



Heat and mass transfer bibliography – CIS works

Books

N.I. Gamayunov, V.A. Mironov, S.N. Gamayunov, *Heat and Mass Transfer in Organogenic Materials. Cryogenic Processes*, Izd. Gos. Univ., Tver, 1998

N.A. Voinov, E.V. Sugak, V.N. Shcherbakov, *Calculation of Flow, Heat- and Mass Transfer Parameters in Apparatuses with a Falling Film*, KGTA, Krasnoyarsk, 1996

Papers – general

V.N. Afanasiev, Certain features of drop flows, *Teplotfiz. Vys. Temp.* 36 (1) (1998) 94–101

G.V. Alekseev, Stationary problems of boundary control for heat convection equations, *Dokl. Ros. Akad. Nauk* 362 (2) (1998) 174–177

M.I. Bakirova, V.V. Nikishin, N.N. Tyurina, A.P. Favorskiy, Energetically coordinated conservative schemes for a transfer equation, Preprint No. 100, Institute of Applied Mathematics, Russian Academy of Sciences, 1996

I.V. Bashmakov, About a certain hypothesis of turbulent viscosity, *Vestn. Ros. Univ. Druzhby Narodov, Tepl. Dvig.* 1 (1996) 140–143

I.A. Bassina, S.A. Lemakin, D.A. Nikulin, M.L. Shur, Evaluation of the applicability of the modern models of turbulence for calculating natural convective flows and heat exchange, *Teplotfiz. Vys. Temp.* 36 (2) (1998) 246–254

V.T. Borukhov, P.N. Vabishchevich, Numerical solution of the inverse problem of the reduction of a source in a parabolic equation, *Mat. Modelir.* 10 (11) (1998) 93–100

N.F. Gavrillov, Numerical integration of convective transfer equation by means of polynomial splines, *Vopr. Atom. Nauki Tekh., Ser. Mat. Modelir. Fiz. Prots.* 1 (1998) 66–72

G.Z. Gershuni, V.A. Demin, Thermovibrational convective instability of mechanical quasi-equilibrium state of an inclined liquid layer, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 1 (1998) 8–15

S.F. Glebov, D.V. Makarov, A.P. Skibin, V.P. Yugov, Application of a combined grid for numerical solution of three-dimensional problems of hydrody-

namics and heat exchange by the control volume method, *Inzh.-Fiz. Zh.* 71 (4) (1998) 744–748

A.S. Goltsev, A.V. Lobachev, V.P. Shevchenko, Thermoelasticity of shells with a system of cuts, *Dop. Nats. Akad. Nauk Ukraini* 11 (1998) 67–71

Yu.V. Gott, E.I. Yurchenko, About the models of heat transfer in a turbulent magnetized plasma, *Fiz. Plazmy* 24 (4) (1998) 315–327

D.V. Grilitskiy, V.I. Pauk, A planar contact problem of stationary thermoelasticity with allowance for heat release, *Prikl. Mat. Mekh. (Moscow)* 61 (6) (1997) 1043–1048

N.Yu. Ibragimov, Distribution of the temperature of a softened glass coating of the surface of tubes, *Teploenergetika* 6 (1998) 65–67

V.V. Ivanov, Study of heat and mass exchange processes with nonlinear boundary conditions (Review), *Izv. Rostovsk. na Donu Gos. Akad. Stroit.* 1 (1996) 63–74

Yu.I. Kharkats, F.Kh. Bark, R. Vedin, Theory of thermal effects in electrochemical cells, *Elektrokimiya* 34 (2) (1998) 216–222

L.A. Kim, A.M. Brener, Allowance for cross effects in nonlocal equations of heat and mass transfer, *Teor. Osnovy Khim. Tekhnol.* 32 (3) (1998) 247–249

V.F. Kirichenko, Application of the Bubnov–Galerkin method to the solution of certain bound problems of thermoelasticity, in: *Proceedings of the 18th International Conference on the Theory of Shells and Plates, 29 September–4 October 1997, Saratov, Vol. 2, Saratov, 1997*, pp. 8–11

V.B. Korobov, S.V. Mukin, Mathematical model of the kinetics of mass and heat transfer in electro dialysis desalination – concentration of multicomponent solutions, *Vestn. TGTU* 2 (3) (1996) 253–261

V.N. Kosov, V.D. Seleznev, Yu.I. Zhavrin, Occurrence of density gradient inversion in isothermal diffusion of a binary mixture identically diluted by a third gas, *Teplotfiz. Aeromekh.* 5 (2) (1998) 209–214

V.A. Kudinov, V.V. Dikop, A.B. Remezentssev, Design of multilayered composite materials by their single-layer models, *Izv. Ros. Akad. Nauk, Energetika [Izv. Akad. Nauk SSSR, Energetika Transport]* 3 (1998) 140–143

V.I. Malaryov, R.M. Proskuryakov, Analysis of the processes of heat and mass transfer in systems of

dynamic thermovacuum measurements of moisture content, *Inzh.-Fiz. Zh.* 70 (5) (1997) 739–747

Yu.I. Molorodov, G.S. Khakimzyanov, Construction and evaluation of the quality of regular grids for two-dimensional regions, *Vopr. Atom. Nauki Tekh., Ser. Mat. Modelir. Fiz. Prots.* 1 (1998) 19–27

S.P. Naselskiy, G.A. Nesenenko, I.R. Rustamov, V.A. Smirnov, Service characteristics of an yttrium aluminate crystal, *Metody Algor. Parametr. Anal. Lincin. Nelinein. Modelei Perenosa* 14 (1996) 29–73

F.V. Nedopekin, V.K. Tolstykh, N.A. Volodin, V.V. Belousov, S.V. Gridin, Minimization of thermal stresses in a continuous ingot with a limitation on the volume of liquid lune, *Prom. Teplotekh.* 19 (6) (1997) 53–56

A.V. Nenarokomov, Design of a system of multilayer thermal insulation of minimum mass, *Teplofiz. Vys. Temp.* 35 (6) (1997) 909–916

S.G. Obukhov, Critical heat flux on new and run-in surfaces of various geometries, *Izv. VUZov, Aviats. Tekh.* 1 (1998) 68–73

A.E. Ordanovich, Yu.V. Pashkovskaya, Effect of thermal stratification on the Eckman flow stability, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 3 (1998) 71–76

I.M. Panchenko, B.S. Kolupaev, Investigation of moisture exchange through polymer films under the action of an electric field, *Inzh.-Fiz. Zh.* 71 (2) (1998) 286–292

A.N. Peregudov, V.T. Gontkovskaya, A.V. Gorodetskov, Evaluation of the critical conditions of a thermal explosion for systems with strong self-retardation, *Khim. Fiz.* 17 (5) (1998) 93–97

E.N. Pismenny, V.A. Rogachev, N.V. Bosaya, Investigations of the characteristics of the efficiency of a new heat removing surface with network finning in natural convection, *Prom. Teplotekh.* 20 (3) (1998) 30–33

V.N. Popov, Application of the method of incomplete factorization for solving heat transfer problems with the use of implicit difference schemes, Preprint No. 4, Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 1997

A.V. Saplin, Solution of the nonlinear problem of combined heat exchange using different means of approximation of heat transfer equations on different-scale computational grids, *Inzh.-Fiz. Zh.* 70 (6) (1997) 1037–1044

O.N. Shablovskiy, The sign-variable dissipation of energy in liquid with relaxing viscous stresses, *Inzh.-Fiz. Zh.* 70 (6) (1997) 967–974

O.V. Telkovskaya, K.V. Chukbar, The nonlocal character of relative diffusion, *Zh. Eksp. Teor. Fiz.* 112 (1) (1997) 163–166

N.M. Tsirelman, A.V. Zhiber, Determination of nonstationary temperature fields on the basis of convolution functional, *Izv. Ros. Akad. Nauk, Energetika* 1 (1998) 153–162

A.M. Tsirlin, V.A. Mironova, S.A. Amelkin, Processes of minimum dissipation, *Teor. Osnovy Khim. Tekhnol.* 31 (6) (1997) 649–658

A.N. Varava, A.V. Dedov, A.T. Komov, V.V. Tsukanov, Automated system of scientific investigations of critical heat exchange, *Vestn. MEI* 5 (1998) 22–25

A.A. Veremeev, Numerical method of calculation of flow velocity and temperature fields in inhomogeneous regions with arbitrary curvilinear boundaries, Preprint No. 2614, Physics and Power Engineering Institute, Obninsk, 1997

A.S. Yakimov, Calculation of the characteristics of heat exchange in a composite body, *Teplofiz. Vys. Temp.* 36 (1) (1998) 59–64

R.Kh. Zeitunyan, The problem of the Benard–Marangoni thermocapillary instability, *Usp. Fiz. Nauk* 168 (3) (1998) 259–286

V.M. Zhdanov, V.I. Roldugin, Nonequilibrium thermodynamics and kinetic theory of rarefied gases, *Usp. Fiz. Nauk* 168 (4) (1998) 407–438

Yu.V. Zhernovy, M.T. Saichuk, About numerical solution of Stefan problems with the use of the method of Green functions, *Inzh.-Fiz. Zh.* 71 (3) (1998) 564–570

Yu.V. Zhernovy, M.T. Saichuk, Use of the method of Green functions for numerical solution of multidimensional problems, *Inzh.-Fiz. Zh.* 71 (5) (1998) 910–916

Yu.N. Zolotarev, Heat-consumption optimum control of heating a rapidly rotating disk, *Vestn. Voronezhsk. Gos. Tekhnol. Akad.* 2 (1997) 60–62

Heat and mass transfer between a solid body and a fluid

P.V. Akulich, N.N. Grinchik, Simulation of heat and mass transfer in capillary-porous materials, *Inzh.-Fiz. Zh.* 71 (2) (1998) 225–232

A.K. Alekseev, Evaluation of the parameters of a nonperturbed flow by the measurements of a heat flux on a surface, *Teplofiz. Vys. Temp.* 35 (5) (1997) 787–794

G.V. Alekseev, Solvability of stationary problems of boundary control for heat convection equations, *Sib. Mat. Zh.* 39 (5) (1998) 982–998

K.D. Andreev, L.V. Arseniev, V.G. Polishchuk, N.P. Sokolov, Investigation of heat exchange and hydraulic resistances in a rectangular channel with intersecting fins, *Prom. Teplotekh.* 20 (3) (1998) 70–75

N.V. Antonov, Renormalization group in the problem of turbulent convection of a passive scalar impurity in the case of nonlinear diffusion, *Zh. Eksp. Teor. Fiz.* 112 (5) (1997) 1649–1663

V.V. Anufriev, Yu.E. Kozhevnikov, A mathematical model of the kinetics of growth of microorganisms with allowance for the hydrodynamics and heat transfer in an apparatus, in: *Electromechanical Devices and Systems*,

Voronezh State Technical University, Voronezh, 1997, pp. 105–109

V.V. Aristov, Study of stable and unstable jet flows on the basis of Boltzmann equation, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 2 (1998) 153–157

N.M. Astafieva, Stability and nonuniqueness of axisymmetric flows in rotating spherical layers (nonlinear theory), *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 1 (1998) 75–86

A.V. Astrakhov, S.D. Panin, B.B. Petrikevich, Effect of thermal nonstationarity on convective heat exchange in a turbulent boundary layer, *Izv. VUZov, Mashinostroenie* 1–3 (1998) 72–75

A.V. Astrakhov, S.D. Panin, B.B. Petrikevich, Heat and mass exchange and friction in gas flow in an axisymmetric channel over the length after convergence of boundary layers, *Izv. VUZov, Mashinostroenie* 4–6 (1998) 62–68

A.A. Avramenko, Heat exchange in the zone of boundary layer separation, *Prom. Teplotekh.* 20 (4) (1998) 20–22

A.A. Avramenko, S.G. Kobzar, Application of the Lie groups to investigation of the processes of non-standard heat exchange near a sphere in the region of low Reynolds numbers, *Prom. Teplotekh.* 20 (2) (1998) 47–50

A.A. Avramenko, S.G. Kobzar, The effect of centrifugal instability on heat exchange in a boundary layer on a concave surface, *Prom. Teplotekh.* 19 (6) (1997) 15–18

V.K. Baev, A.A. Buzukov, V.V. Shumskiy, The structure of a reacting pulse hydrogen jet issuing into the atmospheric air at high degrees of flow expansion and shock ignition, Preprint No. 8, Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, 1997

I.V. Bashmakov, Unstable thermal wall layer, *Vestn. Ros. Univ. Druzhby Narodov, Tepl. Dvig.* 1 (1996) 136–139

V.P. Belousov, Solution of the problem of the authenticity of a conjugated model of nonstationary heat exchange in turbulent flow in tubes, *Teplotfiz. Aeromekh.* 5 (1) (1998) 99–104

V.S. Berdnikov, V.A. Markov, Heat transfer in a horizontal liquid layer heated from below with rotation of one of the boundaries, *Prikl. Mekh. Tekh. Fiz.* 39 (3) (1998) 126–133

V.K. Bitjukov, Yu.N. Zolotarev, Heat flow rate optimal control of heating a rapidly rotating disk, *Mat. Modelir. Tekhnol. Sistem* 2 (1997) 116–120

V.P. Bobkov, V.N. Vinogradov, D. Greneveld, P.L. Kirillov, E. Rojer, Skeleton table of the 1995 year version to calculate the critical heat flux in tubes, *Teplotenergetika* 10 (1997) 43–53

E.N. Bogomolov, V.V. Lebedev, Effect of secondary flows on the efficiency of curtain cooling of the end wall

of the turbulent grid with discrete input injection, *Prom. Teplotekh.* 20 (3) (1998) 22–25

P.Yu. Borodin, M.P. Galanin, I.V. Dubovitskiy, Numerical solution of the problem of pulse heat effect on a lamellar rigid medium in a spherically-symmetric and two-dimensional plane cases, Preprint No. 41, Institute of Applied Mathematics, Russian Academy of Sciences, 1997

B.F. Boyarshinov, Analysis of experimental data on heat and mass transfer in a boundary layer, *Fiz. Goreniya Vzryva* 34 (2) (1998) 73–81

V.A. Brailovskaya, L.V. Feoktistova, Structures of flow and heat exchange in anisotropic porous annular interlayers, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1998) 122–128

G.P. Brovka, V.A. Sychevskiy, Simulation of two-dimensional interrelated problems of heat and mass transfer and transformation of structure, *Inzh.-Fiz. Zh.* 71 (6) (1998) 1006–1011

A.L. Chernyakov, Flow of liquid through three-dimensional fibrous porous media, *Zh. Eksp. Teor. Fiz.* 113 (6) (1998) 2109–2128

A.V. Dmitrenko, Calculation of heat and mass transfer and friction in wall flows on the basis of a two-scale four-parameter model of turbulence, *Teplotenergetika* 4 (1998) 45–52

G.N. Dudin, Effect of severe cooling of surface on the character of hypersonic viscous gas flow past a triangular wing, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1998) 57–64

E.P. Dyban, E.Ya. Epik, Structure of wall boundary layers in the presence of a bypass laminar–turbulent transition, *Prom. Teplotekh.* 19 (4–5) (1997) 25–33

B.V. Egorov, Yu.E. Markachev, Formation of simplest clusters of CO₂ in the nozzles of hypersonic installations and their effect on gasdynamic and aerodynamic parameters, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1997) 165–170

E.D. Eidelman, Effect of the liquid layer thickness on the relationship between the dimensions of a convection cell, *Zh. Tekh. Fiz.* 68 (11) (1998) 7–11

E.Ya. Epik, L.E. Yushina, T.T. Suprun, Special features of heat transfer behind different types of separations, *Prom. Teplotekh.* 20 (4) (1998) 3–10

A.I. Erofeev, V.P. Provotorov, Numerical simulation of hypersonic rarefied gas flow past thin bodies, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1997) 153–164

M.N. Gaidukov, V.N. Popov, Exact solution of the kinetic equation in a problem of nonisothermal rarefied gas flow near slightly curved surface, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 2 (1998) 165–173

M.B. Gavrikov, N.V. Pestrakova, Numerical simulation of convective heat transfer in a limited domain, Preprint No. 28, Institute of Applied Mathematics, Russian Academy of Sciences, 1997

- L.G. Genin, T.E. Krasnoshchekova, E.V. Sviridov, Hydrodynamics and heat exchange in flow of an electrically conducting liquid in a plane channel in a transverse magnetic field, *Teplofiz. Vys. Temp.* 36 (3) (1998) 461–469
- A.P. Gerasev, Nonequilibrium thermodynamics of the propagation of heat waves in an immobile catalyst layer, *Dokl. Ros. Akad. Nauk* 359 (4) (1998) 495–498
- S.Ya. Gertsenshtein, V.M. Romashova, Instability of a plane layer of a conducting liquid with convection in a vertical magnetic field, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 1 (1998) 23–28
- A.I. Glagolev, G.N. Novozhilova, L.A. Pliner, V.A. Cherkashin, Numerical calculation of energy and mass supply to the bottom region of the body of revolution, Preprint No. 113, Institute of Applied Mathematics, Russian Academy of Sciences, 1997
- Yu.F. Gortyshov, K.E. Gultitskiy, I.A. Popov, Experimental investigation of hydraulic resistance and heat exchange in a channel with an ordered porous material, *Izv. VUZov, Aviats. Tekh.* 4 (1997) 60–65
- Yu.F. Gortyshov, V.V. Olimpiev, Calculation of turbulent heat transfer and resistance in channels with transverse and annular grooves, *Izv. VUZov, Aviats. Tekh.* 3 (1997) 56–63
- O.V. Grigorchuk, E.N. Korzhov, V.A. Shaposhnik, Mathematical simulation of electro dialysis in channels with ionoconducting inserts, *Elektrokhimiya* 33 (8) (1997) 885–890
- A.F. Gutsol, Temperature of a thermally insulated surface in a gas flow, *Zh. Tekh. Fiz.* 68 (4) (1998) 134–135
- S.A. Isaev, A.I. Leontiev, D.P. Frolov, V.B. Kharchenko, Identification of self-organized vortical structures in numerical simulation of laminar three-dimensional viscous, incompressible liquid flow past a lune on a plane, *Pisma Zh. Tekh. Fiz.* 24 (6) (1998) 6–12
- S.A. Isaev, A.I. Leontiev, A.E. Usachev, Numerical investigation of a vortical mechanism of intensification of heat and mass exchange processes in the vicinity of a surface with a lune, *Inzh.-Fiz. Zh.* 71 (3) (1998) 484–490
- A.V. Kashevarov, Heat transfer of a cylinder and a plate in a fluid with a low Prandtl number, *Teplofiz. Vys. Temp.* 36 (2) (1998) 260–266
- A.V. Kazakov, A.P. Kuryachiy, Influence of viscous–inviscid interaction on turbulent flow past a plate with local heating of its surface, *Teplofiz. Vys. Temp.* 36 (3) (1998) 418–423
- D.A. Kazenin, A.V. Kozlov, Kinetic boundary condition in the problem of heat and mass transfer to a sphere immersed in a potential flow, *Trudy MGAKhM* 2 (1997) 39–43
- V.M. Kharin, O.A. Semenikhin, N.A. Balashov, Enhancement of heat exchange in hydrothermal treatment of materials by means of spraying, in: *Thermal Power Engineering*, Voronezh State Technical University, Voronezh, 1997, pp. 124–127
- B.V. Kichatov, V.M. Polyayev, Turbulent heat exchange on a permeable surface in the region of supercritical gas injections, *Dokl. Ros. Akad. Nauk* 356 (5) (1997) 630–633
- P.L. Kirillov, Supplements to, and comments on, the paper “Skeleton table of the 1995 year version to calculate the critical heat flux in tubes”, *Teploenergetika* 10 (1997) 54–61
- Yu.A. Kirsanov, Cyclic conjugated heat exchange of heat carrier flows with a solid body, *Izv. Ros. Akad. Nauk, Energetika* 5 (1998) 113–119
- G.V. Kovalenko, Heat transfer and hydraulic resistance of tubular surfaces with cylindrical lunes of single-row bundles in a cross flow, *Prom. Teplotekh.* 20 (3) (1998) 65–70
- A.P. Kozlov, N.I. Mikheev, V.M. Molochnikov, A.K. Saikin, Simulation of space-time fields of the parameters of turbulent flows on the basis of incomplete nonsimultaneous experimental data, *Izv. Ros. Akad. Nauk, Energetika* 4 (1998) 32–51
- S.V. Kulikov, Translational nonuniformity of a three-component gas at the shock wave front, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1997) 171–178
- V.A. Kuzmitskiy, Experimental investigation of free convection near a vertical heated surface in turbulent and transient flow regimes, Dissertation (Candidate of Physical and Mathematical Sciences), St. Petersburg State Technical University, 1997
- A.V. Kuznetsov, Investigation of forced convection in the presence of an interface between the liquid and porous medium, *Inzh.-Fiz. Zh.* 70 (6) (1997) 895–901
- G.V. Kuznetsov, Mechanism of high-temperature destruction of glass plastics in gas flows under the conditions of high pressures, *Teplofiz. Vys. Temp.* 36 (1) (1998) 74–78
- A.B. Lebedev, A.M. Starik, N.S. Titova, Numerical investigation of nonequilibrium photochemical processes in a cocurrent jet of a subsonic aircraft, *Teplofiz. Vys. Temp.* 36 (1) (1998) 79–93
- V.P. Lebedev, V.V. Lemanov, S.Ya. Misyura, V.I. Terekhov, Heat transfer in a wall jet in the case of high turbulence of a cocurrent flow, *Prikl. Mekh. Tekh. Fiz.* 39 (3) (1998) 119–125
- D.G. Levchuk, O.N. Ostapovich, N.V. Pavlova, Experimental data about the bottom heat exchange on the surface of bodies of conical configuration immersed in a hypersonic flow, *Kosmonavt. Raketost.* 11 (1997) 34–38
- V.A. Levin, V.V. Markov, S.F. Osinkin, Initiation of detonation in hydrogen-air mixture by an explosive charge surrounded by an inert gas layer, *Vestn. MGU, Ser. 1* 6 (1997) 32–34

A.U. Lipets, L.V. Dirina, Temperature difference in heat exchangers with cross motion of heat carriers, *Teploenergetika* 4 (1998) 32–34

N.I. Lobov, S.V. Shklyaev, Influence of motion of boundaries on the stability of convective flow in vertical layer with inner heat sources, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1997) 3–8

A.V. Loginov, Theoretical and experimental investigations of turbulent heat and mass exchange over the starting length and at $Pr \gg 1$, *Vestn. Voronezhsk. Gos. Tekhnol. Akad.* 2 (1997) 70–74

A.V. Lokotko, A.M. Kharitonov, A.V. Chernyshev, Investigation of the processes of mixing in a channel of rectangular cross section with a supersonic flow. 1. Injection of heated jets, *Teplofiz. Aeromekh.* 5 (1) (1998) 1–15

G.N. Lukiyonov, M.E. Zvezdina, Investigation of the processes of heat and mass exchange in a cylindrical volume filled with air under unstable conditions of flow, *Izv. VUZov, Priborostroenie* 40 (7) (1997) 60–63

D.V. Lyubimov, D.A. Bratsun, About the equations of convection in a dusty medium, *Vestn. Permsk. Univ.* 2 (1997) 15–29

O.G. Martynenko, N.V. Pavlyukevich, Heat and mass transfer in porous media, *Inzh.-Fiz. Zh.* 71 (1) (1998) 5–18

Yu.V. Martynov, V.G. Sister, Mass exchange in a film of liquid with drop spraying, *Teor. Osnovy Khim. Tekhnol.* 31 (6) (1997) 580–585

Yu.G. Nazmeev, Balance of mechanical energy and effects of the enhancement of heat exchange in laminar liquid flow, *Izv. Ros. Akad. Nauk, Energetika* 3 (1998) 33–38

O.A. Nerushev, S.A. Novopashin, A.L. Perepelkin, Transition to turbulence in supersonic jets of nitrogen and argon, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 3 (1998) 196–200

D.A. Nikulin, M.Kh. Strelets, A. Dvinskiy, Numerical investigation of the effect of three-dimensional and boundary effects on free-convective heat exchange in a system of vertical fins, *Teplofiz. Vys. Temp.* 35 (5) (1997) 740–749

Yu.V. Nuzhnov, Conditional averaging of Navier–Stokes equations and a new approach to simulation of intermittent turbulent flows, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1997) 24–31

S.A. Ocheretyany, V.V. Prokofiev, Multivelocety effects in rarefied bubbly media in flow with large pressure gradients, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 1 (1998) 87–100

M.B. Panfilov, Flows in porous media: physics, models, calculations, *Neft. Khoz.* 11 (1997) 31–36

A.N. Pavlenko, I.P. Starodubtseva, Investigation of the dynamics of development of semi-infinite and local sites of film boiling, *Teplofiz. Aeromekh.* 5 (2) (1998) 195–207

P.T. Petrik, I.V. Dvorovenko, P.V. Dagonov, I.P. Petrik, A.A. Kaskov, Heat exchange in the wall zone in filtration through a granular bed, *Vestn. Kuzbassk. Gos. Tekh. Univ.* 1 (1997) 83–86

I.A. Pribytkov, Distribution of thermal loading in pulsed rapid heating of metal, *Izv. VUZov, Chern. Metallurg.* 7 (1997) 66–69

V.M. Repukhov, T.N. Gorislavets, Heat exchange on axisymmetric and plane surfaces in the presence of protecting curtains, *Prom. Teplotekh.* 19 (6) (1997) 9–14

O.L. Reshetin, S.Yu. Orlov, Theory of heat and moisture transfer in a capillary-porous body, *Zh. Tekh. Fiz.* 68 (2) (1998) 140–142

S.P. Roshin, V.B. Kuntyshev, A.I. Samylova, Concerning the effect of the parameters of jet blowing on heat transfer of a single cylinder with transverse finning, *Izv. VUZov, Energiya* 5–6 (1997) 85–90

E.N. Saburov, Yu.L. Leukhin, S.I. Ostashev, Convective heat exchange in a longitudinally finned annular channel of a recuperative apparatus with a cyclone generator of swirling, *Izv. VUZov, Energiya* 11–12 (1997) 52–56

N.N. Salov, A.I. Vovk, S.E. Tverskaya, Investigation of the effect of disk body thickness on heat exchange in the cavity of a rotor of gas-turbine engine with an axial coolant flow, *Izv. VUZov, Aviats. Tekh.* 4 (1997) 71–76

V.K. Semenov, Problem of heat exchange in the vertical channels of gas-discharge apparatuses, *Teplofiz. Vys. Temp.* 36 (3) (1998) 503–507

G.L. Serebryany, Heat and mass transfer in thermoelectrical systems of moist air cooling, in: *Proceedings of the Fifth International Seminar on Thermoelectrics and Their Application*, 19–20 November 1996, St. Petersburg, 1997, pp. 148–222

O.N. Shablovskiy, Convective heat exchange and vortical dynamics under the conditions of wall slip of a viscous liquid, *Izv. VUZov, Energiya* 5–6 (1997) 90–95

A.V. Shchukin, A.P. Kozlov, Ya.P. Chudnovskiy, R.S. Agachev, Enhancement of heat exchange by spherical cavities (Review), *Izv. Ros. Akad. Nauk, Energetika* 3 (1998) 47–64

I.V. Shevchuk, Simulation of the heat transfer of a rotating disc: effect of approximation of the flow twisting angle tangent, *Teplofiz. Vys. Temp.* 36 (3) (1998) 522–524

I.V. Shevchuk, Kh. Karabay, J. Owen, A.A. Khalatov, Heat exchange in turbulent centrifugal flow between rotating disks with input flow twisting, *Prom. Teplotekh.* 20 (4) (1998) 15–19

I.V. Shevchuk, A.A. Khalatov, Integral method of calculation of heat exchange in a turbulent boundary layer on a rotating disk: quadratic approximation of the flow twisting angle tangent, *Prom. Teplotekh.* 19 (4–5) (1997) 145–150

M.I. Shilyaev, A.P. Dorokhov, Calculation of the speed of rotation of a centrifugal bubbling layer, *Teplofiz. Aeromekh.* 5 (2) (1998) 189–194

T.O. Shinkevich, Yu.G. Nazmeev, Heat exchange in laminar viscous Newtonian fluid flow in a channel with axial-blade swirler, *Teploenergetika* 6 (1998) 68–69

V.M. Shmelev, M. Kendull, R. Morgan, Ballistic heating of a driving gas in a shock tube by a free piston, *Teplofiz. Vys. Temp.* 36 (2) (1998) 316–321

A.S. Shvedov, Numerical solution of problems with free boundaries for a one-dimensional equation of convection-diffusion, Preprint No. 90, Institute of Applied Mathematics, Russian Academy of Sciences, 1996

G.P. Solomakha, T.A. Tarasova, Scaling of mass exchange in gas-liquid systems in mechanical mixers, *Teor. Osnovy Khim. Tekhnol.* 32 (5) (1998) 502–507

S.V. Soloviev, Convective heat exchange in a rotating porous layer, *Sb. Nauch. Trudov NII KT* 4 (1998) 89–98

S.V. Soloviev, V.K. Bulgakov, Natural convection in concentric spheres. *Sb. Nauch. Trudov NII KT* 4 (1998) 75–88

S.V. Soloviev, S.V. Kuznetsov, Natural convection of an electrically conducting liquid in a spherical layer. 1. Statement of the problem, *Inzh.-Fiz. Zh.* 71 (5) (1998) 850–854

V.S. Surov, Analysis of wave phenomena in gas-liquid media, *Teplofiz. Vys. Temp.* 36 (4) (1998) 624–630

A.A. Tochigin, I.A. Kozlova, A mathematical model of stratified structure of gas-liquid mixture flow, *Trudy IGEU* 1 (1997) 64–67

E.P. Valueva, V.N. Popov, Numerical simulation of the process of nonstationary conjugated heat exchange in turbulent channel flow of liquid, *Teplofiz. Vys. Temp.* 35 (6) (1997) 917–925

A.Yu. Varaksin, Investigation of a heterogeneous flow “gas-solid particles”, Preprint No. 2-406, Institute for High Temperatures, Russian Academy of Sciences, 1997

A.Yu. Varaksin, Yu.V. Polezhaev, A.F. Polyakov, Equations of pulsational motion and pulsational heat exchange of non-Stokesian particles in turbulent flows, *Teplofiz. Vys. Temp.* 36 (1) (1998) 154–157

A.F. Vasiliev, V.V. Orlyanskiy, Heat exchange of a system of elements located on a plane surface in forced convection, *Prom. Teplotekh.* 20 (2) (1998) 13–16

V.I. Vasiliev, D.V. Volkov, D.A. Lyubimov, Use of the one-parameter differential model of turbulence in numerical calculations by means of Navier–Stokes equations, *Teplofiz. Vys. Temp.* 36 (1) (1998) 65–73

Yu.A. Vinogradov, I.K. Ermolaev, A.I. Leontiev, Reduction coefficient and effectiveness of a gaseous screen during gas injection through a porous disk, *Teplofiz. Vys. Temp.* 35 (6) (1997) 1005–1008

V.I. Volkov, Yu.V. Khrustalev, Investigation of a heat flux in disintegrating packings, *Teplofiz. Aeromekh.* 5 (1) (1998) 125–128

A.I. Zhakin, E.D. Chikhladze, M.A. Verevicheva, Theory of heat and mass exchange in porous media, *Izv. VUZov, Stroitelstvo* 1 (1998) 111–116

T.A. Zheleznaya, A.A. Khalatov, Heat exchange and friction of a semi-infinite jet near a concave surface, *Prom. Teplotekh.* 20 (3) (1998) 62–65

O.A. Zhulkovskiy, E.L. Masterovenko, Specific features of heat exchange in the gas phase of an oxygen converter, *Prom. Teplotekh.* 20 (1) (1998) 15–18

Yu.B. Zudin, About temperature waves on the surface of a wall, *Dokl. Ros. Akad. Nauk* 360 (3) (1998) 344–345

Yu.B. Zudin, Calculation of thermal effect of a wall on thermal-hydraulic stability of a liquid flow of supercritical parameters, *Teplofiz. Vys. Temp.* 36 (2) (1998) 255–259

A.V. Zyuzgin, D.A. Bratsun, G.F. Putin, Overcritical nonstationary motions in a plane vertical liquid layer, *Vestn. Permsk. Univ.* 2 (1997) 59–76

Heat conduction

D.R. Akhmetov, Isomorphism generated by the heat conduction equation, *Sib. Mat. Zh.* 39 (2) (1998) 243–260

S.M. Alekseeva, N.N. Yurchuk, Quasi-inversion method for the problem of control of initial condition for a heat conduction equation with an integral boundary condition, *Differents. Uravn.* 34 (4) (1998) 495–502

M.G. Anuchin, Effect of heat conduction on infinite shock-free compression of a plane gas layer, *Prikl. Mekh. Tekh. Fiz.* 39 (4) (1998) 25–32

B.M. Barykin, E.P. Pakhomov, Yu.I. Chubarov, Effective thermal conductivity of carbon dioxide at high temperatures, *Teplofiz. Vys. Temp.* 36 (1) (1998) 44–47

O.V. Belyaev, G.G. Spirin, V.F. Formalev, N.Yu. Nenarokov, Special features of the method of irregular heat regime in investigation of thermal conductivity of solid bodies, *Inzh.-Fiz. Zh.* 71 (5) (1998) 805–810

G.A. Bokareva, N.V. Kors, Heat conduction equation for the case of an infinite plate, *Sb. Nauch. Trudov Baltisk. Gos. Akad. Rybopromysl. Flota* 21 (1998) 7–12

A.D. Chernyshov, Exact solutions of nonstationary heat conduction problems for a half-space and a triangular prism, *Inzh.-Fiz. Zh.* 71 (4) (1998) 749–754

O.Yu. Dinariev, Description of heat conduction in the Ginzburg–Landau theory of phase transitions, *Izv. VUZov, Fizika* 41 (6) (1998) 54–59

V.F. Formalev, O.A. Tyukin, Investigation of three-dimensional nonstationary heat conduction in anisotropic bodies on the basis of an analytic solution, *Teplofiz. Vys. Temp.* 36 (2) (1998) 239–245

I.Yu. Gedzhadze, V.P. Shutyaev, Justification of the method of perturbations for the quasi-linear problem of

heat conduction, *Zh. Vychisl. Mat. Mat. Fiz.* 38 (6) (1998) 948–955

V.L. Ginzburg, Heat transfer (heat conduction) and thermoelectric effect in superconducting state, *Usp. Fiz. Nauk* 168 (3) (1998) 363–368

A.L. Gladkov, A certain nonlinear heat conduction equation with power nonlinearities, *Vesn. Vitseb. Dzyarzhau. Univ.* 2 (1996) 95–99

L.V. Glukhov, I.N. Preobrazhenskiy, Determination of the Bi (Biot) number in the process of heat conduction effect on a polymer, *Byull. Nov. Tekhnol.* 3 (1998) 28–29

V.A. Ivanov, A.V. Stepanov, A.M. Timofeev, Experimental measurement and calculation of thermal conductivity of haydite polysterene concretes, *Inzh. -Fiz. Zh.* 71 (4) (1998) 733–740

A.A. Lukiyonov, A certain method of solving heat conduction problems with moving boundaries and some new integral equations occurring in such kinds of problems, Preprint No. 5997, Russian Scientific Centre “Kurchatov Institute”, 1996

I.N. Meleshko, Approximate solution of a certain plane problem of the heat conduction theory for a circle with boundary conditions of the 3rd kind, *Izv. VUZov Energiya* 1–2 (1997) 79–83

Yu.V. Nemirovskiy, A.P. Yankovskiy, Thermal conductivity of fibrous shells, *Teplofiz. Aeromekh.* 5 (1998) 215–235

M.F. Prokhorova, Simulation of the solutions of heat conduction equation and Stefan problem with dimensionality reduction, *Dokl. Ros. Akad. Nauk* 361 (4) (1998) 450–452

M.M. Vasiliev, Derivation of self-similar solutions of equations of motion of a viscous heat conducting gas, Preprint No. 95, Institute of Applied Mathematics, Russian Academy of Sciences, 1997

Thermodynamic properties

B.A. Arutyunov, I.M. Grigorivker, A.I. Fesenko, V.V. Shteinbrekher, Nondestructive means of determining the thermophysical characteristics of materials by the instantaneous heat source method, *Inzh.-Fiz. Zh.* 70 (6) (1997) 888–894

S.V. Mishchenko, L.S. Artyukhin, S.B. Dobrokhov, Noncontact control of thermophysical properties of materials, *Zavod. Lab., Diagnost. Mater.* 64 (2) (1998) 29–33

Radiative heat transfer

V.G. Avgustinovich, Yu.G. Kutsenko, Application of the Monte Carlo method to calculation of radiative heat fluxes in a closed system of elements, *Izv. VUZov, Aviats. Tekh.* 3 (1998) 43–48

S.A. Bakhranov, A.K. Kasimov, Sh.D. Paiziev, Statistical characteristics of laser radiation passed through a turbulent medium at sampling times of the order of intensity correlation, *Opt. Atmosf. Okeana [Opt. Atmosf.]* 10 (8) (1997) 905–910

A.L. Burka, Nonstationary radiative-conductive heat exchange in a plane layer of selectively absorbing and radiating medium, *Prikl. Mekh. Tekh. Fiz.* 39 (1) (1998) 105–109

V.S. Dozhdikov, V.A. Petrov, Method of fast spectrometry for investigating emissivity of semitransparent materials in a wide range of change of its value, *Teplofiz. Vys. Temp.* 35 (5) (1997) 802–806

B.A. Fomin, Yu.V. Gershanov, Microphysical factors exerting their effect on Sun radiation transfer in the atmosphere, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 33 (5) (1997) 662–669

A.V. Galaktionov, Theory of radiation heat exchange in disperse media, *Teplofiz. Vys. Temp.* 35 (5) (1997) 767–777

I.V. Geogdzhaev, T.V. Kondranin, A.N. Rublev, N.E. Chubarova, Simulation of transfer of UV-radiation through a torn cloud cover and comparison of calculations with measurements, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 33 (5) (1997) 680–686

B.V. Goryachev, M.V. Kabanov, S.B. Mogilnitskiy, Some specific features of radiation transfer in a cloudy atmosphere, *Opt. Atmosf. Okeana* 10 (12) (1997) 1469–1474

L.T. Grebenshchikov, M.L. Grebenshchikov, V.A. Kuzmin, Application of the model of a perfectly black body to calibration of a spectropirometer, *Sb. Nauch. Trudov Vyatsk. Gos. Univ.* 2 (1997) 176–178

V.A. Kapitanov, Yu.N. Ponomarev, I.S. Tyryshkin, Absorption of the radiation of the near IR and visible diapasons of spectrum in the transparency microwindows of the atmosphere, *Opt. Atmosf. Okeana* 10 (12) (1997) 8

S.A. Karaush, Heating of orderly laid ceramic items from the radiating walls of a furnace, *Izv. VUZov, Stroitelstvo* 4–5 (1998) 65–69

A.A. Katasonov, G.P. Kokurina, Simulation of interaction of directed radiation with an absorbing and scattering medium, *Kosmonavt. Raketost.* 11 (1997) 81–86

E.S. Kiseleva, Local characteristics of radiative heat transfer in a cylindrical chamber on the basis of iterative-zone method, in: *Problems of Physicomathematical Simulation*, Kuban State Technological University, Krasnodar, 1997, pp. 64–97

A.A. Kokhanovskiy, Expansion of the scattering indicatrix of large particles into a series in Legendre polynomials, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 33 (5) (1997) 692–696

G.P. Kokurina, Nonstationary radiative–conductive heat transfer in semitransparent materials irradiated by laser, *Kosmonavt. Raketost.* 11 (1997) 87–93

G.V. Konyukhov, A.A. Koroteev, V.V. Novomlinskiy, B.N. Baushev, Simulation of the processes of radiative heat exchange and mass transfer in heat exchanging space apparatuses on the basis of drop flows, *Inzh.-Fiz. Zh.* 71 (1) (1998) 92–96

O.L. Kotlyarov, Thermal radiation of a plane layer of a stochastic disperse medium, *Prom. Teplotekh.* 20 (3) (1998) 5–8

A.P. Kuryachiy, Evaluation of the effect of the parameters of radiative–evaporative thermal shielding on its weight characteristics, *Teplofiz. Vys. Temp.* 36 (1) (1998) 151–154

A.N. Makarov, R.A. Makarov, Distribution of radiation fluxes from arcs in arc steel-smelting furnaces of three-phase and constant currents in the period of melting, *Izv. VUZov, Chern. Metallurg.* 2 (1998) 11–14

O.N. Melnikova, S.V. Isaev, R.P. Karpenko, S.V. Petrov, R.V. Sulakov, S.V. Seliverstov, Theoretical regime of the surface of a sea under the action of wind and solar radiation, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 33 (5) (1997) 697–701

G.A. Nesenenko, D.V. Vorobiev, Heating of power engineering materials by laser radiation, *Metody Algor. Parametr. Anal. Linein. Nelinein. Modelei Perenosa* 14 (1996) 93–98

L.I. Nesmelova, O.B. Rodimova, S.D. Tvorogov, Calculation of the functions of transmission in the near-IR region of the spectrum with the aid of series of exponents, *Opt. Atmosf. Okeana* 10 (12) (1997) 1474–1480

E.L. Podolskaya, L.O. Neelova, Correction of the integral function of transmission for shortwave radiation, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 5 (1997) 676–679

Yu.A. Popov, Method of integral equations in calculation of radiative heat transfer, *Teplofiz. Aeromekh.* 5 (1) (1998) 93–98

I.A. Pribytkov, V.V. Kobakhidze, V.A. Krivandin, About the problem of outer heat exchange with radiative-jet heating of metal, *Izv. VUZov, Chern. Metallurg.* 7 (1998) 62–65

N.A. Rubtsov, V.A. Sinitsyn, A.M. Timofeev, Conjugated problem of radiative–convective heat exchange on a thin semitransparent plate, *Teplofiz. Vys. Temp.* 36 (4) (1998) 631–638

S.P. Rusin, About the determination of the concentration of particles from weakening of monochromatic radiation: polydisperse system, *Teplofiz. Aeromekh.* 5 (1) (1998) 81–91

S.N. Shevchenko, A.P. Makarov, Radiation from the inner surface of a perforated circular cone, *Inzh.-Fiz. Zh.* 71 (2) (1998) 273–276

Yu.A. Surinov, Conservation law of probabilities as a base of the stochastic theory of radiation transfer, *Izv. VUZov, Chern. Metallurg.* 9 (1998) 62–66

Yu.A. Surinov, Nonstationary problems of the theory of radiative heat exchange, *Izv. VUZov, Chern. Metallurg.* 7 (1997) 58–66

S.T. Surzhikov, Macroscopic model for describing radiation heat exchange with allowance for the spectrum of vibrational bands. Formulation of a model, *Teplofiz. Vys. Temp.* 36 (2) (1998) 285–290

S.T. Surzhikov, Macroscopic model for describing radiation heat exchange with allowance for the spectrum of vibrational bands. Calculation of radiation transfer, *Teplofiz. Vys. Temp.* 36 (3) (1998) 475–481

S.T. Surzhikov, Radiative heat fluxes near oxygen–kerosene fire balls, *Teplofiz. Vys. Temp.* 35 (5) (1997) 778–782

G.A. Titov, E.I. Kasiyanov, Radiative properties of inhomogeneous strato-cumulus clouds with a stochastic geometry of the upper boundary, *Opt. Atmosf. Okeana* 10 (8) (1997) 843–855

I.A. Vasilieva, Use of the generalized Kirchhoff law for obtaining couplings between the heat radiation components, *Teplofiz. Vys. Temp.* 36 (3) (1998) 482–488

N.Ya. Vasilik, V.G. Krupkin, A.D. Margolin, V.V. Pinchuk, Radiative cooling of an optically thick low-temperature plasma in a chamber with absorbing walls, *Khim. Fiz.* 17 (4) (1998) 17–24

V.S. Yuferov, M.G. Vasiliev, L.B. Proekt, A new method for solving the problems of radiation transfer in radiating, absorbing, and scattering media, *Zh. Tekh. Fiz.* 67 (9) (1997) 1–7

Heat and mass transfer in phase and chemical conversions

A.N. Abramenko, A.S. Kalinichenko, Yu.K. Krivosheev, A.A. Nikiforov, Thermal regulation of a rotating roller in melt dispersion, *Izv. VUZov, Energiya* 3–4 (1997) 76–80

A.E. Aksenova, P.N. Vabishchevich, V.V. Chudanov, A.G. Churbanov, Numerical approaches to simulating diffusion/convection problem with allowance for melting, Preprint No. 97-08, Institute for the Problems of Safe Development of Nuclear Power Engineering, Russian Academy of Sciences, Moscow, 1997

P.V. Akulich, K.E. Militser, Simulation of nonisothermal moisture transfer and stresses in wood being dried, *Inzh.-Fiz. Zh.* 71 (3) (1998) 404–411

S.V. Anisimov, Yu.B. Smirnov, Heat exchange in vapour condensation on horizontal tubes with fins of complex shape, *Teplotoenergetika* 11 (1997) 38–41

E.V. Anokhina, E.V. Lykov, Effect of heating of the liquid core on the maximum heat flux in boiling crisis, in: Safety of vital activity: protection of labour and en-

vironment, Rostov-on-the Don State Agricultural Academy, Rostov-on-the Don, 1997, pp. 54–55

V.G. Baidakov, Kramers' theory and the problem of the incipience of a new phase, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 61–69

A.S. Boldarev, V.A. Gasilov, L.I. Zaichik, Numerical simulation of quasi-one-dimensional and two-dimensional flows of spontaneously condensing vapour in transonic nozzles, *Teplofiz. Vys. Temp.* 36 (1) (1998) 135–140

E.G. Bratuta, O.V. Kruglyakova, R.G. Akmen, T.I. Yaroshenko, Polydisperse model of heat and mass exchange in mixed-type condensers, *Prom. Teplotekh.* 20 (3) (1998) 26–29

V.G. Chernyak, O.V. Klitenik, Light-induced evaporation and condensational growth of aerosol particles, *Zh. Eksp. Teor. Fiz.* 113 (3) (1998) 1036–1047

I.V. Derevich, Turbulent mass transfer in a tube mist flow with allowance for coagulation and deposition of drops, *Teplofiz. Vys. Temp.* 35 (6) (1997) 926–931

N.A. Dikiy, N.Yu. Koloskova, V.E. Tuz, I.N. Kuzmenko, Investigation of the process of liquid evaporation in a heat and mass exchanger with a network packing, *Ekotekhnol. Resursosber. [Khim. Tekhnol.]* 2 (1997) 61–64

A.R. Dorokhov, O.Yu. Kileeva, Stabilization of heat exchange in a horizontal bundle of a film evaporator, *Vestn. Mezhdun. Akad. Kholoda* 2 (1998) 19–21

A.R. Dorokhov, V.S. Loginov, E.E. Bulba, Coefficient of heat transfer in film condensation of vapour under nonstationary conditions, *Sb. Nauch. Trudov NII KT* 4 (1998) 188–194

E.I. Efros, A.G. Shempelev, Experimental investigations of heat exchange in vapour condensation from a moving vapour–gas mixture, *Sb. Nauch. Trudov Vyatsk. Gos. Tekh. Univ.* 2 (1997) 115–116

A.G. Egorov, Freezing of the interface between the grounds saturated with a solution of different temperature and concentration, *Prikl. Mekh. Tekh. Fiz.* 38 (6) (1997) 85–92

G.V. Ermakov, D.G. Ermakov, A.E. Zinovieva, S.A. Perminov, Models of Frenkel's "islets" and the kinetics of boiling-up of heavily superheated liquids, *Teplofiz. Vys. Temp.* 35 (5) (1997) 755–759

G.V. Ermakov, E.V. Lipnyagov, Solution of the Gibbs–Tolmen–Kenig–Buff equation with regard for the dependence of the Tolmen length on the surface curvature of a nucleating bubble, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 100–110

G.V. Ermakov, M.A. Parshakova, Calculation of the frequency of homogeneous nucleation and limits of attainable superheating of liquids with the aid of the theory of expulsions, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 123–129

V.V. Faleev, S.V. Faleev, D.A. Firtych, Sublimation heat and mass transfer in the gap between rotating disks, *Inzh.-Fiz. Zh.* 70 (6) (1997) 975–978

V.A. Filin, D.V. Karbyshev, Mathematical simulation of heat transfer in drying a three-layer corrugated cardboard on a drying table, *Vestn. Astrakhansk. Gos. Tekh. Univ.* 3 (1996/1997) 55–59

S.I. Futko, S.I. Shabunya, S.A. Zhdanok, An approximate analytical solution of the problem of propagation of a filtration combustion wave in a porous medium, *Inzh.-Fiz. Zh.* 71 (1) (1998) 41–45

A.E. Galashov, Molecular-dynamic study of structural properties of clusters and nucleation in the vapour of water electrolyte, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 78–90

B.M. Gasanov, N.V. Bulanov, Delay in bubble boiling crisis in a water–diethyl ether and water–coolant-13 systems, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 129–132

A.I. Gavrilov, T.L. Shaposhnikov, A.A. Fedorov, Heat and mass exchange in gas flow in a tube with subliming walls, in: *Problems of Physicomathematical Simulation*, Kuban State Technological University, Krasnodar, 1997, pp. 42–56

A.S. Gavrish, About the change of condensation regimes with gradual disintegration of organic hydrophobic coating, *Prom. Teplotekh.* 20 (1) (1998) 6–10

Yu.G. Izmailov, N.M. Pisarev, Free-convective heat and mass transfer in evaporation of melts in installations with a cylindrical geometry, *Izv. VUZov, Chern. Metallurg.* 2 (1998) 59–63

Yu.Ya. Kachuriner, Anomalous change in supercooling of vapour in spontaneous condensation, *Inzh.-Fiz. Zh.* 71 (2) (1998) 215–217

A.L. Kalabin, E.A. Pakshver, Simulation of the dynamics and heat and mass exchange in the formation of filaments of chemical fibres from polymer melts, *Teor. Osnovy Khim. Tekhnol.* 31 (6) (1997) 574–579

A.V. Khanefit, Criteria of ignition of condensed materials by an electric pulse, *Khim. Fiz.* 17 (8) (1998) 131–136

I.V. Klimenyuk, Modelling of the distillers of instantaneous boiling-up under the conditions of scaling, *Trudy Dalnevost. Gos. Tekh. Univ.* 113 (1994) 40–42

V.V. Klyuchkin, A.F. Zaletnev, A.V. Borishanskaya, Physical interpretation of heat exchange in bubble boiling of liquids, *Vestn. Ros. Akad. Sel.-Khoz. Nauk* 6 (1997) 22–23

A.V. Koshelev, N.A. Samarkina, Yu.G. Ivashchenko, V.L. Khripunov, I.V. Khomyakov, Optimization of a heat regime of solidification of a metallic composite item, *Vopr. Prikl. Fiz.* 3 (1997) 119–120

A.V. Kozlov, Analysis of thermohydraulic processes in a vapour generating package of tubes, *Prom. Teplotekh.* 20 (2) (1998) 33–36

- P.I. Kravets, Models of the dynamics of temperature fields in high-pressure supersolid material synthesis apparatuses, *Fiz. Tekh. Vys. Davl.* 7 (4) (1997) 101–106
- Yu.A. Kuzma-Kichta, A.S. Sedlov, A.I. Abramov, I.K. Degtyarev, Investigation of intensification of heat exchange in boiling-type evaporators, *Izv. Ros. Akad. Nauk, Energetika* 6 (1997) 21–22
- S.A. Kuznetsov, S.G. Cherkasov, Stationary film condensation of saturated vapour on a conical surface under the conditions of microgravitation, *Teplotfiz. Vys. Temp.* 36 (2) (1998) 347–350
- I.A. Kuznetsova, A.A. Yushkanov, Yu.I. Yalamov, Effect of evaporation coefficient on heavy condensation of a monatomic gas, *Zh. Tekh. Fiz.* 67 (10) (1997) 21–25
- V.A. Lashkov, T.G. Khasanov, R.G. Safin, Calculation of a heating installation for drying articles of current-conducting materials, *Inzh.-Fiz. Zh.* 71 (3) (1998) 412–416
- L.I. Lepe, B.G. Varfolomeev, V.L. Pebalk, Mass transfer in formation of drops in a continuous liquid medium, *Teor. Osnovy Khim. Tekhnol.* 32 (6) (1998) 656–658
- M.O. Lutset, Limiting speed of switching of boiling regimes, *Pisma Zh. Tekh. Fiz.* 24 (9) (1998) 21–27
- V.G. Mironchuk, Effect of a vapour phase on the process of crystallization of substances from solutions, *Prom. Teplotekh.* 20 (1) (1998) 31–35
- G.D. Nazarenko, I.Z. Milshtein, Specific features of heat and mass exchange in drying shaped plates of lead accumulators, *Prom. Teplotekh.* 20 (1) (1998) 40–43
- F.V. Nedopekin, V.F. Polyakov, V.V. Belousov, N.M. Aptekar, Hydrodynamics and heat transfer in a forming ingot with an inner cooler, *Metally* 5 (1998) 24–28
- G.A. Nesenenko, A.V. Attetkov, A “geometrical-optical” asymptotic method of solving the problems of ignition of condensed materials, *Metody Algor. Parametr. Anal. Linein. Nelinein. Modelei Perenosa* 14 (1996) 3–8
- E.D. Nikitin, Nucleation in a water–oxygen system, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 70–77
- E.D. Nikitin, P.A. Pavlov, A.P. Popov, Liquid–vapour phase change at the front of a chemical reaction between aqueous solutions of hydrogen peroxide and potassium permanganate, *Teplotfiz. Vys. Temp.* 36 (4) (1998) 565–571
- S.G. Obukhov, Effect of the running-in of a surface on the critical heat flux in bubble boiling, *Izv. VUZov, Energiya* 7–8 (1997) 62–66
- S.G. Obukhov, Heat exchange in boiling under the conditions of stepwise heat release on new and run-in heating surfaces, *Izv. VUZov, Energiya* 9–10 (1997) 61–63
- S.G. Obukhov, V.N. Drulis, Metastable boiling heat exchange, *Izv. VUZov, Aviats. Tekh.* 3 (1997) 94–96
- A.N. Osipov, D.V. Korotkov, Boundary layer in a mist medium on the frontal surface of a hot blunt body, *Teplotfiz. Vys. Temp.* 36 (2) (1998) 291–297
- P.A. Pavlov, The problems of the physics of explosive boiling, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 47–60
- P.A. Pavlov, P.V. Skripov, Vapour formation in polymeric fluids in rapid heating, *Teplotfiz. Vys. Temp.* 36 (3) (1998) 448–455
- P.T. Petrik, A.V. Gorin, I.V. Dvorovenko, Effect of film flow velocity on phase conversion heat exchange in a granular bed, *Vestn. Kuzbassk. Gos. Tekh. Univ.* 2 (1998) 32–34
- P.T. Petrik, A.V. Gorin, I.V. Dvorovenko, Wall zone effect on heat exchange in phase changes on an inclined plate in a granular bed, *Vestn. Kuzbassk. Gos. Tekh. Univ.* 3 (1998) 31–33
- A.V. Pleskach, Analysis of irreversible heat release in liquid expansion in a rapidly cycling bubbling chamber, Preprint No. 97-85, Institute of the Physics of High Energies, Protvino, 1997
- Yu.V. Polezhaev, D.S. Mikhatulin, P.V. Nikitin, Simulation of interphase exchange in heterogeneous media to develop highly efficient technologies, *Inzh.-Fiz. Zh.* 71 (1) (1998) 19–29
- V.M. Polyaev, B.V. Kichatov, Boiling of liquid with filtration in a porous medium, *Izv. Ros. Akad. Nauk, Energetika* 5 (1998) 108–112
- V.M. Polyaev, B.V. Kichatov, V.E. Lyubimov, The magnitude of initial superheating of liquid in boiling-up on a porous surface, *Inzh.-Fiz. Zh.* 71 (1) (1998) 173–175
- V.F. Prisnyakov, Density of nucleation sites, *Prom. Teplotekh.* 19 (4–5) (1997) 33–38
- V.F. Prisnyakov, Superheating of liquid in boiling, *Teplotfiz. Vys. Temp.* 36 (4) (1998) 680–683
- V.A. Reutskiy, M.K. Kosheleva, V.M. Trofimova, Calculation of the kinetics of a high-temperature drying of polymer materials, *Izv. VUZov, Tekhnol. Tekst. Prom.* 5 (1997) 86–88
- O.P. Reztsov, A.D. Chernyshov, Single-phase fusion of trihedral semibodies with allowance for the finite rate of heat transfer, *Vestn. Voronezhsk. Gos. Tekhnol. Akad.* 2 (1997) 84–86
- V.G. Rifert, V.I. Usenko, S.S. Ozimay, Analysis of the regimes of flow of phases and methods for calculating condensation heat exchange inside horizontal tubes, *Prom. Teplotekh.* 20 (2) (1998) 8–12
- O.D. Samarin, Problem of the effect of organization of heat transfer from the elements of a microclimate conditioning systems on the thermal regime of a room, *Izv. VUZov, Stroitelstvo* 8 (1998) 79–84
- V.I. Severin, Yu.A. Priselkov, A.V. Tseplyaeva, N.A. Chernova, Investigation of copper evaporation, *Teplotfiz. Vys. Temp.* 36 (4) (1998) 577–582
- V.N. Shepelenko, Simulation of the process of vapour condensation on a rotating disk, Preprint No. 2-98,

Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, 1998

R.P. Shpakovskiy, G.V. Pastukhova, Mass and heat transfer in evaporation to a gas flow, *Teor. Osnovy Khim. Tekhnol.* 32 (3) (1998) 256–263

Yu.A. Shurchkova, Experimental investigation of dispersing of multicomponent liquid mixtures in adiabatic boiling-up in vacuum, *Prom. Teplotekh.* 20 (1) (1998) 61–65

V.N. Skokov, About the degree of relative orderness in nonequilibrium phase transition in the system: a thin film of a current-carrying high-temperature superconductor-boiling coolant, *Pisma Zh. Tekh. Fiz.* 23 (21) (1997) 64–68

P.V. Skripov, A.A. Starostin, A.R. Altynbaev, Study of spontaneous boiling up and thermal properties of complex liquids by the method of pulse controlled heating, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 138–148

S.N. Syromyatnikov, P.A. Pavlov, Instability of evaporation surface, *Teplofiz. Vys. Temp.* 36 (2) (1998) 298–303

V.E. Vinogradov, P.A. Pavlov, Birth of cavitation bubbles in reflection of a short pressure wave from air and vapour bubbles, *Metastab. Sost. Fazov. Perekh.* 1 (1997) 132–137

S.V. Volodin, Droplet cooling heat exchange of a porous surface, *Trudy MGAKhM* 2 (1997) 43–46

A.A. Voloshko, S.V. Sazonov, Intensity of heat transfer in formation of gas bubbles in a liquid layer, *Teor. Osnovy Khim. Tekhnol.* 32 (6) (1998) 653–655

A.N. Zharov, I.A. Kuznetsova, A.A. Yushkanov, Intense evaporation of a molecular gas, *Teplofiz. Vys. Temp.* 36 (1) (1998) 113–119

P.T. Zubkov, V.G. Klimin, V.A. Kravchenko, Convection of a freezing liquid in a square cell on loss of hydrostatic stability, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 5 (1998) 3–5

Yu.B. Zudin, Boiling-up of liquid in a cell of a jet printer, *Inzh.-Fiz. Zh.* 71 (2) (1998) 218–221

Yu.B. Zudin, Calculation of the surface density of evaporation sites in bubble boiling of liquid, *Inzh.-Fiz. Zh.* 71 (1) (1998) 176–181

Yu.B. Zudin, Distance between the nuclei of bubble boiling, *Teplofiz. Vys. Temp.* 36 (4) (1998) 684

Heat and mass transfer in disperse and two-phase systems

A.P. Alkhimov, S.V. Klinkov, V.F. Kosarev, Investigation of the interaction of a two-phase flow with a heated surface, *Teplofiz. Aeromekh.* 5 (1) (1998) 67–73

E.A. Boltenko, Yu.A. Smirnov, R.S. Pometko, Methods and means of measurement of the overall

characteristics of a two-phase flow in the region of mist-annular mode of flow, Preprint No. 2588, Physics and Power Engineering Institute, Obninsk, 1997

I.V. Derevich, Two-parameter model of a turbulent flow with disperse admixture of particles, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 4 (1998) 40–56

A.V. Gorin, R.A. Dekhtyar, V.A. Mukhin, Heat exchange during filtration of liquid in an annular gap filled with a granular medium, *Teplofiz. Aeromekh.* 4 (4) (1997) 435–440

V.M. Kharin, Yu.I. Shishatskiy, S.A. Nikel, Increase of the effectiveness of thermal treatment of loose materials, in: *Thermal Power Engineering*, Voronezh State Technical University, Voronezh, 1997, p. 8

S.P. Lukiyants, A.E. Morozovskiy, A.A. Snarskiy, Transition to random behaviour and loss of self-averaging in two-dimensional two-phase media at the leakage threshold, *Pisma Zh. Tekh. Fiz.* 23 (13) (1997) 89–95

A.N. Osiptsov, M.A. Teverovskiy, Hypersonic flow past a supersonic two-phase source, *Izv. Ros. Akad. Nauk, Mekh. Zhidk. Gaza* 3 (1998) 134–147

V.Ya. Rudyak, E.B. Isakov, E.G. Berd, Instability of a Couette plane two-phase liquid flow, *Pisma Zh. Tekh. Fiz.* 24 (5) (1998) 76–80

A.V. Vasiliev, L.S. Ivlev, Empirical models and optical characteristics of aerosol assemblies of two-layer spherical particles, *Opt. Atmosf. Okeana* 10 (8) (1997) 856–865

High-temperature thermophysics

E.E. Agarkov, V.G. Cherednichenko, Combustion of solid and liquid pulverized fuels in a mixed flow of inert and chemically reacting gases, in: *Problems of Physico-mathematical Simulation*, Kuban State Technological University, Krasnodar, 1997, pp. 7–19

V.I. Bolobov, A.Yu. Berezin, Conditions for ignition of copper and copper alloys in oxygen, *Fiz. Goreniya Vzryva* 34 (2) (1998) 47–50

F.A. Bykovskiy, V.V. Mitrofanov, E.F. Vedernikov, Continuous detonation combustion of fuel–air mixtures, *Fiz. Goreniya Vzryva* 33 (3) (1997) 120–131

K.V. Dobrego, S.A. Zhdanok, Effect of skeleton transmittancy on the parameters of a cylindrical axisymmetric filtrational combustion heater, *Inzh.-Fiz. Zh.* 71 (1) (1998) 62–69

A.V. Fedorov, V.M. Fomin, S.I. Volkov, A mathematical model of ignition of a liquid fuel–solid particles aerosuspension, *Fiz. Goreniya Vzryva* 33 (3) (1997) 86–94

Yu.V. Frolov, A.N. Pivkina, Fractal structure and specific features of the processes of energy release (combustion) in heterogeneous condensed systems, *Fiz. Goreniya Vzryva* 33 (5) (1997) 13–19

Yu.V. Frolov, A.N. Pivkina, A.A. Aleshin, Percolation in combustion of heterogeneous condensed systems, *Khim. Fiz.* 16 (9) (1997) 73–84

V.V. Gudkov, Analytical approach to describing constant velocity combustion waves, *Zh. Vychisl. Mat. Mat. Fiz.* 37 (12) (1997) 1482–1488

V.V. Kalinchak, S.G. Orlovskaya, Yu.V. Prudnikova, Ganui Ibrahim, Effect of natural and forced convection on characteristics of heterogeneous combustion of a carbon particle, *Inzh.-Fiz. Zh.* 71 (6) (1998) 1050–1055

V.P. Karpov, A.N. Lipatnikov, Numerical investigation of thermodiffusional phenomena in highly curved nonstationary laminar flames, *Khim. Fiz.* 16 (12) (1997) 82–96

R.Z. Kavtaradze, N.A. Lapushkin, I.E. Lobanov, Investigation of insulating action of scale layer on combustion chamber surfaces, *Izv. VUZov, Mashinostroenie* 4–6 (1997) 70–76

V.M. Kholopov, S.I. Khudyaev, The asymptotics of a stationary wave of combustion of a gas mixture, *Khim. Fiz.* 16 (9) (1997) 27–34

B.N. Kondrikov, Hydrodynamic instability of combustion of powder-like explosives, *Ros. Khim. Zh.* 41 (4) (1997) 54–62

A.A. Korzhavin, V.A. Bunev, V.S. Babkin, Propagation of flame in porous media wetted with a fuel, *Fiz. Goreniya Vzryva* 33 (3) (1997) 76–85

I.M. Kotin, The effect of a constant electric field on the combustion wave of self-propagating high-temperature synthesis. A model of a medium of interacting diffusion pairs, *Inzh.-Fiz. Zh.* 70 (5) (1997) 790–794

V.A. Kudinov, A.B. Remezentshev, V.V. Dikop, N.V. Smagin, Calculation of critical conditions of thermal ignition for materials in the form of a cone and wedge, *Inzh.-Fiz. Zh.* 71 (4) (1998) 584–586

V.A. Pukhlyi, Combustion of organic dust in drum filters with allowance for the performance of explosion-protecting membrane, *Khim. Fiz.* 16 (11) (1997) 133–139

E.R. Shchukin, A.B. Nadykhto, Z.L. Shulimanova, Heterogeneous combustion of solid particles at small concentrations of chemically active components, *Vopr. Atom. Nauki Tekh., Ser. Teor. Prikl. Fiz.* 2–3 (1997) 26–29

I.V. Shishkovskiy, N.L. Kupriyanov, Thermal fields in metal-polymer powder composites in laser treatment, *Teplofiz. Vys. Temp.* 35 (5) (1997) 722–726

Z.P. Shulman, G.Ya. Slepyan, Control of the dissipation of SHF-fields by means of external semitransparent screens in the case of hyperthermal treatment, *Inzh.-Fiz. Zh.* 71 (1) (1998) 120–123

O.S. Vaulina, A.M. Lipaev, A.P. Nefedov, O.F. Petrov, A.V. Chernyshev, Method of determining mean dimensions, concentration and refractive index of particles in high-temperature flows, *Teplofiz. Vys. Temp.* 35 (5) (1997) 795–801

O.S. Vaulina, A.P. Nefedov, O.F. Petrov, A.A. Samaryan, A.V. Chernyshev, Spectral pyrometry of “nongrey” particles in two-phase high-temperature flows, *Teplofiz. Vys. Temp.* 35 (6) (1997) 955–961

E.P. Volchkov, N.A. Dvornikov, L.N. Perepechko, Mathematical simulation of turbulent combustion of hydrogen in a boundary layer, *Inzh.-Fiz. Zh.* 71 (1) (1998) 86–91

V.A. Volkov, V.Yu. Gidasov, U.G. Pirumov, V.Yu. Streltsov, Numerical simulation of flows of reacting mist and gas mixtures in experiments on ignition of methanol, *Teplofiz. Vys. Temp.* 36 (3) (1998) 424–434

V.A. Zabaikin, E.V. Perkov, P.K. Tretiyakov, Effect of H₂O₂ impurity on ignition and combustion of hydrogen in a supersonic air flow, *Fiz. Goreniya Vzryva* 33 (3) (1997) 70–75

V.D. Zozulya, Heat and mass transfer between local sites of burning in metal powder pressings in thermal explosion, *Inzh.-Fiz. Zh.* 71 (3) (1998) 387–393

Heat and mass transfer in rheologically complex fluids

A.L. Kalabin, Analysis of aerodynamic pulling of a thin nonisothermal jet of a viscoelastic fluid, *Prikl. Mekh. Tekh. Fiz.* 38 (5) (1997) 105–109

E.V. Roitman, I.I. Dementieva, Effect of temperature on the rheology of blood in surgical interventions on heart and main vessels, *Inzh.-Fiz. Zh.* 71 (1) (1998) 124–130

Heat and mass transfer in technological processes

V.A. Arutyunov, V.G. Abbakumov, D.N. Surikov, V.V. Bukhmirov, Mathematical model of heat exchange in a rotating furnace with allowance for bed motion, *Izv. VUZov, Tsvet. Metallurg.* 6 (1997) 75–78

A.V. Attetkov, I.K. Volkov, Pulse-periodic regime of frictional heating with material wear on a nonstationary contact of slipping, *Fiz. Goreniya Vzryva* 34 (3) (1998) 92–96

F.Kh. Bark, Yu.I. Kharkats, R. Vedin, Joulean heating in electrochemical cells in natural convection and stratification of an electrolyte, *Elektrokimiya* 34 (4) (1998) 434–444

I.I. Borisov, A.A. Khalatov, G.G. Geletukha, S.G. Kobzar, I.I. Shevtsov, Heat exchange in cooling a generator gas in a vortical bubbling apparatus, *Inzh.-Fiz. Zh.* 71 (6) (1998) 983–986

N.M. Chervinskaya, Temperature of a rotating target of a diagnostic X-ray tube operating in the mode of filming, *Izv. GETU* 512 (1997) 96–102

Ya.B. Danilevich, Li Veily, The temperature field of the rotor of a turbogenerator with direct air cooling and

with subgroove and radial channels, *Izv. Ros. Akad. Nauk, Energetika* 2 (1998) 74–79

V.V. Dmitrik, Computational determination of temperature fields in welded structures, *Avtomat. Svar-ka* 10 (1998) 29–31

V.P. Dobrodeev, S.A. Pervova, A.P. Perepelin, Method of hydrodynamic calculation of the fuel system of a diesel with regard for change in fuel temperature in the process of injection, *Izv. VUZov, Mashinostroenie* 4–6 (1997) 62–70

V.A. Dobroskok, I.A. Titov, About the solution of the equations of heat exchange of a blast furnace, *Izv. VUZov, Chern. Metallurg.* 9 (1997) 73–74

A.A. Evtushenko, E.G. Ivanik, S. Konechny, Determination of the effective depth of heating the patch of a disk braker, *Trenie Iznos* 19 (3) (1998) 318–322

N.M. Fialko, V.G. Prokopov, Yu.V. Sherenkovskiy, G.P. Sherenkovskaya, V.L. Yurchuk, Specific features of the process of heat transfer on laser beam-hardening of a cutting instrument, *Prom. Teplotekh.* 20 (1) (1998) 3–6

R.G. Gareev, The optimality of heat exchanging systems and selective decomposition of technological fluxes, *Khim. Tekhnol. Topl. Masel* 5 (1997) 16–18

V.P. Khokhryakov, A procedure of calculating the heat shielding of the cabin of a vehicle, *Izv. VUZov, Sev.-Kavk. region, Tekh. Nauki* 3 (1997) 38–43

V.V. Kobakhidze, S.A. Krupennikov, O.S. Shibalova, Evaluation of the state of furnace lining by the character of the distribution of heat flux densities on its outer surface, *Izv. VUZov, Tsvet. Metallurg.* 4 (1998) 63–68

A.G. Kononenko, B.A. Kromplyas, Yu.A. Mas-yurenko, High-precision ultrasound liquid flowmeter with attached probes, *Tekh. Elektrodinam.* 5 (1997) 70–74

A.O. Kostikov, Yu.M. Matsevity, O.S. Tsakanyan, Simulation of the temperature regimes of metal–ceramic heating elements, *Prom. Teplotekh.* 20 (2) (1998) 3–8

V.B. Kovalevskiy, I.A. Kovalkova, Heating of cylindrically shaped bodies in the rolling industry furnaces, *Inzh.-Fiz. Zh.* 71 (5) (1998) 906–909

P.G. Krukovskiy, E.S. Kartavova, Identification of the parameters of mass exchange in the model of diffusion and oxidation of alloys for gas turbine blades, *Prom. Teplotekh.* 20 (4) (1998) 10–15

V.G. Kunshchikov, A mathematical model of inductive heating of a cylinder for automated production, *Inzh.-Fiz. Zh.* 71 (3) (1998) 547–550

G.P. Kuzmin, Increase of the reliability of operation of air convective coolers, *Kriosf. Zemli* 1 (4) (1997) 62–65

G.V. Kuznetsov, V.P. Rudzinskiy, Numerical simulation of specific features of the mechanism of heat

transfer in bulging heat- and fire-protecting materials, *Fiz. Goreniya Vzryva* 34 (3) (1998) 84–87

N.P. Kuznetsova, V.A. Krivandin, Enhancement of heat exchange in combustion furnaces on the basis of optimization of radiative characteristics of the components of the working space, *Izv. VUZov, Chern. Metallurg.* 9 (1997) 68–71

V.D. Mikhailik, G.N. Glukhov, Founting-bed apparatuses with immersed heat exchangers, *Ekotekhnol. Resursosberezh.* 3 (1998) 38–62

S.I. Ostashev, E.N. Saburov, Heat transfer in a cyclone heat exchanging apparatus, *Izv. VUZov, Les. Zh.* 4 (1998) 138–144

V.M. Repukhov, A.N. Semenov, A noncontacting fast optical measuring complex, *Prom. Teplotekh.* 20 (2) (1998) 55–58

N.N. Salov, A.I. Vovk, S.A. Kalinin, S.E. Tverskaya, Investigation of heat transfer of cylindrical surfaces of gasket rings in the cavity of a disk-drum rotor of a gas-turbine engine, *Izv. VUZov, Aviats. Tekh.* 3 (1997) 75–78

N.P. Seleznev, B.I. Medvedev, Mathematical model of thermal work of a furnace of direct contact recuperation, *Izv. VUZov, Chern. Metallurg.* 2 (1998) 63–66

V.G. Shchukin, M.G. Berdichevskiy, V.A. Neronov, V.V. Marusin, Thermophysical aspects of HF-treatment of steel and HF-deposition of coatings, *Teplofiz. Aeromekh.* 5 (1) (1998) 113–120

M.I. Shilyaev, A.V. Tolstykh, V.E. Borzykh, Thermophysical conditions of the formation of slag layer in flow of melt film over a rotating disk, *Teplofiz. Vys. Temp.* 36 (2) (1998) 267–271

V.I. Shklyar, N.Yu. Koloskova, V.V. Dubrovskaya, V.V. Orlyanskiy, Heat and mass exchange and hydrodynamics in a contact condenser with supply of a vapour–gas mixture through a slit, *Prom. Teplotekh.* 20 (1) (1998) 11–15

I.N. Varivodina, A.D. Izvekov, Specific features of heat and mass transfer in wood during drying in convective drying chambers, in: *Thermal Power Engineering, Voronezh State Technical University, Voronezh, 1996*, pp. 184–187

V.L. Zhdanov, S.P. Fisenko, Investigation of the efficiency of an air heat exchanger, *Inzh.-Fiz. Zh.* 71 (1) (1998) 97–102

L.T. Zhukova, Theoretical investigation of thermal processes in a needle of a sewing machine, *Izv. Priborostroenie* 41 (6) (1998) 54–57

Heat and mass transfer in buildings

V.I. Vidanova, A.S. Guzeev, A.I. Korotkin, Numerical simulation of convective heat and mass exchange in closed rooms in the initial stage of fire, *Izv. VUZov, Matematika* 6 (1998) 82–88

Heat and mass transfer in the environment

A.L. Afanasiev, A.P. Rostov, Investigation of the statistical characteristics of wind and temperature fields of the ground-level layer of the atmosphere by means of ultrasound probes, *Opt. Atmosf. Okeana* 10 (12) (1997) 1599–1608

S.D. Andreev, L.S. Ivlev, Time and space variability of the fields of the optical and aerosol characteristics in the atmosphere, *Opt. Atmosf. Okeana* 10 (12) (1997) 1440–1449

V.A. Andrushchenko, Yu.D. Shevelev, Dynamics of a three-dimensional vortical genesis in the atmosphere caused by the rise of high-temperature thermics in the field of wind. Numerical investigation, *Teplofiz. Vys. Temp.* 36 (3) (1998) 435–441

M.P. Danilaev, Yu.E. Polskiy, Calculation of the thermal regime of a CO₂-transmitter of lidar systems, *Opt. Atmosf. Okeana* 11 (5) (1998) 510–512

L.G. Kaplan, E.I. Nesis, Rise of an air bubble (thermic) in the atmosphere, *Inzh.-Fiz. Zh.* 71 (3) (1998) 460–467

B.V. Moiseev, B.G. Aksenov, N.P. Kushakova, A numerical method of solving the problem of thermal

interaction of a rectangular channel with a freezing ground, *Izv. VUZov, Neft Gaz* 5 (1997) 98–101

N.G. Musakaev, V.Sh. Shagapov, Heat exchange of a wall with frozen rocks, *Inzh.-Fiz. Zh.* 71 (6) (1998) 1131–1137

O.V. Nagornov, O.V. Sergienko, Temperature field of the shelf glacier in the neighbourhood of a well bored by hot water, *Inzh.-Fiz. Zh.* 71 (1) (1998) 155–160

V.P. Pimenov, Free thermal convection as a mechanism of motion of fluids in the Earth's crust, *Izv. VUZov, Geol. Razved.* 4 (1998) 162–164

A.V. Shcherbakov, Possibility of destabilization of subbottom methanehydrates under the influence of global warming-up, *Vychisl. Tekh.* 1 (3) (1996) 106–117

E.M. Volodin, Sensitivity of summer model circulation to the state of soil in spring and to the ocean surface temperature in summer, *Izv. Ros. Akad. Nauk, Fiz. Atmosf. Okeana* 33 (5) (1997) 619–630

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