

CONTENTS LISTS

JOURNAL OF ENGINEERING PHYSICS (Published in the U.S.S.R. in Russian with English abstracts)

Volume IX, No. 2

August, 1965

	<i>Page</i>
I. M. BLINCHEVSKY: On the mechanism of scaling in nucleate boiling	143
V. I. KUZNETSOV: Heat transfer of a flat plate in a laminar heated flow	148
L. F. KOZLOV: Optimum suction of the boundary layer at a porous plate with account for initial flow turbulence	151
I. P. GINZBURG and I. V. KORNEVA: On the effect of the turbulent number Pr_T on skin friction and heat transfer of a plate in a turbulent gas flow	155
G. T. SERGEEV and B. M. SMOLSKY: Transfer processes in a boundary layer involving chemical reactions	163
V. K. FYEDOROV and E. M. LITINSKY: Heat transfer of a rectangular wedge in a transverse gas flow	171
Z. R. GORBIS and YU. L. TONKONOGY: Aerodynamics and heat transfer of a falling bed with no blowing	177
I. S. MAKAROV and B. G. KHUDENKO: A system of plane turbulent jets	180
K. D. VACHAGIN, N. KH. ZINNATULIN and N. V. TYABIN: Film flow of non-Newtonian fluids over rotating surfaces	187
V. A. CHLENOV and N. V. MIKHAILOV: Some properties of a fluidized bed under vibration	196
V. P. DUSHCHENKO and KH. B. BAIDZHANOV: Determination of moisture diffusivity and thermal-gradient coefficient in particular colloidal capillary-porous materials	201
P. T. SMENKOVSKAYA: The effect of vibration on heat and mass transfer in capillary-porous materials	207
L. A. SUKHAREVA, V. A. VORONKOV and P. I. ZUBOV: Thermal properties of polymer coverings	211
A. P. BASKAKOV and L. G. GALPERIN: Critical resistance and critical velocity of fluidization of fine-grain material in conical apparatuses	217
P. M. KESSELMAN and P. A. KOTLYAREVSKY: A method of determination of critical density of substance in the state of saturation according to experimental data	223
I. S. AKIMOV: Calculation of temperature distribution in an eccentric annular layer with heat generation	227
A. G. GODZHELLO: On calculation of thermal stability of a liquid-metal contact under emergency conditions	232
O. G. ROGINSKY: Relaxation vibrations in gas burning in furnaces	236
A. E. AVERSON, V. V. BARZYKIN and A. G. MERZHANOV: Laws of ignition of condensed explosive systems with ideal heat transfer at the surface with account for burnout	245
M. S. SMIRNOV: A system of non-linear steady differential heat and mass transfer equations	250
V. V. ORLOV: Distribution of solid concentration in a suspension flow	255
T. D. SHERMERGOR and S. I. MESHKOV: Calculation of internal friction of two-layer cylindrical samples under torsional oscillations	261
<i>Letters to the Editor</i>	
V. P. YABLONSKAYA: On gas cooling of gas-condensate fields	267
<i>Prominent Soviet Scientists</i>	
ISAAK L'VOVICH LYUBOCHITS (On his 70th birthday)	269
<i>Book Reviews</i>	
B. M. SMOLSKY: On <i>Electrical Simulation of Temperature Fields</i> by L. A. KOZDOBA	271
<i>Chronicle</i>	
All-Union Scientific Council on "Mass and Heat Transfer in Technological Processes"	273
VDI-Thermodynamic-Kolloquium, 1964	274
<i>Reader's Guide</i>	
<i>International Journal of Heat and Mass Transfer</i> , Vol. 8, No. 5 (May 1965)	279

JOURNAL OF ENGINEERING PHYSICS

(Published in the U.S.S.R. in Russian with English abstracts)

Volume IX, No. 3

September, 1965

	<i>Page</i>
A. V. LUIKOV: Application of irreversible thermodynamics methods to heat and mass transfer	287
A. G. TEMKIN: Determination of internal heat and mass transfer parameters by means of characteristic functions of irreversible thermodynamics	305
P. V. TSOI: Irreversible thermodynamics and derivation of simultaneous differential equations of molecular transfer	318
S. I. KOSTERIN ■ and B. M. PAVLOV: Experimental study of certain thermodynamic properties of low-temperature composite solutions (up to -196°C)	323
V. M. KAZANSKY: Determination of thermodynamic functions of moisture absorbed by a dispersion body according to specific evaporation heat	328
A. G. TABACHNIKOV and L. S. SERDYUK: The state equation of nitrogen oxide in the range of temperatures $190\text{--}2000^{\circ}\text{K}$ and densities $0\text{--}20\text{ kmol/m}^3$	332
P. K. KONAKOV: On the mass and energy transfer law	337
YA. Z. KAZAVCHINSKY: Application of thermodynamic similarity to gaseous mixture properties	348
A. I. GULYAEV: The Ranque effect at low temperatures	354
B. N. BIRGER: Steady state of conducting systems	358
I. T. ELPERIN: Thermodynamic study of heat and mass transfer in a non-uniform gas-suspension flow	364
P. K. KONAKOV: On the reciprocity principle of irreversible thermodynamics	369
V. M. KOSTYLEV and V. G. NABATOV: Heat transfer in a disperse heat-insulating layer	377
P. N. ROMANENKO and V. N. KHARCHENKO: Estimation of kinetic energy losses in a pipe liquid flow	384
M. S. SMIRNOV: Correlating moisture-diffusion equation and its solution	391
R. I. VENEDIKTOVA and N. M. RUDNY: Mass transfer in extraction of moisture out of capillary-porous materials	396
G. N. DULNEV: Heat transfer through solid disperse systems	399
G. V. VASILIEVA: The effect of dry layer on transpiration cooling heat and mass transfer	405
<i>Discussions</i>	
YA. Z. KAZAVCHINSKY: Comments on the paper "Application of classical conceptions to the new system of proof of the Second Law of Thermodynamics", <i>J. Engng Phys.</i> 3, No. 12 (1964)	409
E. T. BARTOSH, N. F. VOLKOV and B. A. ROMANOV: On systems of proof of entropy existence in thermodynamics	412
<i>Prominent Soviet Scientists</i>	
GEORGI ALEKSANDROVICH MAKSIMOV ■	418
<i>Book Reviews</i>	
A. V. LUIKOV and A. G. SHASHKOV: On <i>Heat Conduction in Gases and Liquids</i> by N. V. TSEDERBERG, Gosenergoizdat (1963)	419

JOURNAL OF ENGINEERING PHYSICS

(Published in the U.S.S.R. in Russian with English abstracts)

Volume IX, No. 4

October, 1965

	<i>Page</i>
V. L. SERGEEV: Methods of measurement of high heat fluxes	427
L. F. KOZLOV: Calculation of incompressible laminar boundary layer on a flat plate with slot suction	433
V. F. STEPANCHUK and G. A. SALTANOV: Calculation of condensation jumps in the low pressure range	438
I. P. GINZBURG and N. S. KREST'YANINOVA: An incompressible turbulent boundary layer at a plate with blowing	444
A. M. EPSHTEIN: The shape of a turbulent jet axis in an infinite transverse horizontal flow	451
E. I. GOL'TSOVA: The effect of a single steam-generation centre and frequency of vapour bubbles on the wall temperature	457
S. E. SAKS: Turbulent air-mixture flows in tubes	461
I. G. SOVALOV, YU. G. KHAYUTIN and N. V. MIKHAILOV: The effect of turbulent and vibro-turbulent activation on rheological properties of cement and cement-sand solutions	467
N. A. SHAKHOVA and A. G. GORELIK: The time of thermal relaxation of solids in a fluidized bed	475
A. P. BASKAKOV, V. A. ANTIFEEV and L. G. GAL'PERIN: Dynamics of batch furnace temperatures at heating metals in a fluidized bed	480
YU. A. MIKHAILOV and B. B. SVIKLIS: Drying of peat by superheated vapour under pressure	487
S. G. ROMANOVSKY: Heat and mass transfer in capillary-porous materials at drying in an electrical field	496
A. I. BANNIKOV, V. A. KHRISTICH and G. N. LYUBCHIK: Thermal electrical method of velocity fluctuation measurement in a gas flow	501
E. S. PLATUNOV: Temperature field of a thin plate at monotonous heating	507
N. I. NIKITENKO: Numerical integration of the heat-propagation equation for variable physical properties	512
G. N. DUL'NEV and L. A. KOMKOVA: Analysis of experimental studies of solid porous system thermal conductivity	517
A. A. LISEKOV: Combined determination of thermal properties of moist materials at any of the Fourier number	520
P. M. KESSELMAN, P. A. KOTLYAREVSKI and M. M. AFANAS'EV: The CO ₂ state equation in the range of temperatures from 273 to 4000°K and pressures up to 1000 × 10 ⁵ N/m ²	527

Letters to the Editor

I. K. KONCHITS: Measurement of semi-conductor heat conductivity with the aid of bridge	533
V. A. CHAPNIN: On Joule heating of germanium and gallium arsenide in liquid nitrogen	536
G. N. DUL'NEV: Heat conduction of statistical mixtures	538
M. I. TSAPLIN: Comments on the paper "Heat transfer of flat surfaces in contact" by I. I. SHVETS and E. P. DYBAN	539
I. T. SHVETS and E. P. DYBAN: A reply to the comments of M. I. TSAPLIN	542

Discussions

M. D. MIKHAILOV: Errors of papers by V. P. MAIKOV [1] and V. P. MAIKOV and I. YA. PTL'SKII [2] in the collection of works <i>Investigation and Calculation of Thermal Power and Chemical Power Processes</i> , Mashgiz (1961)	544
---	-----

Book Reviews

V. M. BORISHANSKII and B. S. FOKIN: On the collection of papers <i>Problems of Boiling Physics</i> , edited by I. T. ALAD'EV (Izd. "Mir" 1964)	546
V. P. DUSHCHENKO: On the book <i>Calculation and Design of Baking Ovens</i> by A. A. MIKHELEV and N. M. ITSKOVICH (Izd. "Pishchevaya Promyshlennost", 1964)	548
<i>Reader's Guide</i>	550

JOURNAL OF ENGINEERING PHYSICS

(Published in the U.S.S.R. in Russian with English abstracts)

Volume IX, No. 5

November, 1965

	<i>Page</i>
M. S. SMIRNOV: Non-linear heat and mass transfer problems	567
A. N. REZNIKOV and V. V. BASOV: Distribution of heat fluxes and temperatures over contact surfaces of moving bodies (in application to cutting metals)	571
N. A. FRIDLENDER: A method of complex simulation of transient mass and heat transfer processes	577
V. N. VOLKOV: A particular specification of the integral Kármán-Pohlhausen method in the boundary-layer theory	583
S. A. TANAEVA: Unsteady moisture transfer in capillary-porous bodies	589
V. V. IVANOV and A. V. FURMAN: An approximate solution of non-linear heat-conduction problems	594
YU. A. SAMOILOVICH: A particular simplified solution of the problem of elastic-plastic equilibrium of a cylinder in a non-uniform temperature field	597
YU. G. VOLODIN and G. N. DULNEV: Convective heat transfer in a closed space	603
O. M. TODES and O. B. TSITOVICH: Mathematical description of solid entrainment in a steady and unsteady fluidized bed	609
L. S. KOTOUSOV and A. V. PANYUSHKIN: A device for determination of thermal diffusion coefficients in gas mixtures	616
P. S. KUTS and V. A. SHEIMAN: Hygroscopic properties of peat-insulating slabs	622
I. YU. PETRENKO: Complex thermal analysis of materials and melts	627
V. V. KRASNIKOV and V. A. DANILOV: Study of heat and mass transfer in drying by nozzles	632
G. D. RABINOVICH and V. I. KHOREV: Heat and mass transfer in drying of fine paste-like materials in a packed bed	640
S. G. ROMANOVSKII: Kinetics of drying of capillary-porous materials in the electromagnetic field when heat is transferred by conduction and convection	647
V. A. KIRILLOV and B. G. KHUDENKO: Calculation of the axis direction of the flow resulting from turbulent jet mixing	654
V. L. SERGEEV: Experimental study of heat transfer in the stagnation region	657
G. N. ZAMULA: Distribution of temperatures and thermal stresses in a cylindrical shell partially filled with liquid	667
R. G. GEINTS: A temperature field of a hollow cylinder with small Fourier numbers	674
<i>Chronicle</i>	
Readers' Conference of the Journal of Engineering Physics	680
Kazakhstan Seminar on Mathematical Physics Equations	681
Conferences to be held	682
<i>Reader's Guide</i>	
Contents list of the <i>International Journal of Heat and Mass Transfer</i> : Vol. 8, No. 8 (August 1965)	683
Heat and Mass Transfer Bibliography	685

JOURNAL OF ENGINEERING PHYSICS

(Published in the U.S.S.R. in Russian with English abstracts)

Volume IX, No. 6

December, 1965

	<i>Page</i>
F. S. YUGAI and B. P. VOLGIN: Qualitative picture of liquid motion in an accelerating gas flow	703
N. G. STYUSHIN and G. A. RYABININ: Methods for calculation of hydrolic resistance in steam-generating tubes with small specific heat fluxes	707
V. F. STEPANCHUK and G. A. SALTANOV: Calculation of shock waves in a low pressure range	714
V. N. PODYMOV: Changes of the refraction index in a vortex tube	722
M. I. VERBA and V. D. PORTNOV: Thermal conductivity of a reacting ternary gas mixture	729
A. I. BERYOZKINA: Temperature similarity of heat-transfer processes	735
N. N. DOLGOPOLOV, S. G. SIMONYAN and YU. YA. BORISOV: Kinetics of acoustic drying of capillary-porous materials	741
A. S. GINZBURG and V. I. SYROEDOV: Kinetic calculation of heating a moist dispersed material in a fluidized bed under vibration with convective heat transfer	744
R. E. KRZHIZHANOVSKY and N. P. SIDOROVA: A method of simultaneous determination of thermal conductivity and thermal diffusivity of metals by an electric heater	747
G. N. DUL'NEV, E. S. PLATUNOV, B. L. MURATOVA and Z. V. SIGALOVA: Determination of thermal conductivity of powder and fibrous insulation as a pressure function of the filling gas	751
A. G. SHASHKOV and T. N. ABRAMENKO: A new method for determination of thermal activity of non-metal materials	757
L. L. VASIL'EV and YU. E. FRAIMAN: Thermal properties of chamotte ceramics within the temperature range 80–1200°K	762
S. M. KAPUSTYANSKII: A one-parametric solution of the laminar boundary layer equation in a gas flow with an arbitrary external velocity and temperature gradient	768
S. M. KOTLYAR: Thermal conductivity of an infinite hollow cylinder	775
S. S. ZABRODSKY and A. L. PARNAS: On the possibility of intensification of interphase heat and mass transfer in a gas suspension by a fluctuating resonance flow	778
I. B. TSESARSKII: Heat transfer from a cylindrical surface with a dense network of ribs	783
D. A. KOSAREV: Steady-state heat-transfer through a longitudinally finned wall with variable thermal conductivity	788
V. F. ARKHOVSKII, S. S. MOZHAEV and L. F. SOKIRYANSKII: Analogue computation of solutions of the differential Fourier equation	793
B. D. SUMM, N. I. FLEGONTOVA and YU. V. GORYUNOV: On estimation of diffusivity and solubility coefficients of metal melts in polycrystal metals	799
V. N. NOVOTEL'NOV and L. A. AKULOV: Analytical relation of liquid oxygen density as a function of temperature and pressure	802
V. P. DUSHCHENKO and I. P. LESNOI: The temperature dependence of the dynamic viscosity of working fluids of a hydrointegrator with continuum	804
O. B. TSI TOVICH: Certain peculiarities of entrainment of fine polydisperse particles from a fluidized bed	806
O. B. TSVETKOV: Heat conductivity of liquid refrigerants	810

Reviews

P. N. ROMANENKO, V. N. KHARCHENKO and YU. P. SEMYONOV: The effect of coolant supply into a turbulent boundary layer on heat transfer and friction	816
---	-----

Reader's Guide

Contents of the <i>Journal of Engineering Physics</i> , Vols. VIII and IX (1965)	834
--	-----