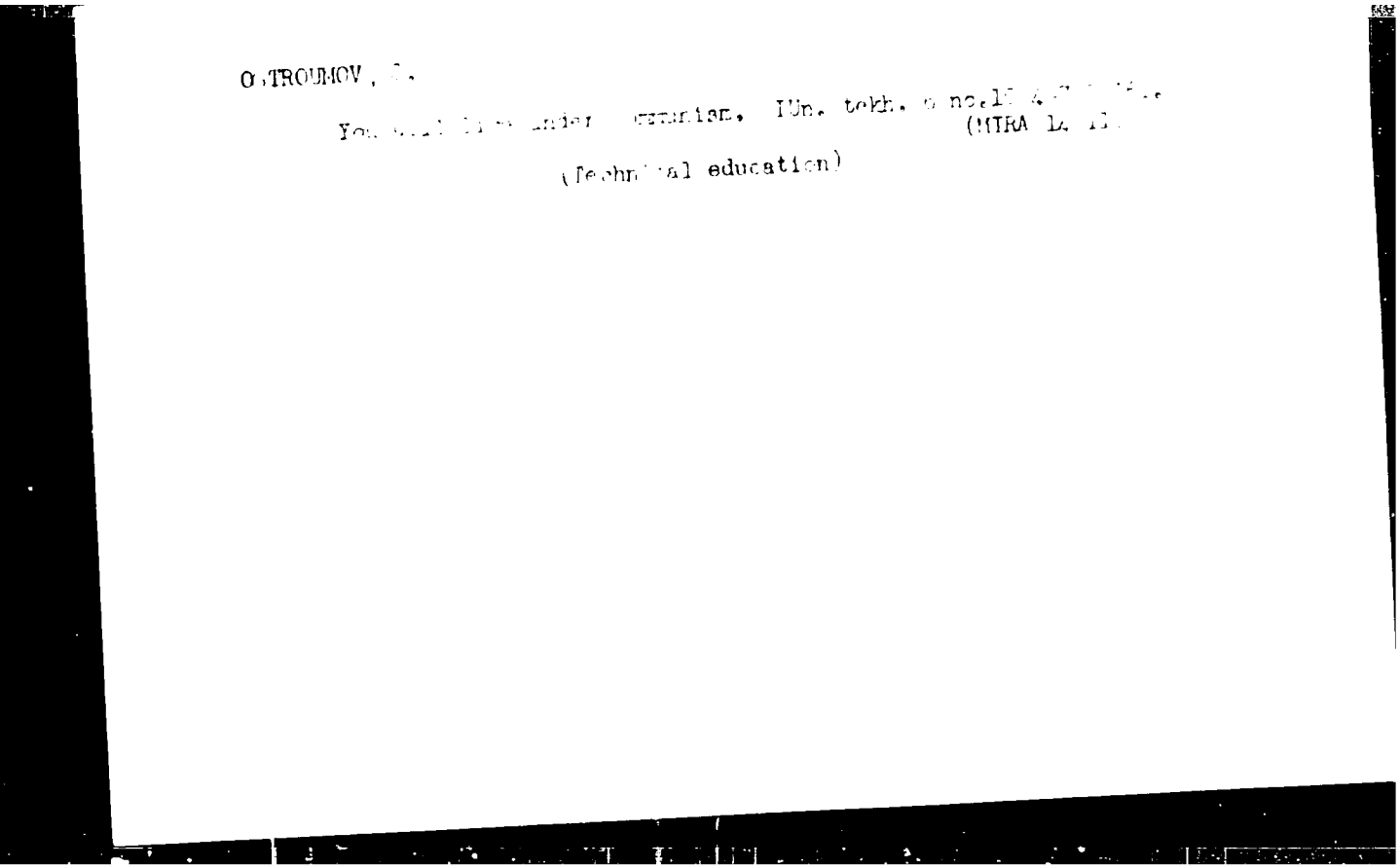


O.TROUMOV, [illegible]

[illegible] ...ermanism. [illegible] (MTRA [illegible]

(Technical education)

OSTROUMOV, G., inzhener.

Planet in the laboratory. Tekh.mol.25 no.1:9-10 Ja '57. (MLRA 10:2)
(Geophysics)

OSTROUMOV, G., inzhener; GUSHCHEV, S., inzhener.

The machine has come to the stock farm. Tekh.mol. 22 no.8:1-4 Ag '54.
(Agricultural machinery)

OSTROUMOV, Georgiy

Scientists of the world at the round table. Tekh.mol.23 no.11:7-15 N'55. (MLRA 8:12)

(Geneva--Atomic power--Congresses)

OSTROUMOV, G.

High energy. [Un. tekh. 4 no.10:14-20 O '59. (MIRA 13:1)
(Nuclear physics)

21(0)

AUTHOR: Ostroumov, G., Engineer

TITLE: At the Rise of a New Sun (Na voskhode novogo solntsa)

PERIODICAL: Tekhnika molodezhi, 1959, Nr 1, pp 1 - 4 (USSR)

ABSTRACT: In this scientific article for general information, the author writes on the future of thermonuclear energy. At the beginning of September the 2nd International Conference of the UN on problems of the peaceful use of atomic energy was held in Geneva. [illegible] scientists as delegates from 60 countries as well as 3000 experts and observers attended this Conference. There were about twice the number of specialists present as compared with the meeting in 1955. At that time, there were still many skeptics who doubted the possibility of controlled thermonuclear reaction. At this 2nd meeting, scientists were agreed on the difficulties but also on the importance of research work in this field. The famous lecture held by the Academician I. V. Kurchatov at Harwell in 1956 was a valuable contribution. The present article is based on a lecture recently delivered in China by the Academician

Card 1/3

At the Rise of a New Sun

I. V. Kur[illegible]atov, Director of t[illegible] Institut[illegible] Academician of USSR Institute of Atomic Energy, [illegible] of Science [illegible]. The lecture began with a reference to the outstanding importance of [illegible] energy. [illegible] of a sufficient quantity of atomic energy [illegible], the well-[illegible] of all people would be ensured. The way to this aim is the guidance of thermonuclear reactions. Most [illegible] would be the guiding of the reaction for a mixture of deuterium and tritium. As tritium [illegible] very small quantities, reactors will have to be run with pure deuterium. The simplest calculations show that [illegible] as a fuel will last for hundreds of millions [illegible] of deuterium in every explosion, but it [illegible] a fuel [illegible] less than 1/3 of the costs for 1 kWh [illegible] from coal. Besides, thermonuclear energy can be directly transformed into current. Further, I. V. Kurchatov reported on investigations carried out by the Institute of Atomic Energy. These investigations are based on the work by the Academicians A. D. Sakharov and I. Ye. Tamm who examined the possibility of thermal isolation of plasma by a magnetic field, and its heating by Joule's heat.

Card 2, 3 These investigations represent one of the directions in the

field of research of thermonuclear reactions. Corresponding to them are such toroidal plants as Britain's "Zeta" and Soviet "Al'fa". The other direction is the research of the behavior of plasma in straight tubes which the press reported after Kurchatov's [illegible] lecture at Harwell. After G. I. Budker had suggested a system with so-called magnetic plugs in 1952, calculating it in 1954, a new direction began in this field. Later on, such systems were designated as adiabatic traps. Their application makes it possible in principle to bring about a stationary thermonuclear reaction. The largest trap in the USSR is the plant "Ogra" worked out under the direction of I. N. Golovin (Figure). Finally, I. V. Kurchatov underlined the great difficulties which might arise on the [illegible] way before scientists will succeed in kindling a new terrestrial sun. The [illegible] figures.

Card 7/7

ACCESSION NR: AM3001203 S/9003/63/000/142/0003/0003

AUTHOR: Ostrovmov, G. (Special correspondent of Izvestiya)

TITLE: Report from the cosmodrome

SOURCE: Izvestiya, 16 Jun 63, p. 3, cols. 1-4

TOPIC TAGS: Discussion about the navigational device used in the Vostok-5

TEXT: In a discussion of the command point on the cosmodrome, Ostrovmov refers to the navigational device used in the Vostoks [see SPAO No. 11]: "In the communications room, they solemnly raise up the copy, or rather the twin, of the navigation device installed in the cabin of the Vostok-5. The small, finely drawn globe is set into its upper left-hand corner. On the spherical glass there is a ring with a reticle. The glove is rotated with exactly the same angular velocity as the earth, and the oceans, continents and islands drift beneath the point of the reticle. Now it is over the eastern part of the Indian Ocean. This means that the ship is there."

Card 1/3

ACCESSION NR: AM3001203

Further description and a demonstration of the device by its designer indicate that there is another, smaller circle within the larger one; it is used during the firentry and landing of the ship. To change the globe's setting from "orbit" to "landing," a switch is thrown, causing the globe to skip to a new position. Here a reticle on the small circle shows the point at which the ship would land had the cosmonaut begun deceleration at the moment. Thus, the small circle helps the cosmonaut to choose the place for landing.

The following statement supports the earlier mention of a number of nozzles on the carrier rocket: "The rocket seems to float. A wedge of flame, shining like the sun itself, plunges furiously from the discharge nozzles to the ground."

Regarding the power of the rocket, he says, "I am writing these lines amid the thunder of the rocket. In a glass standing near me a small spoon is jingling. Over my head the roof of the observation-point veranda is shaking."

Ostroumov's article also indicates that the Chairman of the State Commission, the Chief Spaceship Designer, and the Chief of the Launch

Card 2/3

ACCESSION NR: AR3001203

Command are in charge of the commodrome during the preparation and launch of space vehicles.
SPAO - Item no. 14

DATE ACQ: 19Jun63

Card3/3

OSTROUMOV, G.

Coming-of-age of the atom. IUn.tekh. 5 no.3: 8-10 Mr '61.
(MIRA 14:6)

(Nuclear reactors)

OSTROUMOV, Georgiy

Through the eyes of a witness. Nauka i zhizn' 29 no.9:11-14 S '62. (MIRA 15:10)

1. Chlen redaktsionnoy kollegii zhurnala "Nauka i zhizn'".

(Astronautics)

OSTROUMOV, G.

23031 Tvortsy geologicheskoy nauki. (O rus. uchenykh-geologakh). Ill. A. Pobedinskiy. Tekhnika-molodezhi, 1949, No. 7, C. 27-32. - Prodolzh. Sledust.

SO: LETOPIS' NO. 13, 1949

OSTROUMOV, G.A.; SHTEYNBERG, A.A.

Method for measuring pulse voltages. Prib. i tekh. eksp. 8 no.3:85-89 My-Je '63. (MIRA 16:9)

1. Leningradskiy gosudarstvennyy universitet.
(Oscillography)

ZAKIMATOV, D.P., inzh.; LOKSHIN, A.M., inzh.; OSTROUMOV, G.A., prof.; SHTEYNBERG, A.A., inzh.

One cause for accelerating the corrosion of hydrogenerator thrust bearings. Elek. sta. 34 no.7:38-42 Jl '63. (MIRA 16:8)

MEL'NIKOV, N.P., [illegible] A., SHT[illegible]NBER[illegible], A.A.

Adapter [illegible] (MIRA [illegible])

[illegible] Leningradskiy [illegible] universitet.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001238510001-0"

OSTROUMOV, G. A.

"Natural Convective Heat Transfers in Closed Vertical Pipes." Sub 12 Apr 47, Physics Inst imeni P. N. Lebedev, Acad Sci

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

OSTROUMOV, G. A.

USSR/Electronics
Relays, Polarized
Mathematics, Applied

Sep/Oct 48

"The Problem of the Linear Theory of the Polarized Relay," G. A. Ostroumov, Molotov State U, Chair of Gen Phys, 15 pp

"Avtomat i Telemekh" Vol IX, No 5, [illegible]

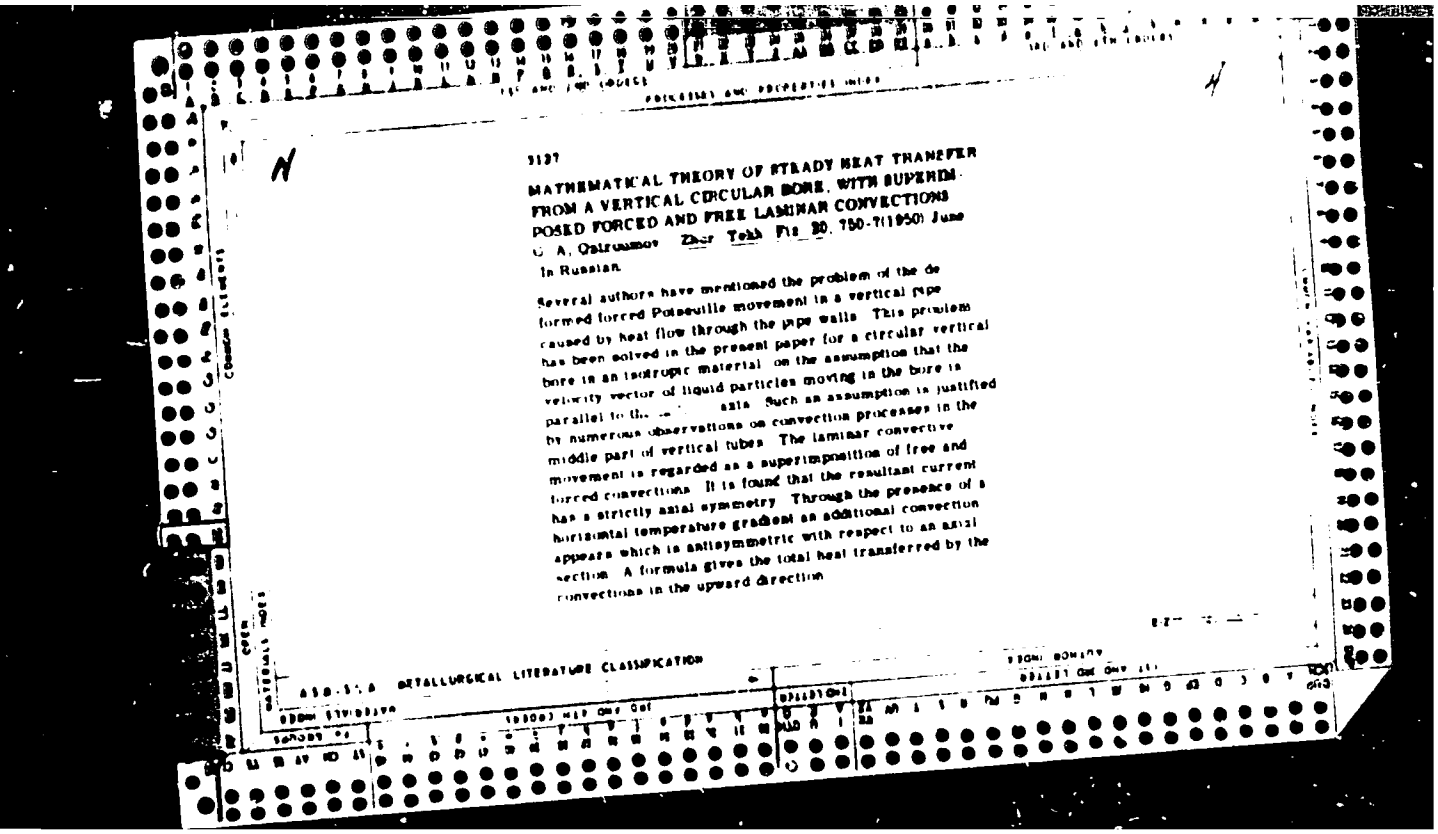
Briefly discusses theories on subject relay which determine limits within it can be utilized. First mention of a polarized relay was made in G. A. Ostroumov's article, "Method for Making Computations on Polarized Relays" (Sci Tech Collective, Leningrad Electrotech Inst of Communications, No 9, 1935). Presents methods for constructing a two-position apparatus with maximum sensitivity during oscillating operation.

18/49T11

USSR/Electronics (Contd)

Sep/Oct 48

18/49T11



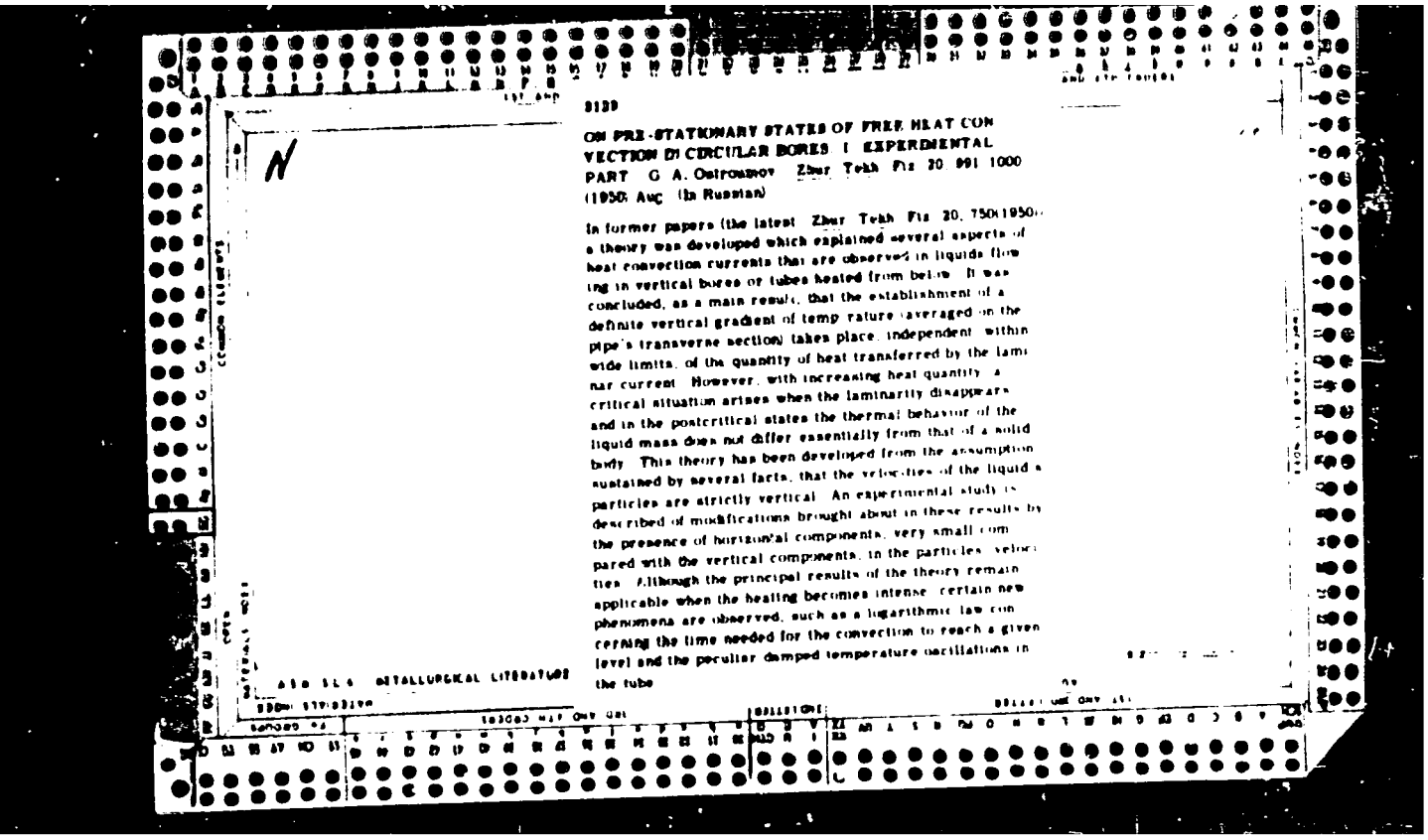
3137

MATHEMATICAL THEORY OF STEADY HEAT TRANSFER FROM A VERTICAL CIRCULAR BORE, WITH SUPERIMPOSED FORCED AND FREE LAMINAR CONVECTIONS

G. A. Qairnmov Zhur Tekh Fiz 20, 750-7(1950) June
In Russian.

Several authors have mentioned the problem of the de formed forced Poiseuille movement in a vertical pipe caused by heat flow through the pipe walls. This problem has been solved in the present paper for a circular vertical bore in an isotropic material on the assumption that the velocity vector of liquid particles moving in the bore is parallel to the [illegible] axis. Such an assumption is justified by numerous observations on convection processes in the middle part of vertical tubes. The laminar convective movement is regarded as a superimposition of free and forced convections. It is found that the resultant current has a strictly axial symmetry. Through the presence of a horizontal temperature gradient an additional convection appears which is antisymmetric with respect to an axial section. A formula gives the total heat transferred by the convections in the upward direction.

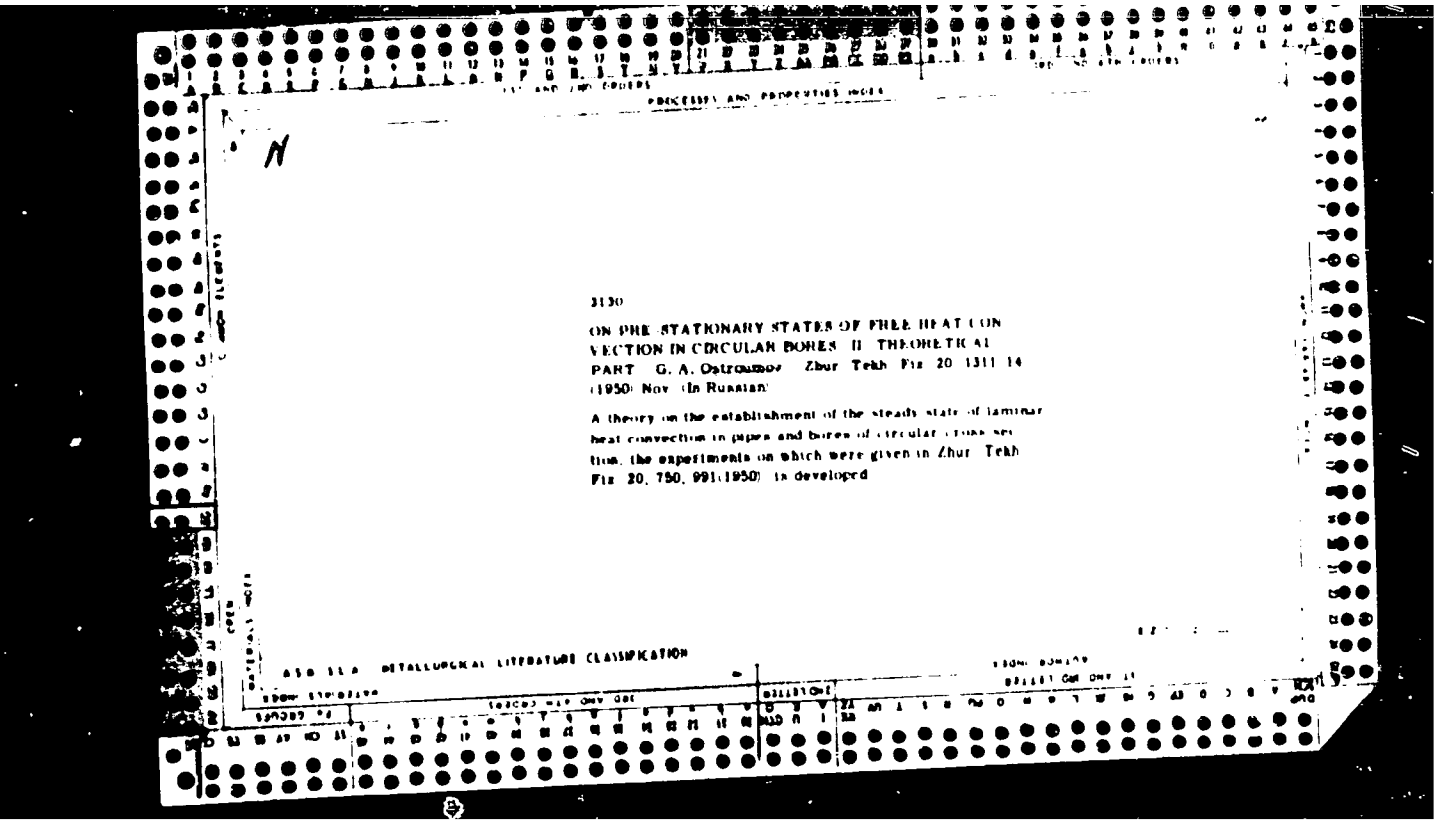
A50-5-6 METALLURGICAL LITERATURE CLASSIFICATION



8139

ON PRE-STATIONARY STATES OF FREE HEAT CONVECTION IN CIRCULAR BORES I EXPERIMENTAL PART G A. Ostroumov Zhur Tekh Fiz 20 991 1000 (1950 Aug (In Russian)

In former papers (the latest Zhur Tekh Fiz 20, 7501950) a theory was developed which explained several aspects of heat convection currents that are observed in liquids flowing in vertical bores or tubes heated from below It was concluded, as a main result, that the establishment of a definite vertical gradient of temp rature (averaged on the pipe's transverse section) takes place independent within wide limits, of the quantity of heat transferred by the laminar current However, with increasing heat quantity a critical situation arises when the laminarity disappears and in the postcritical states the thermal behavior of the liquid mass does not differ essentially from that of a solid body This theory has been developed from the assumption sustained by several facts, that the velocities of the liquid particles are strictly vertical An experimental study is described of modifications brought about in these results by the presence of horizontal components, very small compared with the vertical components, in the particles velocities Although the principal results of the theory remain applicable when the heating becomes intense certain new phenomena are observed, such as a logarithmic law concerning the time needed for the convection to reach a given level and the peculiar damped temperature oscillations in the tube



3130

ON PRE STATIONARY STATES OF FREE HEAT CON
VECTION IN CIRCULAN BORES II THEORETICAL
PART G. A. Ostroumov Zhur Tekh Fiz 20 1311 14
(1950) Nov (In Russian)

A theory on the establishment of the steady state of laminar
heat convection in pipes and bores of circular cross sec
tion, the experiments on which were given in Zhur Tekh
Fiz 20, 750, 991(1950) is developed

OSTROUMOV, G. A.

176T102

USSR/Physics - New Techniques 11 Apr 50
Heat Flow

"Optical Quantitative Method for Observing Thermal and Diffusional Phenomena as a Plane Problem and for Small Deformations of Almost-Plane Surfaces (A Method of Lattices)," G. A. Ostroumov, Molotov State U imeni A. M. Gor'kiy

"Dok Ak Nauk SSSR", Vol LXXI, No 5, pp 887-890

Propagation of heat and diffusional processes can be experimentally studied in solid by exam of the light patterns on the surface of unevenly heated, slightly distorted solid, because of

176T102

USSR/Physics - New Techniques 11 Apr 50
(Contd)

variations in heat and pressure, gradients. Description of app, theory, and use. Submitted 13 Feb 50 by Acad S. I. Vavilov.

176T102

OSTROUMOV, G. A.

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

Ostroumov G. A.

USSR/Mathematics - Hyperbolic Functions Aug 51

"Method for Rapidly Processing Results of Measurements by the Method of Hyperbolic Tangent," G. A. Ostroumov

Zhur Tekh Fiz" Vol XXI, No 8, pp 948-961

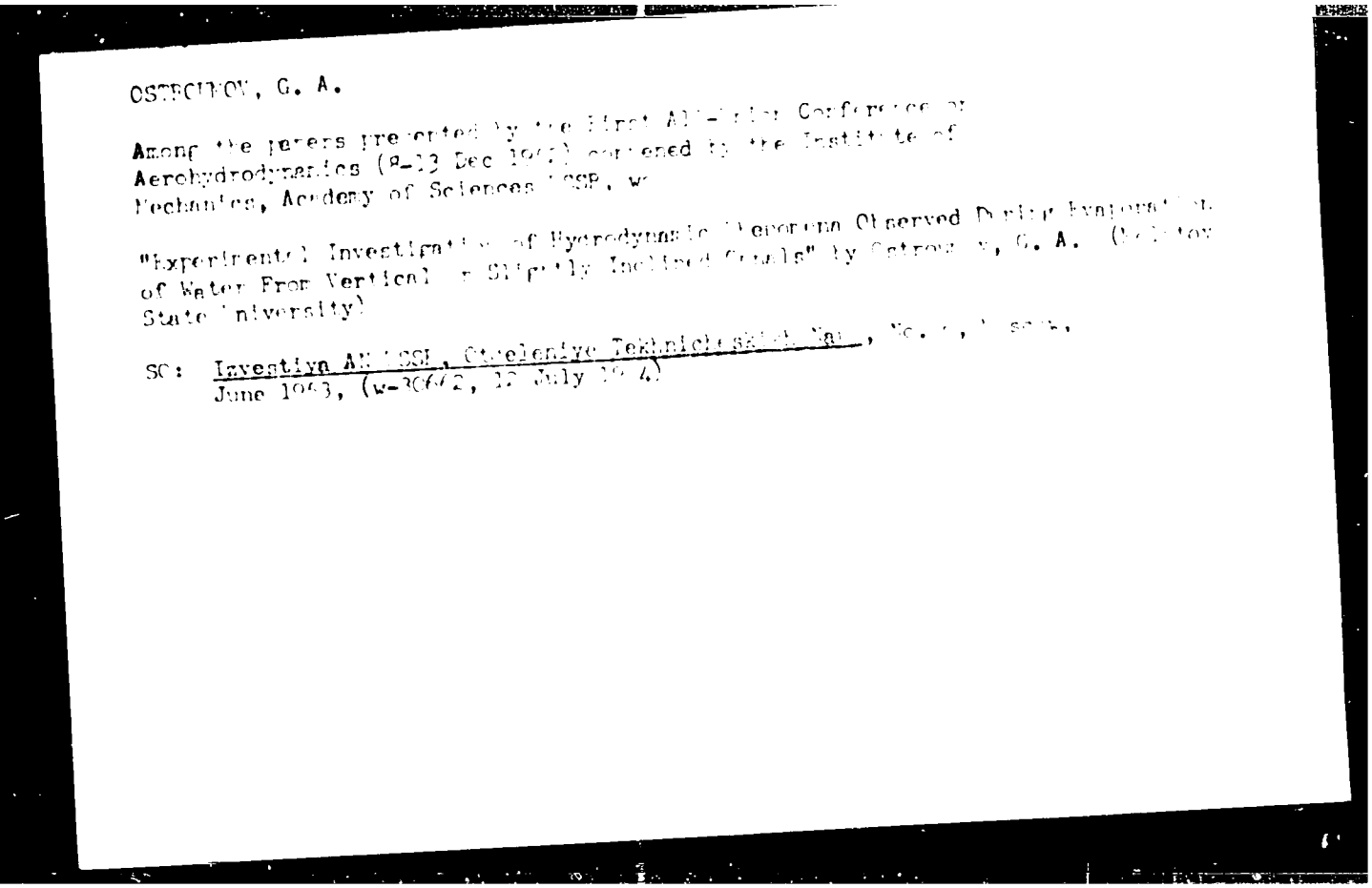
Subject method is often applied to study of plane waves. Outlines mathematical theory and gives example of graphic construction. Obtained various points of the graph experimentally from study of material of various widths. These points appear to lie on a circumference, which

194T73

USSR/Mathematics - Hyperbolic Functions Aug 51 (Contd)

facilitates detn of wave parameters of material according to magnitude and location of this circumference. Submitted 31 Dec 50.

194T73



OSTROVSKIY, G. A.

Among the papers presented by the First All-Union Conference on Aerohydrodynamics (8-13 Dec 1963) convened by the Institute of Mechanics, Academy of Sciences USSR, were

"Experimental Investigation of Hydrodynamic Phenomena Observed During Expansion of Water From Vertical or Slightly Inclined Canals" by Ostrovskiy, G. A. (Leningrad State University)

SC: Investiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, No. 6, June 1963, (w-30642, 12 July 1964)

OSTROUMOV, G. A.

The theory of sonic-electrochemical phenomena. G. A. Ostroumov. *Trudy Komissii po Akustike, Akad. Nauk S. S. S. R.* 1953, No. 7, 88-110; *Referat. Zhur., Fiz.* 1954, No. 550.—The electroacoustical transformer—a straight, circular capillary tube, is discussed and a hydrodynamic analysis is given for the electrokinetic phenomena that take place in order to give a quant. explanation of L. V. Nikitin's sonic-electrochem. effect. The current that flows in the capillary is made up of a vol. elec. cond. (an ordered movement of ions within the liquid) and of a surface elec. cond. (movement of ions in the diffusion layer adjacent to the wall which is accompanied by a movement of the liquid layers that are adjacent to the wall). A linear dependence was found for the vol. rate and the elec. current on the hydrostatic pressure and the elec. voltage. I. B. L.

54

OSTROUKOV, G.A.

USSR

Determination of the heat effects of chemical reactions. G. A. Ostroukov. *Zhur. Fiz. Khim.* 23, 1221–7(1949).—A method is described for the detn. of the adiabatic change in temp. from expts. made in ordinary reactors. In this method a function of the characteristic cooling time, τ, is added to the observed temp. change. The proper evaluation of τ is discussed. J. Rovtar Leach

FD-1010

USSR/Physics - Diffusion coefficient

Card 1/1 Pub. 153 - 16/24

Author : Ostroumov, G. A.

Title : Application of the optical lattice method to the measurement of the diffusion coefficient

Periodical : Zhur. tekh. fiz., 24, No 10, 1864-1866, Oct 1954

Abstract : The author describes a method, which is based upon his derived equation (11), unique in that the constants of the apparatus do not influence the results of measurements.

Institution : -

Submitted : March 19, 1954

OSTROUMOV, G.A.

11912 AEC-tr-2627

ON THE HYDRODYNAMICS OF ELECTRIC DISCHARGES. G. A. Ostroumov. Translated from Zhur. Tekh. Fiz. 24, 1915-19(1954). 6p.

Electrical discharges, considered from the electronic point of view wherein the medium in which the discharge occurs is regarded as an immovable rigid body, are treated from a hydrodynamic viewpoint. An attempt at establishing the basic physical laws of discharges in movable media and expressing the laws mathematically is made. (T.R.H.)

Category : USSR / Optics - Optical Technique K-4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 4858

Author : Ostrovskiy, G A

Title : Concerning the Sensitivity of the Optical-Grating Method

Orig Pub : Zh tekhn fiziki, 1956, 24, vyp 11, 2043-2045

Abstract : The use of a grating in penumbral installations increases their sensitivity substantially. Equations are given for the resolution of the penumbral method in the case under consideration. It is concluded that upon correct use of the grating this method has the same resolution as the interferometer meter, but calls for a simpler setup.

Card : 1/1

FD 423

OSTROUMOV, G. A.
USSR/Physics - Electrolyte convection

Card 1/1 Pub. 147-9/16

Author : Ostroumov, G. A.

Title : Electrostatic convection in electrolytes

Periodical : Zhur. eksp. i teor. fiz. 26, 585-597, May 1954

Abstract : Develops and supplements the results of his previous work (published in "Trudy Komissii po akustike AN SSSR," sbornik No 7, pp 2[illegible], 1952) relating to the calculation of electrostatic convection in cylindrical capillaries filled with an electrolyte. Thanks V. S. Sorokin.

Institution : Molotov State University

Submitted : December 17, 1953

OSTROUMOV, G.A., doktor fiziko-matematicheskikh nauk.

New paper drying method. Bum.prom. 29 no.11:18 N '54. (MLRA 8:1)

1. Professor Molotovskogo gosudarstvennogo universiteta im. A.M. Gor'kogo.
(Paper-making machinery)

OSTROUMOV, G.A.

AID 208-I

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

Call No. QC327.O7

BOOK

Author: OSTROUMOV, G.A.
Full Title: FREE CONVECTION UNDER CONDITIONS OF INNER PROBLEM
Transliterated Title: Svobodnaya konvektsiya v usloviyakh vnutrenney zadachi

Publishing Data
Originating Agency: None
Publishing House: State Publishing House of Technical Theoretical Literature.
Date: 1952
No. pp: 256 and 27 plates.
No. of copies: 4,000

Editorial Staff
Editor: None
Editor-in-Chief: None
Tech. Ed.: None
Appraiser: None

Text Data
Coverage: This book gives theoretical and experimental data related exclusively to heat transmission by convection on the vertical tube. The author applies the theory of natural gravitation to heat problems in geophysics (heat convection in oil wells, geothermics in underground water basins, etc.), as well as in industrial problems (convection in castings, chemical processes, ventilation, oil transformers, electronic tubes, etc.) and to many other related questions. (Sketches, charts, photos, and tables).

1/2

Svobodnaya konvektsiya v usloviyakh vnutrenney zadachi AID 208-I

Descriptions of the test equipment and experimental method as well as mathematical analysis of the test results would seem to be of interest, chiefly to persons doing research on heat transmission problems.

Purpose: A book for scientific research engineers, technicians and students working in the field of geophysics, thermal engineering, metallurgy, industrial chemistry and hygiene.

Facilities: Gratitude was expressed for consultation and comments to Academicians L.D. Landau and M.V. Kirpichev, Corr. Members, Academy of Sciences, N. N. Andreyev and A.S. Predvoditelev, S.N. Rzhevkin, P.Ye. Stepanov, D.A. Frank-Kamentskiy, I.G. Shaposhnikov, L.S. Tygensen and A.M. Kuznetsov. Molotov State University imeni A.M. Gor'kiy.

No. of Russian and Slavic References: 34 (1905-1950)

Available: Library of Congress

2/2

OSTROUMOV G.A.

SUBJECT USSR/MATHEMATICS/Integral equations CARD 1/2 IG - 684
AUTHOR VERTGEJM B.A., OSTROUMOV G.A.
TITLE On the problem of determining optical inhomogeneities.
PERIODICAL Priklad.Mat.Mech. 12, 109-112 (1958)
reviewed 4/1957

The practival application of the optical track method is restricted to two-dimensional cases. The authors investigate the question whether the method can also be extended to three-dimensional cases with some chance for practical results, i.e. whether it is possible e.g. to determine the index of refraction inside of an inhomogeneous medium in dependence of the coordinates x,y,z such that light (of certain wave length) passes through the medium in direction of the three coordinate axes, and this in different layers. Mathematically: with which exactness a unique continuous function $n = f(x,y,z)$ can be determined by the three equations

$$\int_0^X f(x,y,z)dx = \phi_1(y,z), \quad \int_0^Y f(x,y,z)dy = \phi_2(x,z), \quad \int_0^Z f(x,y,z)dz = \phi_3(x,y).$$

In general the problem is not solvable. Therefore at first the following problem is treated: to find - among the polynomials which depend on x,y,z in second order - that polynomial $f_2(x,y,z)$ for which

$$\int_0^X \int_0^Y \int_0^Z \left[f(x,y,z)-(a_1+a_2x+\ldots+a_{10}z^2)\right] dx\, dy\, dz = \text{Min.}$$

Since in this case the 10 partial derivatives with respect to a_i must separately vanish, the 10 coefficients a_i can be determined. For polynomials of third order $f_3(x,y,z)$ the problem cannot be solved, since for that case even the experimental determination of "moments of first order" e.g. $\int_0^X x\, f(x,y,z)dx \equiv \phi_4(y,z)$ would be necessary. This determination is very difficult, if no other relation exists and is known, e.g. symmetry of f with respect to the dentral plane $x = \frac{1}{2} X$.

Furthermore, in a second problem, this symmetry is assumed to exist with respect to the x-, the y-, and the z-plane, and it is asked for the exactness with which, under this assumption supposed to be true, the index of refraction can be determined in its local dependence.

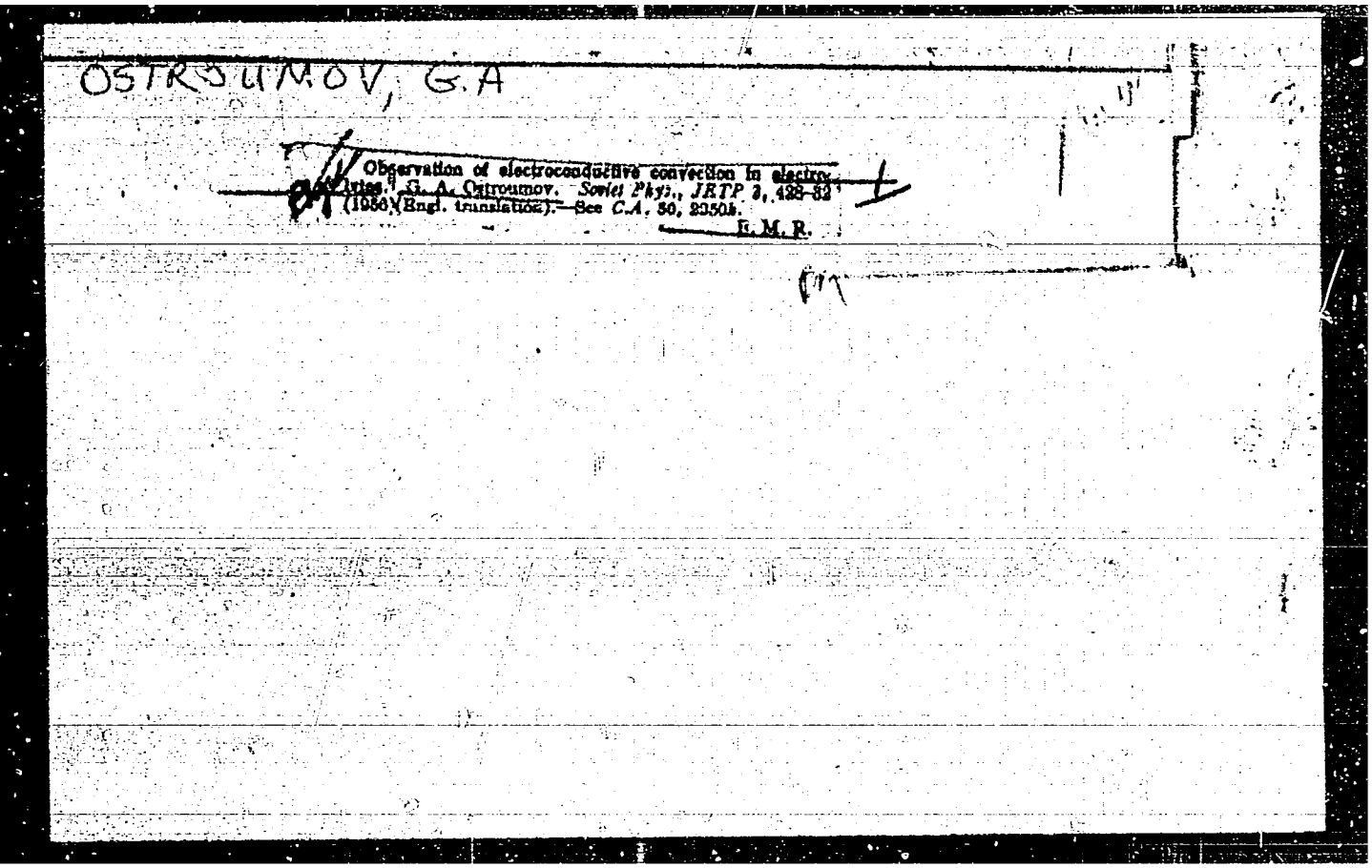
OSTROUMOV, G. A.

537.56

8217. OBSERVATION OF ELECTROCONDUCTIVE CONVECTION IN ELECTROLYTES. G.A.Ostroumov. Zh. eksper. teor. fiz., Vol. 29, No. 4 (10), 571-72 (1955). In Russian. English translation in: Soviet Physics JETP (New York), Vol. 2, No. 3, 426-32 (May, 1956).

Several series of experiments of qualitative character were carried out to clarify spontaneous movement in distilled water, the electroconductivity of which is increased in some places by addition of a doped electrolyte. The experiments substantiated the assumed properties of the phenomenon, in particular, it was possible to produce a model of the phenomenon of corona discharge from a point. Fluctuating characteristics were noted.

A.



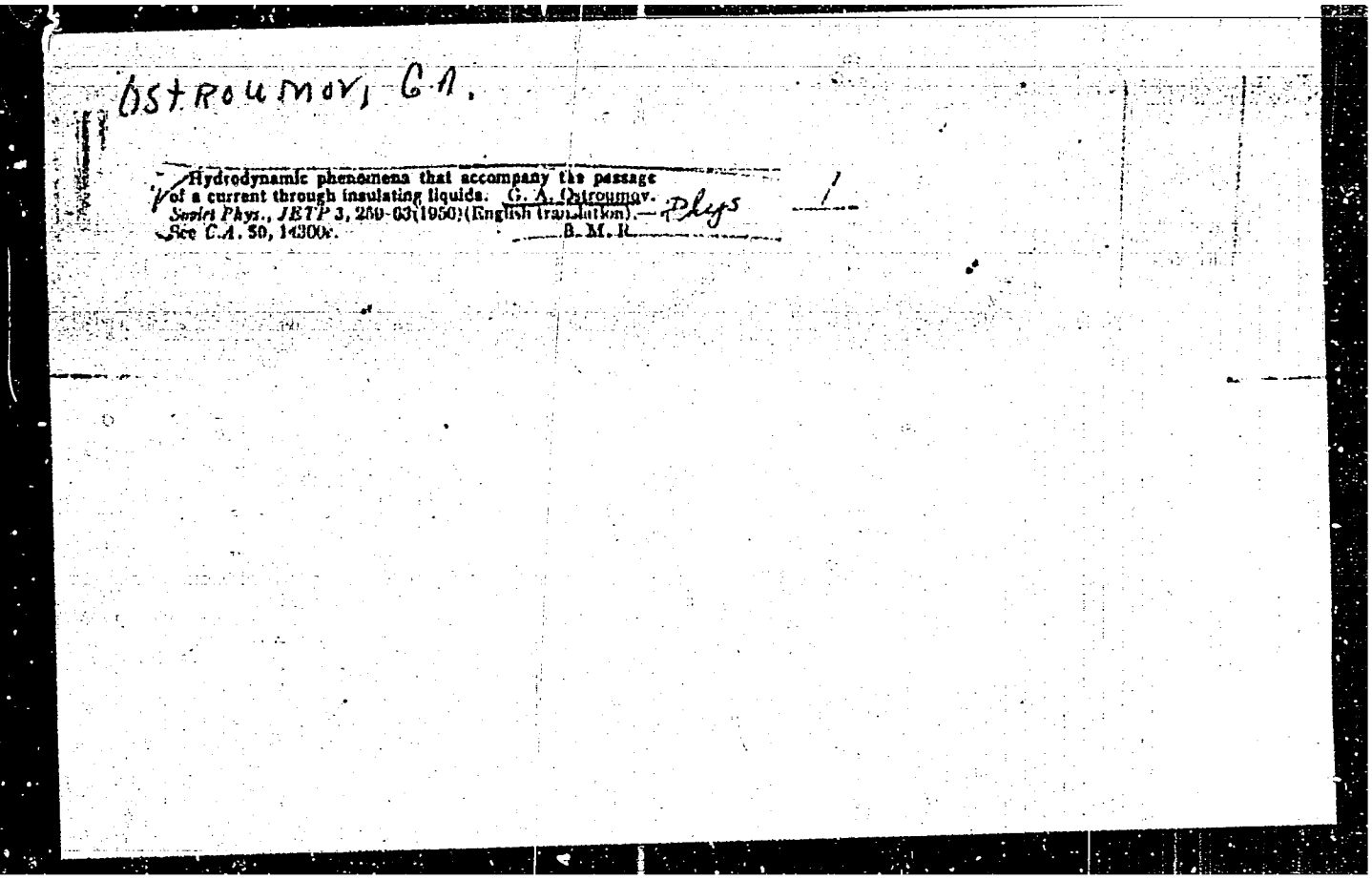
OSTROUMOV, G.A

Observation of electroconductive convection in electrolytes. G. A. Ostroumov. *Soviet Phys., JETP* 3, 422-32 (1956) (Engl. translation). See *C.A.* 50, 2050b.

E. M. R.

OSTROUMOV, G.A. (Moletov)

Gravitation and heat convection parameters of water and air.
Izv.AN SSSR.Otd.tekh.nauk no.3:159-162 '56. (MLRA 9:7)
(Heat--Convection) (Atmosphere)



OSTROUMOV, G.A.

Hydrodynamic phenomena that accompany the passage of a current through insulating liquids. G. A. Ostroumov. *Soviet Phys., JETP* 3, 260-63(1956)(English translation).—Phys 1
See C.A. 50, 14300e. B. M. R.

USSR/Optics - Physical Optics, K-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35710

Author: Vertgeym, B. A., Ostroumov, G. A.

Institution: None

Title: On the Problem of Disclosing Optical Inhomogeneities

Original Periodical: Prikl. matem. i mekhanika, 1956, 19, No 1, 109-112

Abstract: Examination of the problem of the possibility of determining the indices of refraction n (x,y,z) of a transparent inhomogeneous specimen as a function of the coordinates from given 3-fold transillumination of the specimen in directions parallel to the Cartesian coordinate axes, i.e., along the known optical thicknesses of the specimen in 3 mutually perpendicular directions: (from functions of the type $\int_0^x n(x,y,z)dx = \phi(y,z)$. It is shown that in the general case such a problem cannot be solved. However, it

Card 1/2

USSR/Optics - Physi[illegible]

Abst Journal: Refera[illegible]

Abstract: is po[illegible] a second-degree polynomial with respect to x, y [illegible] minimum average deviation from n(x, y, z). The determination of a third-degree polynomial relative to x, y, with minimum average deviation from n(x, y, z) already requires the knowledge of the moments of the type $\int_0^x x^n n(x, y, z)\,dx$ which is possible if the function n(x, y, z) has a certain type of symmetry. Analogous results are obtained also by another formulation of the problem, namely, finding a function n (x, y, z) representing a polynomial power [illegible] relative to x, y, and z under the condition that the tion [illegible] and analogous functions for the 2 other directions transillumination be approximated by polynomials of the same type N with respect to the ordinates. Such a method of determining n (x, y, z) is of little effectiveness and is inferior to the method of transillumination of thin specimens in one direction, used, in practice to disclose inhomogeneities. The relationships given do not pertain to the case of a strongly pronounced single individual inhomogeneity, included in the body of the transillumineted specimen.

Card 2/2

USSR/Atomic and Molecular Physics - Heat, D-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34408

Author: Ostroumov, A. G., Ostroumov, G. A.

Institution: None

Title: On the Problem of Thermoelectric Convection

Original Periodical: Zh. tekhn. fiziki, 1956, 26, No 3, 636-639

Abstract: A Platinum wire 12.8 cm long 0.05 or 0.1 mm in diameter is connected into the circuit of a thermoanemometer bridge, making it possible to measure its average temperature, and is located horizontally at the distance 13.5 mm above a disc 12 cm in diameter. The disc is charged from a rectifying circuit to a voltage of 6,000 relative to the wire, at positive and negative polarities alternately. The current flowing between the wire and the disc is measured with a galvanometer. The wire is located in a penumbral optical installation (grating method), making it possible to photograph the thermal processes near the wire. The resulting photographs are shown. It turns out that at small applied voltages a rising streamer of hot air moves upward away from the wire. At high voltages the streamer becomes distorted, and is so to speak drawn into the strong field between the wire and the electrode; a conduction

USSR/Atomic and Molecular Physics - Heat, D-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34408

Author: Ostroumov, A. I. Ostroumov, G. A.

Institution: None

Title: On the Problem of Thermoelectric Convection

Original Periodical: Zh. tekhn. fiziki, 1956, 26, No 3, 630-639

Abstract: current is simultaneously observed flowing in the air between the wire and the electrode. Under certain conditions the wire starts rotating. Based on the observations made, it is deduced that the phenomenon is due not to thermoelectric convection, but to corona discharge. Bibliography, 5 references.

2 of 2 - 2 -

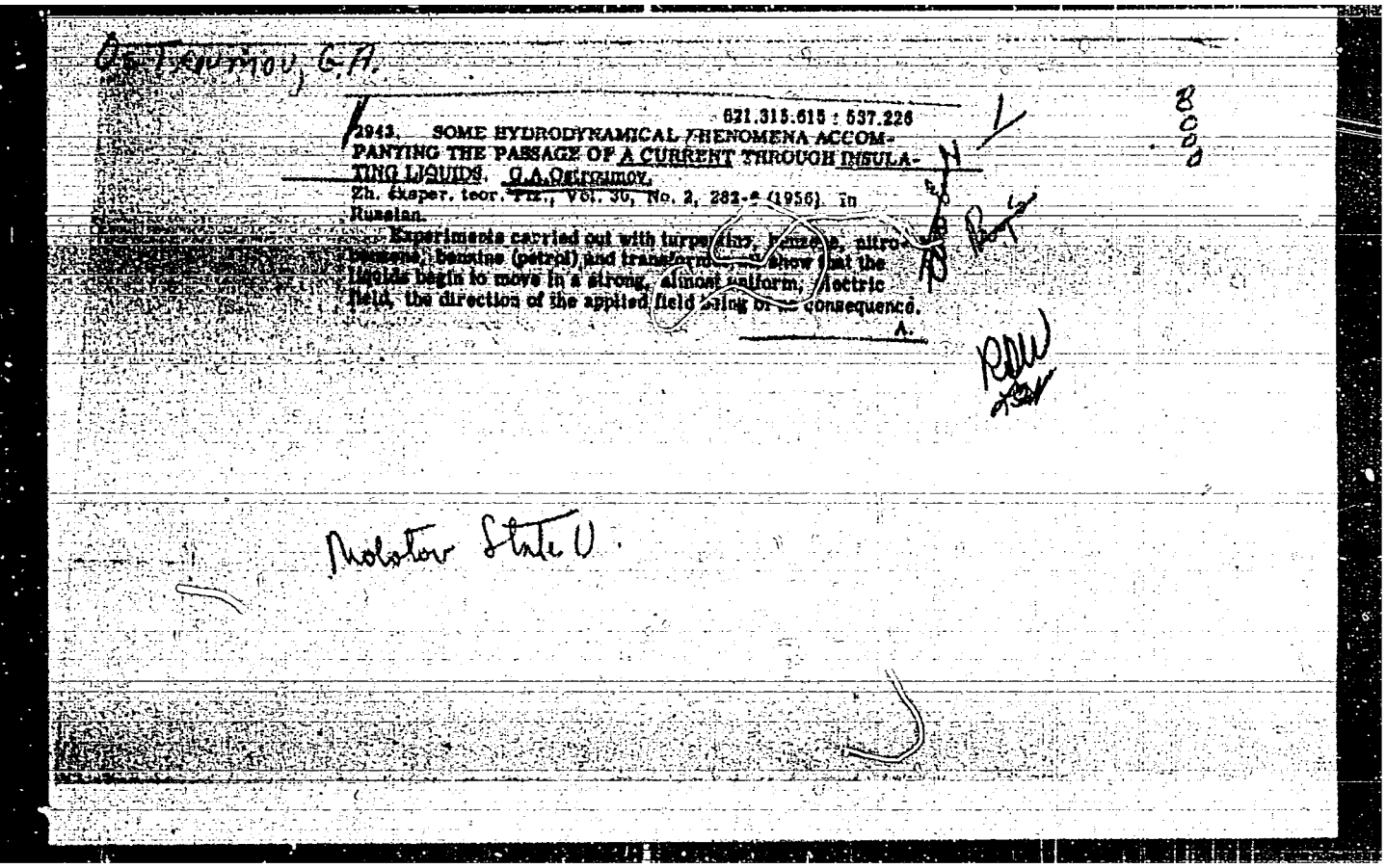
CARD 1 / 2 PA - 1827

SUBJECT USSR / PHYSICS
AUTHOR OSTRUMOV, G.A.
TITLE Unsteady Heat Convection near a Horizontal Cylinder.
PERIODICAL Zurn.techn.fis, 26, fasc.12, 2720-2730 (1956)
Issued: 1 / 1957

Heat convection was experimentally investigated near a thin horizontal wire immediately after the wire had been put under current. This case was chosen because the corresponding steady process is well known and because this case represents a variety of the "flat problem" in which it is of advantage to employ the optical grid method. At first the system is described, after which there follows a description of the three series of experiments. The first series served the purpose of clarifying the hydrodynamics of unsteady convection as well as of the relations existing among the results obtained by observations relating to the kinematics of a hydrodynamic flow by the method of light-dispersing particles and of the temperature gradients by means of the optical grid method. Four photos illustrate the typical cases. On the basis of these photos the following conclusions may be drawn: 1.) Heating of the thin wire causes the occurrence of a hydrodynamic dipole, or better of a horizontal band of vertical dipoles. In the course of the development of convection two circular flows gradually begin to form in the liquid on both sides of the torch rising above the wire. These circular flows are not HELMHOLZ vortices, for the velocity in them diminishes the nearer they approach the rotation axis of the circulation. The motion of the liquids in them can be compared with the rotation of solids. 2.) The characteristic cap which crowns the

rising unsteady flow of the hot liquid is supported at its ends by the rotation axis of the circuits. 3.) In the thick part of this cap the hydrodynamic velocities are vertical to the surface of the cap. 4.) The velocity of the rising flow is in its central part and in the case of steady operation is nearly equal to the rising velocity of the cap. 5.) Thus it is possible to draw important conclusions concerning the character of hydrodynamic kinematics from the optic (half-shade) appearance of the picture. In the course of the second series of tests the dependence of the rising velocity of the cap on the intensity of heating was determined. Three series of photos are shown: a) The thin wire in water, b) in transformer oil, and c) in ethyl alcohol. Diagrams are attached for these three cases. - Third experimental series: The optical and photographic parts were switched off, and the resistance of a platinum wire was recorded by means of an oscillograph at the moment when the current was switched on. Results are represented in form of a diagram. In conclusion theoretical investigations are carried out. The simplified theory of the unsteady process under investigation is the following: In the course of the first stage a slowly thickening horizontal cylinder is formed near the thin wire. During the second stage it slowly moves from its place and continues to thicken; in the course of this motion it must overcome the viscosity of the liquid by which it is surrounded, or which occasion the heated wire, by which it was created, is drawn out of this cylinder. The equations for the first and second stages of the unsteady process are then set up which, for the end of the second stage, go over into a transcendent equation for a dimensionless radius.

INSTITUTION: Moscow State University.



Ostroumov, G.A.

621.315.615 : 537.226

2943. SOME HYDRODYNAMICAL PHENOMENA ACCOMPANYING THE PASSAGE OF A CURRENT THROUGH INSULATING LIQUIDS. G.A. Ostroumov. Zh. éksper. teor. Fiz., Vol. 30, No. 2, 282-4 (1956). In Russian.

Experiments carried out with turpentine, benzene, nitrobenzene, benzine (petrol) and transformer oil show that the liquids begin to move in a strong, almost uniform, electric field, the direction of the applied field being of no consequence.

A.

Molotov State U.

20-5-19/54

AUTHOR: Ostroumov, G. A.

TITLE: The Corona Triode (Koronnyy triod).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 5, pp. 919-921 (USSR)

ABSTRACT: The present paper gives the practical results of an investigation carried out in 1954 which for various reasons has not yet been published. These results, by the way, result also from various known previous works. Accordingly, the current density of the corona is absolutely not proportional to the local electrical field strength of the surface of the coronaforming point. The corona current chooses its way near the peak about in the line of the highest field strength, i.e. in the extended point axis. Around the corona-forming point ("cathode") an auxiliary electrode ("lattice") can be arranged in such a way that its potential with respect to the point acts sharply on the strength of the corona current. The part of the current passing over to this electrode is negligible and practically the entire current passes over to the counterelectrode ("anode").

CARD 1/3

The Corona Triode

In this way an analogy of an electron triode is obtained. It is, naturally, analogous but not identical Such a corona triode, compared with electron triodes, has among other things, the following peculiarities: Positive as well as negative points may form a corona. The auxiliary electrode (grid) can, according to the average voltage at which it has to work, have a different shape. A scheme is also given for the analogy of a radio telegraphic valve. The coronas depend upon the gas, its composition and purity, on pressure, temperature and also upon the electrode material. Next, some wiring circuits for the application of the corona triode are given. For feeding of the corona circuits high voltage current sources-rectifiers- for 10.000 V and more are used. One- and two-periodic corona devices may serve as rectifiers. The wiring circuits given here do not exhaustively deal with all possibilities. There are 4 figures and 5 references, 1 of which is Slavic.

CARD 2/3

The Corona Triode

20-5-19/54

ASSOCIATION: Molotov State University imeni A. M. Gor'kiy (Molotovskiy gosudarstvennyy universitet im. A. M. Gor'kogo).

PRESENTED: M. A. Leontovich, Academician, March 19, 1957

SUBMITTED: March 12, 1957

AVAILABLE: Library of Congress

CARD 3/3

OSTROUMOV, G. A.

Distr: 4E4b/4E3d

3

2

Unsteady Heat Convection Near a Horizontal Cylinder. G. A. Ostroumov. Sov Phys. Tech Phys. [illegible], 1957, pp. [illegible]. 10 refs. Presentation of solutions obtained for a system of differential equations by successive approximations.

16

JR Smw

SOV/133-58-11-13/25

AUTHOR: Ostroumov, G.A., Doctor of Physico-mathematical Sciences, Professor

TITLE: Stirring of Steel in an Open-hearth Furnace by means of a Rotating Electromagnetic Field (Peremeshivaniye stali v martenovskikh pechakh pri pomoshchi vrashchayushchegosya magnitnogo polya)

PERIODICAL: Stal', 1958, Nr 11, pp 999 - 1002 (USSR)

ABSTRACT: The possibility of the application of magnetic stirring of open-hearth baths, in order to speed up the smelting process, is discussed. On the basis of theoretical calculations it is shown that this can be done effectively by means of a 3-phase 50 cps field; the 3-phase current is fed into a specially built-in winding which acts as the stator. The stator induces in the molten metal eddy currents and thus the molten metal acts as a rotor of an asynchronous motor. The movement of the molten metal is determined by the generated electro-dynamic forces, the viscosity of the melt and the boundary conditions. Calculations are carried out for a given set of practical conditions.

SOV/[illegible]

Stirring of Steel in an Open-hearth Furnace by means of a Rotating Electromagnetic Field

There are 4 figures and 5 Soviet references

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm' State University)

Card 2/2

SOV/81-59-8-27703

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 8, p 309 (USSR)

AUTHOR: Ostroumov, G.A.

TITLE: New Investigations on Free Heat Convection in Closed Cylindrical Hollows

PERIODICAL: Uch. zap. Permsk. un-t, 1958, Vol 15, Nr 4, pp 3 - 4

ABSTRACT: A review. There are three references.

V. Gertsovskiy

Card 1/1

97-2-6-14/34

AUTHOR: Ostroumov, G. A.

TITLE: On the Problem of the Self-Excitation of the Natural Oscillations of Channel Walls by the Flowing Liquid (K voprosu o samovozbuzhdenii svtokolebaniy stenok kanalov tekushchey zhidkost'yu)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 6, pp. 1215 - 1219 (USSR)

ABSTRACT: Although this phenomenon has been known for a long time and occurs widely in nature, in industry, and in daily life, it has never been accurately explained, nor has its nature been investigated. In the present paper the author endeavors to explain the periodic natural oscillations of the walls of channels caused by a flowing liquid by means of the primitive hypotheses set up by Jeffrey. If a not compressed liquid flows along an immobile sinusoidally bent wall in the manner shown (figure 1) the velocity potential, the velocity components and the surface of the wall can be expressed by the following wave equations (Reference 1):

Card 1/4

$$\varphi = ace^{ky}\cos k(x - ct),$$

$$u = kace^{ky}\sin k(x - ct);\ v = -kace^{ky}\cos k(x - ct), \quad (1)$$

$$\zeta = a\sin k(x - ct).$$

The average thermal capacity conveyed by the flowing liquid to the surface unit of the wave1 wall is determined as follows:

$$\frac{1}{T}\int_0^T \beta\rho cv^2 dt = \frac{1}{2}\beta\rho c^3k^2a^2; \quad c > 0.$$

The case of a vibrating wall can with respect to the flowing liquid be described as the superposition of two waves, which move with different velocities. It is to be expected that these two waves cause self-excitation of the wall if the capacity emitted by the flowing liquid adapts to the capacity of viscous dispersion. The condition of this self-excitation has the following shape:

Card 2/4

$$4\nu k\left[c^2 + \left(\frac{\omega}{k}\right)^2\right] = \beta c\left[c^2 + 3\left(\frac{\omega}{k}\right)^2\right]. \quad (2)$$

On the Problem of the Self- Excitation of the Natural Oscillations of Channel Walls by the Flowing Liquid

57-28-1-14/34

The frequency of the self-excitation of the wall depends on its hardness. The combination of the condition of self-excitation (2) with the frequency equation leads to an equation for the viscosity of the liquid (figure 2).

$$\nu \frac{Eh^3k^4}{\rho(1-\sigma^2)\rho\beta} = \frac{Eh^3k^3}{8(1-\sigma^2)} c - c^3. \qquad (3)$$

With a gradual increase of velocity the amplitude of the natural oscillations caused will probably increase. There is, however, a possibility of a change-over to the self-excitation of a new form of oscillation e.g.

$$c = \frac{4}{3}\frac{2k\nu}{\beta}; \quad \omega = \sqrt{\frac{Eh^3(2k)^5}{12(1-\sigma^2)\rho}}$$

which is tantamount to an increase of frequency by 5,6 its own unit. There are 2 figures and 6 references, 5 of which are Soviet.

Card 3/4

On the Problem of the Self-Excitation of the Natural Oscillations of Channel Walls by the Flowing Liquid

57-28-6-14/34

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm' State University)

SUBMITTED: June 26, 1957

1. Fluid flow—Theory 2. Structures—Oscillation
3. Mathematics

Card 4/4

AUTHORS: Ostroumov, G. A., Petrov, V. A.

TITLE: On the Problem of the Theory of Free Heat Convection in Cylindrical Cavities (K voprosu o teorii svobodnoy konvektsii v tsilindricheskikh polostyakh)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, No. 6, pp. 1261 - 1262 (USSR)

ABSTRACT: In order to explain the phenomenon of free heat convection in vertical tubes which was discovered by the Russian [illegible], a theory of laminar convection in an infinite tube was developed. The initial assumption was the parallelity of the beams of an axial current of a strictly vertical cylindrical tube. For this reason the radial and the axial component of the heat current was the velocity of the liquid. The comparison of the theoretical and experimental results for a glass and a metal tube (Literature Reference 2) showed good agreement. Therefore it was tried to apply the convective phenomena in cavities was worked out. A circular experimental investigation of convection in [illegible] cylindrical glass tubes, which were filled with water was carried out by

Card 1/3

On the Problem of the Theory of Free Heat Convection in Cylindrical Cavities

the course of 15 years. Experimentally, the following was established: 1) In a theoretically thresholdless field of an inclined tube that was heated from its lower end, distinct threshold effects were found to exist. 2) In the laminary flow occupying the entire tube section (with centers of turbulence lacking) spontaneous local disturbances of the current arise and die down again. They are pulsations which [illegible] the beginning of the zigzag lines on the pattern [illegible] The radial (and azimuthal) component of the heat current [illegible] were not due only to the molecular, but also to convective thermal conductivity. Signs of an increased thermal conductivity of the laminary current have been observed already previously (Reference 1 (p. 15)). The theory developed for a strictly vertical tube without taking radial convection into account is valid also for a slightly inclined tube. [illegible] the characteristic number of Rayleigh increases. All these facts give rise to the [illegible] are answered [illegible] plained. There are [illegible] references, [illegible] of which are Soviet.

Card 2/3

On the Problem of the Theory of Free Heat Convection in Cylindrical Cavities

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm' State University)

SUBMITTED: December 7, 1956

1. Convection—Theory 2. Water—Heat transfer 3. Glass tubing—Applications

Card 3/3

AUTHOR

TITLE: ... Temperature of a Horizontal Wire Heated by Alternating Current (Temperatura gorizontal'noy provoloki ... peremennogo toka)

PERIODICAL: Zhurnal tekhnicheskoy fiziki ... Vol ... 1957 ... (USSR)

ABSTRACT:

The problem of the ... of bodies ... of unsteady operation has not yet been sufficiently investigated. A circuit ... the wire ... is given and the ... that on the ... screen a rather complicated ... figure ... The temperature of the wire ... follow the ... of the feeding current but ... the instantaneous ... temperature course of the wire ... alternating ... current period ... to the ... the figures obtained. In order to ... experiments were carried out for the measuring of the temperature average ... of a platinum wire of a diameter of 0,05mm and ... The wire ... immersed into various liquids ...

... ...ture of ... horizontal ... 2 - -
... current

...fferent frequencies. All the ... experimental ... are given. They show that the ... horizontal cylinder in the ... complicated phenomenon and the ... There are 15 figures and ... Soviet references.

... ...rstvennyy universitet ...

SUBMITTED: 13 December 1956

... Heating ... Alternating Current--Ap...

OSTROUMOV, G.A.

Theory of thermal processes applied to the extrusion of wire in liquid forms under stationary conditions. Zhur.tekh.fiz. 29 no.2:239-246 F '59. (MIRA 12:4)

1. Permskiy gosudarstvennyy universitet im. A.M.Gor'kogo.
(Wire drawing)

PHASE I BOOK EXPLOITATION SOV/4204

Ostroumov, Georgiy Andreyevich

Fiziko-matematicheskiye osnovy magnitnogo peremeshivaniya rasplavov (Physico-mathematical Fundamentals for Magnetic Mixing of Melts) Moscow, Metallurgizdat, 1960. 64 p. Errata slip inserted. 1,650 copies printed.

Ed.: N. I. Bortnichuk; Ed. of Publishing House: Ya.D. Rozentsveyg; Tech. Ed.: P.G. Islent'yeva.

PURPOSE: This book is intended for workers of scientific research and design institutes of the metallurgical and machine industries.

COVERAGE: The book discusses the electrodynamic, hydrodynamic, and metallurgical processes which accompany magnetic mixing of melts. The section on electrodynamics treats the propagation of a traveling electromagnetic wave in an infinite conducting semispace and in a conductor of finite dimensions; as well as the ponderomotive electrodynamic forces distributed in them. In the section on hydrodynamics the selection of the most advantageous current frequency and the

Card 1/4

Physicomathematical Fundamentals (Cont.) SOV/4204

role of the reservoir dimensions are studied. In this book the term reservoir is used to describe the furnace, bath, ladle and other vessels in which the molten metal is mixed. The section on metallurgy deals with the conditions for equalizing temperature and composition during mixing and the acceleration of the reaction of the melt with slag. No personalities are mentioned. There are 9 references, all Soviet.

TABLE OF CONTENTS:

Card 2/4

Physicomathematical Fundamentals (Cont.) SOV/4204

AVAILABLE: Library of Congress

NML/AC/fal
9-10-60

Card 4/4

82329
S/139/60/000/03/008/045
E073/E335

24.5200

AUTHORS: Ostroumov, G A and Soyfer, G B.

TITLE: Heat Transfer of a Horizontal Wire Heated by an Alternating Current

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika 1960, Nr 3, pp 52 - 55 (USSR)

ABSTRACT: In an earlier paper (Ref 1) the authors dealt with measuring the heat release of a wire in various fluids in the case of periodic heating. A comparison of the obtained results with the calculated heat transfer resulting from molecular heat conductivity in an equivalent solid body has revealed great differences. This is attributed to the fact that the real experimental conditions (the finite lengths of the wire soldered onto massive terminals, the limited volume of the reservoir) differ considerably from the general assumptions made in literature, which were used for the calculations (cylindrical wire of infinite length, infinite distance from other bodies at a given temperature). Therefore, the authors considered it advisable to compare the experimentally determined heat transfer from a wire

Card 1/3

82329
S/139/60/000/03/008/045
E073/E335

Heat Transfer of a Horizontal Wire Heated by an Alternating Current

placed in a liquid and a wire fused into a solid medium. The test arrangement was the same as that described in the earlier communication (Ref 1). A platinum wire of 0.05 mm dia, about 10 mm length was brazed onto copper leads of about 3 mm dia which were placed into an aluminium reservoir filled with sulphur and heated by an alternating current. The reservoir was placed into a special thermostat. Sulphur was considered as a suitable medium due to its favourable fusion temperature and also because on solidification there are no shrinkage cavities. The heating was effected by means of a modulated 50 cps current, whereby the modulation frequency varied between 0.05 and 30 cps. As a result a heating current with a large number of frequencies was obtained. The results are plotted in graphs Figures 1-4. It was found that the heat transfer during periodic heating of the cylinder has the following features in a liquid medium not only the reactive but also the active component of the heat flow increases with frequency in contrast to a solid medium, where the reactive component of the heat transfer

Card2/3

82329

S/139/60/000/03/008/045
E073/E335

Heat Transfer of a Horizontal Wire Heated by an Alternating Current

is almost proportional to the heating frequency in a liquid medium the reactive heat flow shows a dependence on the frequency which can be expressed by a power relation whereby the power is less than unity and more than 0.5. Even in the described simple case, non-steady state convection proved very complex and requires further investigation. There are 4 figures and 2 Soviet references.

4

ASSOCIATION: Permskiy gosuniversitet (Permsk State University)

SUBMITTED: April 23, 1959

Card 3/3

OSTROUMOV, G.A.

Rate of settling of a suspension as a function of the velocity at which the solution is moving. Koll.zhur. 22 no. 5:611-614 S-O '60. (MIRA 13:10)

1. Permskiy universitet.

(Suspensions (Chemistry))
(Sedimentation and deposition)

[illegible]

S/C44/62/000/007/[illegible]
[illegible]

AUTHOR: [illegible]

TITLE: The treatment of results [illegible]

PERIODICAL: [illegible] zhurnal, Matematika, [illegible] abstract [illegible] 50. [illegible] 3-A)

TEXT: By simple examples one explains the foundations [illegible] use of the method of least squares for the error estimation [illegible] of measurements. It is especially pointed to the fact, that the ex- pression "a tested value of the measured quantity" is wrong.

[Abstracter's note: Complete translation.]

Card 1/1

10.3400

[illegible]
[illegible]/1962

AUTHOR: Ostroumov, G.A.

TITLE: Calculating convective thermal flow in [illegible] vertical cavity

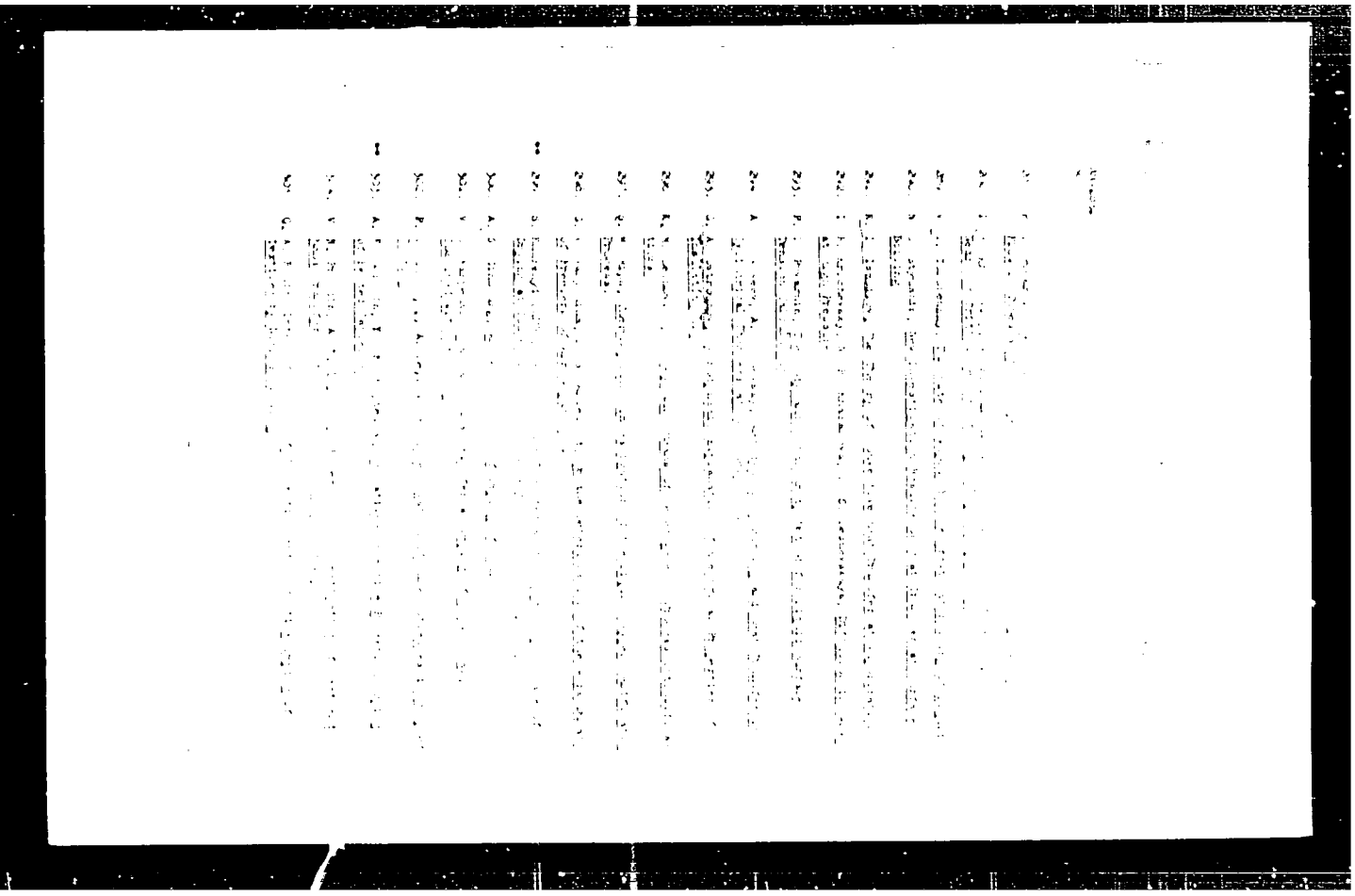
PERIODICAL: Referativnyy zhurnal, Mekhanika, no. [illegible], [illegible], [illegible], abstract [illegible] ("Uch. zap. Permsk. un-t", [illegible], [illegible], no. 3, 1[illegible] - [illegible])

TEXT: In an earlier solution of the problem of the convection of fluid in a vertical tube in presence of the vertical temperature gradient and side heating (G.A. Ostroumov: Svobodnaya konvektsiya v usloviyakh vnytrenney zadachi (Free Convection under the Conditions of the Inner Problem), M.-L., Gostekhizdat, 1952). The case is considered when the vertical gradient is directed upwards (heating from the side and from the top). It is shown that heating from the top retards convection caused by the side heating. Formulae are given for low and high values of the vertical gradient, and a table for the intermediate values, from which a vertical thermal flow can be calculated. Also, a table is given which permits determination
Card 1/2

Calculating convective thermal flow ... [illegible]

of the thermal flow (heat applied from below), from the [illegible] transverse temperature differences. [Abstracter's note: Complete translation.]

Card 2/2



OSTROUMOV, G.A.

Theory of acoustic wind. Akust.zhur. 8 no.1 [illegible]

1. Leningradskiy gosudarstvennyy universitet.
(Sound waves)

OSTROUMOV, G.A.

Spherical radiator approximately equivalent to a point explosion in the air. Akust. zhur. 8 no.2:204-209 '62. (MIRA 15:8)

1. Leningradskiy gosudarstvennyy universitet.
(Shock waves) (Explosions)

MEL'NIKOV, N.P.; OSTROUMOV, G.A.; SHTEYNBERG, A.A.

Method for stabilizing spark discharges in water. Vest.LGU 17 no.10:157-158 '62. (MIRA 15:5)
(Electric spark)

S/020/62/147/004/013/027
B117/B186

AUTHORS: Mol'nikov, N. P., Ostroumov, G. A., Shteynberg, A. A.

TITLE: Some characteristics of the disruptive discharge in electrolytes

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 4, 1962, 822-825

TEXT: As an addition to previous papers (Vestn. Leningradsk. univ. no. 10, 157 (1962)), the behavior of several electrolyte solutions under high voltage was studied over a wide range of concentration. This behavior was shown not to depend on the chemical composition of the electrolytes but only on their conductivity. Graphic representations of the behavior of electrolytes with a conductivity of $\sigma = 0.52 \cdot 10^{-4}$-0.74 $ohm^{-1} \cdot cm^{-1}$ and a discharge gap in liquid of 0.25-20 mm were studied by oscillographs. Three sections were distinguished: (I) Discharge is possible. A potential jump is clearly recognizable; its height decreases as the conductivity of the electrolyte increases. Larger electrode spacing causes a gradual increase in the delay of voltage drop after disruption of the air gap. (II) Aperiodic discharge: no disruption occurs. An increase in conductivity

Card 1/2

ACCESSION NR: AP3002725 S/0120/63/000/003/0085/0089

AUTHOR: Ostroumov, G. A.; Shteynberg, A. A.

TITLE: Method for measuring pulse amplitude

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 85-89

TOPIC TAGS: pulse-amplitude measurements, parasitic emf, distortion, toroidal coil, induction compensation

ABSTRACT: A method for measuring pulse amplitudes is described, in which effects of the magnetic field produced on the probe leads of an oscilloscope by currents flowing through the investigated device are eliminated through compensation of the inductance in the measured portion of the circuit by an equal mutual inductance. During current flow through the circuit (see Fig. 1 of Enclosure) a magnetic field arises and induces a parasitic emf in loop ARCNBPA. This emf combines with and distorts the measured voltage drop

Card 1/ 3

ACCESSION NR: AP3002725

across the device P. In toroidal-coil compensating loop R an equal but opposite emf is induced and as a result the parasitic emf is suppressed. A suppression method for parasitic hf oscillations, which could distort the display, is also presented. Experiments showed that the insertion of a 750-ohm resistor between the compensator and the cable will decrease the circuit Q of the measured network and damp the parasitic oscillations. A practical measurement procedure and test method are also discussed. Orig. art. has: 9 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 03Jul62 DATE ACQ: 12Jul63 ENCL: 01

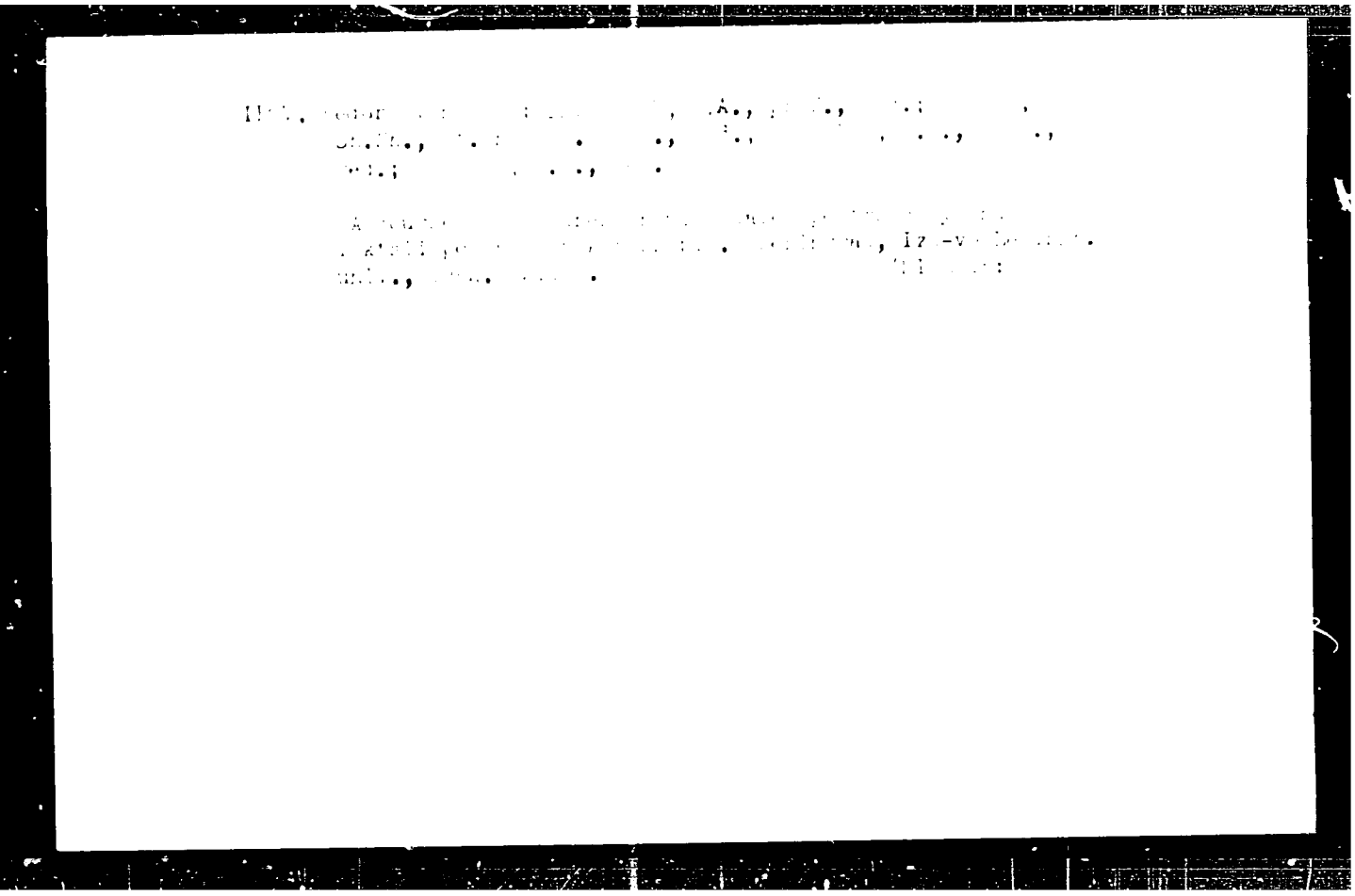
SUB CODE: 00 NO REF SOV: 002 OTHER: 000

Card 2/3

OSTROUMOV, G.A.

On the mechanism underlying cavitational destruction. Akust. zhur. 9 no.2:198-204 '63. (MIRA 16:4)

1. Leningradskiy gosudarstvennyy universitet.
(Cavitation)



MEL'NIKOV, N.P.; OSTROUMOV, G.A.; STOYAK, M.Yu.

Development of an electric discharge in aqueous electrolytes.
Dokl. AN SSSR 148 no.5:1057-1059 F '63. (MIRA 16:3)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
Predstavleno akademikom M.A.Leontovichem.
(Electric discharges)

ACCESSION NR: AP4035709 S/0057/64/034/005/0949/0951

AUTHOR: Mel'nikov, N.P.; Ostroumov, G.A.; Stoyak, M.Yu.

TITLE: Development of electric breakdown in aqueous sodium chloride solutions

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.5, 1964, 949-951

TOPIC TAGS: electric breakdown, sodium chloride

ABSTRACT: This paper reports a continuation of earlier work on electric breakdown in sodium chloride solutions (N.P.Mel'nikov, G.A.Ostroumov and A.A.Shteinberg, DAN SSSR,147,4,1962; N.P.Mel'nikov, G.A.Ostroumov and M.Yu.Stoyak,Ibid.148,5,1963). The 12 to 13 kV discharges (normally, positive point to negative plane) took place between electrodes separated by 5 mm and immersed in the solution. The discharges were photographed at 2.5 x 10^6 frames/sec with back illumination provided by an auxiliary spark. Continuous time resolved photographs were also obtained of limited portions of the discharge. In low concentration solutions the discharge begins with the development of dark branching filaments which propagate from the positive point electrode with the velocity 1.2 x 10^5 cm/sec. When a filament reaches the negative plane a luminous plasma discharge propagates backward along it with much greater velocity,

Cord1/2

ACCESSION NR: AP4035709

covering the 5 mm gap in a time much shorter than the 0.4 microsec between successive photographs. The luminous discharge increases for a time in width and intensity. A sequence of 24 photographs is reproduced showing this development. From the continous time scan photographs it can be seen that the luminous discharge fills its expanding channel for 3 or 4 microsec, after which the luminous discharge begins to contract, while the channel continues to expand at a decreasing rate. In more concentrated solutions the initial filaments propagated somewhat more rapidl, and were luminous. In very concentrated solutions the filaments were not formed and no plasma discharge between the metal electrodes occurred. In this case only a small region about the positive point electrode was luminous. This luminosity is ascribed to an arc discharge within a bubble formed at the electrode by thermal effects. Orig.art. has: 1 formula and 4 figures.

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet im.A.A.Zhdanova (Leningrad State University)

SUBMITTED: 25Apr63 DATE ACQ: 20May64 ENCL: 00

SUB CODE: EM NR REF SOV: 002 OTHER: 000

Card 2/2

OSTROUMOV, G A

N/5
743.2
.08

Smazka dorozhnostroitel'nykh mashin (Lubrication of road building machines, By) G. A. Ostroumov (and) N. A. CHEKAVTSEV. Moskva, Gostoptekhizdat. 1953.
141 p. Diagrs., Tables.

OSTROUMOV, Georgiy Arkad'yevich; ZILLER, G.K., red.; YENISHERLOVA, O.M., vedushchiy red.; FEDOTOVA, I.G., tekhn.red.

[Instructions on the gathering of spent petroleum oils for mechanics and shop supervisors] Pamiatka po sboru otrabotannykh neftianykh masel; dlia mekhanikov i nachal'nikov tsekhov. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 24 p. (MIRA 13:6)

1. Vsesoyuznaya kontora regeneratsii otrabotannykh smazochnykh masel.

(Mineral oils)

25(5) PHASE I BOOK EXPLOITATION SOV/1359

Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. t. 1: Organizatsiya i konstruktorskaya podgotovka remontnykh rabot (Handbook for Mechanics of Machinery Manufacturing Plants in Two Volumes. Vol.1: Organization and Design-Preparation for Repair Work) Moscow, Mashgiz, 1958. viii, 767 p. 40,000 copies printed.

Resp. Ed.: Noskin, R.A.; Candidate of Technical Sciences; Ed.: Gliner, B.M., Engineer; Tech. Ed.: Sokolova, T.F.; Eds. of Set: Borisov, Yu.S., Engineer, A.P. Vladziyevskiy, Doctor of Technical Sciences, and R.A. Noskin, Candidate of Technical Sciences; Managing Ed. for Reference Literature (Mashgiz): Krylov, V.I., Engineer.

PURPOSE: This handbook is intended for personnel responsible for repair and maintenance operations in machinery manufacturing plants.

COVERAGE: The handbook contains information on the operation of industrial equipment, organization of repair and maintenance, design-preparation for maintenance work, modernization of metal-cutting machine tools, and the economics of maintenance. Maintenance personnel of the following plants participated in the preparation of this handbook: Leningrad Plant imeni Kirov, Khar'kov Plant

Card 1/ 13

for Transport Machinery imeni Malyshev, Moscow Plant imeni Likhachev, Chelyabinsk Tractor Plant, etc. Contributions by the following are also acknowledged: workers of scientific research institutes (ENIMS, TsNIITMASH, NITI) and vtuzes (MVTU imeni Bauman, Leningrad Polytechnical Institute, Moscow Institute for Engineering Physics, Moscow Industrial Engineering Institute); and workers in engineering and planning institutes (VPTI b. MINTRANSMASH, VPTI b MINTYAZHMASH, GSPI-8). There are no references

TABLE OF CONTENTS: