

Physical Characteristics of Spectral Analysis
with Sampling by an Electric Discharge, by
K. I. Taganov.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol 1, No 7, 1958, pp 555-61.

NASA TT F-10,976

Sci-Electr
Sept 673

338,731

Certain Theoretical Prerequisites on the
Construction of Metal-Like Refractories,
by G. V. Samsonov, V. S. Neshpor, 12 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol I,
No 8, 1958, pp 30-38. 9683158

FTD-TT-62-1841

Sci-Phys
Jun 63

232, 484

Some Problems of Radiant Heating of an Infinite
Plate, by B. A. Grigor'yev, 8 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Moscow, Vol 1, No 9, 1958, pp 29-35.

JPRS 50348

Sci-Mech
Apr 70

406,447

Determination of Carbon in High Alloy
Steels by Means of a Medium Dispersion
Spectrograph, by A. S. Dem'yanchuk. UNCL

RUSSIAN, per, ~~Inzhenerno-Fiz Zhur~~,
Vol I, No 9, 1958, pp 116-118.

DSIR LIJ RTA 1483

(5s.)

Sci - Phys; Min/Met

May 60

116,596

Application of Proton Resonance to the Measurement
of Inhomogeneous Magnetic Fields, by A. I.
Zhemovoy, Yu. S. Yegorov, et al., 8 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
No 9, 1958, pp 123-127, 9230320.

AEC SLAC-tr-22

292,945

Sci-Phys
Nov 65

Determination of the Thermal Coefficients of
Friable and Solid Substances by the Method of
Plane Thermal Waves, by E. M. Kravchuk, 13 pp.

RUSSIAN, per, Inzh-Fiz Zhur, Vol I, No 10, 1958,
pp 29-37.

Navy Tr 3113/MRL 885

OTS 62-11609

Sci - Phys

Apr 62

188,826

Quantitative Spectral Determination
of Small Quantities of Boron, Arsenic,
Tellurium and Phosphorus in Steel,
by A. S. Dem'yanchuk.
RUSSIAN, per, Inzh. Fiz. Zhur. Akad.
Nauk Belorus SSR, Vol 1, No 10,
1958, pp 88-93.
BISI 4143

Sci/EGM
Aug 65

284,702

(DC-3696)

Mikhail Aleksandrovich Yel'yashevich, 3 pp

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhur, No 11,
1958, pp 3-5

JPRS 3846

USSR
Biog
Sep 60

Petrash, G. G. and Rautyan, S. G.
OPTIMUM CONDITIONS FOR MEASURING OPTICAL
DENSITY WITH REDUCTION TO AN IDEAL INSTRU-
MENT (Optimal nyie Usloviya izmereniya Opticheskoy
Plotnosti pri Reduktsii k Ideal'nomu Priboru) tr. by
G. Belkov. 1960, 19p. 10 refs. Technical trans. 903.
Order from NRCC \$1.00 NRCC C-3437

Trans. of Inzhener[no]-Fiz[icheskii]-Zhur[nal]-(USSR)
1958, v. 1, no. 11, p. 80-91.

151482

(Physics--Spectroscopy, TT, v. 5, no. 8)

61-12623

- I. Infrared spectro-
photometers--
Applications
1. Petrash, G. G.
- II. Rautyan, S. G.
- III. NRCC TT-903
- IV. NRCC C-3437
- V. National Research Council
of Canada

OT/4256
NRC TT 903

Office of Technical Services

Diffusion of Iron in Magnetite, by V. I. Izvekov.
DECLASSIFIED

RUSSIAN, per, Inzhenerno - Fiz Zhur, Vol I, No 12,
1958, pp 64-68. 9676878

Navy 2748/KRL 828
OTS 61-11175

Scl - Min/Mat
Mar 61

143,848

Investigation into Recrystallization of Niobium
and Its Alloys, by Ye. M. Savitskiy, V. V. Baren,
K. N. Ivanova, et al, 11 pp. UNCL

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol I, No 11, 1954
pp 38-45. 9660871

AEIC MEL-148/III
AEC NP-575

Sci - Chem

Apr 61

149,700

Telecom 41208

A Form of the Equation of State of a Real
Gas, by P. M. Kessel'man
RUSSIAN, per, Inzh. Fiz. Zh, Vol 2, No 1,
1959, pp 68-75.
NLL Ref: 8732 (1282)

Sci-Physics
Aug 68

362,187

High-Pressure Pump Without a Stuffing Box,
by A. M. Sirota, B. K. Mal'tsev, 3 p.

RUSSIAN, per, Inzhen-Fiz Zhur, 1959, Vol II,
No 1, pp 93-95.

MDF 8-136

Sci
Apr 60
Vol III, No 3

111,974

The Measurement of Particle Velocity in
Pneumatic Transport Pipelines, by E. A.
Zhikharev. UNCL

RUSSIAN, per, Inzhenerno-Fiz Zhur, No 1,
1959, pp 109-113.

DSIR LLU RTS 1314

(12s. 6d.)

Sci - Engr
Apr 60

113,019

Spectroscopic Studies of Uranyl Compounds, by A. N.
Sevchenko, et al.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhur, Vol II,
No 2, 1959, pp 63-71.

Sci - *Phys*
Jan 60

~~ABC~~
Infocsearch Ltd London
IF2-59/2

Increasing the Electric Resistance of Filamentary
Cathodes Made of Oxides of Rare-Earth Metals,
by G. V. Samsonov, et al, 5 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, No 2, 1959,
pp 118-120. CIA 653525

Sci - Electronics
Mar 60

ATIC MEL-147/III

available CTS

110,570

(DC-6819)

Condensation of Water Vapor From Stationary
Steam-Gas Mixtures, by P. M. Brdlik,
9 pp.

RUSSIAN, per, Inzh-Fiz Zhur, Vol II,
No 3, 1959, pp 3-8. P911282267

JPRS 14040

Sci - Phys
Jun 62

7-10-64
199, 319

Certain Conformal Laws Relating to the
Turbulent Hydrodynamic Layers at a Smooth Flat
Plate, by K. V. Grishanin,
RUSSIAN, per, Inzhenerno-Fizicheskiy Zh.,
Vol II, No 3, 1959, pp 19-28.
NLL KTS 3179
(On Loan or Purchase)

Sci-Phys
Apr 67

722 005

Dorfman, A. Sh., Pol'skii, N. I.,
and Saikovskii, M. I.

A CHARACTERISTIC OF LOCAL EXPANSION OF
DIFFUSOR CHANNELS (Ob Odnol Kharakteristike
Lokal'nogo Rasshireniya Diffuzornykh Kanalov).
[1962] [19]p. (foreign text included) 2 refs.
Order from OTS or SLA \$1.60 62-20260

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)
1959, v. 2, no. 4, p. 8-14.

DESCRIPTORS: *Diffusers, Exhaust diffusers, *Tur-
bine parts, Gas turbines, Thermal expansion, De-
sign, Geometry.

The paper introduces a certain geometric character-
istic of local expansion in curvilinear diffusers, as
applied to the study of radial ring diffusers of the ex-
haust pipes of turbines. (Author)
(Machinery--Engines, TT, v. 9, no. 9)

62-20260

I. Dorfman, A. Sh.
II. Pol'skii, N. I.
III. Saikovskii, M. I.

Office of Technical Services

The Mechanism of Operation of Gas Diffusion
Electrodes (Applied to a Hydrogen-Oxygen Fuel
Cell Element), by I. G. Gurevich.

RUSSIAN, per, Inzh Fiz Zhur, No 4, 1959,
pp 78-86.

NLL M. 4779

Sci - Engr, Electron

207,193

Jul 62

Determination of Sodium Vapor Pressure at
Temperatures 880 to ~~1200~~ 1300°C, by P. L.
Kirillov, N. S. Grachev, UNCLASSIFIED

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol 11, No 5, 1959, pp 3-7. 9676897

Navy 2597/MRL 805

Sci - Physics
Aug 60

NLL RTS 1633 123,177

Crystalline Fracture as a Criterion of the
Brittleness of Steel, by P. M. Dotsyov.
RUSSIAN, per, Inzhenerno-Fizicheski Zhurnal,
Akad Nauk Beloruss SSR, Vol 2, No 5, 1959,
pp 28-35.
(TMS 1344)
ACSIL ADM/63/347

314,358

Sci - Mechanical, Industrial,
Metals and Metallography

Crystalline Fracture as a Criterion of Brittleness
of Steels, by P. M. Dontsov, 8 pp.

RUSSIAN, per, Inzhenering Fiz. Khim. Ak. Nauk Belorus
Sov. Vol. II, No 5, 1958, pp 33-39.

NLI/124N)Ref:
0578.1 1462(1265)

~~APPROVED~~

UKAEA

Risley, DEG Inf Ser-107

OTS 62-25402

Ref: Phys

Vol 62

List 63

185, 941

ACSL 2 ~ 1365
(9215993)

OT 7345

Liquid-Vapor Equilibrium in the Helium
Methan System, by F. P. Kharekhorin,
5 pp.

RUSSIAN, per, Inzhenero-Miz Zhur,
Vol II, No 5, 1959, pp 55-59.

ATS-17M39R

Sci
Vol IV, No 2
Mar 62

SLP 60-18128
ATS/DT-2423
188, 882

On the Specific Heat C_p of Water and Steam at
Supercritical Pressures, by A. K. Sheindlin, et al

RUSSIAN, per, Inzh Fiz Zhur, Vol II, No 7, 1959,
pp 75-79.

NLL RFS 2055

Sci - Phys

Nov 62

217,537

Blinov, V. I.

THE PROBLEM OF DIFFUSION FLAME VIBRATION
(K Voprosu o Pul'satsiyakh Diffuzionnykh Plamen).

[1960] 8p. 9 refs.

Order from LC or SLA mi\$1.80, ph\$1.80 61-15091

Trans. of Inzhenerno-Fizicheskiy Zhurnal (USSR) 1959,
v. 2, no. 8, p. 15-22.

Observations are described of the behavior of diffusion flames of liquids (solar oil, kerosene, benzine) burning in burners. The causes of the vibration of these flames and a number of regularities observed in practice are explained. The results agree with Ya. B. Zel'dovich's theory of transition from laminar to turbulent behavior in a freely ascending jet which rises from the flame.

(Author)

(Chemistry--Physical, TT, v. 5, no. 3)

61-15091

I. Flames--Diffusion

I. Blinov, V. I.

II. Research Servicing

Associates, Washington,
D. C.

III. Bureau of Mines,

Washington, D. C.

142,994

Dept Interior
TN7 E57 No 345

Office of Technical Services

Crystalline Fracture as a Criterion of the
Brittleness of Steel, by P.M. Dontsov.
RUSSIAN, per, Inzh.-Fiz. Zh. Vol. 2, No. 5, 1959.
pp 28-35
NLL0578.9 1963 (1365)

Sci -
Aug 67

334-732

Non-Steady Flow of Electricity Conducting Fluid
in the Presence of a Magnetic Field, by
S. A. Regirer,
RUSSIAN, per, Inzhenerno-Fizicheskii Zhurnal,
Vol 2, No 8, 1959, pp 43-50. P911051967
AEC BNL-tr-107

Sci/Physics
Mar 67

318,599

An Adiabatic-Isothermal Nozzle, by V. E. Stepanchuk,
10 pp.

RUSSIAN, per, Lechenie Fiz Zhur, Vol II, No 8,
1959, pp 66-71. 0095683

Read Corp RM-2930

Sci - R Phys
Feb 62

186,768

The Liquid-Vapor Equilibrium in an Ethane-
Ethylene System, by F. F. Kharakhonin.
RUSSIAN, per, Inzhenerno-Fiz Zhurnal,
Vol 2, No 8, 1959, PP 72-77.
NTC 69-10897-07D

Sci-Chem
May 69

382,531

61-27988

I. Kovner, M. A.
II. Translations, New York

Kovner, M. A.
CALCULATION OF THERMODYNAMIC FUNCTIONS
OF BENZENE AND BENZENE-D₆ AND TOLUENE AND
TOLUENE-D₈ FROM SPECTROSCOPIC DATA. [1961]

[6]p. 16 refs.

61-27988

Order from OTS or SLA \$1. 10

Trans. of Inzhenerno-Fizicheski Zhurnal (USSR) 1959,
v. 2, no. 8, p. 108-111.

DESCRIPTORS: *Benzenes, *Toluenes, Thermodynamics
Spectrographic data, *Deuterated compounds.

357377

Office of Technical Services

(Physics--Thermodynamics, TT, v. 6, no. 10)

Effect of Imprecisions in the Making of a Symmetrical
Gyroscope on its Motion, by N. I. Kuznetsov,
N. P. Khalimanovich, 6 pp.

RUSSIAN, per, Inzhenerno-Fiz. Zhur, No 8, 1959, ~~XXXX~~
pp 112-115. 966842

FTD-RR-62-1158

Sci - Phys
Nov 62

216, 888

Investigation of Heat Exchange in Boiling
Homogeneous Reactor, by Ya. Malak, I. Schmid,
16 pp.

RUSSIAN, per, Inzhener-Fiz Zhur, ~~Ak Nauk Belorus~~
SSR, Vol II, No 9, 1959, pp 12-23.

AEC Tr-4048

Sci - Phys
Aug 60

124,032

Kharakhorin, F. F.
LIQUID-VAPOR EQUILIBRIUM IN THE SYSTEMS
NITROGEN-HELIUM AND HELIUM-METHANE. [1961]
8p. 12 refs.

Order from OTS or SLA \$1.10

61-10727

Trans. of Inzhenerno-Fizicheskiy Zhurnal (USSR) 1959,
[v. 2] no. 9, p. 24-29.

DESCRIPTORS: *Nitrogen, *Helium, *Methane,
Thermodynamics, *Liquids, *Gases, Solubility.

The volatility of helium in nitrogen-helium and helium-methane systems in the temperature interval from 68 to 150.3 K and at pressures of from 4 to 215 atm is calculated from data obtained in an experimental investigation of liquid-vapor equilibrium in these mixtures. It is shown that at pressures between 40 to 45 and 215 atm the solubility of helium in liquid nitrogen and methane can be calculated with sufficient accuracy from the Krichevsky--Kazarnovsky equation. The
(Chemistry--Physical, TT, v. 6, no. 5) (over)

61-10727

I. Kharakhorin, F. F.

180424

Office of Technical Services

C-111/60

(NY-3678).

The Distribution of a Heavy Polydispersed Aerosol
in a Turbulent Atmosphere at a Long Distance From
an Instantaneous Point Source, by I. L. Karol',
A. Ya. Grossman, 12 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol II, No 9,
Minsk, 1959, pp 83-91.

JPRS 2473

Sci - Geophysics
May 60

116,683

The Mechanism of the Action of an Oxygen Jet on the ~~Kir~~
Liquid Bath, by E. M. Oxygryzkin.
RUSSIAN, per, Inzhenerno Fiz Zhur, No Vol II, Sep 1959,
pp 97-100.
BISI 3939

Sci-Phys
Feb 65

274,544

(KI-3151)-

... in Collective Host Exchange, of O. P.
... ..

... ..
... ..
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...-2122-M

...
... ..
... ..

106/109

An Investigation of the Heat Exchange Which Takes
Place When Water and Ethyl Alcohol are Boiled
in Tubes, by L. S. Sterman, et al.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol II,
No 10, 1959, pp 40-45. 9093612

ALL M. 3456
Technical Information and Lib
Services, Ministry of Aviation
T-1440

Sci - Phys
Oct 61

171, 600

AEC UCRL Tr-694

Heat Transfer Into a Single Pipe in the Transverse
Current of a Liquid With Low Prandtl Number, by
A. A. Andreyevskiy, 11 pp.

RUSSIAN, per, Inzherno Fiz Zhur, No 10, ^{1959,} pp 46-51.
9660215

ATIC MCL 753

Sci

Mar 61

144, 654

Lykov, A. V.
INVESTIGATION OF HEAT- AND MASS TRANSFER
IN BINARY GASEOUS MIXTURES. [1960] 12p. 12 refs.
Order from OTS or SLA \$1.60 61-14959

Trans. of Inzhenerno-Fizicheskiy Zhurnal (USSR) 1959
[v. 2] no. 11, p. 20-28.

DESCRIPTORS: *Heat transfer, *Gases, *Mixtures,
Mathematical analysis, Diffusion, Thermodynamics,
Gas flow, Combustion.

RAND-T-145

(Physics--Thermodynamics, TT, v. 6, no. 1)

61-14959

I. Lykov, A. V.

161768

Office of Technical Services

Gamayunov, N. I.
NEW METHOD FOR DETERMINATION OF THE
HEAT AND MASS EXCHANGE COEFFICIENTS.
[1961] 9p. 11 refs.
Order from OTS or SLA \$1.10

61-14964

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1959,
v. 2, no. 11, p. 35-42.

DESCRIPTORS: *Heat transfer, Moisture, Conduc-
tivity, Mathematical analysis, Temperature, Water,
Liquids, Fluid flow, Determination, *Thermodynamics.

A nonstationary method is presented for determining
the coefficients of heat and moisture conductivity of
moisture dispersion materials by means of a heat or
water cylinder probe, thermistor and tensiometer.
Exact and approximate solutions of differential equa-
tions of heat and moisture transfer are given. By using
data obtained from the approximate solutions and cor-
(Physics--Thermodynamics, TT, v. 6, no. 8) (over)

61-14964

I. Gamayunov, N. I.

135083

Office of Technical Services

The Analytical Application of Atomic Absorption
Spectra, by B. V. Lvov.

RUSSIAN, per, Inz. Fiz. Zhur. Vol XI, No 11,
1959, pp 56-62.

*REC *Infocorach Ltd London*
IFZ-59(11)/11.56

Sci-*100/1000*
Apr 60

Heat Transfer in Transition Flow of Liquid Metals
in Tubes, by V. M. Deryugin and O. S. Fedynskiy
14 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol 2, No 12, 1959, pp. 3-10. 968814

FTD-TT-61-546

Sci - Phys

Sept 63

Heat Transfer to Liquid Metals in Turbulent Flow
When the Thermal Load is Distributed Sinusoidally
Along the Length of the Pipe, by V. I. Petrovichev,
L. S. Kokorev, 9 pp.

RUSSIAN, per, Inz-Fiz Zhur, Vol II, No 12, 1959,
pp 20-25.

Sci - Phys
19 Oct 60

AEC Tr-4218

FTD-11-61-546

(9626514)

129,798

Thermal Calculation of the Operating Channel of a
Nuclear Reactor, by I.S. Kochenov.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol II, No 12, 1959,
pp 64-67. 9661851

ATIC MEL 768/1

Sci - Phys
Jun 61

155,538

(DC-3631)

S-253/60

Simplified Method of Thermal Calculation for a
Reactor Using Pressurized Water, by L. N. Muchnik,
6 pp.

RUSSIAN, per, Inzhnerno-Fiz Zhur, Vol II, No 12,
1959, Minsk, pp 105-109.

JPRS 3590

Sci - Nuclear Phys

Jul 60

121,497

On Optimum Photoregistration Angle in Measure-
ment of Rate of Combustion, by N. N. Bakhman,
3 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 1, 1960.

ACSI H-9896
ID 2174782

Sci - Phys

11 Oct 61

170, 474

Universal Electronic Calorimeter, by Ye. V.
Kudryavtsev, K. N. Chakalev, 9 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol III, No 1,
1960, pp 3-9. 9093274

AEC Tr-4934

Sci - Engr
Apr 62

189,964

Certain Problems Related to the Strength of Silicone
Carbide Base Cermet Materials, by V.T. Troshchenko.

July 3,
RUSSIAN, per, Inzh Fiz Zhur, No 1, 1960, pp 103-107.
CIA 9660846.

Sci - Min/Met; Chem

May 60

T60-17104 Ref DC-12

NLL 11.4630
ATIC MCL 640

UKAEA

Risley, DEQ *inf* *low*

9097614

176(CA)

152,577

(NY-6880)

BOOK REVIEW OF SEMICONDUCTOR THERMISTORS,
BY I. F. VOLOSHIN, A. S. KASPEROVICH,
A. G. SHASHKOV, BY B. S. SOTSKOV, 6 PP.

RUSSIAN, PER, INZH-FIZ ZHUR, VOL III,
NO 1, 1960, PP 124-126.

JPRS 12510

SCI - ENGR
MAR 62

183,,182

Methodology for Experimental Studies of the
Overall Kinetics of the Combustion of Gases, by
Z. S. Leont'yeva,

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III, No 2,
1960, pp 12-16.

JHU/APL

available at---ERDL, Ft Belvoir
T-1386

Sci - Phys
Aug 61

163578

4642330

62-14002

Rips, S. M.

A THERMODYNAMIC INVESTIGATION OF THE
PROCESS OF GASIFICATION OF LIQUID OXYGEN
(Termodinamicheskoe issledovanie Protsessa Gazifi-
katsii Zhidkogo Kisloroda). [1962] [17]p. (foreign text
included) 1 ref.

Order from OTS or SLA \$1.60

62-14002

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960
[v. 3] no. 2, p. 41-45.

DESCRIPTORS: Thermodynamics, *Liquefied gases,
*Oxygen, Equations of state.

By solving the problem for the maximum, it is possi-
ble to determine a permissible value of the "specific
charge" γ_p of liquid oxygen, required to prevent re-
verse condensation, and to establish the physical
significance of the accompanying "crisis". (Author)
(Physics--Thermodynamics, TT, v. 8, no. 8)

I. Rips, S. M.

Office of Technical Services

The Sintering of Iron With Cyclic Change of
Temperature in a ~~HEAVY~~ Critical Range, by
R.A. Andriyevskiy, et al.

RUSSIAN, per, Izsh Fiz Zhur, Vol III, No 2, 1960
pp 71-73. CIA 9660739.

ATIC MCL 675

SLA 61-19706

Sci - Phys

May 61

152,576

Nomograms for the Determination of the
Optical Constants of Absorbing Substances
by Avery's Method, by A. P. Prishivalko.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhur,
Vol III, No 2, 1960, pp 83-85.

Dept of Interior
QE3 357 No 71

191, 494

Sci - Geophys

Apr 62

Causes of Dielectric Losses in Transformer Oil
at a Frequency of 50 c/s, by R. A. Lipstein &
E. N. Starn.
RUSSIAN, per. Insh fis sh, Vol 2, 1960, pp 101-104.
NLL Ref: 5828.48 (12239)

Sci/Elec & Elec Engr
Feb 68

349,594

62-13608

Bondareva, A. K. and Todes, O. M.
HEAT CONDUCTION AND HEAT EXCHANGE IN A
FLUIDIZED BED (Teploprovodnost' i Teploobmen v
Kipyashchem Sloe) tr. by M. Slade. [1961] [14]p.
(foreign text included) 8 refs. [CSIRO] Trans. no. 5507.
Order from OTS or SLA \$1.60 62-13608

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960,
v. 3, no. 2, p. 105-110.

DESCRIPTORS: *Fluidized solids, *Heat transfer,
Thermal conductivity, Liquids, Turbulent flow, Parti-
cles, Motion.

Visual observations and direct and indirect determi-
nations of the particle velocities show that the move-
ment of the particles in a fluidized bed is analogous to
the movement in a highly turbulent liquid.

(Physics--Thermodynamics, TT, v. 7, no. 10)

- I. Bondareva, A. K.
- II. Todes, O. M.
- III. CSIRO Trans-5507
- IV. Commonwealth Scientific
and Industrial Research
Organization (Australia)

Office of Technical Services

The Problem of Heat Exchange in a Fluidized
Bed, by S. Zabrodskiy.

RUSSIAN, per, Inzhenerno-Fiz Zhur,
Vol III, No 2, 1960, pp 111-114.

CSIRO 5582

OTS 62-23117

Sci - Phys
Aug 62

207,346

(DC-3625).

The Application of Powerful Sources of Radiation
in Industry, by G. I. Grzafov, V. I. Sinitsyn, 6 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol ~~III~~ III, No 2,
Minsk, 1960, pp 128-132.

JPRS 3339

Sci - Chem, Chemical Industry
Jun 60

117,538

High-Temperature Reduction of Carbon Dioxide
by Carbon, by E. S. Golovina and
G. P. Khaustovich,
RUSSIAN, per, Inzhereno-Fizicheskiy Zhurnal,
Vol III, No 3, 1960, pp 13-20.
NLL RTS 2990
(On Loan or Purchase)

Sci-Chem
Apr 67

324,445

Calculation of the Optical Properties of
a Stack of Plane-parallel Layers,
by A. P. Khapalyuk.
RUSSIAN, per, Inzhen Fiz Zhur, Vol III, No 3,
1960, pp 59-68.
Dept of Navy Tr 4343/APL No T-1493

Sci - Eng
Nov 65

292,773

Keneman, F. Ye., Zalogin, N. G. and others.
THE MECHANISM OF THE FREE FLOW OF
GRANULAR MATERIALS, 1 (1. O Mekhanizme
Svobodnogo Istecheniya Sypuchikh Tel). Jan 61 (7)p.
21 refs. RTS 1652.
Order from LC or SLA ml\$1.80, ph\$1.80 61-15713

Trans. of *Inzhenerno-Fizicheskii Zhurnal* (USSR)
1960, v. 3, no. 3, p. 69-73.

The unrestricted passage of free flowing materials
through orifices is investigated. It is established
that the flow-rate is determined by the ability of a
"dynamic arch" to be formed over the orifice and
does not depend either on the height of the column of
the free flowing material over the orifice (if it ex-
ceeds the diameter of the orifice), or on the charac-
ter and velocity of the movement of the particles out-
side the limits of the dynamic arch zone which
extends over the orifice by a height approximating to
the width of the diameter. (Authors)
(Mechanics, TT, v. 5, no. 9)

61-15713

- I. Particles--Mechanical
properties
- I. Keneman, F. Ye.
- II. Zalogin, N. G.
- III. RTS-1652
- IV. Department of Scientific and
Industrial Research
(Gt. Brit.)

151970

Office of Technical Services

ON TURBULENT DIFFUSION IN PIPES, BY
V. S. YABLONSKIY, ET AL.

RUSSIAN, PER, INZHENERNO, FIZ ZHUR, VOL III,
NO 3, 1960, PP 117-122

NLL M.4627

OTS 62-15701

SCI - PHYS

JUN 62

199,091

(SF-2155)

Fedor ~~FAKEX~~ Petrovich Vinokurov, 4 pp.

RUSSIAN, per, Inzherno-Fiz Zhur, No 3,
1960, pp 155-158.

JPRS 13435

USSR
Biog
Apr 62

Zalogin, N. G., Keneman, R. Ya., and
Vorob'yev, V. N.
REGARDING THE MECHANISM OF FREE FLOW
OF NON-AGGLOMERATING SOLIDS. Feb 61 (7)p.
7 refs. RTS 1653.
Order from LC or SLA ml\$1.80, ph\$1.80 61-15923

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)
1960, v. 3, no. 4, p. 18-22.

As a result of investigations into the relationship
between the rate of flow of solid particles out of
funnels and the angle of inclination of funnel walls to
the horizontal, it was found that only the inclination
of the part of the wall close to the outlet orifice
affects the rate of flow. It was established that the
flow from a funnel becomes greater than that from a
flat-bottomed bin when the inclination of the funnel
wall exceeds 55-60°. The walls of a cylindrical bin
influence the rate of flow if their distance from the
edge of orifice is less than the diameter of the
orifice. (Authors) (See also 61-15713)

61-15923

I. Particles--Mechanical
properties

- I. Zalogin, N. G.
- II. Keneman, R. Ya.
- III. Vorob'yev, V. N.
- IV. RTS-1653
- V. Department of Scientific and
Industrial Research
(Gl. Brit.)

151990.

Office of Technical Services

(Mechanics, TT, v. 3, no. 9)

61-15397

Toporov, Yu. P.
ON THE QUESTION OF THE INFLUENCE EX-
ERTED BY HUMIDITY ON THE EXTERNAL FRIC-
TION OF SOLIDS (K Voprosu o Vliyani Vlazhnosti na
Vneshneye Treniye Tverdykh Tel). Jan 61 [9]p.
19 refs. RTS 1654.
Order from LC or SLA ml\$1.80, ph\$1.80 61-15397

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)
1960, v. 3, no. 4, p. 44-48.

A description is given of the technique and the results
of an investigation into the influence exerted by the
humidity of the surrounding atmosphere on external
static friction when there is a layer of highly disperse
substances between the contact surfaces. (Author)

(Mechanics, TT, v. 5, no. 7)

1. Solids--Surface properties
 2. Solids--Moisture factors
 3. Friction--Moisture factors
- I. Toporov, Yu. P.
II. RTS-1654
III. Department of Scientific
and Industrial Research
(Gt. Brit.)

148,751

Office of Technical Services

(NY-5938)

Semiempirical Theory of Vertical Turbulent
Diffusion in the Boundary Layer of the
Atmosphere, by I. L. Karol', 24 pp.

RUSSIAN, per, Inzh-Fiz Zhur, Vol III, No 4, 1960,
pp 54-64.

JPRS 9085

Sci - Geophys

May 61

150,985

THE APPLICATION OF THE LAPLACE TRANSFORM
TO SOME HYDRODYNAMIC PROBLEMS, BY
R. A. VOLKOV.

RUSSIAN, PER, INZHENERNO FIZ ZHUR, VOL III,
NO 4, 1960, PP 65-72.

NLL M.4631

OTS 62-15705

SCI - PHYS

JUN
8N 62
7

199,090

Heat Exchange by Radiation Between Two Parallel X
Infinite Cylinders, by V. Y. Frendel.

RUSSIAN, per, Inz Fiz Zhur, Vol III, No 4, 1960,
pp 85-89.

UKAEA-Risley-Tr-~~12~~ 544

Sci
Dec 63

Allimov, R. Z.

HEAT AND MASS EXCHANGE WITH COOLING OF
STRONGLY HEATED SURFACES BY EVAPORATION
(Teplo-i Massobmen pri Okhlazhdenii Sil'no Nagre-
vayemykh Poverkhnostei is Parenlem) tr. by Joy B.
Gazley. Nov 62 [21]p. 16 refs. Rand Memo.
RM-2997-PR.

Order from OTS or SLA \$2.60

63-13622

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960,
v. 3, no. 5, p. 31-39.

DESCRIPTORS: *Heat transfer, *Mass transfer, Sur-
faces, Cooling, Evaporation, Thermal conductivity,
Thermal diffusion, *Fluid flow, Fluid dynamics.

In this article criterial equations of heat and mass
transfer are deduced, which take into account the inter-
effect of the flows of heat and steam across the bound-
(Mechanics--Aerodynamics, TT, v. 9, no. 6) (over)

63-13622

- I. Allimov, R. Z.
- II. Rand RM-2997-PR
- III. Rand Corp., Santa Monica,
Calif.
- IV. Contract AF 49(638)700

RAND RM-2997-PR
(AD 291716)

Office of Technical Services

Heat Exchange With a Flow of a Rarefied Gas Along
a Wall,

RUSSIAN, per, Inzh-Fiz Zhur, Vol III, No 5,
1960, pp 4-11.

Rand Corporation
RAND RM-3016-PR

Sci - Phys

Oct 62

01-13671

212,286

Experimental Investigation of the Effectiveness
of Ribbing of Streamlined Form for CTU Generators,
by A. I. Risovich, 10 pp.

RUSSIAN, per, ~~Inzhenerno-Fiz Zhur~~, Vol III,
No 5, 1960, pp 24-30. 9670180

FTD
~~ATSC~~ MCL-908/1

Sci - Engr

Jul 61

161,339

Heat and Mass Exchange, by R. Z. Alimov.

RUSSIAN, per, Inzh-Fiz Zhur, Vol III, No 5, 1960,
pp 31-39.

Rand Corporation
RAND RM-2997-PR

Sci - Phys

Oct 62

212,287
215,567

On the Problem of Heat Exchange During Liquid
Boiling in Tubes, by I. P. Vishnev, N. K.
Elukhin, 7 pp.

RUSSIAN, per, Inzhener Fiz Zhur, Vol III, No 5,
1960, pp 74-80. *7080653*

AEC UCRL-Trans - 677

Sci
Sep 61

167,839

Examination of Heat Transfer Processes in Heat-Producing
Elements of Nuclear Reactors by Method of Hydraulic
Modelling, by O. I. Yaroshevich, 9 pp.

RUSSIAN, Inzhenerno-Fiz Zhur, Vol 3, Nr 5, 1960,
pp 81-85. 9878637

FID-IT-62-1068

Sci - Nuc Phys
Nov 62

216,917

On the Effect of Pulsations of Flow Rate on the
RE Evaporation of Droplets of Fuel, by R. S.
Tyul'panov.

RUSSIAN, per, Inzhenero-Fiz Zhur, Vol III, No 5,
1960, pp 119-123.

NIL M. 2736

OTS 61-22332
180,055

Sci - Phys

Jan 62

Application of Methods Involving the Thermodynamics
of Irreversible Processes to Mass Transfer Phenomena
in Colloids, by V. D. Ermolenko, 3 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol III, No 5,
1960, pp 124. 9097341

AEC Tr-4902

Sci - Phys
Apr 62

189,965

Temperature Field in a Finite Cylinder with
Internal Sources, by T. L. Perel'man, 7 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol III, No 5, 1960, pp 138-144. 9670225

FTD
~~1000~~ MCL-862/1

Sci - Phys

Jul 61

161,361

HEAT TRANSFER DURING THE CONDENSATION OF
VAPOR IN HORIZONTAL PIPES, BY
V. V. KONSETOV.

RUSSIAN, PER, INZHENERNO FIZ ZHUR, VOL III,
NO 6, 1960, PP 9-16.

NLL M.4633

OTS 62-15707

SCI - PHYS

JUN 62

199,089

Heat Losses During the Delivery of Liquids With
the Aid of Hot Gases, by N. Ye. Kvantaliani,
5 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 6, 1960, pp 52-54. 9670248

ATIC MCL-863/1

Sci - Phys

Jul 61

160, 800

NASA TT F-66

National Aeronautics and Space Administration.
EXPERIMENTAL DETERMINATION OF POTASSIUM
VAPOR PRESSURE IN THE 550° TO 1,280° C TEM-
PERATURE RANGE. N. S. Grachev and P. L.
Kirilov. July 1961. 7p. OTS price, \$0.50.
(NASA TECHNICAL TRANSLATION F-66. Transla-
tion from Inzhenerno-Fizicheskii Zhurnal, v. 3, no. 6,
June 1960, p. 62-65 (SSR).)

An attempt was made to verify published data from
experiments by Makansi, et al., and to broaden the
previously investigated temperature interval. The
potassium melting point was found to agree with other
published data, but experiments yielded lower values
for sodium and potassium vapor pressure than did
those of Makansi, et al.

Copies obtainable from NASA, Washington

- I. Grachev, N. S.
- II. Kirilov, P. L.
- III. NASA TT F-66
- IV. Inzhenerno-Fizicheskii
Zhurnal, v. 3, no. 6,
June 1960, p. 62-65
(SSR)

(Initial NASA distribution:
15, Chemistry, physical;
26, Materials, other;
35, Power sources, supple-
mentary.)

142, 710

NASA

Application of the Theory of Thermodynamic
Similarity to Determine the Physical Properties
of Hot Metal (Molten Metals), by G. F. Butenko,
M. I. Radchenko, 8 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol III, No 6, 1960, pp 66-71. 9670238

ATIC MEL-864/1

Sci - Phys

Jul 61

160,799

Equation of State for Deuterium, by V. A. Rahinovich,
8 pp.
RUSSIAN, per, Inzhener Fiz Zhur, Vol III, No 6, 1960,
pp 107-111. 9222296
AEC-Tr-6368

Sci-Phys
Jun 64

259,763

CEA-tr-R-1429 Uncl.

EQUATION D'ETAT POUR LE DEUTERIUM. (Equation of State for Deuterium). V. A. Rabinovich (Rabinovitsh). Translated into French from Inzhener.-Fiz. Zhur., Akad. Nauk Belorus. S.S. R., 3: No. 6, 107-11 (June 1960). 11p.

Chemistry; Translations MC-4

C-4 NP NSA Dep.(mc); \$1.60(fs), \$0.80(mf)
JCL or OTS

N-4

Problem of Heat and Moisture Transfer for a
Semilimited Medium of Three Measurements for
Boundary Conditions of the Second Magnitude,
by P. V. Tsoy, 10 pp.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhur,
Vol III, No 6, 1960, pp 112-119. 9670164

ATIC MCL-865-1

Sci - Phys

Jul 61

159, 221

The Choice of Limiting Temperature in Calculations
of Convective Heat Transfer and Friction in Dynamic
Gas Conditions, by S. I. Kosterin, Y. A. Kostin, 5 pp.

RUSSIAN, per, Inzh Fiz Zhur, Vol III, No 7, 1960,
pp 3-9. ~~9273~~ 9207221

AFG/THG Infor Ser
279 (u)

Sol - Kays

232, 231

May 63

Specific Heat C_v in the Coexistence Region
of Water, by V. V. Sychev.
RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,
Vol 3, No 7, 1960, pp 10-16.
NASA TT F-11,283

Sci-Phys
Jan 68

348,696

Calculation of Certain Conical Flows Without
Axial Symmetry, by P. I. Chushkin,
V. V. Shchennikov, 20 pp

RUSSIAN, per, Inzh-fiz Zhur, Vol III, No 7,
1960, pp 88-94.

GWOT TR-201

RAE 926

OTS, SLA or ETR TT-63-23476

TT-63-24316 (up)

167,868

Sci - Phys

Sep 61

Longitudinal Flow Around a Heated Cylinder of a
Highly Viscous ~~LM~~ Liquid, by A.Sh. Asaturyan,
B. A. Tonkoshkurov, 8 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III, No 7,
1960, pp 106-111. 9879266

FTD-TT-62-1333

Sci-Engr
Dec 62

219,371

Study of the Operation of Photoelectric Cells at
High Luminous Fluxes, by V. A. Baum, R. P.
Borovikova, A. S. Okhotin, 10 pp. UNCL

RUSSIAN, per, Inzherno-Fizicheskiy Zhur, No 3,
1960, 6 pp.

CIA/FDD X-4799

Sci - Phys

Jan 62

180,625

Wall Heating by a Supersonic Gas Flow, by
A. A. Pomerantsev.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 8, 1960, pp 39-46.

JHU/APL
available ~~XX~~ at ~~ERDL~~, Ft Belvoir
T-1377

Sci - Phys
Aug 61

Nav. 2896/APL T-617
163,579

The Effect of Mixing of a Material in a
Fluidized Bed Upon Heat Transfer Between
a Gas And Particles, by A. P. Baskakov,
13 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 9, 1960, pp 10-16. 9668321

FTD-MCL-1289

CLASSIFIED

Sci-Phys
Apr 63

229,412

The Structure of a Shock Wave in Air, Taking
Into Account the Kinetics of Chemical Reactions,
by N. M. Kuznetsov, 12 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 9, 1960, pp 17-24. 9870997

FTD MCL-1118/1 4 2

Rand Corp RM-2931-PR
169,297 9096610

Sci - Phys

Sep 61

The Influence of Initial Conditions on the
Origin of the Boiling Crisis With Non-Uniform
Heating of the Perimeter of a Pipe, by I. L.
Mostinskiy, 8 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 10, 1960, pp 5-10. 9670995

FTD MCL-1119/1 + 2

Sci - Phys

169,303

Sep 61

Approximate Estimation of Critical Temperatures
of Metallic Liquids, by S. N. Zadumkin, 4 pp.

RUSSIAN, per, Inz-Fiz Zhur, Ak Nauk Belorus SSR,
Vol III, No 10, 1960, pp 63-65.

AEC Tr-4404

Sci - Phys
Apr 61

149,057

(DC-4902)

Problems of Nuclear Physics (Second All-Union
Conference on Nuclear Reactions at Small and
Medium Energies), by V. S. Yermakov, T. L.
Perel'man, 6 pp.

RUSSIAN, per, Inzhenero-Fiz Zhur, Vol III, No 10,
1960, pp 139-143.

JPRS 6624

Sci - Nu Phys

Feb 61

138,905

Predvoditelev, A. S.
THE RATES OF CHEMICAL REACTIONS IN TURBULENT STREAMS (BASIC FORMULATION OF THE THEORY) (O Skorostyakh Khimicheskikh Reaktsii v Turbulentnykh Potokakh (Osnovnyye Polozheniya Teorii))
Apr 61 [14]p. 2 refs. RTS 1817.
Order from OTS or SLA \$1.60

61-19801

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960
{v. 3} no. 11, p. 3-10.

DESCRIPTORS: *Turbulent flow, *Chemical reactions, Velocity, Reaction kinetics, Statistical analysis, Theory, Gas flow, Gases, Combustion.

The methods of mathematical statistics are used to derive a kinetic equation applicable to homogeneous chemical reactions taking place in turbulent streams. The correlation coefficient for the rates of chemical reactions of this type is shown to be equal to that of the turbulent stream. (Author)
(Chemistry--Physical, TT, v. 6, no. 3)

61-19801

- I. Predvoditelev, A. S.
- II. RTS-1817
- III. Department of Scientific and Industrial Research (Dt. Brit.)

175200

Office of Technical Services

Investigation of Convective Heat
Transfer in a Tube With a Twisting Flow of
Constant Pitch Length, by V. K. Yermolin,
10 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol III,
No 11, 1960, pp 52-57. 9671626

FTD MCL-1290/1

Sci - Phys

174, 744

28 Nov 61