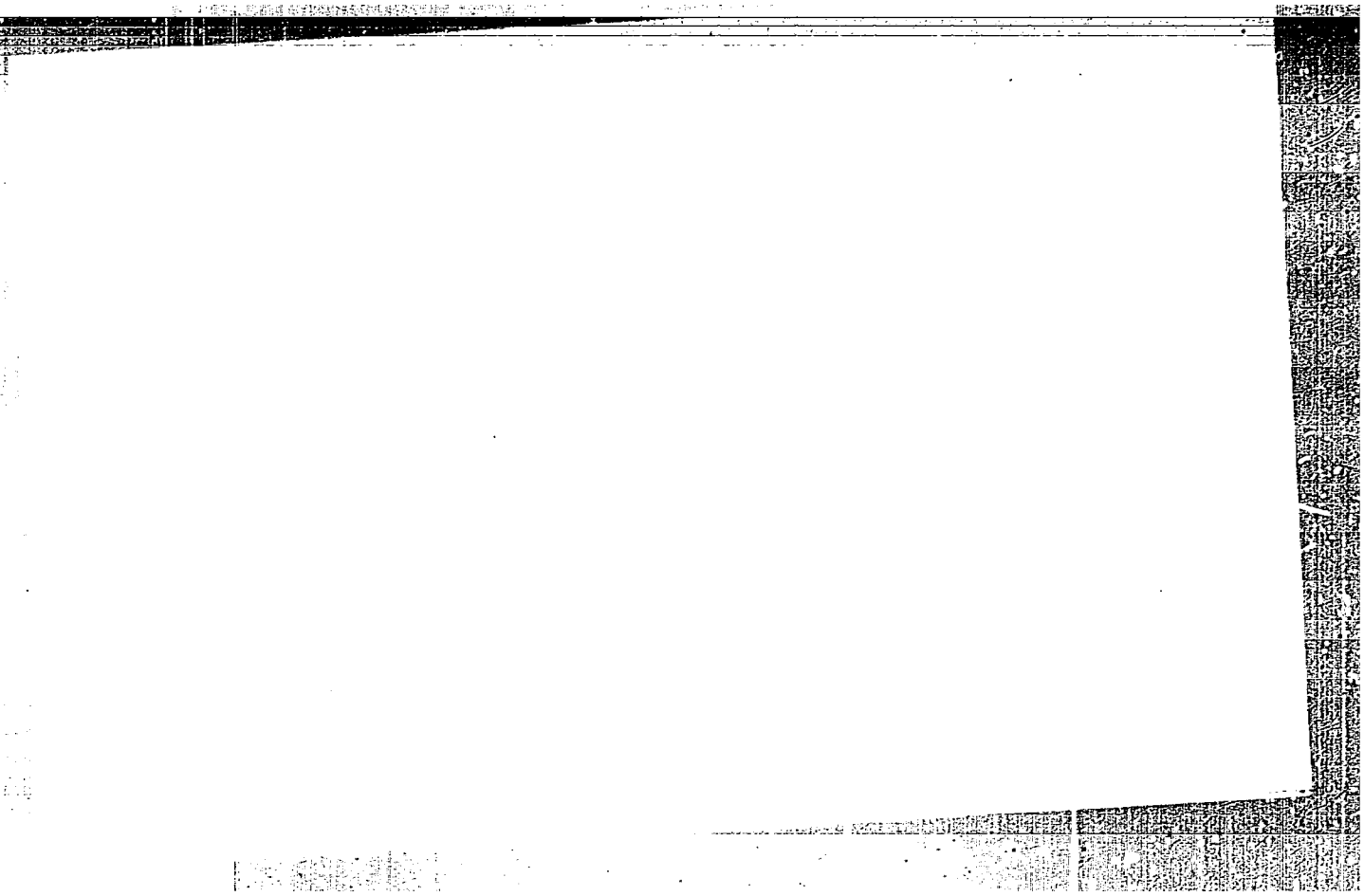
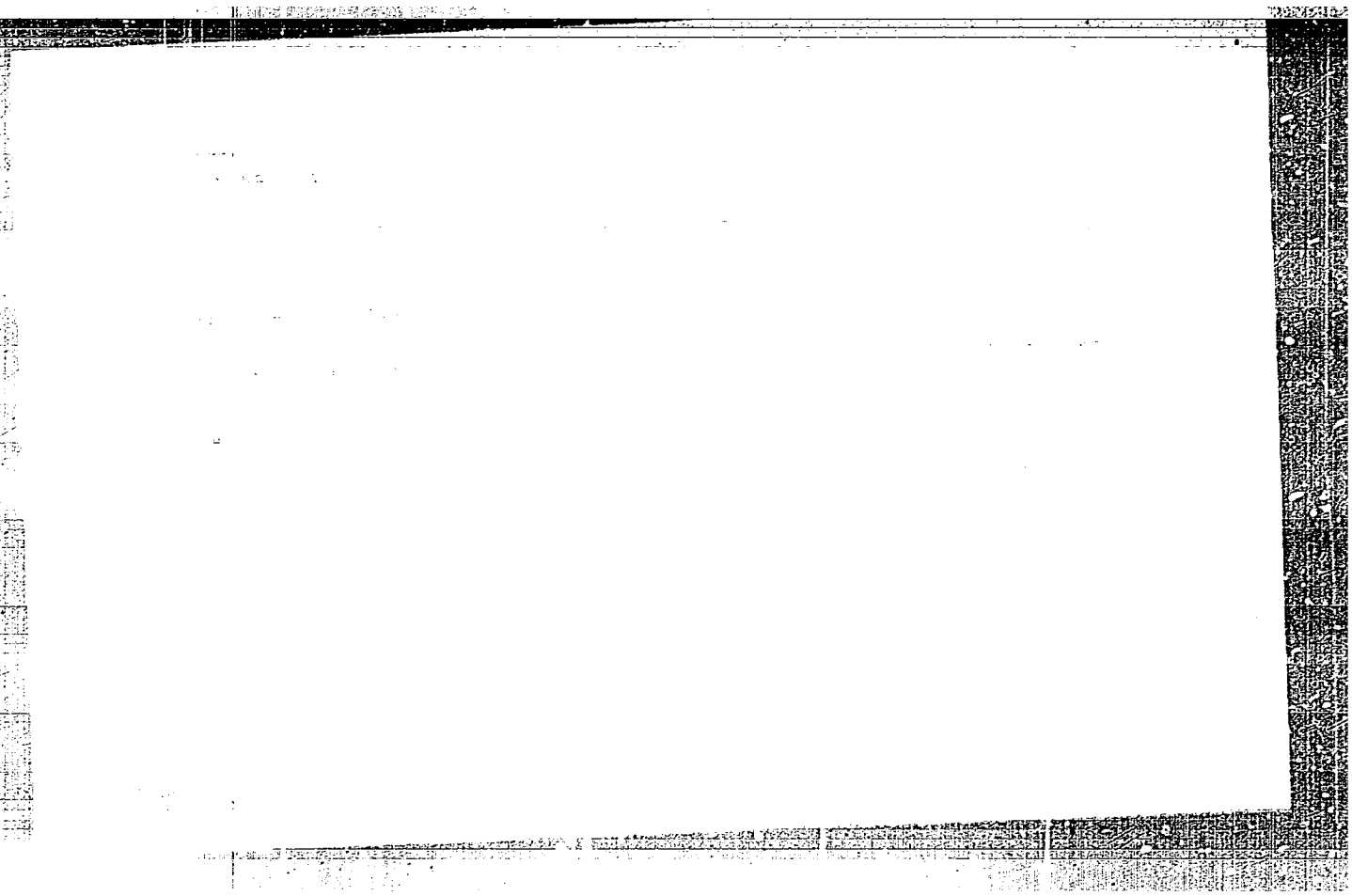
ENCL: 00 SUB CODE:

ATD PRESS: 3172



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136220



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136220

ACC NR: AP6021572 (A) SOURCE CODE: UR/0131/66/000/003/0059/006

AUTHOR: Nazarenko, N. D.; Vlasko, N. L.; Tikush, V. L.; Skryabinskaya, L. V.

ORG: Institute of Materials Research, AN UkrSSR (Institut Problem Materialovedeniya, AN SSSR)

TITLE: Superduty nonfired refractories with magnesium phosphate used as the binder

SOURCE: Ogneupory, no. 3, 1966, 59-61

TOPIC TAGS: refractory, magnesium compound, phosphate, nonclay refractory product

ABSTRACT: Superduty concretes were experimentally produced on using fused-magnesite wastes of electric-heater production and monosubstituted magnesium phosphate. The phosphate was obtained by adding small portions of active MgO to preheated phosphoric acid:

$$MgO + 2H_3PO_4 \rightarrow Mg(H_2PO_4)_2 + H_2O$$

and evaporating the solution until a dry residue remained. This residue, dry monosubstituted magnesium phosphate, was added as the binder to the charge. Specimens of the resulting material were immediately pressed in semi-dry form in a hydraulic press and dried, first in

Card 1/2 UDC: 666:856

ACC NR: AP6021572

air and then at 100–110°C (when the final setting of the phosphate binder additionally enhanced the strength of the material). The dry specimens were heated to 900°C in a muffle furnace and to 1700°C in a Kryptol furnace. Findings indicate that the minimum spalling resistance of the specimens after heating at 900°C is sufficiently high, and that it increases markedly when they are heated at 1200–1500°C. The material thus developed may be primarily recommended for the production of rammed refractory linings and accessories (including flame tubes) for high-temperature furnaces of the laboratory type. Orig. art. has: 5 tables.

SUB CODE: 11 / SUBM DATE: none/ OTH REF: 002

Card 2/2

AMBARTSUMYAN, TS.L.; BASALOVA, G.I.; GORZHEVSKAYA, S.A.; NAZARENKO, N.G.; KHODZHAYEVA, R.P.; PCHELINTSEVA, G.M., red.; MAZEL', Ye.I., tekhn. red.

[Thermal investigation of uranium and uranium-containing minerals] Termicheskie issledovaniia uranovykh i uransoderzhashchikh minerallov. Moskva, Gos. izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 146 p. (MIRA 14:11)

(Uranium—Analysis)

GERTSEVA, R.V.; TSYBUL'SKAYA, M.S.; AMBARTSUMYAN, TS.L.; NAZARENKO, N.G.; POLUARSHINOV, G.P.; KHODZHAYEVA, R.P.

New data on hydrous pitchblende and urgite. Zap.Vses.min.ob-va 90 no.5:549-556 '61. (MIRA 14:10)
(Urgite) (Pitchblende)

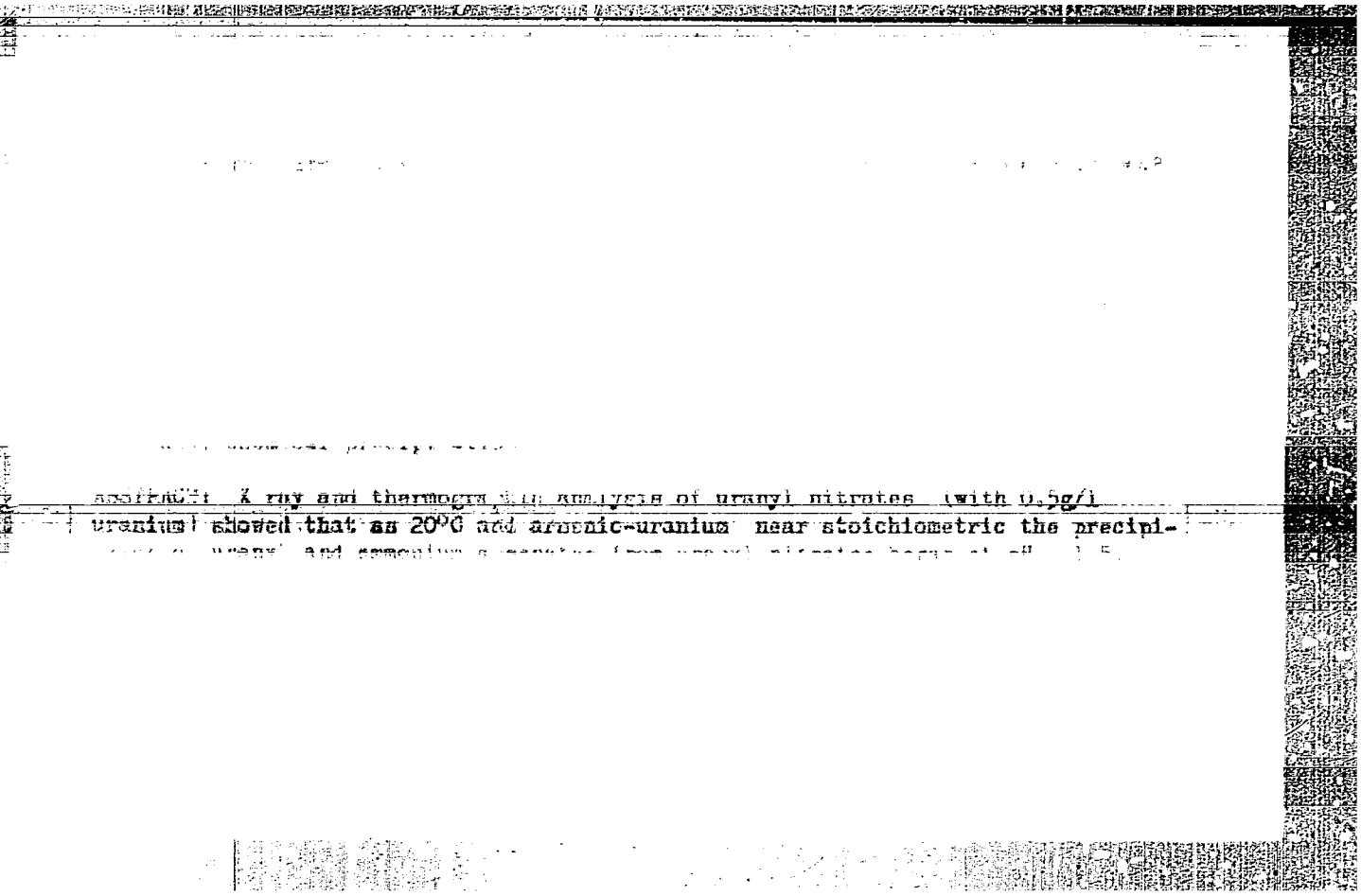
DYMKOV, Yu.M.; NAZARENKO, N.G.

Coffinite and the nature of pitchblende pseudocrystals. Geokhimiia no.4:304-312 '62. (MIRA 16:7)
(Coffinite) (Uraninite)

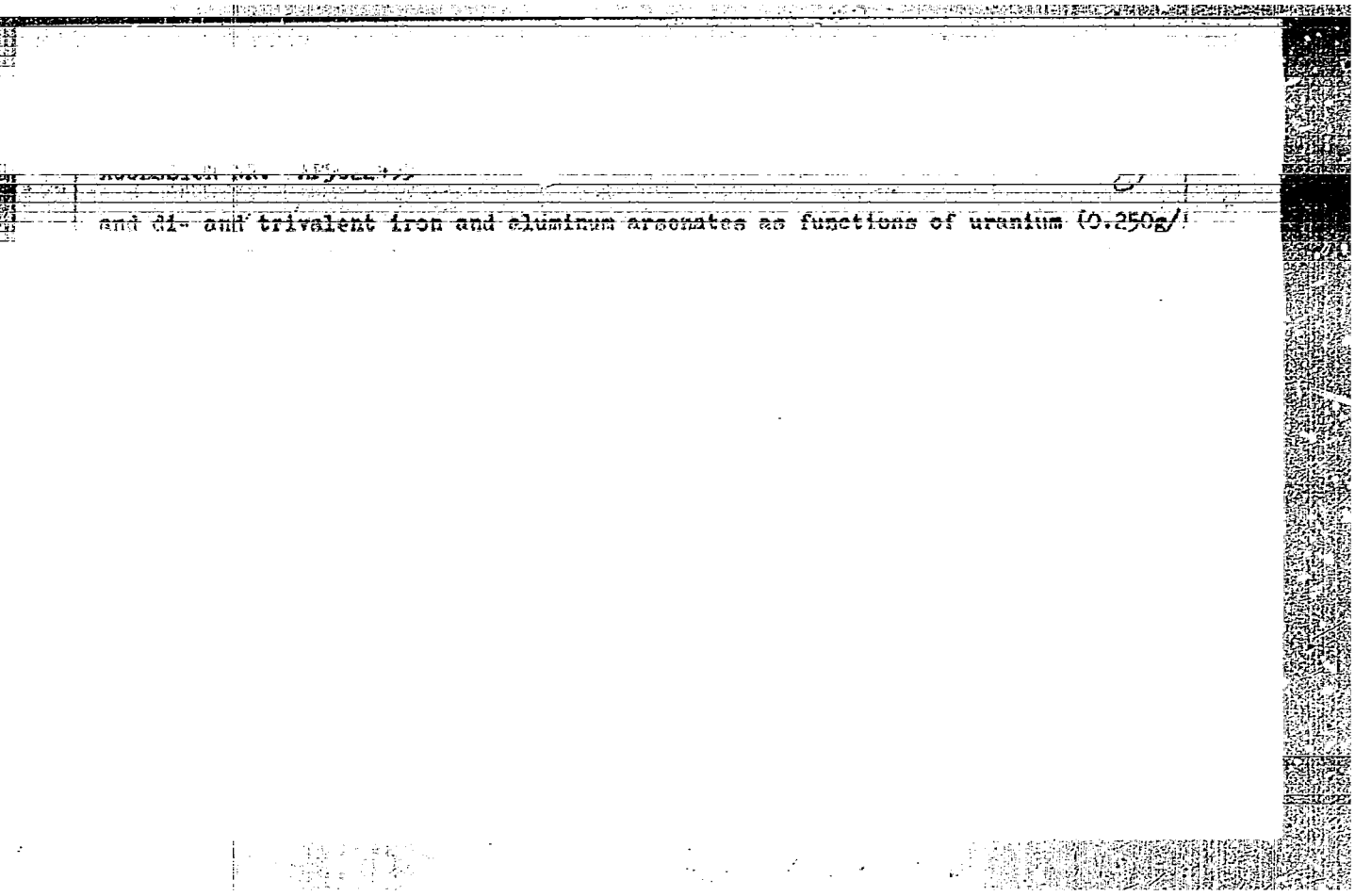
DYMKOV, Yu.M.; SOLOV'YEVA, F.I.; NAZARENKO, N.G.

Pseudospherulites of uraninite. Zap.Vses.min.ob-va. 92 no.2: 242-247 '63. (MIRA 16:5)

(Uraninite)



ABSTRACT X ray and thermogravimetric analyses of uranyl nitrates (with 0.5g/l uranium) showed that at 20°C and arsenic-uranium near stoichiometric the precipi-



and di- and trivalent iron and aluminum arsenates as functions of uranium (0.250g/l

SHNEYDER, Viktor Aleksandrovich; MANUYLOV, Yu.G., nauchn. red.; NAZARENKO, M.I., red.

[Scrapers, bulldozers, and graders] Skrepery, bul'dozery, greidery. Izd.2., ispr. i dop. Moskva, Vysshaia shkola, 1964. 269 p. (MIRA 18:3)

NAZARENKO, N.V.

"Certain Peculiarities of Polyneuritis of Dysenteric Etiology," by N. V. Nazarenko, Trudy Instituta Nevrologii i Fizicheskikh Metodov Lecheniya Ministerstva Zdravookhraneniya Turkmenskoy SSR (Works of the Institute of Neurology and Physical Methods of Therapy, Ministry of Health Turkmen SSR), Vol 3, 1955, pp 55-62 (from Sovetskoye Meditsinskoye Referativnoye Obozreniye, No 15, 1956, p 26, abstract by D. Aniskevich)

"The problem of affection of the nervous system in dysentery has been considered comparatively seldom in neurological literature, but it has always been acknowledged that any part of the nervous system and most frequently the cells and fibers of the peripheral columnae can be affected in dysentery. In this article, a detailed history of disease in five patients suffering from polyneuritis of dysenteric etiology are presented. Three of the patients had severe motor disturbances and two had pain sensations in the hands and feet with a background of polyhypovitaminosis. The increase in motor disturbances developed rather rapidly, but was restored considerably more slowly than that of sensory disturbances. Physical and medicinal methods are the most effective complex therapy. The propitious administration of vitamins, especially B complex, into the organism is important." (U)

Sum. 1341

SOV/109-4-8-4/35

AUTHORS: Kucherenko, Ye.T. and Nazarenko, O.K.

TITLE: Properties of a Discharge with Electron Oscillations in a Magnetic Field

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1253 - 1256 (USSR)

ABSTRACT: The effect investigated in this work was observed earlier by one of the authors (Refs 1 and 2). The experimental tube employed is illustrated in Figure 1. This consists of a cylindrical anode A , a heated cathode K and two reflectors R_1 and R_2 ; a known longitudinal field is applied to the system. Two different types of discharge can be produced in the system. The first operating regime occurs at pressures $p < 2 \times 10^{-3}$ mm Hg and is dependent on the form of the cathode; this is referred to as the "difficult regime". The cathodes in the tube were made of tungsten and were in the form of a long cylindrical helix, a short helix, a flat helix or a flat oxide cathode. The characteristics

Card1/2
3

of a difficult discharge in which the cathode was in the form of a cylindrical helix (length 20 mm, diameter 5 mm, spacing 2 mm) are illustrated in Figure 2a. This shows a change of the discharge current I_a, the ion current I_t extracted from the system by means of the Pierce device, and the discharge voltage U_a as a function of the magnitude of the magnetic field H. Figure 2b shows similar curves for a discharge with a flat helix oriented perpendicularly to the direction of the field. The discharge voltage U_a as a function of the magnetic field H is illustrated in Figure 3; the curve was taken with a flat helix, having a diameter of 10 mm, in hydrogen. As the gas pressure is increased, the supply-source voltage being constant, the ion current increases considerably in the region of the peaks (Figure 4a). A further increase in the pressure, above 2×10^{-3} mm Hg, for hydrogen, results in a very

Properties of a Discharge with Electron Oscillations in a Magnetic Field

intense discharge, which is characterised by a low voltage drop; this is illustrated in Figure 46. A similar critical pressure is also observed in argon, the pressure being about 5×10^{-4} mm Hg. The discharge above the critical pressure is referred to as the "arc discharge". From Figures 5, it is seen that the increase in the supply voltage, in the case of an arc discharge, leads to an increase of the discharge and ion currents and to the broadening of the "existence" limits of the discharge (towards higher magnetic fields). The authors make acknowledgment to Professor N.D. Morgulis for discussion and his interest in this work.
There are 5 figures and 6 references, of which 1 is French, 1 German and 4 Soviet.

Card 3/4

Assn: Kiev State Univ im T.G. Shevchenko

NAZARENKO, O.K.

66782

24(3)/30 SOV/108-4-8-22/35

AUTHORS: Granovskiy, V.L., Luk'yanov, S.Yu., Spivak, G.V. and Sirotenko, I.G.

TITLE: Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1339 - 1358 (USSR)

ABSTRACT: The conference was organised by the Ac.Sc.USSR, the Ministry of Higher Education and Moscow State University.
A.A. Timofeyev - "Measurement of the Gas Density During the Dynamic Operation of a Discharge" (see p 1306 of the journal). A.V. Nedospasov - The Nature of a Striated Positive Column".
V.L. Fursal' and Yu.M. Kagan - "The Theory of Probes for Arbitrary Pressures".
Yu.M. Kagan et al. - "The Positive Column of a Discharge in a Diffusion Regime".
M.V. Konyukov - "Influence of the Processes of the Annihilation of the Negative Ions on Their Concentration in the Column".
M.D. Gabovich and L.L. Pasechnik - "Anomalous Scattering, Excitation of Plasma Oscillations and Plasma Resonance"
Yu.L. Klimontovich - "Energy Lost by Charged Particles for the Excitation of the Oscillations in Plasma (the Langmuir paradox)" and "The Theory of Non-linear Plasma Oscillations".
Ye.G. Martinkov and I.G. Nekrashevich - "Dependence of the Temperature in the Near-electrode Region of a Pulse Discharge on the Material of the Electrodes".
N.A. Neratina and D.N. Klyarfel'd - "Formation of Light Spots on the Anode of a Gas Discharge (see p 1301 of the journal).
N.A. Matveyeva -"Distribution of Binary Mixtures of Inert Gases in a d.c. Discharge".
V.G. Stepanov and V.F. Zakharchenko - "Some Phenomena in Rarified Plasma".
V.G. Stepanov and V.S. Bazal' - "The Possibility of Obtaining Highly Concentrated Plasmas".
G.V. Smirnitskaya and E.M. Reykhrudel' - "Some Characteristics of the Discharge in an Ion Pump and in a Magnetic Ionisation Vacuum Gauge".
Ye.T. Kucherenko and O.K. Nazarenko - "Properties of a Discharge with Electron Oscillations in a Magnetic Field" (see p 1253 of the journal).
The paper by L.M. Biberman and B.A. Veklenko considered the approximate methods for determining the concentration of atoms at the radiation levels.
I.I. Sobel'man and L.A. Vaynshteyn read a paper on "A Non-stationary Theory of the Stark Broadening of the Spectral Lines in Plasma".
M.A. Mazing and S.L. Mandel'shtam - "The Broadening and the Shift of Spectral Lines in a Gas-discharge Plasma".
R. Lunt (England) - "The Kinetics of Electron Collisions Leading to the Excitation of the Molecular Hydrogen in a Hydrogen Discharge".
V.E. Kalashnikov et al. - "Some Properties of the Arc Discharge in an Atmosphere of Inert Gases".
A.A. Mak and M.P. Vanyukov - "Production of High Temperatures By Means of Spark Discharges".

Card 1/7

S/125/60/000/009/008/017
A161/A130

1.2410 2708, 2804, 1513

AUTHORS: Gurevich, S.M., Nazarenko, O.K., Timchenko, V.A.

TITLE: Electron-Beam Welding Unit for Refractory and Chemically Active Metals

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 9, pp. 48-53

TEXT: Detailed description is given of an electron-beam welding unit for straight and annular seams on cylindrical work up to 700 mm in diameter and 1,200 mm length (Fig. 1), developed at the Electric Welding Institute im. Ye.O. Paton. The chamber of 1,200 mm length and 1,020 mm diameter is made of killed low-carbon steel 12 mm thick; the chamber inside is ground and all parts chrome-plated. The front end opens for placing work, and two shafts are passed into the chamber through the rear end cover (Fig. 2), one has a screw thread for moving the carriage with work in the chamber, and the other bears a pinion to rotate work. The electron gun is installed on the flange (see Fig. 1). Two inspection windows with lead glass are provided in the

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Electron-Beam Welding Unit for Refractory and Chemically Active Metals

chamber wall. The vacuum system has a fore vacuum pump BH-1 (VN-1), a high-vacuum BA-5-4 (VA-5-4) unit (converted H-5T (N-5T) steam oil pump), two fore-vacuum valves with 90 mm diameter aperture, and a ДУ-380 (DU-380) vacuum gate. The vacuum system produces rarefication up to $7 \cdot 10^{-6}$ mm Hg. It takes 50-60 min to replace the work and produce a vacuum. The electron gun gives a sharp-focused beam of over 500 ma and up to 20 kv. No special biological protection is necessary. The combination focusing system has a primary electrostatic lens and a secondary electromagnetic lens producing a beam of 1 mm diameter at the weld, with up to 10 kva power. The gun is lowered into the chamber through the mentioned flange; insert rings are used for varying the distance to the work. The gun is illustrated in diagram (Fig. 5). The electric system of the unit consists of two parts: feed circuit of the electron gun (Fig. 6) and auxiliary control circuits. The gun feed system includes a 50 kva transformer with secondary voltage of 22 kv; a 25 kva potential regulator smoothly adjusting the primary transformer

S/125/60/000/009/008/017
A161/A130

Electron-Beam Welding Unit for Refractory and Chemically Active Metals

voltage between 20 and 400 volt; a Larionov kenotron rectifier with B1-0,1/40 (V1-0.1/40) kenotrons; УИП-1 (UIP-1) rectifiers feeding the gun cathode heater and the electromagnetic focusing lens, adjusting output voltage in the 20-600 volt range at a maximum current of 600 ma (one rectifier is connected to a 220 volt network through a 1:1 transformer with insulation between windings, designed for rated 30 kv tension); a heating transformer for heating the flat tungsten spiral of the cathode group (220/20 volt, 100 amp); a smoothing LC filter consisting of a 3 microfarad capacitor and a 25 henry 1 amp choke instruments (milliampermeters, an ampermeter, a voltmeter, and a kw-meter). The control system includes magnetic starters, intermediate relays and contactors, autotransformers etc., all placed in a separate instrument box and in the operator's control board. The welding process is watched on instruments in a central instrument cabinet including auxiliary electronic equipment (the UIP-1 sources, the heating transformer, the cathode heating unit, etc.). Welding of molybdenum and

Card ~~3/8~~

S/125/60/000/009/008/017
A161/A130

Electron-Beam Welding Unit for Refractory and Chemically Active Metals

other chemically active metals has been tried with success. There are 6 figures and 3 references, 2 of which are Soviet and 1 English.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" of the Academy of Sciences of the UkrSSR)

SUBMITTED: April 29, 1960

Card 4/6

22940
S/125/61/000/006/004/010
D040/D112

1.2310 9,3130

AUTHOR: Nazarenko, O. K.

TITLE: Electron-beam welding guns

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1961, 31-36

TEXT: Information is given on two new electron-beam welding gun systems developed in the USSR: 1) A spherical-type gun producing a sharply focussed electron beam at 20 kv and 100 m-amps current, giving a 0.5 mm diameter focus spot on the workpiece being welded, and 2) a gun with ~ $1.1 \cdot 10^{-2}$ amp/kv$^{3/2}$ conductance, forming an up to 20 kva electron beam at 20kv, and giving 6-8 kva/mm^2 specific power in the welding plane. The two systems, both working with an accelerating voltage of 20-22 kv, are a development of electron guns described in two non-Soviet publications (Ref. 1: E. B. Bas, G. Cremosnik, Schweissen im Hochvakuum mit Elektronenstrahlen, "Vakuum Technik", No. 7, 1959; W. J. Greene, R. R. Banks, R. M. Niedzielski, A New Electron-Beam Welding Unit, "Welding Journal", 39, No. 8, 1960). The design with cathode and anode representing portions of concentrical spheres is adopted from radio engineering (Ref. 2: Dzh. R. Pirs [Russian spelling], Teoriya i raschet elektronnykh puchkov [Theory and calculation of electron

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Electron-beam welding guns

beams] , "Sovetskoye radio", M., 1956). [Abstracter's note: The obviously English name, probably J. R. Pears, suggests translation from English]. The Poisson equation for the stream of electrons between spheres is taken from calculations by I. Langmuir and K. Blodgett (Ref. 3: Currents Limited by Space Charge Between Concentric Spheres, "Phys. Rev.", 24, pp 49-54, 1924). The design is illustrated in two diagrams and two photographs (Fig. 1, 3, 4, 5). The electromagnetic lens of the described gun is a screened coil without pole ends; the nonmagnetic gap is adjusted by replaceable bushings from armco iron. The ampere-turns number, close to that determined empirically, is determined by the formula

$$IN = k \sqrt{\frac{R_{mean} v_a}{f}} , \qquad (9)$$

where f is the focal length of the lens; R_{mean} - mean coil radius ; k - the lens parameter (for the given design k = 7) v_a - accelerating voltage . The toroidal lens is placed in a vacuum-tight casing. As can be seen from the formula (9), the focal length of lens depends considerably on the accelerating voltage, and it is evident that pulsation of rectified voltage

Card 2/6

Electron-beam welding guns

increases the effective focal spot; this means increased width of the welding seam and a wider zone of heat effect. Larionov rectifiers with LC-filters are used in the gun feed units to eliminate these phenomena, and the rectified voltage pulsates not more than 0.1-0.3%. [Abstracter's note: No information on the Larionov rectifier is included.] The space between the lens and the welded workpiece is 70-100 mm. The cathodes are made from lanthanum hexaboride and developed by the Institut metallokeramiki i spetssplavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR). They give considerable emission density at comparatively low temperature (10 amp/cm^2 at 1600°), and their service life is dozens of hours. Information on these electrodes has been given by Ye. T. Kucherenko (Ref.5: The effect of ion bombardment on the emission of oxide and boride cathodes, "Radiotekhnika i elektronika", No. 9, 1960). There are 5 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: W. J. Greene, R. R. Banks, R. M. Niedzielski, A New Electron-Beam Welding Unit, "Welding Journal", 39, No. 8, 1960; I. Langmuir, K. Blodgett, Currents Limited by Space Charge Between Concentric Spheres, "Phys. Rev.", 24, pp 49-54, 1924.

Card 3/6

22940

Electron-beam welding guns

S/125/61/000/006/004/010
D040/D112

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye. O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye. O. Paton, of the AS UkrSSR)

SUBMITTED: December 15, 1960

Card 4/6

22952
S/125/61/000/007/008/013
D040/D113

1.2310

AUTHORS: Medovar, B.I.; Nazarenko, O.K.; Gurevich, S.M.; Chekotilo, L.V.; Povod, A.G.; and Pinchuk, N.I.

TITLE: Some peculiarities of electron-beam welding of austenitic steels and alloys

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1961, 79-81

TEXT: In their introductory remarks, the authors state why the electron-beam welding of austenitic steels and alloys in a vacuum is superior to conventional welding. For experimental purposes, specimens of ЭИ 726 (EI 726) and ЭИ696 (EI 696) heat-resistant austenitic steels and a nimonic-type ЭИ 437Б (EI437B) alloy were welded by the electron-beam method. All these types contain boron and are prone to cracks in the area near the weld and in the weld metal, if the compositon of the base metal is reproduced. Welding was carried out with an electron-beam gun designed by the Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton AS UkrSSR) using 120 mA, 20 kw current and a 35 m/hr welding speed. Metal

Card 1/2

Some peculiarities of electron-beam ...

produced by the electron beam was completely sound, except in the case of EI726 steel where an increased boron content of 0.025% caused cracks to form in the base metal at the seam and sometimes even in the weld metal. The following conclusions are drawn: The new method of electron-beam welding in a vacuum must be used not only for refractory and chemically active metals but also for heat-resistant austenitic steels and alloys. The electron-beam method gives welds much more resistance to crystallization cracks than other known welding methods. It is to be expected that the use of filler wire will make the electron-beam process applicable to a wider range of austenitic steels and alloys, and that the dagger shape of the seam will necessitate some modification of the design of the joints. There are 6 figures.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye. O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye. O. Paton AS UkrSSR)

SUBMITTED: April 17, 1961

12310 1140 1138 2708 1573

26482
S/125/61/000/009/006/014
D040/D113

AUTHORS: Nazarenko, O. K.; Povod, A. G.

TITLE: Experimental study of a welding electron gun with a spherical-type projector of long focal length

PERIODICAL: Avtomaticheskaya svarka, no.9, 1961, 33-37

TEXT: A new welding electron gun is described. Its combination focusing system (Fig.1) produces a beam of up to 120 ma and up to 5 kw/mm² energy in the focus spot. Welded joints with weld shape factor below 1:5 have been obtained in experiments with this gun without raising the accelerating voltage over 20 kv. This disproves the opinion that it is impossible to produce welds with a shape factor below 3:1 with the use of low-voltage welding guns (Ref.1: G.Burton, R.L.Matchett, Electrons shot from guns make high-purity welds, "American Machinist", v. 103, no.4, 1959). The gun (Fig.1) primary electrostatic system has a cathod unit (1) cathode electrode (2) and an accelerating electrode (anode) (3) with aperture for the beam. Current is supplied through two high-voltage and two low-voltage leads (6). The electron beam passes through the anode electrode and aperture diaphragm (8) and is

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Experimental study of a welding electron S/125/61/000/009/006/014
D040/D113

finally focused by an armored electromagnetic lens (9). The gun is attached to the flange (10) of the vacuum chamber by sockets by which the distance between the chamber axis and the electromagnetic lens can be varied. The cathode and anode are shaped like parts of concentrical spheres with a radius ratio $\frac{r_{cath}}{r_{an}} = 2.5$. The calculation of the projector is given in another work. (Ref.2: O.K.Nazarenko, "Avtomaticheskaya svarka", no.6, 1961). The cathode material is lanthanum hexaboride (LaB_6). Cathodes of this material have a high emission density ($j = 10$ amp/cm^2 at 1600°C), stability against ion bombardment and require no activation after contact with air. The article includes a general view photograph of the gun and two macro-photographs of two welds produced in stainless steel and molybdenum. There are 6 figures and 2 references: 1 Soviet and 1 non-Soviet bloc. The one reference to English language publication reads: G.Burton, R.L.Matchett, Electron shot from guns make high-purity welds, "American Machinist", v. 103, no.4, 1959.

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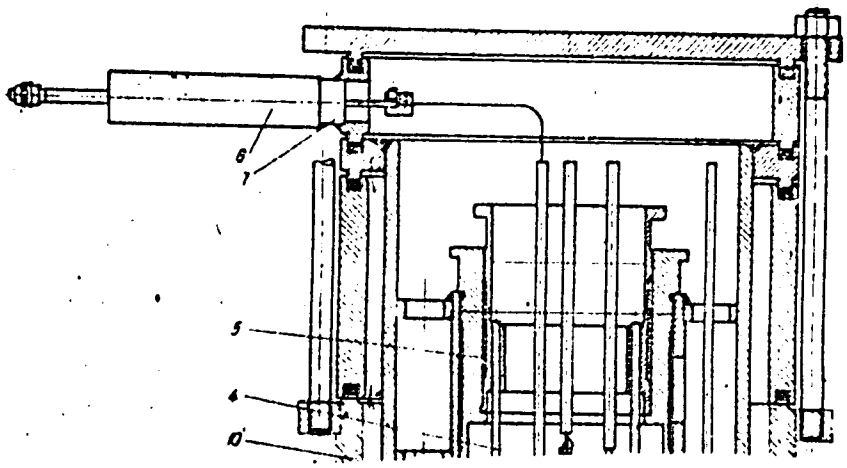
26482

S/125/61/000/009/006/014
D040/D113

Experimental study of a welding electron ....

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O.Paton, AS UkrSSR)

SUBMITTED: March 18, 1961



Card 3/4

1.2310

21399
S/029/61/000/009/006/006
D037/D113

AUTHOR: Nazarenko, O., Engineer

TITLE: An electron beam in the role of a welder

PERIODICAL: Tekhnika molodezhi, no. 9, 1961, 28

TEXT: The author describes the advantages of the electron beam welding method. He stresses in particular the 1.5 - 2 times higher productivity than in argon-arc welding and the possibility of focussing an electron beam with high accuracy on a sharply defined small spot on the surface of the metal. Steel maintains its structure and necessary features. The parts are not deformed or distorted. As welding is carried out in a vacuum the level of impurities is extremely low. The method gives especially good results in fine welding of parts made of tungsten, molybdenum and tantalum. The installation for electron beam welding has been developed at the Institut elektrosvarki imeni Ye.O.Patona (Electric Welding Institute imeni Ye.O.Paton). With this installation it is possible to weld workpieces up

Card 1/3

27399

S/029/61/000/009/006/006
D037/D113

An electron beam in the role of a welder

to 1 m long, up to 0.7 m in diameter and 4-5 mm thick. The electron beam welding process is shown in a diagram (Fig.2). There are 2 figures.

Card 2/3

S/125/62/000/007/009/012
D040/D113

1.2300

AUTHORS: Kuzhel', A.V.; Nazarenko, O.K.; Povod, A.G; Strekal', L.P.

TITLE: A universal welding electron gun with up to 50 kv acceleration voltage

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1962, 88-91

TEXT: The described electron gun (Fig. 5) of the Institut elektrosvarki im. Ye.O. Patona (Electric Welding Institute im. Ye.O. Paton) is used in У-3 (U-3) electron beam welding machines, and permits the accelerating voltage to be adjusted in the 15-25 kv and 25-50 kv ranges. It can be used for welding various metals of different thickness such as thin sheet molybdenum or tungsten and thick aluminum or stainless steel. The gun has a 3-electrode projector with a lanthanum boride cathode, and a one-stage electromagnetic focusing lens of 2,000 amp-t in a screen of armco iron. The long current supply system of the cathode reduces the heat transfer to the vacuum, which seals off the armored high-voltage insulator. A metal bellows joint permits the projector to be displaced along the gun axis during operation, and also allows the space between the focusing electrode and the

Card 1/2

S/125/62/000/007/009/012
D040/D113

A universal welding .....

anode to be adjusted without disturbing the vacuum in the gun. The entire gun can be tilted 15° from the vertical axis to adjust the focal spot to the work edges. An electromagnetic deflecting system placed under the focusing lens deflects the beam by 5-10° along the seam; this protects the cathode from metallization and ion bombardment. There are 6 figures.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of the Labor" im. Ye.O. Paton, AS UkrSSR)

SUBMITTED: November 4, 1961

Card 2/2

L 15047-63 EWP(k)/EWP(q)/EWT(m)/BDS AFFTC/ASD Pf-4 JD/HM

ACCESSION NR: AP3000840 S/0286/63/000/002/0026/0027 63

AUTHOR: Lityinshuk, M. D.; Vlasenko, P. I.; Nazarenko, O. K.; Timchenko, V. A.; Prosvirov, A. N.

TITLE: Installation for electron-beam welding of tubes with tube panels. Class H 05b; 21h, 30 sub 10, No. 152714 14

SOURCE: Byul. izobretaniy i tovarnykh znakov, no. 2, 1963, 26-27

TOPIC TAGS: electron-beam welding, automatic program control, welding

ABSTRACT: Installation for electron-beam welding of pipe with pipe panels, containing an electron-beam welding gun with magnetic deflection system, a rotating table for fastening and rotating the work piece during the welding process, and an automatic control system for sequential operation of individual mechanisms; its distinguishing feature is that in order to automate the welding process, the table is provided with two lead screws with a drive system for moving the article in two mutually-perpendicular directions when it comes time

Card 1/3

L 15647-63
ACCESSION NR: AP3000840

to weld the next tube, and the control system contains a program unit with relay elements for automatic control in accordance with a program recorded on a punched tape or some other program carrier. Orig. art. has: 1 figure (see Enclosure 1) [Abstractor's note: complete translation.]

ASSOCIATION: none

SUBMITTED: 11 Sept 61 DATE ACQ: 28 May 63 ENCL: 01

SUB CODE: MD, MI. NO REF SOV: 000 OTHER: 000

Card 2/3

S/125/63/000/004/002/011
D040/D112

AUTHORS: Strekal', L.P., and Nazarenko, O.K.

TITLE: Graphical and analytical plotting of electron trajectories in projectors, and investigation of the magnetic lenses of electron welding guns

PERIODICAL: Avtomaticheskaya svarka, no. 4, 1963, 7-11

TEXT: The described graphical and analytical method of plotting electron trajectories takes the space charge in the beam into account and permits accurate determination of optimum electrode configuration and inter-electrode spaces. The fields of a three-electrode gun projector were simulated in an electrolytic bath and the magnetic focusing lenses of welding guns were investigated. A universal relation for obtaining maximum magnetic induction on the lens axis was found. The detailed description is illustrated by graphs. There are 5 figures.

ASSOCIATION: Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute im. Ye.O. Paton, AS UkrSSR)

SUBMITTED: April 23, 1962

Card 1/1

NAZARENKO, O.K., kand.tekhn.nauk; LEONT'YEV, N.N., inzh.

Electron-beam welding in industry. Mashinostroenie no.6:48-52 N-D '63. (MIRA 16:12)

NAZARENKO, O. K.; POVOD, A. G.; LEONT'YEV, N. N.

Experiments on electron beam welding in vacuum 1 . 10^{-1} + 1 . 10^{-2} mm rt. st. Avtom. svar. 16 no.3:88-89 Mr '63. (MIRA 16:4)

(Electric welding--Equipment and supplies)
(Electron beams) (Vacuum technology)

NAZARENKO, O. K.; OLSHANSKIY, N. A.;

"Present Day Status of Electron Beam Welding in the USSR"

Report to be submitted for the First International Conference on Electron and Ion Beam Science and Technology, sponsored by the Electrothermics and Metallurgy Division of The Electrochemical Society and The Metallurgical Society of The American Institute of Mechanical Engineers (AIME), 3-7 Mar 64, Toronto, Canada.

OL'SHANSKIY, N. A. (Dr. Tech. Sci.); NAZARENKO, O. K. (Cand. Tech. Sci.)

"Contemporary Status of Electron Beam Welding in the USSR."

Report to be submitted for the International Conference on Electron and Ion Beam Science and Technology in Toronto, Canada, 3-7 May 1964

ACCESSION NR: AP4020103 S/0125/64/000/003/0044/0049

AUTHOR: Nazarenko, O. K. (Candidate of technical sciences); Povod, A. G. (Engineer); Shnyakin, N. S. (Engineer, Moscow); Artamonov, N. N. (Engineer, Moscow); Panov, Yu. P. (Engineer, Moscow); Kedman, A. B. (Engineer, Moscow)

TITLE: Equipment and techniques of electron-beam welding of large pieces

SOURCE: Avtomaticheskaya svarka, no. 3, 1964, 44-49

TOPIC TAGS: electron beam welding, welding, electron beam welding equipment, electron beam welding method, U86, electron beam welder, dagger shaped fusion

ABSTRACT: An experimental outfit for electron-beam (circular) welding of large-size pieces is described which can be mounted on a "telescopic" carriage with a headstock and tailstock and introduced into a cylindrical (4-m length, 2-m diameter) vacuum chamber; 20-mm-thick stainless steel was used for building

Card 1/2

ACCESSION NR: AP4020103

the chamber. A d-c motor mounted on the carriage ensures an adjustable welding rate within 5-100 m/hr. A VN-6 fore-vacuum pump, an N-20T oil-vapor fine-vacuum pump, and a BN-3 oil-vapor booster pump, with a combined output of 10,000 lit/sec, exhaust the chamber down to 10^{-4}-10^{-5} torr. Three electron guns are used with these parameters: accelerating voltage, 10-25 kv; test voltage, 50 kv; beam current, 0-500 ma; specific energy in the focal beam spot with optimum lens distance, 5-10 kw/mm^2. Some details of welding procedures are given. "A. M. Svyat*skiy was the leading designer. Engineers A. A. Mikhaylovskiy, V. I. Khoroshilov, A. L. Loginov, and V. F. Illarionov took part in designing the outfit. V. M. Shiyan was the leading designer of the electron gun." Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona AN UkrSSR (Institute of Electric Welding, AN UkrSSR)

SUBMITTED: 21Dec63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

AUTHOR: Nazarenko, O. K. (Candidate of technical sciences)

TITLE: Universal experimental set for industrial electron beam welding

SOURCE: Avtomaticheskaya svarka, no. 10, 1964, 85-86

TOPIC TAGS: welding, electron beam welding, electron gun, thin sheet, plate

ABSTRACT: The Electric Welding Institute im. Ye. O. Paton and the Sumy Electron Microscope and Electric Automation Plant have developed and built an SP-30 experimental set for industrial electron-beam welding. The set, which includes an electron gun and [illegible] power feed [illegible] for welding thin-sheet metals and for one-pass welding of [illegible] plates, [illegible], stainless steel 25 mm [illegible] operate in a vacuum [illegible] the local spot

Card 1/2

ACCESSION NR: AP4047232

[illegible]. The SP-30 welding set has been serial-produced at [illegible] Electroscope and Electric Automation Plant since [illegible]. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: IE, EE	
NO REF SOV: 000	OTHER: 000	ATD PRESS: 3140	

Card 2/2

ACCESSION NR: AP4041033 S/0120/64/000/003/0126/0128

AUTHOR: Nazarenko, O. K., Zozulya, S. I., Baranov, G. V.

TITLE: Cathodes for sharp-focused electron guns for electron-beam welding

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 126-128

TOPIC TAGS: electron beam welding, electron gun cathode, cathode emitter, lanthanum hexaboride emitter, tungsten emitter

ABSTRACT: The Electric Welding Institute, AN USSR, has developed two types of electron-gun cathodes for electron-beam welders. Both cathodes have indirectly heated emitters. The emitter of the first cathode is a lanthanum hexaboride pellet held in a molybdenum cup positioned with a molybdenum rod. In tests, the pellet operated at a temperature higher than 1700C, ensuring a thermionic current density of about 20 amp/cm^2. The contamination of the emitter surface can be prevented by decreasing the solid angle at which the vapors of welded metal can reach the emitter or by shifting the beam focal spot relative to the anode aperture axis. The second cathode has a tungsten

Card 1/2

ACCESSION NR: AP4041033

rod emitter, 2 mm in diameter. With this cathode at an accelerating voltage of 20 kv, a specific energy of 1 kw/mm^2 is developed at the focus spot, which is 120 mm distant from the anode. In general, cathodes of both types perform equally well, producing electron beams with a specific energy of 10 kw/mm^2 with a beam current of several hundred milliamperes at an accelerating voltage of about 30 kv. Orig. art. has: 3 figures.

ASSOCIATION: Institut elektrosvarki AN UkrSSR (Electric Welding Institute, AN UkrSSR)

SUBMITTED: 02Jul62 ATD PRESS: 3048 ENCL: 00

SUB CODE: EC, MM NO REF SOV: 002 OTHER: 001

Card 2/2

NAZARENKO, O.K.; POVOD, A.G.; SHNYAKIN, N.S. (Moskva); ARTAMONOV, N.N. (Moskva); PANOV, Yu.P. (Moskva); KEDMAN, A.B. (Moskva)

Instruments and equipment for electron beam welding of large-size articles. Avtom. svar. 17 no.3:44-49 Mr '64. (MIRA 17:11)

1. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR (for Nazarenko, Povod).

ACC NR: AM5025629 Monograph UR/

Nazarenko, Oleg Kuz'mich

Electron beam welding (Elektronno-luchevaya svarka) Kiev, Naukova dumka, 1965. 127 p. illus., biblio. (At head of title: Akademiya nauk Ukrainskoy SSR. Ordena trudovogo krasnogo znameni institut elektrosvarki im. Ye. O. Patona) 2000 copies printed.

TOPIC TAGS: welding, electron beam, electron beam welding, electron beam welding technology, electron beam welding apparatus

PURPOSE AND COVERAGE: This booklet is intended for engineering personnel and scientific workers dealing with welding. It may also be useful to students specializing in welding. The booklet reviews the basic physical principles of electron-beam welding, gives information on electron-beam guns with various accelerating voltages, describes the basic components of electron-beam welders, such as vacuum systems, and electric-power sources, and reviews the types of the best industrial equipment.

TABLE OF CONTENTS:

Card 1/4

ACC NR. AM5025629

Card 2/4

ACC NR: AM5025629

Card 3/4

ACC NR: AM5025629

Problems and directions in development of electron-beam welding -- 124

References -- 126

SUB CODE: 13/ SUBM DATE: 11Mar65/ ORIG REF: 034/ OTH REF: 015

Card 4/4

ACC NR: AP6002894 SOURCE CODE: SU/0286/65/000/024/0050/0050

INVENTOR: Strekal', L. P.; Dudko, D. A.; Nazarenko, O. K.

ORG: none

TITLE: Method of automatic following the joint in electron beam welding. Class 21, No. 177006

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 50

TOPIC TAGS: electron beam welding, secondary electron emission, automatic control, electron interaction, metal joining, electron beam

ABSTRACT: 1. The method of automatic following of the joint in electron beam welding with the application of an electromagnetic deflection system that shifts the electron beam with regard to the workpiece, is characterized by the fact that in order to eliminate the effect of the material and of the workpiece shape on the tracking accuracy, use is made of the secondary electron emission, occurring during the reaction of the electron beam with the surface of the workpiece, in controlling the deflection system.
2. The method, described in paragraph 1, is characterized by the fact that in order to improve the tracking accuracy, use is made of the secondary electron emission, occurring during the reaction of the auxiliary sharply focused electron beam of low intensity with the surface of the workpiece, in controlling the deflection system.

Card 1/2 UDC: 621.791.72.08

L 39642-66

ACC NR: AP6002894

3. The method, described in paragraphs 1 and 2, is characterized by the fact that in order to simplify the apparatus for shifting the main and auxiliary electron beams use is made of a common electromagnetic deflection system to shift the beams in a lateral direction with respect to the edges of the workpiece.

SUB CODE: 13,20/SUBM DATE: 03Nov62/

Card 2/2

L 15212-66 EWT(d)/EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h) JD/HM
ACC NR: AP6002968 SOURCE CODE: UR/0286/65/000/024/0136/0136

INVENTOR: Zhivaga, L. I.; Nazarenko, O. K.; Chvertko, A. I.

ORG: none

TITLE: Welding electron gun. Class 49, No. 177261 [announced by the Electrical Welding Institute im.Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR)

SOURCE: Byulleten' izobretenii i tovarnykh znakov, no. 24, 1965, 136

TOPIC TAGS: welding, electron beam welding, electron gun, gun cathode

ABSTRACT: This Author Certificate introduces a welding electron gun equipped with an anode and a cathode, the latter heated by electron bombardment. To improve the efficiency and service life of the gun, the disk-shaped tantalum cathode with a concave emitting surface is tightly fitted in a round thin-wall housing whose convex bottom faces the anode.
[ND]

SUB CODE: 13/ SUBM DATE: 15Dec64/ ATD PRESS: 4119

Card 1/1 UDC: 621.791.72.03

L 27059-66 EWT(m)/ETC(f)/EWG(m)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c)

ACC NR: AP6007843 DS/JD/HM SOURCE CODE: UR/0120/66/000/001/0209/0210

AUTHOR: Zinchenko, G. N.; Zinchenko, N. S.; Kuzhel', A. V.; Nazarenko, O. K. 47

ORG: Institute of Radio Physics and Electronics, AN UkrSSR (Institut radiofiziki i elektroniki AN UkrSSR); Institute of Electric Welding, AN UkrSSR, Kiev (Institut elektrosvarki AN UkrSSR) B

TITLE: Hermetic sealing of tungsten-barium cathodes with the aid of electron-beam welding

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 209-210

TOPIC TAGS: cathode, electron beam welding, hermetic seal, seam welding

ABSTRACT: The authors describe experiments on sealing tungsten-barium cathodes of various geometry, to prevent leakage of the activating $BaCO_3$ to the outside of the cathode structure. The tests were made with a specially designed laboratory setup in which electron-beam welding could be carried out in vacuum up to 5×10^{-5} Torr (Fig. 1). The welding electron gun operated at 40 kv accelerating voltage and was fed from a source of power up to 2.5 kw. Special welding joints had to be designed to produce a hermetically-tight welded seam. The construction of the optimal cathode and of the proper welding joint are briefly described. Tests have shown the new cathode construction to be immune to leaks resulting from repeated heating and cooling. Orig. art. has: 3 figures.

Card 1/2 UDC: 621.385.735

L 27059-66

ACC NR: AP6007843

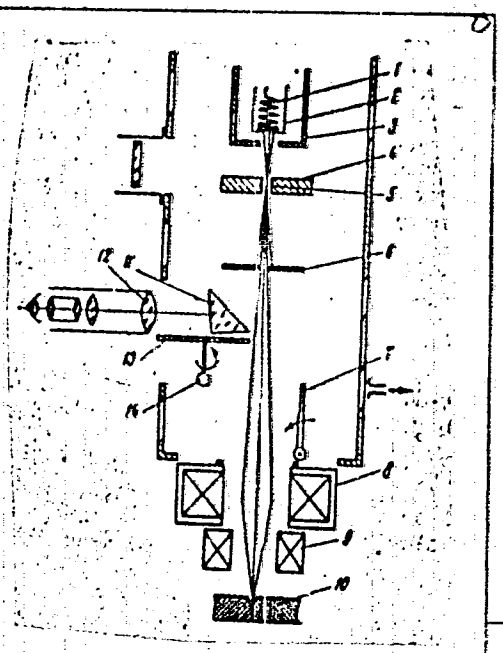


Fig. 1. Diagram of electron-beam welding gun. 1 - Heater, 2 - cathode, 3 - focusing electrode, 4 - anode, 5 - electron beam, 6 - aperture diaphragm, 7 - beam shutter, 8 - focusing lens, 9 - defelecting system, 10 - welded article, 11 - prism, 12 - optical system, 13 - shielding glass, 14 - glass rotating mechanism.

SUB CODE: 09, 11, 13/ SUBM DATE: 25Dec64/
ORIG REF: 001

Card 2/2

NAZARENKO, O.M.; SHAKH, TS.I.; KAGAN, F.Yu. [Kahan, F.IU.]

Improving the skill of analytical chemists. Farmatsev. zhur. 16 no.3:78-80 '61. (MIRA 14:6)

1. Kiyevskiy institut usovershenstvovaniya vrachey.
(PHARMACY—STUDY AND TEACHING)

NAZARENKO, O.V.; BELITSKAYA, S.G.

Data on the induced polarization of potential electrodes obtained in resistivity prospecting. Trudy AzNII DN no.4:223-229 '56. (MIRA 14:4)

(Electric prospecting) (Polarization)

NAZARENKO, O.V.

Effect of spacing between potential and current electrodes on prospecting results obtained by the use of dipole axial installations. Trudy AzNII DN no.4:230-243 '56. (MIRA 14:4)
(Electrodes)

NAZARENKO, O.V.

Effect on results of errors in determining true distances when using the AMNB symmetrical apparatus. Azerb.neft.khoz.35 no.11:6-9 N '56. (MLRA 10:4)

(Prospecting--Geophysical methods)

NAZARENKO, O.V.

Method for continuous marine electrical prospecting. Geol. nefti 1 no.8:40-46 Ag '57. (MIRA 10:12)
(Prospecting--Geophysical methods)

NAZARENKO, O.V.

Using differential apparatus in offshore electric prospecting on the Makarov shoal. Geol.nefti i gaza 3 no.10:44-47 O '59. (MIRA 12:12)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche nefti.
(Baku archipelago--Electric prospecting--Equipment and supplies)

NAZARENKO, O.V.

The ERSM-57 station for electric prospecting at sea. Razved.i prom.geofiz. no.31:45-74 '59. (MIRA 13:4)
(Electric prospecting)

NAZARENKO, O. V., Cand Tech Sci -- (diss) "Development of ocean electrical exploration with direct current." Moscow, 1960. 15 pp; (Ministry of Geology and Conservation of Mineral Resources USSR, All-Union Scientific Research Inst of Geophysical Methods of Exploration, VNIIGeophysics); 150 copies; free; (KL, 25-60, 133)

S/169/62/000/009/055/120
D228/D307

AUTHORS: Andreyev, L. I., Bayramov, P. S., Nazarenko, O. V. and Sarkisov, G. A.

TITLE: Marine electric prospecting (Discourse theses)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 41, abstract 9A273 (In collection: Sostoyaniye i perspektivy razvitiya geofiz. metodov poiskov i razvedki polezn. iskopayemykh, M., Gostoptekhizdat, 1961, 379-380)

TEXT: The method of executing various modifications of marine electric prospecting is described. The perfecting of developed types of equipment led in 1957 to the creation of an ЭРСМ-57 (ERSM-57) marine electric prospecting station. Results, which correspond well with seismic surveying and drilling data and were obtained by the method of continuous axial dipole sounding (CADS) and map profiling, are mentioned. At present, marine electric prospecting can be employed: 1) for reconnaissance surveys in order to seek anticlinal structures (continuous axial profiling and CADS); and

Card 1/2

Marine electric prospecting ... S/169/62/000/009/055/120
D228/D307

2) to solve some problems connected with the study of the arched parts of anticlinal folds (CADS and map profiling). [Abstracter's note: Complete translation.]

Card 2/2

ACC NR: AP7001596 (N) SOURCE CODE: UR/0413/66/000/021/0072/0072

INVENTOR: Nazarenko, O. V.

ORG: none

TITLE: A device for electrical exploration for mineral deposits. Class 21, No.187893

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 72

TOPIC TAGS: prospecting, mineral, magnetic dipole, dipole, ferromagnetic material, magnetic induction

ABSTRACT: This Author Certificate presents a device for electrical prospecting for mineral resources by means of magnetic profiling. The device contains a magnetic induction meter and a grounded receiving dipole. To simplify the process under the condition of oceanographic investigations and to improve the work efficiency, the magnetic induction meter is combined with the receiving dipole in such a way that one strand of the receiving dipole cable made of a ferromagnetic material serves as a core of the induction meter.

SUB CODE: 08/ SUBM DATE: 12Mar63

Card 1/1 UDC: 550.837(204.1)

KOROTKOV, A.G.; MAZARENKO, P.V.

Tasks in expanding the production of forging machines and presses.
Sel'khozmashina no.5:22-25 My '57. (MLRA 10:5)
(Forging machinery)

L 2,840-65 EWT(m)/EWP(t) [illegible]

ACCESSION NR: AP4041[illegible] [illegible] 2067

AUTHORS: Kostetskiy, B. I.; Nazarenko, P. V.

TITLE: Connection between the force of external friction and the [illegible]

SOURCE: AN SSSR. Doklady* [illegible] 964, [illegible] and insert facing p. 66

TOPIC TAGS: friction, dislocation structure, normal pressure external friction, surface [illegible]

ABSTRACT: Inasmuch as [illegible] of the separation [illegible] and the [illegible]

Card 1/3

the hypothesis that the friction force is connected with the dislocation structure occurring on the friction surface. As evidence they

moving an indentor over the surface and by rubbing two crystal sur-

L 11860-65
ACCESSION NR: AP4049132

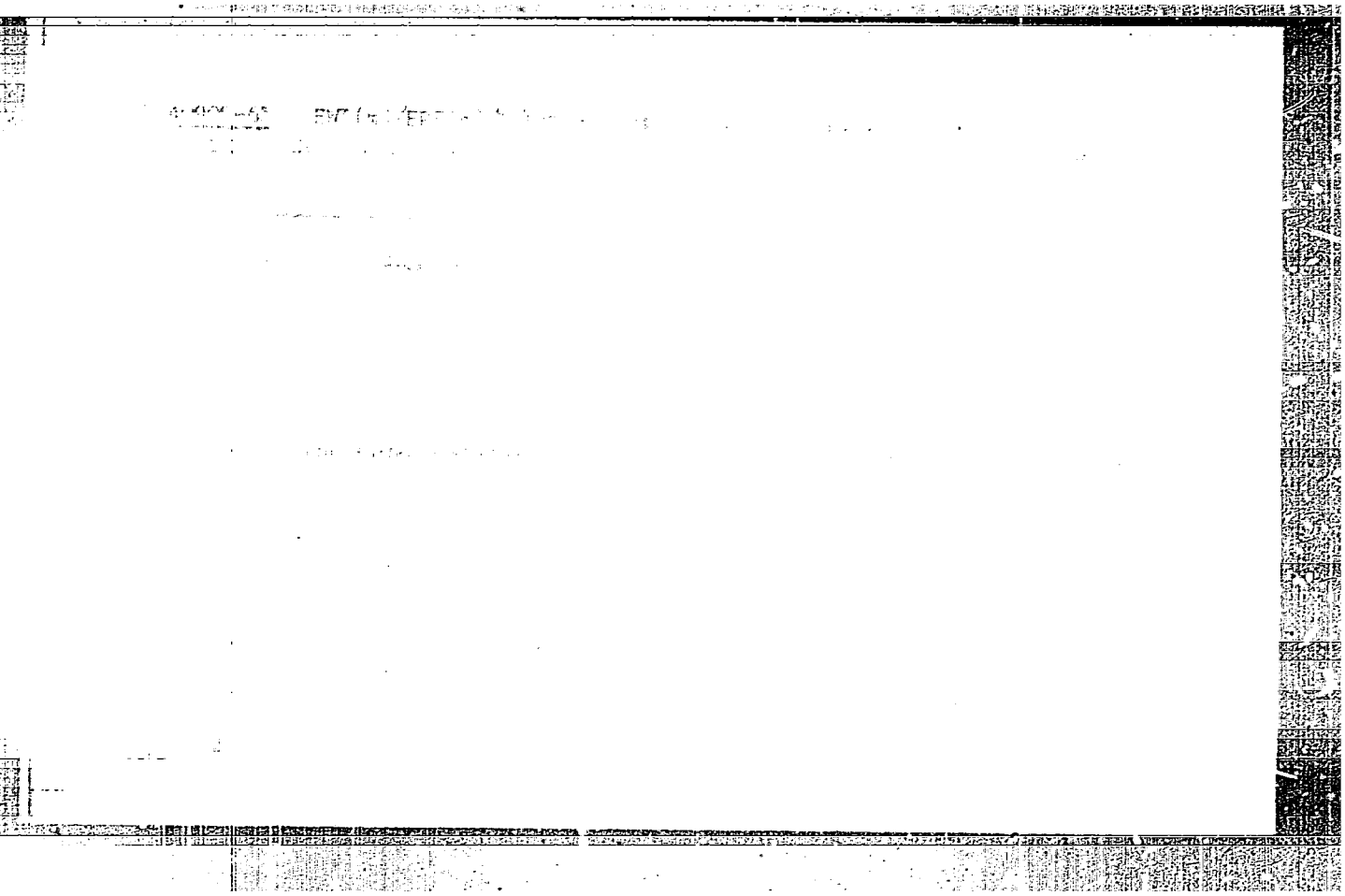
...on friction law. This ... was ... [illegible] ... 4 figures.

ASSOCIATION: Kiyevskiy institut grazhdanskoco vozdushnogo flota (Kiev Institute of Civil Aviation)

SUBMITTED: 03Apr64 ENCL: 00

SUB CODE: ME, SS NR REF ... OTHER: 001

Card 3/3



L 40905-65

ACCESSION NR: AP5000284

ASSOCIATION: KIGA, Kiev

SUBMITTED: 15Sep64 ENCL: 00 SUB CODE: IR, SS

ACCESSION NR: AP5004198

AUTHORS: Kostetski, I.; Nazarenko, P.

26
22
B

TITLE: Interaction of surfaces during wear

SOURCE: AN SSSR. Doklady, v. 160, no. 1965

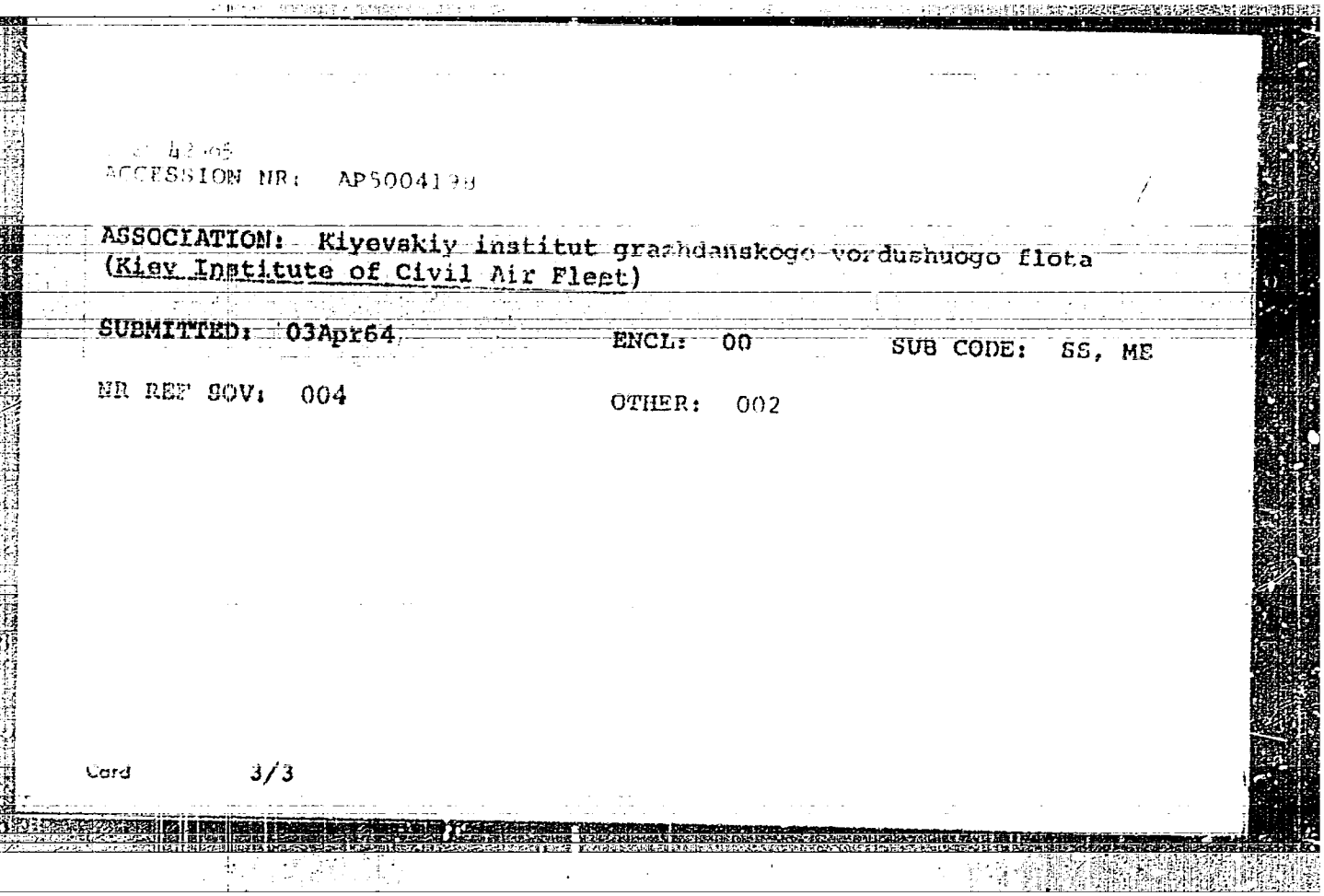
TOPIC TAGS: friction, dislocation motion, dislocation interaction

ABSTRACT: The purpose of the investigation was to study the relation between the surface states and the internal structures of bodies in friction. The authors

1/3

ACCESSION NR: AP5004198

structure in the substance was investigated by [illegible] pits corresponding to the emergence [illegible] and by studying the slip bands. It is deduced that the jogs resulting from deformation of the metal give rise to the [illegible] was [illegible] The blocks were then deformed by [illegible] for stainless steel, aluminum, and alpha brass [illegible] practically unchanged. It is concluded therefore that in external friction of crystalline bodies a unique submicrorelief appears on the friction surfaces as a result of the external forces, and is the consequence of motion and [illegible]



ACCESSION NR: AP5004198

ASSOCIATION: Kiyevskiy institut grazhdanskogo vozdushnogo flota (Kiev Institute of Civil Air Fleet)

SUBMITTED: 03Apr64 ENCL: 00 SUB CODE: SS, ME

NR REF SOV: 004 OTHER: 002

Card 3/3

ACC NR: AP7004184

SOURCE CODE: UR/0369/66/002/006/0664/0667

AUTHOR: Nazarenko, P. V.; Zaytsev, O. V.; Kostetskiy, B. I.

ORG: Kiev Institute of Engineers of Civil Aviation (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii)

TITLE: Effect of initial dislocation density on external friction force and the ratio between elastic and plastic deformations

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 6, 1966, 664-667

TOPIC TAGS: crystal dislocation, elastic deformation, plastic deformation, friction

ABSTRACT: The process of external friction between solids is chiefly represented by elasto-plastic deformation. In this connection, the deformation of NaCl monocrystals (which have a simple cubic lattice that clearly reveals dislocation and are sufficiently photoactive for examining their deformation in polarized light) was estimated with the aid of a specially designed machine which makes it possible to determine the elastic and plastic components of deformation according to the illumination intensity of double-refraction bands directly in the process of friction under both static and dynamic loads. Dislocation density was determined according to etching pits. Findings: the initial dislocation density of the materials in friction markedly affects the relationship between the plastic and elastic deformations arising in the process

Card 1/2

ACC NR: AP7004184

of friction. When the dislocation density is at a minimum or at a maximum, the elastic component accounts for the greater part of the total deformation. When the dislocation density is medium, the plastic component accounts for the greater part of the total deformation. The friction coefficient is higher in the materials which during friction are subject to considerable plastic deformation. The initial dislocation density influences the formation of the friction force inasmuch as it influences the magnitude of and ratio between the elastic and plastic components of the deformation arising during friction, with the magnitude of the plastic deformation being the principal factor. Orig. art. has: 4 fig.

SUB CODE: 13, 11/ SUBM DATE: 29Jul66/ ORIG REF: 003.

Card 2/2

USSR/Forestry - Forest Plants. K-5

Abs Jour : Ref Zhur - Biol., No 2, 1958, 5933

Author : Nazarenko, S.I.
Inst : -
Title : Autumn and Winter Horse Chestnut Sowings in the South of the UkSSR.

Orig Pub : Lesn. kh-vo, 1957, No 6, 83.

Abstract : No abstract.

Card 1/1

NAZARENKO, S.I.

Experience in cultivation of dog rose with high vitamin content in the southern Ukraine. Apt. delo 11 no.4:26-29 Jl-Ag '62. (MIRA 17:11)

1. Botanicheskiy sad Odesskogo gosudarstvennogo universiteta imeni Mechnikova.

NAZARENKO, S.I. (Kiyev)

Excretion of estrogen fractions in otosclerosis. Zhur. ush., nos. i gor. bol. 24 no.2:12-14 Mr-Ap '64 (MIRA 18:1)

1. Iz laboratorii biokhimii i surdologicheskogo otdela Nauchno issledovatel'skogo instituta otolaringologii Ministerstva zdravookhraneniya UkrSSR (direktor i nauchnyy rukovoditel' - zasluzhennyy deyatel' nauki prof. A.I. Kolomiychenko).

1. NAZARENKO, S. K.

2. USSR (600)

4. Incubators

7. Letter to the editor. Ptitsevodstvo no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

TSUKERMAN, R.V., kand.tekhn.nauk; NAZARENKO, S.S., inzh.

Cost indices of high-capacity steam boiler manufacture.
Energomashinostroenie 7 no.10:33-36 O '61. (MIRA 14:10)
(Boiler-making industry)

TSUKERMAN, R.V., kand. tekhn. nauk; BULANOV, N.G., kand. ekon. nauk; SHIFRIN, I.B., inzh.; BRIL', A.R., inzh.; NAZARENKO, S.S., inzh.; BIZINA, N.S., inzh.

Auxiliary equipment of steam turbine electric power plants. Energomashinostroenie 11 no.9:40-42 S '65. (MIRA 18:10)

S/140/62/000/004/007/009
C111/C333

AUTHOR: Nazarenko, T. I.

TITLE: The numerical solution of the Cauchy problem for a class of linear integro-differential equations

PERIODICAL: Vysshiye uchebnyye zavedeniya. Izvestiya. Matematika, no. 4, 1962, 110-117

TEXT: Considered is the numerical solution of the Cauchy problem

$$z^{(l)}(x) + \sum_{i=1}^{l} a_i(x)\, z^{(l-i)}(x) + \lambda \int_a^b \sum_{i=0}^{s} K_i(x,y)\, z^{(s-i)}(y)\,dy = f(x) \quad (1)$$

$$z^{(i)}(c) = z_p^{(i)} \quad (i=0, 1, \ldots, l-1),\ c \in [a, b], \quad (2)$$

where $a_i(x)$ and $f(x)$ are continuous on $[a,b]$; $K_i(x,y)$ together with its sufficiently high derivatives being continuous in $a \leq x, y \leq b$. At first one investigates the case $s = 0$ and substitutes the corresponding equation by a difference equation. Thereby one chooses the step-length

Card 1/4

The numerical solution of the ...

$h = \frac{b-a}{n}$. The values of the derivatives of Z in the points $x = x_i$ are expressed by the values of Z itself in points which are lying symmetrical with respect to $x = x_i$ according to formulas out of Ref. 2 (Ref. 2: Sh. Ye. Mikeladze, Chislennyye metody matematicheskogo analiza [Numerical methods of the mathematical analysis] GITTL, M., 1953) e. g.

$$Z_i^{(2m-1)} = \frac{\sum_{q=1}^{m} \alpha_q^{(m)} (Z_{i+q} - Z_{i-q})}{2h^{2m-1}} + R_i^{(2m-1)} \qquad (4)$$

where the remainder is estimated. The integral is calculated according to the trapeze formula. If $l = 2m-1$, then (1) is written down with $s = 0$ as a difference equation in the points $x = x_i$ (i=m, m+1, ..., n-m). The so obtained system is completed to a complete system by aid of the initial conditions. Similarly one handles the case $l = 2m$. Approximative values Z_i of $Z_i = Z(x_i)$ are determined out of the obtained complete system of difference equations by neglecting the remainders in the formulas (4) and in others. The error $\varepsilon_i = Z_o - Z_i$ is estimated.

Card 2/4

The numerical solution of the . . .

Adjoining one considers the case $s \neq 0$. There the equation (1) is brought into the shape

$$Z^{(l)}(x) + \sum_{i=1}^{l} a_i(x) Z^{(l-i)}(x) + \lambda \left[\sum_{i=1}^{s} B_{i-1}(x, b) Z^{(s-i)}(b) - \right.$$
$$\left. - \sum_{i=1}^{s} B_{i-1}(x, a) Z^{(s-i)}(a) \right] + \lambda \int_a^b K(x, y) Z(y)\, dy = f(x), \tag{30}$$

where $B_i(x, y) = \sum_{j=0}^{i} (-1)^j \frac{\partial^j K_{i-j}(x, y)}{\partial y^j}$, $K(x, y) = B_s(x, y)$.

by termwise partial integration. Hints concerning the choice of the step h are given in the cases $l \geq s$ and $l < s$.

Card 3/4

S/140/62/000/004/007/009
C111/C333

The numerical solution of the . . .

ASSOCIATION: Irkutskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Irkutsk State University im. A. A. Zhdanov)

SUBMITTED: July 20, 1959

Card 4/4

S/199/63/004/002/005/013
B112/B234

AUTHOR: Nazarenko, T. I.

TITLE: Numerical solution of Cauchy's problem for a class of linear integro-differential equations of the Volterra type

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 4, no. 2, 1963, 303 - 308

TEXT: The integro-differential equation

$$z^{(n)}(x) + \sum_{i=1}^{n} a_i(x) z^{(n-i)}(x) + \int_{x_0}^{x} K(x,y) z(y)\,dy = f(x) \qquad (1)$$

with the initial conditions $z^{(i)}(x_0) = z_0^{(i)}$ $(i = 0, 1, \ldots, n-1)$ (2) is replaced by the difference system

$$\sum_{k=0}^{l-(m+1)} E_{lk} z_k + \sum_{k=l-m}^{l+m-1} E_{lk} z_k + z_{l+m} = 2h^{m-1} f_l, \qquad (7)$$

$$E_{lk} = 2h^m \lambda d_k K_{lk}$$

Card 1/3

Numerical solution of Cauchy's ...

$$E_{l(l-q)} = 2h^{2m}\lambda d_{l(l-q)} K_{l(l-q)} + 2\sum_{j=1}^{m-q} h^{2j-1} a_{(2j-1)l}\beta_q^{(m-j)} -$$

$$- \sum_{j=1}^{m+1-q} h^{2j-2} a_{(2j-2)l}\alpha_q^{(m+1-j)} \quad (q = 0, 1, \ldots, m), \qquad (8)$$

$$E_{l(l+q)} = 2\sum_{j=1}^{m-q} h^{2j-1} a_{(2j-1)l}\beta_q^{(m-j)} + \sum_{j=1}^{m+1-q} h^{2j-2} a_{(2j-2)l}\alpha_q^{(m+1-j)}$$

$$(q = 1, 2, \ldots, m-1).$$

$$z_0 = z_{0'}$$

$$[1-(-1)^p]\sum_{q=0}^{p+1}\gamma_q^{(p+1)} z_q + [1+(-1)^p]\sum_{q=0}^{p+1}\delta_q^{(p+1)} z_q = \qquad (9)$$

$$= [1-(-1)^p]\,2h^p z_0^{(p)} + [1+(-1)^p]\,h^p z_0^{(p)} \quad (p = 1, 2, \ldots, 2m-2).$$

for n = 2m - 1, and by

$$\sum_{k=0}^{l-(m+1)} A_{lk} z_k + \sum_{k=l-q}^{l+m-1} F_{lk} z_k + q_l z_{l+m} = 2h^{2m} f_l \qquad (10)$$

Card 2/3

S/199/63/004/002/005/013
B112/B234

Numerical solution of Cauchy's ...

for n = 2m. Conditions for the stability of the system (7) - (10) are derived. There are 2 tables.

SUBMITTED: August 21, 1961

Card 3/3

NAZARENKO, T.N.

Effect of conditioned reflex bonds on daily variations in intraocular pressure. Vest.oft. 34 no.5:8-13 S-O '55 (MLRA 8:11)

1. Iz glaznoy kliniki (dir.-prof. N.M.Pavlov) Stavropal'skogo meditsinskogo instituta.

(REFLEX, CONDITIONED,
conditioned variations daily rhythm of intra-ocular pressure)
(EYE,
tension, conditioned variations of daily rhythm)

NAZARENKO U.P.

AID P - 1165

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 18/31

Author : Nazarenko, U. P., Eng.

Title : Determination of the amount of leak of compressed air from air ducts

Periodical : Energetik, 11, 26-29, N 1954

Abstract : The author finds that the power consumed for air compression used in the mechanization of various industrial processes amounts to from 20 up to 30 per cent of the total electric power consumption. It is therefore of utmost importance to reduce losses of energy caused by air leaks. He finds a method of measuring those leaks and of determining the productivity of compressors. Six diagrams and 4 tables.

Institution : None

Submitted : No date

NAZARENKO, U.P.; AKULOV, Ye.F., red.; KIREYEV, M.I., red.; NOVIKOV, V.K., red.; SAVEL'YEV, V.I., red.; CHUMAKOV, N.M., red.; AFANAS'YEV, N.A., red.; BORUNOV, N.I., tekhn. red.

[Economy in the use of electricity in compressor plants] Ekonomiia elektroenergii v kompressornykh ustanovkakh. Moskva, Gos. energ. izd-vo, 1961. 79 p. (MIRA 14:8)
(Electric power)