

## HEAT AND MASS TRANSFER BIBLIOGRAPHY—SOVIET WORKS

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### BOOKS

- Kh. Achcho, A. Koni, A. Küll *et al.*, *Heat Engineering*, Reference Book. Izd. Valgus, Tallin (1977).
- A. A. Aleksandrov and M. S. Trakhtengerts, *Thermophysical Properties of Water at Atmospheric Pressure*. Izd. Standartov, Moscow (1977).
- P. I. Aleshko, *Liquid and Gas Mechanics*. Izd. Vishcha Shkola, Khar'kov (1977).
- I. N. Bogaenko, M. V. Boichuk, V. V. Buadze *et al.*, *Conjugated Heat Transfer Problems in Specially Configured Bodies*. Izd. Metsniereba, Tbilisi (1977).
- M. K. Bologa, F. P. Grosu and I. A. Kozhukhar', *Electroconvection and Heat Transfer*. Izd. Shtiintsa, Kishinyov (1977).
- R. V. Bychkovsky, *Contact Temperature Transmitters*. Izd. Metallurgiya, Moscow (1978).
- I. G. Chistyakov (Editor), *Liquid Crystals*. Izd. Ivanovsk. Gos. Univ., Ivanovo (1977).
- O. V. Filipiev, *Heat Exchanging Devices of Furnaces*. Izd. Vishcha Shkola, Kiev (1978).
- A. M. Gal'perin and E. M. Shafarenko, *Rheological Calculations of Mine Engineering Constructions*. Izd. Nedra, Moscow (1977).
- I. P. Ginzburg (editor), *Gasdynamics and Heat Transfer*. Izd. LGU, Leningrad (1977).
- V. E. Golant, A. P. Zhilinsky and I. E. Sakharov, *Wave Propagation in Magnetoactive Plasma*. Izd. LPI, Leningrad (1977).
- V. A. Grigoriev, Yu. M. Pavlov and E. V. Ametistov, *Boiling of Cryogenic Liquids*. Izd. Energiya, Moscow (1977).
- A. G. Ivankov (editor), *Physics of the Condensed State of Matter*. Izd. Khabarovsk. Ped. Inst., Khabarovsk (1977).
- I. G. Kiselyov (editor), *Calculation of Temperature Fields of the Angles of Power Engineering Equipment*. Izd. Mashinostroenie, Leningrad (1978).
- S. S. Kutateladze (editor), *Radiative Heat Transfer*. Izd. Inst. Teplofiz., Novosibirsk (1977).
- S. S. Kutateladze (editor), *Study of Thermophysical Properties of Liquid Solutions and Alloys*. Izd. Inst. Teplofiz., Novosibirsk (1977).
- Yu. P. Kuznetsov, *Introduction into Semi-Empirical Theory of the Prandtl Turbulence*. Izd. MKhTI, Moscow (1977).
- G. S. Lipovoi, *Factorization Method in the Hydroaeromechanical Problems*. Izd. Naukova Dumka, Kiev (1977).
- L. G. Loitsyansky, *Liquid and Gas Mechanics*, Textbook, 5th rev. edn. Izd. Nauka, Moscow (1978).
- V. V. Novozhilov, *Theory of a Plane Turbulent Boundary Layer of an Incompressible Fluid*. Izd. Sudostroenie, Leningrad (1977).
- P. A. Pavlov (editor), *Thermophysics of Metastable Systems*. Izd. Uralsk. Nauch. Tsentra, Sverdlovsk (1977).
- I. I. Perel'shtein (editor), *Study and Generalization of the Thermodynamic Properties of Working Agents*. Izd. VNII Kholod. Prom., Moscow (1977).
- V. P. Preobrazhensky, *Heat-Engineering Measurements and Devices*, Textbook, 3rd rev. edn. Izd. Energiya, Moscow (1978).
- V. M. Repukhov, *Thermal Protection of a Wall by Gas Injection*. Izd. Naukova Dumka, Kiev (1977).
- Yu. B. Rumer and M. Sh. Ryvkin, *Thermodynamics, Statistical Physics and Kinetics*, 2nd rev. edn. Izd. Nauka, Moscow (1977).
- T. Saul, *Fundamentals of Engineering Thermodynamics*, Vol. 1. Publication of the State Comm. of the ESSR Council of Ministers for Vocat. and Engng Educ., Tallin (1977).
- T. Saul, *Fundamentals of Engineering Thermodynamics*, Vol. 2. Publication of the State Comm. of the ESSR Council of Ministers for Vocat. and Engng Educ., Tallin (1977).
- T. Saul, *Fundamentals of Engineering Thermodynamics*, Vol. 3. Publication of the State Comm. of the ESSR Council of Ministers for Vocat. and Engng Educ., Tallin (1977).
- V. O. Shestopal, *Rheological Properties of Fine Metals at High Temperatures*. Izd. Metallurgiya, Moscow (1978).
- R. I. Soloukhin (editor), *Heat and Mass Transfer—V: Lectures Read at the 5th All-Union Heat and Mass Transfer Conference*. Izd. ITMO AN BSSR, Minsk (1977).
- N. M. Tsirel'man, *Boundary Layer Theory: A Two-Layer Model of a Boundary Layer in Gradientless Flow Around a Plate*. Izd. Ufimsk. Aviats. Inst., Ufa (1977).
- I. P. Usyukin (editor), *Low-Temperature Technique*. Izd. Pishch. Prom., Moscow (1977).
- L. L. Vasiliev (editor), *Low-Temperature Heat Pipes and Porous Heat Exchangers*. Izd. ITMO AN BSSR, Minsk (1977).
- V. N. Zubarev and A. A. Aleksandrov, *Practical Course in Engineering Thermodynamics*. Izd. Azerb. Inst. Nefti Khimii, Baku (1977).
- V. A. Zysin, *Engineering Thermodynamics of Flow*. Izd. LGU, Leningrad (1977).

### PAPERS

#### THERMODYNAMICS

- L. I. Aptekar', Thermodynamics of interacting phases, *Dokl. Akad. Nauk SSSR* **240**(5), 1135-1138 (1978).
- Yu. D. Besklubenko, V. P. Privalko and Yu. S. Lipatov, Thermodynamics of filled polymethylmethacrylate, *Vysokomolek. Soedin., Ser. A20*(6), 1309-1314 (1978).
- N. K. Bolotin, A. M. Shelomentsev and S. T. Yankova, A generalized method for calculation of thermodynamic properties of polar substances, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 522-528 (1978).
- E. A. Filippov, V. V. Yakshin, I. S. Serebryakov and B. N. Laskorin, Thermodynamic parameters of the processes of uranium nitrate and actinide extraction by phosphoric acid ethers, *Dokl. Akad. Nauk SSSR* **240**(5), 1168-1171 (1978).
- T. A. Kapishev, S. I. Kalmykov and Sh. Sh. Nurseitov, Thermodynamic study of interaction reactions between phosphoric anhydride, ammonia and water vapours, *Trudy Inst. Khim. Nauk Akad. Nauk KazSSR* **44**(1), 3-8 (1977).
- O. I. Koifman, T. A. Korolyova and B. D. Berezin, Study of the reaction of dimethylsulphoxide extracoordination by zinc complexes of certain porphyrines, *Koordinats. Khim.* **3**(12), 1811-1815 (1977).
- I. N. Makarenko, A. M. Nikolaenko and S. M. Stishov, Thermodynamics of fusion of alkaline metals, *Zh. Elek. Tekh. Fiz.* **74**(6), 2175-2183 (1978).

K. I. Portnoi, V. I. Bogdanov, A. V. Mikhailov and D. L. Fuks, On the thermodynamics of interaction in fibrous composite materials, *Dokl. Akad. Nauk SSSR* **240**(5), 1154–1156 (1978).

Yu. V. Seleznyov, Method of simulation of thermodynamic processes and cycles with regard for the non-equilibrium condition, *Izv. VUZov, Energetika* **5**, 137–142 (1978).

V. A. Sharnin, V. A. Shormanov and G. A. Krestov, Thermodynamics of solvation of some ions in the water–acetone system at 25°C, *Izv. VUZov, Khim. Khim. Tekhnol.* **21**(5), 679–683 (1978).

E. I. Shcherbina, A. E. Tenenbaum, L. L. Gurarii and L. M. Kaporovsky, Thermodynamic properties of the binary dimethylformamide–O-xylol system, *Zh. Fiz. Khim.* **52**(6), 1556 (1978).

#### THERMOPHYSICAL (TRANSPORT) PROPERTIES

M. I. Aivazov and V. A. Bashilov, Electronic thermal conductivity of titanium nitride, *Teplofiz. Vysok. Temp.* **16**(3), 646–647 (1978).

A. G. Akhmedov and S. I. Mekhtiev, Thermal conductivity of methylcrotonate and ethylcrotonate at different temperatures and pressures, *Teplofiz. Vysok. Temp.* **16**(3), 666 (1978).

V. E. Alemasov and A. F. Dregalin, A packet of programs for computing thermodynamic and thermophysical properties of high-temperature working bodies, *Izv. VUZov, Aviats. Tekh.* No. 1, 5–9 (1978).

S. S. Bakulin and S. A. Ulybin, Thermal conductivity of xenon at temperatures 170–1300 K and pressures up to 200 mPa, *Teplofiz. Vysok. Temp.* **16**(3), 509–515 (1978).

S. V. Boyarsky and I. I. Novikov, Type of the temperature dependence of heat capacity near polymorphic transformation, *Teplofiz. Vysok. Temp.* **16**(3), 534–536 (1978).

N. N. Bukharin, G. N. Den, V. A. Evstafiev *et al.*, About the effect of the specific heats ratio on characteristics of the subsonic centrifugal compressor stage, *Energomashinostroneniye* No. 6, 16–18 (1978).

B. P. Demiyanyuk, Study of thermal conductivity of metal-filled polyvinylchloride, *Plast. Massy* No. 6, 30–32 (1978).

A. A. Dolinsky, M. V. Popova, V. N. Pakhomov and N. V. Mel'nik, Thermal conductivity of water–butanol solutions of benzylpicrylline, *Izv. VUZov, Pishch. Tekhnol.* No. 3, 135–136 (1978).

L. S. Domorod, Method and experimental facility for investigation of thermophysical properties of composite materials within the temperature range 4.2–400 K, in *Some Problems of Heat and Mass Transfer*, pp. 197–202. Minsk (1978).

L. S. Domorod and L. E. Evseeva, Thermophysical properties of glass-fabric carbon laminate within the temperature range 10–400 K, in *Some Problems of Heat and Mass Transfer*, pp. 203–207. Minsk (1978).

K. B. Isaev, Reaction zones—average thermophysical characteristics, in *Some Problems of Heat and Mass Transfer*, pp. 192–196. Minsk (1978).

P. G. Krukovsky, Determination of thermophysical properties of materials from the solution of an inverse heat-conduction problem, in *Some Problems of Heat and Mass Transfer*, pp. 103–107. Minsk (1978).

A. A. Kulish and L. P. Filippov, Determination of the thermophysical properties of the Vth-group metals at high temperatures by studying bending vibrations of plates, *Teplofiz. Vysok. Temp.* **16**(9), 602–610 (1978).

E. Ya. Litovskiy, N. A. Puchkelevich, N. I. Gashichev *et al.*, Experimental study of thermal conductivity and thermal diffusivity of high-porous SiO<sub>2</sub>-based heat insulation, *Teplofiz. Vysok. Temp.* **16**(3), 667 (1978).

K. K. Mamedov, M. A. Aldzhanov, I. G. Kerimov and M. I. Mekhtiev, Heat capacity and characteristics of the vibrational spectrum of some lamella crystals, *Dokl. Akad. Nauk AzSSR* **33**(7), 22–28 (1977).

P. P. Savintsev, V. A. Khokhlov and M. V. Smirnov, Thermal conductivity of melted binary mixtures of cesium,

barium and lanthanum chlorides, *Teplofiz. Vysok. Temp.* **16**(3), 644–646 (1978).

E. E. Shpil'rain, D. N. Kagan, L. S. Barkhatov and L. I. Zhmakin, Specific electrical conductivity of beryllium oxide in melted state, *Teplofiz. Vysok. Temp.* **16**(3), 531–533 (1978).

V. P. Slyusar', V. M. Tretiyakov and N. S. Rudenko, Thermal conductivities of krypton and xenon at constant density and pressures up to 2700 atm. The law of corresponding states, *Fiz. Nizk. Temp.* **4**(6), 764–774 (1978).

V. V. Tekuchev and V. I. Stremousov, Thermophysical properties of aluminum-based liquid–metal alloys, *Teplofiz. Vysok. Temp.* **16**(3), 663 (1978).

A. K. Voitenko and V. Z. Geller, Study of Freon-115 thermal conductivity within the critical region and at liquid–vapour saturation, *Izv. VUZov, Energetika* No. 5, 93–97 (1978).

#### HEAT CONDUCTION

I. N. Bogaenko and M. V. Boichuk, On the problem of calculation of temperature fields with variable thermophysical properties, *Teplofiz. Vysok. Temp.* **16**(3), 656–658 (1978).

I. N. Bogaenko, M. V. Boichuk and Yu. A. Timofeev, Solution of the heat transfer problem in the regions with variable power sources, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 3, 166–168 (1978).

A. I. Feshchenko, On the accuracy of numerical solution of the heat conduction equation by means of differential schemes, *Vestnik Mosk. Gos. Univ., Ser. Vychisl. Mat. Kibernet.* No. 2, 57–65 (1978).

N. L. Gol'dman, Concerning a particular class of inverse problems for multidimensional quasi-linear parabolic equations, *Diff. Uravn.* **14**(7), 1245–1254 (1978).

L. V. Knyazev, A. F. Moshnyansky and D. L. Gringauz, On the calculation of the faced shaft temperature field in the presence of a powerful fast-moving source, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 89–92. Kiev (1978).

L. A. Kozdoba, S. V. Kletsky, N. M. Fialko and G. P. Sherenkovskaya, Temperature fields in a complex-configured plate being welded by a movable heat source, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 22–25. Kiev (1978).

G. A. Mirlin and F. Yunosov, Calculation of a temperature field for point melt-thru of lap joints by means of a pulse arc, *Svaroch. Proizvod.* No. 1, 2–5 (1978).

E. V. Nomofilov and V. M. Tregoda, Calculation of a temperature field in two-dimensional arbitrarily-shaped multiply connected region under arbitrary boundary conditions, *Teplofiz. Vysok. Temp.* **16**(3), 589–595 (1978).

I. P. Polyakov, Determination of kinetic parameters of high-temperature decomposition by the method of solving an inverse problem, in *Some Problems of Heat and Mass Transfer*, pp. 95–98. Minsk (1978).

V. G. Prokopov, E. I. Bespalova and Yu. V. Sherenkovsky, Calculation of temperature conditions of thick-walled constructions, in *Thermal Physics and Thermal Engineering*, pp. 65–69. Kiev (1978).

V. Z. Remnyakov and I. A. Titova, Calculation of heating of a thin band in a continuous electric furnace, *Metal. Thermal Engng* No. 6, 80–86 (1978).

V. Z. Remnyakov, Yu. P. Shalaev and A. G. Rogovsky, Increase of temperature field uniformity under electrocontact heating, *Metal. Thermal Engng* No. 6, 76–79 (1978).

A. S. Semyonova-Tyan-Shanskaya, D. V. Fedoseev and G. B. Bokii, On the temperature field dynamics in the process of diamond synthesis, *Dokl. Akad. Nauk SSSR* **240**(3), 582–584 (1978).

M. V. Stradomsky, E. A. Maksimov, G. G. Tyukavkin and O. V. Fyodorova, Numerical method for determining the second-kind boundary conditions on the basis of the first-kind boundary conditions when studying heat transfer in an internal-combustion engine, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 29–32. Kiev (1978).

G. I. Zhovnir, Derivation of non-isothermal hyperbolic-type transfer equations from the variational principle, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 69–74. Kiev (1978).

V. V. Zhuikov and V. I. Lokai, The method of computer calculation of non-stationary temperature fields in disks of turbo-machines, *Izv. VUZov, Aviats. Tekh.* No. 1, 114–120 (1978).

#### HYDROMECHANICS

##### 1. Boundary layer

A. V. Fafurin, Effect of the external flow turbulence on the friction law in a boundary layer, *Izv. VUZov, Aviats. Tekh.* No. 1, 81–85 (1978).

A. Ya. Fyodorov and P. I. Tsoi, On the acoustic flows in a boundary layer, *Prikl. Mat. Tekh. Fiz.* No. 3, 84–87 (1978).

V. I. Kornilov and A. M. Kharitonov, Interaction of turbulent boundary layers in a right dihedral angle, *Prikl. Mat. Tekh. Fiz.* No. 3, 69–76 (1978).

R. B. Paulavichyus, A two-network method for the solution of a set of differential turbulent boundary layer equations, in *Some Problems of Heat and Mass Transfer*, pp. 76–79. Minsk (1978).

N. F. Polyakov, E. Ya. Epik, V. S. Kosorygin and L. A. Rummyantseva, Structure of a turbulent boundary layer with low degree of turbulence of the external flow, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 56–59. Kiev (1978).

Yu. I. Shvets and V. K. Vishnevsky, Calculation of the boundary layer for liquids whose thermophysical properties depend essentially on temperature, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 18–21. Kiev (1978).

E. D. Terentiev, On a transient boundary-layer with self-induced pressure near a vibrating wall in a supersonic flow, *Dokl. Akad. Nauk SSSR* **240**(5), 1046–1049 (1978).

V. N. Vetlitsky and V. L. Ganimedov, On the numerical solution of the problem of a boundary layer on an elliptical cone, *Chisl. Metody Mekh. Splosh. Sredy* **8**(5), 36–47 (1977).

V. I. Zhuk and O. S. Ryzhov, On a particular property of linearized boundary-layer equations with self-induced pressure, *Dokl. Akad. Nauk SSSR* **240**(5), 1042–1045 (1978).

##### 2. Turbulent flows

N. I. Buleev and N. V. Gusev, Calculation of turbulent liquid flows in eccentric annular gaps, *Teplofiz. Vysok. Temp.* **16**(3), 666 (1978).

M. A. Gol'dshtik and V. N. Shtern, The method of functional smoothing in the problem of turbulence, *Dokl. Akad. Nauk SSSR* **240**(5), 1058–1061 (1978).

V. G. Ivanov, Study of the pulsation intensity of the boundary of a turbulent wake, *Pis'ma v Zh. Tekh. Fiz.* **4**(10), 590–592 (1978).

V. G. Lushchik, A. A. Paveliev and A. E. Yakubenko, Three-parametric model of shear turbulence, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 13–25 (1978).

T. A. Sokolovskaya, Equation for the two-dimensional characteristic function of the velocity and temperature turbulent field in integral form, in *Some Problems of Heat and Mass Transfer*, pp. 63–67. Minsk (1978).

##### 3. Kinetic theory of gases and liquids

A. M. Bishaev and V. A. Rykov, Recondensation of a monoatomic gas at small Knudsen numbers, *Zh. Vychisl. Mat. Mat. Fiz.* **18**(3), 709–717 (1978).

A. V. Bogdanov and V. A. Pavlov, On calculation of transfer coefficients of imperfect gases, *Vestnik LGU No. 7, Mat., Mekh., Astronom.* Vyp. 2, 62–68 (1978).

M. N. Kogan and A. N. Kucherov, On self-focusing of a Gaussian beam in a supersonic gas flow, *Dokl. Akad. Nauk SSSR* **241**(1), 48–51 (1978).

G. M. Kravtsov, I. O. Protodiyakonov and V. A. Tsiabarov, On the solution of a system of kinetic fluidized bed equations, *Vestnik LGU No. 7, Mat., Mekh., Astronom.* Vyp. 2, 84–91 (1978).

L. I. Kurlapov, Concerning the kinetic theory of viscosity of gases, *Zh. Tekh. Fiz.* **48**(6), 1302–1304 (1978).

#### FORCED CONVECTION

V. G. Bashtovoi, A. N. Vislovich and B. E. Kashevsky, Microconvective heat and mass transfer phenomenon in liquids with internal rotation, *Prikl. Mat. Tekh. Fiz.* No. 3, 88–93 (1978).

I. I. Belyakov, V. V. Sokolov and A. N. Kuznetsov, Study of heat transfer deterioration in a vertical lifting pipe with non-uniform heat supply over the perimeter, *Energomashinoostroenie* No. 5, 37–39 (1978).

I. N. Bogaenko, M. V. Boichuk and Yu. A. Timofeev, On one conjugated heat transfer problem, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 96–99. Kiev (1978).

O. V. Korobko and V. N. Papkovich, Mathematical description of heat transfer in a biological object with overall thermal action, in *Some Problems of Heat and Mass Transfer*, pp. 208–212. Minsk (1978).

N. N. Koval'nogov, Effect of some factors on heat transfer of laminar liquid films, *Izv. VUZov, Aviats. Tekh.* No. 1, 53–56 (1978).

A. S. Kulakov and N. A. Belous, Study of heat transfer in a high-temperature highly underexpanded supersonic jet, in *Some Problems of Heat and Mass Transfer*, pp. 163–167. Minsk (1978).

E. Ya. Lifshits, V. M. Dudko, V. V. Gienko *et al.*, Calculation of heat transfer in hot-blast valves, in *Metal. Thermal Engng* No. 6, 38–41 (1978).

V. A. Maiorov, On the stability of the system of penetrable gas cooling of a porous fuel cell, in *Some Problems of Heat and Mass Transfer*, pp. 16–21. Minsk (1978).

A. M. Mamedov, F. I. Kalbaliev and F. K. Babaev, Dependence of the wall temperature change character on heat flux density at small Reynolds numbers and supercritical pressure, *Izv. VUZov, Neft Gaz* No. 3, 55–58 (1978).

A. M. Mamedov, F. I. Kalbaliev and G. I. Isaev, Heat transfer under pulsating conditions and at supercritical pressure, *Izv. VUZov, Neft Gaz* No. 4, 54–56 (1978).

A. I. Mazur, E. P. Dyban, V. P. Golovanov and I. G. Davydenko, Local heat transfer in a system of impact jets with one-sided flow escape, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 13–18. Kiev (1978).

V. K. Migai, E. N. Anisimov and A. P. Uporov, Influence of turbulence on heat transfer in furnace tube banks, *Energomashinoostroenie* No. 6, 12–14 (1978).

A. P. Ornatsky, A. F. Vasiliev and V. A. Chernobai, Concerning determination of the critical density of a heat flux in channels with non-uniform longitudinal heat release, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 9–12. Kiev (1978).

R. B. Paulavichyus, Numerical simulation of turbulent heat transfer, in *Some Problems of Heat and Mass Transfer*, pp. 73–75. Minsk (1978).

B. S. Petukhov, A. F. Polyakov and Yu. L. Shekhter, Turbulent flow and heat transfer in the gravity field, *Teplofiz. Vysok. Temp.* **16**(3), 624–639 (1978).

G. P. Prikhodchenko, Choice of arguments to account for heat transfer to the walls of a spraying apparatus, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 78–80. Kiev (1978).

F. R. Shklyar, N. L. Brun'ko, M. I. Agafonova *et al.*, Heat transfer in a compact block nozzle, *Metal. Thermal Engng* No. 6, 88–91 (1978).

Yu. S. Skoroponov, Effect of the variability of properties on friction stress and heat transfer for gas flow in a plane channel, in *Some Problems of Heat and Mass Transfer*, pp. 3–6. Minsk (1978).

M. I. Tsaplin, Calculation of cooling of the gas turbine blades, *Energomashinoostroenie* No. 5, 23–26 (1978).

Yu. P. Zolotareno, Flushing fluid temperature in a drilled inclined well, in *Thermal Physics and Thermal Engineering* Vyp. 35, pp. 92–95. Kiev (1978).

#### NATURAL CONVECTION

M. Ya. Antimirov and V. R. Liepinya, Origination of thermocapillary convection in a cylindrical liquid layer

under weightlessness conditions, *Izv. Akad. Nauk LatvSSR, Ser. Fiz. Tekh. Nauk* No. 3, 90–100 (1978).

S. P. Beschastnov, S. M. Kul'kov and V. P. Petrov, Laminar free convection heat transfer of CO<sub>2</sub> at supercritical pressure under the conditions of cooling, *Teplofiz. Vysok. Temp.* **16**(3), 651–654 (1978).

R. Z. Shirgazina, P. I. Tugunov and Z. F. Karimov, Determination of the petroleum product temperature in a tube when cooled under the conditions of the external medium temperature and heat transfer coefficient dependence on time, *Izv. VUZov, Neft Gaz* No. 3, 67–70 (1978).

#### PHASE CHANGES

##### 1. Boiling, evaporation

A. G. Akhmedov, Vaporization heat of alkanes, *Zh. Fiz. Khim.* **52**(6), 15–19 (1978).

V. V. Galaktionov, A. V. Mironenko and V. D. Portnov, Determination of the limiting film thickness when a bubble moves in a plane-parallel slot channel (in boiling), *Trudy Mosk. Energ. Inst. Vyp.* 332, 63–68 (1977).

I. A. Gilis and P. G. Udyrna, Experimental study of the foam evaporation process, *Trudy Mosk. Energ. Inst. Vyp.* 332, 31–35 (1977).

U. I. Gol'dshleger, T. A. Sukhova and V. V. Barzykin, On the unsteady-state evaporation of drops of multicomponent liquids, *Zh. Fiz. Khim.* **52**(6), 1492–1494 (1978).

V. A. Griikhes and M. M. Grishutin, Procedure of the constructional thermal calculation of recuperative heat exchangers with developed nucleate boiling of a heated agent, *Izv. VUZov, Energetika* No. 5, 81–86 (1978).

A. I. Ivandaev and A. A. Gubaidullin, Study of unsteady-state discharge of boiling-up liquid in the thermodynamic equilibrium approximation, *Teplofiz. Vysok. Temp.* **16**(3), 556–562 (1978).

S. A. Karamyan, Corrections in the formulae for the widths of evaporation of the  $\Gamma_n$  neutrons and fission of  $\Gamma_f$ , *Yuder. Fiz.* **27**(6), 1472–1478 (1978).

A. S. Kokin, B. G. Popov and V. A. Bondar', Intensification of evaporation of fuels in aircraft gas-turbine engines at the expense of electrical forces, *Izv. VUZov, Aviats. Tekh.* No. 1, 124–127 (1978).

V. A. Kravchenko and Yu. N. Ostrovsky, Effect of surface roughness on boiling heat transfer of light hydrocarbons and nitrogen, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 44–47. Kiev (1978).

A. I. Logasheva, G. K. Tsoi, N. D. Topor *et al.*, Study of the kinetics of moisture evaporation from granulated ammonium nitrate by the non-isothermal method on a derivatograph, *Khim. Prom.* No. 7, 543–545 (1978).

V. N. Mataruev, V. I. Slepchenko and A. R. Gordon, Effect of variable temperature of the evaporation surface on mass transfer, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 3, 153–159 (1978).

V. P. Skripov, N. A. Shuravenko and O. A. Isaev, Flow choking in short channels with shock-type boiling-up of liquid, *Teplofiz. Vysok. Temp.* **16**(3), 563–568 (1978).

G. V. Soloviyov, G. I. Sukhinin, N. N. Stolyarov and Yu. R. Chashkin, Experimental determination of vaporization heat and heat capacity at saturation of Freon-23, *Kholod. Tekh.* No. 6, 30–33 (1978).

M. A. Styrikovich, A. I. Leontiev, V. S. Polonsky and A. S. Zuikov, Experimental study of the mass transfer conditions in steam-generating channels with heat release according to the cosine law, *Teplofiz. Vysok. Temp.* **16**(3), 548–555 (1978).

V. I. Tolubinsky, A. M. Kichigin and S. G. Povsten', On the critical density of heat flux in boiling of water under the conditions of free motion, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 3–6. Kiev (1978).

I. P. Vishnev, Generalized correlations for calculation of liquid boiling heat transfer, *Khim. Neft. Mashinostroenie* No. 7, 17–19 (1978).

A. A. Voloshko, Bibliography to the problem of mechanism and intensity of heat transfer in boiling under different gravitational conditions, *Izv. VUZov, Energetika* No. 5, 148–149 (1978).

##### 2. Condensation

A. M. Baklastov, L. S. Bobe and V. A. Soloukhin, Calculation of the heat and mass transfer coefficients in a vapour phase for vapour condensation from binary mixtures, *Trudy Mosk. Energ. Inst. Vyp.* 332, 22–26 (1977).

L. D. Berman, Heat transfer in film vapour condensation on inclined tubes and tube bundles, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 540–548 (1978).

A. S. Bogorodsky and R. M. Mukhambetzhanova, Study of dropwise condensation of water vapour on a vertical tube with solid hydrophobic coating, *Trudy Mosk. Energ. Inst. Vyp.* 318, 63–67 (1977).

A. S. Chekhol'sky, Investigation of heat and mass transfer with condensation of vapour from the vapour-gas mixture in a plane curvilinear channel, in *Some Problems of Heat and Mass Transfer*, pp. 87–89. Minsk (1978).

A. B. Didkovsky and M. K. Bologa, Intensification of heat transfer with vapour condensation in an electrical field, *Teplofiz. Vysok. Temp.* **16**(3), 576–582 (1978).

N. V. Karelov, A. K. Rebrov and R. G. Sharafutdinov, Population of the vibrational levels of nitrogen molecules with non-equilibrium condensation in free-expanding gas, *Zh. Prikl. Mekh. Tekh. Fiz.* No. 3, 3–10 (1978).

N. N. Kasimzade, Some problems of heat transfer in condensation of vapours of different liquids inside of horizontal tubes, *Uchen. Zapiski Azerb. Inst. Nefti Khimii* No. 2, 71–75 (1977).

V. V. Levdansky, About the effect of the temperature distribution on the process of condensation in a channel, in *Some Problems of Heat and Mass Transfer*, pp. 130–132. Minsk (1978).

A. P. Ornatsky, B. V. Latenko, V. I. Kon'shin and E. P. Minina, Investigation of isobaric integral condensation heats of the oil fractions of the base deposits in the USSR, in *Thermal Physics and Thermal Engineering Vyp.* 35, pp. 74–78. Kiev (1978).

V. K. Shchukin, N. N. Koval'nogov, V. A. Filin and A. I. Mironov, Heat transfer between a flow containing liquid condensed particles and a wall with a solid condensate layer being formed on its surface, *Teplofiz. Vysok. Temp.* **16**(3), 583–588 (1978).

G. G. Shklover and A. V. Buyevich, Study of vapour condensation in an inclined tube bundle, *Teploenergetika* No. 6, 71–74 (1978).

I. P. Tairov, Effect of the cooling conditions on heat transfer in vapour condensation, in *Some Problems of Heat and Mass Transfer*, pp. 130–132. Minsk (1978).

I. P. Tairov, Study of vapour condensation heat transfer inside of vertical channels, in *Some Problems of Heat and Mass Transfer*, pp. 123–126. Minsk (1978).

##### 3. Crystallization, solidification, freezing

A. N. Amatuni, E. B. Shevchenko and T. I. Malyutina, Experimental study of thermal expansion of monocrystalline alumina, *Teplofiz. Vysok. Temp.* **16**(3), 542–547 (1978).

I. N. Andreichuk, A. N. Verigin, I. A. Shuplyak *et al.*, To the problem of heat transfer in crystallizers with direct contact between the melt and the liquid cooling agent, *Zh. Prikl. Khim.* **51**(6), 1435–1436 (1978).

P. I. Bystrov and V. F. Goncharov, The Stefan problem on substance melting in an annular channel with non-linear conditions at the external boundary, *Teplofiz. Vysok. Temp.* **16**(3), 654–656 (1978).

L. A. Goncharov and P. D. Kervalishvili, Behaviour of the Be admixture in crystallization of Ge by the Chokhral'sky method, *Izv. Akad. Nauk SSSR, Neorg. Materialy* **14**(6), 989–991 (1978).

V. M. Kharin, Crystallization on a suspended packing, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 510–515 (1978).

V. A. Kotsarenko and A. V. Semke, A mathematical model

of the transient vaporization regimes of crystallizing solutions, *Trudy Nauch.-Issled. Proekt. Inst. Osnovnoi Khim.* **43**, 18–23 (1977).

N. P. Kuranov, Migration of salts in a porous medium with regard for their crystallization, *Izv. Akad. Nauk SSSR, Mekh. Zhid. Gaza* No. 3, 153–158 (1978).

I. A. Merzhanov, On the mass transfer coefficient in the process of counter-current crystallization, *Vestnik Mosk. Gos. Univ., Ser. Khimiya* **19**(2), 218–219 (1978).

Yu. A. Samoilovich and Z. K. Kabakov, Solidification of an infinite ingot on sharp reduction in the speed of drawing, *Metal. Thermal Engng* No. 6, 52–55 (1978).

A. G. Shestov, N. G. Fomin, K. K. Polyansky and V. E. Kaplun, Mathematical simulation of the process of mass crystallization from solutions, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 516–521 (1978).

Z. V. Tishchenko, L. I. Golechek, A. N. Kudina and V. N. Bondarenko, Kinetics of crystallization of low-molecular compounds of the  $\epsilon$ -caprolactam from the melt, in *Thermal Physics and Thermal Engineering Vyp.* **35**, pp. 52–56. Kiev (1978).

R. V. Zambrzhitskaya, N. L. Zubakhina, V. S. Zheltkevich and O. D. Chanchikova, The effect of surfactants on sodium sulphate crystallization from acidic-salt baths, *Khim. Volokna* No. 3, 5–68 (1978).

#### 4. Melting, thawing

V. V. Bugaenko, R. V. Chernov and Yu. P. Krasan, The meltability diagram of the binary LiBr–NaBr system, *Ukr. Khim. Zh.* **43**(11), 1215–1217 (1977).

N. I. Koshkin, Dispersion of elastic wave velocity near the fusion temperatures of molecular crystals, *Zh. Fiz. Khim.* **52**(6), 1500–1501 (1978).

#### 5. Heat pipes

M. K. Bezrodnyi, On the heat and mass transfer crisis under circular operating conditions of evaporating thermosyphons, *Teplotiz. Vysok. Temp.* **16**(3), 667 (1978).

A. A. Borodkin, S. Yu. Travov and A. Ya. Shelginsky, Optimization of geometrical dimensions of the transport zone of heat pipes, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 55–63 (1977).

S. N. Fainzil'berg, N. K. Koloskova and M. G. Semena, Concerning generalization of experimental data on regularities in the limiting heat fluxes of two-phase thermosyphons, *Izv. VUZov, Energetika* No. 6, 86–88 (1978).

Yu. F. Gerasimov, Yu. E. Dolgirev, Yu. F. Maidanik and Yu. A. Shishkov, Determination of the vapour temperature in heat pipes with separate channels, *Izv. VUZov, Energetika* No. 6, 123–127 (1978).

E. G. Grechin and V. E. Kopylov, On cooling of chisels by means of heat pipes in superdeep drilling, *Izv. VUZov, Neft Gaz* No. 3, 17–20 (1978).

V. A. Krivonos and Z. N. Pavlyuchenko, To the problem of the hydrodynamic limit of arterial heat pipe wicks, in *Some Problems of Heat and Mass Transfer*, pp. 90–94. Minsk (1978).

E. M. Novokhatsky and A. M. Gorovoi, Internal thermal resistance of a thermosyphon, *Izv. VUZov, Energetika* No. 5, 87–92 (1978).

A. G. Polyvanyi and A. V. Revyakin, Experimental study of the dynamic characteristics of low-temperature heat pipes, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 106–111 (1977).

V. Ya. Sasin, Possible applications of heat pipes in heat-and-power engineering, Review, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 47–55 (1977).

#### RADIATION

A. Kh. Bokovikova and F. R. Shklyar, Account of selectivity of properties of the combustion products in estimation of radiative heat transfer in furnaces, *Metal. Thermal Engng* No. 6, 84–88 (1978).

A. V. Dvurechensky, V. A. Petrov and V. Yu. Reznik, Temperature dependence of the spectral emissivity of the types KI and KSG quartz glass in the infrared region, *Teplotiz. Vysok. Temp.* **16**(3), 665 (1978).

G. A. Ketslakh and I. P. Tsinin, On the calculation of radiative heat transfer in rotating furnaces, *Ogneupory* No. 1, 17–19 (1978).

L. A. Konyukh, On application of the method of double spherical harmonics to unsteady-state radiation transfer equation, in *Some Problems of Heat and Mass Transfer*, pp. 173–174. Minsk (1978).

V. N. Kovalyov and V. K. Mel'nikov, Effect of interference on the integral emissivity of metals in high-temperature oxidation, *Izv. Akad. Nauk LatvSSR, Ser. Fiz. Tekh. Nauk* No. 3, 68–76 (1978).

A. V. Lavrov and V. A. Pospelov, Mixing of plane laminar relaxing gas jets with account for radiation, *Izv. Akad. Nauk SSSR, Mekh. Zhid. Gaza* No. 3, 137–142 (1978).

V. G. Nosach, V. S. Pikashov and I. N. Zhitar', Integral emissivity of porous ceramics, in *Thermal Physics and Thermal Engineering Vyp.* **35**, pp. 99–101. Kiev (1978).

V. A. Pavlenko, Calculation of radiative heat transfer in transparent materials, *Trudy Mosk. Inzh.-Stroit. Inst.* No. 142, 20–31 (1977).

V. T. Pushkin, A. G. Zen'kovsky, A. N. Golitsyn *et al.*, Experimental determination of spectral radiation characteristics of sulphur anhydride, *Prom. Energetika* No. 7, 46–47 (1978).

M. N. Rolin, Approximate calculation of radiative transfer in spectral multiplets, in *Thermal Physics and Thermal Engineering Vyp.* **35**, pp. 99–101. Kiev (1978).

G. P. Samchenko, S. P. Furtak and S. M. Kubyshekin, Calculation and estimation of the parameters of pyrometric partial and overall radiation transformers, *Teplotiz. Vysok. Temp.* **16**(3), 663 (1978).

E. P. Sukhovich, I. L. Dunin, V. V. Ivanov and A. I. Koren'kov, Heat transfer of an emitting plate in a diathermic gas flow, *Fiz. Khim. Obr. Mater.* No. 3, 152 (1978).

G. A. Zhorov, I. O. Panasyuk and A. I. Samoilo, The integral hemispherical emissivity and specific electrical resistance of refractory X20H80 and XH45B30 alloys, *Teplotiz. Vysok. Temp.* **16**(3), 516–519 (1978).

#### COMBINED HEAT AND MASS TRANSFER

V. N. Barykin, To the problem of calculation of heat and mass transfer in a turbulent boundary layer on an elastic surface, in *Some Problems of Heat and Mass Transfer*, pp. 80–82. Minsk (1978).

L. A. Goryainov, Study of heat and mass transfer processes in the facilities used for obtaining monocrystalline structures from the melt, *Trudy Mosk. Inst. Inzh. Zhel.-Dor. Transp. Vyp.* **549**, 179–180 (1977).

B. E. Kashevsky, A. N. Vislovich and V. G. Bashtovoi, Microconvective heat and mass transfer in a medium with internal rotations, in *Some Problems of Heat and Mass Transfer*, pp. 44–46. Minsk (1978).

V. P. Kozhin, Heat and mass transfer in a moist porous medium exposed to contact heating, in *Some Problems of Heat and Mass Transfer*, pp. 108–114. Minsk (1978).

V. I. Lebedev, V. A. Pavlenko and Ya. Vandrash, Radiative-convective heat transfer in semi-transparent materials, *Trudy Mosk. Inzh.-Stroit. Inst.* No. 142, 69–76 (1977).

V. I. Lebedev and V. A. Sokolov, Experimental study of complex heat transfer in burning of natural gas in a model unit, *Trudy Mosk. Inzh.-Stroit. Inst.* No. 142, 8–11 (1977).

V. A. Pavlenko, Mean and local heat fluxes in radiative-convective transfer, *Trudy Mosk. Inzh.-Stroit. Inst.* No. 142, 43–50 (1977).

S. B. Zhubrin, V. P. Motulevich and P. G. Udyrna, About application of a high-enthalpy gas in contact heat and mass transfer, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 39–43 (1977).

## HIGH-TEMPERATURE THERMOPHYSICS

## 1. Combustion and detonation processes

V. G. Abramov, D. A. Vaganov and N. G. Samoilenko, On the critical condition of thermal explosion in the presence of simultaneous reactions with essentially differing thermal effects, *Fiz. Gor. Vzryva* **14**(3), 124–128 (1978).

A. G. Akopyan, S. K. Dolukhanyan and I. P. Borovinskaya, Interaction between titanium, boron and carbon under the conditions of burning, *Fiz. Gor. Vzryva* **14**(3), 70–75 (1978).

V. S. Berman, Unsteady-state combustion wave propagation in a medium with slowly varying properties, *Prikl. Mat. Mekh.* **42**(3), 450–457 (1978).

V. Ch. Bokun and A. M. Chaikin, The third ignition limit in the reaction between fluorine and hydrogen, *Fiz. Gor. Vzryva* **14**(3), 21–27 (1978).

Yu. Ya. Buriko and V. R. Kuznetsov, On a possible mechanism of nitrogen oxide formation in turbulent diffusion burning, *Fiz. Gor. Vzryva* **14**(3), 32–42 (1978).

K. E. Dzhaugashtin and A. L. Yarin, Combustion process in laminar homogeneous gas jets, *Fiz. Gor. Vzryva* **14**(3), 62–70 (1978).

B. S. Fialkov, N. D. Shcherbakov and V. T. Plitsyn, Distribution of electrical potential in hydrocarbon flames, *Fiz. Gor. Vzryva* **14**(3), 87–90 (1978).

V. N. Gruzdev, Yu. V. Vinogradov and A. V. Talantov, Firing power of a submerged jet of hot combustion products, *Fiz. Gor. Vzryva* **14**(3), 143–145 (1978).

K. E. Gubkin, Front radius effect on the spherical detonation wave velocity, *Fiz. Gor. Vzryva* **14**(3), 116–121 (1978).

P. F. Ivashchenko and V. S. Rumyantsev, Convective rise and the rate of propagation of a large flame seat, *Fiz. Gor. Vzryva* **14**(3), 83–87 (1978).

V. N. Kovalyov and V. K. Mel'nikov, High-temperature oxidation and thermal ignition of titanium and zirconium plates, *Fiz. Gor. Vzryva* **14**(3), 14–21 (1978).

B. V. Krut, Combustion-retarding substances, *Plast. Massy* No. 6, 43–46 (1978).

I. S. Lyubchenko and G. N. Marchenko, On simulation of the combustion process of condensed substances in a closed volume, *Dokl. Akad. Nauk SSSR* **240**(3), 536–639 (1978).

O. S. Rabinovich, Ignition of the  $\text{SiH}_4\text{-O}_2\text{-Ar(N}_2\text{)}$  mixture under non-isothermal conditions, in *Some Problems of Heat and Mass Transfer*, pp. 7–10. Minsk (1978).

G. D. Salamandra and N. I. Maiorov, Flame front instability in an electrical field, *Fiz. Gor. Vzryva* **14**(3), 90–96 (1978).

A. R. Sarkisyan, S. K. Dolukhanyan, I. P. Borovinskaya and A. G. Merzhanov, Some regularities in combustion of transition metal-silicon mixtures and the synthesis of silicides, *Fiz. Gor. Vzryva* **14**(3), 49–55 (1978).

A. A. Vasiliev, Estimation of the energy of cylindrical detonation initiation, *Fiz. Gor. Vzryva* **14**(3), 154–155 (1978).

I. Ya. Vishnivetsky, A. P. Denisjuk and A. E. Fogel'zang, Critical conditions of ballistite powder burning, *Dokl. Akad. Nauk SSSR* **240**(3), 623–626 (1978).

## 2. Shock waves

A. V. Anan'in, A. N. Dremin, G. I. Kanef' and S. V. Pershin, Study of the shock wave structure in boron nitride and graphite in the region of polymorphic transformation, *Prikl. Mat. Tekh. Fiz.* No. 3, 112–117 (1978).

V. F. Anisichkin, Generalized shock adiabatics of elements, *Prikl. Mat. Tekh. Fiz.* No. 3, 117–121 (1978).

Yu. M. Balinets, A. N. Dremin and G. I. Kanef', On the kinetics of pressed trolly decomposition behind the shock wave front, *Fiz. Gor. Vzryva* **14**(3), 111–116 (1978).

A. A. Erokhin, Yu. A. Zakharenkov, N. N. Zorev *et al.*, Ultrahighspeed diagnostics of shock waves in a laser beam, *Fiz. Plazmy* **4**(3), 648–661 (1978).

B. E. Gelf'and, V. N. Kalinin, A. B. Petrunin *et al.*, Ignition

of drops of boron-organic compounds in air behind shock waves, *Dokl. Akad. Nauk SSSR* **240**(3), 627–629 (1978).

V. A. Plaksii, Cylindrical blast waves in multicomponent media, *Prikl. Mat. Tekh. Fiz.* No. 3, 93–97 (1978).

O. S. Popel', O. A. Sinkevich and A. L. Shevchenko, Secondary shock wave formation during supersonic flow retardation in magnetic field, *Izv. Akad. Nauk SSSR, Mekh. Zhid. Gaza* No. 3, 169–170 (1978).

I. M. Voskoboinikov and M. F. Gogulya, Description of the substance state behind the shock wave front, *Fiz. Gor. Vzryva* **14**(3), 105–110 (1978).

## 3. Low-temperature plasma

V. P. Chumenkov, Similarity criterion of a discharge in an ion magnetron, *Zh. Tekh. Fiz.* **48**(5), 933–935 (1978).

L. M. Dmitriev, Investigation of electron energy distribution in a weakly ionized gas, *Teplofiz. Vysok. Temp.* **16**(3), 449–457 (1978).

A. N. Filonenko, Experimental study of heat transfer in a discharge chamber of a coaxial plasmatron, in *Some Problems of Heat and Mass Transfer*, pp. 158–162. Minsk (1978).

G. A. Fokov, A dynamic model of the d.c. current arc, in *Some Problems of Heat and Mass Transfer*, pp. 187–189. Minsk (1978).

A. A. Fokov and G. A. Fokov, To the problem of a dynamic model of arc, in *Some Problems of Heat and Mass Transfer*, pp. 190–191. Minsk (1978).

L. P. Fominsky, Two effects in a non-self-sustained discharge, *Zh. Tekh. Fiz.* **48**(5), 936–944 (1978).

V. M. Gladskoi, V. N. Nevolin, L. P. Shpak and V. I. Belousov, Energetical distribution of spark plasma ions, *Zh. Tekh. Fiz.* **48**(7), 1394–1398 (1978).

A. I. Ivanchenko and G. N. Fidel'man, To the problem of transverse glow discharge propagation, *Teplofiz. Vysok. Temp.* **16**(3), 497–503 (1978).

V. N. Karnyushin, B. A. Knyazev, A. N. Malov and R. I. Soloukhin, Pulse electrical discharge in the  $\text{CO}_2 + \text{N}_2 + \text{He}$  mixture in the presence of temperature and density gradient in the cathode layer, *Zh. Tekh. Fiz.* **48**(6), 1170–1173 (1978).

S. A. Kazantsev, M. P. Chaika and V. Eiduk, Determination of the resonance level relaxation constants of krypton and xenon by the alignment method in a gas discharge, *Optika Spektrosk.* **44**(5), 1037–1039 (1978).

G. A. Kobzev and Yu. K. Kurilenkov, Effect of nonideality on plasma photorecombination spectra, *Teplofiz. Vysok. Temp.* **16**(3), 458–463 (1978).

V. S. Komef'kov and V. I. Modzolevsky, Nitrogen oxide formation in high-current pulse discharges in air, *Zh. Fiz. Khim.* **52**(6), 1536–1538 (1978).

Yu. B. Konev, I. V. Kochetkov and V. G. Pevgov, Analysis of characteristics of a stationary electrically excited  $\text{CO}_2$  laser, *Zh. Tekh. Fiz.* **48**(5), 977–982 (1978).

N. A. Kozlov and V. V. Fomin, On the gas-discharge channel expansion in tubular pulse lamps, *Teplofiz. Vysok. Temp.* **16**(3), 482–484 (1978).

G. V. Okhmatovsky, Measurement of current of fast-moving electrons in a glow discharge with a hollow cathode, *Zh. Tekh. Fiz.* **48**(5), 945–948 (1978).

P. A. Pavlov and V. E. Privalov, Investigation of strata in a glow discharge, *Zh. Tekh. Fiz.* **48**(7), 1375–1380 (1978).

V. V. Shamko, Integral characteristics of plasma of an underwater spark discharge, *Zh. Tekh. Fiz.* **48**(5), 967–971 (1978).

V. M. Sharapov and A. P. Zakharov, Effect of point defects on hydrogen penetration through molybdenum cathode of a glow discharge, *Zh. Tekh. Fiz.* **48**(6), 1213–1218 (1978).

A. A. Spudis and R. D. Todesaite, Study of the atom excitation mechanism in a non-isothermal argon plasma, in *Some Problems of Heat and Mass Transfer*, pp. 141–146. Minsk (1978).

V. E. Tolkachyov, Steel surface cleaning in a glow discharge, *Fiz. Khim. Obr. Mater.* No. 3, 42–44 (1978).

K. N. Uliyanov, Probing diagnostics of high-pressure

plasma at different probe and plasma temperatures, *Teplofiz. Vysok. Temp.* **16**(3), 492–496 (1978).

K. N. Uliyanov, Theory of electrical probes for non-self-sustained discharge dense plasma, *Zh. Tekh. Fiz.* **48**(5), 920–926 (1978).

V. S. Vorobiyov, To the calculation of optical properties of plasma at elevated pressures, *Teplofiz. Vysok. Temp.* **16**(3), 449–457 (1978).

V. V. Zaitsev, E. Yu. Zverevskaya and V. D. Klimov, Electrical parameters of the glow discharge positive column in pure fluorine, *Zh. Tekh. Fiz.* **48**(7), 1541–1544 (1978).

#### 4. Thermal shielding

L. M. Biberman, S. Ya. Bronin, M. V. Brykin and A. Kh. Mnatsakanyan, Effect of gaseous products of broken thermal shielding coatings on heat transfer in the stagnation-point flow round a blunt body, *Izv. Akad. Nauk SSSR, Mekh. Zhid. Gaza* No. 3, 129–136 (1978).

V. V. Chuprasov, Experimental study of the effect of technological factor on thermal shielding characteristics of carbon plastics, in *Some Problems of Heat and Mass Transfer*, pp. 168–172. Minsk (1978).

#### RHEOPHYSICS

V. L. Aristov, Non-axisymmetric highly dissipative flow on the internal surface of a rotating conical nozzle, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 40–46. Volgograd (1977).

Ya. A. Brauns, Study of the viscoelastic fluid strength in volumetric quasi-statistical stretching, *Mekh. Polimer.* No. 3, 525–530 (1978).

I. P. Briyedis and V. V. Leitland, Study of the longitudinal flow of polymers by means of periodic deformation, *Mekh. Polimer.* No. 3, 507–513 (1978).

V. P. Budtov, Yu. L. Vagin and E. L. Vinogradov, Estimation of polydispersity of polymers based on rheological data, *Mekh. Polimer.* No. 3, 514–518 (1978).

V. A. Gerasimenko, V. P. Remnev, N. V. Tyabin *et al.*, Elastic effects in a pulsating viscoelastic fluid flow, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 82–85. Volgograd (1977).

V. A. Gerasimenko, V. P. Remnev and T. N. Yudina, Development of a tube flow of viscoelastic Maxwellian fluid, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 85–91. Volgograd (1977).

A. Ya. Gol'dman, G. Kh. Murzakhanov and O. A. Soshina, On the temperature–time analogy for the thermorheologically complex polymer materials, *Mekh. Polimer.* No. 3, 430–434 (1978).

V. G. Gromov and V. P. Miroshnikov, Effects of thermomechanical continuity in the theory of viscoelasticity, *Dokl. Akad. Nauk SSSR* **240**(4), 809–812 (1978).

Yu. V. Karavaev and S. A. Trusov, Viscoelastic medium flow between infinite parallel plates under the effect of pressure differential, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 112–116. Volgograd (1977).

Yu. V. Karavaev and N. V. Tyabin, Effect of normal stresses on the viscoelastic medium flow, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 105–111. Volgograd (1977).

R. I. Kobzova, I. V. Shul'zhenko, R. N. Shneerova and M. B. Chepurova, Radiative changes of high-temperature plastic lubricants, *Khim. Tekhnol. Topliv Masel* No. 6, 38–39 (1978).

V. I. Lapitsky and N. V. Tyabin, Resistance to free developed motion of a spherical particle in a viscoelastic medium, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 55–60. Volgograd (1977).

R. V. Lutsyk, A. F. Mel'nikova and A. V. Movchanyuk, An automatic device to study relaxational properties of polymers in a wide range of temperatures and humidities of the medium, *Mekh. Polimer.* No. 3, 553–556 (1978).

K. B. Pavlov, To the boundary layer theory of non-Newtonian nonlinear viscous media, *Izv. Akad. Nauk SSSR, Mekh. Zhid. Gaza* No. 3, 26–33 (1978).

V. G. Pogrebnyak and A. I. Toryanik, Apparatus for measuring glass formation temperatures of polymers and their solutions, *Izv. VUZov, Priborostroenie* **21**(4), 112–116 (1978).

P. N. Shershnyov and V. M. Men'shikov, Study of the effect of elastic reduction of rubber mixture jets subsequent to flow in the "tube-confusor-tube" ducts, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 10–15. Volgograd (1977).

P. N. Shershnyov, V. M. Men'shikov and K. G. Kuznetsov, About the deformation time effect on the magnitude of elastic reduction of rubber mixture jets, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 7–9. Volgograd (1977).

Yu. M. Shulyakov and Yu. V. Trukhan, Rheological coefficients of disperse material compaction, *Izv. VUZov, Pishch. Tekhnol.* No. 3, 158–160 (1978).

V. E. Sorokin, T. N. Koziorova, M. T. Azarova *et al.*, Effect of the regime and degree of hardening on viscoelastic properties of phenolformaldehyde tar-based fibres, *Khim. Volokna* No. 3, 48–50 (1978).

L. V. Sutareva, E. N. Kostovskaya and V. V. Verkholan-tsev, Comparative study of the methods of filling polymer dispersions, *Lakokras. Mat. Ikh. Primen.* No. 3, 17–19 (1978).

E. Yu. Taran, Effect of electrical field on rheological behaviour of dipole dumb-bell diluted suspension in the Oldroyd viscoelastic fluid, *Mekh. Polimer.* No. 3, 519–524 (1978).

N. V. Tyabin, V. A. Balashov and L. A. Kondakova, Discrete model of non-Newtonian fluid filtration, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 92–98. Volgograd (1977).

N. V. Tyabin, V. A. Balashov and L. A. Kondakova, Discrete model of viscous fluid filtration through a bed of spherical particles, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 60–69. Volgograd (1977).

N. V. Tyabin, S. A. Trusov and K. Maisner, Non-Newtonian medium displacement from an axisymmetric gap, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 46–55. Volgograd (1977).

M. S. Vinarsky and V. K. Muratov, Effect of surfactants on liquid filtration in a porous medium, in *Rheology and Processes and Apparatus of Chemical Technology*, pp. 3–6. Volgograd (1977).

V. I. Zhizhin, L. G. Kubarskaya and V. I. Sharobaiko, Rheological properties of carbomethylstarch solutions, *Izv. VUZov, Pishch. Tekhnol.* No. 2, 63–65 (1978).

#### HEAT AND MASS TRANSFER IN TECHNOLOGICAL PROCESSES

##### 1. Drying

M. R. Adylova, I. I. Usmanov, A. N. Narkulov *et al.*, One-stage neutralization and drying of a double superphosphate under the conditions of a spouting bed, *Uzb. Khim. Zh.* No. 6, 49–53 (1977).

M. S. Belopol'sky, Calculation of the period of drying of some construction materials, *Stroit. Mater.* No. 6, 31–32 (1978).

O. L. Danilov, M. A. Mal'tsev and V. V. Smagin, To the problem of drying by superheated vapour, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 69–73 (1977).

O. L. Danilov, V. I. Rogachevsky and T. M. Volkova, To the design of atomizing dryers, *Trudy Mosk. Energ. Inst. Vyp.* **332**, 43–47 (1977).

A. A. Dolinsky, G. K. Ivanitsky, K. D. Maletskaya *et al.*, Analytical study of drying a solution drop bounded by a thin crust of dissolved substance, in *Thermal Physics and Thermal Engineering Vyp.* **35**, pp. 25–29. Kiev (1978).

A. A. Dolinsky, V. M. Nuzhnyi and V. V. Ryazanov,

- Temperature and concentration field in drying of a drop bounded by a solid crust, *Fiz. Zhid. Sostoyan. Vyp.* 5, 98–103 (1977).
- M. B. Grinbaum, G. A. Matsievsky, M. V. Ostrovsky *et al.*, Study of the hydrodynamics of drying in a vortex chamber by the magnetometric method, *Khim. Prom.* No. 7, 535–538 (1978).
- G. S. Kabaldin, A. N. Ivanistov and T. V. Kuchko, Application of the theory of an experiment to estimate efficiency of energy consumption in drying units, *Prom. Energetika* No. 7, 44–46 (1978).
- P. V. Klassen, I. G. Grishaev, L. V. Vasilieva *et al.*, Determination of the growth rate of granules and their residence-time distribution in a drum granulator-dryer, *Khim. Prom.* No. 6, 450–452 (1978).
- V. V. Kornaraki, Analysis of the heat and mass transfer process in drying loose materials in a dense bed on a heating surface, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 82–86. Minsk (1978).
- I. T. Kretov, Effect of pressure drops in drying of vegetables on their quality and hygroscopic properties, *Izv. VUZov, Pishch. Tekhnol.* No. 3, 166–168 (1978).
- I. V. Melikhov, Yu. N. Sychyov and M. A. Prokofiev, Mechanism of moisture removal in drying crystalline products involving closed inclusions, *Teor. Osnovy Khim. Tekhnol.* 12(4), 501–509 (1978).
- N. M. Plotnikova, V. A. Shul'chishin, N. B. Rashkovskaya and S. I. Malakhova, Enhancement of dye suspension dehydration in a drying apparatus with an inert carrier vortex layer, *Khim. Prom.* No. 6, 459–461 (1978).
- E. A. Ryabenko, A. M. Bessarabov, V. S. Shimichev *et al.*, Mathematical model of spray drying with heat removal from high-temperature walls, *Khim. Prom.* No. 6, 452–456 (1978).
- V. V. Shestopalov, V. V. Men'shikov and V. V. Kafarov, A hydrodynamic model of spouting bed drying, *Khim. Neft. Mashinostroenie* No. 6, 14–15 (1978).
- I. I. Voitsekhovskiy and P. A. Zhuchkov, Convective and radiative-convective drying of cardboard, *Bumazh. Prom.* No. 12, 18–20 (1978).
- A. P. Zhuravlyov, V. A. Rezhikov and L. D. Komyshnik, Justification of the drying regimes of buckwheat grain in recycling grain-dryers, *Trudy VNII Zerna Produk. Ego Pererab.* Vyp. 85, 8–16 (1977).
- ## 2. Heat exchangers
- P. I. Bazhan, On the choice of characteristic temperatures in calculation of heat-exchanging apparatus, *Izv. VUZov, Energetika* No. 6, 143–147 (1978).
- R. A. Berezhinsky and V. A. Orlov, To the calculation of heat conduction through finned walls of thermally stressed apparatus, *Teplofiz. Vysok. Temp.* 16(3), 665 (1978).
- L. F. Krasnoschchyokov, Formulae for checking calculations of heat carrier cross-flow heat exchangers, *Teploenergetika* No. 6, 87–89 (1978).
- L. S. Litvina, Efficiency and normalization of reliability of thermal equipment, *Izv. VUZov, Pishch. Tekhnol.* No. 3, 161–163 (1978).
- N. N. Nuzha, E. M. Kovalyov, O. A. Golovchenko and A. G. Belous, Concentration of sulphuric-acid solution of sodium and zinc in a falling film evaporator, *Khim. Neft. Mashinostroenie* No. 7, 20–21 (1978).
- N. N. Patynka and N. M. Pogulyai, Automatic device for tracking electrode motion along a seam in welding of spiral heat exchangers, *Khim. Neft. Mashinostroenie* No. 6, 42 (1978).
- V. N. Shikov and F. E. Linetskaya, Modelling of electrostatic fields in fluidized-bed equipment by the superposition method, *Izv. VUZov, Energetika* No. 6, 127–131 (1978).
- Yu. V. Svetlov, V. Ya. Krasnosel'skiy and E. M. Sarmatova, Calculation of a multichannel heat exchanger with non-uniform flow distribution, *Khim. Neft. Mashinostroenie* No. 6, 21–23 (1978).
- ## 3. Dispersed systems
- M. B. Avrutov and B. S. Endler, Study of periodic precipitation of polydispersed suspensions, *Teor. Osnovy Khim. Tekhnol.* 12(4), 627–628 (1978).
- I. A. Bokun, Efficiency of pulsating-bed application in technology, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 94–99. Minsk (1978).
- V. A. Borodulya, V. I. Dikalenko and V. I. Kovensky, Heat and mass transfer between bubbles and a dense phase in a fluidized bed, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 3–17. Minsk (1978).
- V. A. Borodulya, L. M. Vinogradov, V. I. Kovensky *et al.*, Study of the carbon bisulphide synthesis from propane-butane and hydrogen sulphide in an electrothermal fluidized bed, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 100–112. Minsk (1978).
- V. P. Doronin, M. G. Slin'ko and V. S. Sheplev, Multiplicity of stationary regimes during exothermal reaction in a fluidized bed, *Teor. Osnovy Khim. Tekhnol.* 12(4), 613–614 (1978).
- I. T. El'perin and Yu. R. Moskevich, Fractional separation of polydispersed material in apparatus with limiting grids, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 46–52. Minsk (1978).
- Yu. I. Filippov and Yu. I. Daskal, On the processes of interaction of particles in two-phase flows, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 3, 144–152 (1978).
- V. L. Ganzha and G. I. Zhuravskiy, On gas discharge from a body moving in a dispersed filling, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 87–93. Minsk (1978).
- B. E. Gelfand, E. I. Timofeev and V. V. Stepanov, On the structure of weak shock waves in the gas bubbles-liquid system, *Teplofiz. Vysok. Temp.* 16(3), 569–575 (1978).
- I. D. Goikhman, I. G. Syrkin, V. E. Babenko *et al.*, Regeneration of muriatic acid from waste pickling solutions in a spouting-bed apparatus, *Khim. Prom.* No. 6, 461–462 (1978).
- A. N. Gorbunov and Yu. A. Fyodorov, Analytical criterion of the isothermal phase process-type inversion in the ternary liquid-liquid-ideal vapour systems, *Zh. Prikl. Khim.* 51(6), 1266–1270 (1978).
- A. V. Gorin and M. S. Isakov, Turbulent gas-liquid mixture flow in a tube and on a permeable plate, in *Some Problems of Heat and Mass Transfer*, pp. 68–72. Minsk (1978).
- K. E. Goryunov, D. M. Galershtein and A. I. Tamarin, Expansion of a fluidized bed with a coarse-lump packing, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 36–40. Minsk (1978).
- N. N. Grinchik and S. P. Fisenko, Some problems of the theory of decomposition of drops in an oscillating field, in *Some Problems of Heat and Mass Transfer*, pp. 138–140. Minsk (1978).
- S. R. Islamov and A. P. Baskakov, Calcination of casting moulds using models melted in a high-temperature fluidized bed, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 113–118. Minsk (1978).
- G. I. Kovensky and T. E. Fruman, Study of counter-current flow of gas and solid particles in a packed column, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 76–81. Minsk (1978).
- A. O. Kozhevnikov, A. M. Alyokhin, S. I. Petrunina *et al.*, Experience of introduction of a three-product drum separator for concentration of datolic ores in heavy suspensions, *Khim. Prom.* No. 7, 542–543 (1978).
- G. M. Kravtsov, I. O. Protodiyakonov and V. A. Tsiarov, On the solution of the system of kinetic fluidized bed equations, *Vestnik LGU No. 7, Mat., Mekh., Astronom. Vyp.* 2, 84–91 (1978).
- I. I. Lagover, A. N. Kornilav, S. Z. Levinson and V. A. Basov, Study of the hydrodynamics of a polydispersed suspended bed of fine-grained material, *Khim. Tekhnol. Topliv Masel* No. 7, 37–40 (1978).



- P. S. Laptsevich and R. B. Kosovskaya, Study of hygroscopic properties of granular mineral materials, in *Some Problems of Heat and Mass Transfer*, pp. 150–153. Minsk (1978).
- P. S. Laptsevich and R. B. Kosovskaya, Study of the moistening kinetics of non-ore granular materials, in *Some Problems of Heat and Mass Transfer*, pp. 147–149. Minsk (1978).
- N. A. Malafeev, I. V. Podgornaya and V. A. Malysov, Determination of the average liquid film thickness in a rising two-phase flow in a plane channel by the electrical-conductivity method, *Zh. Prikl. Khim.* **51**(5), 1196–1197 (1978).
- V. I. Metenin and V. P. Ignatov, To the problem of calculation of desorptional equipment with the packing of Raschig rings, *Izv. VUZov, Energetika* No. 5, 77–80 (1978).
- V. N. Milyutin, A. M. Podvysotsky and S. L. Khelemsky, On interaction of drops with the liquid film surface, in *Thermal Physics and Thermal Engineering*, pp. 84–89. Kiev (1978).
- Yu. K. Molokanov, Multicomponent mass transfer on a bubbling tray in mixing of liquid following the diffusion mechanism, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 595–597 (1978).
- A. N. Morgunov, A. I. Ilyina, A. A. Perchenko and S. I. Gorbatenko, Liquid–vapour equilibrium in the hydrocarbon–trialkylborate system and calculation of the process of mixture separation by rectification, *Khim. Prom.* No. 6, 425–426 (1978).
- Yu. P. Nekhlebaev, D. T. Bondarenko, A. M. Nesterov *et al.*, Experimental study of the process of natural gas burning in a fluidized bed, *Metal. Thermal Engng* No. 6, 27–31 (1978).
- E. A. Nepomnyashchii, Regularities in fine-disperse crushing accompanied by aggregation of particles, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 576–580 (1978).
- B. I. Nigmatulin, I. V. Dolinin and V. I. Rachkov, Study of drop precipitation on a liquid film in a vertical vapour–water flow, *Teploenergetika* No. 6, 82–84 (1978).
- V. M. Parshakov and B. A. Bokovikov, Study of the effect of the change in porosity of charge materials with increase in the amount of blast on the efficiency of a blast furnace, *Metal. Thermal Engng* No. 6, 10–13 (1978).
- V. L. Pebalk, A. E. Kostanyan, A. M. Chlikadze and N. A. Gromov, Extraction column with distinct sectioning, *Khim. Prom.* No. 6, 456–457 (1978).
- G. I. Pinskaya, A. V. Getling and E. D. Yakhnin, The hydrodynamic method of measuring adhesion forces between solid particles in liquid, *Kolloid. Zh.* **40**(3), 494–500 (1978).
- N. G. Poluektov, A. G. Svinukhov and V. V. Kafarov, To the problem of the effect of regular roughness of a solid surface on mass transfer in a liquid film, *Zh. Prikl. Khim.* **51**(5), 1078–1082 (1978).
- A. M. Rozen, V. S. Vesnovsky and A. N. Krasikov, The contact surface of phases on sieve and valve-head continuous flow trays, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 495–500 (1978).
- G. I. Savvakín and A. A. Shraiber, Heating of particles behind the detonation wave front, in *Thermal Physics and Thermal Engineering* Vyp. 35, 47–52, Kiev (1978).
- E. V. Semyonov, To the problem of calculation of optimal geometrical parameters of working cavities and separating ability of tray separators, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 564–570 (1978).
- A. M. Shammazov, N. F. Sultanov and L. A. Sakharova, Classification of flow regimes of gas–liquid mixtures by the method of principal components, *Izv. VUZov, Neft Gaz* No. 3, 37–39 (1978).
- V. K. Shchukin, N. N. Koval'nogov, V. A. Filin *et al.*, Heat transfer of a two-phase flow with the wall of a nozzle in the presence of condensate film on its surface, *Izv. VUZov, Aviats. Tekh.* No. 1, 93–99 (1978).
- V. K. Shchukin, A. A. Yakshin, V. A. Filin *et al.*, Convective heat transfer of a gas-suspension flow in the throughput portion of a throttling device with a turning element in the form of a blade, *Izv. VUZov, Aviats. Tekh.* No. 1, 100–104 (1978).
- Ya. P. Shlapkova, V. S. Nikitin, E. M. Vasilieva and G. F. Puchkov, Study of gaseous atmosphere of an electrothermal fluidized bed of graphite particles, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 119–123. Minsk (1978).
- L. K. Shlyapnikov and Yu. M. Kuznetsov, Chamber feeder for metered supply of dust-like materials, *Metal. Thermal Engng* No. 6, 42–45 (1978).
- A. A. Shraiber, Turbulent diffusion of a heavy particle at a starting length of the gas-suspension flow, *Prikl. Mekh.* **14**(5), 134–137 (1978).
- V. A. Sirotko and Yu. I. Stashok, Experimental determination of the efficiency of a nozzle using a two-phase working body under intensive heat and mass transfer, *Izv. VUZov, Energetika* No. 6, 137–140 (1978).
- L. S. Skvortsov and V. A. Rachitsky, Determination of the solid particle velocity in a rotor of a centrifugal separator, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 629–632 (1978).
- Yu. S. Teplitsky, On mixing of a solid phase (heat transfer) in a fluidized system, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 29–35. Minsk (1978).
- Yu. S. Teplitsky and A. I. Tamarin, Study of the hydrodynamics of fluidized beds of coarse particles, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 17–28. Minsk (1978).
- A. P. Tolstopyat and V. I. Eliseev, On the critical rate of fluidization and modelling of technological equipment, *Teor. Osnovy Khim. Tekhnol.* **12**(4), 555–563 (1978).
- G. G. Tyukhai and M. D. Smolin, Study of electrical transfer in metals during carbonization in an electrothermal fluidized bed, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 124–128. Minsk (1978).
- L. M. Vinogradov and D. K. Lyshchik, Some problems of sulphur trapping and reduction of nitroxide expulsion in fluidized-bed boilers, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 129–137. Minsk (1978).
- L. P. Viysimmaa, R. O. Kuusik and M. A. Veiderma, Study of firing of carbonate slime in a fluidized-bed furnace, *Zh. Prikl. Khim.* **51**(5), 1087–1091 (1978).
- S. S. Zabrodsky, V. S. Efremtsev, S. V. Kalinnikov and A. F. Dolidovich, Study of solid phase mixing in a pulsating bed of dispersed material, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 62–69. Minsk (1978).
- V. V. Zaviyalov, Special features of the external fluidized-bed heat transfer under self-oscillating conditions of fluidization, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 41–45. Minsk (1978).
- A. I. Zheltov, Effect of some factors on electrical resistance of a granular bed, in *Heat and Mass Transfer in Multiphase and Multicomponent Systems*, pp. 70–75. Minsk (1978).