of the starchy raw material and syrup in the alcohol and acetone-butanol industry.

S. A. Konovalov, All-Union Scientific Research Institute of the Alcohol, Liqueur and Brandy Industry reported on the problem of antiseptics in fighting infection due to ferments.

L. Yu. Madzinskaya, Institut mikrobiologii Akademii nauk USSR (Microbiological Institute of the AS UkrSSR) reported on the investigation of the morphological and physiological properties of yeast.

A. D. Kovalenko, Andrushevskiy spirtovoy zavod (Andrushevka Distillery), N. Ya. Savchenko, Malo-Viskovskiy spirtovoy zavod (Malo-Viskovskiy Alcohol-Distillery), S. P. Makarova, Smolenskiy Sovnarkhoz (Smolensk Sovnarkhoz) reported on some working results obtained by distilleries in the syrup fermentation by using the method of continuous flow.

M. S. Loytayanskaya, Leningradskiy universitet (Leningrad University) characterized the correlation of reproduction processes and biochemical activity of acetic acid bacteria in the high-speed production of vinegar.

N. M. Neronova, Microbiological Institute of the AS USSR spoke of the possibility of obtaining vitamin B_{12} by continuous breeding of propionic acid bacteria (propionovokislyye bakterii). S. L. Brinberg, O. Z. Grabovskaya, Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics) reported on the application of this method in the production of penicillin.

V. V. Vyatkina, All-Union Scientific Research Institute of the Spirit, Liqueur, and Brandy Industry showed that the method of semi-continuous breeding of the fungus Aspergillus niger accelerates fermentation. B. V. Perfil'yev, Leningrad University reported on the results of investigations of the natural microflora by the method of capillary microscopy which he had developed.

V. A. Kordyum, Kiyev University demonstrated his new batcher for continuous breeding of microorganisms in laboratory practice.

J. Vintik and J. Ridica (Czechoslovakia) expressed their opinions on the methods of continuous breeding of microorganisms.

On this Conference it was pointed to the necessity of organizing the industrial production of cultures for continuous fermentation.

LOYTSYANSKAYA, M.S.

Physiology of bacteria used in rapid vinegar production and their position in the Acetobacter genus. Trudy Inst. mikrobiol. no. 6:52-60 '59. (MIRA 13:10)

1. Leningradskiy Gosudarstvennyy Universitet im. Zhdanova.
(ACETOBACTER)

LOYTSYANSKAYA, M.S.

Aerial nutrition of bacteria in quick vinegar production [with summary in English]. Mikrobiologiia 28 no.1:86-92 Ja-F '59. (MIRA 12:3)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.
(VINEGAR--BACTERIOLOGY)

LOYTSYANSKAYA, M.S.; SAFRONOVA, L.Ye.

Phylogenic relationships of acetic acid bacteria. Mikrobiologiia 29 no.3:336-342 My-Je '60. (MIRA 13:7)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
(ACETOBACTER)

LOYTSYANSKAYA, M.S.; SKULKOV, G.S., otv.za vyp.; KUDRYAVTSEVA, A.P., otv. za vyp.; RYBAKOVA, L.G., tekhn. red.

[Microbiological foundations of the production of vinegar] Mikrobiologicheskie osnovy proizvodstva uksusa. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1962. 35 p. (MIRA 16:4)
(VINEGAR—MICROBIOLOGY)

LOYTSYANSKAYA, M.S.; PLYAKA, V.Ye.

Studying the biology of acetic acid bacteria in submerged cultivation. Part 2: Oxidation of ethyl alcohol by Acetobacter aceti. Vest.LGU 18 no.3:65-73 '63. (MIRA 16:2)
(ACETOBACTER) (ETHYL ALCOHOL) (OXIDATION)

LOYTSYANSKAYA, M.S.; LISENKOVA, L.L.; ROBINSON, M.M.

Observations on the development of commercial bacterial cultures of a vinegar plant. Mikrobiologiia 30 no.6:1060-1065 N-D '61. (MIRA 14:12)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(ACETOBACTER) (VINEGAR)

LOYTSYANSKAYA, M.S.

Zinaida Georgievna Razumovskaia; 1902 - ; on her 60th birthday.
Mikrobiologiia 32 no.1:188-189 '63 (MIRA 17:3)

LOYTSYANSKAYA, M.S. (Leningrad)

Bacterial cellulose synthesis. Usp. sovr. biol. 58 no. 2: 253-261 S-O '64. (MIRA 17:12)

LOYTSYANSKAYA, M.S.; MAMAYEVA, K.A.

Use of acetic acid by bacteria of the Acetobacter genus.
Mikrobiologiia 33 no.2:344-352 Mr-Ap '64. (MIRA 17:12)

1. Leningradskiy gosudarstvennyy universitet.

LOYTSYANSKIY, L. G.

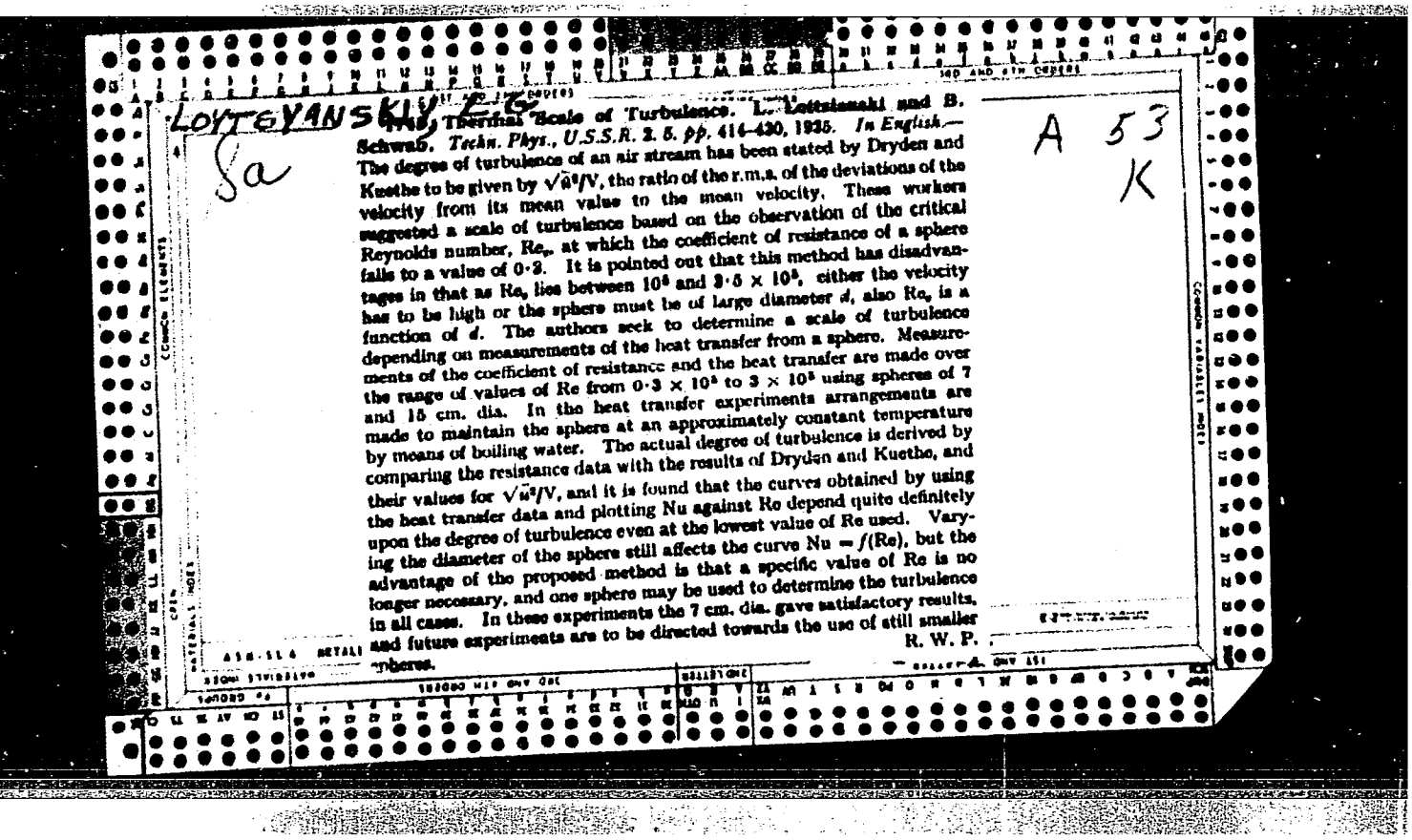
"Theoretical Mechanics," with A. I. Lur'ye, published in Moscow, 1934, Pt. III, 683 pp. Included in the bibliography of Peter L. Kapitsa's "Dynamic Stability of a Pendulum Attached to an Oscillating Support,"

LOITSIANSKII, L.G.

K teoril krizisa soprotivleniia plokho obtekaemykh tel. Moskva, 1935. 11 p.
(TSAGI. Trudy, no. 237)

Title tr.: On the theory of the critical point of resistance of poorly streamlined bodies.
QA911. M65 no. 237

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955.



LOYTSYANSKIY, L.G.

5a

A 53
K

1935, Thermal Scale of Turbulence. L. Lotzianski and B. Schwab. *Techn. Phys., U.S.S.R.* 2. 5. *pp.* 414-420, 1935. *In English.*—The degree of turbulence of an air stream has been stated by Dryden and Kuethe to be given by $\sqrt{u^2}/V$, the ratio of the r.m.s. of the deviations of the velocity from its mean value to the mean velocity. These workers suggested a scale of turbulence based on the observation of the critical Reynolds number, Re_c, at which the coefficient of resistance of a sphere falls to a value of 0·2. It is pointed out that this method has disadvantages in that as Re_c lies between 10^5 and $3{\cdot}5 \times 10^5$, either the velocity has to be high or the sphere must be of large diameter d, also Re_c is a function of d. The authors seek to determine a scale of turbulence depending on measurements of the heat transfer from a sphere. Measurements of the coefficient of resistance and the heat transfer are made over the range of values of Re from $0{\cdot}3 \times 10^4$ to 3×10^5 using spheres of 7 and 15 cm. dia. In the heat transfer experiments arrangements are made to maintain the sphere at an approximately constant temperature by means of boiling water. The actual degree of turbulence is derived by comparing the resistance data with the results of Dryden and Kuethe, and their values for $\sqrt{u^2}/V$, and it is found that the curves obtained by using the heat transfer data and plotting Nu against Re depend quite definitely upon the degree of turbulence even at the lowest value of Re used. Varying the diameter of the sphere still affects the curve $Nu = f(Re)$, but the advantage of the proposed method is that a specific value of Re is no longer necessary, and one sphere may be used to determine the turbulence in all cases. In these experiments the 7 cm. dia. gave satisfactory results, and future experiments are to be directed towards the use of still smaller spheres.

R. W. P.

LOTTSIANSKII, L. G.

Vzalmodeistvie pogranichykh sloev. Moskva, 1936. 16 p. (TSAGI. Trudy, no. 249)

Title tr.: Interference of boundary layers.

QA811. M65, no. 249

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955

LOYTSYANSKIY, L. G.

On universal'nykh formulakh v teorii soprotivleniia sherokhovatykh trub. (TSAGI. Trudy, 1936, no. 250, p. 3-11)

Summary in English.

Bibliographical footnotes.

Title tr.: Universal formulae in the theory of flow resistance in rough pipes.

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

AER

Boundary Layer +
Thermodynamics

On Motion of Fluid in Boundary Layer Near Line of Intersection of Two Planes. L. G. Loitsianskii and V. P. Bolshakov. (*Moscow, Tsentral'nyi Aero-Gidrodinamicheskii Institut, Trudy*, No 270, 1936.) *U.S., N.A.C.A., Technical Memorandum No. 1308*, November, 1951. 37 pp., illus. 1 reference.

Formulation of the problem of the interaction of the boundary layers near the intersection of a dihedral angle of from 1° to 180°; solution by the von Kármán-Pohlausen method; analysis of the interference limits and of the drag correction due to the interference effect.

1
Mar. 52

LOITSYANSKII, L. G.

A course in theoretical mechanics. Leningrad, Glav. red. tekhniko-teoret. lit-ry, 1937-38. 2 v. (50-52652)

QA805.L62

LOITSIANSKII, L. G.

LOITSIANSKII, L. G.

Nekotorye osnovnye zakonomernosti izotropnogo turbulentnogo potoka. Moskva, 1939. 23 p. (TSAGI. Trudy, no. 440)

Title tr.: Some basic laws of isotropic turbulent flow.

QA911.M65 no. 440

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

LOITSIANSKII, L. G. LOITSYANSKII, L. G.

Integral'nye metody teorii pogranichnogo sloia. (Prikladnaia matematika i mekhanika, 1941, v. 5, no. 3, p. 453-470, bibliography)

Summary in English.

Title tr.: Integral methods in the theory of the boundary layer.

QA801.P7 1941

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

LOYTSYANSKIY, Lev Gerasimovich

"The Boundary Layer in A Compressible Gas,"

Approximate Method of Calculations on Laminar Boundary Layers Along a Wing,"

"Laminar Boundary Layers on a Body in Rotation,"

"Calculations of the Coefficients of Resistance of Wing Profiles, Taking into Consideration the Compressibility of Air,"

"Boundary Layers of the Wing Profile at High Speeds,"

published in 1942-44.

LOYTSYANSKIY, L. G.

"Approximate Method for Calculating the Laminar Boundary Layer on the Airfoil," Dok. Akad. Nauk, Vol. 35, No. 8, 1942

"Laminar Boundary Layer on a Body of Revolution," Dok. Akad. Nauk, Vol. 36, No. 6, 1942.

"The Method of Approximation for Solving Some Problems in Geophysics and Aerohydromechanics," Dok. Akad. Nauk, No. 9, 1942.

LOYTSIANSKII, L. G.

LOYTSIANSKII, L. G.

Pribliznannyi metod rascheta turbulentnogo pogranichnogo sloia na profile kryla. (Prikladnaia matematika i mekhanika, 1945, v. 9, no. 6, p. 433-448, tables, diagrs, bibliography.

Summary in English.

Title tr.: Approximate method of calculating the turbulent boundary layer of an airfoil.

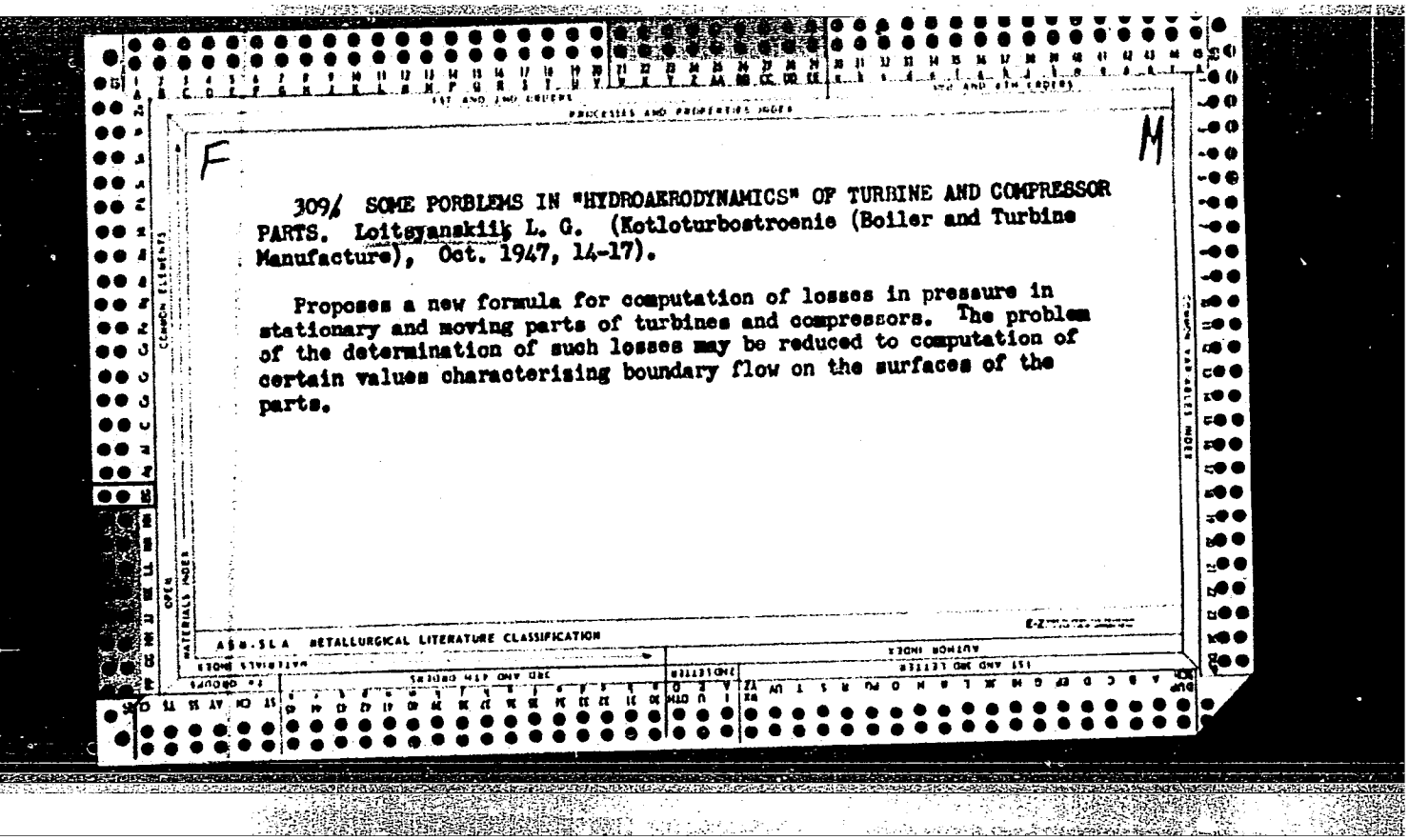
QA801.P7 1945

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

LOYTSYANSKIY, L. G.

"Certain Questions Bearing Upon the Seismic Tectonics of the Crimea," Dok. Akad. Nauk, 54, No. 3, 1946.

"Discussion of a Paper by M. A. Velikanov, Corr. Mbr., Acad. Sci., Entitled, 'Transport of Suspended Sediments by Turbulent Flow,'" published in Iz. Akad. Nauk, Otdel Tekh. Nauk, No. 5, 1946.

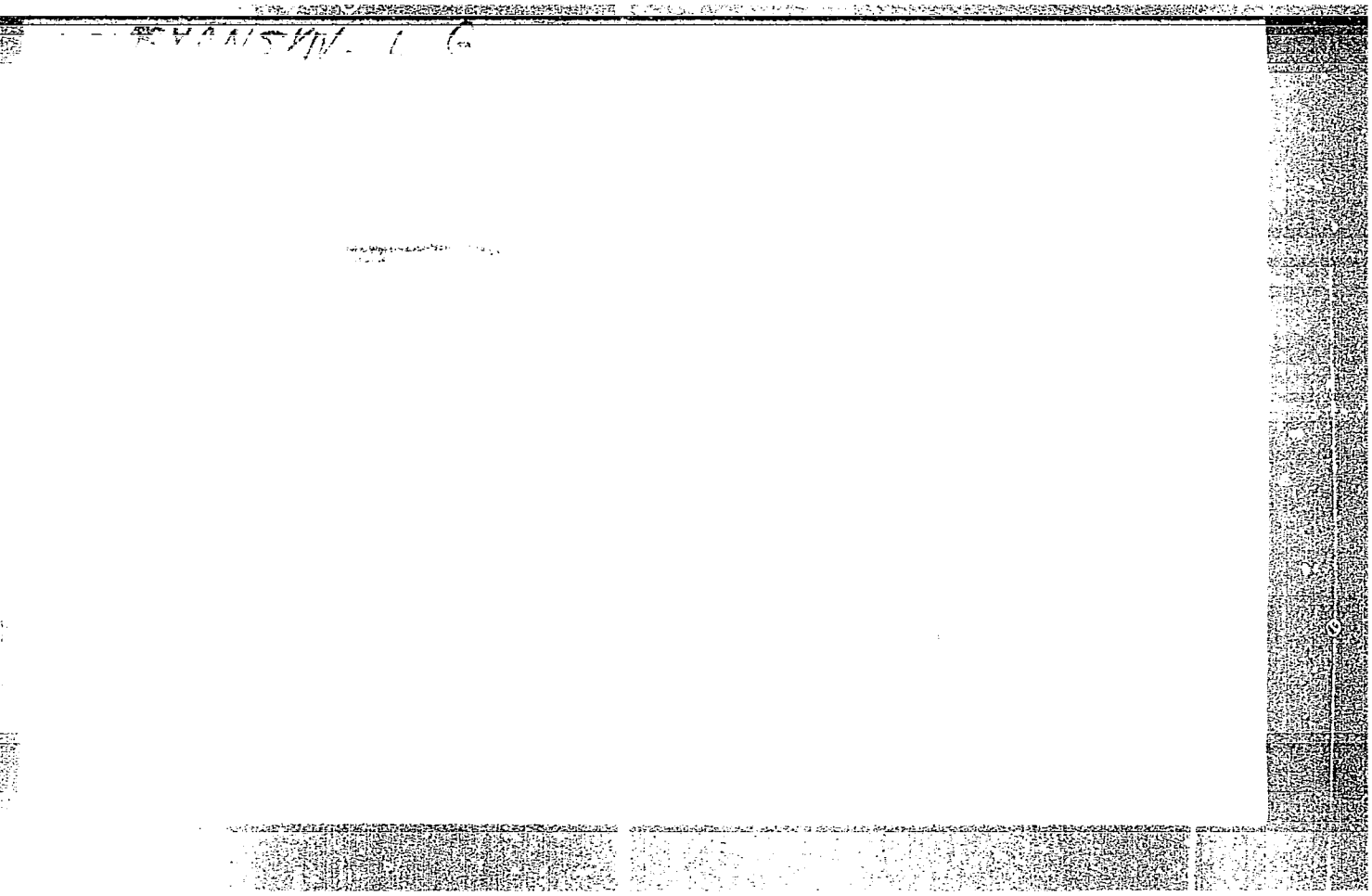


F

M

309/ SOME PORBLEMS IN "HYDROAERODYNAMICS" OF TURBINE AND COMPRESSOR PARTS. Loitsyanskiĭ, L. G. (Kotloturbostroenie (Boiler and Turbine Manufacture), Oct. 1947, 14-17).

Proposes a new formula for computation of losses in pressure in stationary and moving parts of turbines and compressors. The problem of the determination of such losses may be reduced to computation of certain values characterising boundary flow on the surfaces of the parts.



slight nonhomogeneity, [illegible] cross section

Source: Mathematical Reviews, 1948, Vol 9, No. 3

Loytsyanskiy, L. G.

LOYTSYANSKII, L. G., and A. I. LUR'E.

Kurs teoreticheskoi mekhaniki. Tom 1: Statika i kinemekhanika. Tom 2: Dinamika. Izd. 4, dop. i perer. Dopushcheno v kachestve ucheb. posobiia dlia vysshikh tekhn. ucheb. zavedenii. Leningrad, Gostekhizdat, 1948. 2 v., diagrs.

Title tr.: A course of theoretical mechanics. v. 1: Statics and kinematics; v. 2: Dynamics. Approved as a textbook for schools of advanced technical studies.

QA805.L63 1948

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

LOYTSYANSKIY, L. G.

"Certain Data Concerning Seismotectonics of the Crimea," Byul. Mosk. Obshch. Ispytat. Prirody, Otdel Geol., 22, No. 3, 1947

KACHANOV, L.M.; LUR'YE, A.I., prof., red.; LOYTSYANSKIY, L.G., prof., red.; DZHANELIDZE, G.Yu., red.; VOLCHOK, K.M., tekhn. red.

[Mechanics of plastic media] Mekhanika plasticheskikh sred. Leningrad, Gos. izd-vo tekhniko-teoret. lit-ry, 1948. 215 p. (MIRA 11:7)
(Deformations (Mechanics)) (Elastic solids)

LOITSIANSKII, L. G.

LOITSIANSKII, L. G., and A. I. LUR'E.

Kurs teoreticheskoi mekhaniki. Izd. 4., dop. i perer. Dopushcheno v kachestve ucheb. posobiia dlia vysshikh tekhn. ucheb. zavedenii. Leningrad, Gostekhizdat lit-ry, 1948. 2 v., diagrs.

Title tr.: A course of theoretical mechanics. Approved as a textbook for schools of advanced technical studies.

Contents: v. 1. Statika i kinematika. (Statics and kinematics.) v. 2. Dinamika. (Dynamics.)

QA805.L63 1948

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

LOYTSYANSKIY, L. G.

"Earthquakes," Nauka i Zhizn', No. 11, 1948.

LOYTSYANSKIY, L.G.

33898. Priblizhyennyy Myetod Integrirovaniya Uravnyeniy Laminarnogo Pograniyanogo Sloya V Nyeszhimayemom Gazye. Prikl. Matyematika I Myekhanika, 1949, VYP 5, C. 513-24 — Bibliogr: 11 nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 46, Moskva, 1949.

LOITSIANSKII, L. G.

Soprotivienie reshetki profilei v gazovom potoke s dokriticheskimi skorostiami. (Prokladnaia matematika i mekanika, 1949, v. 8, no. 2, p. 171-186, diagrs., bigliography)

Title tr.: Resistance of cascade of airfoils in gas flow at subsonic velocity.

QA801. P7 1949

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955.

LOYTSYANSKIY, L. G.

PA 42/49T31

USSR/Engineering
Wing Theory
Flow, Three-Dimensional

Mar/Apr 49

"Generalization of Zhukovskiy's Formula in the Case of a Profile Section, Streamlined by a Compressible Gas at Subsonic Speeds," L. G. Loytsyanskiy, Leningrad, Inst of Mech, Acad Sci USSR, Leningrad Polytech Inst, 8 pp

"Priklad Matemat i Mekh" Vol XIII, No 2

Proves that for precritical Mach numbers, Zhukovskiy's formula may be used for the case of a section streamlined by a compressible gas only if the value of density is understood to be the average arithmetic

42/49T31

USSR/Engineering (Contd)

Mar/Apr 49

value of gas densities to infinity in front of and behind the section. Result may be useful in section design, particularly in solving the problem of section resistance, when it is necessary to isolate the lifting force from the total force determined according to theory of impulses. Submitted 29 Jan 48.

42/49T31

LOITSYANSKIY, L. G.

PA 42/49T30

USSR/Engineering — Mar/Apr 49
Flow, Three Dimensional
Wing Theory

"Resistance of a Profile Section in a Gaseous Flow at Precritical Speeds," L. G. Loitsyanskiy, Inst of Mech, Acad Sci USSR, Leningrad Polytech Inst, 16 pp

"Priklad Matemat i Mekh" Vol XIII, No 2

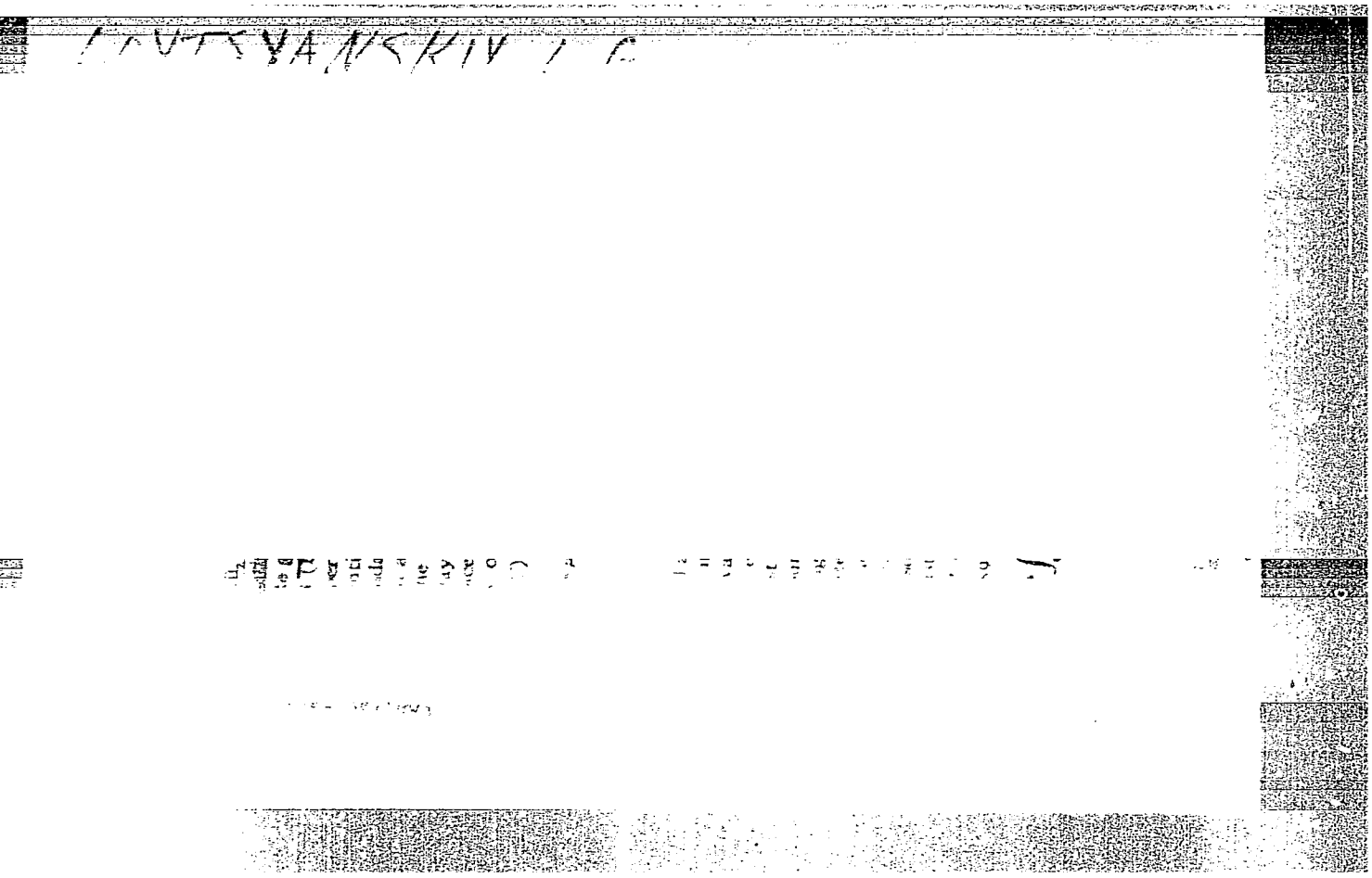
Presents method to calculate air resistance of airfoil profiles moving through a viscous compressible gas. Central point in the study is assumption of weak-flow heterogeneity in a cross section of the aerodynamic track of the section where boundary layers converging

42/49T30

USSR/Engineering (Contd) — Mar/Apr 49

from separate profiles join (boundary layers are considered layers of finite thickness). This makes it possible to disregard the higher powers of small speed differences. Submitted 29 Jan 49.

42/49T30



LOYTSYANSKIY, L. G.

"Resistance of a Profile Grid in a Gas Flow at Subcritical Velocities." Prikl. Mat. i Mekh. 13(12)(1949)

LOYTSYANSKIY, L. G.

"Analitical Mechanics, Vol. 1," J. Lagrange, translated from French by V. S. Gokhman, edited and annotated by L. G. Loytsyanskiy and A. I. Lur'ye, 2d edition, 594 pp., 1950/

Loytsyanskiy, L. G.

LOYTSYANSKII, L. G.

Pogranichnyi sloi. (In: Mekhanika v SSSR za tridtsat' let, 1917-1947. Moskva, Gostekhizdat, 1950. p. 300-320)
Bibliography: p. 317-320. 70 references.
Title tr.: Boundary layer.

QA802.M4

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

LOYTSYANSKIY, L. G.

Fluid and gas mechanics , Moscow-Leningrad, Gos. Izd. Tekh-Teor. Ltd., 1950, 676 pp.

Book is based on a lecture course given at the Kalinin Institute of Technology in Leningrad. It aims to give a systematic presentation of thefundamentals of fluid mechanics, leaving applications almost completely aside.

After a historical introduction whose main features are conventional for the period up to 1900, but which hardly mentions any non-Russian work thereafter, the following topics are discussed: Chapter 1, The notion of fields and the kinematics of continuous media; chapter 2, Equations of equilibrium of continuous media; chapter 3, dynamics of ideal liquids and gases-- General theorems. These three chapters (one fifth of the book give a very solid, general account of the classical fundamental equations of fluid mechanics. Free use is made of vector notation and vector analysis.

Chapter 4, One-dimensional flow of an ideal fluid. A detailed account of one-dimensional isentropic flow of a perfect gas, and of shock waves. Chapter 5, Steady motion of a fluid--Plane motion of an incompressible fluid. After a brief discussion of three-dimensional problems author give extended presentation of plane irrotational-f flow problems, including airfoil and cascade theory and some free streamline problems in terms of the theory of functions of complex variable. Chapter 6, plane steady motion of a compressible gas. Beginning with the linearized subsonic and supersonic flow past a wavy wall, author then discusses the hodograph method, briefly describes some transonic flow patterns, discusses the characteristic network of non-linear supersonic flow in the physical plane and the hodograph and the obliq ue shock theory. The four chapters on essentially potential flow cover almost half the course. It is notable that three-dimensional supersonic linearized theory is not taken up.

LOYTSYANSKIY, L. G.

Among the papers presented by the First All-Union Conference on Aerohydrodynamics (8-13 Dec 1952) convened by the Institute of Mechanics, Academy of Sciences USSR, was:

"Propagation of a Twisted Stream in an Infinite Space, Filled by the Same Liquid" by Loytsyanskiy, L. G. (Central Aerohydrodynamics Institute)

SO: Izvestiya AN USSR, Otdeleniye Tekhnicheskikh Nauk, No. 6, Moscow, June 1953, (W-30662, 12 July 1954)

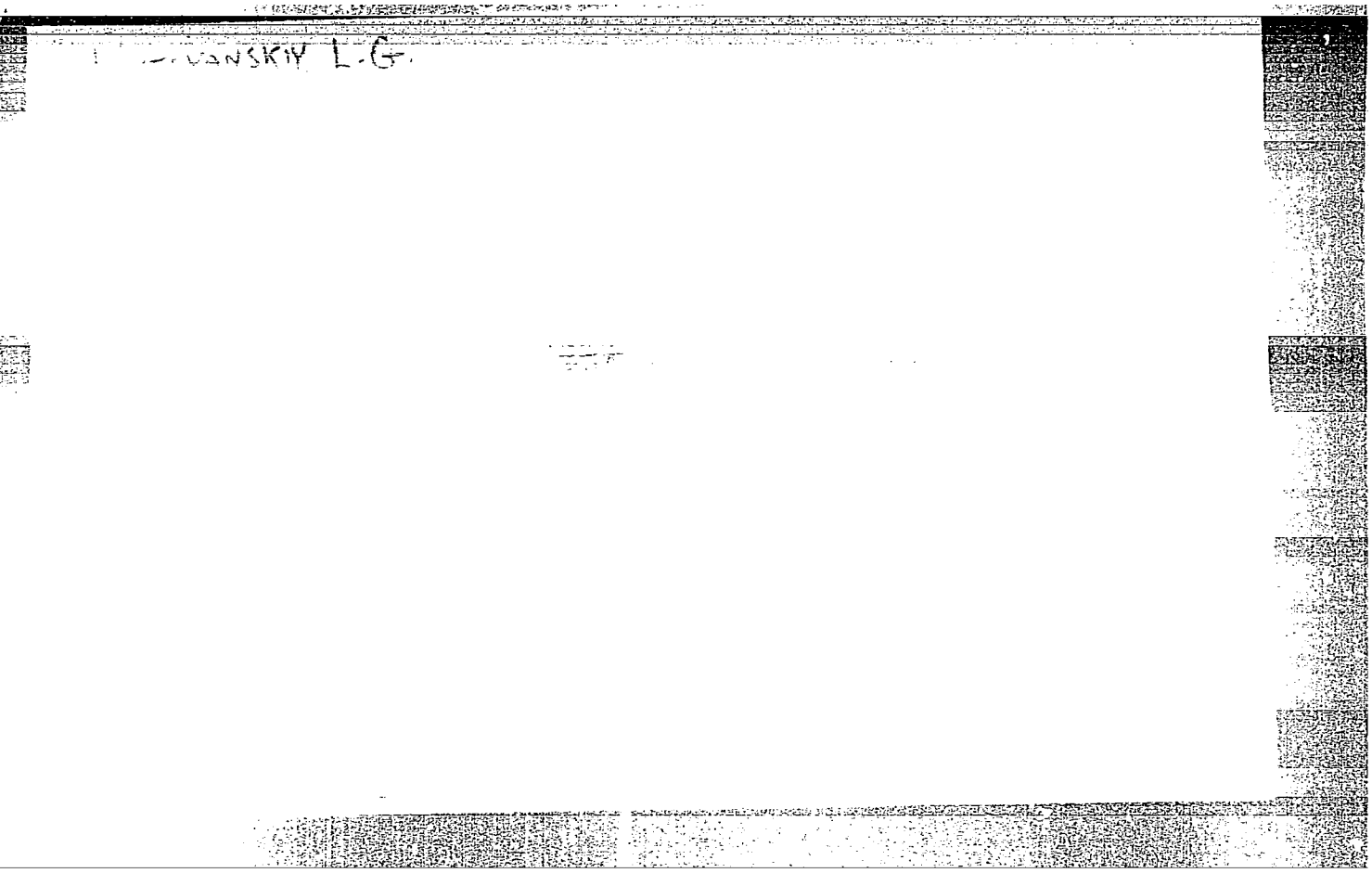
1. LOYTSYANSKIY, L. G.

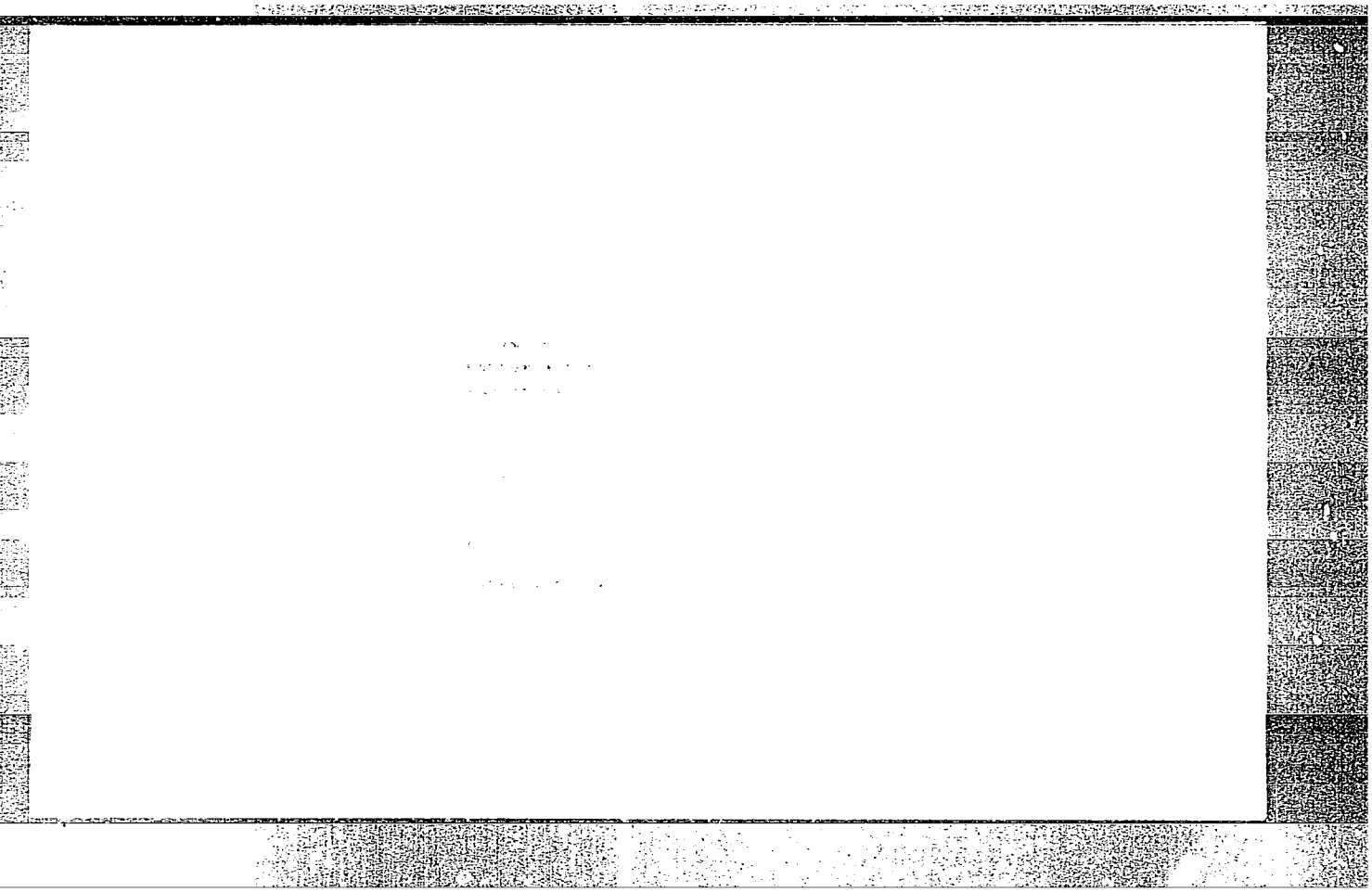
2. USSR (600)

4. Targ, S. M.

7. "Fundamental problems in the theory of laminar flow." S. M. Targ. Reviewed by L. G. Loytsyanskiy. Sov.kniga no. 11, 1952.

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





LOYTSYANSKIY, L. G.

TA 242T57

USSR/Mathematics - Hydrodynamics Jan/Feb 53

"Flow of a Twisted Stream in Boundless Space Filled by the Same Fluid," L. G. Loytsyanskiy, Leningrad Polytech Inst

"Priklad Matemat i Mekhan" Vol 17, No 1, pp 3-16

Yu. B. Rumer (ibid., 16, 2 (1952)) solved the problem for a stream, flowing with a specified discharge from a pipe of finite diam. Author solves problem for a twisted stream, expanding the velocity into series of neg powers of distances of cross sections of stream to outlet aperture. Analysis of solution indicates peculiarities of twisted stream. Received 24 Sep 52.

242T57

LOYTSYANSKIY, L-G.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 514 - I

Call No.: AF643366

BOOK
Authors: LOYTSYANSKIY, L. G. and LUR'YE, A. I.
Full Title: COURSE IN THEORETICAL MECHANICS, VOLUME I. STATICS AND KINEMATICS. Fifth revised edition
Transliterated Title: Kurs teoreticheskoy mekhaniki. T. I - Statika i kinematika

PUBLISHING DATA
Originating Agency: None
Publishing House: State Publishing House of Technical and Theoretical Literature
Date: 1954 No. pp.: 379 No. of copies: 50,000
Editorial Staff: None

PURPOSE: This is a textbook approved by the Ministry of Higher Education of the USSR for institutions of higher learning.

TEXT DATA
Coverage: This is the first volume of the fifth edition of the two-volume Course of Theoretical Mechanics. It was brought up-to-date in conformity with present requirements. Basic conceptions and the history of the development of theoretical mechanics will be found in a 37 page introduction. In this volume problems of statics and kinematics are analyzed. Vectorial algebra was omitted because it forms a part of the program of higher mathematics.

1/2

Kurs teoreticheskoy mekhaniki. T. I AID 514 - I
Statika i kinematika

No. of References: 17 in footnotes: 7 Russian, 1846-1950, 10 non-Russian, 1543-1950.
Facilities: None

2/2

LOYTSYANSKIY, L. G.

"Free and Forced Vibrations for Quadratic and Intermediate Laws of Resistance,"
Inzhenernyy sb., Vol 18, pp 139-148, 1954

The method of direct linearization of the nonlinear members of an equation is extended to cases when there are forces of resistance which depend nonlinearly upon velocity. Free and forced vibrations of a system with one degree of freedom are considered for a quadratic resistance and a resistance following a law intermediate between linear and quadratic. Numerical examples illustrate the method. (RZhMekh, No 4, 1955)

SO: Sum, No 606, 5 Aug 55

LOITSIANSKIY, L.G.

SLEZKIN, N.A.

Comment on IU.V.Rumer's remark: "The problem of a submerged jet flow" and L.G.Loitsianskiĭ's "Propagation of a twisted jet flow in an infinite space submerged in the same fluid." Prikl. mat i mekh. 18 no.6:764 N-D '54. (MLRA 8:3)

(Rumer, IU.V.)(Loitsianskii, L.G.)(Jets)

LOYTSYANSKIY, L.G.; LUR'YE, A.I.; LEVANTOVSKIY, V.I., redaktor; MURASHOVA, M.Ya., tekhnicheskiy redaktor

[Course in theoretical mechanics] Kurs teoreticheskoi mekhaniki. Moskva, Gos.izd-vo tekhniko-teoret.lit-ry, Vol.1. [Statics and kinematics] Statika i kinematika. Izd. 6-oe. 1955. 379 p. (MLRA 9:2)

(Statics) Kinematics)

LOYTSYANSKIY, L.G.; LUR'YE, A.I.; LEVANTOVSKIY, V.I., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor.

[A course in theoretical mechanics] Kurs teoreticheskoi mekhaniki. Vol.2. [Dynamics] Dinamika. Izd. 5-e, perer. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry. 1955. 595 p. (MIRA 8:4)
(Dynamics)

FD-2850

USSR/Physics - Friction

Card 1/1 Pub. 85-3/16

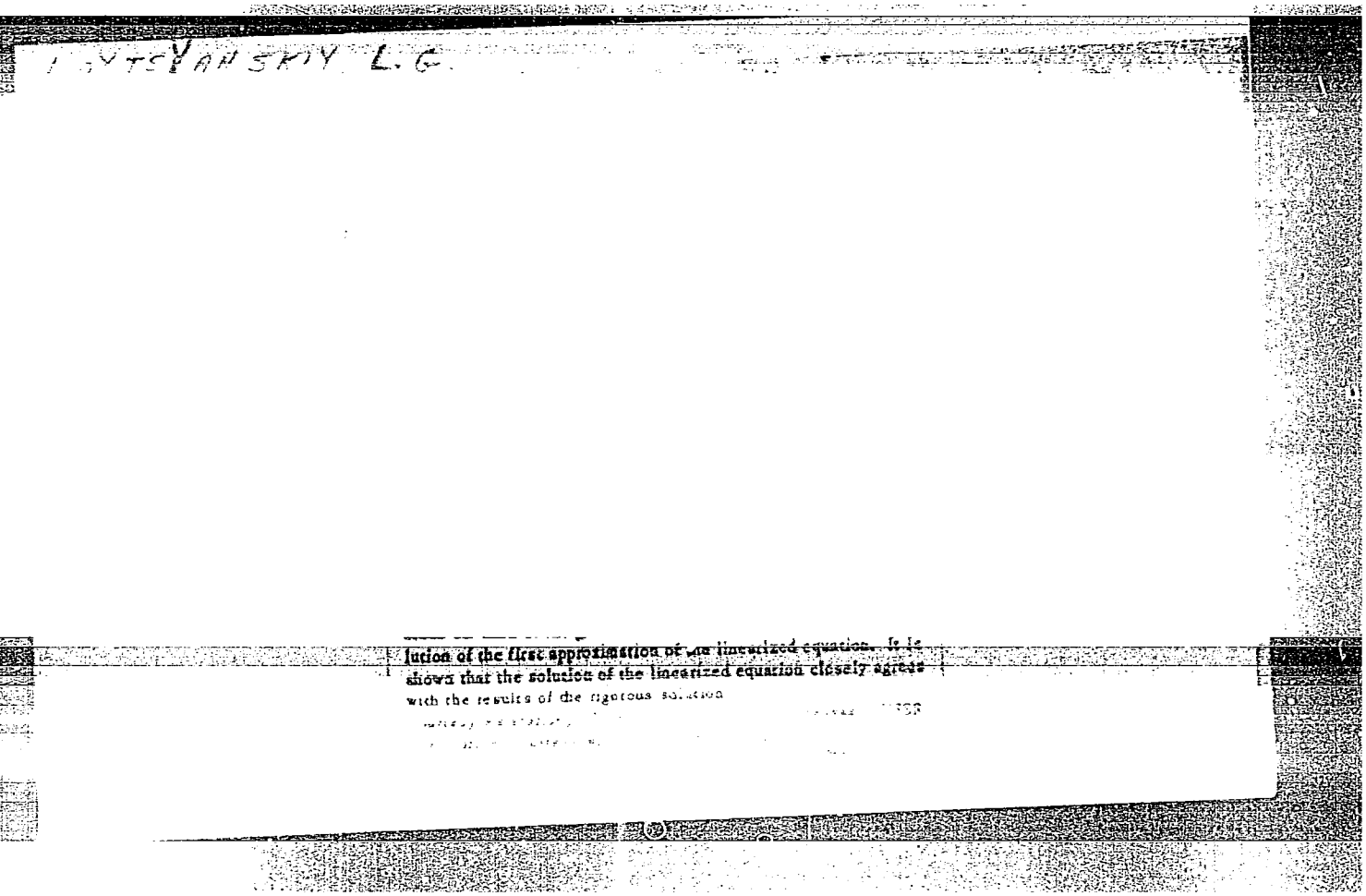
Author : Loytsyanskiy, L. G. (Leningrad)

Title : Hydrodynamic theory of the spherical bearing

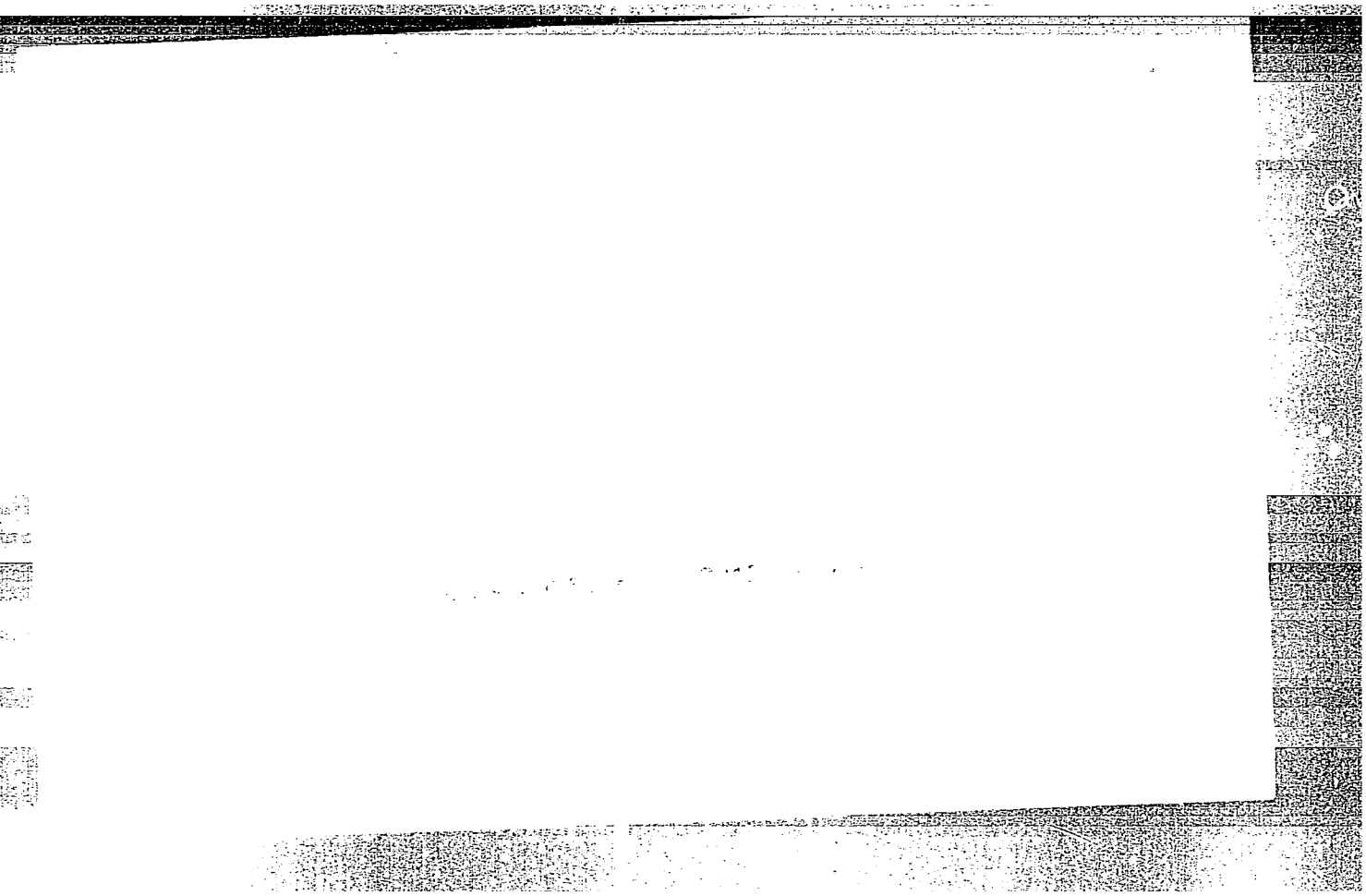
Periodical : Prikl. mat. i mekh., 19, Sep-Oct 1955, 531-540

Abstract : The author expounds an approximate solution of the problem of determining the pressures, force, and moment imposed upon a spherical body executing general motion within a spherical cavity or housing filled with a viscous liquid. The velocity of the body's forward motion and its angular velocity of rotation are assumed given constants, but the motion is considered as quasistationary. The investigation reduces to a consideration of a partial derivative equation representing a generalization of the well known equation of Reynolds-Mitchell to the case of the spatial movement of an incopressible viscous liquid in a cavity between two eccentrically disposed spheres. The solution of the equation is carried out by the Galerkin method. In G. H. Wannier's article was given the solution of the partial case ("Contribution to hydrodynamics of lubrication," Q. Appl. Math., Vol. VIII, April 1950, No 1, 1-32), where the axis of rotatiob is perpendicular to the line of centers and the forward motion of the internal sphere is absent. The present author shows that in this case the solution can be obtained in closed form. One reference.

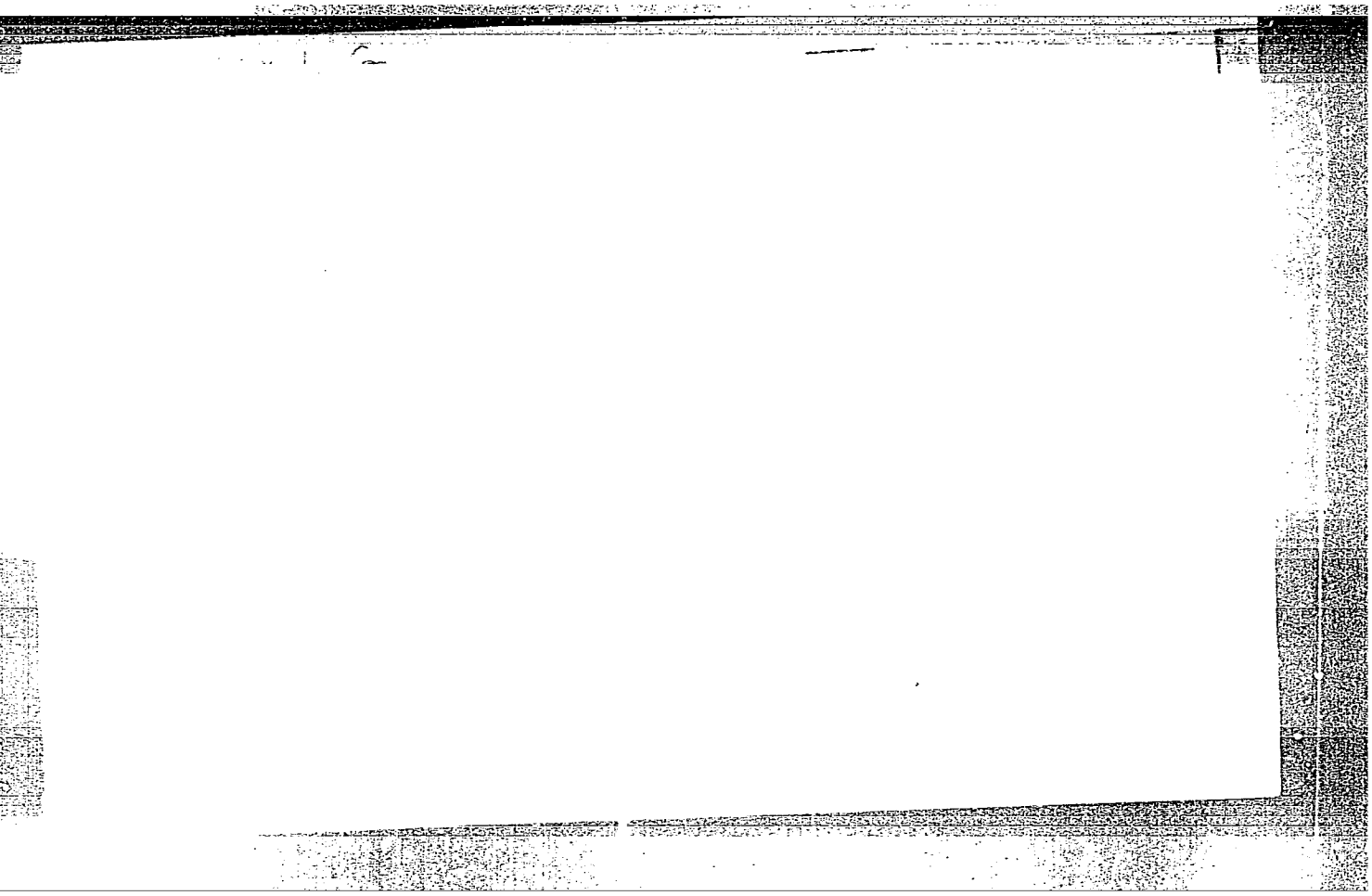
Submitted : May 28, 1955



lution of the first approximation of an linearized equation. It is shown that the solution of the linearized equation closely agrees with the results of the rigorous solution



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620011-9"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620011-9"

LOYTSYANSKIY, L. G.

PHASE I BOOK EXPLOITATION 415

Loytsyanskiy, Lev Gerasimovich

Mekhanika zhidkosti i gaza (Mechanics of Fluids and Gases) 2d ed., rev. and enl., Moscow, Gostekhizdat, 1957. 784 p. 10,000 copies printed.

Ed.: Shustov, S. N.; Tech. Ed.: Akhlamov, S. N.

PURPOSE: This book is intended as a textbook for universities and higher technical schools and has been approved by the Ministry of Higher Education of the USSR.

COVERAGE: The author points out in the preface the changes made in the second edition. A brief historic survey introduces the subject, then follows the author's treatment of the kinematics of continuous media, the general equations and theorems of motion of a continuous medium, the fundamental equations and theorems of the dynamics of ideal fluids and gases, one-dimensional flow of an ideal gas, two-dimensional irrotational flow of an ideal incompressible fluid, two-dimensional irrotational flow of an ideal gas, three-dimensional

Card ~~1/20~~ 1/2

irrotational flow of fluids and gases, dynamics of incompressible viscous fluids, turbulent flow, and the dynamics of viscous gases. The book contains 24 tables and 232 figures. A large number of bibliographic references (USSR, original and translations, American, British, German, Japanese, etc.) appear in footnotes throughout the book; the names of all authors may be found in the name index which follows the table of contents.

TABLE OF CONTENTS:

10(3,4) PHASE I BOOK EXPLOITATION SOV/3193

Leningrad. Politekhnicheskiy institut imeni M.I. Kalinina

[Trudy, no. 198] Tekhnicheskaya gidromekhanika (Industrial Hydromechanics) Moscow, Mashgiz, 1958. 220 p. Errata slip inserted. 1,500 copies printed.

Resp. Ed.: V.S. Smirnov, Doctor of Technical Sciences, Professor; Ed. of this book: L.G. Loytsyanskiy, Doctor of Physical and Mathematical Sciences, Professor; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F.I. Fetisov, Engineer; Tech. Ed.: R.G. Pol'skaya.

PURPOSE: This book is intended for engineers working in the field of machine construction.

COVERAGE: This collection of articles contains the results of original work in the field of theoretical and applied hydroaerodynamics, completed in the aerodynamics laboratory of the LPI (Leningrad Polytechnic Institute) by members of the department of theoretical mechanics. of hydroaerodynamics and the department of theoretical mechanics. The book is divided into four parts. The first part contains studies of turbine steam-exhausts. The first article gives the results of a laboratory study on model-experiments on a test-stand and the general conclusions drawn therefrom. The second part contains articles on the theory of laminar and turbulent motion of a viscous fluid. The articles treat the hydrodynamic theory of friction in bearings and suspensions, boundary layers and jets, the initial part of a pipe in the presence of vortex, and the motion of air under the action of a corona conductor. The articles in the third part belong to the field of applied hydrodynamics. One of the articles is a theoretical and experimental study of flow around the parts of a radar antenna. The second article contains the results of aerodynamical analyses of fish-net models. The fourth part of the book contains the results of laboratory experiments on establishing new methods of aerodynamical measurements (friction forces on the surface of a streamlined body, pressure distributions in nonstationary flows). References accompany individual articles.

Loytsyanskiy, L.G.

3-58-4-7/34

AUTHOR: Loytsyanskiy, L.G., Professor, Doctor of Physico-Mathematical Sciences, Lur'ye, A.I., Professor, Doctor of Technical Sciences

TITLE: Suggestions Which Deserve Support (Predlozheniya, kotoryye zasluzhivayut podderzhki)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 4, p 26 (USSR)

ABSTRACT: With reference to the preceding article, of Professor A.A. Kosmodem'yanskiy, the authors confirm that there is a tendency to cut the general course in theoretical mechanics, especially in the electro-engineering and radio-engineering fields. Though they agree with him in many respects, they still regard Kozmodem'yanskiy's suggestions as being somewhat biased.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinin)

AVAILABLE: Library of Congress

Card 1/1

LOYSTSYANSKIY, L.G. (Leningrad)

Locality hypothesis for turbulent motion of viscous fluids. Prikl. mat. i mekh. 22 no.5:600-611 S-O '58. (MIRA 11:11)
(Fluid dynamics)

SOV/51-28-10-37/40

24(0)
AUTHORS: Loytsyanskiy, L. G., Paleyev, I. I., Tuchkevich, V. M.

TITLE: A New Periodical on Technical Physics (Novyy zhurnal po tekhnicheskoy fizike)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, Vol 28, Nr 10, pp 2348-2349, (USSR) 1958

ABSTRACT: The Academy of Sciences, Belorusskaya SSR, publishes a new monthly periodical since the beginning of this year (1958). It is a journal of technical physics - "Inzhenerno-fizicheskiy zhurnal", which is destined to spread the knowledge of results of scientific physical research in practical engineering quarters. The two numbers of the periodical which have hitherto been published fully comply with this program. In Nr 1 of this periodical this article is contained: A. V. Ivanov and V. S. Yermolov present applications of operational calculus to the solution of the telegraph equations which are important for problems of mathematical physics. In Nr 2 a paper by A. V. Ivanov presents an approach to the solution of heat conduction problems by similar methods. A. I. Veynik presents a comparatively simple method of an approximative integration of heat conduction equations. P. P. Yushkov and L. I. Loginov demonstrate,

Card 1/4

A New Periodical on Technical Physics

how it is possible to achieve a considerably increased precision of the methods of numerical integration of heat conduction equations by introducing additional nodes in the space network. N. S. Koshlyakov presents a calculation of definite integrals according to the method of mechanical quadratures. The greater part of the papers in the first two numbers of the periodical concerns problems of the hydrodynamics of heat exchange and of combustion. In Nr 1 of the periodical novel formula obtained on the basis of experimental experience specifying the drag of the flow through rough tubes is recommended by G. K. Filonenko. B. V. Kantorovich and A. P. Finyagin presented an approach to problems of the influence of an air excess on the combustion processes of powdered fuel and in particular on the expansion of the combustion zone. S. A. Gol'denberg presents a number of critical remarks on the modern theories of flame expansion in a turbulent flow and suggests an approximation method of computing the dimensions of the combustion zone. F. M. Polonskaya (a woman) and I. V. Mel'nikov investigate the possibility of a better approximation in a quantitative sense of the formulae for the heat transfer from bodies of different shape to surrounding gas flows by introducing the square root from the body

A New Periodical on Technical Physics

surface, as a characteristic length, into the condition of similarity, A. A. Polushkin approached the same problem for the case of a problem of internal flow. The short notes by M. G. Murashko and V. P. Yablonskaya (a woman) fall to the same category of problems. These notes present information concerning problems of soil freezing and of the heat exchange in soils. The note by Yu. A. Mikhaylov is also pertinent to this field, dealing with convection drying, as well as that by V. V. Shibanovas, concerning the drag of granular layers. B. A. Grigor'yev and S. N. Fomichev present the theory of the method of determining optical coefficients of technical materials with the help of an albedometer. F. I. Fedorov deals with the problem of the reflection and the refraction of light in two-axial crystals. A. M. Samson utilizes the principle of invariants and thus finds approximation formulae for the angular distribution of the resonance radiation originating from a plane parallel slab. A. M. Kripskiy finds some rules governing the evaporation of the electrode material in light sources of spectroscopic apparatus as dependent upon the electrode shape and -material. Besides these papers, others are published in this periodical, of which N. S. Svetitskiy, Z. I. Shlepkov, I. A. Kopopel'ko,

A New Periodical on Technical Physics

L. I. Tkachov, and D. Ya. Rastskaya are the authors. The periodical also incorporates items of "Critical Reviews and Bibliography", "From Abroad", and "Chronicle".

SUBMITTED: July 10, 1958

Card 4/4

LOYTSYANSKIY, L.G.; STEPANYANTS, L.G.

Hydrodynamic theory of a suspended sphere. Trudy LPI no.198:89-98 '58. (MIRA 12:12)

(Lubrication and lubricants)
(Hydrodynamics)

VORONKOV, I.M., prof.; GERNET, M.M., prof.; DOBRONRAVOV, V.V., prof.; KOSMODEM'YANSKIY, A.A., prof.; LOYTSYANSKIY, L.G., prof.; SVESHNIKOV, G.N., prof.; SLOBODYANSKIY, M.G., prof.; YABLONSKIY, A.A., prof.; POGOSOV, G.S., dotsent

[Program in theoretical mechanics for majors in machinery designing, mechanics, instrument designing, electrical engineering, and construction at advanced technical institutions (220 hours)] Programma po teoreticheskoi mekhanike dlia mashinostroitel'nykh, mekhanicheskikh, priborostroitel'nykh, elektrotekhnicheskikh i stroitel'nykh spetsial'nostei vysshikh tekhnicheskikh uchebnykh zavedenii (220 chasov). Moskva, Gos.izd-vo "Vysshaia shkola," 1959. 10 p. (MIRA 13:2)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya. (Mechanics, Analytical)

LOYTSYANSKIY, L. G.

"Sur l'Action Reciproque de la Transmission Moleculaire et Molaire dans l'Ecoulement Turbulent."

report to be submitted for the Intl. Council of the Aeronautical Sciences, Second International Congress, Zurich, Switzerland, 12-16 Sep 60.

82491
S/040/60/024/04/05/023
C 111/ C 333

24.5200

AUTHOR: Loytsyanskiy, L. G. (Leningrad)

TITLE: Heat Transfer in Turbulent Motion

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol. 24, No. 4, pp. 637-646

TEXT: After a survey on the development of the theory of heat transfer in turbulent motion the author starts from his former investigations (Ref. 18, 19). In order to be able to use the local hypothesis of turbulent transfer, even when the interaction between molecular and molar processes cannot be neglected, the author introduces the local Reynold number R. For the real turbulent friction stress τ in (Ref.19) the relation

$$\tau = \rho \frac{du}{dy} f(R)$$

has been set up, the form of f(R) was approximately composed of an hyperbolic and a straight line piece from intuitive considerations. Now the author gives the following form

$$(2.20) \quad f(R) = 1 + R \left[1 - \left(1 + \frac{\alpha}{s} R \right)^{-s} \right] ,$$

Card 1/2

82491

S/040/60/024/04/05/023
C 111/ C 333

Heat Transfer in Turbulent Motion

where $\alpha = \left[\frac{n}{\varkappa}\right]^4$, n = 0.124, while s must be experimentally determined. For small R he gives simultaneously: $f(R) = 1 + \alpha R^2$ and for large R

(2.9) $f(R) \sim R + 1$.

The results are used for extending the Karman theory to the domain of high Prandtl numbers P. The author gives new asymptotic formulas for the Karman function g(P) and for Stanton numbers S, e. g.:

(3.18) $g(P) \sim 8.97\, P^{3/4} + 6.26 - \frac{22.4}{P^{1/4}} + O(P^{-1})$.

The author mentions Bakhmet'yev, S. S. Kutateladze, V. M. Borishanskiy, J. J. Novikov, O. S. Fedgnskiy, V. G. Levich, P. L. Kapitsa and L. D. Landau.

There are 22 references: 5 Soviet, 5 German, 4 English, 7 American and 1 Italian.

SUBMITTED: April 6, 1960

Card 2/2

LOITSYANSKIY, L.G.; LAPIN, Yu.V.

Using the Karman method in calculating the turbulent boundary layer on a plate in a gas flow. Trudy LPI no.217:7-16 '61. (MIRA 15:3)

(Boundary layer)

39050
S/124/62/000/007/015/027
D234/D308

24.4300

AUTHORS: Loytsyanskiy, L. G. and Lapin, Yu. V.

TITLE: Use of Karman's method for calculating the turbulent boundary layer on a plate in a gas stream

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 7, 1962, 74, abstract 7B497 (Tr. Leningr. politekhn. in-ta, 1961, no. 217, 7-16)

TEXT: Using Karman's formula for turbulent tangential friction stress and assuming the friction stress and the heat flow across the boundary layer to be constant, the authors calculate the friction coefficient on the plate, situated in a stream of compressible gas when Prandtl's number is equal to 1. It was found that the ratio of the coefficients of friction of compressible and incompressible stream depends weakly on Reynolds' number R for large values of R and Mach numbers M larger than 10. Calculation is compared with experiment. [Abstracter's note: Complete translation.]

Card 1/1

Loytsyanskiy, L.G.

PHASE I BOOK EXPLOITATION SOV/6201

Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 1st, Moscow, 1960.

Trudy Vsesoyuznogo s"yezda po teoreticheskoy i prikladnoy mekhanike, 27 yanvarya -- 3 fevralya 1960 g. Obzornyye doklady (Transactions of the All-Union Congress on Theoretical and Applied Mechanics, 27 January to 3 February 1960. Summary Reports). Moscow, Izd-vo AN SSSR, 1962. 467 p. 3000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Natsional'nyy komitet SSSR po teoreticheskoy i prikladnoy mekhanike.

Editorial Board: L. I. Sedov, Chairman; V. V. Sokolovskiy, Deputy Chairman; G. S. Shapiro, Scientific Secretary; G. Yu. Dzhanelidze, S. V. Kalinin, L. G. Loytsyanskiy, A. I. Lur'ye, G. K. Mikhaylov, G. I. Petrov, and V. V. Rumyantsev; Resp. Ed.: L. I. Sedov; Ed. of Publishing House: A. G. Chakhirev; Tech. Ed.: R. A. Zamarayeva.

Card 1/ 6

PURPOSE: This book is intended for scientific and engineering personnel who are interested in recent work in theoretical and applied mechanics.

COVERAGE: The articles included in these transactions are arranged by general subject matter under the following heads: general and applied mechanics (5 papers), fluid mechanics (10 papers), and the mechanics of rigid bodies (8 papers). Besides the organizational personnel of the congress, no personalities are mentioned. Six of the papers in the present collection have no references; the remaining 17 contain approximately 1400 references in Russian, Ukrainian, English, German, Czechoslovak, Rumanian, French, Italian, and Dutch.

TABLE OF CONTENTS:

SECTION I. GENERAL AND APPLIED MECHANICS

LOYTSYANSKIY, L. G.,

"Nearly Self-Similar Boundary Layer Flow"

report presented at the Sixth Symposium on Advanced Problems in Fluid Mechanics, Zakopane, Poland, 2-6 Sep 63

LOYTSYANSKY, L.G. (Leningrad)

"Modern analytical methods of the laminar boundary layer theory".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

LOYTSYANSKIY, L. G.

"On the parametric method in the theory of the limited laminar bed."

report submitted for 11th Intl Cong of Theoretical & Applied Mechanics & General Assembly, Munich, 30 Aug-5 Sep 64.

NR: AT5015706

[illegible] L. G. [illegible]

[illegible] parametric method [illegible] boundary-layer

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 24 [illegible] gidrogazodinamika (Theoretical gas hydrodynamics), 1964

TOPIC TAGS: boundary layer, laminar boundary layer, boundary layer [illegible], one parameter method, boundary layer equation

[illegible] new method of integrating the equations of a laminar [illegible] layer is [illegible] between the numerical and analytical methods. The generalized [illegible] of integrating [illegible] equation in terms

ameters which express the effect of velocity distribution on
interface of the boundary layer, a preliminary numerical
the universal equation carried out on a
friction coefficient, and the other and certain properties
boundary layer in relation to its nondimensional lateral co-
and several (practically, one or two) form parameters;
such tables, particular
parameters will make the method more exact. A universal nonlinear
layer partial differential equation containing
is derived and the
its values, their
and discussed.
prepared for a two-parameter solution. The solution of the general
universal boundary-layer equation by expansion in series of the stream

Card 2/3

L 57791-65

ACCESSION NR: AT5015706

function and of the basic boundary-layer quantities in powers of form parameters is also presented. As an example, the results of an analysis by the proposed method of a boundary layer with sinusoidal velocity profile on its outer surface are presented in diagrams and are discussed; [illegible] data of an exact solution obtained by R. M. Terrill are also plotted in these diagrams; the corresponding curves obtained by the approximate and exact methods almost coincide. Orig. art. has: 6 figures, 2 tables, and 28 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ME

NO REF SOV: 004 OTHER: 00+ ATD PRESS: 4[illegible]

Card 3/3

ACCESSION NR: AT4041812 S/2563/64/000/230/0059/0069

AUTHOR: Loytsyanskiy, L. G.

TITLE: Motion in the boundary layer close to self similarity

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 230, 1964. Tekhnicheskaya gidromekhanika (Technical hydromechanics), 59-69

TOPIC TAGS: boundary layer, self similar solution, continuation problem, hydromechanics, self similarity, Falkner transformation, laminar isothermal flow

ABSTRACT: A method for studying the motion of the boundary layer in an incompressible liquid at the limit of a self similar solution is presented and some shortcomings of the previous calculations are overcome. The general deficiency of the self similar method is that solutions which are valid in certain intervals close to the given point at the surface of a body cannot be coupled to the solutions in the neighboring intervals. The method presented here yields an approximiate solution to the "continuation" problem. The general equation of liminar isothermal flow of an incompressible liquid in the boundary layer is given by

$$\left.\begin{aligned} &\frac{\partial\psi}{\partial y}\cdot\frac{\partial^2\psi}{\partial x\partial y}-\frac{\partial\psi}{\partial x}\cdot\frac{\partial^2\psi}{\partial y^2}=U\frac{dU}{dx}+\nu\frac{\partial^3\psi}{\partial y^3};\\ &\psi=\frac{\partial\psi}{\partial y}=0 \text{ при } y=0,\ \frac{\partial\psi}{\partial y}\to U(x) \text{ при } y\to\infty \end{aligned}\right| \quad (1)$$

Card 1/5

ACCESSION NR: AT4041812

After Falkner transformation, the solution in series form is given by

$$\varphi(x, \eta) = \varphi_0(\eta) + \gamma_1(x)\varphi_1(\eta) + \gamma_1^2(x)\varphi_{11}(\eta) + \gamma_2(x)\varphi_2(\eta) + \gamma_1^3(x)\varphi_{111}(\eta) + \gamma_1(x)\gamma_2(x)\varphi_{12}(\eta) + \gamma_3(x)\varphi_3(\eta) + \ldots \quad (2)$$

$$\varphi(x, \eta) = e_0(\eta) + e_1(x)e_1(\eta) + e_1^2(x)e_{11}(\eta) + e_2(x)e_2(\eta) + e_1^3(x)e_{111}(\eta) + e_1(x)e_2(x)e_{12}(\eta) + e_3(x)e_3(\eta) + \ldots \quad (3)$$

The author generalizes the Falkner transformation. After some affine transformation, he then presents the final form for the flow function as

$$\frac{\partial^3\Phi}{\partial\xi^3} + \frac{P+2f}{2B^2}\Phi\frac{\partial^2\Phi}{\partial\xi^2} = \frac{f}{B^2}\left[\left(\frac{\partial\Phi}{\partial\xi}\right)^2 - 1\right] + \frac{fU'}{B^2U}\left(\frac{\partial\Phi}{\partial\xi}\frac{\partial^2\Phi}{\partial x\partial\xi} - \frac{\partial\Phi}{\partial x}\frac{\partial^2\Phi}{\partial\xi^2}\right); \quad (4)$$

$$\Phi = \frac{\partial\Phi}{\partial\xi} = 0 \text{ при } \xi = 0, \quad \frac{\partial\Phi}{\partial\xi} \to 1 \text{ при } \xi \to \infty$$

Card 2/5

which is solved in the form of the power series given by

$$\Phi(x, \xi) = \Phi_0(\xi) + \tilde{\gamma}_1(x)\Phi_1(\xi) + \tilde{\gamma}_1^2(x)\Phi_{11}(\xi) + \tilde{\gamma}_2(x)\Phi_2(\xi) + \\ + \tilde{\gamma}_1^3(x)\Phi_{111}(\xi) + \tilde{\gamma}_1(x)\tilde{\gamma}_2(x)\Phi_{12}(\xi) + \tilde{\gamma}_3(x)\Phi_3(\xi) + \ldots \quad (5)$$

and distributed in parameters $\tilde{\gamma}_K(x)$ given by

$$\tilde{\gamma}_k(x) = x^k f^{(k)}(0), \quad k = 1, 2, \ldots \quad (6)$$

By expansion, the system of ordinary differential equations given by

$$\ddot{\Phi}_0 + \Phi_0\dot{\Phi}_0 = \beta(\dot{\Phi}_0^2 - 1);$$
$$L_k(\Phi_{ij\ldots}) = -\frac{F_{ij\ldots}}{2\beta} - \Phi_0\dot{\Phi}_0 + \Gamma_{ij\ldots}; \quad k = i + j + \ldots; \quad (7)$$
$$i, j, \ldots > 0;$$
$$L_k = D^2 + \Phi_0 D^2 - [2k + (2 - k)\beta]\Phi_0 D + (2k + 1 - k\beta)\dot{\Phi}_0;$$
$$\left(D = \frac{d}{d\xi}\right);$$
$$\Phi_0 = \dot{\Phi}_0 = 0 \text{ при } \xi = 0, \quad \dot{\Phi}_0 \to 1 \text{ при } \xi \to \infty,$$
$$\Phi_{ij\ldots} = \dot{\Phi}_{ij\ldots} = 0 \text{ при } \xi = 0, \quad \dot{\Phi}_{ij\ldots} \to 0 \text{ при } \xi \to \infty.$$

ACCESSION NR: AT4041812

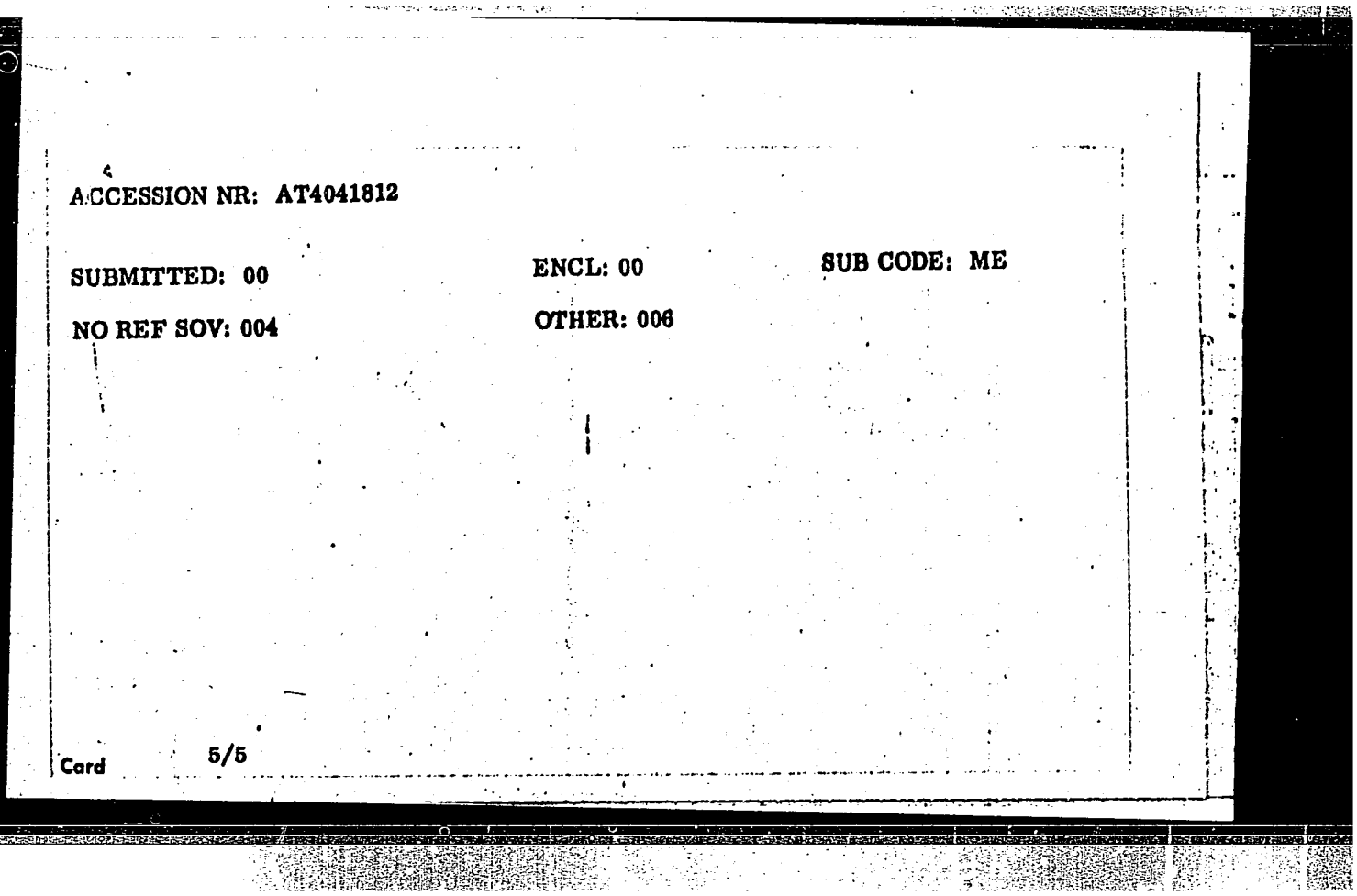
is then obtained. The first of these is nonlinear and represents the Hartree equation. The remaining equations are ordinary differential equations whose solution is sought in the form of a sum given by

$$\Phi_{ij\ldots}(\xi) = X_{ij\ldots}(\xi) + F_{ij}\ldots Y_{ij\ldots}(\xi). \qquad (8)$$

It is shown that the unknown function $\Phi_{ij}(\xi)$ can always be calculated and tabulated. The investigation of the parameters $\tilde{\gamma}_K(x)$ is reduced to the determination of the consecutive derivatives of the form parameter f(x) at the point x = 0. By using the above method for the solution of the boundary layer problem, it is shown that it is possible to solve the continuation problem within the limits of the self similar solution for the adjoining boundary layer. The presented method for increasing the convergence of a series is based on the fact that by joining the members of a convergent series in certain groups, one can obtain another more rapidly converging series. Orig. art. has: 56 equations.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnical Institute)

Card 4/5



ACCESSION NR: AT4041812

SUBMITTED: 00 ENCL: 00 SUB CODE: ME

NO REF SOV: 004 OTHER: 006

Card 5/5

EWT(1)/EWP(m)/FCS(k)/EWA(1) Pd-1/Pl-4 SOD/ASD(a)-5/AFWL/AFMD(p)/
a)/APETR/APTC(b)/RAEM(d)/RAEE(d)
ACCESSION NR: AP5001255 A/0033/64/Cla: 03/0597/0600

AUTHOR: Loytsyanskiy, L. G. (Leningrad)

TITLE: Near self-similar fluid motion in boundary layers

SOURCE: Archiwum mechaniki stosowanej, v. 16, no. 3, 1964, 597-600

TOPIC TAGS: boundary layer, self similar flow, potential flow, ordinary differential equation, displacement thickness / BESM computer

ABSTRACT: An expansion technique was used in terms of the momentum displacement parameter δ^{**} to solve incompressible laminar boundary layer flow problems of the Falkner-Skan-Hartree type. The governing equations were transformed using the new variables $x = x, \quad \xi = By/\delta^{**}, \quad \Phi(x, \xi) = B\psi(x, y)/(U\delta^{**})$, where B is a normalizing constant and ψ is the stream function. To obtain solutions for various values of the Falkner-Skan parameter β, the following expansion technique is employed:

Card 1/3

L 17784-65
ACCESSION NR: AP5001255

$$\Phi(x, \xi) = \Phi_0(\xi) + \Phi_1(\xi) f_1(x) + \Phi_{11}(\xi) f_1^2(x) + \Phi_2(\xi) f_2(x) + \cdots$$
$$\mathcal{F}(x) = \mathcal{F}_0 + \mathcal{F}_1 f_1(x) + \mathcal{F}_{11} f_1^2(x) + \mathcal{F}_2 f_2(x) + \cdots$$
$$\zeta(x) = \zeta_0 + \zeta_1 f_1(x) + \zeta_{11} f_1^2(x) + \zeta_2 f_2(x) + \cdots$$
$$H(x) = H_0 + H_1 f_1(x) + H_{11} f_1^2(x) + H_2 f_2(x) + \cdots$$

where $f_k(x)$ is a function of the potential flow $U(x)$ and $z^{**} = \delta^{**2}/\nu$. In particular $f_k(x)$ is represented by $f_k(x) = U^{k-1}(x)U^{(k)}(x)z^{**k}$, which leads to a set of ordinary differential equations the first of which corresponds to the nonlinear Falkner-Skan-Hartree equation and the rest are linear. These equations [illegible] numerically on the computer BESM, and the first four functions $\bar{f}_0$, $\bar{f}_1$, [illegible] tabulated with the corresponding [illegible]

$$dz^{**}/dx = 0.4405/U - 5.714U'z^{**} - 6.022[illegible] - 0.5984U'z^{**}$$

[illegible] equation [illegible] that convergence rate decreases near the [illegible] equations.

[illegible] Leningrad [illegible]

Card 2/3

L 17791-65

ACCESSION NR: AP5001255

SUBMITTED: 00

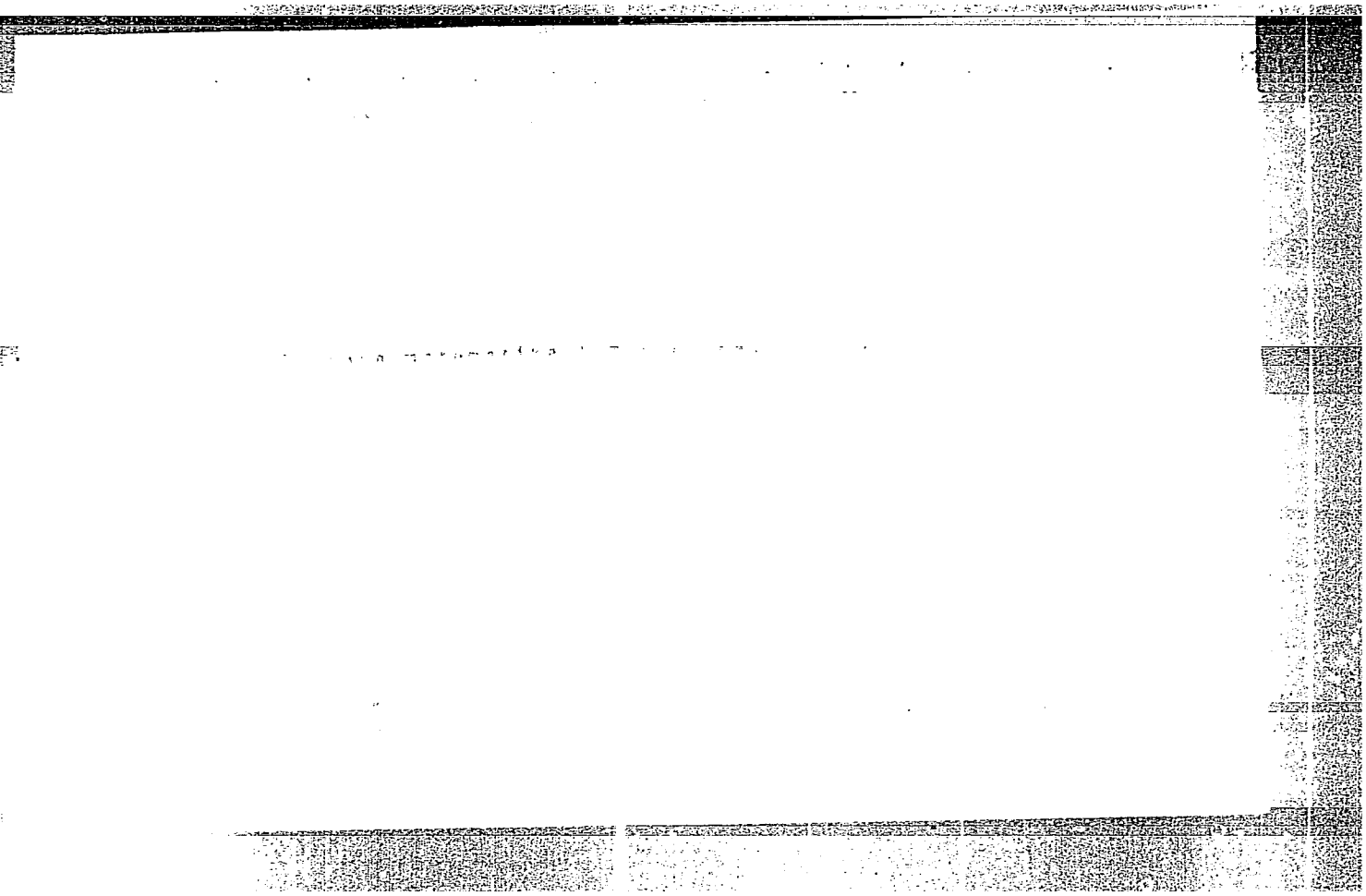
ENCL: 00

SUB CODE: ME

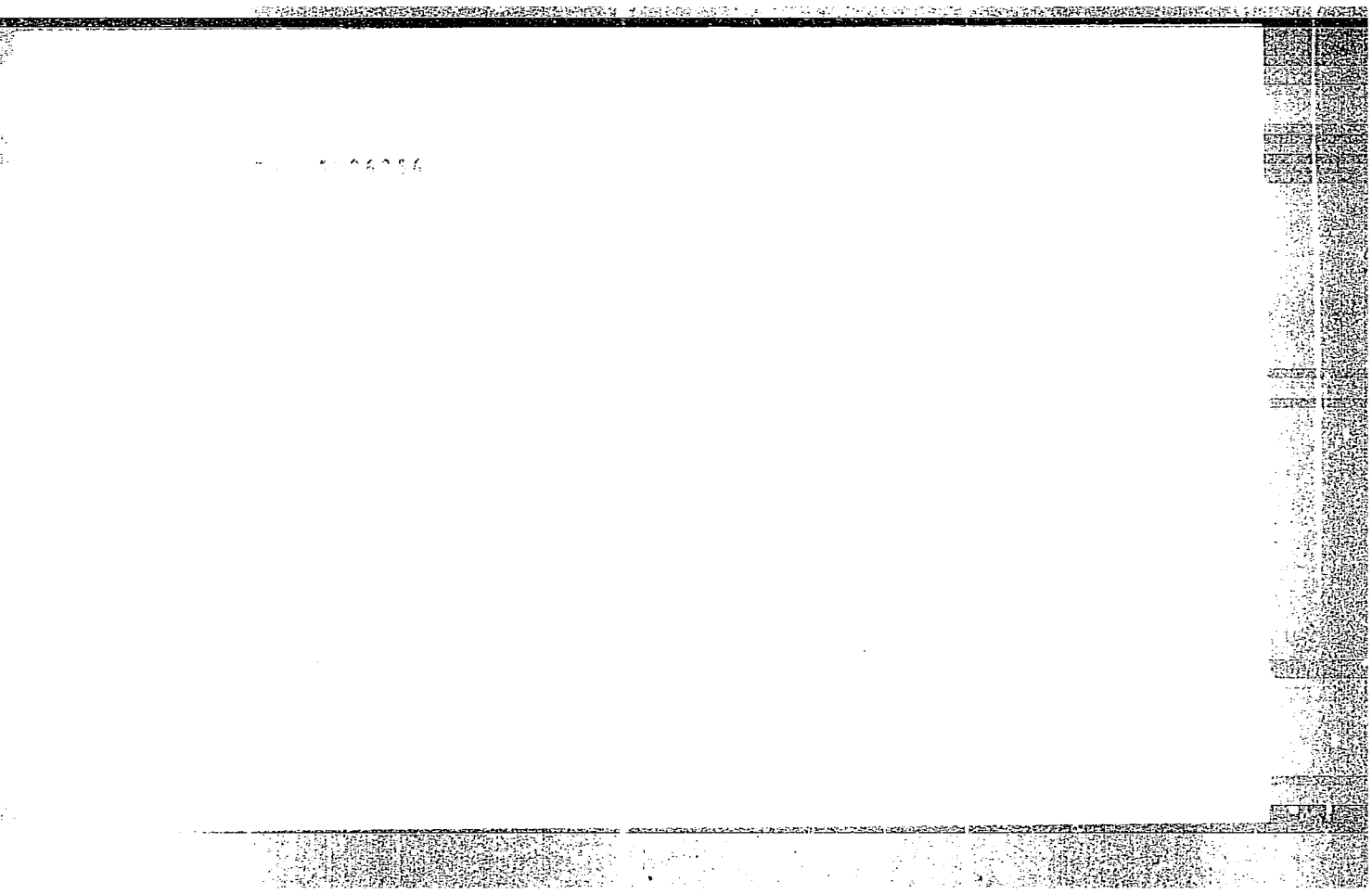
NO REF SOV: 000

OTHER: 000

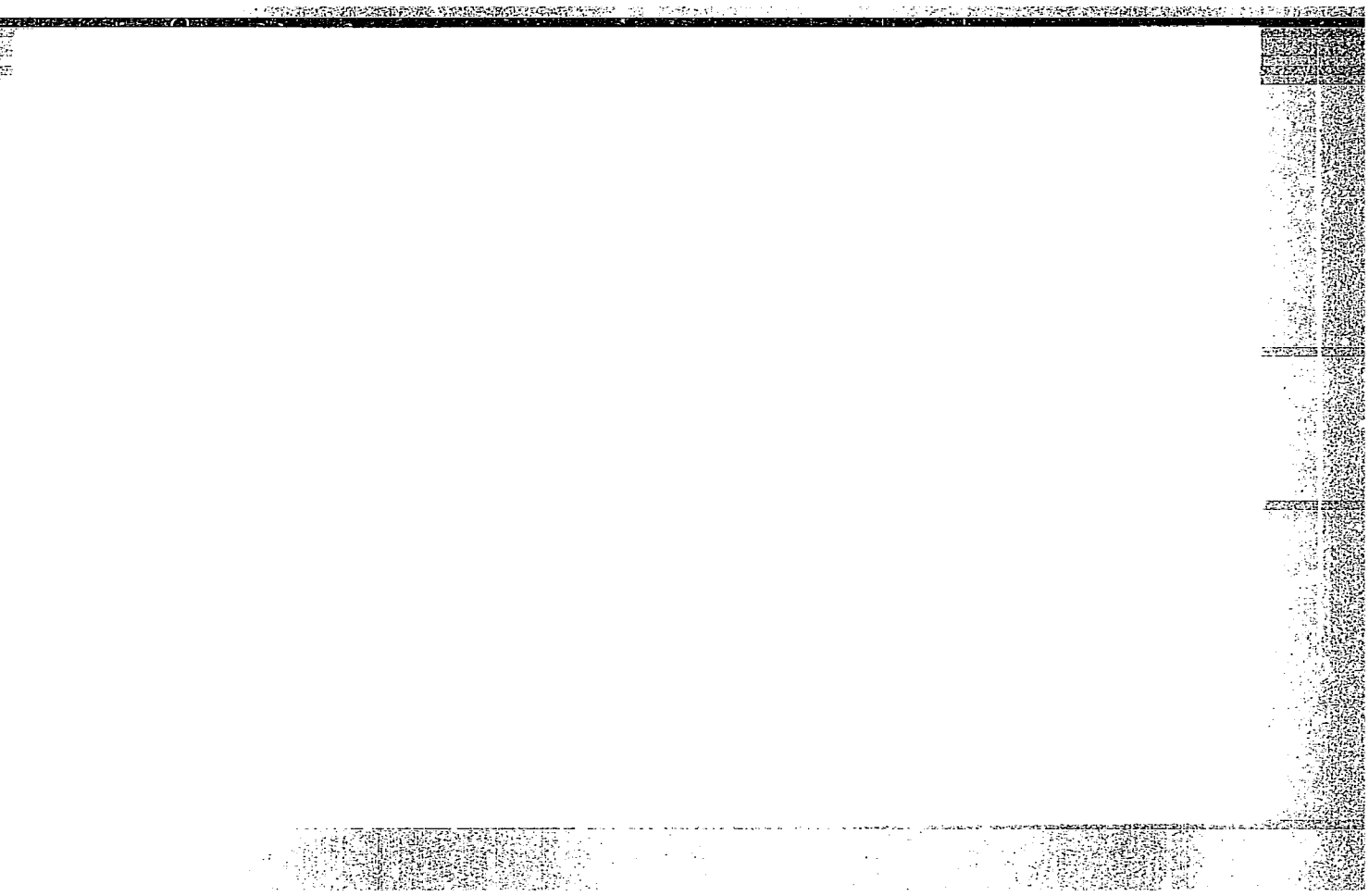
Card 3/3



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620011-9"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620011-9"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620011-9"

VVEDENSKIY, B.A., glav. red.; VUL, B.M., glav. red.; SHTEYNMAN, R.Ya., zam. glav. red.; BALDIN, A.M., red.; VONSOVSKIY, S.V., red.; GALANIN, M.D., red.; ZERNOV, D.V., red.; ISHLINSKIY, A.Yu., red.; KAPITSA, P.L., red.; KAPTSOV, N.A., red.; KOZODAYEV, M.S., red.; LEVICH, V.G., red.; LOYTSYANSKIY, L.G., red.; LUK'YANOV, S.Yu., red.; MALYSHEV, V.I., red.; MIGULIN, V.V., red.; REBINDER, P.A., red.; SYRKIN, Ya.K., red.; TARG, S.M., red.; TYABLIKOV, S.V., red.; FEYNBERG, Ye.L., red.; KHAYKIN, S.E., red.; SHUBNIKOV, A.V., red.

[Encyclopedic physics dictionary] Fizicheskii entsiklopedicheskii slovar'. Moskva, Sovetskaia Entsiklopediia. Vol.4. 1965. 592 p. (MIRA 18:1)

Loyye, N.V.

LOYYE,N.V.; LYUTOV,P.I.

Printing paper quality. Standartizatsiia no.4:66-69 Jl-Ag'55.
(MLRA 8:10)

1. Vsesoyuznyy Nauchno-issledovatel'skiy institut
(Paper--Specifications)

SOV/124-58-1-1456

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 178 (USSR)

AUTHORS: Loyye, N. V., Akivis, A. I.

TITLE: Testing Methods for Bookbinding Fabrics (Metody ispytaniy perepletnykh tkaney)

PERIODICAL: Sb. nauch. rabot. Vses. n.-i. in-t poligr. prom-sti i tekhn., 1956, Nr 7, pp 132-153

ABSTRACT: Development and verification of methods for the determination of the curling of bookbinding calico and a paper-base leatherette and the residual (linear) deformation of the calico. It is established that the curling of calico due to one-sided application of glue increases by 25% when the amount of air-dried gelatin glue changes from 42 to 28 g/m^2 and is proportional to an increase of the temperature of the dissolved glue from 20° to 45°; in comparison with the curling caused by water, the curling due to a 10% casein glue is 64% less, that due to a 40% gelatin glue is 78% less, and that due to a 50% dextrin glue is 83%. The indicators of the residual deformation (shrinkage) of calico in a transverse direction, obtained after 10 min wetting, concur fully with its production behavior during the making

Card 1/2

SOV/124-58-1-1456

Testing Methods for Bookbinding Fabrics

of binding covers, showing that a shrinkage in excess of 3% gravely impairs the productivity of labor on account of the curling of the calico.

I. Yu. Sheydeman

Card 2/2

81520

SOV/137-59-5-10894

18.1150

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 207-208 (USSR)

AUTHORS: Kazarnovskiy, D.S., Ravitskaya, T.M., Zannes, A.N., Loyzan, O.R.

TITLE: The Effect of Arsenic on Properties of Rail Steel Quench-Hardened by High Frequency Current

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1958, Nr 6, pp 90 - 103

ABSTRACT: The authors investigated "M-73" grade rail steel of the following composition (in %): C 0.67 - 0.78; Mn 0.78 - 0.97; Si 0.19 - 0.25; S 0.018 - 0.027; P 0.24 - 0.34; As 0.125 - 0.139. The steel was quench-hardened by high-frequency current (500 cycles). To investigate the effect of higher As amounts ($>$ 0.15%) experimental rails with 0.204 - 0.243% As were manufactured. It was established that an As content, increased from 0.125 to 0.24%, did not entail substantial changes in H_B, σ_b, σ_ω and toughness of steel

Card 1/2

81520

SOV/137-59-5-10894

The Effect of Arsenic on Properties of Rail Steel Quench-Hardened by High Frequency Current

after high-frequency quench-hardening. a_k decreased with a higher As content. For instance, in steel with 0.67% C after high-frequency quench-hardening a_k at +20 and -60°C is equal to 6.5 and 4.35 kgm/cm^2 respectively; with 0.125% As, it is 4.45 kgm/cm^2; at 0.24 As it is 3.25 kgm/cm^2.

I.B.

Card 2/2

LOZA, A.A. [Loza, A.O.] (Kiyev)

Design of hipped reinforced-concrete panels subjected to a lasting action of a load. Prykl. mekh. 10 no.4:425-434 '64. (MIRA 17:10)

1. Kiyevskiy avtodorozhnyy institut.

STREL'TSOV, O.A.; RUSOV, M.T.; KUKHAR', L.A.; LOZA, A.N.

Dependence of the activity of the ammonia catalyst GK-1 on the rate of gas flow in the course of the reduction. Kin. i kat. 1 no. 4:597-603 N-D '60. (MIRA 13:12)

1. Institut fizicheskoy khimii imeni L.V. Pisarzhevskogo AN USSR.

(Reduction) (Catalysts)

LOZA, D., gvardii podpolkovnik, Geroy Sovetskogo Soyuza

Guards' battalion made up of members of the Communist Youth League.
Voen. znan. 39 no.5:6-7 My '63. (MIRA 16:5)
(World War, 1939-1945—Campaigns) (Tank warfare)