ZHUK, Ya.M., kand.tekhn.nauk

Basis for the standard dimensions of reapers used in the combine harvesting of grain by stages. Trakt. i sel'khozmash 31 no.3:27-30 Mr. '61. (MIRA 14:3)

(Harvesting machinery)

1. ZHUK, YA. M.

2. USSR (600)

4. Grain

7. Overall mechanization of grain harvest and post-harvest processing of grain. Dost. sel'khoz. no.6, 1952.

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

ZHUK, Ya.M.

AUTHOR: Kapitskiy, R.A., Engineer SOV-117-58-8-26/28

TITLE: All-Union Conference on Problems of Designing and Producing Agricultural Machines (Vsesoyuznaya konferentsiya po voprosam konstruirovaniya i proizvodstva sel'skokhozyaystvennykh mashin)

PERIODICAL: Mashinostroitel', 1958, Nr 8, p 46 (USSR)

ABSTRACT: The All-Union Scientific Technical Conference on problems of of designing and producing agricultural machines was convened in Rostov-on-Don in January 1958. The plenary session heard the report of Candidate of Technical Sciences A.Z. Zhuravlev, on the results of the execution of the resolutions made by the conference in 1953. Candidate of Technical Sciences Ya.M. Zhuk, VIM, read a paper on "The Results of the Study of the Two-Phase Method of Combine Harvesting in the USSR and of the Requirements of the System of Machines Needed for this Method". Candidate of Technical Sciences I.I. Trepenenkov, NATI, read on "The Methods for the Development of the Designing of Agricultural Tractors"; Doctor of Technical Sciences M.A. Pustygin, VISKhOM, on "The Principal Problems of the Development of Cereal Harvesting Combines"; Engineer V.D. Lavrent'yev on "Specialization and Cooperation in the Production of Agricultural Machines"; Engineer O.M. Kotovich, VISKhOM, on

Card 1/3

All-Union Conference on Problems of Designing and Producing Agricultural Machines

"Rational Profiles and Reduction of Assortment of Rolled Metal in Agricultural Machinebuilding"; Engineer G.M. Fedorishchenko on "Results of the Work of VNIIMESKh in the Field of the Electric Drive of Mobile Agricultural Machines"; Engineer P.V. Savich from the Institute of Machine Science of the UkrSSR Academy of Sciences on "The Determination of the Density of Soils by Means of Radioactive Isotopes"; Candidate of Technical Sciences S.A. Alferov, VISKhOM, on "The Design of Foreign Cereal Harvesting Combines"; Engineer A.I. Malitskiy on "New Designs of Corn-Harvesting Combines"; Candidate of Technical Sciences Ye.S. Bosoy on "Field Tests of Cutting Apparatus for an Ensilage Harvesting Combine"; the professor of the Khar'kov Polytechnical Institute A.I. Petrusov on "Methods for the Further Investigation of the Square-Pit Sowing Machine"; the lecturer of the Rostov Institute of Railroad Transport Engineers A.I. Zelenov on "A New Method for Cold Electric Welding for the Restitution of Rejected Details of Agricultural Machines"; the lecturer of the Novocherkassk Polytechnical Institute Ye.L. Lokshin on "Processing of Metals by Hydraulic

All-Union Conference on Problems of Designing and Producing Agricultural Machines

Blows of Ultrasound Frequency"; and the engineer of the Rostov Scientific Research Technological Institute D.M. Nabrodov on "New Methods of Casting in Agricultural Machine-Building". The conference recommended close cooperation between the designing bureaus, the scientific research organizations and the chairs of the various institutes for the development of new agricultural machines taking into consideration zonal differences. Special attention should be paid to the automation of the control of the various mechanisms.

1. Agricultural machines - Design 2. Agricultural machines - Production 3. Conferences - Agricultural machines - Rostov-on-Don

1. ZHUK, Ya. M.

2. USSR (600)

4. Agricultural Machinery

7. Overall mechanization of grain harvest and post-harvest processing of grain. Dost. sel'khoz. no. 6: 1952

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

ZHUK, YA. M.

Agricultural machinery

Mechanization of handling grain oncollective farms of the south. Sel'khozmashina No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. Unclassified.

Zhuk Ya. A

USSR/General Problems. Methodology. History. Scientific Institutions and Conference. Instruction. Questions Concerning Bibliography and Scientific Documentation A

Abs Jour : Ref Zhur-Khimiya, No 3, 1958, 6842

Author : Ya. A. Zhuk
Inst :
Title : From Domestic Industry to Leading Industry Branch in Republic

Orig Pub : Konservn. i ovoshchesush. prom-st', 1957, No 10, 22-26

Abstract : To the 40th anniversary of the Great October Socialist Revolution. An abridged sketch of the origin and development of the canned food industry in the Moldavian SSR.

Card 1/1

ZHUK, Ya.M., kand.tekhn.nauk

Harvesting grain in three separate stages. Mekh.i elek.sots. sel'khoz. 17 no.5:4 '59. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Grain--Harvesting)

ZHUK, Ya. M. kand.tekhn.nauk

Shaping windrows in harvesting with reapers. Mekh. i elek. sots. sel'khoz. 19 no.1:4-9 '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Grain--Harvesting)

ZHUK, Ya. M. kand.tekhn.nauk

For efficient utilization of machinery in harvesting grain crops. Zemledelie 23 no.6:3-12 Je '61. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Grain--Harvesting)
(Harvesting machinery)

ZHUK, Ye.A.; POPOVA, N.K.; IL'YUCHENOK, R.Yu.; SHMERLING, M.D.; SERGIYEVSKIY, V.S.

Electrocardiographic and morphologic characteristics of experimental acute coronary insufficiency during the action of hydrazine derivatives. Pat. fiziol. i eksp. terap. 8 no.5:36-41 S-O '64. (MIRA 18:12)

1. Otdel eksperimental'noy biologii (zav. - doktor med.nauk B.B.Fuks) Instituta [redacted]logii i genetiki Sibirskogo otdeleniya AN SSSR; Novosibirskiy universitet, Institut eksperimental'noy biologii i meditsiny Ministerstva zdravookhraneniya RSFSR, Novosibirsk. Submitted June 25, 1963.

ZHUK,YE. A.

ZHUK, YE. A. --"Production of Milled Peat on a Surface Deposit with Intensive Processing of the Peat Mass," *(Dissertations For Degrees In Science and Engineering Defended at USSR Higher Educational Institutions)(29) Acad Sci Belorussian SSR, Department of Physicomathematical and Technical Sciences, Minsk, 1955

SO:Knizhnaya Letopis' No 29, 16 July 1955

* For the Degree of Candidate in Technical Sciences

ZHUK, Ye.A., kand.tekhn.nauk

Degree of raw peat processing in a toothed macerator where there is a constant layer of peat on roller surfaces. Vestsi AN BSSR Ser. fiz.-tekh. nav. no.3:41-46 '58. (MIRA 11:10)
(Peat machinery)

ZHUK, Ye.A., kand.tekhn.nauk

Calculable forces which act on the shaft of a toothed peat macerator. Vestsi AN BSSR Ser. fiz.-tekh. nav. no.3:123-125 '58. (MIRA 11:10)

(Force and energy) (Peat machinery)

GALENCHIK, Ivan Zakharovich, kand.tekhn.nauk; ZHUK, Yefim Afanas'yevich, kand.tekhn.nauk; OSTROVSKIY, Yakov Naumovich, agronom; TEREGULOV, Ivan Kharitonovich, inzh.; KAZACHENOK, V., red.; KALECHITS, G., tekhn.red.

[Winning peat and its uses in agriculture; a reference manual] Dobycha i ispol'zovanie torfa v sel'skom khoziaistve; spravochnoe posobie. Minsk, Gos.izd-vo BSSR. Red.sel'khoz.lit-ry, 1959. 231 p. (MIRA 13:4)
(Peat) (Fertilizers and manures)

NEYMARK, I.I. (Barnaul); SHVIND, G.N. (Chelyabinsk); ZHUK, Ye.A.; KONOVALOV, Ye.D. (Novosibirsk); SAVEL'YEV, V.I.; LYADOV, Yu.S. (Yaroslavl'); KARAPETYAN, E.T. (Yerevan); FISHER, E.F. (Tomsk); TSINTSADZE, A.N. (Tbilisi); GOLOMAZOV, M.F. (Ternopol'); ELOZO, V.P. (Krasnodar); FEOFILOV, G.L. ; MUKHIN, Ye.P. (Novosibirsk)

Abstracts. Grud. khir. 6 no.2:113-119 Mr-Ap '64. (MIRA 18:4)

BUTEYKO, K.P.; ZHUK, Ye.A.; FUFIN, V.I.

ECG in patent ductus arteriosus and its changes following closure of the duct. Eksper. khir. i anest. 9 no.1:11-13 Ja-F '64. (MIRA 17:12)

1. Laboratoriya funktsional'nykh metodov issledovaniya (zav. K.P. Buteyko) Instituta eksperimental'noy biologii i meditsiny (dir. - prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR, Novosibirsk.

ZHUK, Ye.A.

In the Central Research Institute of Mechanization and Electrification of Agriculture in the Non-Chernozem Zone of the U.S.S.R. (MIRA 16:1)
Torf. prom. 39 no.8:31 '62.
(Farm mechanization--Congresses)

ZHUK, Ye.A.; KILINSKIY, Ye.L. (Moskva)

Use of the sugar test for the evaluation of coronary circualtion.
Klin.med. 38 no.8:87-93 Ag '60. (MIRA 13:11)

1. Iz 1-y kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof M.S. Vovsi [deceased]) TSentral'nogo instituta usovershenstvovaniya vrachey.
(CORONARY HEART DISEASE) (GLUCOSE)

BEL'KEVICH, P.I.; ZHUK, Yo.A.; SAPELKIN, M.V.

Some results of the work of the Peat Institute. Trudy Inst. torf. AN BSSR 9:3-13 '60. (MIRA 14:2)

(Peat)

ZHUK, Ye.A.; KHALUGA, A.K.; NAUMOVICH, V.M.

Search for an effective technology of winning milled peat of lower moisture. Trudy Inst. torf. AN BSSR 9:59-65 '60. (MIRA 14:2)
(Peat industry)

ZHUK, Ye.A.; NAUMOVICH, V.M.; KHALUGA, A.K.; STAKHANOV, Yu.P.

Testing the stamping press of the Glomor system for the manufacture of peat semibriquets. Trudy Inst. torf. AN BSSR 9:66-70 '60.
(MIRA 14:2)

(Briquets (Fuel)) (Hydraulic presses)

LOPOTKO, M.Z.; NAGORSKIY, I.S.; KRIVOSHEIN, M.S.; OPEYKO, F.A.; ZHUK, Ye.A.

Preliminary testing of the MKT-3 rotor screw machine for winning small-size machine peat. Trudy Inst. torf. AN BSSR 9:119-131 '60. (MIRA 14:2)

(Peat machinery)

LOPOTKO, M.Z., kand.tekhn.nauk; NAGORSKIY, I.S., kand.tekhn.nauk; KRIVOSHEIN, M.S., kand.tekhn.nauk; ZHUK, Ya.A., kand.tekhn.nauk; OPEYKO, F.A., doktor tekhn.nauk

Lump peat winning machine. Torf.prom. 38 no.1:11-12 '61. (MIRA 14:2)

1. Institut torfa AN BSSR.
(Peat machinery)

ZHUK, Ye.A.

Characteristics of the granular peat obtained in the treatment of peat bogs with a toothed macerator. Trudy inst. torf. AN BSSR 8: 85-93 '59. (MIRA 13:12)

(Peat)

OPEYKO, F.A.; ZHUK, Ye.A.

Extent of the processing of peat in a roller macerator. Trudy inst. torf. AN BSSR 8:114-118 '59. (MIRA 13:12)
(Peat)

ZHUK, Ye.D.

High-speed dust collector. Stek.i ker. 17 no.5: 42-43 My '60. (MIRA 13:8)
(Ivov--Dust collectors)

ZHUK, YE. G.

"The Prophylactic and Therapeutic Effect of Ultraviolet Rays in Cases of Penetrating Radiation," paper presented at the Scientific Conference of the Leningrad Sanitation Institute, 8-10 May 1956,

U-3,054,017

KUZNETSOV, V.I., polkovnik med. sluzhby; BARONOV, V.A., polkovnik med. sluzhby; TITOV, A.I., polkovnik med. sluzhby, dots.; FIALKOVSKIY, V.V., polkovnik med. sluzhby; SMIRNOV, K.K., polkovnik med. sluzhby, kand. med. nauk; DOVZHENKO, G.I., polkovnik med. sluzhby; DIVNENKO, P.G., polkovnik med. sluzhby; GORYUSHIN, G.S., podpolkovnik med. sluzhby; SHCHERBEKOV, N.I. podpolkovnik med. sluzhby; ZHUK, Ye. G., podpolkovnik med. sluzhby; BUTOMO, N.V., mayor med. sluzhby; PREOBRAZHENSKIY, P.V., mayor med. sluzhby; TIKHONOV, K.B., mayor med. sluzhby

Clinical manifestations in subjects exposed to prolonged ionizing irradiation. Voen. med. zhur. no.2:40-43 F '57 (MIRA 12:7)
(RADIATIONS, effects,
clin. manifest. in subjects exposed to prolonged ionizing irradiation (Rus))

T

USSR/Human and Animal Physiology - The Nervous System.

Abs Jour : Ref Zhur Biol., No 3, 1959, 13256

Author : Zhuk, Ye.G.

Inst : -

Title : Observation of Status of Higher Nervous Activity in Individuals Working in Radioactive Environment

Orig Pub : Voyen.-med. zh., 1957, No 11, 20-23

Abstract : As a result of innizing inradiation there developed a dissociation between latnet periods and the magnitude of the motor conditioned reaction, the instability of these indices, the retarded formation of new bonds, the unreliability of differentiation, and the rapid exhaustion of the cortex. Impairments of the higher nervous activity were most pronounced after several days of irradiation. Discontinuance of the work for 1 - 2 months and therapy favored recovery of the higher nervous activity. The chronic effect of irradiation

Card 1/2

USSR/Human and Animal Physiology - The Nervous System. T

Abs Jour : Ref Zhur Biol., No 3, 1959, 13256

of less intensity led to a drop in the work potential of the cortex and a reduction in the fine forms of inhibition; the disturbances in higher nervous activity were similar to neurotic manifestations with intoxications, over-exertion, and aging but were not accompanied by gross changes in internal inhibition and function of the secondary signal system. --
K.S, Ratner

Card 2/2

ZHUK, Ye.G.

Preventive and medical effect of ultraviolet rays in ionizing radiation injuries. Gig. i san. 23 no.10:84-86 O '58 (MIRA 11:11)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(RADIATION, inj. eff.
prev. & ther. eff. of ultraviolet rays (Rus))
(ULTRAVIOLET RAYS, eff.
prev. & ther. eff. in radiation inj. (Rus))

Zhuk, Ye. G.

PHASE I BOOK EXPLOITATION SOV/4107

Leningrad. Institut radiatsionnoy gigiyeny

Ul'trafioletovaya radiatsiya i yeye gigiyenicheskoye znacheniye; sbornik trudov (Ultraviolet Radiation and Its Sanitary Importance; Collection of Transactions) Leningrad, 1959. 198 p. Errata slip inserted. 700 copies printed.

Additional Sponsoring Agency: RSFSR. Ministerstvo zdravookhraneniya.

Ed. (Title page): M. F. Galanin, Director of the Institute of Radiation Hygiene, Corresponding Member, Academy of Medical Sciences USSR, Professor; Ed. (Inside book): D. N. Tyukov.

PURPOSE: This collection of articles is intended for researchers and personnel working in public health and medicine who are interested in the hygienic and therapeutic effects of ultraviolet radiation.

COVERAGE: The purpose of the present collection is to supply material for future publications on important problems in the field. The collection includes studies on ultraviolet radiation made at the Institut radiatsionnoy gigiyeny (Institute of Radiation Hygiene) under the direction of Professor M. F. Galanin, Corresponding Member, AMN SSSR (Academy of Medical Sciences USSR), throughout the text frequent reference is made to the works of Soviet scientists and non-Soviet sources at the end of every article except the tenth.

SVIDERSKAYA, T.A., kand.med.nauk; ZHUK, Ye.G., nauchnyy sotrudnik; FILIPSON, I.N., vrach

Utilization of ultraviolet rays of different spectral combinations for reducing sequelae of radiation injury. Gig.i san. 25 no.2: 27-32 F '60. (MIRA 13:6)

1. Iz Instituta radiatsionnoy gigiyeny Ministertva zdravookhraneniya RSFSR.
(RADIATION INJURY prevention & control)
(ULTRAVIOLET RAYS)

ZHUK, Ye.I.

Fatigue testing machine for crankshafts. Zav. lab. 30 no.5:608-609 '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy teplovoznyy institut.

KUDRYAVTSEV, I.V., doktor tekhn. nauk, prof.; ZHUK, Ye.I., inzh.

Investigating the fatigue resistance of cast-iron crankshafts of a diesel locomotive engine. Vest. mashinostr. 44 no.6:46-50 Je '64. (MIRA 17:8)

ZHUK, Ye.I., inzh.

Effect of the nonadherence of the journals to the bearings on the state of stress of the crankshaft of 2D100 diesel engines. Trudy VNITI no.19:159-166 '64. (MIRA 18:3)

ZHUK, Ye.I., inzh.; TEL'NYUK, N.I., inzh.

Lengthening the life of cast crankshafts. Trudy VNITI no.16: 96-101 '62. (MIRA 17:1)

ZHUK, Z. (Eng.)

Farm Mechanization

Transportation without rails on farms. MTS, 12, No. 5, 1952

Monthly List of Russian Accessions, Library of Congress, August, 1952, UNCLASSIFIED.

KOLYASIN, Ye.A., kandidat tekhnicheskikh nauk; Zhuk, Z.Ya., inzhener.

Electric cream separators, Sel'khozmashina no.9:10-12 S '56.
(Cream separators) (MLRA 9:11)

ZHUK, Z.Ya.

The UDM-S universal milking unit. Biul.tekh.-ekon.inform. no.5:67-68 '59. (MIRA 12:8)
(Milking machines)

ZHUK, Z.Ya.

Basis for a standard milking equipment and milk processing on dairy farms. Trakt. i sel'khozmash. 31. no.6:15-20 Je '61. (MIRA 14:6)

1. Rukovoditel' laboratorii mashin dlya doyeniya i pervichnoy obrabotki moloka Vsesoyuznogo nauchno-issledovatel'skogo instituta sel'skokhozyaystvennogo mashinostroyeniya.
(Milking machines) (Dairying)

ZHUK, Z.Ye.

Universal milking unit UDM-8. Zhivotnovodstvo 21 no.8:79-83 Ag '59. (MIRA 12:11)

1. Rukovoditel' gruppy molochnykh mashin Vsesoyuznogo nauchno-issledovatel'skogo instituta sel'skokhozyaystvennogo mashinostroyeniya.
(Dairying--Equipment and supplies)

ZHUK, Z.Ya.

Unit for purifying, cooling, and separating milk. Zhivotnovodstvo 20 no.11:78-81 N '58. (MIRA 11:11)

1. Nachal'nik gruppy molochnykh mashin Vsesoyuznogo nauchno-issledovatel'skogo instituta sel'skokhozyaystvennogo mashinostroyeniya. (Dairy industry--Equipment and supplies)

ZHUK, Z.Ya., inzh.

OKhM-500 machine for cleaning, cooling, and separating milk. (MIRA 11:6)
Trakt. i sel'khozmash. no.5:33-36 My '58.
(Dairy industry--Equipment and supplies)

ZHUK, Z. Ya.

The UDE-16 "Elochka" stationary milking unit. Biul.tekh.-ekon. inform. no.6:61-62 '61. (MIRA 14:6)
(Milking machinery)

L 23394-66 EWP(k)/EWT(m)/EWP(t) IJP(c) JD

ACC NR: AP6000637 SOURCE CODE: UR/0407/65/000/001/0047/0048

AUTHOR: Stanek, Y. (Novoye Mesto nad Vagom); Meng, Siy Ing (Novoye Mesto nad Vagom); Zubak, Y. (Novoye Mesto nad Vagom); Zhukha, Y. (Novoye Mesto nad Vagom)

ORG: VUMA Institute, Czechoslovakia (VUMA Institut)

40
B

TITLE: Electrochemical grinding of metal-ceramic alloys

44,55,18

SOURCE: Elektronnaya obrabotka materialov, no. 1, 1965, 47-48

TOPIC TAGS: electrochemical grinding, metal ceramic material

ABSTRACT: These experimental results of electrochemical grinding of cutting tools and dies are briefly reported: (1) Both outer and inner surfaces can be ground by the electrochemical method; (2) As the process is "cold," no defective layer is formed on the surface; (3) With a current density of 50 amp/cm^2, the productivity is 60 mm^3/min, the roughness of the resulting surface being 0.4 μ; (4) The attainable error is $\pm$ 0.03 mm; (5) The nonhardened-steel grinding wheel wear is 0.1 mm after the grinding of 20 pieces; (6) The cost of electrochemical grinding is one-half the cost of abrasive grinding. Orig. art. has: 2 figures.

SUB CODE: 13 / SUBM DATE: none

2

Card 1/1 Jo

3 (5)

AUTHORS: Zhuk-Pochekutov, K. A., Maslov, V. P. SOV/20-130-1-40/69

TITLE: Problems Regarding Graphite From the Botogol'skiy Mountain (East Sayan)

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 140-142 (USSR)

ABSTRACT: Considerable deposits of high-quality graphite are known to occur in the alkalin Botogol'skiy massif . Graphite occurs almost in all rocks, but the bulk of large graphite bodies is concentrated in the northern part of the massif and is bound to leucocrate-nepheline-syenites and to alkaline and nepheline-pyroxene-syenites. Large individual granite bodies are bedded in limestones or in their contact areas. Graphite either is dispersed in rocks or forms little pockets and roundish or lens-shaped bodies of different size respectively. Larger deposits (bodies to 50 times 35 m in diameter) are ellipsoidal or roundish. Of this deposit, A. N. Labuntsov (Ref 1) classified the following graphite varieties: 1) massive, solid-crystalline, 2) arborescent, 3) drop-shaped ("somatoid") and concentrical-spheroidal, and 4) imbricating graphite. The first variety is the most frequent one. The genesis of Botogol'skiy graphite has not been completely explained. The age of the Botogol'skaya

Card 1/4

intrusion is determined to be Lower or Middle Devonian. Most researchers agree that limestones are the source of carbon. Opinions, however, differ as to the formation conditions and the sedimentation age of graphite. According to B. M. Kupletskiy (Ref 2), besides organic remains of limestones, carbonic acid which was released during the $CaCO_3$ dissociation, also took part in the graphite development. Hydrocarbons were able to liberate carbon with CO_2 separated from the limestones during the interaction of gas-saturated magma. N. A. Florensov and V. S. Sobolev agree as to the source of carbon. However, they hold the opinion that graphite was developed by the CO decomposition (reaction of Boudoir) in the obligatory presence of bitumen. Graphite sedimentation set in already during the magmatic stage. Its bulk, however, was deposited by post-magmatic hydrothermal solutions. According to V. P. Solonenko the transformation process of limestones into syenite favored the carbon concentration. The hydrothermally deposited graphite is said to be of organic origin. Finally the authors

Problems Regarding Graphite From the Botogol'skiy Mountain (East Sayan) SOV/20-130-1-40/69

describe a new tubelike variety of graphite from the Botogol'skiy massif (Fig 1). It forms groups of parallel tubes with an intermediate space of 1-2 mm, a length of 20 mm and walls 0.1-0.3 mm thick. The middle part of the tubes is filled by zonated minerals in the sequence: calcite, pyroxene, microcline, nepheline (from outside). Thick tubes dichotomize in a sharp angle. The authors arrived at the conclusion that in this case graphite was separated earlier than minerals of the syenite part. The latter are of metasomatic origin. Graphite tubes originally may have been composed of organic carbon compounds. In their embedding they remained hard and became graphite without considerable mechanical deformations. If this assumption is true, this problem is to have a name: Botogolia sajanensis gen. et sp.n. These "Organisms" (as a working hypothesis) probably belong to algae of the species Phaeophyceae. Finally the authors are of the opinion that it is much simpler to explain the formation of graphite by this theory than by the assumption of a complicated carbon concentration by metasomatic processes. The authors also mention S. V. Obruchev. There are 1 figure and 4 Soviet

Card 3/4

Problems Regarding Graphite From the Botogol'skiy Mountain (East Sayan) SOV/20-130-1-40/69

references.

ASSOCIATION: Geologicheskiy institut Akademii nauk SSSR (Institute of Geology of the Academy of Sciences, USSR)

PRESENTED: July 5, 1958, by N. S. Shatskiy, Academician

SUBMITTED: July 3, 1958

Card 4/4

ZHUKAREV, A.S.

Formation of K-meson pairs in pion-nucleon interactions. Izv. vys. ucheb. zav.; fiz. 7 no.6:165-171 '64.

(MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

ZHUKAREV, A.S.; PAVLENKO, Yu.G.

The $\bar{\pi} + N \rightarrow N + K + \bar{K}$ reaction and the determination of the coupling constant of and K-mesons. Vest. Mosk. un. Ser.3: Fiz., astron. 19 no.5:8-10 S-O '64.

(MIRA 17:12)

1. Kafedra teoreticheskoy fiziki Moskovskogo universiteta.

S/259/63/000/004/007/030
A001/A101

AUTHOR: Strayzhis, V., Zhukas, A.

TITLE: Noctilucent clouds in 1959 - 1961

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 4, 1963, 28, abstract 4.51.273 ("Byul. Astron. observ. Vil'nyusskogo un-ta", 1961, no. 3, [illegible], Lithuanian [illegible])

TEXT: It is reported on observations of noctilucent clouds in Lithuania [illegible]

[Abstracter's note: Complete translation]

Card 1/1

ZHUKAS, M.M., inzh.

Operational indices of the SK-2,6 harvester. Mekh.i elek.sots. sel'khoz. 20 no.4:7-9 '62. (MIRA 15:8)

1. Litovskaya sel'skokhozyaystvennaya akademiya.
(Harvesting machinery)

Zhukauskas, A. A.

USSR/Fluid Mechanics. Heat transfer

Abs Jour: Ref Zhur-Mekhanika, No 6, 1957, 6823

Author : Zhukauskas, A. A.
Inst : Kauno politechn. inst. darbai
Title : The study of the heat transfer from a cylinder in a fluid cross-flow with respect to the direction of heat flow

Orig Pub: Tr. Kaunassk. politekhn. in-ta, 1955, 3, 209-215 (rez lit.)

Abstract: The following formula is proposed for an interval of Reynolds Numbers from 1 x 10³ to 2 x 10⁵:

$$N_f = 0.207\ R_f^{0.62}\ P_f^{0.38}\ (P_f/P_w)^{0.25}$$

where N is Nusselt's Number, and P is Prandtl's Number.

Card 1/1

AID P - 2034

Teploenergetika, 4, 38-40, Ap 1955

Card 2/2 Pub. 110-a - 7/14

Institution: Academy of Sciences, Lithuanian SSR. Institute of Physics and Technology

Submitted : No date

Zhukauskas, A.

USSR/Fluid Mechanics. Heat transfer

Abs Jour: Ref Zhur-Mekhanika, No 6, 1957, 6822

Author : Zhukauskas, A.
Inst : Kauno politechniko inst. darbai
Title : The study of heat transfer from a cylinder in a cross-flow of liquid, with Ref $<$ 1000.

Orig Pub: Tr. Kaunassk. politekhn. in-ta, 1955, 4, 91-93 (rez. lit.)

Abstract: For an interval of Reynolds Numbers from 8 to 1000, the following formula is proposed:

$$N_f = 0.584\ R_f^{0.47}\ (P_f^{0.38}\ P_f/P_w)^{0.25}$$

where N is Nusselt's Number and P is Prandtl's Number.

Card 1/1

The Heat Transmission of "Corridor"-type Tube Banks (cont.)

30-40%. The heat rejection of the first row equals that of a single tube. Formulas are obtained for the calculation of the heat transmission of tubes in a "corridor"-type bank to a transverse fluid flow.

Authors' résumé

Card 2/2

ZUKAUSKAS, A.

SCIENCE

PERIODICAL: DARBAI. SERIJA B. TRUDY. SERIIA B. No. 2, 1958

Zukauskas, A. and others. Heat output of the checkrowed tubes $s_1/d=2,1$ and $s2/d=1,9$ in transverse flux of liquids, p. 165

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

Zhukauskas, A.A.

24(5) PHASE I BOOK EXPLOITATION SOV/1826

Akademiya nauk SSSR. Energeticheskiy institut

Teploperedacha i teplovoye modelirovaniye (Heat Transfer and Modeling of Heat Processes) Moscow, Izd-vo AN SSSR, 1959. 419 p. Errata slip inserted. 3,500 copies printed.

Resp. Ed.: M. A. Mikheyev, Academician; Ed. of Publishing House: D. A. Ivanova; Tech. Ed.: G. M. Shevchenko.

PURPOSE: The book is intended for scientists concerned with heat transfer, heat emission, and hydraulics of liquid metals, etc.

COVERAGE: This collection is dedicated to the memory of Academician M. V. Kirpichev who in the twenties initiated a systematic investigation of heat transfer processes and the efficiency of heat apparatus. Later he led the development of research work in this field. Two special collections devoted to works of Kirpichev's school have been published, one in 1938, Materialy soveshchaniya po modelirovaniyu (Materials of the Conference on Modeling) and in 1951, Teoriya podobiya i modelirovaniye (Theory of Similitude and Modeling). The present collection prepared in 1956 represents further development of the work of this school. This theory is fundamental for the analysis of many heat problems in the field of electrical and radio engineering. Of great importance are the first systematic investigations of heat transfer and the hydraulics of liquid metals which as a new kind of heat carrier may be used in the various branches of modern engineering. As a result of special investigations of some cases of convective heat transfer, a dependence of the process on the kind of liquid, temperature, pressure, direction of the heat flow, and other factors, was discovered and established. On the basis of a wide generalization of experimental data, new dependable recommendations for heat analysis of engineering equipment were developed. Of no less interest is the work on heat transmission in boiling liquids and the condensation of vapors. All investigations are based on the theory of similitude, the nature of which, according to M. V. Kirpichev, is that of "experimentation." Work on the theory of a regular regime applied to a system of bodies with an internal source of heat is of interest for the future.

Card 2/20

Heat Transfer (Cont.) SOV/1826

Zhukauskas, A. A. Heat Transfer in Transverse Flow Over a Cylinder 221

This article describes special experimental investigations of the heat transfer process in transverse flow of air, water, and converter oil over a cylinder under conditions of heating and cooling as described by A. A. Zhukauskas in Teploenergetika, Nr 4, 1955. The article gives data from the experiments, their procedures and results. Experimental data obtained by M. A. Mikheyev, L. S. Eygenson, L. N. Il'in, and some non-Soviet scientists are given. There are 17 references: 11 Soviet, 3 English, and 3 German.

Isachenko, V. P. Heat Transfer in a Transversal Flow of Various Liquids Over Banks of Pipes 233

This article is concerned with charges of heat transfer values in a transversal flow over banks of pipes depending on the kind of fluid, temperature, temperature pressure, and the direction of the flow of heat. In particular, channel-type banks and staggered banks in a transversal flow of air, water, and

Heat Transfer (Cont.) SOV/1826

converter oil were investigated. S. A. Kommarskiy is mentioned in connection with calculation of heat transfer in transversal flows. There are 10 references: 5 Soviet, 4 English, and 1 German.

SHLANCHYAUSKAS, A.A. [Slanciauskas,A.]; ZHUKAUSKAS, A.A [Zukauskas,A.]

Investigation of heat emission of the chessboard clusters of smooth pipes in transverse flow of various liquids. Liet ak darbai B no.3: 141-153 '60. (EEAI 10:3)

1. Institut energetiki i elektrotekhniki Akademii nauk Litovskoy SSR (Fluids)

MAKARYAVICHYUS, V.I. [Makarevicius,V.]; ZHUKAUSKAS, A.A. [Zukauskas,A.]

Hydraulic resistance of corridor plane-pipe clusters in a transverse isothermic liquid flow. Liet ak darbai B no.3:155-163 '60.
(EEAI 10:3)

1. Institut energetiki i elektrotekhniki Akademii nauk Litovskoy SSR.
(Fluids)

SHLANCHYAUSKAS, A.A. [Slanciauskas,A.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Resistance and effectiveness of heat emission of plane-pipe culsters in a transverse liquid flow. Liet ak darbai B no.3:165-171 '60. (EEAI 10:3)

1. Institut energetiki i elektrotekhniki Akademii nauk Litovskoy SSR. (Fluids)

JARONIS, E.; SLANCIAUSKAS, A.; ŽUKAUSKAS, A.

Intensification of heat emission of a pipe by supersonic in the case of natural convection. Liet ak darbai B no.3:173-178 '60.
(EEAI 10:3)

1. Lietuvos TSR Mokslu akademijos Energetikos ir elektrotechnikos institutas
(Heat)

ZUKAUSKAS, A.; SLANCIAUSKAS, A.; JARONIS, E.

The effect of supersonics on heat emission in the cases of compulsory convection. Liet ak darbai B no.3:179-182 '60. (EEAI 10:3)
(Heat)

ZHUKAUSKAS, A. A., MAKARYAVICHUS, V. I., and SHLANCHYAUSKAS A. A.

"On Heat Transfer of a Bundle of Smooth Tubes in a Cross Flow of a Liquid."

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

8775?

S/096/61/000/002/012/014
E194/E155

26.2181

AUTHORS: Zhukauskas, A.A., Corresponding Member, AS Latvian SSR; Shlanchyauskas, A.A., Engineer.

TITLE: The Heat Transfer and Resistance of Tube Bundles in Honeycomb Arrangement in a Cross-flow of Liquid

PERIODICAL: Teploenergetika, 1961, No.2, pp. 72-75

TEXT: The object of the present work was to study how the heat exchange of tube bundles is affected by the tube arrangement, the properties of the fluids, the temperature conditions and the rate of flow, using a single method of measurement. Hydraulic resistance was also measured. The tests were made on two identical hydrodynamic circuits; water and air circulated in one, and transformer oil in the other. The operative section of the equipment consisted of a duct of 150 x 150 mm section to which liquid was delivered in a smooth flow. Bundles of smooth tubes 19 mm in diameter were tested, the number of rows in the bundles ranging from 5 to 28. Heat transfer tests were made by the method of local modelling. Electrical and water calorimetric tubes were used so that both heating and cooling could be studied. The

Card 1/4

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E194/E155

The Heat Transfer and Resistance of Tube Bundles in Honeycomb Arrangement in a Cross-flow of Liquid

instrumentation is described. The results were worked out by a formula of the form

$$Nu = c\, Re^{m} Pr^{n} .$$

It was found best to relate the physical constants to the temperature of the flow. The tube diameter was chosen as the governing dimension, and the rate of flow was related to the narrowest section in the bundle in the direction of the flow. Then in the above equation, for all tube bundles the value of $m = 0.60$. The influence of the physical properties of the liquid and the change of these with temperature were well accounted for by making $n = 0.36$. Depending on the tube pitch in the two directions, $c = 0.35$ or 0.40. The tests showed that heat transfer was stabilised in closely-packed bundles beginning with the third row. The total resistance of the tube bundles was determined. The resistance was found to be proportional to the number of the narrowest constrictions (z'). On the basis of the experimental

Card 2/4

The Heat Transfer and Resistance of Tube Bundles in Honeycomb Arrangement in a Cross-flow of Liquid

data and the test results of other authors, the following formulae are recommended in the range of Reynolds numbers from 1000 to 7000:

$$Eu = z' \frac{0.71}{(a-1)^{0.33}} Re^{-0.15} \quad (3)$$

and in the range of Reynolds numbers from 7000 to 200 000:

$$Eu = z' \frac{2.6}{(a-1)^{0.25}} Re^{-0.29} \quad (4)$$

These results are compared with those of other authors and agreement is considered to be satisfactory. The effectiveness of heat exchange is then defined as the ratio of the amount of thermal energy transmitted to the energy expended in overcoming resistance. This is related to isothermal flow; an empirical equation is given. Calculations from this equation show that closely-packed

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E194/E155

The Heat Transfer and Resistance of Tube Bundles in Honeycomb Arrangement in a Cross-flow of Liquid

tube bundles are the most efficient, i.e. the effectiveness of heat transfer increases as the transverse and longitudinal tube pitches are reduced. The effectiveness of heat transfer is also increased by reducing the rate of flow, though this will of course increase the size of heat exchangers and economic designs must take account of both capital and running costs.
There are 6 figures, 1 table and 9 Soviet references.

ASSOCIATION: Institut energetiki i elektrotekhniki, AN Litovskoy SSR
(Electrotechnical and Power Institute, AS Latvian SSR)

Card 4/4

88270

S/170/61/004/001/009/020
B019/B056

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AUTHORS: Zhukauskas, A. A., Shlanchyauskas, A. A., Yaronis, E. P.

TITLE: Investigation of the Effect of Ultrasonic Waves on Heat Exchange of Bodies in Fluids

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 1, pp. 58-62

TEXT: In order to explain the effect produced by ultrasound upon the heat exchange in fluids, experimental investigations in the case of free and enforced convection in water and transformer oil were carried out. In a container, two electrocalorimeter tubes were installed. In this container, acoustic wind was generated by an ultrasonic emitter (610, 697, and 27 kc/sec), by which the heat exchange was improved. With free convection, the heat exchange increase in water is ascribed to the effect of the acoustic wind, because the heat exchange depends in a high degree on the direction of the acoustic wind. In transformer oil, the acoustic wind is low, and the increase of the heat exchange is explained by means of micro-flows on the tube wall. Further, the heat exchange was investigated as a

Card 1/2

Investigation of the Effect of Ultrasonic Waves on Heat Exchange of Bodies in Fluids

S/170/61/004/001/009/020
B019/B056

function of temperature gradient and intensity of the wave field. From a graphical representation of the results obtained it may be seen that with increasing intensity of the wave field, the heat exchange increases. With an ultrasonic intensity of 1.9 watts/cm^2, the heat exchange is greater by a factor of 2.8 in water, and 2.0 in oil than without ultrasound. The effect produced by ultrasonics upon the heat exchange in the case of the enforced flow, was investigated by means of the hydraulic installation on 12 and 19 mm tubes and plates of 0.65 and 10.0 mm thickness. The flow velocities were within the range of 0.07 - 7 m/sec and were perpendicularly directed to the tubes or plates. As it turned out, the ultrasonic intensity increases the heat exchange, whereas an increase of the flow velocity reduces the improvement of the heat exchange caused by ultrasonics. Calculation according to data obtained at 697 kc/sec showed that the improvement of the heat exchange with ultrasonics is due to an increase of the microturbulence. There are 5 figures, 1 table, and 2 Soviet references.

ASSOCIATION: Institut energetiki i elektrotekhniki AN Litovskoy SSR, g. Kaunas (Institute of Power Engineering and Electric Engineering of the AS Litovskaya SSR, Kaunas)

SUBMITTED: June 2, 1960

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064910019-9"

MAKARYAVICHYUS, V. I.[Makarevicius, V.]; ZHUKAUSKAS, A. A.[Zukauskas, A.]

Investigation of heat transmission of in-line plain tube banks with transverse liquid flow. V. I. Makariavichius, A. A. Zhukauskas. Liet ak darbai no.3:231-241 '61.

1. Institut energetiki i elektrotekhniki Akademii nauk Litovskoy SSR.

ZHUKAUSKAS, A. A., MAKARYAVICHYUS, V. I. and SHLANCHYAUSKAS, A. A.

"Problem of heat-transfer of smooth-tube clusters in a transverse flow of liquids."

Report presented at the 1st All-Union Conference on Heat and Mass- Exchange, Minsk, BSSR, 5-9 June 1961

YARONIS, E.P.; SHLANCHAUSKAS, A.A.; ZHUKAUSKAS, A.A.

Effect of ultrasonic waves on heat transfer by solids in fluids. Prim. ul'traakust. k issl. veshch. no.14:231-234 '61. (MIRA 14:12)
(Heat--Transmission) (Ultrasonic waves)

ZHUKAUSKAS, A.A. [Zukauskas, A.A.]; ZHYUGZHDA, I.I. [Ziugzda, I.I.]

Experimental study of heat transfer in the laminar boundary layer of a plate in a longitudinal flow. Inzh.-fiz.zhur. 4 no.11:105-108 N '61. (MIRA 14:10)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR. g. Kaunas.
(Heat—Transmission) (Boundary layer) (Fluid dynamics)

SHLANCHYAUSKAS, A.A. [Slanciauskas, A.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Investigation of heat emission and frictional drag in a staggered pencil of tubes for Reynolds numbers up to 1.2 X 10^6. Liet ak darbai B no.4:197-200 '61.

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

ZHYUGZHDA, I.I. [Ziugzda, J.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Investigation of the heat emission from a plate in a viscous flow with a laminar boundary layer. Liet ak darbai B no.4: 189-196 '61.

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

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S/170/61/004/011/012/020
B108/B138

AUTHORS: Zhukauskas, A. A., Zhyugzhda, I. I.

TITLE: Experimental study of heat transfer from a longitudinally streamlined plate in a laminar boundary layer

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 11, 1961, 105 - 108

TEXT: Flow criteria obtained by M. A. Mikheyev (Sb. "Konvektivnyy i luchistyy teploobmen". Izd. AN SSSR, M., 1960) and other authors have so far not found any experimental proof for a wide range of Prandtl's number. Specifically, this refers to viscous liquids. For this reason, the authors carried out experiments in this field. They used two closed circuits, the one conveying water and air, the other transformer oil. A detailed description of this arrangement is given in a paper by A. B. Ambrazyavichyus and A. A. Zhukauskas (Trudy AN LitSSR, B. 4(16), 172, 1958). Two nickel-silicon plates (10.25 by 40 by 0.65 and 50.25 by 40 by 0.65 mm), with front edges rounded off, were used as test objects. Temperature on the upper and lower walls of the plates was measured by means of two copper-constantan thermocouples. The temperature field of the plates was kept

Card 1/3

Experimental study of heat transfer ...

uniform. Heat losses at the ends were checked. The plates were heated by direct current. It was found that the velocity field, as determined by means of a thermistor probe, failed to be uniform only in the transformer oil at temperatures between 10 and 30°C and low flow velocities $w < 0.2$ m/sec. The temperature of the liquid was varied from 10.5 to 60°C, and that of the plate wall from 30 to 103°C, flow velocity ranged from 0.02 to 2.0 m/sec, the Prandtl's number from 0.7 to 580, and the Reynolds number from 1 to $3.3 \cdot 10^4$. A flow criterion of the type $Nu = f(Re^m, Pr^n)$ was to be determined. The authors finally found $Nu_f = 0.70\ Re_f^{0.5}\ Pr_f^{0.36}\ [Pr_f/Pr_w]^{0.25}$ where the subscripts f and w refer to the temperatures in the flow and in the wall, respectively. This formula renders the true processes very well. There are 2 figures and 11 references: 6 Soviet and 5 non-Soviet. The three most recent references to English-language publications read as follows: Hara T. Trans. Japan Soc. Mech. Engrs., 20, no. 92, 1954; Ede A. J. and Saunders O. A. Proc. Inst. Mech. Engrs., 172, 26, 1958; Wan der Hegge Zijnen. App. Sci. Res., A, 6, 2-3, 1956.

Card 2/3

28911
S/170/61/004/011/012/020
Experimental study of heat transfer ... B108/B138

ASSOCIATION: Institut energetiki i elektrotekhniki AN Litovskoy SSR, g. Kaunas (Institute of Power Engineering and Electrical Engineering AS Litovskaya SSR, Kaunas)

SUBMITTED: April 17, 1961

Card 3/3

MAKARYAVICHYUS, V.I. [Makarevicius, V.]; ZHYUGZHDA, I.I. [Ziugzda, J.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Calculating the heat transfer from and to curved surfaces in the case of a laminar boundary layer. Trudy AN Lit. SSR Ser. B no.3: 191-202 '62. (MIRA 18:3)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

SHLANCHYAUSKAS, A.A. [Slanciauskas, A.]; [illegible], A.A. [illegible, A.]

Selection of the determining velocity, and the agitating effect on heat transfer exerted by the front row in a bank of tubes. Trudy AN Lit. SSR Ser. B no.4:157-161 '62. (MIRA 18:3)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

ZHYUGZHDA, I.I. [Ziugzda, J.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Experimental study of local heat transfer from a nonisothermal plate involving a laminar boundary layer. Trudy AN Lit. SSR Ser. B no.4:117-127 '62.

Effect of an unheated entrance region on the heat transfer from a plate involving a laminar boundary layer in a liquid flow. Ibid.:129-136 (MIRA 18:3)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

MAKARYAVICHYUS, V.I. [Makarevicius, V.]; ZHUKAUSKAS, A.A. [Zukauskas, A.]

Determining the velocity profile of a flow at the narrowest cross section past a straight-line bank of tubes. Trudy AN Lit. SSR Ser. B no.4:137-144 '62.

Local heat transfer from straight-line banks of tubes in a predominantly laminar flow. Ibid.:145-156

(MIRA 18:3)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

S/236/62/000/004/006/009
D234/D308

AUTHORS: Makaryavichyus, V. I. and Zhukauskas, A. A.

TITLE: Determination of the velocity profile of a stream in the smallest section of passage in flow through a corridor set of pipes

SOURCE: Akademiy nauk Litovskoy SSR. Trudy. Seriya B. no. 4, 1962, 137-144

TEXT: Using theoretical expressions for velocity distribution in a channel and the theory of associated flow behind a poorly streamlined body, the authors construct graphs of the excess velocity coefficient (the ratio $(w_{s/2} - w_{av})/w_{av}$) against the dimensionless distance $(2x/s)/Re_{s/2}$ and of the curvature coefficient of the velocity profile against the parameter $Z = b^2/a^2(a - 1)^2$, a and b being the relative transversal and longitudinal spacing of the pipes, s the transversal gap = minimum distance between pipes in a row; $w_{s/2}$ the local velocity on the geometrical axis of the

Card 1/2

Determination of the ...

channel, w_{av} the average velocity, $Re_{s/2}$ Reynolds' number referred to s/2 and to w_{av}. Experiments at the authors' Institute, on a 13-row set of pipes, in a stream of transformer oil, using thermo-resistances as transmitters, confirmed the theory. It is concluded that with increasing b the ratio w_{max}/w_{av} decreases. The graph of the curvature coefficient can be used in practical design in the case of predominantly laminar flow. There are 5 figures.

ASSOCIATION: Institut energetiki i elektronika AN Litovskoy SSR (Institute of Power and Electrical Technology AS Lithuanian SSR)

SUBMITTED: March 6, 1962

Card 2/2

S/236/62/000/004/007/009
D234/D308

AUTHORS: Makaryavichyus, V. I. and Zhukauskas, A. A.

TITLE: Investigation of local heat loss of pipes in corridor sets in the case of predominantly laminar flow

SOURCE: Akademiya nauk Litovskoy SSR. Trudy. Seriya B. no. 4, 1962, 145-155

TEXT: Experiments were carried out at the authors' Institute with 13-row and 10-row pipe sets in a stream of transformer oil. The sets and the experimental installation were described previously. From data processing the authors obtain

$$Nu_f = 0.19\left[0.875\,\frac{L}{x_1}\int_0^{x_1}\chi(\sigma)\left(\frac{w'\tau}{\nu_f x}\right)^{0.5}dx + kRe_f^{0.5}\right]Pr_f^{0.36}\left[Pr_f/Pr_w\right]^{0.25} \qquad (19)$$

Card 1/2

Investigation of local ...

for the average heat loss of a cylindrical body forming part of a system. For values of Re_f between 10^2 and 10^3 they obtain

$$Nu_f = 0.52\ Re_f^{0.5} Pr_f^{0.36} (Pr_f/Pr_w)^{0.25} \qquad (20)$$

in the case of pipe sets in a transversal flow. There are 7 figures and 1 table.

ASSOCIATION: Institut energetiki i elektronika AN Litovskoy SSR (Institute of Power and Electrical Technology AS Lithuanian SSR)

SUBMITTED: April 5, 1962

Card 2/2

S/236/62/000/004/008/009
D234/D308

AUTHORS: Shlanchyauskas, A. A. and Zhukauskas, A. A.

TITLE: Choice of determining velocity and the effect of turbulizing properties of the front row on heat loss in pipe sets

SOURCE: Akademiya nauk Litovskoy SSR. Trudy. Seriya B. no. 4, 1962, 157-161

TEXT: The authors introduce the notion of determining velocity which is the mean integral value along the length of the pipe

$$w = 1/d \int_{-d/2}^{+d/2} w(x)dx \qquad (1)$$

Card 1/2

Choice of determining ...

where x coincides with the direction of flow. This makes it possible to compare the heat loss of pipe sets of different configurations, showing that the heat loss of a pipe in a set can exceed that of an isolated pipe, by not more than 74%. The difference of heat loss of a pipe in sets of different configurations can reach 50%. The increase of heat loss in sets is essentially due to turbulizing properties of the front row and increases with decrease of longitudinal spacing. There are 3 figures and 2 tables.

ASSOCIATION: Institut energetiki i elektroniki AN Litovskoy SSR (Institute of Power and Electrical Technology AS Lithuanian SSR)

SUBMITTED: March 29, 1962

Card 2/2

S/236/62/000/003/003/004
D234/D308

24.4300

AUTHORS: Makaryavichyus, V.I. and Zhukauskas, A.A.

TITLE: Potential distribution of velocities in the case of transverse hydrodynamic flow past a single row of cylinders

SOURCE: Akademiya nauk Litovskoy SSR. Trudy. Seriya B, no. 3, 1962, 183 - 188

TEXT: The row of cylinders is considered as a system of dipoles whose centers coincide with the axes of the cylinders. A formula is derived for the total velocity in the case of three dipoles. A correcting factor is required in order to reach agreement with experiment. The tangential velocity on the surface of a cylinder is:

$$w_c = \varepsilon w_0 \left\{ \frac{s^2+1}{s^2-3} \left[\sin\varphi + \frac{(s^2+1)\sin\varphi - 2s}{r_1^4} + \frac{(s^2+1)\sin\varphi + 2s}{r_1^4} \right] + \sin\varphi \right\} \quad (13)$$

Card 1/2

Potential distribution ... S/236/62/000/003/003/004
D234/D308

The velocity distribution in the smallest section is

$$U_\varepsilon = \varepsilon U = \varepsilon w_o \left[\frac{s^2+1}{s^2-3} \left(\frac{r_{oy}^2}{r_o^4} + \frac{r_{1y}^2}{r_1^4} + \frac{r_{2y}}{r^4} \right) + 1 \right] . \qquad (12)$$

There are 3 figures and 3 tables.

ASSOCIATION: Institut energetiki i elektrotekhniki AN Litovskoy (Institute of Power and Electrical Engineering, AS Lithuanian SSR)

SUBMITTED: March 6, 1962

Card 2/2

S/236/62/000/003/004/004
D234/D308

24.5200

AUTHORS: Makaryavichyus, V.I., Zhyugzhda, I.I. and Zhukauskas, A.A.

TITLE: Calculation of heat loss of curved surfaces in the case of laminar boundary layer

SOURCE: Akademiya nauk Litovskoy SSR, Trudy. Seriya B, no. 3, 1962, 191 - 201

TEXT: The heat loss coefficient is determined for a wedgeshaped body, introducing the angle coefficient $\beta = 2\sigma/\delta + 1$ (σ being Euler's number) and assuming a temperature distribution $T_0 x^{\vartheta}$. The results are

$$\alpha(x)_{\sigma=0} = \frac{4}{3}\,\alpha(x)_{\substack{\sigma=0 \\ \sigma=\vartheta}} \cdot \vartheta\,\frac{\Gamma(\vartheta 4/3)\,\Gamma(2/3)}{\Gamma(\vartheta 4/3 + 2/3)} \qquad (15)$$

and

Card 1/3

Calculation of heat loss ..

$$\alpha(x)_{\sigma=1} = \frac{2}{3}\alpha(x)_{\substack{\sigma=0 \\ \theta=0}} \cdot \theta \frac{\Gamma(\theta\ 2/3)\Gamma(2/3)}{\Gamma(\theta\ 2/3 + 2/3)} \quad (16)$$

For bodies of arbitrary shape with constant temperature of the wall

$$Nu_x = 0.332\ \chi(\sigma)\ Re_x^{0,5}\ Pr^{0,333 + 0,067\beta - 0,026\beta^2} \quad (30)$$

with an accuracy of ± 3 %, and if the surface temperature changes exponentially,

$$Nu_x = 0.332\ \chi(\sigma, \theta)\ Re_x^{0,5}\ Pr^{0,333 + 0,067\beta - 0,026\beta^2} \quad (33)$$

$\chi(\sigma)$ is called the dynamical restoration coefficient, $\chi(\sigma,\theta)$ the universal restoration coefficient; both are plotted. The results are found to agree with experiments carried out by the authors on a plate in longitudinal flow. There are 5 figures

Card 2/3

Calculation of heat loss ... S/236/62/000/003/004/004
D234/D308

and 1 table.

ASSOCIATION: Institut energetiki i elektrotekhniki AN Litovskoy SSR (Institute of Power and Electrical Engineering, AS, Lithuanian SSR)

SUBMITTED: March 6, 1962

JA

Card 3/3

S/236/63/000/001/008/015
D251/D308

AUTHORS: Zhyugzhda, I. I. and Zhikauskas, A. A.

[illegible]

[illegible]

TEXT: The authors give a survey [illegible] of two parallel plates and in a circular pipe. The method of incomplete modeling was used to investigate [illegible] between [illegible] experiments were [illegible] were air, water and transf[illegible]ogy, Re_{jx} varied from 3 t[illegible] Re_{fs} [illegible] Pr_j from 0.7 to 580. The full characteristics of the flows are

Card 1/3

S/253/63/000/001/008/015
B251/B304

Experimental investigation of ...

presented in tabular forms, and the criterial equations

$$Nu_{fx} = 0.33 Re_{fx}^{0.5} Pr_f^{0.33} x/s Re_{fs}$$

$$Nu_{fl} = 1.55 Re_{fl}^{0.5} Pr_f^{0.33} \left[1/sRe_{fs}\right]^{0.1} \left[Pr_f/Pr_w\right]^{0.25} \quad (3)$$

are established for the local and mean heat-emission respectively. The distance from the beginning of the intake is used as the de- finite element in the criterial equation