YARGUL'YANTS, G.S., inzh.

Centralize the supplying of glass plants with polishing materials. Stek. i ker. 21 no.7:39-40 Jl '64.
(MIRA 17:10)

1. Stekol'nyy zavod "Proletariy."

S/057/62/032/007/010/013
B104/B102

AUTHOR: Yargyn, V. S.

TITLE: Laminar flow of a conducting liquid in a homopolar tube

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 7, 1962, 883-890

TEXT: The isothermal flow of an incompressible liquid in a homopolar tube of finite length (G. V. Gordeyev, A. I. Gubanov, ZhTF, XXVIII, 9, 1958; XXIX, 6, 1959; M. F. Shirokov, Fizicheskiye osnovy gazodinamiki, - Physical bases of gasdynamics - Fizmatgiz, 1958) is studied here for the case where the side walls play an important role and the Hartman number M is small. This tube consists of two coaxial electrode cylinders. The ends of this tube are sealed by annular dielectric caps. The space between the cylinders is filled with a liquid. Neglecting the axial and radial velocity components, a system of equations for the velocity field is obtained in first approximation.by expansion with respect to M^2. For $H_1^2/4\pi < \varrho g L_1$, $v_o^2 < g L_1$, and $M^2 < 1$, it is shown that in first approximation only a radial current appears. H_1 is a constant having

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Card

the dimension of a magnetic field strength, L_1 is the characteristic axial length, $V_o = aD_M M^2/L_o$ is the characteristic velocity, L_o is the characteristic radial length. The radial velocity depends on the ratio of the radii, the velocity maximum being nearer the inner electrode. With $\varepsilon = r_1/r_2 \longrightarrow 1$ (approximating to a tube of zero wall-thickness) the maximum shifts towards the middle of the space between the electrodes. A coefficient of hydraulic resistance is introduced, and it is shown that the effect of the end caps of the tube on this coefficient depends not only on the height but also on the transverse dimensions of the tube. There are 2 figures.

SUBMITTED: April 21, 1960 (initially)
November 21, 1960 (after revision)

L 17014-66 EWT(1)/EWT(m)/EWP(w)/T/EWP(t)/EED-2/EWP(b)/EWA(c) IJP(c) JD/HW

ACCESSION NR: AP5021078 UR/0288/65/000/002/0103/0109

AUTHOR: Drokin, A. I.; Sudakov, N. I.; Sidorov, F. K.; Yarichina, K. V.

TITLE: Magnetic crystallographic anisotropy and losses due to rotary hysteresis in single crystals of cobalt iron ferrites

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no. 2, 1965, 103-109

TOPIC TAGS: magnetic anisotropy, crystal anisotropy, magnetic hysteresis, single crystal, ferrite, cobalt alloy, iron alloy

ABSTRACT: Object of the study was investigation of the temperature dependence of the anisotropic constants for single crystals of cobalt iron ferrites over a broad temperature interval, the effect of thermomagnetic treatment on the curves for the mechanical moments, and losses due to rotary hysteresis. The samples had the following composition: $Co_{0.94}Fe^{3+}_{0.12}Fe^{3+}_{0.95}O_4$ (with 1.2-1.4 mole% excess iron). To eliminate internal stresses, the samples were annealed for 24 hours at 600C with subsequent slow cooling. The constants of magnetic crystallo-

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graphic anisotropy were determined by measuring the rotary mechanical moments acting on the sample in the field of a rotating electromagnet. Measurement error did not exceed 3%. Temperature interval was from the temperature of boiling oxygen to the Curie point. Losses due to rotary hysteresis were determined by planimetric measurement of the area between the curves for the mechanical moments during forward and reverse rotation of the magnetic field in the plane. Error was 6-8%. Magnetic saturation was determined by a ballistic method, and the initial magnetic permeability by the resonance method at a frequency of 10 megacycles. The first constant of magnetic crystallographic anisotropy for the ferrites tested increases with a decrease in the temperature, at first slowly and then, in the temperature interval 400-200K, rapidly, and then again slowly, always remaining positive. At room temperature, it is equal to $2.9 \cdot 10^6$ erg/cm^3; at the temperature of boiling oxygen it is $7.46 \cdot 10^6$ erg/cm^3. Thermomagnetic treatment of a single crystal (heating from the temperature of boiling oxygen to room temperature in a field of 10,000 oersteds) causes induced anisotropy. At room temperatures and above, losses due to rotary hysteresis have normal character. They increase with an increase in the field, attain a maximum, and then decline

L 1704-66
ACCESSION NR: AP5021078

12

to zero. At low temperatures, these losses are very great and do not completely disappear even in a field of 40,000 oersteds. As a result of thermomagnetic treatment, losses due to rotary hysteresis decrease, their maximum shifts to the side of high fields, and they disappear in lower fields. "In conclusion we express our deep indebtedness to T. M. Perekalina and A. A. Askochenskii for furnishing us the samples of single crystal ferrites." Orig. art. has: 3 formulas and 6 figures

ASSOCIATION: Institut fiziki, Sibirskogo otdeleniya AN SSSR, Institut tsvetnykh metallov im. M. I. Kalinina, Krasnoyarsk (Institute of Physics, Siberian Branch AN SSSR, M. I. Kalinin Institute of Nonferrous Metals, Krasnoyarsk)

SUBMITTED: 10Feb63 ENCL: 00 SUB CODE: SS

NR REF SOV: 005 OTHER: 014

Card 3/3 DP

DROKIN, A.I.; SUDAKOV, N.I.; SIDOROV, F.K.; YARICHINA, K.V.

Magnetic crystallographic anisotropy and losses on rotational hysteresis in single crystals of cobalt ferrites. Izv. SO AN SSSR no.6. Ser. tekh. nauk no.2:103-109 '65.

(MIRA 18:11)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, i Institut tsvetnykh metallov imeni M.I. Kalinina, Krasnoyarsk.

1478. PATHOMORPHOLOGY OF THE CENTRAL AND PERIPHERAL NERVOUS SYSTEMS IN TOXIC FORMS OF EPIDEMIC HEPATITIS (BOTKIN'S DISEASE) AND IN ATROPHIC CIRRHOSIS OF THE LIVER (Russian text) - Yarigin N. E. Dept. of Pathol. Anat., Yaroslavl Med. Inst., Yaroslavl - ARKH. PATOL. 1958, 20/3 (21-29) Illus. 7

Changes in the central and peripheral nervous system were studied in 6 fatal cases of epidemic hepatitis and in 6 cases of atrophic cirrhosis. Although only 4 of the cases with liver cirrhosis had a history of recurrent jaundice, all were regarded as having resulted from viral hepatitis. In both groups of cases the lesions of the CNS were more pronounced than in the sympathetic and parasympathetic nervous systems; the most advanced neuronal dystrophy was found in the wall of the 3rd ventricle, in the medulla oblongata and in the subcortical nuclei. The glia was not studied in detail. In acute hepatitis all lesions were more severe than in atrophic cirrhosis.

Wilson - Dearborn, Mich. (V, 8)

YARIGIN, P. I.

N/5
725
.Y2

Organizatsiya i planiravaniye plodoovoshchnykh predpriyatiy (Organisation And Planning Of Fruit And Vegetable Enterprises) Moskva, Gostorgizdat, 1952.

240 p. illus., diagrs., tables.

YARIKHOVICH, K., starshina sverkhsrochnoy sluzhby.

Roller pen. Tankist no.5:30-31 My '58. (MIRA 11:6)
(Pens)

YARIKHOVICH, K., starshina sverkh srochnoy sluzhby

Portable apparatus for instruction in shooting. Voen. vest. 39 no. 1:80-81 Ja '60. (MIRA 14:2)

(Shooting, Military)

15-57-5-5773

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 9 (USSR)

AUTHOR: Yarikov, G. M.

TITLE: Stratigraphy of the Upper Carboniferous Rocks in the Bend of the Don (Stratigrafiya verkhnekamennougol'nykh otlozheniy Donskoy Luki)

PERIODICAL: Uch. zap. Stalingr. gos. ped. in-ta, 1955, Nr 4, pp 171-177.

ABSTRACT: The author considers a new outline of the stratigraphy of the Upper Carboniferous rocks in the bend of the Don. The outline differs considerably from that of S. V. Semikhatova /Poiski i razvedka gazovykh mestorozhdeniy, Tr. VNIIGAZ'a, Gostoptekhizdat, 1951 (Exploration and Prospecting for Gas Deposits, Transactions of the All-Union Scientific Research Institute of the Gas Industry, State Scientific and Technical Publishing House of the Petroleum and Mineral-Fuel Industry, 1951)/

Card 1/2

15-57-5-5773

Stratigraphy of the Upper Carboniferous Rocks (Cont.)

The lower boundary of the Kasimov series is drawn at the base of a sequence of clays, containing pebbles of limestone, that rests on the eroded surface of Myachkovo limestones. This sequence is easily recognized on drill-hole logs. The Kasimov series is divided into three zones: 1) the Protriticites zone contains limestones (28 m thick), subdivided into four units; 2) the Triticites montiparus zone (37 m thick) has a lower unit of argillaceous dolomite and an upper unit of aphanitic limestones; and 3) the Triticites arcticus and T. acutus zone (47 m thick) is composed of argillaceous sandy rocks, dolomites, and limestones. The upper boundary of the Kasimov series is placed at the base of the first clay unit. The Gshelian series contains only the two lower zones. In the Triticites stuckenbergi zone (55 m thick) are found argillaceous rocks and limestones. The Triticites jugulensis zone (0 to 18 m thick) is commonly eroded in the upper part. The total thickness of the Upper Carboniferous is 180 m. The author presents a diagram comparing the sections of Upper Carboniferous rocks of the bend of the Don according to him and according to Semikhatova.

Card 2/2

V. N. B.

15-1957-10-13549

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 13 (USSR)

AUTHOR: Yarikov, G. M.

TITLE: Stratigraphy and Lithology of the Carboniferous Deposits of the Interstream Area of the Kurtlak and Tsutskan Rivers in the Western Part of the Stalingradskaya Oblast' (Stratigrafiya i litologiya kamennougol'nykh otlozheniy mezhdurech'ya Kurtlak i Tsutskan v predelakh zapadnoy chasti Stalingradskoy oblasti)

PERIODICAL: Uch. zap. Stalingr. gos. ped. in-ta, 1955, Nr 5, pp 129-135

ABSTRACT: Drilling programs have uncovered Kashirskiy, Podol'skiy, and Myachkovskiy horizons of the Middle Carboniferous. The Kashirskiy horizon consists of organic limestones containing brachiopods and foraminifers. The Podol'skiy horizon is composed of interstratified units of limestone, clay, and marl in its lower part (17 m). Rounding of brachiopod fragments and of foraminifers indicates

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Stratigraphy and Lithology of the Carboniferous Deposits of the Interstream Area of the Kurtlak and Tsutskan Rivers in the Western Part of the Stalingradskaya Oblast' 15-1957-10-13549

carbonate unit of rocks.

Card 3/3

D. A. Timofeyev

15-57-5-5772

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 9 (USSR)

AUTHOR: Yarikov, G. M.

TITLE: New Data on the Stratigraphy of the Upper Carboniferous Rocks in the Bend of the Don (Novyye dannyye o stratigrafii verkhnekamennougol'nykh otlozheniy Donskoy Luki)

PERIODICAL: Uch. zap. Saratovsk. un-ta, 1955, Vol 45, pp 27-30.

ABSTRACT: The author gives new data on the stratigraphy of the Upper Carboniferous rocks in the bend of the Don, reported on earlier (see abstract 5773). This information is supplementary only in presenting a log, the maximums of which are in close agreement with the lithologic subdivisions.

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V. N. B.

YARIKOV, G.M.

3(5) PHASE I BOOK EXPLOITATION SOV/1827

Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut

Geologiya i nefte-gazonosnost' Yugo-vostochnyk Pryamoy platformy; sbornik statey (Geology and Oil and Gas Bearing Characteristics of the Southeastern Regions of the Russian Platform; Collection of Articles) Leningrad, Gostoptekhizdat, 1958. 242 p. Errata slip inserted. 1,200 copies printed.

Resp. Ed.: Ya.S. Kventor; Eds.: N.S. Burshtar, N.S. Il'ina, and S.A. Sakhorovskiy; Tech. Ed.: A.B. Yashchurzhinskaya; Executive Ed.: R.F. Kulikov.

PURPOSE: This book is intended for petroleum exploration geologists, particularly those interested in the Russian platform area.

COVERAGE: These articles, originally read at a meeting of the Scientific and Technical Council of Ministry of the Petroleum Industry (1953), discuss the geologic structure of the southeastern parts of the Russian platform, the planning of exploratory and prospecting work, and special problems in geochemistry. Studies are aimed at realizing the oil and gas potential of the area. Representatives of VNIGNI, VNIGRI, the Stalingradneftepromyedka Trust, Saratovneft', Kuybyshevneft', and Orenburgneft' contributed to the work. No references are given.

TABLE OF CONTENTS:

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YARIKOV, G.M., kand.geologo-mineralogicheskikh nauk, dotsent

Conditions of sedimentation during the lower Carboniferous period west of the Volga in Stalingrad Province. Uch. zap. Volg. gos. ped. inst. no.10:93-120 '59. (MIRA 14:11)
(Volgograd Province--Geology, Stratigraphic)

YARIKOV, G.M., kand.geologo-min eralogicheskikh nauk, dotsent

Boundary between the Devonian and Carboniferous in the Volga Valley portion of Stalingrad Province. Uch. zap. Volg. gos. ped. inst. no.10:242-243 '59. (MIRA 14:11)
(Volgograd Province--Geology, Stratigraphic)

YARIKOV, G.M.

Position of the boundary between the Devonian and Carboniferous in the Volga Valley portion of Stalingrad Province. Trudy VNIGNI no. 19:99-111 '59. (MIRA 13:12)
(Stalingrad Province--Geology, Stratigraphic)

YARIKOV, G.M.; MEL'NIKOVA, A.S.; NIKITINA, G.P.

Carboniferous sediments in western Stalingrad Province. Trudy VNIGNI no. 19:112-151 '59. (MIRA 13:12)
(Stalingrad Province--Geology, Stratigraphic)

YARIKOV, G.M.

Carboniferous sediments in the lower Khoper Valley. Geol. nefti i gaza 3 no.9:43-50 S '59. (MIRA 13:1)

1.Stalingradskiy pedagogicheskiy institut.
(Khoper Valley--Geology, Stratigraphic)

MOROZOV, N.S.; YARIKOV, G.M.

Carboniferous sediments in the Don-Northern Donets interfluve. (MIRA 16:1)
Uch.zap.SGU 65:29-38 '59.
(Don Valley--Coal geology)
(Severnyy Donets--Coal geology)

PARSADANOVA, E.A.; BERLIN, Yu.M.; ORLOVA, I.N.; FADEYEV, M.I.; CHERNOVA, Ye.N.; YARIKOV, G.M.

Carboniferous sediments of the western part of the northern Caspian oil- and gas-bearing basin. [Trudy] NILneftegaza no.10:182-222 '63. (MIRA 18:3)

1. Nauchno-issledovatel'skaya laboratoriya geologicheskikh kriteriyev otsenki perspektiv neftegazonosnosti; Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlennosti; Nizhnevolzhskiy nauchno-issledovatel'skiy institut geologii i geofiziki i Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti.

YARIKOV, G.M.; SMIRNOV, A.V.

Paleogeography and sedimentation in the Early Visé in the Volga Valley portion of Volgograd Province. Geol. nefti i gaza 9 no.9:36-41 S '65. (MIRA 18:9)

YARILOV, A.; AKIMOV, D.

The party organization in the effort to improve the maintenance of airplanes. Grazhd.av. 12 no.9:7-9 S '55. (MLRA 10:7)
(Airplanes--Maintenance and repair)
(Communist Party of the Soviet Union--Party work)

YARILOV, A.

For high principles, objectivity, efficiency. Grazhd. av. 20 no.10:10-11 O '63. (MIRA 16:12)

1. Nachal'nik politicheskogo otdela Moskovskogo territorial'nogo upravleniya Grazhdanskogo vozdushnogo flota.

AUTHOR: Yarilov, O.* P.Ya. SOV-26-58-11-37/49

TITLE: Flowers Turning White (Pobeleniye tsvetkov)

PERIODICAL: Priroda, 1958, Nr 11, p 114 (USSR)

ABSTRACT: While white flowers are found individually among plants with otherwise colored flowers, the author discovered areas of tens of square meters covered with Chamaenerium angustifolium, Scop., Epilobium angustifolium L., Aconitum excelsum Rohl., Geranium silvaticum L. and Delphinium elatum L. blooming white instead of red, blue, etc. in the Arkhangel'skaya Oblast'. the author tentatively explains this phenomenon by the presence of large amounts of differently-colored blooming plants and the calcareous ground.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskiy institut im. V.V. Kuybysheva (The Arkhangel'sk Forestry Institute imeni V.V. Kuybyshev)

1. Plant pigments--Chemical reactions

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* Initials - O. Ya. from MIRA 11:12

YARILOV, P. Ya.

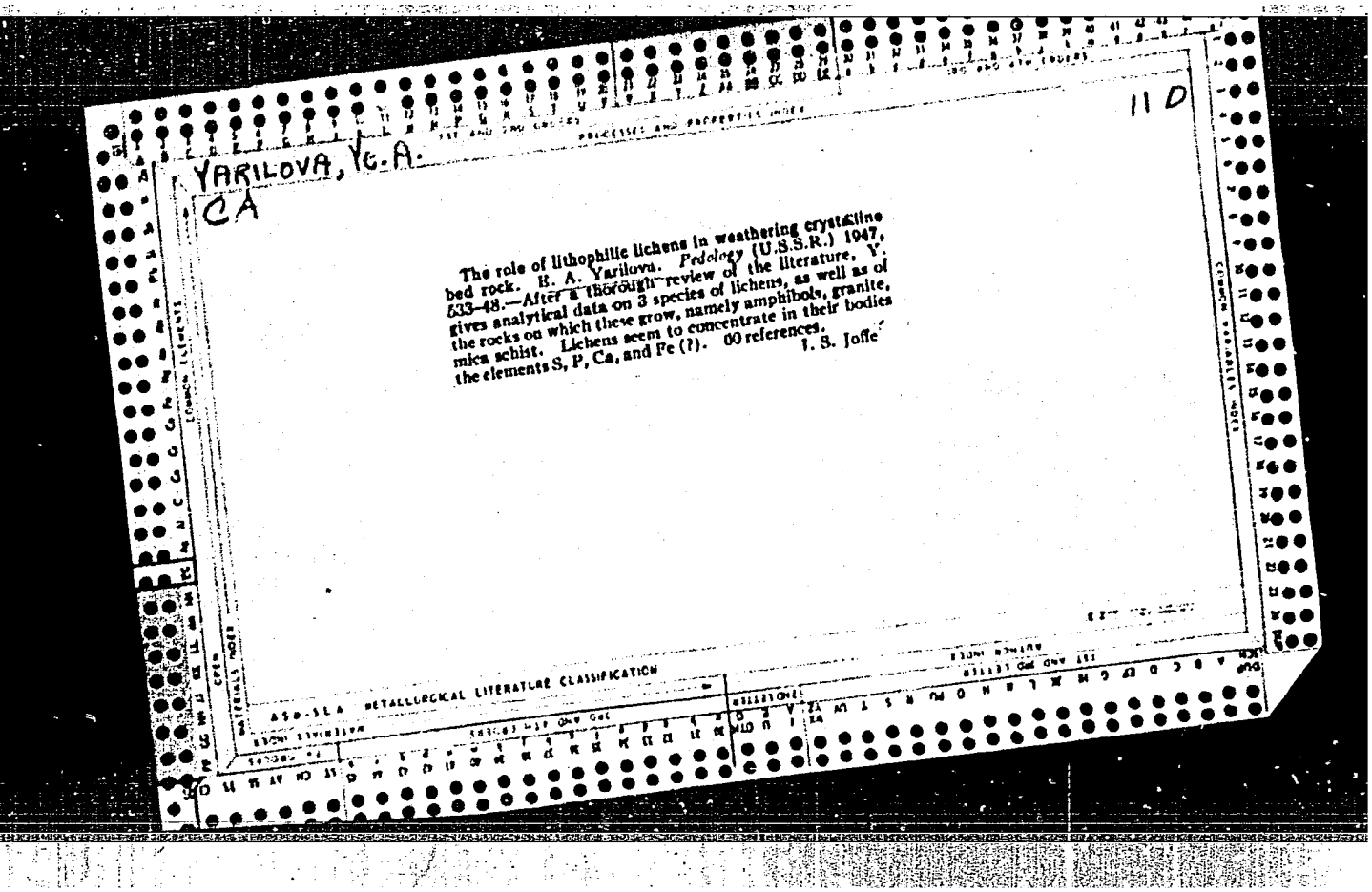
YARILOV, P.Ya.

Problems of reforestation under conditions of mechanized lumbering. ("Optimal dimensions of felling areas under conditions of mechanized lumbering." [laureat Stalinskoy premii, doktor sel'skokhozyaystvennykh nauk] V.G.Nesterov. Reviewed by P.IA.IArilov). Les.prom. 14 no.6:32 Je '54. (MLRA 7:6)
(Nesterov, V.G.) (Forests and forestry)

YARILOV, P.Ya.

Loading packaged mine supports on open railway cars. Mekh. trud. rab. 11 no.12:32 D '57. (MIRA 11:3)

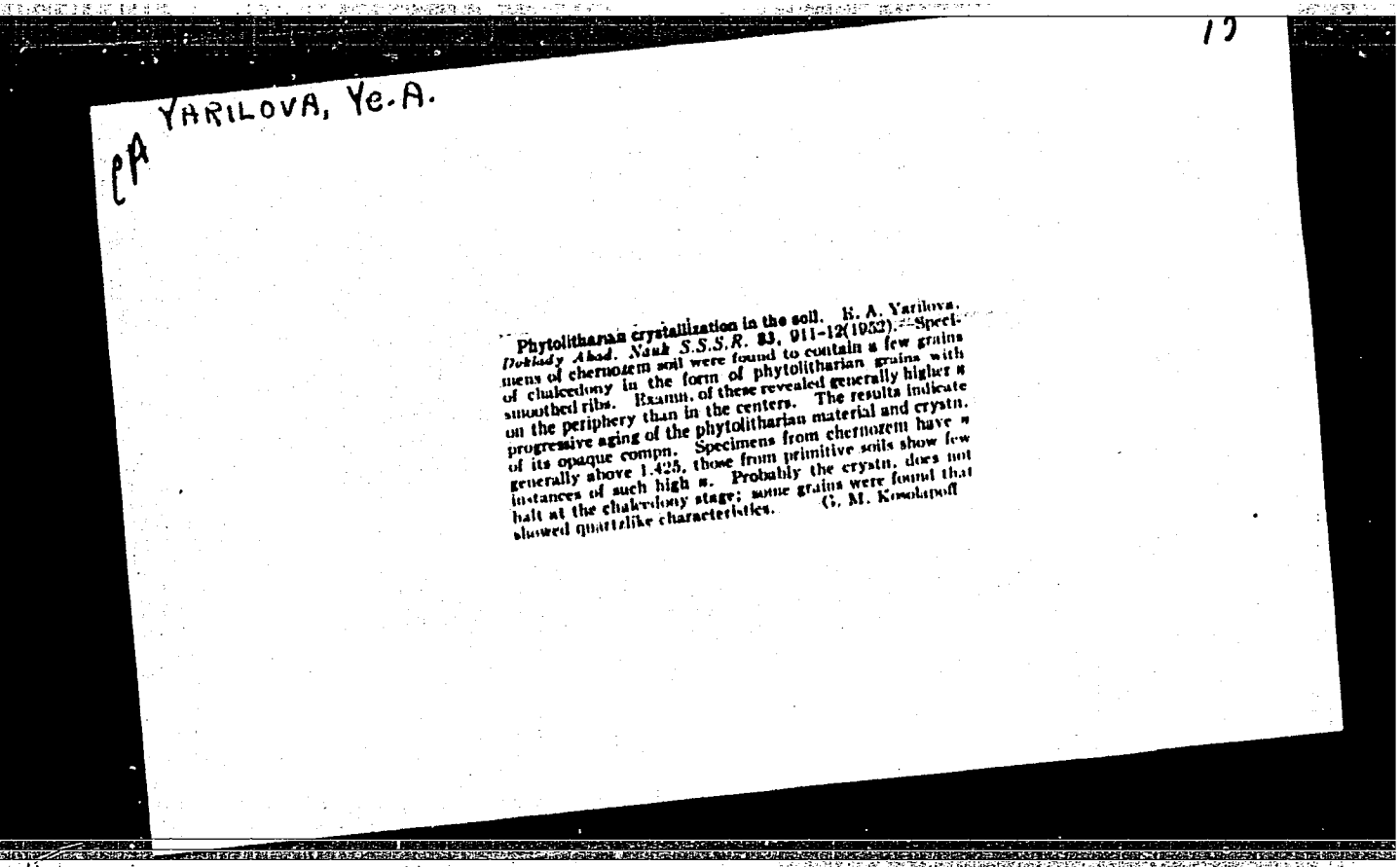
1. Limendskaya lesoperevalochnaya baza tresta Dvinosplav.
(Mine timbering) (Loading and unloading)



YARILOVA, Ye.A.

CA

Transformation of syenite minerals in the first stages of soil formation. E. A. Yarilova. *Trudy Pochvennogo Inst. im. V. V. Dokuchaeva* 34, 110-42(1950).—The transformation of the rock is initiated by the establishment on it of lower forms of lotophytes. The metamorphosis of the rock leading to the formation of high altitude (Northern Caucasus) meadow soils is traced. M. Hoseh



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CA YARILOVA, Ye.A.

Phytolitharian crystallization in the soil. E. A. Yarilova. *Doklady Akad. Nauk S.S.S.R.* 83, 911-12(1952).—Specimens of chernozem soil were found to contain a few grains of chalcedony in the form of phytolitharian grains with smoothed ribs. Examn. of these revealed generally higher n on the periphery than in the centers. The results indicate progressive aging of the phytolitharian material and crystn. of its opaque compn. Specimens from chernozem have n generally above 1.425, those from primitive soils show few instances of such high n. Probably the crystn. does not halt at the chalcedony stage; some grains were found that showed quartzlike characteristics. G. M. Kondratieff

YARILOVA, Ye. A.

"Mineralogical Composition of Chernozem Soil of Kamennaya Steppe and the Influence on It of Artificial Afforestation and Grass-Field Crop Rotation," Voprosy travopol'noy sistemy zemledeliya, Vol 2, pp 205-266, 1953

Study of the mineralogical composition of chernozem and of its continental rocks and cover clay, led the author to the following conclusions concerning fractions more than one micron; processes governing weathering of primary minerals under conditions of the Kamennaya Steppe proceed slowly, and content of feldspar over soil profile remains unchanged; in the upper horizon of the chernozem secondary quartz accumulates because of crystallization of silica of plant remains; in the soil are observed minerals formed in plants and called "biolithe" by the author, which relate to phytolitharine of grasses composed of opal, siliceous skeleta of diatomaceous algae. Organo-mineral compounds close to ferrous beydellite are observed in horizon B of dark-grey soil. (RZhGeol, No 4, 1955)

Sum. No. 681, 7 Oct 55

YARILOVA, Ye. A. and PARFENOVA, Ye. I.

"Natural Geochemical Transformations of Some Elements," a paper presented at the 6th International Soil Science Congress, Paris, 28 Aug to 8 Sep 56

Library Branch #5

YARILOVA, E.A.

I-2

USSR/Soil Science. Genesis and Geography of Soils.

Abs Jour: Referat Zh-Biol., No 6, 25 March, 1957, 22430

Author : Yarilova, E.A.
Inst :
Title : The Mineralogical Study of Subalpine Chernozem on Andesite-Basalt (Armenia).

Orig Pub: V sb: Kora vivetrivaniya, 1956, No 2, M., AN SSSR, 45-60

Abstract: Development of the soil-forming process on andesite-basalts under subalpine conditions of the Akhmangan Plateau is accompanied by a vigorous mechanical and chemical decomposition of minerals of soil-forming beds. Volcanic glass almost totally disappears from the upper soil layer. In the fine soil mass of the upper layer, there remains ~1% of fresh and ~5% of considerably modified andesite-basalt fragments. In the first stages of soil formation, a large role is played by bacteria and lithophile lichens. As a result of bacterial activity, a

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USSR/Soil Science. Genesis and Geography of Soils.

Abs Jour: Referat Zh-Biol., No 6, 25 March, 1957, 22430

border of fine crystalline calcium carbonate forms in the pores of andesite-basalt. As a result of lichen activity in the form of films existing at the end pres of andesite-basalt, a clayey sticky brownish-yellow mass is formed, which penetrates the entire section of fine soil and exudes in its pure form in a characteristic flowing manner along fissures, root-paths and pores. According to x-ray structural data and thermal analysis of soil fractions, < 1 m, this new formation corresponds to the mineral beidellite. A characteristic differential peculiarty of its thermogram is the absence of a third endothermal peak at 850°. The new formations include also biolites - minerals originating within the plants which return to the soil upon their death. A secondary idiomorphic quartz which was found in the chernozem studied evidently was formed as a result of the soil formation process. The rest of the minerals found in the studied chernozem belong to the components of andesite-basalt lava of the Akhmangan Plateau.

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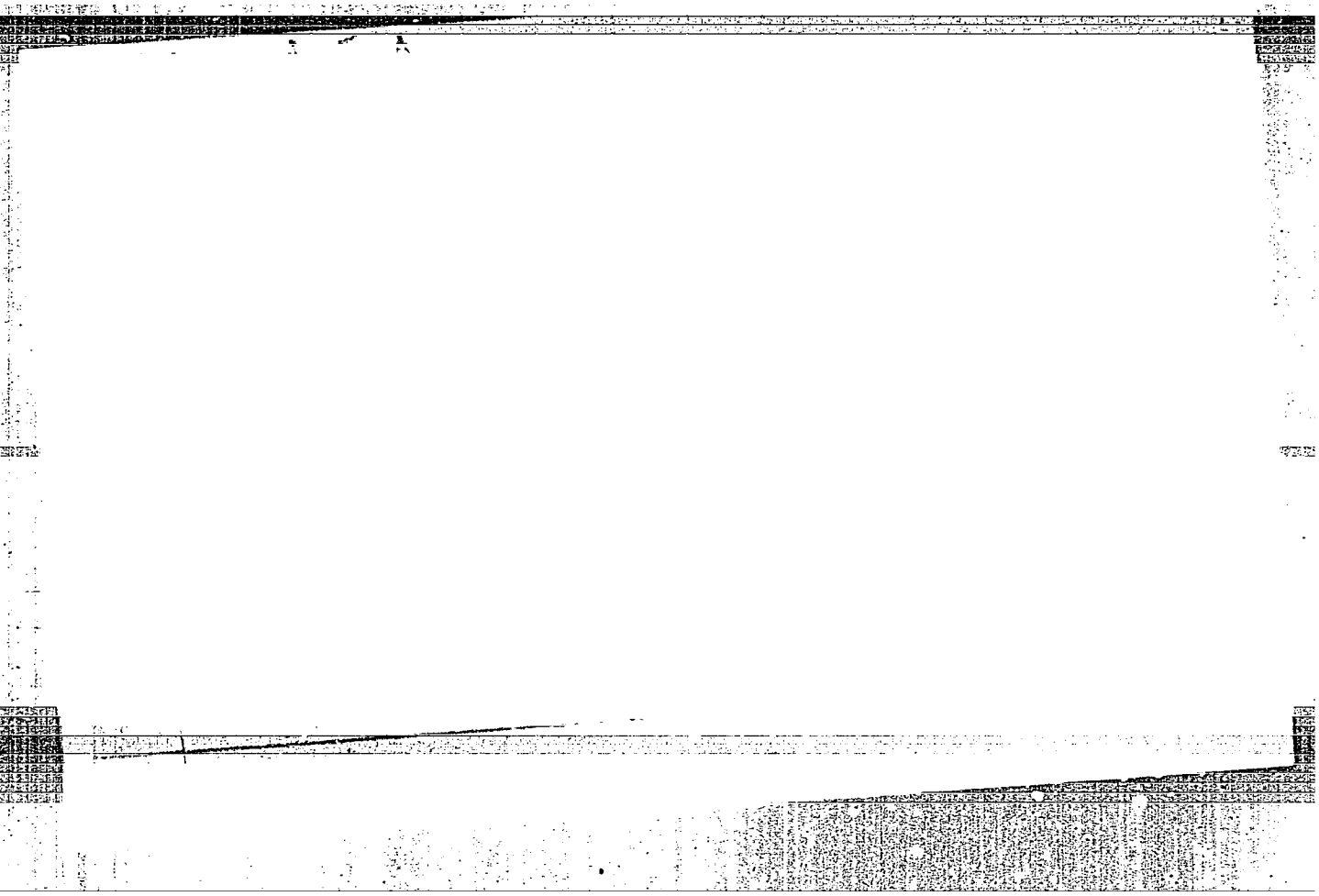

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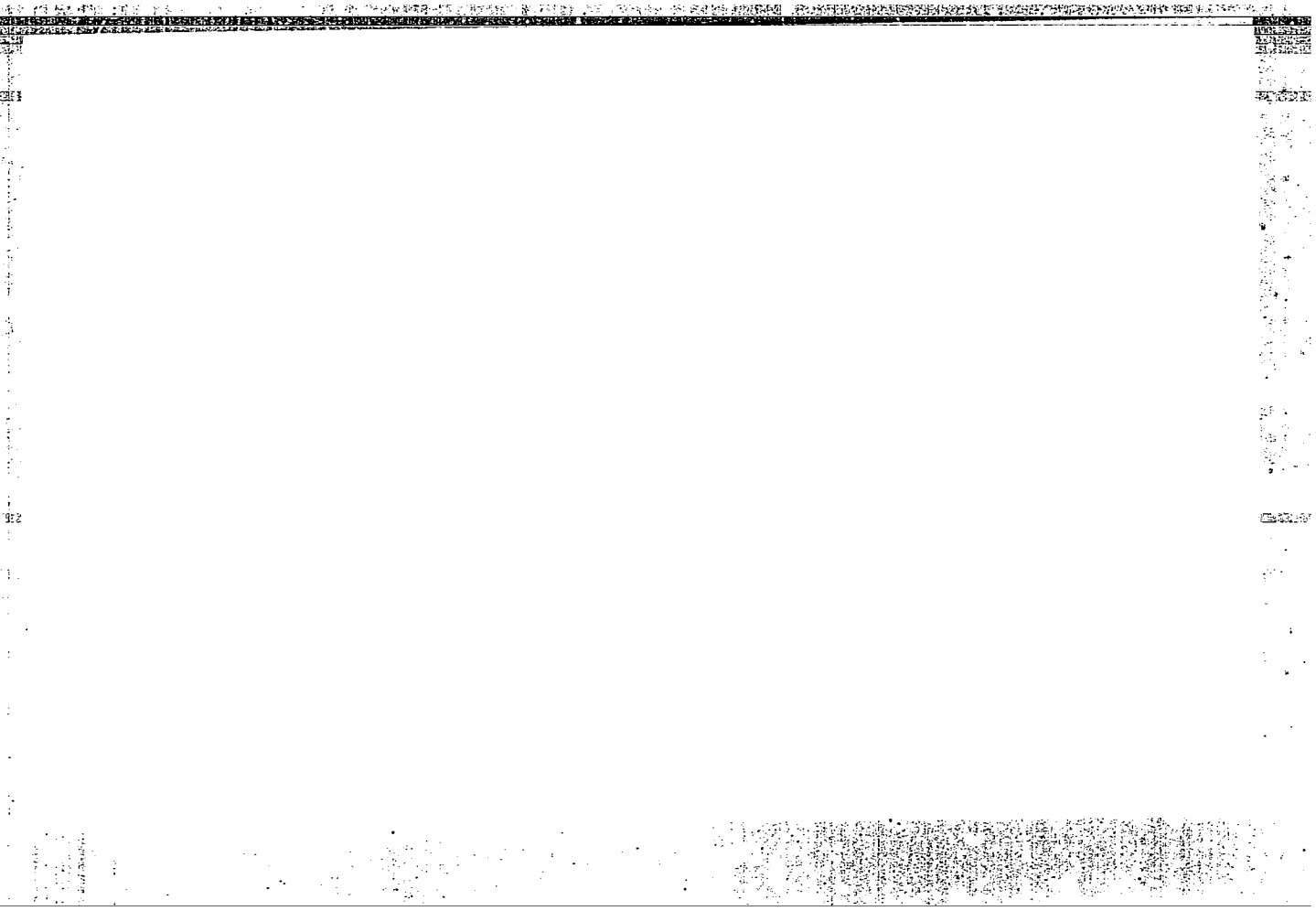

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YARILOVA, Ye. A.

PARFENOVA, Ye.I.; YARILOVA, Ye.A.

Synthesis of allophanoids in laboratories under normal temperature and pressure [with summary in English], Pochvovedenie no.4:80-85 Ap '57. (MIRA 10:7)

1. Pochvennyy institut im. V.V. Dokuchayeva Akademii nauk SSSR.
(Allophane) (Soil colloids)

YARILOVA, YE.A.

GORBUNOV, N.I.; YARILOVA, Ye.A.

Physics and mineralogy of soils discussed at the Sixth Congress of Soil Scientists (International Society of Soil Science, First Commission). Pochvovedenie no.2: 105-108 F '57. (MLRA 10:5)

1. Pochvennyy institut im. V.V. Dokuchayeva Akademii nauk SSSR.
(Soil Physics)

YARILOVA, YE. A.

YARILOVA, Ye.A.; PARFENOVA, Ye.I.

Newly formed clay minerals in soils [with summary in English]. (MIRA 10:12)
Pochvovedenie no.9:37-48 S '57.

1. Pochvennyy institut im. V.V.Dokuchayeva AN SSSR.
(Minerals in soil)

PARFENOVA, Ye.I.; YARILOVA, Ye.A.

Tasks and methods of the microscopic analysis of soil minerals. Pochvovedenie no.12:28-35 D '58. (MIRA 12:1)

1. Pochvennyy institut imeni V.V. Dokuchayeva AN SSSR.
(Minerals in soil)

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author : Yarilova, Ye. A.
Inst : Soil Institute AS USSR.
Title : Mineralogical Characteristics of Solonetz Soils in the Chernozem Zone.
Orig Pub : Tr. Pochv. in-ta AN SSSR, 1958, 53, 131-142

Abstract : By the micromorphological method with the aid of microscopic sections under a microscope and by the method of mineralogical analysis in immersion liquids, two solonetz soils in the chernozem zone, representing successive stages of the solonetz developmental process in chernozem soil, were studied. The development of the solonetz process over the

Card : 1/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :

Orig Pub :

Abstract : chernozem soil brought about important changes of the mineralogical composition in 50 years. Gypsum and tenardite appeared; the soil became enriched with Ca in the microcrystalline form due to the migration of the solutions to the surface horizons. The formation of iron-manganese-humus concretions

Card : 2/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :

Orig Pub :

Abstract : takes place with greater intensity, thanks to the periodic advent of anaerobic conditions; a dispersion of the minerals is observed, particularly of crystalline quartz; there appeared the absent-in-the-chernozem mobile colloidmorphic argillaceous mineral. According to its properties and chemical composition, the latter is closely related to ferrous beydellite. The

Card : 3/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :

Orig Pub :

Abstract : migration of this mineral from the upper horizons to the alluvial ones are noted. The migration is accomplished, it seems, in complex with fulvic acids and mobile humous acids. Specific secondary argillaceous minerals, inherent to the solonetz-soil formation only, were not found. -- N. I. Bazilevich

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11

YARILOVA, Ye.A.; PARFENOVA, Ye.I.

Studies on characteristics of clay minerals in soil colloids [with summary in English]. Pochvedenie no.2:75-79 F '59. (MIRA 12:3)

1.Pochvennyy institut imeni V.V. Dokuchayeva AN SSSR.
(Soil colloids) (Minerals in soil)

RODE, A.A.; YARILOVA, Ye.A.; RASHEVSKAYA, I.M.

Genetic characteristics of the dark-colored soils of large depressions. Pochvovedenie no.8:1-13 Ag '60. (MIRA 13:8)

1. Pochvennyy institut im. V.V. Dokuchayeva Akademii nauk SSSR.

(Soils)

PARFENOVA, Ye.I.; YARILOVA, Ye.A.

Lessivage and podzolization. Pochvovedenie no.9:1-15 S '60. (MIRA 13:9)

1. Pochvennyy institut im. V.V. Dokuchayeva Akademii nauk SSSR.
(Podzol)

YARILOVA, Ye.A., PARFENOVA, Yo.I.

Clay minerals of soil colloids. Koll. zhur. 22 no.2:237-242 Mr-Ap '60. (MIRA 13:8)

1. Pochvennnyy institut AN SSSR, Moskva.
(Colloids) (Clay)

PARFENOVA, Yelena Ivanovna; YARILOVA, Yekaterina Arsen'yevna; ANTIPOV-KARATAYEV, I.N., akademik, otv. red.; PAVLOV, A.N., red. izd-va; KYLINA, Yu.V., tekhn. red.

[Mineralogical investigations in soil science] Mineralogicheskie issledovaniia v pochvovedenii. Moskva, Izd-vo Akad. nauk SSSR, 1962. 203 p. (MIRA 15:7)

1. Akademiya nauk Tadzhikskoy SSR (for Antipov-Karatayev).
(Minerals in soil)

YARILOVA, Ye.A.

Micromorphology of soils in the Yergeni Hills. Pochvovedenie no.2:33-39 F '63. (MIRA 16:3)

1. Pochvennyy institut imeni V.V.Dokuchayeva.
(Yergeni Hills--Soils)

YARILOVA, Ye.A.

Works in the field of soil micromorphology; review of the work of a symposium. Pochvovedenie no.11:104-110 N '63. (MIRA 16:12)

1. Pochvennyy institut imeni V.V. Dokuchayeva.

GORBUNOV, N.I.; YARILOVA, M.A.; [illegible]

Problems of soil mineralogy at the 8th International Congress of Soil Scientists. Pochvovedenie no.5:101-106 My '65. (MIRA 18:5)

YARIN, E.

Applying and hourly bonus wage system at Altai machinery manufacturing plants. Biul.nauch. inform.; trud i zar. plata 3 no.1:37-41 '60. (MIRA 13:6)
(Altai Territory--Machinery industry)
(Altai Territory--Bonus system)

ZEYGERMAN, V.; YARIN, E.

Using an amateur motion-picture camera for the study of elements of operations of short duration. Biul. nauch. inform.: trud i zar. plata 3 no. 10:34-37 '60. (MIRA 13:12)
(Motion pictures in industry) (Motion study)
(Metal cutting)

YARIN, E.

The bonus system should be operational. Sots.trud 5 no.3:123 Mr '60. (MIRA 13:6)

1. Altayskiy nauchno-issledovatel'skiy proyektno-tekhnologicheskiy institut.
(Altai Territory--Machinery industry--Production standards)
(Bonus system)

YARIN, E.

Using group wage payment systems in the machinery manufacturing plants of the Altai Economic Region. Biul. nauch. inform.: trud i zar. plata 4 no.9:39-41 '61. (MIRA 15:1)
(Altai Territory--Wages--Machinery industry)

MIROSHNICHENKO, S.; YARIN, E.

Methodology for determining the number of adjusters of metal-cutting equipment. Biul.nauch.inform.: trud i zar.plata 5 no.8:41-45 '62. (MIRA 15:7)
(Rubtsovsk--Metal-cutting tools)

YARIN, E.

Individual and group wage systems in machinery manufacturing.
Sots.trud 8 no.3:73-76 Mr '63. (MIRA 16:3)
(Wages—Machinery industry workers)

YARIN, G., mekhanik.

There must be no smoke from factory chimneys. Prom.koop.no.11:6-7 N '56. (MLRA 9:12)

(Smoke prevention)

L 21255-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6008400 (A) SOURCE CODE: UR/0374/66/000/001/0043/0051

60
B

AUTHOR: Yarin, L. I.

ORG: Central Scientific Research and Planning Experimental Institute of Industrial Structures, Moscow (Tsentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut promyshlennykh zdaniy i sooruzheniy) 15

TITLE: Investigation of deformation properties of certain elastic reinforced plastic films

SOURCE: Mekhanika polimerov, no. 1, 1966, 43-51

TOPIC TAGS: polycrystalline film, crystal anisotropy, deformation rate, caprone, surface tension, Poisson coefficient

ABSTRACT: The article deals with an experimental investigation of the laws of deformation of elastic films of plastics reinforced with caprone fabric. The experiment showed that the deformations of these films subjected to biaxial tension are in close agreement with Hook's law for anisotropic materials. Methods of experimental determination of the Poisson ratio of the material under study are presented. Orig. art. has: 6 figures, 13 formulas, and 4 tables. [Based on author's abstract.] [NT]

SUB CODE: 11/ SUBM DATE: 22Mar65/ ORIG REF: 007/ OTH REF: 001/

UDC: 678:69.024.4.621.5

Card 1/1 Mgs

YARIN, L. P., ARTYUKH, L. Y., VULIS, L. A., and KOSHKAREV, B. P.

"Thermal Problems of a Boundary Layer at Heterogenous and Diffusive Combustion."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

ARTYUKH, L.Yu.; BULIS, L.; KASHKAROV, V.P.; YARIN, L.P.; ATENKOV, S., tekhn. red.

[Thermal boundary layer problems in the case of heterogenous and diffusion combustion; Conference on Heat and Mass Transfer, Minsk, January 23-27, 1961] Teplovye zadachi pogranichnogo sloia pri geterogennom i diffuzionnom gorenii; soveshchanie po teplo-i massoobmenu, g. Minsk, 23-27 ianvaria 1961 g. Minsk, 1961. 18 p. (MIRA 15:2)

(Boundary layer) (Combustion) (Thermodynamics)

S/124/63/000/002/012/052
D234/D308

AUTHOR: Yarin, L.P.

TITLE: Thermal conditions of burning of unmixed gases

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 2, 1963, 84, abstract 2B561 (Izv. AN KazSSR. Ser. energ. 1961, no. 1(19), 47-55 (Summary in Kaz.))

TEXT: The author considers a diffusion flame front situated in a plane turbulent boundary layer formed during mixing of a fuel stream with the oxidizer. The front is assumed to be a surface of weak discontinuity. Temperature and concentration of components of the fuel mixture have discontinuous derivatives on the flame surface, corresponding to the velocity of the chemical reaction of burning, which is given as an Arrhenius function of the average temperature and a linear function of the average concentration. Outside of the front, the author looks for a self-modeling solution of stationary equations of momentum, heat and mass transfer in the turbulent isobaric boundary layer of compressible liquid for the averaged quantities. Critical conditions of ignition and extinction in the burning

Card 1/2

front are obtained. The author considers the effect of radiation from the flame front on the critical conditions, for which the conditions at the discontinuity were modified accordingly. In the presence of heat loss by radiation the interruption of burning becomes possible not only during the intensification of the process but also in the case of low intensity when the influence of heat loss increases.

[Abstracter's note: Complete translation]

26.2135
26.2130
11.7200

S/031/62/000/004/001/001
B102/B104

AUTHORS: Yershin, Sh. A., Yarin, L. P.

TITLE: Aerodynamics of a turbulent diffusion flame yet in an accompanying flow

PERIODICAL: Akademiya nauk Kazakhskoy SSR. Vestnik, no. 4, 1962, 46-51

TEXT: A nozzle system, consisting of honeycomb input, diffuser, damping chamber and nozzle chamber with a specially designed combustion chamber was used to study the behavior of a turbulent diffusion flame jet in a gas flow whose flow rate is varied. In the combustion chamber two burners are arranged oppositely; the "secondary" gas sprayed by the opposite burner is mixed with the burning products thus forming the turbulent jet outside the nozzle. The stability of the jet is achieved by an intense preheating (1300°K) of the gas mixture and by an annular stabilizer placed in front of the nozzle. Pressure was measured in the jet by Pitot tubes and MПП (MPP) micromanometers, temperature with PtRh-Pt thermocouples

Card 1/2

ПР-30-6 (PR-30-6). The operational characteristics of the apparatus were determined carefully. They were used together with the p,t measuring data to determine the aerodynamic structure of the flame and its surrounding regions. The investigations showed that at any pressure of the accompanying flow and different concentrations of the burning profile, the excess momentum has a maximum at the jet axis and decreases smoothly in radial direction. A minimum was observed outside the flame front at the profiles of dynamic pressure. It is shifted with respect to the zone of highest temperature. Both facts are explained by an asymmetry of the boundary conditions for velocity and temperature. Special experiments were made to study the effect of the rate of the accompanying flow on the aerodynamic structure of the jet. The temperature was found to decrease nonlinearly with increasing flow rate, the flame length increased. In both cases the curves become saturated at higher flow rates. The effects can be explained within the framework of the general theory of free turbulence in isobaric flow. There are 4 figures and 1 table.

L 16735-63 EPA(b)/EWT(1)/BDS AFFTC/ASD Pd-4
S/124/63/000/004/022/064
57

AUTHOR: Yershin, Sh. A.; Yarin, L. P.

TITLE: A study in the aerodynamics of turbulent diffusive flares of finite dimension

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1963, 95, abstract 4B655 (Izv. AN KazSSR. Ser. energ., no. 1(21), 1962, 74-87)

TEXT: The study involves a theoretical computation and an experimental approach to a turbulent diffusive gas flare. On the theoretical side, velocities, temperatures and concentrations are calculated on the assumption of an infinitely great reaction speed and identity of the mechanism of turbulent exchange of pulse, heat and material within the flare and the free streams. The computation is made by reduction to the equivalent problem in thermal conductivity for a flare of finite dimension; the dynamic problem is solved on the assumption of an unaltered field rho u sup 2. The additional assumption of the constancy of the ratio of reduced coordinates (of the type of "Prandtl's turbulence number") permits the use of a single empirical connection - the pattern of pressure along the flare axis - in transfer to plane surface. In the experimental portion of the study, results of measuring the profiles of the pressure head and temperature within the flare upon burning of natural gas in air

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A study in .....

are given; there is also a photograph of the flare. The experimental profiles are compiled in conjunction with computations obtained with the hydrointegrator, and the satisfactory agreement is noted, as it also is for the computed and experimental values for maximum temperature for the flame front site. The feature which distinguishes the study from other investigations of the aerodynamics of a gas diffusive flare consists in the fact of obtaining a continuous picture of a flare of finite dimension with minimum of empirical data; this was possible because of the use of the equivalent problem from the theory of thermal conductivity. There is a bibliography of 18 items. L. A. Bulis.

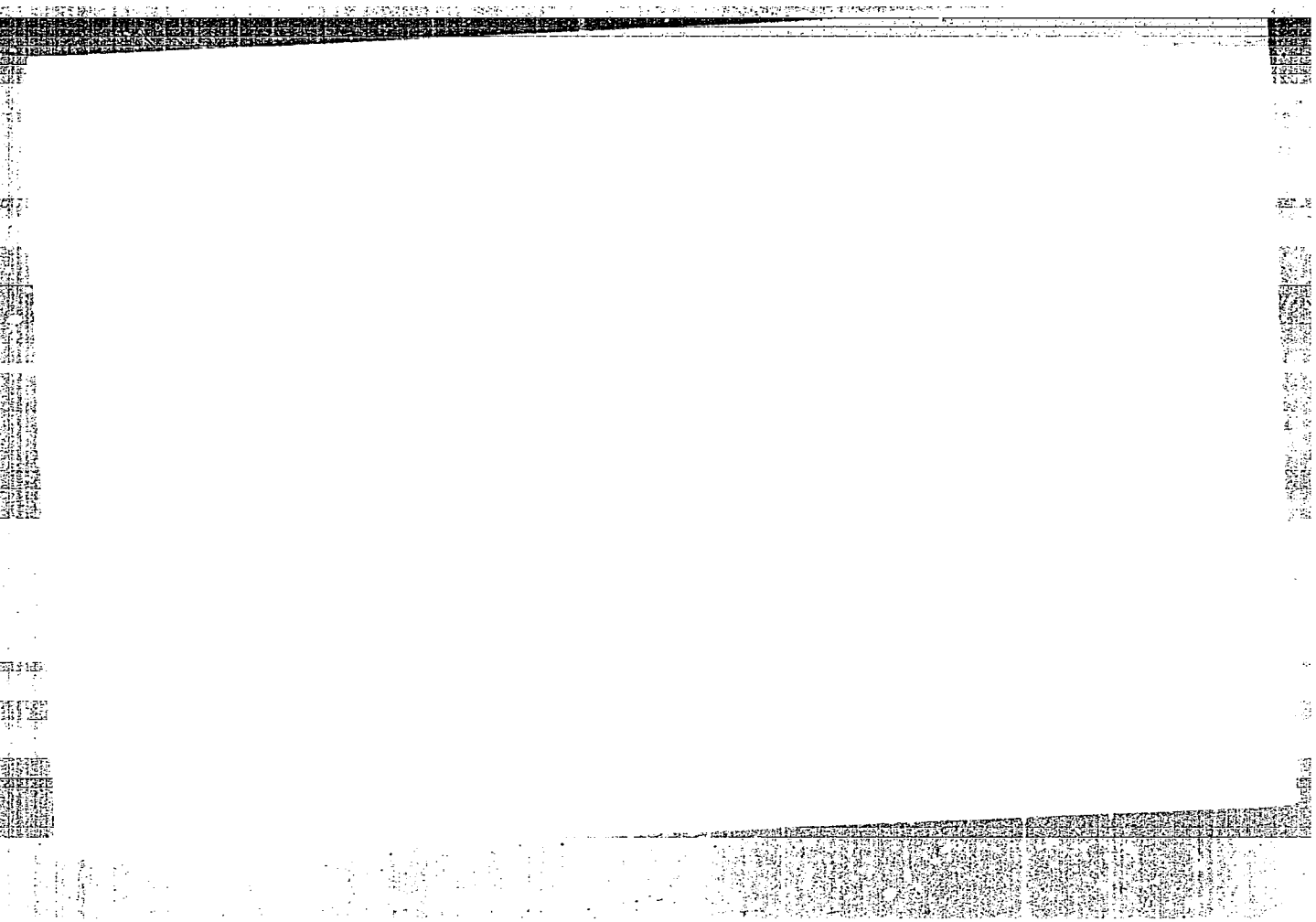
[Abstracter's note: Complete translation.]

Card 2/2

YERSHIN, Sh.A.; YARIN, L.P. (Alma-Ata):

"Diffusion flames in laminar and turbulent wake flows."

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



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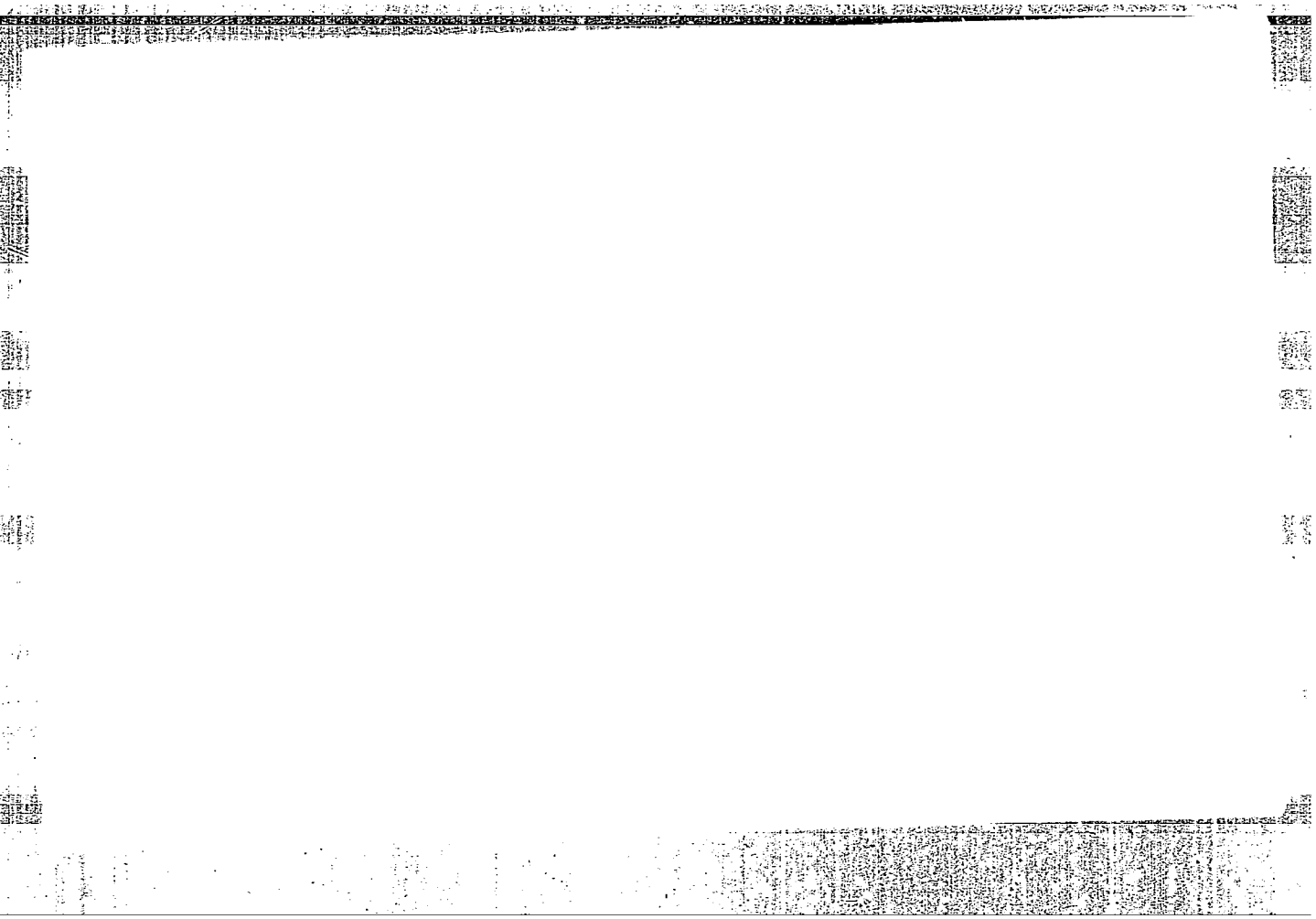

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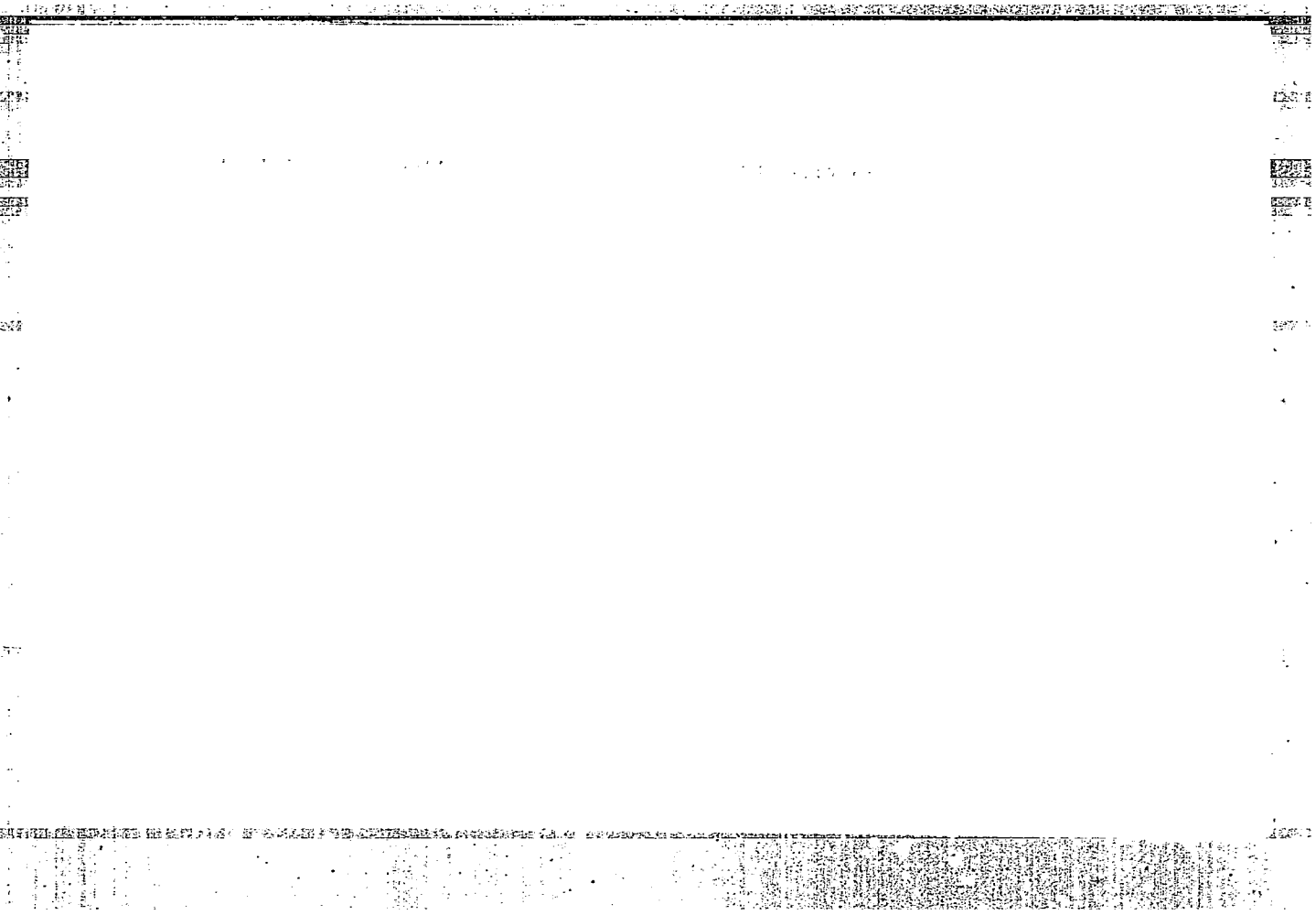
NO REF SOV: 011 OTHER: 003 ATD PRESS: 3142

ALIYAROV, B. K.; SAKIPOV, Z. B.; YARIN, L. P.

"Jet shielding of surfaces with regular macro-roughness."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Power Inst, A.S. KazSSR.



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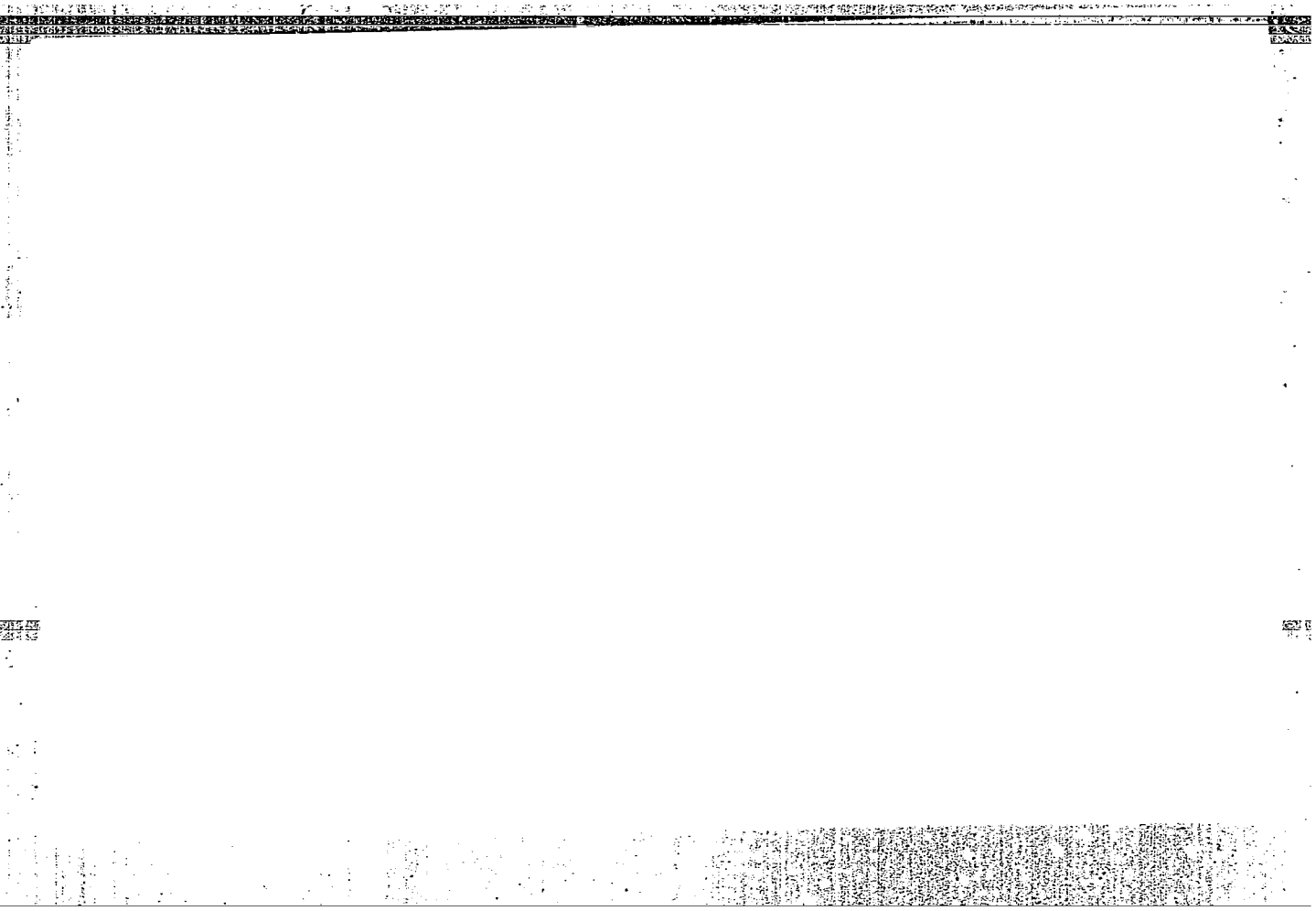

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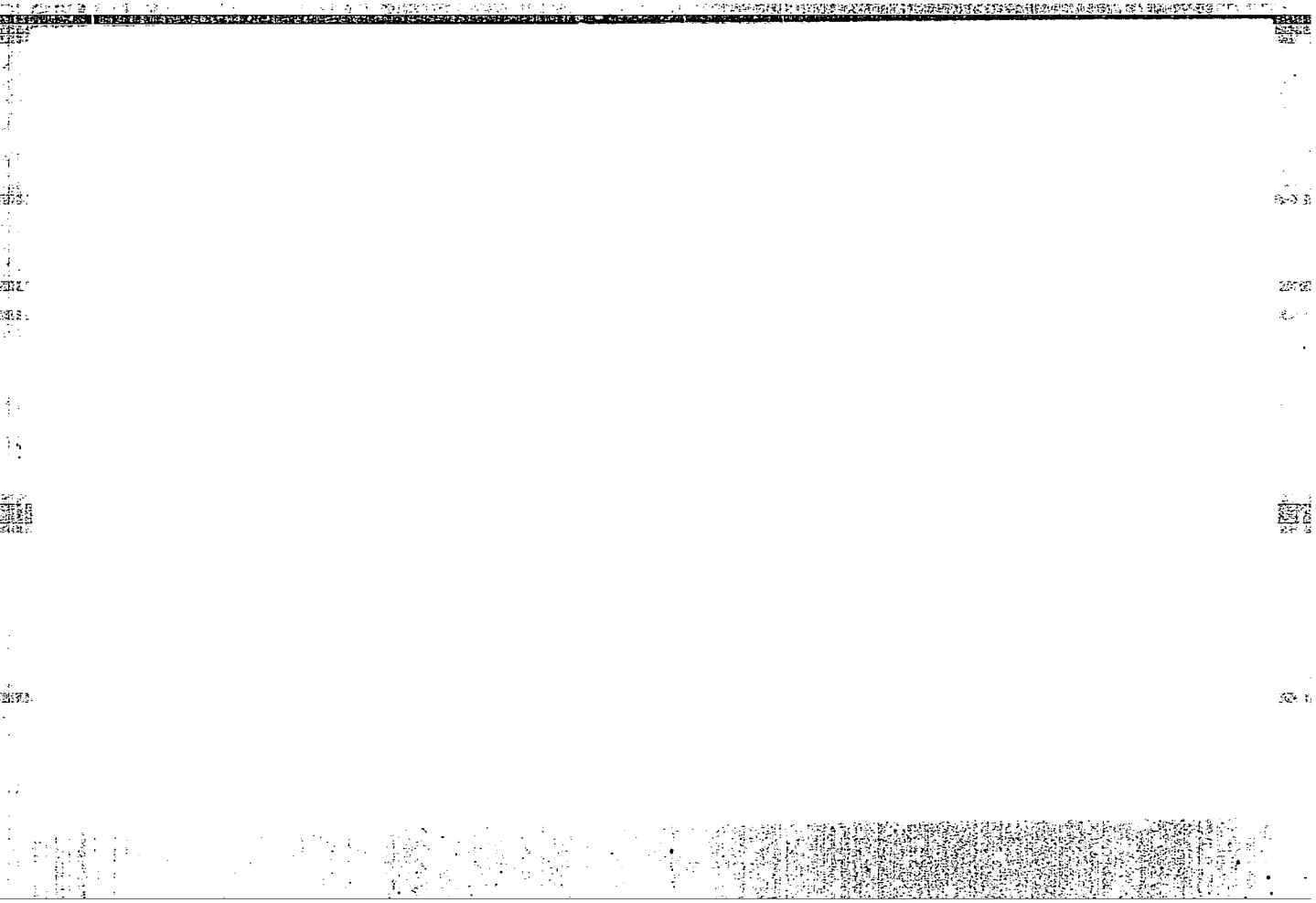

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962120017-2"

YERSHIN, Sh. A.; YARIN, L. P.

"Transfer processes in turbulent jets in the presence of a highly intensive chemical reaction."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Power Inst, AS KazSSR.

L 8078-66 EWT(1)/EWP(m)/EWT(m)/EPF(c)/T/FCS(k)/ETC(m)EWA(1) RPL WW/JW/AWE

ACC NR: AP5026026 SOURCE CODE: UR/0405/65/000/001/0052/0058

AUTHOR: Yershin, Sh. A. (Alma-Ata); Yarin, L. P. (Alma-Ata)

ORG: None

TITLE: The calculation of diffusion combustion within a turbulent flow of compressible gas

SOURCE: Nauchno-tekhnicheskiye problemy goreniya i vzryva, no. 1, 1965, 52-58

TOPIC TAGS: combustion research, compressible gas, gas flow, turbulent flow, subsonic flow, supersonic flow, flow velocity, combustion, combustion gas dynamics, boundary layer flow

ABSTRACT: The combustion of gas in the turbulent boundary region was investigated by numerous authors, but the studies were concerned mainly with flow at the currents low subsonic velocities. However, there are grounds for assuming that combustion of unmixed gases with high-velocity sub- and supersonic flow offer advantages over explosive ignition of homogeneous mixtures. The present authors developed an approximate gas-dynamic method of calculation of the combustion of unmixed gases in a plane-parallel boundary layer of high-velocity flow, using the methods of the theory of turbulent jet flow of compressible gases. The results obtained 1) describe the displacements of the flame front as a function of the velocity of the incident flow; 2) show the distribution of the velocity, Mach number, thermodynamic temperature, and damping temperature across the cross section of the boundary

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L 8078-66
ACC NR: AP5026026

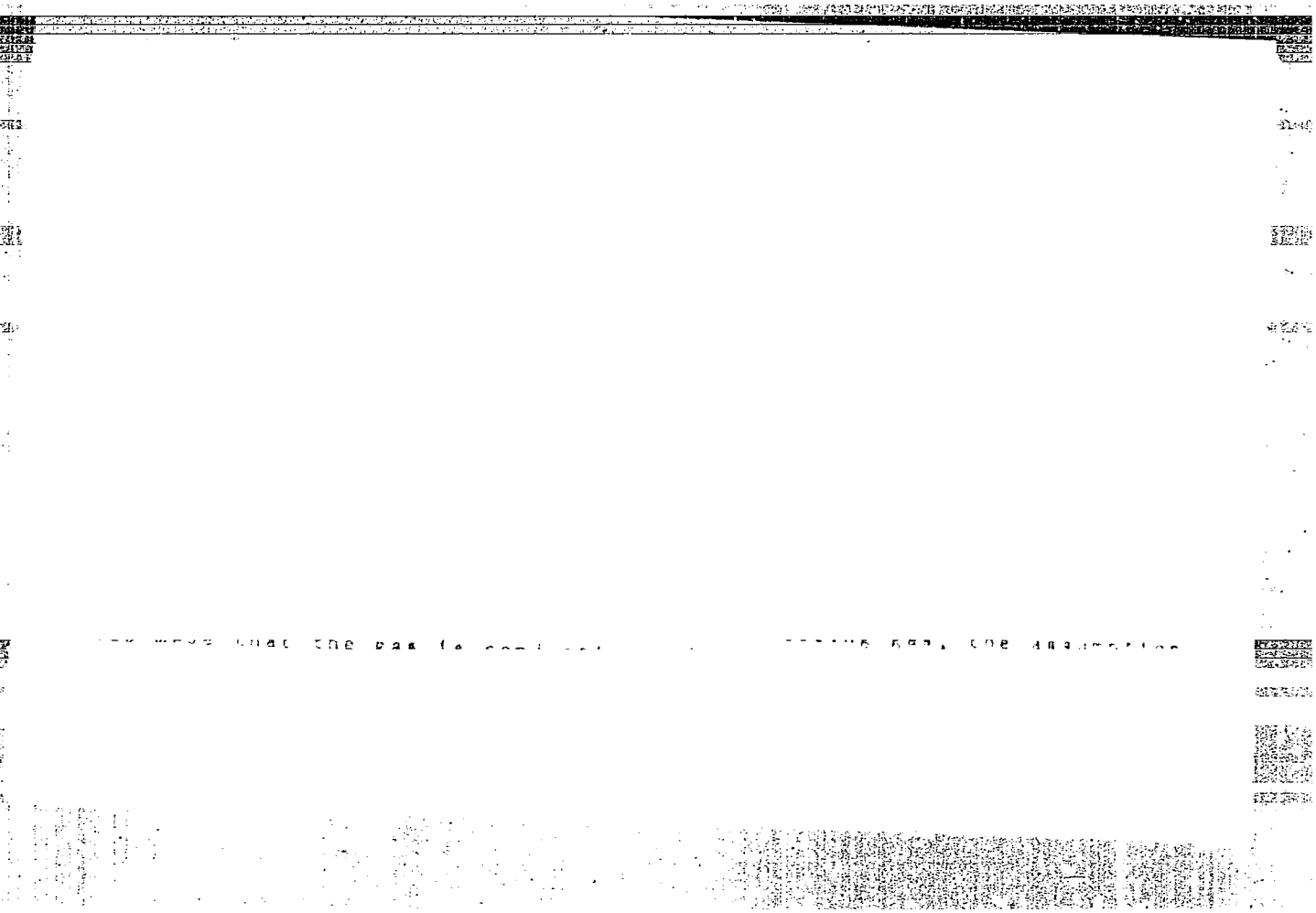
layer; and 3) indicate that significant changes in the M_{∞} number do not cause substantial redistribution of the velocity profile. The paper concludes with a brief discussion of the physical implications of the results. Orig. art. has: 36 formulas and 3 figures.

SUB CODE: ME, FP / SUBM DATE: 02Nov64 / ORIG REF: 009 / OTH REF: 002

Card 2/2

YERSHIN, S.A. (Alma-Ata); YARIN, L.P. (Alma-Ata)

Diffusion burning in a laminar boundary layer. Nauch.-tekh.probl. Gor.i vzryva no.2:101-105 '65. (MIRA 18:10)



High of the interaction parameter the gas in the combustion zone can

SUBMITTED: 24Jul64 ENCL: 00 SUB CODE:

ALIYAROV, B.K.; SAKIPOV, Z.; YARIN, L.P.

Some characteristics of flow along highly rough surfaces. Vest. AN Kazakh SSR 21 no.4:80-84 Ap '65. (MIRA 18:5)

KONOPLYANNIKOV, A.G.; KUDRYASHOV, Yu.B.; YARMONENKO, S.P.

Regeneration efficiency in mice irradiated with 660 Mev protons. Dokl. AN SSSR 161 no.6:1448-1450 Ap '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet i Institut gigiyeny truda i professional'nykh zabolevaniy AMN SSSR. Submitted December 2, 1964.

L 23981-66 EWT(1)/EWP(m)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/EWA(d)/T/ETC(m)-6/EWA(1)
~~NW/DJ/GS~~

ACC NR: AT6006930 SOURCE CODE: UR/0000/65/000/000/0433/0440

AUTHOR: Aliyarov, B. K.; Sakipov, Z.; Yarin, L. P.

ORG: Power Institute, AN KazSSR (Institut energetiki AN KazSSR)

TITLE: Jet shielding of surfaces with regular macro-roughness

SOURCE: Teplo- i massoperenos. t. II Teplo- i massoperenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 433-440

TOPIC TAGS: gas jet, surface property, nozzle design, heat transfer, turbulent flow

ABSTRACT: Experiments with jets of transformer oil were made in a unit consisting of a reservoir, a specially shaped nozzle, and a hollow brass rod with a diameter of 20 mm placed concentrically with respect to the nozzle. The jet issued from an annular gap (5 mm) formed by the nozzle and the rod. A study of the aerodynamics and heat transfer in an axisymmetric-semi-infinite air jet with fully developed turbulent flow conditions was carried out in a similar unit at various values of initial velocity and excess temperature. Measurements were made of the velocity distribution (air and oil jets) and of the temperature (air jet)

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ACC NR: AT6006930

at different transverse cross sections. Regular micro-roughness was obtained by placing steel tubes of different diameter on a smooth plate transverse to the flow. In these experiments, measurements were made of the distribution of the total pressure, the velocity, and the statistical pressure at different cross sections of the jet. Experimental results are exhibited in a series of curves. It is demonstrated that, with a semi-infinite jet propagating along a surface with regular macro-roughness, the maximum value of friction at the wall exists at values of the parameter $\bar{R}$ approximately equal to unity. It can be expected that the dependence of the heat transfer coefficient on $\bar{R}$ will be of an analogous nature. Orig. art. has: 5 figures and 2 tables.

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 004/ OTH REF: 002

L 32000-66 EWT(1)/EWT(m)/T WW/WW/WE

ACC NR: AP6020555 SOURCE CODE: UR/0414/66/000/001/0079/0087

AUTHOR: Vulis, L. A. (Alma-Ata); Yershin, Sh. A. (Alma-Ata); Yarin, L. P. (Alma-Ata)

ORG: none

TITLE: Calculation of a homogeneous turbulent gas flame

SOURCE: Fizika goreniya i vzryva, no. 1, 1966, 79-87

TOPIC TAGS: combustion, gas combustion, turbulent combustion, ~~flame front~~ FLOW VELOCITY, STOICHIOMETRIC MIXTURE, TURBULENT FLAME, COMBUSTION TEMPERATURE

ABSTRACT: An analysis was made of the combustion of a premixed stoichiometric gas mixture which discharges into air or an inert gas. It was assumed that the reaction rate is finite and the maximum temperature is at the flame front. Equations were obtained for the combustion temperature and the location of the flame front as a function of the calorific value of the mixture and the initial flow velocity (1—54.2 m/sec). Plots of the combustion efficiency as a function of the initial gas flow velocity and the calorific value of the mixture showed that an increase in the flow velocity and a decrease in the calorific value result in a decrease in the combustion efficiency. As an example, the flame cone angle of a hydrocarbon-air mixture was calculated and verified by experiments in a Bunsen burner. A for-

Card 1/2 UDC: 536.46+532.507

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ACC NR: AP6020555

mula was also obtained for calculating the turbulent burning velocity as a function of the gas dynamic as well as the kinetic parameters. Orig. art. has: 15 formulas and 6 figures. [PV]

SUB CODE: 21/ SUBM DATE: 27Jul65/ ORIG REF: 005/ OTH REF: 001/ ATD PRESS: 5021

Card 2/2

L 38774-66 EWP(m)/EWT(1) WW

ACC-NR: AT6023749 SOURCE CODE: UR/3149/66/000/003/0106/0123

AUTHOR: Aliyarov, B. K.; Sakipov, Z.; Yarin, L. P.

ORG: none

TITLE: Experimental study of the principles of the propagation of turbulent, semiconfined jets, developing along smooth and tubular, flat surfaces.

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 3, 1966, 106-123

TOPIC TAGS: air jet, aerodynamics, velocity profile, temperature profile, tubular flat surface, smooth surface, boundary layer problem

ABSTRACT: Experimental studies were made of the aerodynamics and heat exchange during the propagation of a semiconfined air jet along a smooth and a microrough flat tubular surface (see Fig. 1) to determine the cooling effect of the air jet on the surface. The temperatures and velocity profiles, friction coefficient, and the jet cooling efficiency coefficient were measured at temperatures T = 300—650K, u_∞ = 14.5—29 m/sec, u_0 = 12.9—35.2 m/sec, b_0 = 10 mm, with overheating parameters $w = T_\infty/T_0$ (2.00—3.00), concurrence parameters $m_u = u_\infty/u_0$ (0.44—1.68), and head pressure ratios $m_{u^2} = H_\infty/H_0$ (0.07—1.00). An analysis of the experimental data indicates that the aerodynamic and heat-exchange principles governing the flow of an

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L 38774-66

ACC NR: AT6023749

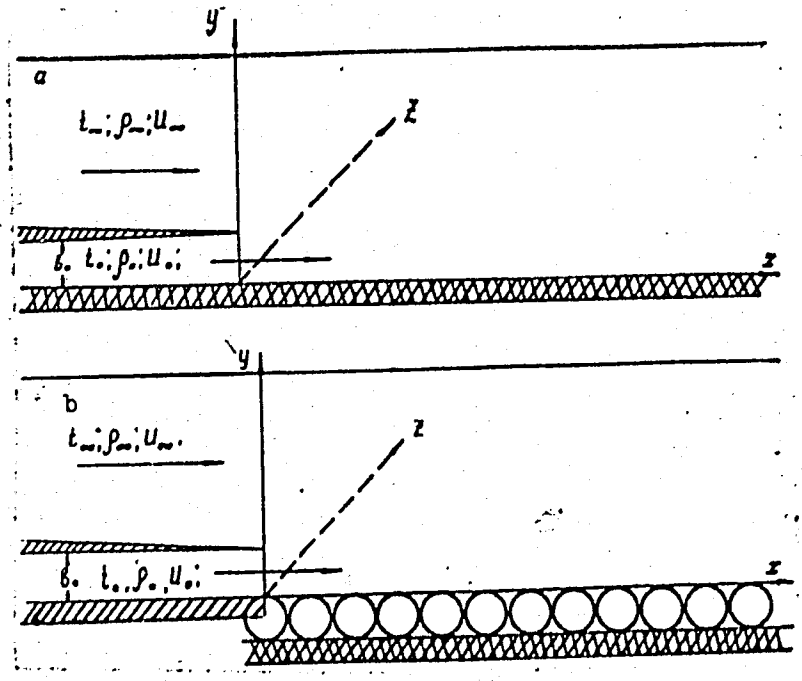

Fig. 1. Flow-diagram of a semiconfined air jet in a concurrent flow.

a - Along a smooth surface; b - along a microrough (tubular) surface; b_0 - width of the jet exit nozzle; t - temperature; ρ - density; u - velocity of the flow; ∞ - main flow; o - jet.

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L 38774-66
ACC. NR: AT6023749

air jet along a microrough surface in a concurrent flow are similar to those characteristic for the boundary layer formed during the flow of a jet along a rough plate. A similarity in the velocity and temperature profiles in various cross sections of the jet permits an approximate, semi-empirical calculation of its parameters using the previously postulated theory of turbulent jets (Abramovich, G. N. Teoriya turbulentnykh strui. M., Fizmatizdat, 1960). Orig. art. has: 13 figures and 2 tables.

[PS]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 002

Card 3/3

L 08569-67 EWP(m)/EWT(1)/EWT(m) WW/JW/JWD/WE

ACC NR: AP6032975 SOURCE CODE: UR/0031/66/000/009/0048/0050

AUTHOR: Yershin, Sh. A.; Rybalova, R. P.; Yarin, L. P. 61

ORG: none

TITLE: Calculation of a diffusion flame in the transient flow region

SOURCE: AN KazSSR. Vestnik, no. 9, 1966, 48-50

TOPIC TAGS: combustion, diffusion flame, propulsion, combustion rate, transient flow, flow velocity, turbulent flame

ABSTRACT: The length of diffusion flames in laminar flow regimes is directly proportional to the gas flow velocity. With increasing flow velocity, the flame becomes turbulent and the regime is transient. At high flow velocities, the flame is fully turbulent, and the length does not depend on the flow velocity. The turbulent and laminar regimes have been previously studied, but the transient regime, which involves both molecular and turbulent transfer, has not yet been thoroughly studied. In the present study, experiments in the transient regime were made with carbon monoxide and hydrogen combustion, and the following formula was derived for calculating the flame length:

$$\frac{l_f}{d} = \beta \frac{Re}{K_T Re + \left(\frac{1}{Sc} - K_T Re\right) e^{-c' Re}},$$

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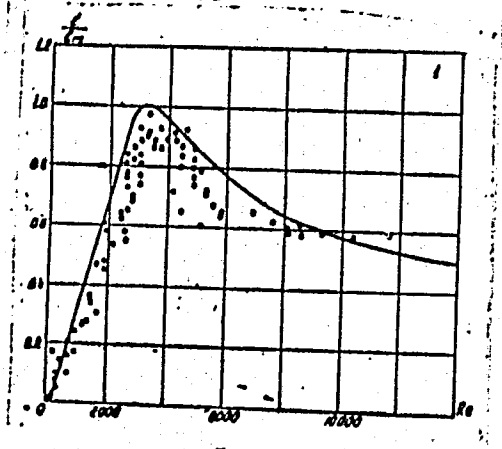

Fig. 1

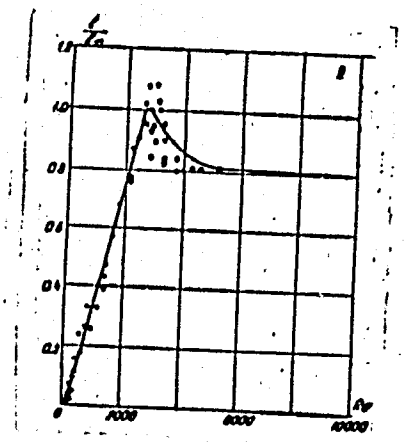

Fig. 2

Figs. 1 and 2. Comparison of calculated and experimental results on the dependence of the flame length of the Reynolds number

Fig. 1. Carbon monoxide; $Re_{max} = 3300$; $Re_{cr} = 2700$; $k_T = 1.115.10^{-3}$; $a = 0.0001815$.

Fig. 2. Hydrogen; $Re_{max} = 2700$; $Re_{cr} = 2700$; $k_T = 0.3.10^{-3}$; $a = 0.00154$.

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where S_c is the Schmidt number; K_T, empirical coefficient in the expression for eddy diffusivity; l_f, flame length; d, burner diameter; u, gas flow velocity; β, a coefficient allowing for the physico-chemical properties of the gas; D, diffusivity; Re, Reynolds number; and α is given by

$$\alpha^2 = \frac{1}{Re_{max}(Re_{max} K_T S_c - 1)},$$

(where Remax = the Reynolds number corresponding to the maximum flame length); α can be determined experimentally. R_* is given by $D_{MT} = D_T + (D_M - D_T)e^{-\alpha' R_*}$, where D_{MT} is overall molecular-eddy diffusivity, D_T is the eddy diffusivity, and D_M is the molecular diffusivity. Orig. art. has: 2 figures and 4 formulas.

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AUTHOR: Vulis, L. A.; Yarin, L. P.

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TITLE: Electric modeling of the combustion process by means of low-temperature plasma

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ABSTRACT: Direct experimental studies of analytical solutions to combustion processes are replete with difficulties. Therefore, the feasibility of electric simulation of gas combustion processes has been investigated (see Figs. 1 and 2). The heat release in the flame is simulated by the joule heat evolved by passage of current through as gas which serves as the modeling substance. The electric currents passing through the low-temperature plasma must be sufficiently small so that heat release is the only effect. Applied as well as induced magnetic fields must be absent. An an example, the ignition of a combustible mixture flowing along the plate, with and without allowance for combustion, is considered. By this method using the

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