

HEAT TRANSFER RESEARCH

Volume 35

Volume 35 Numbers 1 & 2, 2004

- 1 Limit Superheating of Solutions in the Region of Negative Pressures
V. E. Vinogradov and P. A. Pavlov
- 10 Calculation of Heat Conduction of Fiber Heat-Insulating Materials
V. I. Bolshakov, L. G. Kudrova, V. A. Ponomarev, and V. S. Kharitonov
- 17 Numerical Modeling of Combustion in a Turbulent Boundary Layer with Injection of Hydrogen Through a Porous Plate
E. P. Volchkov, V. V. Terekhov, and V. I. Terekhov
- 26 New Wideband Models of Radiation from Combustion Products of Hydrocarbon Fuels
S. T. Surzhikov
- 34 Experimental and Computational Investigation of the Hydrodynamics and Heat Transfer in a Flat Channel of Variable Width for Smooth and Intensified Surfaces
R. Banker, M. Ya. Belen'kii, M. A. Gotovskii, S. A. Isaev, and B. S. Fokin
- 44 Experimental Investigation of the Characteristic Features of Heat Propagation from a Point Source in a Supercritical Liquid
V. M. Emelyanov and A. K. Lednev
- 52 Computational Model of Spectral Radiation Characteristics of Diesel Fuel Droplets
L. A. Dombrovskii, S. S. Sazhin, and M. R. Heikal
- 59 Flicker-Noise in Superheated Liquid Jets
A. V. Reshetnikov, V. P. Skripov, V. P. Koverda, V. N. Skokov, N. A. Mazheiko, and A. V. Vinogradov
- 67 Experimental Investigation of Heat Transfer in Liquid Metal Flow in a Horizontal Tube in Longitudinal and Transverse Magnetic Fields under the Conditions of Nonuniform Heating around the Perimeter

- L. G. Genin, V. G. Sviridov, O. N. Ivanova, V. G. Zhilin, Yu. P. Ivochkin, and N. G. Razuvanov*
- 76 Direct Numerical Modeling of Mercury Turbulent Convection in Axisymmetric Reservoirs, Including Magnetic Field Effects
A. G. Abramov and A. B. Korsakov
- 85 Structure of an Ascending Slug Flow in a Vertical Pipe
O. N. Kashinskii, R. S. Gorelik, and V. V. Randin
- 92 Structure of a Vapor-Water Flow and Characteristic Features of Its Separation in Large-Diameter Channels
S. G. Kalyakin, Yu. V. Klimanova, O. V. Remizov, and N. P. Serdun
- 99 Influence of Condensation on Coagulation of Aerosol Particles during Their Brownian and Turbulent Motion
V. M. Alipchenkov, L. I. Zaichik and A. L. Solov'ev
- 108 Numerical Simulation of the Processes of Heat and Mass Transfer in Metal-Hydride Accumulators of Hydrogen
V. I. Artemov, G. G. Yan'kov, D. O. Lazarev, V. I. Borzenko, D. O. Dunikov, and S. P. Malyshenko
- 125 Influence of Curtain Jet Twisting on Heat Transfer and Resistance in Cooling of the End Surfaces of Interblade Channels
S. A. Kryuchkov
- 136 Volumetric Condensation of Supersaturated Vapor in the Presence of Pulsations of Medium Thermodynamic Parameters
N. M. Kortsenshtein and E. V. Samuilov
- 145 Thermodynamic Limit of Critical Thermal Load in Boiling of Subcooled Twisted Water Flow
V. V. Yagov, A. T. Komov, A. N. Varava, and A. V. Dedov
- 154 Method and Program for Calculation of Three-Dimensional Convection on Large-Size Grids
V. P. Ginkin and S. M. Ganina
- 162 Use of the Detached-Eddy Simulation Method for Calculating the Hydrodynamics and Heat Transfer in Turbulent Flows with Separation
M. Kh. Strelets, A. K. Travin, and M. L. Shur
- 171 Characteristic Features of the Implementation of Film Boiling of Organic Liquids
S. A. Zhukov, V. A. Rafeev, S. Yu. Afanasiev, S. B. Echmaev, and B. L. Korsunkii

- i Prominent Scientists
- 181 Statistical Characteristics of Temperature in a Turbulent Flow in a Granular Bed
B. V. Perepelitsa
- 187 Condensation Heat Transfer of Ethylacetate and Water Vapors
in a Vertical Tube
O. A. Lonshchakov and V. G. D'yakonov
- 194 Heat and Mass Transfer of a Bubble in the Volume of Chemically Reacting
and Inert Solutions
V. A. Nemtsev and A. M. Cherkashin
- 207 Combined Regimes of Self-Excited Oscillations in Condensation Inside Tubes
S. I. Lezhnin, N. A. Pribaturin, S. B. Samoilenko, and V. A. Fedorov
- 219 The Hazen–Dupuit–Darcy Model for Investigation of Viscous Dissipation
Effects on Thermal Development of a Liquid-Metal Flow in a Porous
Medium: Circular Tube with Uniform Wall Temperature
A. A. Ranjbar-Kani and K. Hooman
- 229 Numerical Investigation of Flow and Heat Transfer of a Liquid Metal
in a Compact Heat Exchanger
A. A. Ranjbar-Kani and K. Hooman
- 239 Using a Porous Segment to Increase Thermal Efficiency by Converting Gas
Enthalpy to Thermal Radiation in High-Temperature Industrial Furnaces:
Exact Solution
K. Hooman, A. A. Ranjbar-Kani, and A. Ejlali
- 247 Special Features of Liquid Boiling in Horizontal Annular Channels
A. V. Ovsyannik
- 253 Determination of the Boundaries of a Two-Phase Liquid-Metal Flow in the Loop
with Natural Circulation
D. E. Martsinyuk and A. P. Sorokin
- 263 Investigation of the Vicinity of the Front of Change of Boiling Regimes
M. O. Lutset
- 269 Transient Regimes of Boiling
A. N. Pavlenko and I. P. Starodubtseva
- 282 Robust Predictive Control of a Humidifying Process by Using the Kautz
Model and LMI Approach
A. Mbarek, K. Bouzrara, T. Garna, and H. Messaoud
- 302 Numerical Simulation of Natural Convection in a Horticultural Greenhouse
Heated from Below (by Using CFD)
Tadj Nacima

Volume 35 Numbers 5 & 6, 2004

- 337 Study of the Start of Subcooled Water Boiling with Pulsed Heat Release
B. G. Pokusaev, E. A. Tairov, D. A. Kazenin, and L. V. Syskov
- 350 Physical Model of Thermal Hydraulic Self-Oscillations in Vapor Condensation Inside a Pipe
N. A. Pribaturin, S. I. Lezhnin, and V. A. Fedorov
- 359 Heat Transfer from a Wall to the Liquid Film Surface through a Vapor Gap in Post-Critical Boiling in a Channel with Flow Swirling
S. E. Tarasevich
- 364 Critical Heat Loads in Boiling under the Conditions of a Subcooled Swirled Flow
A. N. Varava, A. V. Dedov, A. T. Komov, V. V. Tsukanov, and S. A. Shcheglov
- 374 Effect of the Porous Structure Characteristics of Metallic Fibers on the Start of Boiling of Water under the Conditions Typical of Heat Pipes and Thermosiphons
A. A. Shapoval and A. G. Kostornov
- 379 Simulation of Heat Transfer Processes in Boiling on Surfaces with Disordered Porous Structures
A. A. Shapoval
- 387 Thermochemical Processing of the Waste Containing Organic Substances by Means of Filtration Combustion
V. A. Borodulya, L. M. Vinogradov, S. A. Zhdanok, and A. V. Krauklis
- 393 Heat Pipes and Solid Sorption Machines
L. L. Vasiliev
- 406 Boiling of Liquid on Surfaces with Porous Coatings
V. M. Polyaev and B. V. Kichatov
- 421 Plasma-Fired Processes of Treatment of Toxic and Radioactive Waste in a Shaft Furnace with a Filter Bed of Combustible Material
V. A. Kalitko and A. L. Mosse
- 427 Heat and Mass Transfer During Plasmachemical Synthesis of Doped Lanthanum Chromite Powders for High-Temperature Semiconducting Materials
A. Marotta, A. V. Gorbunov, and A. L. Mosse
- 431 Heat and Mass Transfer under the Conditions of Rapid Heating
P. A. Pavlov
- 436 Heat Transfer in Propane Boiling on Surfaces with a Capillary-Porous Structure

*L. L. Vasiliev, A. S. Zhuravlev, A. V. Ovsyannik, M. N. Novikov,
and L. L. Vasiliev, Jr.*

- 444 Bubble Boiling Heat Transfer — The Possibilities of a Theoretical Analysis
V. V. Yagov

Volume 35 Numbers 7 & 8, 2004

- 457 Some Aspects of Using the Heat of Solar Radiation in Communal Heat Supply
A. I. Nakorchevskii, B. I. Basok, and T. G. Belyaeva
- 472 Characteristic Features of Hydrodynamics and Heat Transfer in Transverse Flow
Past Cylinders with Dimples in Single-Row Bundles
G. V. Kovalenko and A. A. Khalatov
- 486 Mathematical Simulation of the Processes in a Pulsating Impact Disperser
G. K. Ivanitskii, A. A. Korchinskii, and M. V. Matyushkin
- 497 Effects of Combined Processes in Food Technologies
O. G. Burdo
- 507 Thermal Conductivity of Composite Materials Having a Chaotic Structure
V. V. Novikov, A. N. Piven', and L. N. Udovenko
- 516 Turbulent Mixed Convection Heat Transfer in Channels
P. Poškas and J. Vilemas
- 531 Investigation of Condensation Implosion Event
R. Pabarčius, M. Seporaitis, and K. Almenas
- 549 Experimental Study of Heat Transfer from a Rod Bundle of Wire-Wrapped
Tubes in Axial Air Flow
B. Česna
- 563 Analysis of Heat Transfer in the Zones of Ceramics–Metal Contact
in the Temperature Range 77–1000 K
R. Bolšaitis, J. Balcevič, V. Matulionenė, and J. Česnėnė
- 575 Experimental Determination of the Heat-Transfer Coefficient of Tube Bundles
in a Transverse Foam Flow
J. Gylys, S. Šinkūnas, and M. Jakubčionis
- 582 Heat Transfer during Boiling of Liquids under the Conditions of Dynamic
Overloads
A. A. Voloshko
- 588 Effects of Viscous Dissipation on Forced Convection in a Porous Saturated
Duct with a Uniform Wall Temperature
K. Hooman and M. Gorji-Bandpy
- 599 Book Review
- 601 Author Index, Vol. 35
- 605 Tables of Contents, Vol. 35