The result of applying neutron ...   8/169/61/000/011/027/065
                                         D228/D304

μsec, the transmission frequency being 400 c/s. The neutron genera-
tor was used in the commercial testing of INNL. INNL readings against
oil-bearing beds exceed by 10 times those for aquiferous beds con-
taining mineralized water, at a delay time of 1000 μsec. Certain
impediments and limitations of thermal impulse neutron-logging in
different oil- and water-saturated beds are indicated, and the re-
quirements for the apparatus are stated. Further prospects are indi-
cated for the application of impulse neutron generators. [Abstrac-
tor's note: Complete translation].

Card 2/2

AID Nr. 990-5   14 June

SINGLE PULSE HIGH-VOLTAGE NANOSECOND GENERATOR (USSR)

Yerozolimskiy, B. G., L. N. Bondarenko, V. P. Prikhod'ko, Yu. A. Mostovoy, A. K. Shevchanko, and Yu. G. Matveyev. Pribor i tekhnika S/120/62/000/002/022/041

eksperimenta, no. 2, Mar-Apr 1963,

A generator has been developed by the Institute of Nuclear Physics in Novosibirsk for the control of a 100 Mev electron beam in a synchrotron with a diameter of 1 mm.
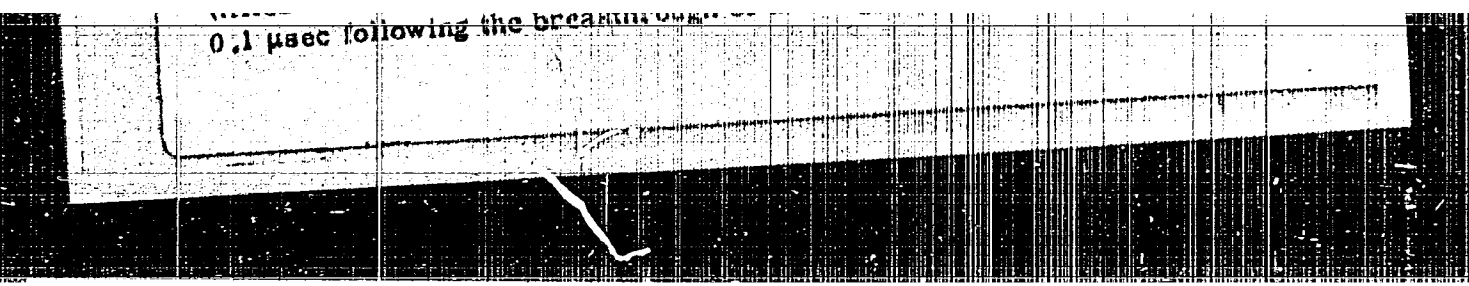
Card 1/1
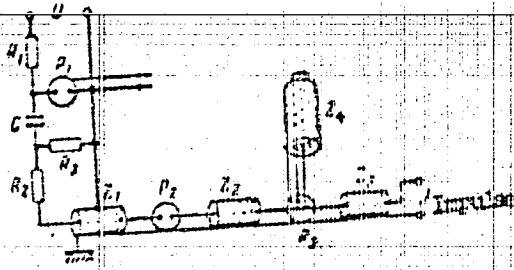
and produces pulses
with an amplitude of 100 kv,
a rise time of 1 nanosec,
and a duration of 10 to
12 nanosec. The basic
advantages of the generator
are high speed and overvolt-
age discharging, with the aid
of which the leading edge and
the duration of the high-volt-
age pulse is formed. The operation of the generator is as follows [see il-
lustration]. Capacitor C is charged through resistor R up to a voltage
V_0 from a rectifier. At a given moment of time a 6 to 8 kv triggering pulse
is applied to a gap between the grounded electrode of the discharger

0.1 μsec following the breakthrough.

App. Nr. 990-5   14 June

SINGLE PULSE HIGH-VOLTAGE [Cont'd]   E/120/63/000/002/022/041

the storage line with w a v e impedance Z_1 up to voltage V_1 = $V_0 C/(C + C_1)$, where C_1 is the capacitance of Z_1. Therefore, the voltage of discharger P_2 rises to V. during a period of 0.1 to 0.2 usec, creating the necessary over-

voltage V_2 to drop to zero.

(GS)

Card 3/4

AID Nr. 995-19   21 June

8/120/63/000/002/022/04?

ERRATUM. On page 3 of issue 990 the sentence beginning on Line 10 should

tion of high-voltage pulses are formed."

Card 4/4

ACCESSION NR: AP4033103   S/0120/64/000/002/0039/0042

AUTHOR: Yerozolimskiy, B. G.; Mostovoy, Yu. A.; Obinyakov, B. A.

TITLE: Errors in measuring slow-neutron-beam polarization by the shim method

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 39-42

TOPIC TAGS: neutron, slow neutron, neutron polarization, shim neutron, polarization measurement

ABSTRACT: Methodic errors of shim polarization measurements are discussed.
Results of experiments which permitted a direct evaluation of the shim-introduced
disturbance are reported. Tests were conducted in a neutron beam with an
intensity of 2×10^6 neutr/sec of an IRT-1000 reactor; an 85%-polarized beam was
obtained by reflection from a 110×220-mm cobalt mirror. By placing a cadmium
slot instead of the shim, a beam was shaped and directed to a slot-type detector.
The variation in the counting rate, upon introducing the shim, was determined by

Card 1/2

ACCESSION NR: AP4033103

the loss of neutrons due to small-angle scattering. The degree of polarization was measured by (a) the counting rate in the maximum second-reflection beam and (b) the beam shape (narrow slot) and integration of all neutrons reflected from the analyzer. An evaluation of error in the general case is found to be impractical since it depends on the imperfection of the mirrors, insufficient magnetization of the cobalt surface, depolarizing fringe effects, etc. Orig. art. has: 2 figures and 6 formulas.

ASSOCIATION: none

SUBMITTED: 01Jun63   DATE ACQ: 11May64   ENCL: 00

SUB CODE: NS   NO REF SOV: 003   OTHER: 001

Card 2/2

YEROZOLIMSKIY, B.G.; ONUCHIN, A.P.; KHABAKHPASHEV, A.G.

Methodical errors in the experiment on opposed beams. Prib. i
tekh. eksp. 9 no.1:23-24 Ja-F '64.   (MIRA 17:4)

1. Institut yadernoy fiziki Sibirskogo otdeleniya AN SSSR.

YERPICHEV, M.I.

Gripping device for stacking bricks without trays. Rech.transp.15
no.7:10 Jl '56.
(MIRA 9:9)
(Cargo handling) (Bricks--Transportation)

IRKHIN, Aleksandr Petrovich, kand.tekhn.nauk; YARPICHEV, Mikhail Ivanovich, insh.; TSIPIN, Yakov Yevgen'yevich, insh.; TIKHOMIROVA, Ye.N., red.; VOLCHOK, K.M., tekhn.red.

[Economic aspects and the organisation of transportation by the self-propelled freighter fleet] Ekonomika i organizatsiia pere- vozok samokhodnym gruzovym flotom. Leningrad, Izd-vo "Rechnoi transport," Leningr.otd-nie, 1960. 94 p.   (MIRA 13:9)
          (Inland water transportation)

YERPICHEV, M.I., inzh.; IVLIYEVA, A.M., kand.ekonomicheskikh nauk

Comparative analysis of the economic indices of ships with
various power plants. Trudy LIVT no.3:3-22 '60.   (MIRA 15:3)
(Inland water transportation--Accounting)
(Marine engines)

YERPICHEV, M.I., inzh.

Particular features of cost calculations for transportation
in specialized vessels. Trudy LIVT no.16:3-16 '61. (MIRA 14:9)
(Inland water transportation--Costs)

IRKHIN, Aleksandr Petrovich, kand. tekhn.nauk; YERPICHEV, Mikhail
Ivanovich, insh.; TSYPIN, Yakov Yevgen'yevich, insh.;
CHERNYY, N.Ye., red.; VOLCHOK, K.M., tekhn. red.

[The economics and organisation of transportation via a
self-propelled merchant marine fleet] Ekonomika i organi-
zatsiia perevozok samokhodnym grusovym flotom. Izd.2.,
ispr. i dop. Moskva, Izd-vo "Rechnoi transport" 1963. 114 p.
                                                (MIRA 16:10)
        (Inland water transportation)

SUKHININ, S.D.; MARGOLIN, M.Ya.; YERPULEV, N.A.

Improvement of the preparation of acetic acid salts. Prom.
khim. reak. i osobo chist. veshch. no.1:26-27 '63.

(MIRA 17:2)

MONASTYRSKAYA, M.S.; YERPULEVA, L.I.; PAVLOV, S.A.

    Influence of the alkali cation used for pH regulation of latex
    L-4 on the properties of its films. Kauch. i rez. 24 no.6:13-14
    Je '65.
                                         (MIRA 18:7)

    1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.

Terpylev, N P

ZIGEL', Feliks Yur'yevich; TERPYLEV, N.P., red.; YERMAKOVA, Ye.A., tekhn.red.

[Fedor Aleksandrovich Bredikhin; his life and works] Fedor
Aleksandrovich Bredikhin; ego zhizn' i deiatel'nost', Moskva,
Gos. izd-vo tekhniko-teoret. lit-ry, 1957. 149 p.   (MIRA 11:4)
        (Bredikhin, Fedor Aleksandrovich, 1831-1904)

TERPYLEV, N.P.

MIKHAYLOV, Aleksandr Aleksandrovich; TERPYLEV, N.P., red.; YERMAKOVA,Ye.A.,
tekhn.red.

[Star atlas; containing all stars of both hemispheres of up to
8.25 in magnitude, with indications of variable and double stars and
star clusters and nebulae] Zvezdnyi atlas; soderzhshchii dlia oboikh
polusharii vse zvezdy do 8.25 velichiny, s oboznacheniem peremennykh
i dvoinykh zvezd, zvezdnykh skoplenii i tumannostei. Izd.2-oe.
Moskva, Gos.izd-vo tekhniko-teoret.lit-ry, 1957. 59 p. and 20 plates
(in portfolio).   (MIRA 10:12)
                         (Stars--Atlases)

YERPYLEV, N. P.

3(i)   PHASE I BOOK EXPLOITATION   SOV/1380

Istoriko-astronomicheskiye issledovaniya, vyp. 4 (Studies in the
   History of Astronomy, Nr. 4) Moscow, Fizmatgiz, 1958.
   592 p. 1,500 copies printed.

Resp. Ed.:   Kulikovskiy, P.G., Docent; Eds.: Rakhlin, I. Ye., and
   Reznikovskiy, P.T.; Tech. Ed.: Gavrilov, S.S.; Editorial Board
   of Series: Vorontsov-Vel'yaminov, B.A., Professor Kukarkin, B.V.,
   Professor, Kulikovskiy, P.G. (Chairman, Committee on the History
   of Astronomy, Astronomical Council USSR Academy of Sciences) and
   Perel', Yu. G. (Scientific Secretary, Committee on the History of
   Astronomy, Astronomical Council, USSR Academy of Sciences)

PURPOSE: This book is intended for both the general reader and the
   specialist interested in the historical development of astronomy.

COVERAGE: This collection of articles by different authors is the
   fourth in a series on the history of the development of astronomy
   in Russia. The present volume is divided into three parts: an

Card 1/5

Studies in the History of Astronomy   SOV/1380

introductory section, a section of articles and studies, and a
final section containing data and documents. The first article,
the longest and most thorough, traces the development of stellar
astronomy in Russia during the XIX century. The remainder
discusses various topics in the field of astronomy, such as the
contributions of outstanding personalities, both in and outside
of Russia, Russian observatories, the development of astronomy
in China and Georgia, etc. Valuable historical findings are
brought to light in the form of new archival discoveries. The
text is accompanied by photographs, diagrams and bibliographic
references.

TABLE OF CONTENTS:

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Studies in the History of Astronomy   SOV/1380

MATERIALS AND DOCUMENTS

Card 4/5

Studies in the History of Astronomy   SOV/1380

From V.K. Tseraskiy's Archives. Note on the Moscow Observatory   573

Perel', Yu. G. Selected Bibliography on the History of
    Astronomy Published in USSR and Other Countries in 1956 and
    1957
                                                                   580
Index
                                                                   586
AVAILABLE: Library of Congress

                                              MM/ksv
                                              4-9-59

Card 5/5

VOROBTSOV-VEL'YAMINOV, Boris Aleksandrovich; YEREPYLEV, N.P., red.;
KOLESNIKOVA, A.P., tekhn.red.

[Sketches of the history of astronomy in the U.S.S.R.] Ocherki
istorii astronomii v SSSR. Moskva, Gos.izd-vo fiziko-matem.
lit-ry, 1960. 227 p.   (MIRA 14:3)
                    (Astronomy)

YERPYLEV, N P

PHASE I BOOK EXPLOITATION   SOV/5574

Akademiya nauk SSSR.   Astronomicheskiy sovet.

Byulleten' stantsiy opticheskogo nablyudeniya iskusstvennykh
   sputnikov Zemli. no. 7 (17) (Bulletin of the Stations for
   Optical Observation of Artificial Earth Satellites.   No. 7
   (17) Moscow, 1960.   16 p.   500 copies printed.

Sponsoring Agency: Astronomicheskiy sovet Akademii nauk SSSR.

Resp. Ed.:   G. A. Leykin; Ed.:   D. Ye. Shchegolev; Secretary:
   O. A. Severnaya.

PURPOSE :   This bulletin is intended for scientists and engineers
   concerned with optical tracking of artificial satellites.

COVERAGE: The bulletin contains four articles concerned with the
   orbital elements of the Soviet artificial satellites 1958 δ_1
   and 1958 δ_2 (Sputnik III and its carrier rocket).   No personal-
   ities are mentioned.   There are 6 references: 4 Soviet and
   2 English.
Card 1/3

Bulletin of the Stations (Cont.)   SOV/5574

Batrakov, Yu. V. [Institut teoreticheskoy astronomi AN SSSR ---
Institute of Theoretical Astronomy of the Academy of Sciences
of the USSR]. Preliminary Orbital Elements of the Third Soviet
Artificial Satellite (1958 b_2)   3

Batrakov, Yu. V., and A. S. Sochilina [Institute of Theoretical
Astronomy of the Academy of Sciences of the USSR]. Motion of
the Carrier Rocket of the Third Soviet Artificial Satellite
(1958b_1) and the Magnitude of the Oblateness of the Earth   6

Yerpylev, N. P. [Astronomicheskiy sovet AN SSSR --- Astronomic
Council of the Academy of Sciences of the USSR]. On the Elements
of the Orbit of the Carrier Rocket of the Third Soviet Artifi-
cial Satellite (1958b_1) Obtained From Photographic Observa-
tions   13

Card 2/3

Bulletin of the Stations(Cont.)

SOV/5574

Slovokhotova, N. P. [Astronomic Council of the Academy of Sciences of the USSR] Comparison of Different Systems of Orbital Elements of the Third Soviet Artifical Satellite 1958 δ₂

14

AVAILABLE: Library of Congress

Card 3/3

AC/dwm/jw
10-30-61

S/035/60/000/011/023/026
B021/B056

AUTHOR: Yerpylev, N. P., Candidate of Physical and Mathematical
              Sciences

TITLE: Out-of-town Session of the Astronomical Council

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 11, pp. 122-123

TEXT: The out-of-town session of the Astronomical Council of the
Akademiya nauk SSSR (Academy of Sciences USSR) took place from August 23
to August 26, 1960 at Vil'nyus (Lithuania). It was organized jointly by
the Akademiya nauk Litovskoy SSR (Academy of Sciences Litovskaya SSR), and
the Vil'nyusskiy universitet im. V. Kapsukasa (Vil'nyus University imeni
V. Kapsukas). The conference was attended by astronomers, physicists,
geodesists, and mathematicians of the Academy of Sciences USSR, of the
Academies of the Union Republics and Schools of Higher Education. The
history of the development of astronomy in Lithuania was described by
P. V. Slavenas. The following lectures were delivered: O. A. Mel'nikov
"The History of Astrospectroscopy"; L. K. Sorgsepp: "The Width of the
Spectral Lines of Diphoton Radiation"; A. P. Yutsis and Ya. I. Vizbarayte:
Card 1/2

S/030/60/000/011/023/026
B021/B056

Out-of-town Session of the Astronomical Council

"The Precise Calculation of the So-called Forbidden Spectral Lines"; A. Misyunas spoke about the influence of temperature on the collision broadening of a spectrum. Reports were given on problems concerning the research of variables and the evolution of Stars by Ya. Ya. Ikauniyeks, K. P. Zhukauskas, V. V. Sobolev and D. A. Frank-Kamenetskiy, L. D. Zhongolovich, A. K. Razhinskas, and V. L. Strayzhis. The Lithuanian astronomers gave a report on the structure and develop- method of observing artificial earth satellites. The research work of the interstellar space and work in were recommended to intensify research work of the interstellar space and work in the field of stellar systems As well as of spectroscopy. The conference approved the establishment of a new astronomic geodesy and spectroscopy. The conference approved recommended that the existing observation devices be augmented. The problem of training personnel was also discussed. It was described as being desirable to establish a branch of the All-Union Astronomical geodetic Society in the Litovskaya SSR. The participants in the conference, among other institutions, inspected the astronomical observatory of the Vil'nyus University and the station for the observation of artificial earth satellites.

KULIKOVSKIY, Petr Grigor'yevich; YERPYLEV, N.P., red.; SAMSONENKO, L.V., red.; MURASHOVA, N.Ya., tekhn. red.

[Handbook for amateur astronomers] Spravochnik liubitelia astrono-
mii. Izd. 3., perer. i dop. Moskva, Gos. izd-vo fiziko-matem. lit-
ry, 1961. 493 p.— —.— Plates   (MIRA 14:6)
                              (Astronomy)

YERPYLEV, N.P. (Moskva)

Flight of an automatic interplanetary station toward Venus. Fiz. v
shkole 21 no.2:29 Mr-Ap '61.   (MIRA 14:8)
                                    (Venus probes)

PEREL', Yuriy Grigor'yevich; KUKARKIN, B.V., prof., red.; YERPYLEV,
N.P., red.; KRYUCHKOVA, V.N., tekhn. red.

[Development of our concepts about the universe]Razvitie pred-
stavlenii o vselennoi. Izd.2. Pod red. B.V.Kukarkina. Moskva,
Fizmatgiz, 1962. 391 p.

(Cosmogony)   (MIRA 15:10)

S/030/62/000/004/008/010
B102/B104

AUTHOR: Yerpylev, N. P., Candidate of Physics and Mathematics

TITLE: In the Astronomical Council

PERIODICAL: Akademiya nauk SSSR. Vestnik, no. 4, 1962, 122-124

TEXT: A report is given on the course of the plenum of the Astronomicheskiy sovet (Astronomical Council) which took place in Pulkovo, from January. 26 to 29, 1962. The opening lecture was held by the chairman of the Astronomical Council, A. A. Mikhaylov, Corresponding Member of the AS USSR. He spoke on problems of stellar evolution, research in solar physics (observation of the total eclipse on February 15, 1961 from a special TУ -104 С (TU-104B) aircraft and from the earth with a 3-m radiotelescope), new astronomical instruments (a 2.6-m reflector at the Krymskaya astrofizicheskaya observatoriya AN SSSR (Crimean Astrophysical Observatory of the AS USSR), and a 1-m telescope at the Byurakanskaya astrofizicheskaya observatoriya AN Armyanskoy SSR (Byurakan Astrophysical Observatory AS Armyanskaya SSR)), on rockets, satellites, space ships and interplanetary stations. In USSR 102 stations exist for satellite observation (48,800 visual and 7000 photo-

Card 1/2

In the Astronomical Council   S/030/62/000/004/008/010
                                            B102/B104

graphic observations). Academician V. A. Ambartsumyan gave a report on the
results and prospects of outer-galactic astronomy. In the discussions
special attention was paid to the training of specialists, improvement and
new design of instruments, e.g. an automatic telescope, long-time planning
and coordination of astronomical research and other problems of organiza-
tion. Finally, A. B. Severin, Corresponding Member AS USSR, spoke on solar
magnetic-field measurements and I.D. Zhongolovich, Doctor of Physicomathe-
matical Sciences, on new investigations into the Earth's size, shape and
mass distribution.

Card 2/2

YERPYLEV, N.P.

Lomonosov lunar crater. Vop.ist.est.i tekh. no.12:237-238
'62.

(Moon)   (MIRA 15:4)

YERPYLEV, N.P.

> Station for visual observations of artificial satellites. Vest.
> AN SSSR 32 no.7:87-88 Jl '62.   (MIRA 15:7)
>   (Egypt—Artificial satellites—Tracking)

TERPYLEV, N.P.

Photographic observations of artificial earth satellites.
Vest. AN SSSR 32 no.11:129-130 N '62.   (MIRA 15:11)
            (Artificial satellites—Tracking)

L 9837-63
APGC--Pd-4/Pg-4/Pe-4/Po-4/Pq-4   EPA(b)/EWT(1)/FCC(w)/FB(v)/BDS/EEC-2/EE(v)/AFFTC/ESD-3/
ACCESSION NR: AP3001807   S/0030/63/000/006/0113/0114

AUTHOR: Yerpylev, N. P. (Candidate of physics and mathematics)

TITLE: Plenum of the Astronomical Council [held in Leningrad, 16-18 January 1963]

SOURCE: AN SSSR. Vestnik, no. 6, 1963, 113-114

TOPIC TAGS: progress in astronomy, oxygen on Venus, predicting solar flares,
moon photographs

ABSTRACT: During the assembly of the Astronomicheskiy sovet Akademii nauk SSSR
Council of the Academy of Sciences SSSR) in Leningrad from 16 to
on the work performed by Soviet
at the

layers of the Van...

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L 9837-63
ACCESSION NR: AP3001807

observatoriya (Main Astronomical Observatory) at Pulkovo recorded simultaneously
the magnetic fields and the velocity of solar gases. From these records the
characteristic features of some solar regions in which abstra-
developed were determined

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15Jul63

SUB CODE: 00

NO REF SOV: 000

ENCL.: 00

OTHER: 000

Ja/ss

Card 2/2

YERPYLEV, N.P., kand.fiz.-matem.nauk

Conference of the Committee exploring the problem of optical observations of artificial satellites. Vest. AN SSSR 33 no.9:
75-76 S '63.   (MIRA 16:9)
            (Artificial satellites—Optical observations)

YERPYLEV, N.P., kand. fiz.-matem. nauk; KILADZE, R.I., kand. fiz.-
matem. nauk; RUSKOL, Ye.L., kand. fiz.-matem. nauk;
KULIKOVSKIY, P.G., kand. fiz.-matem. nauk

Plenums of the Astronomical Council and its committees. Vest.
AN SSSR 34 no.5:134-137 My '64.   (MIRA 17:6)

YERPYLEV, N.P., kand. fiziko-matem. nauk

Geodetical net and artificial earth satellites. Zem. i
vsel. 1 no.4:65-69 Jl-Ag '65.

(MIRA 18:12)

YERPYLEV, N.P., kand. fiziko-matem. nauk

Symposium on problems in establishing a European geodetic network on the basis of the observations of artificial earth satellites held in Paris. Vest. AN SSSR 35 no.4:77-78 Ap '65.

(MIRA 18:6)

L 04696-67   EWT(1)/EEC(k)-2/FCC   JK1/JI/GW

ACC NR: AP6030234   SOURCE CODE: UR/0030/66/000/008/0099/0101

AUTHOR: Yerpylev, N. P. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: New investigations in astronomy

SOURCE: AN SSSR. Vestnik, no. 8, 1966, 99-101

TOPIC TAGS: astronomic conference, solar magnetic field, planetary orbit, solar corpuscular radiation, earth crust, solar activity

ABSTRACT: The annual plenum of the Astronomical Council of the Academy of Sciences USSR was held in the Crimean Astrophysical Observatory from 12—15 April 1966. Some 100 representatives from the major Soviet astronomical research centers attended.

    Each of the centers reported progress in its research work: the Crimean Astrophysical Observatory in investigations of solar magnetic fields; the Institute of Theoretical Astronomy in studies of the evolution of the Earth's orbit; the Volgograd Pedagogic Institute in showing that solar corpuscular streams affect pressure and temperature in the lower as well as upper layers of the atmosphere; the Main Astronomical Observatory of the Ukrainian Academy of Sciences in its studies of the Martian atmo-

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L 04696-67

ACC NR: AP6030234

sphere (surface atmospheric pressure shown to be 19 ± 8 mbar); the Byurakan Astrophysical Observatory in its investigations of faint blue objects of the 17th and 18th stellar magnitude, many of which are quasi-stellar galaxies; and the Institute of Astrophysics of the Tadzhik Academy of Sciences in its studies of the orbits of meteors in interplanetary space.

On the basis of investigations of the rate of the Earth's rotation, carried out by the All-Union Scientific Research Institute of Physicotechnical and Radio-Engineering Measurements, it has been established that the decreased rate of rotation observed in 1963 continued in 1965. In the period from March 1963 through October 1965 the rate of the Earth's rotation decreased by $19 \cdot 10^{-9}$ and, consequently, the length of the day increased 1.6 μsec. In 9 months of 1965 the day lengthened 0.6 μsec. In a report entitled "The Rotation of the Earth, Deformation of the Earth's Crust, and Solar Activity," V. B. Nikonov and N. N. Pavlov expressed their views on the causes for the irregularities in the rate of rotation.

A. G. Masevich reported on progress made in international cooperative projects, including optical observations of Earth satellites, investigations of variables and supernovae, ephemerides of planetoids, astrometric investigations, solar research, and star evolution. The best progress has been made in satellite-observation programs, Masevich said. Jointly operated observation centers were set up in the UAR and Mali. A cooperative venture with Chile was also reported to be proceeding smoothly.

The plenum closed with discussions dealing with organizational and educational matters. [ATD PRESS: 5067-F]

SUB CODE: 03 / SUBM DATE: none

Card 2/2 fv

44340

S/024/62/000/006/020/020
E140/E535

16.8000

AUTHORS: Avdeyev, B.M., Yerpylev, Yu.A. and Kovachich, Yu.V.
              (Moscow)

TITLE: A comparison of new methods of applied mathematics
              in automatic control theory

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
              tekhnicheskikh nauk. Energetika i avtomatika, no.6,
              1962, 178-200

TEXT: Three typical control problems are formulated and
their solutions by modern mathematical methods are compared.   In
the first problem the boundary conditions (initial and final
states) are defined for the controlled process in terms of vectors
in phase space.   A control law is required satisfying the given
transition and providing an extremal value of a prescribed quality
criterion.   In the second problem the optimisation is with
respect to the motion of the process in phase space, and the
boundary conditions are not prescribed.   The third problem requires
a given relationship to be respected between the output and input
coordinates of the process (including as a special case the
Card 1/2

A comparison of new methods ...   S/024/62/000/006/020/020
                                       E140/E535

relationship of independence) given prior knowledge of the laws of
variation of the input coordinates and the analytic description of
the process.   In each of these problems various alternative forms
are investigated in connection with two classes of solutions.   In
the first class the authors place solutions in the presence of
full information.   In this class, for the first problem the methods
of classical variational calculus, and Pontryagin's principle of
the maximum are applied and illustrated; the second problem is
treated by linear and dynamic programming and.games theory; the
third problem is treated by the theory of invariance and the method
of polynomial equations.   Where full information is not available,
the second class of solutions involves the application of self-
adjusting systems.   This class is treated more summarily than the
first class; one example is given of the solution of each of the
typical problems defined above.   There are 20 figures and 4 tables.

SUBMITTED: November 28, 1961

Card 2/2

YERPULEVA, K.I., inzh.

Regeneration of the wastes of alcohol used for determining the
acid numbers of oils and fats. Masl.-zhir. prom. 29 no.10:39
O '63.   (MIRA 16:12)

1. Yevdakovskiy zhirovoy kombinat.

ANIKIN, A.V.; YERPYLEVA, O.N.

Economic effectiveness of solar apparatus. Trudy Fiz.-tekh.inst.
AN Turk. SSR 7:125-142 '61.   (MIRA 15:2)
                          (Solar heating)

BAYRAMOV, R.; YERPYLEVA, O.N.; TAGAMOV, K.

Technical and economic bases for using solar refrigerators
in Turkmenistan. Trudy fiz.-tekh. inst. AN Turk. SSR
8:57-73 '62. (MIRA 15:11)
(Turkmenistan—Solar engines)
(Refrigeration and refrigerating machinery)

LETPUNSKAYA, D.I.; PRUSLIN, Ya.A.; YERPYLEVA, Ye.R.; NOVIKOVA, K.A.

Radioactive method for studying the displacement of fluids from
porous media. Trudy VNII 12:361-367 '58.   (MIRA 12:3)
                (Oil field flooding) (Hydraulic modeling)

LEYPUNSKAYA, D.I.; YERPYLEVA, Ye.R.; NOVIKOVA, K.A.; PRUSLIN, Ya.A.

Radiometric method ; controlling oil saturation in the studies
of bubble point oil flow in hydrodynamic models of porous media.
Trudy VNII no.10:349-356 '57.   (MIRA 14:6)
                        (Oil reservoir engineering)

YERPYLOV, K. N.

Yerpylov, K. N.

"Investigation of the problems of improving information on the approach of trains by using new communications equipment." Min Railways USSR. Moscow Order of Lenin and Order of Labor Red Banner Inst of Railroad Transport Engineers imeni I. V. Stalin. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya letopis'
No. 25, 1956. Moscow

BORISOV, Dmitriy Petrovich, doktor tekhn. nauk, prof.; CHERPIOV, Konstantin
       Nikolayevich, kand. tekhn. nauk; KORMILITSYN, Aleksandr Yakovlevich,
       kand. tekhn. nauk, dotsent; VAKHNIN, M.I., doktor tekhn. nauk, prof.,
       retsenzent; LISTOV, V.N., doktor tekhn. nauk, prof., retsenzent; NEUGA-
       SOV, N.M., kand. tekhn. nauk, dotsent, retsenzent; MARENKOVA, G.I., inzh.,
       red.; NOVIKAS, M.N., inzh., red.; BOBROVA, Ye.N., tekhn. red.

       [Automatic and remote control and communications in railroad transporta-
       tion] Avtomatika telemekhanika i sviaz' na zheleznodorozhnom transporte.
       Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia,
       1961.   283 p.   (MIRA 14:7)
          (Railroads—Signaling) (Railroads—Communication systems)
                      (Railroads—Electronic equipment)

TANTSYURA, A.A.; YERPYLOV, K.N.; SOKOLOV, V.F., inzh., retsenzent;
        NOVIKAS, M.N., inzh., red.

[The ZhR-5 radio transmitter-receiver] Radiostantsiia tipa
ZhR-5. Moskva, Transport, 1964.   163 p.   (MIRA 17:6)

YERSHALOV, G.

Yershalov, G. "Use of new railroad-motor-car units,"
Zh.-d. transport, 1948, No. 12, pp. 77-79

SO: U-3264, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

YERSHEV, Yu.

Oil and India's fight for economic independence. Vnesh.torg.
30 no.8:9-13 '60.   (MIRA 13:8)
          (India--Petroleum industry)

YERSHEVICH, V.V.; SMOLYANOV, V.S,

       Special features of the use of autotransformers. Energ. i
       elektrotekh. prom. no.3:27-31 Jl-S '62.   (MIRA 18:11)

       1. Khar'kovskoye otdeleniye Vsesoyuznogo gosudarstvennogo
       proyektnogo instituta stroitel'stva elektrostantsiy.

YERSHEVICH, V.V.

Estimated cost of electric power. Energ. i elektrotekh. prom.
no.3:54-58 Jl-S '63.   (MIRA 16:10)

1. Ukrainskoye otdeleniye Vsesoyuznogo gosudarstvennogo proyektnogo
instituta i Nauchno-issledovatel'skiy institut "Energoset'proyekt".

YERSHEVICH, V.V., inzh.; SMOLYANOV, V.S., inzh.; PALANT, V.M., inzh.

Use of voltage regulation under load in 35 and 110 kv.
power transformers. Elek. sta. 35 no.2:47-51 F '64.
(MIRA 17:6)

YERSHEVICH, V.V., inzh. (Khar'kov)

Determination of cost indices for technological and economic
calculations. Elektrichestvo no.3:6-7 Mr '64.   (MIRA 17:4)

YERSHEVICH, V.V., inzh.

Methodology for determining the calculational cost of electric power.
Elek. sta. 35 no.9:44-46 S '64.   (MIRA 18:1)

YERSHIN, Sh. A.

PHASE I BOOK EXPLOITATION   SOV/5290

Soveshchaniye po prikladnoy gazovoy dinamike. Alma-Ata, 1956

Trudy Soveshchaniya po prikladnoy gazovoy dinamike, 5. Alma-Ata, 23-26 oktyabrya
1956 g. (Transactions of the Conference on Applied Gas Dynamics, Held in
Alma-Ata, 23-26 October 1956) Alma-Ata, Izd-vo AN Kazakhsy SSR, 1959.
83) p. Errata slip inserted. 900 copies printed.

Sponsoring Agency: Akademiya nauk Kazakhsoy SSR. Kazakhsk. gosudarstvennyy
universitet imeni S.M. Kirova.

Editorial Board: Resp. Ed.: L.A. Vulis; V.P. Kashkarov; T.P. Leont'yeva and
E.P. Ustimenko, Ed.; V.V. Aleksandriyskiy, Tech. Ed.; Z.P. Korobina.

PURPOSE: This book is intended for personnel of scientific research institutes
and industrial engineers in the field of applied fluid mechanics, and may
be of interest to students of advanced courses in the field.

Transactions of the Conference (Cont.)   SOV/5290

COVERAGE: The book consists of the transcriptions of 31 papers read at the
conference on gas dynamics which was convened under the initiative of the
Kazakhskiy gosudarstvennyy universitet imeni S.M. Kirova (Kazakh State Univer-
sity imeni S.M. Kirov) and the Institut energetiki Akademii nauk Kazakhskoy
SSR. Institute of Power Engineering of the Academy of Sciences Kazakhskaya
SSR) and held October 23-26, 1956. Three branches of applied gas dynamics
were discussed, namely, jet flow of liquids and gases, aerodynamics of furnace
processes, and the outflow of liquids. The practical significance of the
Transactions of the conference consists in the adaptation of theory to industrial
methods of technical computation and measuring methods related to industrial
furnaces and other industrial processes in which aerodynamic phenomena play
a predominant role. Eight papers read at the Conference are not included
in this collection for various reasons. The authors of the missing papers
are: L.D. Liroy (Thermal and Aerodynamic Characteristics of Pulverized Coal
Flame Furnace) and A.A. Golprevskiy (Outlines and Physical Models of the Jet
Motion Mechanics of Fluids), M.I. Akatov, Ye. P. Berdanov, S.V. Bukhman,
T.I. Mironenko, A.B. Resipakov, and O.V. Yanobov, L.D. Loygayevskiy is
mentioned as being in charge of a department of the Kazakh State University),
and T.D. Malybaev, Candidate of Physical and Mathematical Sciences, Respol,
as a member of the same university. References are found at the end, end, of

Session of October 24, 1956 (Morning)

Antonova, O.S. Investigating Turbulence Characteristics of a
Free Nonisothermal Jet and an Open Flame   45

Kashkarov, V.P. [Candidate of Physical and Mathematical Sciences].
On Parallel and Contrary Motion of Two Uniform Flows of Compressible Gas   55

Transactions of the Conference (Cont.)   SOV/5290

Leont'yeva, T.P. [Candidate of Technical Sciences], Operation of
Axially Symmetrical Jets in Parallel and Contrary Flow   67

Nalban, G.V. Regularity of Motion and Combustion of Coal Particles   69

Makancharot, M.M., and E.I. Pol'skiy. On the Crisis in the Viscous
Flow of Gas in a Plane Parallel Channel   71

Contents of the Discussion in Brief

Session of October 24, 1956 (Evening)

Yershina, E.H. Expansion of an Axially Symmetrical Jet of Gas in a
Medium of Different Density   77

Chebykbev, P.V. [Viscozuyu elektrotchnichesky Institut (All-Union.
Electrotechnical Institute)]. Electrothermonmechanics and Their
Use in Investigating Nonisothermic Gas Flow   85

Card 5/6

YERSHIN, Sh.A.

Study of the aerodynamics of a turbulent gas jet. Izv.AN Kazakh. SSR.Ser.energ.no.11:97-110 '56.   (MLRA 10:2)
          (Flame)   (Aerodynamics)

SHIN, Sh. A.   Cand. Tech Sci -- (diss) "The Aerodynamics of the

Turbulent Gas Jet." Alma-Ata, 1957. 16 pp 20 cm.

(Academy of Sciences Kazakh SSR, Power Engineering Inst), 120 copies

(KL, 16-57, 100)

- 9 -

YERSHIN, Sh. A.

PHASE I BOOK EXPLOITATION   SOV/2272

Soveshchaniye po prikladnoy gazovoy dinamike. Alma-Ata, 1956

Trudy (Transactions of the Conference on Applied Gas Dynamics) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1959. 235 p. Errata slip inserted.

Sponsoring Agency: Kazakhskiy gosudarstvennyy universitet imeni S.M. Kirova.

Ed.: V.V. Aleksandriyskiy; Tech. Ed.: Z.P. Horokina; Editorial Board: L.A. Vulis (Resp. Ed.), T.P. Kashkarov, T.P. Leont'yeva, and R.P. Ustimenko.

PURPOSE: This book should be of interest to scientists and engineers working on problems of applied gas dynamics and may be of use to students.

COVERAGE: This book presents reports and brief summaries of the discussions which took place at the Conference on Applied Gas Dynamics in Alma-Ata in October 1956. The conference was subdivided into three areas of applied gas dynamics: jet flows of fluids and gases, the aerodynamics of heating processes, and the discharge of a fluid. The practical value of the "Transactions of the Conference" consists in the development of theory, methods of technical calculation and methods for systematic measurement applied to heating, furnace, and other industrial processes for which, in most cases, aerodynamic phenomena are decisive factors.

AVAILABLE: Library of Congress

YERSHIN, Sh.A.; SAKIPOV, Z.B.

Investigation of the initial section of the turbulent stream of a compressible gas. Zhur.tekh.fiz. 29 no.1:51-60 Ja '59.

(MIRA 12:4)

1. Institut energetiki AN KazSSR, Alma-Ata.
(Gas flow)

22223
8/124/61/000/003/014/028
A005/A105

11.7m

AUTHOR: Yerahin, Sh. A.

TITLE: The aerodynamics of a turbulent gas flame tongue (The basic section
           of a diffusion flame tongue)

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1961, 72-73, abstract 3B496
             (Tr. Soveshchaniya po prikl. gaz. dinamike, 1956. Alma-Ata,
             AN KazSSR, 1959, 168-178. Diskus., 186)

TEXT: A calculation method for the basic section of a turbulent diffusion
gas flame tongue is formulated; the method is based on regularities obtained
from the investigation of free non-isothermal jets according to the generalized
Reichardt scheme, and on the assumption that the reaction kinetics of combustion
does not affect the gas stream in the flame tongue. As a result, approximate
correlations are derived for determining the dependence of the tongue structure
on the basic defining parameters: the preheating degree, the stoichiometric
factor; and the Prandtl number of turbulence. The experimental investigation
of the diffusion flame tongue cooroborated the similarity of the profiles of
momentum-stream density. However, the comparison of the results from calculation

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The aerodynamic: of a turbulent ...

R2223
B/124/61/000/003/014/028
A005/A105

and experiments, as far as they concern the position of the combustion zone in
the basic tongue section, shows a considerable discrepancy between the formulated
theory and the experiment. There are 13 references.

O. Yakovlevskiy

[Abstractor's note: Complete translation]

Card 2/2

25417
B/137/61/000/006/006/092
A006/A101

AUTHOR: Yershin, Sh.A.

TITLE: Experimental investigation and theoretical calculation of a turbu-
            lent gas flame

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 2, abstract 6B7
            (KazSSR Fylym Akad. khabarlary, Izv. AN KazSSR, Ser. energ.", 1960,
            no. 1 (17), 9 - 17, [Kaz. summary])

TEXT: Combustion of unmixed gases was experimentally investigated in a
vertical combustion chamber into which a rich mixture of kerosene vapors and air
(ν 0.3) was supplied. The dynamical properties of the gas flame differ only
slightly from the properties of a conventional non-isothermal jet; on the initi-
al section of flame, the experimental points lie close to the theoretical straight
line; on the remaining portion of the flame a deviation is observed, which is
explained by the inaccuracy of the law selected for the changes in temperature
and concentration along the flame axis. There are 9 references.

N. Ivanov

[Abstracter's note: Complete translation]

Card 1/1

YERSHIN, Sh.A; PALATNIK, I.B.

Example for calculating normal thermoelastic stresses in the plane cross section of a massive dam. Izv. AN Kazakh. SSR. Ser. energ. no.2:32-36 '61.

(MIRA 14:12)

(Dams)

31294
S/124/61/000/010/029/056
D251/D301

1.720

AUTHORS: Yershin, Sh.A. and Sakilov, Z.B.

TITLE: Investigating the aerodynamics of an elementary gas
                jet

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 10, 1961, 84,
                abstract 10 B596 (Tr. in-ta energ. AN KazSSR, 1960,
                2, 237-243)

TEXT: A short description is given of a scheme for the
aerodynamic calculation of a gas jet. For calculating the jet of
combustion of undisplaced gases it is proposed that a similarity
exists between the profiles of velocity pressure and the mechanism
of heat transfer, and the composition along the two sides of the
zone of combustion is reckoned to be similar for the mechanism of
heat transfer in a non-isothermal turbulent jet; also the velocity
of reaction of the combustion is taken to be infinitely great. It
is reckoned that the zone of combustion is established on the sur-

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31294
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D251/D301

Investigating the aerodynamics...

face which corresponds to the stoichiometric relationship of the directions to that of the stream of reagents. The results of the aerodynamic and thermal calculations are presented for the combustion of a jet of benzene vapor in air, together with the corresponding experimental data. In consideration of the combustion of previously agitated gases, the position of the flame front in the turbulent boundary layer is determined according to the Guy-Michelson law. Referring to the absence of experimental data on the thermal and dynamical properties of a jet for the combustion of agitated gases, the author resorts to certain assumptions and analyzes them on the basis of the results of preliminary experiments. / Abstracter's note: Complete translation /

Card 2/2

25743
S/123/61/000/012/036/042
A004/A101

71.7200

AUTHORS: Vulis, L. A.; Yershin, Sh.A.

TITLE: On the aerodynamical theory of the gaseous tongue of flame

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 12, 1961, 22, abstract.
121130 (V sb. "3-ye Vses. soveshchaniye po teorii goreniya. v. 2".
Moscow, 1960, 219-227)

TEXT: The authors present a brief survey on investigations of the aero-
dynamical theory of the gaseous tongue of flame based on the idea of an infinite
reaction rate of combustion. This assumption leads to a scheme of diffusion
combustion as in the case of both unmixed gases and homogeneous mixtures. The
latter case is investigated in detail. If for the case of combustion of unmixed
gases the equation system is complete, since the flame front is found from the
stoichiometric relation of the flows of the reacting components, an additional
assumption on the position of the flame front is necessary for the flame tongue
of a homogeneous mixture. In order to solve this problem, the condition of the
gas-dynamic scheme of the flame front is taken as an oblique heat discontinuity.
In such a scheme the whole range of flame tongue is replaced by the surface of

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25743
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A004/A101

On the aerodynamical theory ...

discontinuity in the velocity, temperature, mixture composition, eot. Equations of continuity, momentum and energy are written down, and the dependence is derived of the gas-dynamic parameters on angle α_1 - the slope of the flame front relative to the normal to the lines of the flow up to the discontinuity. It is assumed that the solution sought for is taking place at the maximum deviation angle of the lines of the flow in the discontinuity. At a given heat release characteristic (ratio of the thermal effect to the initial enthalpy) of the order 5-7 the magnitude of α_1 is near to 70°. In this case the angle of slope of the flame front does not depend on the flow velocity and only slightly depends on the heat release characteristic. A comparison of these results with the test data shows that actually, as this follows also from the "aerodynamical scheme", a certain warming-up of the fresh mixture, its expansion and a deviation of the lines of the flow to the flame front, can be always observed. Owing to this a value $\alpha_1 = 83$ is obtained at the burner with an ordinary flame front, while with an inverted flame (behind the stabilizer) value $\alpha_1 = 60°$. The authors analyze the problem of an increased flow velocity behind the flame front. Also in this case the conception of an oblique heat discontinuity was used and experimental checks were carried out. From a nozzle 20 mm in diameter across which a stabilizer (1.5 mm diameter wire) was fastened, a jet of gasoline vapors and air

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On the aerodynamical theory ...

25743
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A004/A101

mixed beforehand flowed vertically upwards. With the aid of a special feeder fine quartz sand was fed into the flow, which was photographed when streaming out from the nozzle. The particle speed behind the flame front was determined from the length of the trajectory and photographic exposure. It was found that during the passing of the flame front the speed increased by a factor of 1.5 which agrees with the theoretical results. There are 4 figures and 23 references.

Sh. M. S.

[Abstracter's note: Complete translation]

Card 3/3

YERSHIN, Sh. A.

A Contribution to the Mechanics of Turbulent Liquid and Gas Jets. p. 125

TRANSACTIONS OF THE 2ND REPUBLICAN CONFERENCE ON MATHEMATICS AND MECHANICS
(TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSII PO MATEMATIKE I MEKHANIKE), 184
pages, published by the Publishing House of the AS KAZAKH SSR, ALMA-ATA, USSR, 1962

A study in .....

are given; there is also a photograph of the flare. The experimental profiles are
compiled in conjunction with computations obtained with the hydrointegrator, and the
satisfactory agreement is noted, as it also is for the computed and experimental
values for maximum temperature for the flame front site. The feature which distin-
guishes the study from other investigations of the aerodynamics of a gas diffusive
flare consists in the fact of obtaining a continuous picture of a flare of finite

[Abstracter's note‖ Complete translation.]

Card 2/2

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

26.2135
26.2130
11.7200

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

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

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

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

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Aerodynamics of a turbulent...

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

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

Card 2/2

YERSHIN, Sh.A.; PALATNIK, I.B.

Calculating the thermal stresses affecting the condition of the
plane cross section of a massive dam. Probl. teploenerg. i prikl.
teplofiz. no.1:243-259 '64.   (MIRA 18:3)

TENSHIN, SH. A.; YARIN, L. P.

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

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

Power Inst, AS KAzSSR.

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

"Diffusion flames in laminar and turbulent wake flows."

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

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

ORG: None

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

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

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

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

Card 1/2

... ... damping temperature across the cross section of the boundary ... ..., thermo-

physical implications of the results.   Orig. art. has

SUB CODE: ME, FP / SUBM DATE: 02Nov64 / ORIG REF: 003 / OTH REF: 002

Card   2/2

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

ORG: none

TITLE: Diffusional combustion in the laminar boundary layer

SOURCE: Nauchno-tekhnicheskiye problemy goreniya i vzryva, no. 2, 1965, 101-105

TOPIC TAGS: combustion, diffusion flame, diffusional combustion

ABSTRACT: An analysis was made of the combustion process taking place in the laminar boundary layer formed by concurrent, plane-parallel, oxidizer and fuel jets flowing at different velocities. Solution of the system of equations yielded temperature, density, velocity, and momentum profiles in the flame zone. The momentum profile had a pronounced minimum which is attributed to the presence of the flame front. In an isobaric flow, the flame front causes a sharp change in the density field, while the velocity field changes only slightly. A similar minimum may also be expected to exist in a turbulent boundary layer. Orig. art. has: 9 formulas and 3 figures. [PV]

SUB CODE: FP, ME/SUBM DATE: 23Nov64/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4/12/

Card 1/1   UDC: 536.46

ACC NR: AT6004925   SOURCE CODE:

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

ORG: Power Institute, Academy of Sciences SSSR (Institut energetiki Akademii nauk
SSSR)

TITLE: Transfer processes in turbulent jets in the presence of high-intensity
chemical reactions

SOURCE: Teplo- i massoperenos. t. II: Teplo- i massoperenos pri vzaimodeystvii tel s
potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in
the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965,
392-398

TOPIC TAGS: heat transfer, mass transfer, gas combustion, turbulent jet

ABSTRACT: Results are presented of theoretical and experimental studies of the heat
and mass transfer in burning turbulent gas jets. A method is proposed for calculat-

experimentally. The previously postulated aerodynamic theory of flames is based on

Card 1/2

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jet using the dynamic problem data. Orig. art. has 4 figures, 1 table, and 4 formulas.

SUB CODE: 21/ SUBM DATE: 09Nov65/ ORIG REF: 011/ OTH REF: 004/ ATD PRESS:

[PS]

4212

Card 2/2 SM/

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

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

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

ORG: none

TITLE: Calculation of a homogeneous turbulent gas flame

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

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

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

Card 1/2   UDC: 536.46+532.507

L 32000-66
ACC NR: AP6020555

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

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

[PV]

5021

Card 2/2 XC