

IVANOV, A.K.

Ratio of heavy hydrocarbons in the gases of the fields of the  
Outer zone of the Cis-Carpathian fore deep and certain problems  
of the formation of gas pools. Neft. i gaz. prom. no.3:13-15  
Jl-S '64. (MIRA 17:12)

IVANOV, A.K.; SKORDULI, V.D.

Role of tectonic fracturing in the formation of the gas and oil  
fields in the Outer zone in the Carpathian piedmont fault. Neft.  
i gaz. prom. no.4:1-7 O-D '63. (MIRA 17:12)

GUDKOV, S.F.; IVANOV, A.K.; KORNILOV, V.F.; LUR'YE, B.I.; NALBANDYAN,  
A.B.; RUDENKO, P.S.

Plant test of the direct production of formaldehyde from  
natural gas. Gaz. prom. 8 no.4:35-39 '63.

(MIRA 17:10)

IVANOV, A. Kh.

Ivanov, A. Kh. "On the glaciology of the northeastern part of the Pamirian Altay",  
Trudy Mongol. komissii (Akad. nauk SSSR, Kom. nauk Mongol. nar. respublik), Issue  
38, 1949, p. 29-40, - Bibliog: p. 39-40.

So: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

IVANOV, A. Kh.

Altai Mountains - Glaciers

Glaciation of the northeastern part of the Mongolia Altai. Trudy Mong. kom. No. 38, 1949.

9. Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ June \_\_\_\_\_ 1953, Uncl.



ИВАНОВ, А. К.

SINITSYN, Vasily Mikhaylovich; OBRUCHEV, V.A., akademik, otvetstvennyy red. [deceased]; IVANOV, A.Kh., otvetstvennyy red.; GALUSHKO, Ya.A., red. izd-va.

[Northwestern part of Tarim Basin; a geological study] Severo-zapadnaia chast' Tarimskogo basseina; geologicheskii ocherk. Moskva, Izd-vo Akad.nauk SSSR, 1957. 248 p. (MIRA 11:3)  
(Tarim Basin--Geology)

VASIL'YEV, Viktor Grigor'yevich; VOLKHONIN, Vladimir Stepanovich;  
GRISHIN, Grigoriy Leont'yevich; IVANOV, Andrey Khrisanfovich;  
MARINOV, Nikolay Aleksandrovich; MOKSHAHTSEV, Konstantin Borisov-  
vich; SHIPULIN, F.K., doktor geologo-minralog.nauk, red.;  
BEKMAN, Yu.K., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Geological structure of the Mongolian People's Republic;  
stratigraphic and tectonic] Geologicheskoe stroenie Mongol'skoi  
Narodnoi Respubliki; stratigrafiia i tektonika. Pod red. F.K.  
Shipulina. Leningrad, Gos.nauchno-tekhn.izd-vo nef. i gorno-  
toplivnoi lit-ry, 1959. 493 p. (MIRA 12:3)  
(Mongolia--Geology)



IVANOV, A.Kh.

Stratigraphy and volcanism of the extreme northeast of Mongolia.  
Sov.geol. 2 no.4:34-49 Ap '59. (MIRA 12:7)

1. Geologicheskij institut AN SSSR.  
(Mongolia--Geology)

IVANOV, A.Kh.

Vladimir Afanas'evich Obruchev; outline of his life and work.  
Trudy Kom.chetv.per. 14:9-17 '59. (MIRA 13:4)  
(Obruchev, Vladimir Afanas'evich, 1863-1956)

IVANOV, A.Kh.

Tectonics and basic features of the geological development of north-eastern Mongolia. Sov.geol. 4 no.5:39-58 My '61. (MIRA 14:6)

1. Geologicheskii institut AN SSSR.  
(Mongolia--Geology, Structural)

IVANOV, A. Kh.

Comparative geology of the three border regions in Mongolia.  
Trudy BKNII no.7:119-139 '61. (MIRA 16:4)  
(Mongolia—Geology, Structural)

IVANOV, A.Kh.

Stratigraphy of the Borotala Basin in the Dzungarian Ala-Tau.  
Sov.geol. 5 no.9:126-132 S '62. (MIRA 15:11)

1. Geologicheskii institut AN SSSR.  
(Dzungarian Ala-Tau--Geology, Stratigraphic)

IVANOV, A.K. [Ivanov, O.K.] ; SKORDULI, V.D.

Some characteristics of the convergence of the southwestern margin of the Russian Platform and the outer zone of the Carpathian piedmont fault. Geol. zhur. 24 no.2:32-41 '64  
(MIRA 18:2)

1. Institut geologii goryuchikh iskopayemykh AN UkrSSR i L'vovskaya geologorazvedochnaya kontora.

IVANOV, A.K.; VOYTOVICH, V.S.

Hercynian shifts along the Dzungarian fault. Izv. AN SSSR. Ser.  
geol. 29 no. 2:27-43 F '64. (MIRA 17:5)

1. Geologicheskii institut AN SSSR, Moskva.

IVANOV, A.L.; GVOZDEVA, K.G.; KUZNETSOV, S.I.

Behavior of sodium calcium aluminates during hydrochemical  
treatment. Zhur. prikl. khim. 36 no.4:707-712 Ap '63.  
(MIRA 16:7)

(Aluminates) (Hydration)



ORLOV, G.G.; IVANOV, A.L.

Chart of transformed curves for the interpretation of anomalies.  
Trudy Inst.geofiz.UFAN SSSR no.3:91-96 '65.

(MIRA 18:8)

14014

S/860/61/000/000/009/020

AOC6/A101

12300

AUTHORS: Ivanov, A. M., Nikitin, V. M., Kalitin, I. S.

TITLE: Flux for electric resistance-butt welding of molybdenum

SOURCE: Sbornik izobreteniy; svarochnaya tekhnika. Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform. 1961, 131 (Author's Certificate no. 119423, cl. 49h, 3602, no. 597985 of April 22, 1958)

TEXT: The flux proposed for the electric resistance-butt welding of molybdenum is composed of 80 - 90% zirconium, 10 - 5% molybdenum, and 10 - 5% carbon. The use of this flux assures an increased strength of the welded joints and reduces the costs of welding operations. The flux is recommended by the TsNIIIMASH Institute.

Card 1/1

FEDOROV, A.M., kand. tekhn. nauk; IVANOV, A.M., inzh.; LYUL'KO, Ye.V.,  
inzh.; UMANSKIY, P.Ya., inzh.

Simplify and put in good order the bookkeeping and settle-  
ment of general expenses in mining. Shakht. stroi. 9 no.9:6-8  
S '65. (MIRA 18.9)

1. Gosudarstvennyy komitet po toplivnoy promyshlennosti  
pri Gosplane SSSR (for Fedorov). 2. Gosudarstvennyy institut  
po proyektirovaniyu shakht v yuzhnykh rayonakh SSSR (for Ivanov,  
Lyul'ko, Umanskiy).

IVANOV, A. M.

IVANOV, A. M. (ENGR) -- "ELASTIC AFTEREFFECT OF AIR-DRY FINE WOOD DURING COMPRESSION, ELONGATION, SHEARING, AND TRANSVERSE BENDING ALONG THE GRAIN." SUB 20 MAY 58, 1958  
ORDER OF LABOR RED BANNER ENGINEERING CONSTRUCTION INSTITUTE V. V. KUYBYCHEV  
(DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCES)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1958

IVANOV, A.M.; OSTRETSOV, B.N., redaktor; VOLCHOK, K.M., tekhnicheskiy  
redaktor

[Rapid methods of handling lumber cargoes; practice of Leningrad  
dockers] Skorostnye metody pererabotki lesnykh gruzov. Opyt  
leningradskikh portovikov. Moskva, Gos. izd-vo vodnogo transporta,  
1954. 62 p. (MIRA 7:8)

(Lumber--Transportation)  
(Loading and unloading)

IVANOV, A.M.

124511-13602

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 177 (USSR)

AUTHOR: Ivanov, A. M.

TITLE: Elastic After-Action of Air-Dried Pine Wood  
(Uprugoye posledoystviye vozdušno-sukhoj drevesiny sosny )

PERIODICAL: V sb.: Issledovaniya prochnosti i deformativnosti drevesiny.  
Moscow, Gos. izd-vo lit. po str-vu i arkhitekture, 1956, pp 56-67

ABSTRACT: Bibliographic entry

Card 1/1

SOV/124-58-11-13664

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 237 (USSR)

AUTHOR: Ivanov, A. M.

TITLE: The Dependence of the Stress-rupture Time Behavior and Deformability of Pine Wood on the Moisture Content and Temperature  
(Zavisimost' dlitel'noy prochnosti i deformativnosti drevesiny sosny ot vlazhnosti i temperatury)

PERIODICAL: Sb. nauchn. tr. Voronezhsk. inzh. -stroit. in-t, 1957, Nr 5, issue 1, pp 4-11

ABSTRACT: Relationships, deduced by means of a structural diagram proposed by the author, between the stress-rupture time properties and the deformability of wood in flexure and compression along the fibers on the one hand and the temperature and moisture content on the other hand are adduced. Other relationships are shown for the absolute values of the stress-rupture time properties and the short-term strength of the wood with respect to compression along the fibers as against the moisture content.

K. V. Panferov

Card 1/1

IVANOV, A.H., land. tekhn. nauk, dots.

Long-time strength and deformability of wood. Shor. trud.  
VISI no. 4:5-23 '58. (MIRA 12:8)  
(Wood--Testing) (Strains and stresses)



IVANOV, A.M., kand.tekhn.nauk, dots.

Determining the long-time strength of wood using the relaxation method. Sbor.trud.VISI no.4:24-29 '58.

(MIRA 12:8)

(Wood--Testing)

(Strains and stresses)

IVANOV, A. M., Doc Tech Sci (diss) -- "Creep of wood pulp". Moscow, 1960. 49  
pp (Min Higher and Inter Spec Educ RSFSR, Moscow Order of Labor Red Banner  
Construction Engineering Inst im V. V. Kuybyshev), 230 copies (KL, No 12,  
1960, 126)

KOZORNOV, Ye.S.; MITKALEV, B.A.; IVANOV, A.M.; DZHINCHAROVA, V.M.

Separating the trap emulsions of petroleum refineries. Trudy Bash  
NIINP no.5:218-225 '62. (MIRA 17110)

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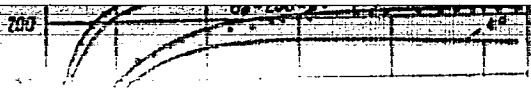
were stirred together vigorously, placed in a

Card 1/5

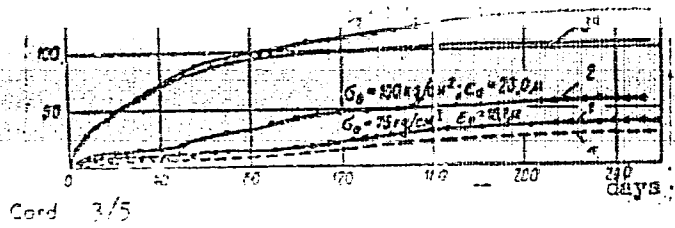
flexure were measured, using a press with a loading rate of 0.00 kg/cm<sup>2</sup>/min. Pro-  
prietor loading tests were performed with a lever device. Loads were applied in

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compression  
a - deformation settle-  
ment of control speci-



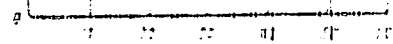
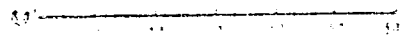
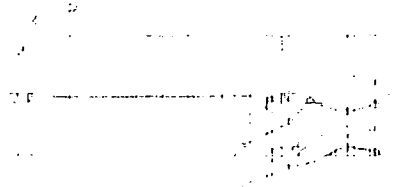
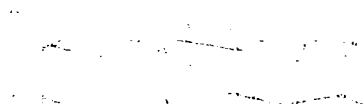


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Dzhercliyevskiy, A. B.

TITLE: Winding machine. Class 32, No. 172000, 5

a reductor and a mandrel mounted on a rotating shaft. To fabricate spherical shapes the machine is equipped with profiled guides transmitting to the mandrel a tilting

1. 62709-65

ADMISSION VP: APR 1964

Card 01



L 5156-66 EWT(1)/EWA(h)/ETC(m) DIAAP WDI

ACC NR: AF5025051

SOURCE CODE: UR/0286/65/000/016/0091/0092

AUTHORS: Iogansen, V. S.; Steblovskiy, I. A.; Stetsenko, V. I.; Ivanov, A. M.

ORC: none

TITLE: Radioisotopic level gage. Class 42, No. 173972

40  
B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 91-92

TOPIC TAGS: radiation detector, radioisotope, radiation source, electric circuit

ABSTRACT: This Author Certificate presents a radioisotopic level gage with a mobile source, a receiver of ionizing radiation, and a follow-up system. To increase the range of measurement oscillation level, an open trolley system is included, along the direction of movement of the radiation receiver. The trolley system consists of two cables (or wires) and two current extractors forming a connection between the radiation detector and the following electric circuit (see Figure 1).

Card 1/2

UDC: 681.128.6

09010729



L. 5156-66

ACC NR: AP5025051

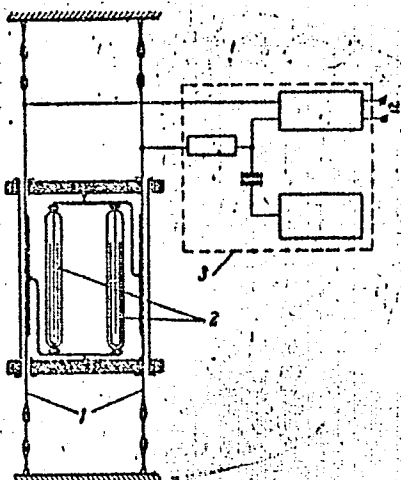


Fig. 1.

1- wires; 2- radiation detector;  
3- electric circuit

Orig. art. has: 1 figure.

SUB CODE: NP, EC/

SUBM DATE: 17Apr63

Card 2/2 *MD*

L 11260-66 (A) EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(j)/T/EWP(k)/EVA(h)/ETC(m) EM/WM/RM  
 ACC NR: AP5028475 SOURCE CODE: UR/0286/65/000/020/0056/0057  
 INVENTOR: <sup>44,55</sup>Gavrilov, I. K.; <sup>44,55</sup>Filippov, D. A.; <sup>44,55</sup>Strukov, V. M.; <sup>44,55</sup>Blatov, V. S.; <sup>44,55</sup>Shalinov,  
 A. S.; <sup>44,55</sup>Vul. N. I.; <sup>44,55</sup>Ivanov, A. S.; <sup>44,55</sup>Belyakov, V. S.; <sup>44,55</sup>Frolov, A. S.; <sup>44,55</sup>Khantsis, R. Z.;  
<sup>44,55</sup>Andriyevskaya, G. G.; <sup>44,55</sup>Zelenskiy, E. S.; <sup>44,55</sup>Kuperman, A. M.; <sup>44,55</sup>Dobrovol'skiy, A. K.  
<sup>44,55</sup>Dzhereliyevskiy, A. B. <sup>44,55</sup> <sup>44,55</sup> <sup>44,55</sup> <sup>44,55</sup> <sup>76</sup>  
 ORG: none <sup>15, 44, 55</sup> <sup>16</sup> <sup>B</sup>  
 TITLE: Method of fabricating fiberglass shells. Class 32, No. 175624  
 SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1065, 36-57  
 TOPIC TAGS: shell, cylindrical shell, fiberglass shell, shell fabrication, fiber-  
 glass winding, solid fuel rocket, rocket case  
 ABSTRACT: This Author Certificate introduces a method of fabricating shells from  
 fiberglass wound on a pattern which is then melted out or dissolved. To increase the  
 strength of the shell, the winding is combined with the stretching of fiber by means  
 of a fiber guide which rotates around the pattern. [DV]  
 SUB CODE: 11, 19 SUBM DATE: 02Jul64/ ATD PRESS: 447A  
 HW  
 Card 1/1

10001-07 (1) 00  
 A. 10001-07 (1) 00

SOURCE CODE: 01/0413/66/000/015/0004/0004

16  
 AUTHORS: V. S. Yel.; Kozlovskiy, V. S.; Ayzman, Yu. A.; Sokolinskiy, Yo. A.;  
 Malin, S. A.; Kopylov, A. I.; Medorov, V. N.; Ivanov, A. M.; Malinskiy, S. A.;  
 Yegorovskiy, V. V.; Palk, V. Kh.; Vysotskiy, Yu. A.; Zamskiy, V. M.; Bystrov, V. V.;  
 Kozlov, V. P.; Shchokin, I. V.; Yevzerov, D. A.; Germanov, Yu. G.; Makuimov, K. P.;  
 Shchegolev, L. A.; Pishemalin, V. V.

CLASS: none

INDEX: Seismic station. Class 42, No. 104466 [announced by "Neftepribor" Factory  
 of the Instrument Manufacture Administration of Mosgorsovnarkhoz (Zavod "Neftepribor"  
 Upravleniya priborostroyeniya Mosgorsovnarkhoza)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 94

TOPIC TAGS: seismologic station, seismologic instrument

ABSTRACT: This Author Certificate presents a seismic station containing a seismic  
 signal detector, a recording amplifier unit, an oscillograph, a magnetic drum  
 recorder, a channel reproduction unit, a control unit, a reproduction amplifier, a  
 multichannel borehole probe, a drum with photographic paper, a retransmitting unit,  
 and a power supply. To increase the reliability when transferring from operation with  
 the method of reflected waves to the method of refracted waves, a filter unit is  
 connected between the first and second stages of the recording amplifier unit. A

UDC: 550.340:19

Cord 1/2

L 10051-57

ACC NR: AP6029933

modulator-demodulator unit and a reel type magnetic recorder are connected in series to the output of the recording amplifier unit. For operation with the method of refracted waves, the filter unit has frequency cutoffs of 7--30 Hz, and for operation at sea--frequency cutoffs of 20--50 Hz. To increase the reliability of the recorded data with operation by the method of regulated directional reception, a switching unit for the channels to be summed, a static correction unit, and a summing unit are connected in series between the magnetic drum recorder and the reproduction amplifier. To increase the reliability when transferring from operation with the method of reflected waves to seismic logging, a frequency selection unit is connected between the multichannel borehole probe and the magnetic drum recorder. To improve the quality of the recorded material, an electron beam unit for introducing static and dynamic corrections is connected between the reproduction amplifier and the drum with photographic paper.

SUB CODE: 08/ SUBM DATE: 05May65

Card 2/2

ACC NR: AM6015328

Monograph

UR/

Ivanov, Aleksandr Matveyevich; Martinets, Dmitriy Vasil'yevich; Marten'yanov, Vladimir Ivanovich; Algazinov, Konstantin YAKovlevich

Use of plastic materials in structures and parts of buildings (Primeneniye plastmass v stroitel'nykh konstruktsiyakh i chastyakh zdaniy) [Moscow, Izd-vo "Vysshaya shkola", 1965] 290 p. illus., biblio 10,000 copies printed.

TOPIC TAGS: civil engineering, plastic material, plastic structure, plastic material creep, plastic material property, polymer, plastic structural element

PURPOSE AND COVERAGE: This textbook is intended for senior students specializing in civil engineering and especially in the utilization of plastics as structural material. The book gives general information on plastic materials, their physical and mechanical properties, and on the use of these materials in structures and parts of buildings. Problems of engineering structures made of plastics are discussed with consideration given to plastic-material creep. Results of investigations made by various scientific institutes on the utilization of plastics in civil engineering are summarized. The authors express their thanks to staff members of the Moscow Civil Engineering Institute, to the head of the Gorky Civil Engineering Institute and to professor V. Y. Lennov for their valuable comments and assistance.

TABLE OF CONTENTS [abridged]:

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ACC NR: AM6015328

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- Ch. I. General information on plastics (A. M. Ivanov) -- 9
- Ch. II. Creep in plastics (A. M. Ivanov) -- 30
- Ch. III. Principal provisions for calculation of carrying structures made of plastics (A. M. Ivanov) -- 60
- Ch. IV. Structural plastics (A. M. Ivanov ) -- 81
- Ch. V. Thermoplastic polymers and fillers (A. M. Ivanov) -- 127
- Ch. VI. Joining elements of plastic structures (A. M. Ivanov) -- 150
- Ch. VII. Partitioning structures (D. V. Martinetz) -- 171
- Ch. VIII. Supporting structures (D. V. Martinetz) -- 209
- Ch. IX. Pneumatic building structures (K. Ya. Algasinov ) -- 257

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SUB CODE: 13, 11/ SUBM DATE: 04Sep65/ ORIG REF: 026/

Card 2/2

IVANOV, A.M., inzh.

Some means for saving electric power in the textile industry. From.  
energ. 20 no.10:7-9 0 '65. (MTRA 18:10)

IVANOV, Aleksandr Matveyevich; MARTINETS, Dmitriy Vasil'yevich;  
MARTEM'YANOV, Vladimir Ivanovich; ALGAZINOV, Konstantin  
Yakovlevich; LENNOV, V.G., prof., rektor, rezensent;  
KOLODYAZHNAYA, Zh.A., red.

[Use of plastics in structural elements and parts of build-  
ings] Primeneniye plastmass v stroitel'nykh konstruktsiyakh  
i chastiakh zdaniy. Moscow, Vysshaya shkola, 1965. 290 p.  
(MIRA 18:12)

1. Gor'kovskiy inzhenerno-stroitel'nyy Institut (for Lennox).



IVANOV, A.M., prepodavatel'; YEGOROV, N.K., mashinist (Moskva)

What causes pole demagnetization in the generator of the control systems of electric locomotives and multiple-unit trains? Elek. i tepl. tiaga no.7:34-36 JI '63. (MIRA 16:9)

1. Krasnolimanskaya tekhnicheskaya shkola (for Ivanov).  
(Electric railroads--Rolling stock)  
(Electric generators)

ZUBKOV, V.I.; IVANOV, A.M.

Automatic magnetic field scanning for a MI-1305 mass spectrometer.  
Prib. i tekhn. eksp. 8 no.3:182-183 My-Je '63. (MIRA 16:9)  
(Mass spectrometry)

IVANOV, A.M.; FALEVICH, B.N.; CHU "TOV. V.A.; IVANOV-DYATLOV, I.G.,  
doktor tekhn. nauk, prof., retsenzent; POFOVA, N.N., red.

[Laboratory work on reinforced concrete elements] Labora-  
tornye raboty po zhelezobetonnykh konstruktsiiam. IAroslavl'  
Rosvuzizdat, 1963. 114 p. (MIRA 17:6)

1. Moskovskiy avtomobil'no-dorozhnyy institut (for Ivanov-  
Dyatlov).

CHERVINSKIY, K.A.; IVANOV, A.M.; NIKITINA, L.A.

Some regularities of the liquid phase oxidation of p-xylene.  
Khim. prom. no.10:742-743 0 '63. (MIRA 1966)

KOZOREZOV, Ye.S.; MITKALEV, B.A.; IVANOV, A.M.; DZHINGARADZE, V.M.

Separation of trap emulsions in petroleum refineries. Khim.i tekh.  
topl.i masel 6 no.6:32-34 Je '61. (MIRA 14:7)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke  
nefti i Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy  
institut khimicheskogo mashinostroyeniya.  
(Petroleum--Refining) (Emulsions)

8/058/63/000/001/069/120  
A160/A101

AUTHOR: Ivanov, A. M.

TITLE: Up-to-date sensitometers and some ways of improving them

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 88, abstract ID633  
("Uspekhi nauchn. fotogr.", 1962, 8, 235 - 247)

TEXT: A summary is given of the various types of sensitometers described in the literature during 1934 - 1960, particularly from the point of view of the method of exposure and the interval of exposures, and also of the light sources used in them. On the basis of this summary desirable changes of the standard-type ФСР-4 (FSR-4) sensitometer are expressed, and a description is given of an improved model of this sensitometer. The main changes are as follows: first, the replacement of the ЦУ-62 (СЦ-62) lamp by the К-30 (K-30) lamp, the use of a new more precise daylight light filter and the introduction of a cylindrical lens in the illumination system for concentrating the light in one direction (along the width of the wedge); second, the replacement of the dropping blind shutter by two rotating disks permitting three different exposures according to

Card 1/2

L 13531-63

EWT(1)/EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3002748

S/0120/63/000/003/0132/0183

AUTHOR: Zubkov, V. I.; Ivanov, A. M.

TITLE: Automatic magnetic-field deflector for MI-1305<sup>2h</sup> mass spectrometer <sup>10</sup> 56

SOURCE: Pribory\* 1 tekhnika eksperimenta, no. 3, 1963, 182-183

TOPIC TAGS: mass spectrometer

ABSTRACT: A previously used automatic field deflector for MS-211<sup>2h</sup> mass spectrometer was very complicated and involved much labor to manufacture. A new device described in the article uses some parts of the old one and permits recording smaller-to-larger mass and vice versa and repeated recording of the same spectrum. A functional diagram, a general appearance, and an electric connection diagram are supplied. "The authors are using this opportunity to thank M. V. Tikhonirov for his attention to the project and for discussions." Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 23Jun62

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: PH, IE

NO REV SOV: 001

OTHER: 000

Card 1/1

IVANOV, A.N., slesar'

Repairing the friction clutch on the main cooler fan. Elek. i tepl.  
tiaga 2 no.2:25-27 F '58. (MIRA 11:4)

1. Depo Rtishchevo II Yugo-Vostochnoy dorogi.  
(Diesel locomotives--Maintenance and repair)  
(Clutches (Machinery))



SOV/124-57-9-11022

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 9, p 161 (USSR)

AUTHORS: Ivanov, A.M., Falevich, B.N., Dezhin, Yu.V., Aksenov, B.G.

TITLE: Carrying-capacity Tests on Hoppers and Pyramid-shaped Thickeners  
(Ispytaniye nesushchey sposobnosti zhelezobetonnykh bunkerov i  
piramidal'nykh sgustiteley)

PERIODICAL: Tr. Rostovsk. n/D. inzh.-stroit. in-ta, 1956, Nr 5, pp 41-48

ABSTRACT: Test results have shown that the law governing the pressure of pourable [cohesionless] substances in an infinite volume is not applicable to the calculation of hopper designs and that typical hoppers and funnel boxes in dressing mills at present are designed with an excessive margin of strength.

Reviewer's name not given.

Card 1/1

IVANOV, A. M., STROYEV, A. S., BUDZINSKIY, O. Z., FEDIN, B. V.,  
Institute of Aircraft Materials.

"Vacuum Arc Melting of Refractory Metals."

paper presented at Second Symposium on the Application of Vacuum Metallurgy, 1-6 July  
1958, Moscow.

SOV/137-59-3-5544

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 86 (USSR)

AUTHORS: Stroyev, A. S., Ivanov, A. M., Ovsepyan, Ye.S.

TITLE: Electric-arc Smelting of Molybdenum in a Vacuum  
(Dugovaya plavka molibdena v vakuume)

PERIODICAL: V sb.: Primeneniye vakuuma v metallurgii. Moscow, AN SSSR,  
1958, pp 62-65

ABSTRACT: The raw material is industrial sintered Mo in 15x15 mm rods. In the process of smelting under vacuum of the order of  $10^{-3}$  mm Hg, Mo, Zr, Ti, and C are deoxidized. Nonporous ingots, without flaws in the central zone, are obtained. Owing to the relatively fine-grain structure and the sharpness of boundaries such ingots can be deformed by any method, including free forging, so long as a suitable heating and a proper degree of mechanical reduction are observed. The deformed Mo exhibits satisfactory characteristics of ductility at room temperature.

L: L.

Card 1/1

IVANOV, A. M., STROYEV, A. S., OVSEPYAN, Ye. S.

"Arc Melting of Molybdenum in Vacuum."

Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures, Moscow, AN SSSR, 1959. 789 p.

The high degree of purity necessary for satisfactory deformation of molybdenum can be obtained in electric arc furnaces only with high vacua of the order of 10-3 mm Hg and with proper deoxidation. Ingots weighing up to 15 Kg, made under these conditions, are free of defects in the central zone, irrespective of cooling after melting. Because of their relatively fine grain structure and the distinctness of their grain boundaries, such ingots can be deformed by any method including hammer forging provided proper cooling and reduction conditions are adhered to. The deformed molybdenum exhibits satisfactory ductility characteristics at room temperature.

IVANOV, A.M.

Binding of settled dust in air gates. Bezop.truda v prom. 5  
no.9:21-22 S '61. (MIRA 14:10)

1. Glavnyy inzh. tresta Rutschenkovugol'.  
(Mine ventilation)

IVANOV, A.M., inzh.

Analyzing the expediency of the double-entry development system.  
Ugol'.prom. no.4:19-21 JI-Ag '62. (MIRA 15:8)

1. Trest "Ritchenkovugol".  
(Donets Basin--Coal mines and mining)

SHEVYAKOV, L.D., akademik; IVANOV, A.M.; BUBYR', V.A., gornyy inzh.;  
MONIN, M.I., gornyy inzh.; NEKRASOVSKIY, Ya.E., doktor tekhn.-  
nauk; SHCHUKIN, V.R.

Readers' response to A.A.Shamin, A.M.Belen'kii, and A.V.Galkin's  
article "Pillar systems of mining flat seams without undermining  
the wall rock in the development operations." Ugol' Ukr. 6  
no.9:43-47 S '62. (MIRA 15:9)

1. Upravlyayushchiy trestom Rutchenkovugol' (for Ivanov).
2. Gosudarstvennyy institut po proyektirovaniyu shakhtnogo  
stroitel'stva v yuzhnykh rayonakh SSSR (for Bubyr', Monin).
3. Dnepropetrovskiy gornyy institut' (for Nekrasovskiy).
4. Nachal'nik upravleniya Donetskogo okruga Komiteta po nadzoru  
za bezopasnym vedeniyem rabot v promyshlennosti i gornomu  
nadzoru pri Sovete Ministrov UkrSSR (for Shchukin).  
(Shamin, A.A.) (Belen'kii, A.M.) (Galkin, A.V.)

ZUYKOV, V.Ya.; IVANOV, A.M.; KRISTALL, Z.B.; MAKSIMOVA, N.K.; NOVIKOV, O.P.; POTKOV, G.A.; KRIKUNOV, A.Ye., red.; SELEKHOV, F.M., red.; SHUVALOVA, N.S., red.; ZORINA, G.V., red.; VINOGRADOV, Ye.A., tekhn. red.

[Liquid separators for the food industry; handbook-catalog]Separatory zhidkostnye dlia pishchevoi promyshlennosti; katalog-spravochnik. Moskva, 1962. 86 p. (MIRA 15:10)

1. Moscow. Tsentral'nyy institut nauchno-tekhnicheskoy informatsii mashinostroyeniya. 2. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (for Zuykov, Ivanov, Kristall, Maksimova, Novikov, Potkov).

(Separators (Machines))



IVANOV, A. M.; USTRITSKIY, V. I.; MOLDAVANSKY, Yu. Ye.

Geology of the Arctic Urals and of the Pay-Khoy Range. Trudy Nauch.-  
issl. geol. Arkt. 81:58-96 '57. (MIRA 11:5)  
(Ural Mountain region--Geology)

IVANOV, A.M.

Vertical zonality in the diabasic complex of the Imandra-Varasug  
formation on the Kola Peninsula. Izv.Kar. i Kol'.fil.AN SSSR no.3:  
28-30 '58. (MIRA 11:12)

1. Geologicheskii institut Kol'skogo filiala AN SSSR.  
(Kola Peninsula--Geology, Stratigraphic)

*Ivanov, A.*  
IVANOV, A.

Boron as a constant trace element in petroleum ash indicating  
its organic origin. Azerb. neft. khoz. 36 no.6:47-48 Je '57.  
(Boron) (Petroleum--Analysis) (MLRA 10:9)

IVANOV, A.M.

New data on the genesis of boron minerals in Permian sediments of  
the Volga-Ural area. Izv. vys. ucheb. zav.; geol. i razv. 1 no.4:  
84-91 Apr '58. (MIRA 11:12)

1. Kuybyshevskiy industrial'nyy institut, Kafedra geologii.  
(Volga Valley--Boron) (Ural Mountain region)

IVANOV, A.M.

Materials on the geology of the northeastern Kola Peninsula. Vop.  
geol. i min. Kol'. poluos. no.2:7-28 '60. (MIRA 13:10)  
(Kola Peninsula--Geology)

IVANOV, A.M.

Modern sensitometers and some methods for their improvement.  
Usp. nauch. fot. 8:235-247 '62. (MIRA 17:7)

IVANOV, A.N.

GINZBURG, David Borisovich, doktor tekhnicheskikh nauk; DMLIKISEKIN, Sergey Nikolayevich, kandidat tekhnicheskikh nauk; KHODOROV, Yevgeniy Iosifovich, kandidat tekhnicheskikh nauk; CHIZHSKIY, Anatoliy Fedotovich, kandidat tekhnicheskikh nauk; ZIMIN, V.N., dotsent; retsenzent; KUZYAK, V.A., dotsent, retsenzent; NOKHRATYAN, K.A., kandidat tekhnicheskikh nauk, retsenzent; IVANOV, A.N., dotsent, retsenzent [deceased]; BUDNIKOV, P.P., redaktor; FRADKIN, A.Ye., kandidat tekhnicheskikh nauk, nauchnyy redaktor; GOL'DENBERG, L.G., inzhener, nauchnyy redaktor; GINZAROVA, I.L., redaktor; GLADKIKH, N.N., tekhnicheskij redaktor

[Furnaces and driers in the silicate industry] Pechi i sushila silikatnoi promyshlennosti. Izd. 2-oe, perer. Pod red. P.P.Budnikova. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1956. 455 p.  
(MIRA 10:3)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Budnikov)  
(Kilns) (Clay industries)  
(Drying apparatus)

GORSHKOV, Aleksey Stepanovich; RUSETSKIY, Aleksandr Alekseyevich.  
Prinimal uchastiye ZEL'DIN, Ye.A.; SHMYREV, A.N., kand.  
tekhn. nauk, retsenzent; ROZHDESTVENSKIY, V.N., dots.,  
retsenzent; IVANOV, A.N., kand. tekhn. nauk, nauchnyy red.;  
KAZAROV, Yu.S., red.; SHISHKOVA, L.M., tekhn. red.

[Cavitation pipes] Kavitatsionnye truby. Leningrad, Sudpromgiz,  
1962. 165 p. (MIRA 16:2)  
(Cavitation)



PERNIK, Aleksandr Davidovich; IVANOV, A.N., kand. tekhn. nauk,  
retsensent; RUSSETSKIY, A.A., kand. tekhn. nauk, retsensent;  
SOLOV'YEV, V.I., otv. red.; OSVENSKAYA, A.A., red.; ERASTOVA,  
N.V., tekhn. red.

[Problems of cavitation] Problemy kavitatsii. Leningrad, Sudprom-  
giz, 1963. 334 p. (MIRA 16:3)

(Cavitation)

BOCHVAR, A.A., akademik, red.; YEMEL'YANOV, V.S., red.; ZVEREV, G.L., red. toma; IVANOV, A.N., red. toma; SOKURSKIY, Yu.N., red. toma; STERLIN, Ya.M., red. toma; PEREVERZEV, V.V., red.; PCHELINTSEVA, G.M., red.; MAZEL', Ye.I., tekhn. red.

[Transactions of the International Conference On The Peaceful Uses of Atomic Energy] Trudy Vtoroy mezhdunarodnoy konferentsii po mirnomu ispol'zovaniyu atomnoy energii, 2d, Geneva, 1958. Izbrannye Doklady inos rannyykh uchenykh. Moskva, Izd-vo Glav. uprav. po ispol'zovaniyu atomnoi energ. pri Sovete Ministrov SSSR. Vol.6. [Nuclear fuel and reactor materials] IAderno goriuchee i reaktornye materialy. Pod obshchei red. A.A.Bochvara i Emel'ianova V.S. 1959. 702 p.

(MIRA 14:10)

1. International Conference on The Peaceful Uses of Atomic Energy. 2d, Geneva, 1958. 2. Chlen-korrespondent AN SSSR (for Yemel'yanov). (Nuclear fuels) (Nuclear reactors--Materials)

FRAVDYUK, N. F.; IVANOV, A. N.

"Vliyaniye Neitronnovo Oblucheniya Na Elektrosoprotivleniye  
Nekotorikh Metalov"

Report presented at the Symposium on Radiation Damage in  
Solids and Reactor Materials (IAEA) Venice, 7-11 May 1962.

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VOLKOV, V.F., kand. tekhn. nauk; LEBEDEV, P.D., prof.; MOROZEV, Ye.Ya.;  
SEMYENKO, N.A.; KOLACH, T.A., dotsent; IVANOV, A.N.; TIKHOMIROV, I.G.;  
PAVLOV, M.N.

Training of engineers in the field of industrial power engineering.  
Prom. energ. 19 no.11:30-32 N '64. (MIRA 18:1)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova (for Volkov).
2. Moskovskiy ordena Lenina energeticheskiy institut (for Lebedev, Sokolov, Semenenko).
3. Fakul'tet promyshlennoy teploenergetiki Moskovskogo ordena Lenina energeticheskogo instituta (for Kolach).
4. Gosudarstvennyy komitet po koordinatsii nauchno-issledovatel'skikh rabot SSSR (for Ivanov).
5. Nauchno-issledovatel'skiy institut Soveta narodnogo khozyaystva SSSR (for Tikhomirov).
6. Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov (for Pavlov).

IVANOV, A.N.

Sclerosis of the bladder neck. Urologia 24 no.6:33-38 '59.  
(MIRA 13:12)

(BLADDER--DISEASES)

(SCLEROSIS)

IVANOV, A.N.

Importance of M.V.Lomonosov's scientific legacy in geology. Dokl.  
na nauch. konf. 1 no.4:91-95 '62. (MIRA 16:8)  
(Lomonosov, Mikhail Vasil'evich, 1711-1765) (Geology)

IVANOV, A. N.

United States - Economic Conditions.

Lessons in economic geography of the United States of America. Geog. v shkole no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1958, <sup>2</sup>Uncl.

IVANOV, A.N.

Practical habits. Geog. v shkole no.3:59 My-Je '53.  
(Geography--Study and teaching)

(MLRA 6:6)



IVANOV, A.N.

Attainment of realized knowledge in a geography course of the  
5th class. Geog. v shkole no.4:39-45 J1-Ag '54. (MLRA 7:8)  
(Geography--Study and teaching)

IVANOV, A.N.

Working with economic maps. Geog. v shkole 18 no.3:16-21  
My-Je '55. (MLRA 8:9)

(Geography, Economic--Maps)

DITMAR, A.B., otv.red.; BOGACHEV, V.K., red.; BYTEV, O.N., red.;  
IVANOV, A.M., red.; KULEMIN, A.A., red.; YAKOVLEV, K.F.,  
red.; PUKHOVTSEVA, A.N., red.; KOZHEMYAKINA, V.P., tekhn.red.

[Nature and economy of Yaroslavl Province] Priroda i kho-  
ziaistvo IAroslavskoi oblasti. IAroslavl', IAroslavskoe  
knizhnoe izd-vo. Pt.1. [Nature] Priroda. 1959. 381 p.  
(MIRA 13:3)

1. Yaroslavl'. Gosudarstvennyy pedagogicheskiy institut.  
(Yaroslavl Province--Geography)

DITMAR, A.B., kand. geogr. nauk, red.; VOSKOBOYNIKOVA, S.M.,  
kand. geogr. nauk, red.; IVANOV, A.N., kand. geol.-  
miner. nauk, red.; ROKHMISTROV, V.L., red.; STEPANOVA,  
A.A., red.

[Atlas of Yaroslavl Province] Atlas IAroslavskoi oblasti.  
Moskva, 1964. 28 p. (MIRA 18:2)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii  
i kartografii.

IVANOV, A. N. (Leningrad)

"Flow Past Airfoils with Separation (cavitation) Zones."

report presented at the First All-Union Congress on Theoretical and Applied  
Mechanics, Moscow, 27 Jan - 3 Feb 1960.

IVANOV, A.N. (Leningrad)

Vibration of elastic cylinders in a fluid flow. Izv.AN SSSR. Otd.  
tekhn.nauk.Mekh.i mashinostr. no.5:113-117 S-O '60. (MIRA 13:9)  
(Elastic plates and shells--Vibration) (Fluid dynamics)

88524

10.6120 also 2115

S/179/60/000/006/018/036  
E022/E107

AUTHOR: Ivanov, A.N., (Leningrad)

TITLE: Cavitating Flow Past Aerofoils

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No. 6, pp. 117-120

TEXT: The article discusses flows past arbitrary profiles with rounded noses, but in conformity with the papers by M.P. Tulin (Ref.1) and J.A. Geurst (Ref.2) the cavity bubble is assumed to be long and narrow. The cavity is replaced by a system of sources continuously distributed between the points A and C on the profile contour and along the axis in the wake between points C and B (see Fig.1). Using an analysis in terms of complex variables and a conformal transformation as applicable to the theory of thin bodies, the relationship between the intensity  $q$  of the sources and the shape of the cavity is obtained, which is characterised by the velocity  $v_1$  on the boundary of the circle and the tangents  $dr/d\theta$  and  $d\eta/d\xi$ . The velocity  $v_1$  is related to the cavitation number by:  
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E022/E107

Cavitating Flow Past Aerofoils

$$\kappa = (v_1^2/v_\infty^2) - 1$$

(1.2)

and the intensity of the sources can be determined from:

$$v = 2v_\infty \sin(\theta - \alpha) - \frac{\Gamma}{2\pi} - \frac{1}{4\pi} \int_0^{\theta} \frac{q(\varphi) \sin(\theta - \varphi) d\varphi}{1 - \cos(\theta - \varphi)} \quad (1.4)$$

$$-\frac{\sin \theta}{2\pi} \int_1^{\xi_1} \frac{\xi' q(\xi') d\xi'}{\xi'^2 - 2\xi' \cos \theta + 1} \quad \begin{matrix} \text{(для источников, распределенных)} \\ \text{в пределах контура окружности} \end{matrix} \quad (1.4)$$

and

$$v = v_\infty \cos \alpha \left(1 - \frac{1}{\xi^2}\right) + \frac{\xi^2 - 1}{4\pi\xi} \int_0^{\theta} \frac{q(\varphi) d\varphi}{\xi^2 - 2\xi \cos \varphi + 1} + \frac{1}{4\pi} \int_1^{\xi_1} \frac{q(\xi') d\xi'}{\xi - \xi'} + \frac{1}{4\pi\xi} \int_1^{\xi_1} \frac{q(\xi') d\xi'}{\xi\xi' - 1} \quad \begin{matrix} \text{(для источников, рас-} \\ \text{пределенных по оси \xi)} \end{matrix} \quad (1.5)$$

(Eq. 1.4 applies to the sources on the circle, and Eq. 1.5 to the  
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E022/E107

## Cavitating Flow Past Aerofoils

sources on the axis  $\zeta$ ), in which  $\alpha$  is the angle of incidence of the aerofoil measured from the zero lift position,  $\Gamma$  is the circulation,  $\theta_2$  is the angle of the point on the circle at which the cavity begins to form, and  $\xi_1$  is the abscissa of the point where the cavity closes up. The circulation is determined by the Chaplygin-Zhukovskiy condition. In order to determine  $\theta_2$  and  $\xi_1$  the conditions that the cavity must be a closed curve and that its boundary is tangential to the aerofoil are employed. The case when the cavity ends on the aerofoil is then analysed. The fundamental equation for the velocity in the integral form is expanded by Laurent's series and since the coefficients in the series diminish very rapidly only a few terms are retained. With these simplifications the analysis is applied to the flow over a flat plate, and the results are presented in Figs 3, 4 and 5. Fig.3 represents the ratio of the cavity length  $l$  to the aerofoil chord  $b$  in terms of  $\sin \alpha/x$  for various angles of incidence  $\alpha$ . The curve for  $\alpha = 0$  is identical with that given in Ref.2. In Fig.4 the shape of the cavity bubble is

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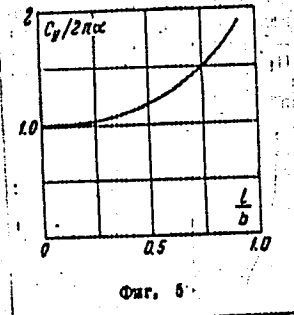
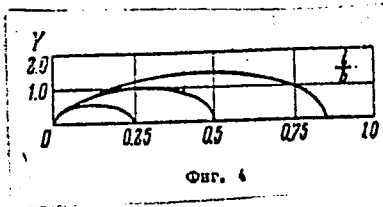
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E022/E107

Cavitating Flow Past Aerofoils

shown for three different values of  $l/b$ , while Fig.5 represents the lift coefficient as affected by the length of the cavitation bubble. It appears from the analysis that the point at which the cavitation bubble begins to develop on the aerofoil is not much affected by the length of the bubble and is approximately at 0.413 of the length of the chord behind the leading edge. There are 6 figures and 3 references: 1 Soviet and 2 English.

SUBMITTED: March 16, 1960

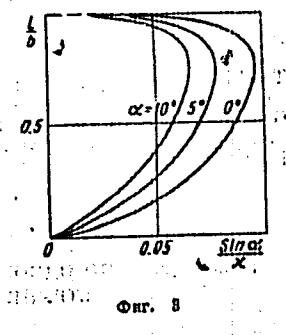
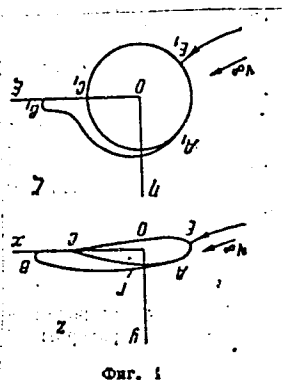


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E022/E107

Cavitating Flow Past Aerofoils



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S/124/61/000/012/021/038  
D237/D304

AUTHOR: Ivanov, A. N.

TITLE: On the influence of ponderability forces on  
the hydrodynamic characteristics of wing  
profiles

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 12, 1961,  
52-53, abstract 12B339 (Sudostroyeniye, 1961, <sup>v. 27</sup>  
no. 2, 10-12)

TEXT: Some basic considerations are given, based on Bernoulli's theorem on the influence of Froude numbers on the characteristics of underwater propellers which are in the region of developed cavitation. [Abstracter's note: Complete translation.] ✓

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I 23457-66 ENT(d)/ENT(l)/ENP(m)/ENT(n)/ENP(w)/EWA(a)/T.O./ENP(h)/ENP(b)/ETC(m)-6/

ACC NR: AP6010856

SOURCE CODE: UR/0421/66/000/001/0145/0149

EWA(1) EM

AUTHOR: Golubinskiy, A. I. (Moscow); Ivanov, A. N. (Moscow)

75  
72  
B

ORG: none

TITLE: Certain exact solutions for the problem of supersonic and hypersonic gas flows past a swept wing with a tip fin

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 1, 1966, 145-149

TOPIC TAGS: supersonic aerodynamics, hypersonic aerodynamics, supersonic flow, hypersonic flow, lift, drag, friction drag, wave drag, reflected shock wave, swept back wing

ABSTRACT: Certain exact solutions for the problem of supersonic and hypersonic flows past a swept wing with a longitudinal fin located at the wing tip are presented. These solutions are obtained without application of small disturbance theory which in a special case describes the flow past two intersecting swept wings. The author stresses the occurrence of the phenomenon of strong interference at high speeds when local pressures far exceeding the pressures on an isolated wing, appear as the result of interference. Flow past a swept wing section with a plane fin ODF (see Fig. 1) located at the wing tip parallel to the direction of flow and making an angle  $\xi$  with the y-axis is considered. Formulas are established which express the angles of incident  $w_1$  and reflected  $w_2$  shock waves and two equations which relate

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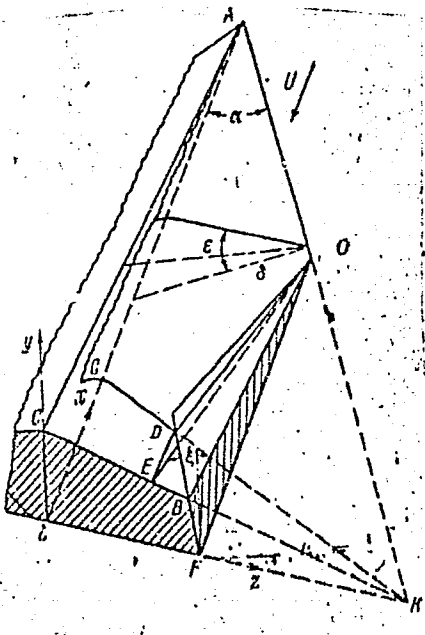


Fig. 1. Wing configuration.

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ACC NR: AP6010856

seven parameters  $M_0$ ,  $\alpha$ ,  $\delta$ ,  $\epsilon$ ,  $\xi$ ,  $w_1$  and  $w_2$  are established. The domain of the existence of solutions considered here is analyzed in the case of symmetrical reflection, that is, when  $w_1 = w_2$  and is presented in graph for  $\gamma = 1.4$  and  $\gamma = 1.67$ . The case when sweep back angle  $\alpha$  tends to zero and  $M_0$  tends to infinity is also considered. Expressions for lift  $Y_1$  on the wing surface adjacent to the fin and for lift  $Y_2$  on a wing surface with no fin are derived for  $\xi = 0$ ,  $M_1 \rightarrow \infty$  and  $\gamma \rightarrow 1$ . A comparison showed that a strong lift equal to that on the cut-off section of the wing is generated at the wing-fin junction and makes it possible to assume that the low shock is strongly reflected from the fin. The drag forces acting on the wing section with the tip fin in case of hypersonic flow are evaluated, and as the wave drag tends to zero with  $\alpha \rightarrow 0$ , the total drag is determined by the friction drag. It is pointed out that at  $\gamma = 1$ , the supplementary forces on the wing created by tip fin are comparable to those acting on the cut-off section of the wing. The friction drag on a wing with fin  $X_{f1}$  and on the cut-off section  $X_{f2}$  are determined by means of an

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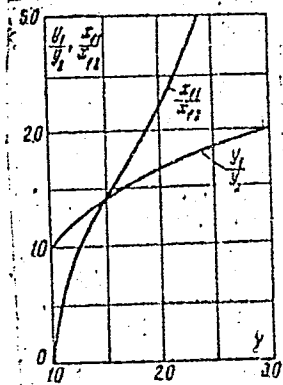


Fig. 2. Lift and friction drag at  $\xi = 0$ .

approximate formula derived by V. A. Bashkin, and compared. The dependence of friction drags  $X_{f1}/X_{f2}$  on  $\gamma$  at  $\xi = 0$  is given in Fig. 2. The authors thank V. V. Struminskiy, V. V. Sychev, and V. N. Zhigulev for the discussion of the results. [AB]

SUB CODE: 20/ SUBM DATE: 19Jul65/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 4232

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SOV/142-2-1-6/22

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AUTHOR:

Ivanov, A.N.

TITLE:

The Application of the Theory of Natural Oscillations of Waveguide Resonators for Measuring Electrical and Magnetic Constants of Materials at Super-High Frequencies (O primeneni teorii sobstvennykh kolebaniy volnovodnykh rezonatorov k izmereniyu elektricheskikh i magnitnykh konstant veshchestva na sverkhvysokikh chastotakh)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika, 1959, Vol 2, Nr 1, pp 48-57 (USSR)

ABSTRACT:

In the past, a number of papers was published on the theory of the attenuation equivalent of TEM-oscillations in coaxial <sup>Ref 1,7</sup>, TE<sub>10p</sub>-oscillations in rectangular <sup>Ref 2,3</sup>, and TE<sub>10p</sub>-oscillations in round <sup>Ref 3,4</sup> resonators, filled with three dielectric mediums. In this paper, the author explains the theory of any type of attenuation equivalent of TE and TM oscillations of waveguide resonators, having an arbitrary cross-section and being

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The Application of the Theory of Natural Oscillations of Waveguide Resonators for Measuring Electrical and Magnetic Constants of Materials at Super-High Frequencies

filled with three substances of complex permittivity. As a result of his investigations, the author develops a theory for the resonator method of measuring electrical and magnetic constants of matter at super-high frequencies. He shows the principal possibilities for determining these constants by the resonator method. For this purpose, two measurements are necessary, corresponding to two different positions of the specimen in regard to the longitudinal structure of the electromagnetic resonator field. The author furnishes formulae convenient for practical application. The results of this paper may be also used for investigating and designing resonance wavementers. There are 1 diagram, and 7 references, 2 of which are American and 5 Soviet.

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SOV/146-2-4-4/19

AUTHOR: Ivanov, A.N., Candidate of Technical Sciences

TITLE: Rectangular Resonator for Measuring<sup>5</sup> the Electric Constants of Dielectrics at Super-High Frequencies

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroye-  
iye, 1959, Nr 4, pp 28-37 (USSR)

ABSTRACT: The new resonator described is based on the theory of the resonance method developed previously by the author himself / Reference 1, 2 7. The block diagram (Figure 1) and a photograph of the instrument (Figure 2) are given. The dielectric specimen is placed near the generator length middle. All surfaces of the resonator components contacting the electro-magnetic field, as well as the contacting surfaces in the generator body, are silver-plated (20-30 microns). Ple-  
xiglass, polyethylene, ebonite, textolite, polystyrene,  
and pertinax of various thicknesses were used as speci-

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Rectangular Resonator for Measuring the Electric Constants of Dielectrics at Super-High Frequencies

mens for the experiments. The regulation and graduation of the resonator were carried out on all wave lengths. The typical graduation curves are shown in diagrams (Figures 3,4,5,6). The measurement results of  $\xi$  and  $\text{tg } \delta$  of the specimens in the wave length range of  $\lambda = (8.7-10.5)$  cm are in good agreement with the results obtained by other researchers. The author concludes that his method can be successfully applied in practice. The article was recommended by the Kafedra radiotekhniki (The Chair of Radio Engineering). There are 1 diagram, 1 photograph, 4 graphs, 3 tables, and 2 soviet references.

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ASSOCIATION:Leningradskiy institut tochnoy mekhaniki i optiki

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