

HEAT AND MASS TRANSFER BIBLIOGRAPHY—SOVIET WORKS

R. I. SOLOUKHIN and O. G. MARTYSENKO

Heat and Mass Transfer Institute, 220728, Minsk, U.S.S.R.

(Received 8 January 1982)

BOOKS

- V. A. Bakharev (Editor), *Hydromechanics and Heat Transfer in Hygiene Equipment*. Izd. KKhTI, Kazan (1980).
A. N. Ioseliani, A. A. Mikhalevich, V. B. Nesterenko and M. E. Salukvadze, *The Methods for Optimizing the Parameters of the APS Heat Exchangers*. Izd. Nauka i Tekhnika, Minsk (1981).
S. M. Kats, *High-Temperature Thermal Insulating Materials*. Izd. Metallurgiya, Moscow (1981).
Yu. A. Kirichenko et al. (Editors), *Heat and Mass Transfer Processes in Cryogenic Systems*. Izd. Naukova Dumka, Kiev (1981).
P. M. Kolesnikov, *The Transfer Theory Methods in Nonlinear Media*. Izd. Nauka i Tekhnika, Minsk (1981).
V. V. Krasnikov et al. (Editors), *Extended Abstracts of the Papers Submitted to the All-Union Scientific and Technological Conference on Further Development of the Theory, Technique and Technology of Drying*, 10-12 June 1981, Chernigov. Section 1. Izd. ITMO AN BSSR, Minsk (1981).
V. I. Krutov (Editor), *Technical Thermodynamics* (2nd revised and augmented edn). Izd. Vyssh. Shkola, Moscow (1981).
A. I. Leontiev et al. (Editors), *Problems of Heat Transfer, Collected Papers*. Izd. MLTI, Moscow (1981).
K. E. Makhorin, V. S. Pikashov and G. P. Kuchin, *Heat Transfer in a High-Temperature Fluidized Bed*. Izd. Naukova Dumka, Kiev (1981).
G. A. Mikhailov (Editor), *Numerical Methods and Statistical Modelling in the Theory of Transfer*. Izd. VTs SO AN SSSR, Novosibirsk (1980).
R. S. Mikhalechenko et al. (Editors), *Design and Investigation of Cryogenic Systems*. Izd. Naukova Dumka, Kiev (1981).
V. N. Monakhov et al. (Editors), *Dynamics of Continuum, Collected Papers Vyp. 50, Boundary-Value Problems for the Hydrodynamics Equations*. Izd. Inst. Gidrodinamiki, Novosibirsk (1981).
I. A. Neduzhii and A. N. Alabovskiy, *Technical Thermodynamics and Heat Transfer*. Izd. Vishcha Shkola, Kiev (1981).
V. B. Nesterenko (Editor), *Physical, Chemical and Thermophysical Properties of Nitrogen Tetroxide-Based Solutions*. Izd. Nauka i Tekhnika, Minsk (1981).
Ya. S. Podstrigach, Yu. M. Kolyanov and M. M. Semerak, *Temperature Fields and Stresses in the Elements of Electrovacuum Devices*. Izd. Naukova Dumka, Kiev (1981).
N. N. Polyakhov (Editor), *Gas Dynamics and Heat Transfer, Collected Papers Vyp. 6, Viscous and Non-viscous Gas Flow. Two-Phase Liquids*. Izd. LGU, Moscow (1981).
V. M. Shipilov, *Hydrodynamics and Heat Transfer in Industrial Furnaces* (Textbook). Izd. IV. GU, Ivanovo (1980).
R. I. Soloukhin and I. G. Gurevich (Editors), *Heat- and Mass-Transfer-VI: Topical Papers of the 6th All-Union Heat and Mass Transfer Conf.* pt. 1. Izd. ITMO AN BSSR, Minsk (1981).
V. V. Tuturin et al. (Editors), *Hydrodynamics and Transport Phenomena in Two-Phase Dispersed Systems*. Izd. IPI, Irkutsk (1980).
R. S. Tyulpanov, *Diffusional Turbulent Flames*. Izd. LGU, Leningrad (1981).

PAPE

GENERAL

- V. P. Agafonov and M. M. Kuznetsov, Towards a complete simulation of the steady-state heat fluxes in subsonic and hypersonic flows past catalytic surfaces, *Chisl. Metody Mekh. Sploshn. Sredy* 11(7), 5-11 (1980).
V. I. Babkin, S. M. Belotserkovsky and V. V. Gulyaev, The mathematical computer simulation of stationary flows of ideal liquid jets, *Dokl. Akad. Nauk SSSR* 259(6), 1319-1322 (1981).
M. V. Nenko, M. I. Kurochkina and P. G. Romankov, A mathematical model of the unsteady-state diffusion in the process of solid-phase extraction, *Zh. Prikl. Khim.* 54(9), 2061-2065 (1981).
V. F. Potyomkin, The mathematical simulation of the stationary axisymmetric and two-dimensional processes of molar transfer, in *Mathematical Methods of Heat and Mass Transfer*, pp. 154-159. Dnepropetrovsk (1980).
F. R. Shklyar, V. M. Malkin, B. A. Bokovikov et al., The mathematical simulation of heat and mass transfer processes in metallurgical units, in *Metallurgical Thermal Engineering*, No. 8, pp. 119-127. Moscow (1981).
Yu. A. Surinov and S. N. Gorshkova, Towards the problem of mathematical simulation of radiative heat transfer in a cylindrical chamber, *Prom. Teplotekh.* 3(6), 29-33 (1981).

THERMODYNAMICS

- A. I. Alekseev and L. D. Barinova, Thermodynamic quantities of the double carbonate salts of the type $\text{Na}_2\text{CO}_3 \cdot \text{CaCO}_3 \cdot n\text{H}_2\text{O}$, *Zh. Prikl. Khim.* 54(10), 2193-2197 (1981).
Kh. S. Bagdasariyan, Towards the thermodynamic derivation of the efficiency of direct light-chemical energy conversion, *Khim. Vysok. Energ.* 15(6), 548-551 (1981).
E. T. Brook-Levinson, A self-consistent statistical theory of the vacancies in an equilibrium crystal not involving the thermodynamic potential minimum condition, *Dokl. Akad. Nauk BSSR* 25(12), 1085-1087 (1981).
V. D. Bushmanov and S. P. Yatsenko, The thermodynamic properties of double systems of lithium, sodium, potassium with aluminum, gallium, indium, thallium, *Zh. Fiz. Khim.* 55(11), 2951-2952 (1981).
V. Z. Geller, L. I. Gordon and V. V. Safonov, The state equation of oligoorganosiloxanes, *Teplotiz. Vysok. Temp.* 19(5), 945-948 (1981).
N. L. Gron and P. V. Polyakov, Thermal effects on a separate electrode in melted electrolytes under the conditions of the limiting stage of mass transfer, *Elektrokhimiya* 17(11), 1607-1612 (1981).
N. G. Ilyushchenko, N. I. Shurov and E. G. Kazansky, Account of the exchange reaction when investigating the thermodynamic functions of the iron-vanadium system, *Zh. Fiz. Khim.* 55(10), 2692-2693 (1981).
V. R. Kamenetsky, V. P. Zheleznyi and L. E. Vekshtein, Calculation of the thermal properties of gases and saturated

- vapours by using the Van der Waals state equation, *Zh. Fiz. Khim.* 55(10), 2477-2480 (1981).
- A. G. Lesnik, The thermodynamic properties of the 'gas' of superparamagnetic clusters in amorphous ferromagnetic with random anisotropy, *Fizika Metal. Metalloved.* 51(5), 1089-1092 (1981).
- G. A. Martynov and G. N. Sarkisov, Thermodynamically consistent equation in the theory of liquids, *Dokl. Akad. Nauk SSSR* 260(6), 1348-1351 (1981).
- V. Yu. Mindin, Towards the thermodynamics of interactions in the Fe—Cl—C—H system, *Soobshchen. Akad. Nauk GSSR* 101(2), 357-359 (1981).
- A. A. Miroshnichenko, Liquid-vapour equilibrium in the thermodynamics of solutions. 1. Thermodynamic similarity of excess functions for the mixing of hydrocarbons in non-aqueous solutions, *Zh. Fiz. Khim.* 55(11), 2944-2948 (1981).
- S. N. Nesterenko, L. L. Meshkov and E. M. Sokolovskaya, Thermodynamic properties of alloys of the nickel-tantalum system, *Vestnik Moskov. Univ. Ser. 2, Khimiya* 22(3), 305-307 (1981).
- A. A. Rudnitskaya, P. M. Stadniichuk and Yu. Ya. Fialkov, Thermodynamics of transfer processes in sulphuric acid-ether systems, *Zh. Fiz. Khim.* 55(10), 2660-2662 (1981).
- Yu. Ya. Skolis, V. M. Vintonyak, V. A. Levitsky and V. M. Yanishevsky, Solid electrolytes in thermodynamic investigations. Determination of the thermodynamic properties of barium and strontium metaindates by the method of electromotive forces with a fluorine conducting electrolyte, *Zh. Fiz. Khim.* 55(11), 2783-2787 (1981).
- V. A. Stukalo, N. Ya. Neshchimenko and G. I. Batalin, Thermodynamic properties of liquid alloys of the system Y—Ni—Si, *Izv. Akad. Nauk SSSR, Metally* No. 3, 33-35 (1981).
- V. K. Tagirov, E. K. Kazenas, G. N. Zviadadze and N. M. Pavlyuchenko, Thermodynamics of palladium sulfide dissociations, *Izv. Akad. Nauk SSSR, Metally* No. 3, 49-53 (1981).
- A. M. Tolmachov and I. B. Trubnikov, Thermodynamics of sorption. Absorption of binary mixtures of hydrocarbon vapours by microporous carbon, *Zh. Fiz. Khim.* 55(11), 2958-2959 (1981).
- I. A. Vasilieva and S. N. Mudretzova, Thermodynamic investigation of the higher titanium oxide $Ti_{11}O_{21}$, *Vestnik Moskov. Univ. Ser. 2, Khimiya* 22(3), 253-255 (1981).
- A. A. Vasserman, On estimating the weights of experimental data when formulating the state equation for a real gas, *Teplofiz. Vysok. Temp.* 19(5), 1103-1105 (1981).
- A. P. Voznyakovskiy, A. N. Genkin and N. A. Petrova, A gas chromatographic study of the thermodynamics underlying the interaction of the co-polymer, containing flexible and fixed siloxane blocks, with certain solvents, *Zh. Fiz. Khim.* 55(10), 2495-2498 (1981).
- V. P. Zhdanov, V. N. Parmon and K. I. Zamaraev, On the physical meaning of thermodynamic limitations on the solar energy utilization factor, *Dokl. Akad. Nauk SSSR* 259(6), 1385-1389 (1981).
- iron-ore pellets and concentrates, in *Metallurgical Thermal Engineering*, No. 8, pp. 33-39. Moscow (1981).
- D. Kh. Bronshtein and T. D. Ositinskaya, The thermophysical properties of hot-pressed solid alloys of a tungsten group, *Poroshk. Metallurg.* No. 1, 71-74 (1981).
- E. I. Chyornenkaya, I. I. Makarovskaya and E. N. Pavlyuchenko, Heat capacity properties of iron chloride solutions at elevated temperatures, *Zh. Prikl. Khim.* 54(10), 2314-2316 (1981).
- V. K. Dyupin and G. T. Bokarev, A mathematical model for the dependence of the heat capacity of a substance on its dispersed state, *Izv. VUZov, Fiz.* No. 9, 140 (1981).
- A. A. Fedorushchenko, P. V. Mironov and E. D. Levin, The thermophysical properties of the condensation products of wood raw-material pyrolysis, *Gidroliz. Lesokhim. Prom.* No. 3, 15-16 (1981).
- B. A. Fridlender and V. V. Sokolov, The high-temperature thermal conductivity and thermal diffusivity of binary ZrC—C system alloys obtained by the method of chemical gas-phase precipitation, *Teplofiz. Vysok. Temp.* 19(5), 968-972 (1981).
- A. V. Gaida and L. A. Rozhdestvensky, The increase in the thermal conductivity and strength of an adhesive joint in assembled carbide-tipped single-point cutting tools, *Stanki Instrument* No. 4, 33-34 (1981).
- S. P. Gordienko, On the heat capacity of lanthanum hexaboride, *Poroshkov. Metallurg.* No. 1, 83-85 (1981).
- B. Ya. Gorodilov, I. N. Krupsky, V. G. Manzheli and O. A. Korolyuk, The thermal conductivity of orthopara-solutions of solid deuterium, *Fiz. Nizk. Temp.* 7(4), 424-428 (1981).
- M. A. Gromov, A computational method to determine the thermal conductivity of liquid food materials, *Izv. VUZov, Pishch. Tekhnol.* No. 5, 57-61 (1981).
- V. D. Kagan, Sound attenuation and heat conduction in solid solutions, *Fiz. Tverd. Tela* 23(5), 1551-1553 (1981).
- M. S. Kebe, L. V. Puchkov and V. N. Kupriyanov, Heat capacities of NaI water solutions at the temperatures 150-400°C, *Zh. Prikl. Khim.* 54(7), 1668 (1981).
- A. M. Mamedov, The results of investigations of the thermophysical and thermotechnical properties of different substances, *Izv. VUZov, Neft Gaz* No. 9, 54-61 (1981).
- Kh. E. Mamedov, R. A. Mustafaev and T. I. Guseinov, An investigation of the thermophysical properties of polymeric polyethylene-based materials, *Izv. VUZov, Energetika* No. 11, 119-120 (1981).
- A. Kh. Mirzadzhanzade, A. A. Bokserman and A. O. Bogopolsky, Thermophysical problems of the thermal methods of attack on oil pools, *Izv. VUZov, Neft Gas* No. 9, 26-33 (1981).
- G. I. Mozharov and A. I. Savvatimsky, The heat capacity of solid and liquid niobium up to 5000 K, *Teplofiz. Vysok. Temp.* 19(5), 954-957 (1981).
- A. A. Nadiradze, T. D. Abashidze, G. G. Gvelesiani and I. S. Omoadze, An investigation of the enthalpy and heat capacity of yttrium meta- and normal tungstates at high temperatures, *Teplofiz. Vysok. Temp.* 19(5), 1106-1108 (1981).
- V. I. Nesterov, The thermal conductivity of ramming refractory masses used for lining boiler furnaces, *Energ. Stroit.* No. 3, 68-69 (1981).
- N. A. Nesterov, V. A. Kurbatov, E. A. Shashkov *et al.*, A study of the thermal conductivity of vapour-gas mixtures within the temperature range from -50 to 50°C, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 4, 104-109 (1981).
- I. I. Novikov, V. V. Roshchupkin, P. G. Mozgovoi and N. A. Semashko, Heat capacity of nickel and niobium in the temperature range from 300 to 1300 K, *Teplofiz. Vysok. Temp.* 19(5), 958-962 (1981).
- V. N. Ozhigov and M. S. Metsik, The thermal conductivity of a thin water film bounded by mica sheets in the direction normal to its surface, *Khim. Tekhnol. Vody* 2(6), 533-535 (1980).
- T. L. Parfenteva, Structural-kinetic effects and heat capacity of aqueous solutions of tartaric acid, *Zh. Fiz. Khim.* 55(7), 1710-1715 (1981).
- Yu. L. Rastorguev, B. A. Grigoriev and A. I. Svidchenko, An

THERMOPHYSICAL (TRANSPORT) PROPERTIES

investigation of the thermal conductivity of oils, *Izv. Ser.-Kavk. Nauch. Tsentra Vyssh. Shkoly. Tekh. Nauki* No. 1, 82–84 (1981).

E. Yu. Shpak, M. N. Kasparov, V. V. Mikryukov and G. A. Polyakova, A study of the thermophysical properties of food stuffs within the temperature range 20–90°C by the method of two temperature–time intervals, in *Optimization of the Performance of Trade and Production Equipment*, pp. 94–104. Leningrad (1980).

A. G. Tyomkin, The determination of thermal diffusivity and relaxation time from prolonged measurements of temperature, *Teplofiz. Vysok. Temp.* 19(5), 1118 (1981).

O. R. Yurkevich, The effective thermal conductivity of dispersed polymeric materials and compositions based on them, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Tekh. Navuk* No. 4, 125 (1981).

A. A. Zhdan, V. M. Kravchenko and S. A. Nazarov, The thermophysical characteristics of potato granules, *Konser. Ovoshchesushil Prom.* No. 5, 21–23 (1981).

D. Yu. Zhogin, E. A. Kosarukina and V. P. Kolesov, Heat capacity within the range from 6 to 130 K, phase conversions and thermodynamic functions of perfluorated decalynes, *Zh. Fiz. Khim.* 55(8), 1955–1960 (1981).

HEAT CONDUCTION

Yu. A. Afanasiev, Extremum temperature fields in the heat treatment of cylinders made of reinforced composite materials, *Mekh. Komposit. Mater.* No. 5, 855–863 (1981).

A. A. Aleksashenko, Some analytical methods for the solution of nonlinear boundary-value heat-conduction problems, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 3, 132–141 (1981).

N. I. Bakievich, The relationship between the solutions of one fourth-order equation from the theory of free-surface liquid filtration and the solutions of the heat conduction equation, *Ukr. Mat. Zh.* 33(2), 241–243 (1981).

V. B. Baskov, E. G. Platonov and G. A. Sokolov, The heating of the walls of a plane or circular channel during heat pulse transfer by a liquid flow, *Teplofiz. Vysok. Temp.* 19(2), 344–351 (1981).

K. S. Chobyanyan, A. M. Sargosyan and A. S. Khachikyan, The temperature field in dissimilar plates face-welded in the absence of a heat contact in front of the source, *Fiz. Khim. Obr. Mat.* No. 5, 28–33 (1981).

V. N. Denisov, Towards the problem of the prerequisite conditions to stabilize the solution of the Cauchy problem for the heat conduction equation over the whole space of E^N and at any of its compacts, *Dokl. Akad. Nauk SSSR* 260(4), 780–783 (1981).

I. M. Distergeft, Yu. A. Samoilovich and G. A. Volkova, The calculation of the heat transfer in the site of deformation between a blank and a roll, in *Metallurgical Heat Engineering* No. 9, pp. 111–113. Moscow (1981).

V. A. Galaktionov, On some properties of running waves in a medium with nonlinear heat conduction and heat source, *Zh. Vychisl. Mat. Mat. Fiz.* 21(4), 980–989 (1981).

V. A. Galaktionov, S. P. Kurdyumov, A. P. Mikhailov and A. A. Samarsky, Heat localization in nonlinear media, *Diff. Uravn.* 17(10), 1826–1841 (1981).

E. A. Grigoriev, On the stability of the Cauchy time-inverse problem for the heat conduction equation in the class of positive solutions, *Diff. Uravn.* 17(7), 1250–1255 (1981).

G. V. Grishchenko, V. N. Lepilin and N. N. Medvedev, The additivity method for the calculation of the thermal conductivity of hydrocarbons in some homologous series, *Zh. Prikl. Khim.* 54(6), 1367–1372 (1981).

M. A. Khailov, Towards the calculation of the non-stationary temperature field of solid bodies (Development of the internal combustion engine elements), *Vestnik Mashinostr.* No. 3, 30–32 (1981).

S. V. Kleitsky, L. A. Kozdoba, N. M. Fialko and G. P. Sherenkovskaya, A study of the temperature fields for the welding of complex-shape bodies, in *Heat Conduction and Diffusion*, pp. 23–29. Riga (1980).

Yu. M. Kolyano and E. G. Gritsko, Non-stationary fields in bodies on a local change in the heat transfer coefficient, *Fiz. Khim. Obr. Mat.* No. 5, 7–10 (1981).

T. I. Lelekov, Towards the calculation of the water temperature of a percolating bank water intake, *Izv. VUZov, Energetika* No. 6, 93–96 (1981).

V. N. Lozovsky, V. P. Popov, L. Ya. Malibasheva and V. I. Buddo, The determination of the temperature field configuration by the method of zone temperature recrystallization, *Metrologiya* No. 11, 43–48 (1981).

A. M. Makarov and V. R. Romanovsky, The method of finite integral transformation in heat conduction problems for geometrically dissimilar non-ideally joined thin-walled bodies, *Fiz. Khim. Obr. Mat.* No. 5, 11–16 (1981).

A. M. Makarov and V. R. Romanovsky, On a non-ideally conjugated heat conduction problem, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 5, 130–137 (1981).

A. A. Melikyan, The Cauchy problem with an unknown boundary for the first-order partial differential equation, *Dokl. Akad. Nauk SSSR* 260(2), 288–292 (1981).

Yu. N. Nemish, On the boundary-value heat conduction and heat resistance problems for deformable nearly spherical bodies, *Prikl. Mekh.* 17(10), 42–50 (1981).

N. I. Nikitenko, The difference method for the solution of inverse heat conduction problems to determine the geometrical characteristics of a body or a field, *Prom. Teplotekh.* 3(6), 7–12 (1981).

B. N. Olcinik and A. A. Raskin, Concerning a systematic error due to the non-uniformity of temperature fields in calorimeters, *Zh. Fiz. Khim.* 55(11), 2928–2932 (1981).

A. V. Ostroumov, An approximate solution of a certain heat conduction problem in the presence of a moving heat source, *Zh. Vychisl. Mat. Mat. Fiz.* 21(5), 1329–1333 (1981).

K. B. Pavlov, L. D. Pokrovsky and S. N. Taranenko, On the properties of the nonlinear transport equation solutions, *Diff. Uravn.* 17(9), 1661–1667 (1981).

V. G. Prokopov, E. I. Bespalova and Yu. V. Sherenkovsky, Towards the development of variational methods for the solution of multi-dimensional heat transfer problems, *Izv. VUZov, Energetika* No. 8, 56–62 (1981).

L. I. Roizen, An approximate method for the solution of problems of heat conduction in multi-layer bodies, *Teplofiz. Vysok. Temp.* 19(4), 821–831 (1981).

V. G. Rusakov and G. A. Boriskova, Solution of an axisymmetric two-dimensional problem of heat transfer between a drill hole and a frozen rock, in *Engineering Studies of Frozen Grounds: Properties of Grounds and Dynamics of Permafrost Processes*, pp. 134–170. Novosibirsk (1981).

F. A. Shaimardanov and V. A. Novitsky, A thermophysical model of the cutting process, *Izv. VUZov, Priborostroenie* 24(8), 89–91 (1981).

G. A. Sharovarov, A generalized transport equation for nonstationary processes, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Nauk* No. 4, 87–94 (1981).

G. V. Shcherbina, Nonlinear boundary-value problems for second-order equations, *Diff. Uravn.* 17(6), 1050–1059 (1981).

F. R. Shklyar, V. M. Malkin, G. K. Malikov et al., Improvement of the methods for calculation of temperature fields in thermally massive bodies, in *Metallurgical Heat Engineering*, No. 8, pp. 105–112. Moscow (1981).

A. A. Uglov, V. V. Ivanov and A. I. Tuzhikov, Heating of metals by a group of moving heat sources, *Fiz. Khim. Obr. Mat.* No. 5, 3–6 (1981).

A. A. Uglov, I. Yu. Smurov and S. S. Andrianov, Towards the calculation of the rate of non-stationary ablation, *Zh. Tekh. Fiz.* 51(9), 1787–1791 (1981).

A. A. Vasiliev and V. M. Repukhov, Towards the calculation of a two-phase thermal screen on an adiabatic wall, *Prom. Teplotekh.* 3(6), 12–19 (1981).

Yu. V. Vidin, Calculation of the temperature field over the thermal starting length of a plane channel, *Prom. Teplotekh.* 3(5), 73–76 (1981).

S. P. Vlasova, G. M. Sukharev and E. V. Kovalsky, Temperature field calculations for complex heat transfer

conditions in multilayer stratified systems with pumping of 'cold' water (Mining of geothermal water), *Geolog. Nefii Gaza* No. 4, 55-60 (1981).

G. N. Tretiyachenko, B. S. Karpinos and L. E. Kiyashko, An assessment of the uncertainty in numerical calculations of thermal and heat-stressed states of hollow cylinders, *Prom. Teplotekh.* 3(6), 42-46 (1981).

P. V. Tsoi, On the base coordinates in the direct and inverse heat conduction problems, *Teplofiz. Vysok. Temp.* 19(5), 1006-1013 (1981).

A. G. Tyomkin, B. A. Slavsky and V. V. Kulikov, Inverse heat conduction problems and an indirect measurement of external temperatures in radiative-convective heat transfer, in *Heat Conduction and Diffusion*, pp. 95-108. Riga (1980).

HYDROMECHANICS

1. Boundary layer

A. L. Ermakov, V. M. Eroshenko, L. I. Zaichik *et al.*, An investigation of a turbulent boundary layer on perforated surfaces with injection, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 32-38 (1981).

A. K. Karyshev, An experimental study of the jet turbulent boundary layer with condensation, *Izv. VUZov, Energetika* No. 10, 116-119 (1981).

E. A. Kosachevskaya and L. K. Silchenko, The effect of a temperature field on the steady-state motion of an elastoviscous medium in the boundary layer on a cylinder, *Teor. Prikl. Mekh.* No. 12, 139-142 (1981).

Yu. A. Kvasha and V. Yu. Nikolenko, A turbulent boundary layer on a curvilinear surface, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 5, 175-178 (1981).

L. G. Loitsyansky, Hereditary phenomena in turbulent boundary layers, *Vod. Resursy* No. 3, 52-59 (1981).

V. V. Mikhailov, On the asymptotes of neutral curves in the linear problem of laminar boundary layer stability, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 39-46 (1981).

V. A. Tenyanko, The coefficient of asymmetry in the distributions of velocity fluctuations in transition from a laminar to turbulent boundary layer, *Prikl. Mat. Tekh. Fiz.* No. 5, 106-109 (1981).

2. Turbulent flows

G. E. Aerov, A. N. Devoino and L. I. Kolykhan, An experimental study of the friction and averaged velocity profile in the turbulent flow of chemically-reactive nitrogen tetroxide in a round tube when heated, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energet. Navuk* No. 4, 79-86 (1981).

V. S. Belyaev, On the turbulence decay in a spot spreading in a stably stratified liquid, *Okeanologiya* 21(3), 435-440 (1981).

N. I. Bolonov, A. V. Guizha and V. G. Lobachev, An experimental study of the development of a turbulent mixing zone of two layers with different densities, *Teor. Prikl. Mekh.* No. 12, 121-124 (1981).

V. I. Glybochenko and K. M. Nyunkin, A theoretical investigation of the development of a turbulent mixing layer in a stratified liquid, *Teor. Prikl. Mekh.* No. 12, 128-133 (1981).

A. D. Khonkin, The combined resistance law for turbulent incompressible liquid flows with a pressure gradient, *Fiz. Mekh.* No. 4, 70-77 (1980).

V. E. Zakharov and A. V. Smilga, On quasi-one-dimensional spectra of weak turbulence, *Zh. Eksp. Teor. Fiz.* 81[4(10)], 1318-1326 (1981).

3. Kinetic theory of gases and liquids

A. G. Bashkirov, The nonequilibrium statistical mechanics of heterogeneous systems. III. The Brownian motion of a large particle in a non-homogeneous fluid, *Teor. Mat. Fiz.* 49(1), 140-144 (1981).

S. A. Beresnev, P. E. Suetin and V. G. Chernyak, The thermophoresis of a spherical particle in a polyatomic gas in a free molecular regime, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 184-186 (1981).

S. A. Reshetnyak, S. M. Kharchev and L. A. Shelepin, Asymptotic methods in the theory of linear kinetic equations, *Teor. Mat. Fiz.* 49(1), 131-139 (1981).

V. A. Rykov, Slow gas flows about a non-uniformly heated plate, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 181-184 (1981).

V. A. Tsibarov, The effect of an aerodynamic field on the coefficients of transport in a gas suspension, *Zh. Tekh. Fiz.* 51(9), 1987-1988 (1981).

NATURAL CONVECTION

V. E. Dzhashitov and V. M. Pankratov, Liquid convection in the cavity of a gyro device with a float of steplike shape in the presence of a non-uniform temperature field, in *Aerodynamics: Transonic Gas Flows*, pp. 162-166. Saratov (1981).

G. S. Golitsyn and A. A. Grachyov, The Bénard mean-square convection rates and heat transfer, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 11-18 (1981).

G. M. Makhviladze and I. P. Nikolova, The exothermal chemical reaction regimes in a closed vessel with natural convection of the reacting gas, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 3-10 (1981).

D. A. Nikulin and M. Kh. Strelets, On the possibility of self-oscillating solutions for non-stationary problems of mixed convection in gas mixtures, *Dokl. Akad. Nauk SSSR* 260(3), 554-556 (1981).

Yu. A. Sokovishin, A. I. Kalyutik, A. G. Semyonov and T. N. Aitov, Free convective heat transfer of a vertical surface with a linear heat flux variation on the wall, *Izv. VUZov, Energetika* No. 11, 120-122 (1981).

E. S. Vlahov, Z. L. Miropolsky and L. R. Khasanov-Agaev, Heat transfer to a medium with supercritical parameters in mixed convection and buoyancy flow in heated tubes, *Teploenergetika* No. 11, 69-71 (1981).

L. P. Vozovoi and A. A. Nepomnyashchii, Unsteady-state convective motions in a plane vertical layer, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 54-62 (1981).

FORCED CONVECTION

I. T. Aladiev, N. N. Dyshelev and N. L. Kafengauz, Heat transfer effect on the speed of sound in a turbulent liquid flow, *Teplofiz. Vysok. Temp.* 19(5), 1108-1111 (1981).

L. V. Arseniev, I. B. Mitryaev and N. P. Sokolov, Heat transfer in a plane channel with a one-row system of jets in the stalling flow, *Izv. VUZov, Mashinostroyeniye* No. 4, 60-64 (1981).

V. P. Bobkov and N. K. Savanin, The local heat transfer coefficient and its use for the calculation of temperature regimes in fuel elements, *Atomnaya Energiya* 51(1), 12-16 (1981).

A. Sh. Dorfman, O. A. Grechannyi and V. G. Novikov, Conjugated heat transfer of a moving continuous plate placed in a liquid flow, *Teplofiz. Vysok. Temp.* 19(5), 973-977 (1981).

P. Ionash, Heat transfer from a heated filament at high subsonic gas flows, *Prom. Teplotekh.* 3(6), 23-29 (1981).

V. M. Kapinos and A. F. Slitenko, Mean heat transfer on the contours of turbine blades, *Prom. Teplotekh.* 3(6), 46-51 (1981).

V. I. Katinas, V. S. Shuksteris and A. A. Zhukauskas, Heat transfer of a cylinder vibrating in a liquid cross-flow, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 3, 65-73 (1981).

G. M. Kazakov, A method for the solution of conjugated heat transfer problems of liquid motion in tubes, *Teplofiz. Vysok. Temp.* 19(4), 791-796 (1981).

N. G. Khutsikaya, An experimental study of heat transfer of an air-water flow in a diffuser, *Nauch. Prikl. Probl. Energet.* No. 8, 76-80 (1981).

A. A. Kochubei and A. A. Ryadno, Unsteady-state convective heat transfer in tubes of rectangular cross-section with boundary conditions of the second kind, *Teplofiz. Vysok. Temp.* 19(5), 978-982 (1981).

- N. M. Kuznetsov and S. P. Nasedkin, A study of the effect of non-isothermicity of heat agent supply on the formation of a thermal field in the reactor plenum chamber model, *Izv. VUZov, Energetika* No. 9, 54–58 (1981).
- G. K. Malikov and D. L. Lobanov, An investigation of heat transfer in a furnace for rapid jet heating of sheets, in *Metallurgical Heat Engineering*, No. 9, pp. 132–134. Moscow (1981).
- V. I. Malkovsky and I. A. Stepanova, The electric field effect on the flow and heat transfer of a poorly conducting liquid in a channel with plane walls, *Elektron. Obrabot. Materialov* No. 3, 45–48 (1981).
- A. I. Mazur, I. G. Golovnev, O. N. Kastelin and L. A. Rumyantseva, Local heat transfer on the surface in a longitudinal flow with the injection of one row of round impact jets, *Prom. Teplotekh.* 3(4), 3–11 (1981).
- V. B. Nesterenko, The problem of the heat transfer of a dissociating heat agent in nuclear power stations with fast reactors, *Heat and Mass Transfer—VI: Topical Papers of the 6th All-Union Heat and Mass Transfer Conf.*, pt. 1, pp. 120–133. Izd. ITMO AN BSSR, Minsk (1981).
- B. I. Nigmatulin, M. Z. Goryunova and Yu. V. Vasiliev, Towards the correlation of the experimental data on heat transfer in liquid films moving along solid surfaces, *Teplofiz. Vysok. Temp.* 19(5), 991–1001 (1981).
- B. I. Nigmatulin, V. A. Vinogradov and Sh. E. Kurbanov, An investigation of temperature regimes of the entry section of a vapour superheating channel, *Teploenergetika* No. 9, 63–65 (1981).
- D. G. Nikitin and S. N. Anisimov, The thermodynamic efficiency criterion and relative characteristics of heat transfer surfaces, *Izv. VUZov, Energetika* No. 3, 117–120 (1981).
- A. A. Panteleev, V. A. Slesarev and V. A. Trushin, An investigation of the effect of temperature nonstationarity on heat transfer at turbine blades, *Teploenergetika* No. 10, 58–61 (1981).
- B. S. Petukhov, A. S. Komendantov, M. N. Burdunin *et al.*, Heat transfer of a turbulent dissociating nitrogen dioxide flow in round tubes, *Teplofiz. Vysok. Temp.* 19(3), 543–551 (1981).
- V. B. Repin, Heat transfer of a cylinder at low-frequency oscillations, *Prikl. Mat. Tekh. Fiz.* No. 5, 67–72 (1981).
- V. L. Sergeev, V. P. Veselov and G. A. Vanitskaya, On the effect of the thermophysical properties of a body and a medium on a non-stationary convective heat transfer in the stagnation point region, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Nauk* No. 4, 95–99 (1981).
- A. A. Survila and A. I. Krotkus, The impedance in a system with forced convection. 4. Conditions for constant surface concentration, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 9–13 (1981).
- V. Yu. Survila, R. I. Yankauskas and L. A. Ashmantas, The hydraulic resistance and heat transfer of the bundles of closely packed oval helix tubes, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 57–62 (1981).
- G. G. Trayanov, Yu. I. Lipunov, L. B. Petrova and L. M. Zamaraev, Development of the systems and regimes of jet cooling of steel in the course of heat treatment, in *Metallurgical Heat Engineering*, No. 8, pp. 130–134. Moscow (1981).
- P. P. Vaitekunas, I. I. Zhyugzhda and A. A. Zhukauskas, Calculation of heat transfer in the transient and turbulent zones of a cylinder in a transverse air flow, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 63–70 (1981).
- Ya. M. Vizel, S. I. Zyryanov, V. S. Igumnov and I. L. Mostinsky, Heat transfer of an endothermally reacting gas flow through a packing in a heated tube, *Teplofiz. Vysok. Temp.* 19(5), 983–990 (1981).
- B. A. Zemlyansky and G. N. Stepanov, On the calculation of the heat transfer for a three-dimensional hypersonic air flow around thin blunt cones, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 173–177 (1981).
- L. Ya. Zhivaikin, M. Yu. Stoyak and V. B. Borodin, Heat transfer from liquid films with account for the temperature changes of viscosity, *Izv. VUZov, Energetika* No. 9, 122–125 (1981).
- A. A. Zhukauskas and P. S. Poshkas, The effect of velocity fluctuations of tube bundles in a transverse air flow on the intensity of heat transfer of a tube at large *Re* numbers, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 71–78 (1981).

PHASE CHANGES

1. Boiling and evaporation

- B. F. Balunov and E. L. Smirnov, Critical heat fluxes in the absence of heat agent discharge in vertical vapour-generating channels, *Atomnaya Energiya* 51(4), 222–224 (1981).
- V. P. Dumnov, V. V. Krashenninnikov and N. V. Ivanov, Determination of the law governing the displacement of the starting point of developed surface boiling on perturbation by a heat flux, *Teploenergetika* No. 9, 48–50 (1981).
- V. I. Fyodorov and N. P. Timchenko, Towards the determination of the speed of propagation of boiling regimes on non-isothermal surfaces, *Prom. Teplotekh.* 3(5), 28–33 (1981).
- V. V. Galaktionov, A. V. Mironenko and V. D. Portnov, An investigation of the model of the boiling process in slot channels, *Trudy Moskov. Energ. Inst.* No. 491, 82–85 (1980).
- N. S. Khabeev, The resonance properties of vapour bubbles, *Prikl. Mat. Mekh.* 45(4), 696–703 (1981).
- P. L. Kirillov and V. A. Grabezhnaya, On the effect of the means of heating on the critical heat flux, *Atomnaya Energiya* 51(4), 225–227 (1981).
- L. I. Kolykhan, V. N. Soloviyov and A. A. Shulzhenko, Pressure losses in the flow of a boiling dissociating nitrate heat agent in a horizontal channel, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Nauk* No. 3, 55–58 (1981).
- V. I. Kovalyov, V. G. Lushchik and A. E. Yakubenko, Flow with heat transfer in the presence of phase changes on the wall of an annular channel, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 143–146 (1981).
- D. A. Labuntsov and A. A. Avdeev, The theory of the effervescence jump, *Teplofiz. Vysok. Temp.* 19(3), 552–556 (1981).
- D. A. Labuntsov, A. G. Spiridonov and E. V. Ametistov, Concerning a certain method for determining the heating surface temperature in film boiling of He-II, *Trudy Moskov. Energ. Inst.* No. 491, 46–49 (1980).
- N. I. Maksyukov, Towards the evaporation of black holes, *Izv. VUZov, Fiz.* No. 3, 46–49 (1981).
- F. B. Nagiev and N. S. Khabeev, Growth and collapse of vapour bubbles in a boiling liquid, *Prikl. Mat. Tekh. Fiz.* No. 5, 100–106 (1981).
- A. P. Repin, Ya. I. Kravtsov and E. Ya. Tarat, Evaporative heat transfer in a foam layer on a counter-current tray, *Zh. Prikl. Khim.* 54(9), 2070–2076 (1981).
- V. I. Romanov, A. L. Sevryugin, Yu. M. Pavlov and V. I. Antipov, An investigation of heat transfer crises in the boiling of helium in a channel, *Teploenergetika* No. 10, 67–68 (1981).
- A. L. Seifer, A. P. Cherkis and N. A. Stepanyuk, A device for creating a two-phase flow by mixing the liquids that have different boiling temperatures, *Izmer. Tekh.* No. 10, 33–34 (1981).
- V. N. Serditov, S. M. Klimov and M. K. Bologa, The effect of an electric field on boiling heat transfer in vertical slot channels, *Elektron. Obrabot. Materialov* No. 5, 60–62 (1981).
- I. G. Shekrladze, On the mechanism of heat transfer hysteresis in the process of boiling, *Soobshchen. Akad. Nauk GSSR* 101(2), 325–328 (1981).
- R. I. Sozиеv and B. M. Korolkov, Vapour content of a heat agent boiling in tubes and rod assemblies, *Atomnaya Energiya* 51(5), 311–316 (1981).

2. Condensation

- Yu. F. Kiselyov and L. S. Atroshchenko, Film condensation heat transfer in an arbitrarily directed tube, *Prom. Energetika* No. 5, 42–46 (1981).
- S. I. Kuchanov, On the effect of mixing on the molecular non-

uniformity of the products of continuous polycondensation, *Teor. Osnovy Khim. Tekhnol.* 15(6), 855-866 (1981).

V. F. Stepanchuk and A. M. Brushkov, An analysis of heat transfer in condensation of a vapour-oil mixture, *Nauchn. Prikl. Probl. Energet.* No. 8, 84-87 (1981).

3. Crystallization, solidification and freezing

Kh. S. Bagdasarov and L. A. Goryainov, Physical and mathematical models of the heat transfer processes in devices used for obtaining monocrystals by the method of horizontal directed crystallization, *Fiz. Khim. Obr. Mater.* No. 5, 22-27 (1981).

B. V. Bazalii and V. Yu. Shelepov, An assessment of the stabilization rate for the Stefan problem solution, *Dokl. Akad. Nauk Ukr. SSR, Ser. A, Fiz.-Mat. Tekh. Nauki* No. 4, 3-6 (1981).

E. M. Ivanov, An approximate solution for the problem of crystallization of simply shaped bodies in radiative cooling, in *Thermal Physics of Technological Processes*, pp. 32-35. Kuibyshev (1980).

N. V. Lapin and V. A. Malyusov, The calculation of the admixture distribution in the crystallization of mixed melts with a cellular crystallization front, *Teor. Osnovy Khim. Tekhnol.* 15(6), 836-842 (1981).

I. V. Melikhov, The microkinetic foundations of industrial crystallization optimization, *Khim. Prom.* No. 11, 687-690 (1981).

A. A. Ofengenden and Yu. B. Bychkov, Self-regulation of heat transfer in the solidification of a continuous ingot, *Tsvetnye Metally* No. 4, 72-76 (1981).

O. V. Romankevich and S. Ya. Frenkel, On the calculation of the free surface energy magnitude at the crystal-melt interface in polyethylene crystallization, *Vysokomolek. Soedin.* 23(10), 744-749 (1981).

K. A. Rubezhansky, G. A. Kataev, B. P. Zhantalai and B. A. Kulikov, The application of a magnetic vibrational treatment to intensify the hardness of crystallization of salts, *Khim. Prom.* No. 10, 554-556 (1981).

Yu. A. Samoilovich and G. A. Volkova, An investigation of melt crystallization in the regime of self-oscillations, *Teplofiz. Vysok. Temp.* 19(5), 1002-1005 (1981).

E. M. Savitsky, Yu. V. Efimov, U. K. Duisemaliev and G. T. Omarova, The ultrasonic crystallization of ternary lead alloys, *Fiz. Khim. Obr. Mater.* No. 5, 80-85 (1981).

D. V. Tsikaeva and E. A. Podozerskaya, The effects of crystallization conditions on the filtration properties of calcium sulphate sediments obtained from 50-90% solutions of sulphuric acid within the temperature region from 40 to 100°C, *Zh. Prikl. Khim.* 54(10), 2201-2206 (1981).

Yu. A. Zhuravlyov, N. V. Medyuk, B. E. Lotoshnikov et al., Heat transfer in a device for growing bismuth germanate monocrystals at the onset of crystallization, *Tsvetnye Metally* No. 4, 58-61 (1981).

4. Melting and thawing

M. A. Anisimov and R. U. Tankayev, Ice melting near a hydrophilic surface, *Zh. Eksp. Teor. Fiz.* 81[1(7)], 217-225 (1981).

N. I. Gelperin and G. A. Nosov, The physical and chemical foundations of the process of separation of mixtures by fractional melting, *Khim. Prom.* No. 11, 679-682 (1981).

V. M. Glazov and V. B. Koltsov, On a change in the near order structure of a tellurium melt near the melting temperature, *Zh. Fiz. Khim.* 55(11), 2759-2764 (1981).

O. E. Khlebnikov, I. E. Veneraki, V. A. Sokolov and V. I. Deshko, The temperature dependence of the refractive index of a lithium fluoride melt, *Prom. Teplotekh.* 3(4), 60-63 (1981).

G. F. Shaikhiev, A. S. Sulaimanova and M. N. Shamsutdinov, The interrelation between an entropy jump and an ultrasonic speed at the melting point, *Zh. Fiz. Khim.* 55(9), 2251-2256 (1981).

M. I. Soboleva, Study of heat transfer of ice coating melting by stream formers, in *Navigable Conditions of Rivers and Transport Hydrotechnical Structures*, pp. 102-106. Leningrad (1980).

5. Heat pipes

Yu. F. Gerasimov, Yu. E. Dolgirev and Yu. F. Maidanik, The effect of wick drying-out on the performance characteristics of heat pipes with separated channels, *Izv. VUZov, Energetika* No. 10, 68-74 (1981).

V. G. Kashirsky, Yu. Ya. Pechenegov and Yu. I. Serov, An experimental study of heat transfer during water boiling in a microthermosyphon with heat supply to the face end, *Izv. VUZov, Energetika* No. 10, 64-68 (1981).

A. G. Kostornov, L. E. Lunin, M. I. Cherkasov and L. I. Chernyshyov, An investigation of the properties of a heat pipe having a capillary structure of sintered chromium powder, *Poroshk. Metallurgiya* No. 3, 47-50 (1981).

V. N. Yurin, Spindle assemblies (of machines) involving heat pipes, *Stanki Instrument* No. 4, 16-18 (1981).

RADIATION

V. N. Adrianov, On the accuracy of the 'gray approximation', *Teplofiz. Vysok. Temp.* 19(5), 1014-1017 (1981).

E. M. Anisyaev, Concerning the indication of burner flames on the basis of their radiation, *Teploenergetika* No. 10, 69-70 (1981).

N. S. Bakhvalov, Averaging of the heat transfer process in periodic media in the presence of radiation, *Diff. Uravn.* 17(10), 1765-1773 (1981).

V. A. Bazylev, V. I. Glebov, E. I. Denisov et al., X-ray Cherenkov radiation: theory and experiment *Zh. Eksp. Teor. Fiz.* 81[5(11)], 1664-1680 (1981).

V. B. Braginsky, I. Byukhner and Yu. I. Vorontsov, On the limiting sensitivity of radiation heat receivers, *Vestnik Moskov. Univ., Ser. 3, Fiz., Astronom.* 22(5), 31-35 (1981).

I. D. Feranchuk, The self-similar character of the electromagnetic radiation spectrum of channelled particles, *Dokl. Akad. Nauk BSSR* 25(12), 1088-1091 (1981).

V. G. Plotnichenko, V. K. Sysoev and I. G. Firsov, An analysis of the calorimetric measurements of the absorption coefficients in highly transparent solid materials, *Zh. Tekh. Fiz.* 51(9), 1903-1908 (1981).

A. F. Shorin and S. V. Petrov, Determination of the maximum heat irradiation level (in designing enterprises of ferrous metallurgy), *Trudy Moskov. Inst. Stali Splavov* No. 127, 59-63 (1981).

A. I. Vyskresentsev, A method for the numerical solution of the radiation transport equation in one-dimensional problems of gas dynamics, *Zh. Vychisl. Mat. Mat. Fiz.* 21(5), 1206-1214 (1981).

Yu. A. Zhuravlyov, Towards the calculation of radiative heat transfer, *Izv. Akad. Nauk SSSR, Energ. Transp.* No. 5, 171-174 (1981).

COMBINED HEAT AND MASS TRANSFER

A. A. Aleksashenko, Some approximate analytical methods for the solution of nonlinear heat and mass transfer problems, *Teor. Osnovy Khim. Tekhnol.* 15(4), 494-512 (1981).

B. I. Brounshtein and V. Ya. Rivkind, The internal heat and mass transfer problem with closed streamlines at high Peclet numbers, *Dokl. Akad. Nauk SSSR* 260(6), 1323-1326 (1981).

V. V. Gorsky and S. T. Surzhikov, A method for the solution of a conjugated heat and mass transfer problem in the case of the aerothermochemical destruction of bodies, *Teplofiz. Vysok. Temp.* 19(5), 1117 (1981).

E. Ya. Kenig, R. A. Baklachyan, L. P. Kholpanov et al., A method for calculation of heat and mass transfer in film rectification of multi-component mixtures, *Teor. Osnovy Khim. Tekhnol.* 15(4), 483-493 (1981).

L. P. Kholpanov, V. A. Malyusov and N. M. Zhavoronkov, Towards the calculation of heat and mass transfer in a two-phase film, *Dokl. Akad. Nauk SSSR* 260(2), 402-405 (1981).

L. A. Minukhin, Towards the solution of the problem of steady-state isothermal heat and mass transfer in a closed space, *Izv. VUZov, Energetika* No. 7, 64-67 (1981).

- V. P. Motulevich, Heat and mass transfer in physical-chemical conversions of substances in gas flows, in *Heat and Mass Transfer—VI. Topical Papers*, pt. 1, pp. 134–145. Izd. ITMO AN BSSR, Minsk (1981).
- N. I. Nikitenko and V. S. Travkin, Investigation of heat and mass transfer in a liquid phase of a continuous ingot, *Prom. Teplotekh.* 3(5), 47–54 (1981).
- N. N. Rykalin and A. A. Uglov, Heat and mass transfer in electronic beam and laser welding and heat treatment, *Prom. Teplotekh.* 3(5), 3–16 (1981).
- A. K. Viroya, Yu. I. Kallas and E. K. Siirde, On the correction factor for the heat and mass transfer coefficients, *Zh. Prikl. Khim.* 54(10), 2380 (1981).

HIGH-TEMPERATURE THERMOPHYSICS

1. *Combustion and detonation processes*

S. A. Abrukov, V. V. Afanasiev, V. P. Borisov and N. A. Medvedev, A study of the mechanism of the electric field effect on burning in channels with insulated walls, *Fiz. Goren. Vzryva* 17(3), 31–36 (1981).

Yu. M. Annushkin, Basic trends in the burning of turbulent hydrogen jets in air channels, *Fiz. Goren. Vzryva* 17(4), 59–71 (1981).

A. M. Badalyan, V. S. Babkin, A. V. Borisenko and A. Ya. Vykhristyuk, Effect of pressure on the limits of propagation of homogeneous gas flames, *Fiz. Goren. Vzryva* 17(3), 38–45 (1981).

A. N. Bazhaikin, Determination of the temperature fields in a hydrocarbon flame by the photopyrometric method, *Fiz. Goren. Vzryva* 17(3), 57–62 (1981).

S. V. Bobrovsky, V. M. Gogolev, B. V. Zamyshlyayev and V. P. Lozhkina, Dynamics of the substance state variation in the central region in camouflage explosions of rock salt, *Fiz. Goren. Vzryva* 17(4), 122–129 (1981).

V. I. Borisov and A. S. Pleshanov, Nonlinear long-wave stability of the laminar flame front, *Fiz. Goren. Vzryva* 17(4), 71–78 (1981).

Yu. I. Danilov, P. P. Kuznetsov and S. A. Klevtsov, An experimental study of the combustion of high-temperature hydrogen jets in air, *Fiz. Goren. Vzryva* 17(4), 29–33 (1981).

A. I. Didyukov, G. I. Kozlov and I. K. Seleznyova, Study of the properties of gas dynamic combustion product-based lasers with unstable cavities, *Fiz. Goren. Vzryva* 17(4), 109–113 (1981).

E. A. Dynin, On the one-dimensional stability of the stationary waves of compression and burning, *Fiz. Goren. Vzryva* 17(4), 85–91 (1981).

K. E. Dzhaugashtin and A. L. Yarin, A low-angle torch of non-mixed gases, *Fiz. Goren. Vzryva* 17(3), 49–56 (1981).

V. G. Grigoriev, K. P. Kutsenogii and V. E. Zarko, A model of aluminum agglomeration in the burning of mixture compositions, *Fiz. Goren. Vzryva* 17(4), 9–17 (1981).

V. G. Grigoriev, V. E. Zarko and K. P. Kutsenogii, An experimental study of the agglomeration of aluminum particles in the burning of condensed systems, *Fiz. Goren. Vzryva* 17(3), 3–10 (1981).

R. R. Grigoryan, S. D. Arsentiev and A. A. Mantashyan, The effect of the reacting mixture composition on the region of cold flame existence in propylene oxidation, *Fiz. Goren. Vzryva* 17(3), 36–38 (1981).

A. M. Grishin, A. D. Gruzin and V. G. Zverev, Heat and mass transfer and propagation of burning particles in the earth's layer of the atmosphere during forest fires, *Fiz. Goren. Vzryva* 17(4), 78–84 (1981).

S. P. Kanashin, M. S. Kozhukh, A. N. Kulagin and N. P. Tokarev, The limiting conditions for the combustion of β -azidoethanol, *Fiz. Goren. Vzryva* 17(3), 22–26 (1981).

S. P. Kazantsev, V. G. Kravets and L. A. Zaderii, Experimental studies of the specific features of dynamic filtration in the explosion of charges in water-saturated ground, *Fiz. Goren. Vzryva* 17(4), 153–154 (1981).

L. N. Korovin, S. A. Losev, S. G. Ruban and G. D. Smekhov, An investigation of natural gas combustion in a detonation reactor of industrial type, *Fiz. Goren. Vzryva* 17(3), 68–71 (1981).

V. R. Kuznetsov, A. B. Lebedev, A. N. Sekundov and I. P. Smirnova, An investigation of quasi-uniform turbulent diffusional burning with the use of an equation for the probability density distribution function, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 4, 3–11 (1981).

E. V. Levakov, S. A. Peleskov and V. P. Sorokin, A thermoelectric method for recording a self-oscillating combustion regime, *Fiz. Goren. Vzryva* 17(3), 18–22 (1981).

A. A. Maksakov and N. A. Roi, On the temperature of detonating a gas explosion at a high initial pressure, *Fiz. Goren. Vzryva* 17(4), 155–156 (1981).

V. A. Mogilev, A. G. Ivanov and Yu. A. Fateev, The response of thin-walled tubes to internal explosive local loading (Communic. 2), *Fiz. Goren. Vzryva* 17(3), 143–146 (1981).

V. V. Molkov and V. P. Nekrasov, The normal velocity of an acetone-air mixture flame propagation as a function of pressure and temperature, *Fiz. Goren. Vzryva* 17(3), 45–49 (1981).

V. V. Molkov and V. P. Nekrasov, The dynamics of gas combustion in a constant volume in the presence of a discharge, *Fiz. Goren. Vzryva* 17(4), 17–24 (1981).

M. Ya. Purmal, On the intensification of a burning kerosene torch by the application of an electric field, *Izv. VUZor, Energetika* No. 8, 110–112 (1981).

Yu. N. Rogov and L. P. Smirnov, Kinetics of heat generation on thermal decomposition of octohene, *Fiz. Goren. Vzryva* 17(3), 137–139 (1981).

E. A. Sagomonyan, Explosion of the spherical layer of a charge in a poorly compressible liquid, *Vestnik Moskov. Univ., Ser. 1, Mat., Mekh.* No. 5, 74–78 (1981).

A. G. Strunina, V. I. Ermakov, S. V. Kostin and V. V. Barzykin, Towards the choice of optimal conditions for ignition of poorly ignitable gas-free systems, *Fiz. Goren. Vzryva* 17(4), 3–9 (1981).

G. S. Sukhov and L. P. Yarin, Trends in burning of bubble media, *Fiz. Goren. Vzryva* 17(3), 10–18 (1981).

I. G. Zakharova, Calculation of the leakage of detonation products from a camouflage cavity on explosion, *Fiz. Goren. Vzryva* 17(3), 149–151 (1981).
2. *Shock waves*

L. V. Babare, Some aspects of solid-phase polymerization under the conditions of shock-wave loading, *Fiz. Goren. Vzryva* 17(4), 113–122 (1981).

K. A. Bezhanov, Shock wave diffraction during normal wave incidence on the free surface of the liquid containing a wedge with the apex at the interface, *Prikl. Mat. Mekh.* 45(4), 672–679 (1981).

B. E. Gelfand, A. V. Gubanov and E. I. Timofeev, Specific features of the propagation of shock waves in foams, *Fiz. Goren. Vzryva* 17(4), 129–136 (1981).

V. P. Goloviznin, The propagation of shock waves in expanding channels, *Zh. Tekh. Fiz.* 51(8), 1735–1737 (1981).

Ts. P. Ivanov, An investigation of shock waves on the basis of generalized thermal mechanics, *Prikl. Mekh.* 17(9), 27–33 (1981).

A. N. Kovalenko and G. V. Ivanov, Physicochemical conversion of lead nitrate in mixtures with aluminium under the action of shock waves, *Fiz. Goren. Vzryva* 17(4), 141–145 (1981).

A. M. Pukhov, Screening of VUV plasma radiation by the shock wave of a strong pulse discharge in xenon, *Zh. Prikl. Spekt.* 35(3), 548–550 (1981).

A. I. Zhmakin, N. P. Mende and A. A. Fursenko, An investigation of the three-dimensional interaction of a shock wave with a barrier, *Zh. Tekh. Fiz.* 51(7), 1463–1467 (1981).
3. *Low-temperature plasma*

M. V. Akulova, I. B. Blinicheva and A. I. Maksimov, The effect of a glow discharge on the structure of polyether threads, *Izv. VUZor, Khim. Khim. Tekhnol.* 24(9), 1143–1146 (1981).

- M. A. Aronov, A. V. Ivanov and M. P. Kokurkin, Power characteristics of the surface partial discharges and their use for estimating the life-time of polymeric insulation, *Trudy Moskov. Energ. Inst.* No. 510, 32–40 (1981).
- F. G. Baksht and A. B. Rybakov, The effect of the emissive properties of the surface on the arc hollow cathode characteristics in caesium plasma, *Zh. Tekh. Fiz.* 51(9), 1846–1849 (1981).
- G. I. Belyaev, P. N. Dashuk, S. A. Kozak *et al.*, Commutation of megampere pulse currents by a discharger with a slipping discharge, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 4, 151–156 (1981).
- V. I. Bespalov and V. V. Ryzhov, Non-uniform ionization of a gas-discharge gap by an electron beam, *Zh. Tekh. Fiz.* 51(7), 1403–1408 (1981).
- S. P. Boriskin and B. N. Devyatov, A scientific and engineering approach to the problem of the simulation and analysis of plasmatron dynamics as a technological object. III. Analysis of the dynamics at distributed external effects and the method for dynamic optimization of plasmatrons, *Izv. Sib. Otd. Akad. Nauk SSSR No. 8, Ser. Tekh. Nauk Vyp. 2*, 94–108 (1981).
- I. A. Bufetov, A. M. Prokhorov, V. B. Fyodorov and V. K. Fomin, Specific features of slow optical discharge initiation in air on triggering the plasma of light breakdown, *Pis'ma v Zh. Tekh. Fiz.* 7(15), 897–900 (1981).
- E. P. Busygin, V. G. Grigoriyants, A. V. Lugovskoi and V. P. Popovich, Characteristics of the line radiation of beam-plasma discharge without a magnetic field, *Zh. Tekh. Fiz.* 51(5), 1015–1017 (1981).
- G. G. Gladush and A. A. Samokhin, A numerical investigation of the current constriction on electrodes in a glow discharge, *Prikl. Mat. Tekh. Fiz.* No. 5, 15–23 (1981).
- O. N. Glagoleva and S. S. Vasiliev, Towards the problem of the energy distribution of electrons in a gas-discharge plasma at mean pressures, *Zh. Fiz. Khim.* 55(10), 2685–2686 (1981).
- A. P. Glinov, On the stability of an electric discharge stabilized by electrodes, *Teplotiz. Vysok. Temp.* 19(5), 903–908 (1981).
- Yu. M. Grishin, N. P. Kozlov, A. A. Mosin and V. I. Khvesyuk, A high-current plane constricted discharge in an optically non-transparent plasma (Communic. 2), *Izv. Sib. Otd. Akad. Nauk SSSR No. 8, Ser. Tekh. Nauk Vyp. 2*, 88–93 (1981).
- Yu. F. Kalyazin, N. Medina, V. M. Milenin and N. A. Timofeev, The study of the electrokinetic characteristics of the positive discharge column in the Hg+Ar+Ne mixture, *Zh. Tekh. Fiz.* 51(8), 1607–1611 (1981).
- Yu. F. Kalyazin, V. M. Milenin and N. A. Timofeev, A positive low-pressure discharge column in a ternary mixture of mercury with neon and argon, *Zh. Tekh. Fiz.* 51(8), 1612–1617 (1981).
- G. N. Kartmazov, V. V. Sagalovich, A. P. Patokin and V. V. Slezov, Pyrolysis of molybdenum hexacarbonyl in a glow discharge, *Zh. Prikl. Khim.* 54(7), 1667 (1981).
- G. V. Kolbychev and E. A. Samyshkin, Investigation of a volumetric gas discharge generating an electron beam, *Zh. Tekh. Fiz.* 51(10), 2032–2037 (1981).
- A. S. Kovalyov, A. T. Rakhimov, N. V. Suetin and V. A. Feoktistov, On the possible mechanism of glow discharge non-stability developing after the pulse action of an external ionizer, *Pis'ma v Zh. Tekh. Fiz.* 7(15), 911–914 (1981).
- L. V. Kozlovsky, E. M. Reikhrudel and G. V. Smirnitkaya, Structure and electric properties of gadolinium films obtained in a discharge with oscillating electrons, *Zh. Tekh. Fiz.* 51(8), 1718–1721 (1981).
- A. V. Kozlyev and Yu. D. Korolyov, A model of channel formation on the contraction of pulse bulk discharges, *Zh. Tekh. Fiz.* 51(10), 2210–2213 (1981).
- A. N. Lobanov, Ya. I. Londer, L. P. Menakhin and K. N. Uliyanov, A 'rapid' heating of hydrogen in a non-self-maintained discharge, *Teplotiz. Vysok. Temp.* 19(5), 1097–1099 (1981).
- Ya. I. Londer, L. P. Menakhin and K. N. Uliyanov, Study of a 'rapid' heating of oxygen in a non-self-maintained discharge, *Teplotiz. Vysok. Temp.* 19(4), 720–728 (1981).
- Yu. V. Petrushevich and A. N. Starostin, Investigation of dome instability in mixtures of noble and molecular gases, *Fiz. Plazmy* 7(4), 842–851 (1981).
- S. P. Reshenov, Towards the calculation of the electron distribution function and ionization rate in the active zone of an arc discharge hollow cathode, *Zh. Tekh. Fiz.* 51(7), 1393–1402 (1981).
- S. A. Yukhimchuk, Destruction of electrodes in plasmatrons by arc spots, *Zh. Tekh. Fiz.* 51(7), 1409–1414 (1981).

RHEOPHYSICS

- V. G. Babak, E. A. Neverova, I. B. Chekmaryova *et al.*, The stability and rheological properties of fat-water emulsions, *Izv. VUZov, Pishch. Tekhnol.* No. 5, 81–84 (1981).
- V. F. Babich, N. I. Korzhuk and Yu. S. Lipatov, On the structurally sensitive viscoelastic characteristics of polymers, *Vysokomolek. Soedin. Ser. A*, 23(8), 1696–1701 (1981).
- N. A. Bagatsky, V. V. Nizhnik and V. P. Dushchenko, Structural phenomena in a crystallizing polymer at small plastifier content, *Prom. Teplotekh.* 3(5), 86–92 (1981).
- L. V. Berezov, V. V. Guzeev, F. D. Ovcharenko *et al.*, A rheological investigation of the structure of aerosil dispersions in a plastifier, *Ukr. Khim. Zh.* 47(2), 179–185 (1981).
- I. M. Fedotkin, V. V. Bakhnova, F. G. Gilimiyarov and V. I. Sivetsky, Mixing of low-density polyethylene with polystyrene in the presence of dispersing additives, *Khim. Tekhnol.* No. 4, 40–42 (1981).
- R. G. Gorodkin, V. I. Kordonsky and Yu. E. Zverkhovsky, The means of modelling a mechanical behaviour of rheologically complex media, *Vestsi Akad. Nauk BSSR, Ser. Fiz.-Energ. Nauk* No. 4, 100–103 (1981).
- M. M. Iovleva, V. N. Smirnova, Z. S. Khanin *et al.*, On the determination of the melting temperatures of polymer crystal solvates by the system turbidity, *Vysokomolek. Soedin., Ser. A*, 23(8), 1867–1870 (1981).
- I. B. Kapustina, Effect of addition of vinyl monomers on the rate of radiative styrole polymerization in concrete, *Vestsi Akad. Nauk BSSR, Ser. Fiz.-Energ. Nauk* No. 4, 28–31 (1981).
- L. G. Kazaryan, A correlation between the melting temperature and the parameters of the polymer crystalline structures, *Vysokomolek. Soedin. Ser. A*, 23(9), 2071–2076 (1981).
- I. V. Korolyov and T. A. Larina, Rheological properties of bitumens filled with a mineral powder, *Izv. VUZov, Stroit. Arkhit.* No. 5, 80–84 (1981).
- V. I. Lyashkov, An experimental determination of the heat capacity of some additives to technical rubber mixtures, *Prom. Teplotekh.* 3(6), 70–73 (1981).
- V. A. Nikulin, A generalized velocity profile in a turbulent wall flow with additions of polymers, *Teor. Prikl. Mekh.* No. 12, 114–118 (1981).
- V. A. Pakharensko, E. M. Kirienko and V. V. Malinovsky, Fluidity of glass-fibre filled thermoplasts depending on the degree of filling, *Khim. Tekhnol.* No. 5, 11–13 (1981).
- K. B. Pavlov, I. A. Fedotov and A. P. Shakhov, On the structure of a laminar boundary layer in non-Newtonian dilatant liquids, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 4, 142–145 (1981).
- V. A. Pershin, V. I. Dreitser, S. L. Roginsky and Yu. K. Meshcheryakov, The efficiency of solidification of thick-walled glass-fibre plastics in a quasi-uniform temperature field, *Plast. Massy* No. 9, 39–40 (1981).
- M. B. Seliverstova, E. A. Vlasov, V. I. Deryuzhkina and B. L. Khranov, Investigation of the rheological properties of peptized pastes of aluminium hydroxide, *Zh. Prikl. Khim.* 54(10), 2307–2310 (1981).
- Z. P. Shulman, V. F. Volchenok and V. A. Demidov, Rheodynamics of the generalized Couette flow of nonlinear viscoelastic liquid, *Teor. Osnovy Khim. Tekhnol.* 15(5), 768–771 (1981).

- O. M. Smirnov, A. S. Anishchenko, M. A. Tsepin and A. S. Kh. Khamza, A technique of determining the parameters of the rheological equation of state for superplasticity of materials in gas-static molding, *Izv. VUZov, Chernaya Metallurgiya* No. 3, 105–108 (1981).
- A. D. Stadnik, V. M. Baranovsky and V. P. Dushchenko, Thermophysical properties of polymer composite materials exposed to thermomagnetic treatment, *Prom. Teplotekh.* 3(6), 65–70 (1981).
- A. V. Vdovin and A. V. Smolyakov, The turbulent diffusion of polymers in a boundary layer, *Prikl. Mat. Tekh. Fiz.* No. 4, 98–104 (1981).
- M. G. Vitovskaya, P. N. Lavrenko, O. V. Okatova *et al.*, Hydrodynamic properties and an equilibrium rigidity of polyamidobenzimidazole molecules in dimethylacetamide and sulphuric acid, *Vysokomolek. Soedin., Ser. A* 23(9), 1959–1968 (1981).
- V. I. Vlasenko, L. E. Rybakova, R. Ya. Kosterina *et al.*, Investigation of the rheological properties of polycapromide mixture with polyethyleneglycol, *Khim. Tekhnol.* No. 5, 6–8 (1981).
- Ya. M. Zaidel and B. I. Levi, Numerical simulation of the unstable motion of polymer solution edge in a porous medium, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 5, 88–93 (1981).
- A. N. Zhitomirsky, Dependence of the viscosity of liquid oil products on temperature, *Khim. Tekhnol. Topliv Masel* No. 9, 46–49 (1981).
- HEAT AND MASS TRANSFER
IN TECHNOLOGICAL PROCESSES**
- 1. Drying**
- V. M. Imbritsky, The drying of a lining during a first heating of boilers, *Energ. Stroito.* No. 2, 51–52 (1981).
- D. P. Lebedev, O. A. Gerashchenko and E. F. Andreev, The methods for controlling the sublimation dehydration process in vacuum, *Prom. Teplotekh.* 3(5), 102–113 (1981).
- F. I. Luknitskii, Yu. Kh. Lokshin, M. S. Yufa *et al.*, The development and implementation of the process of drying the crystalline vitamin D₂ under a pulsed fluidization regime, *Khim.-Farmats. Zh.* 15(7), 101–103 (1981).
- S. S. Morozova, Accelerated drying of lacquer coatings, *Derevoobr. Prom.* No. 4, 7 (1981).
- Yu. A. Ostapenko and L. D. Yaroshchuk, The choice of the optimization criterion for the processes of granulation and drying in the production of mineral fertilizers, *Khim. Tekhnol.* No. 4, 34–35 (1981).
- 2. Heat and mass exchangers**
- O. G. Golubkov, V. I. Klyuev and Yu. P. Saigin, An algorithm for the calculation of the 'gas-liquid'-type heat exchangers, *Khim. Neft. Mashinostroenie* No. 6, 14–15 (1981).
- V. V. Kafarov, V. G. Vygon and N. F. Yurim, Investigation of the hydrodynamics of an apparatus with a circulation loop by the mathematical simulation method, *Izv. VUZov, Khim. Khim. Tekhnol.* 24(6), 749–752 (1981).
- E. M. Kovalyov, Z. F. Kostenko, V. P. Sergeenkov and I. G. Kuzmin, The enhancement of the operation of natural circulation evaporators, *Khim. Neft. Mashinostroenie* No. 8, 11–12 (1981).
- A. V. Shishkin and I. V. Domansky, The enhancement of heat transfer in rotor film apparatus, *Khim. Neft. Mashinostroenie* No. 6, 14 (1981).
- 3. Dispersed systems**
- G. N. Abaev, E. K. Popov, I. S. Lukiyanenko *et al.*, Concerning the flow in apparatus with a fixed granular bed, *Dokl. Akad. Nauk SSSR* 259(3), 655–659 (1981).
- A. G. Averkin, P. M. Gofman, B. D. Levin and E. D. Levin, Heat transfer between a two-phase flow and a metal wall in a vortex-type apparatus, *Teor. Osnovy Khim. Tekhnol.* 15(4), 606–607 (1981).
- V. I. Berdnikov, A. M. Levin and K. M. Shakirov, On the method of modelling bubble formation at a submerged orifice, *Teor. Osnovy Khim. Tekhnol.* 15(5), 772–775 (1981).
- Yu. G. Chesnokov and I. O. Protodiyakonov, The motion of bubbles in a fluidized bed in restricted conditions, *Zh. Prikl. Khim.* 54(4), 926–928 (1981).
- Yu. G. Chesnokov and I. O. Protodiyakonov, A method for constructing simplified equations of the transport of the required component by solid particles in a fluidized bed, *Zh. Prikl. Khim.* 54(4), 929–930 (1981).
- V. M. Gazizulin and V. V. Dilman, The calculation of the static pressure of a gas-liquid layer on high-bed perforated plates, *Khim. Prom.* No. 6, 369–370 (1981).
- F. Z. Grek, Towards the calculation of the interphase heat transfer in a fluidized bed, *Zh. Prikl. Khim.* 54(8), 1879–1881 (1981).
- Yu. P. Gupalo, A. D. Polyanin, V. D. Polyanin *et al.*, On the quasi-stationary mass transfer of a chain of particles in liquid flow, *Prikl. Mekh.* 17(5), 136–139 (1981).
- A. A. Khachatryan, M. A. Lunina and A. D. Korenev, The study of the adsorption of non-ionogenic surface-active substances from aqueous solutions on dispersed metals, *Kolloid. Zh.* 43(4), 802–804 (1981).
- A. M. Kutepov and N. V. Sokolov, The stochastic calculation of periodic cylindrical settlers, *Teor. Osnovy Khim. Tekhnol.* 15(3), 405–409 (1981).
- R. O. Kuusik, A. A. M. Kuusk and M. A. Veiderma, An investigation of the kinetics of phospho-gypsum reduction in a fluidized bed, *Khim. Prom.* No. 7, 409–411 (1981).
- A. S. Lyshevsky, V. F. Mylnev and V. D. Mylneva, The distribution of the sprayed liquid in an evacuated space when supplied by mechanical helical injectors, *Teor. Osnovy Khim. Tekhnol.* 15(5), 776–780 (1981).
- G. M. Mikhailov and N. V. Tyabin, The determination of the mean driving force of heat transfer in fluidized bed heat exchangers, *Izv. VUZov, Khim. Khim. Tekhnol.* 24(7), 904–906 (1981).
- R. M. Mirzakhanyan, The calculation of the pneumatic transport of loose materials in a packed bed, *Khim. Prom.* No. 4, 245–247 (1981).
- V. A. Mukhin and N. N. Smirnova, An experimental study of the unsteady-state heat transfer in a porous bed during liquid filtration, *Prikl. Mat. Tekh. Fiz.* No. 4, 110–115 (1981).
- S. A. Pavlikov, Towards the determination of the parameters of a gas-vapour bubble around an electric arc in a transformer oil, *Izv. VUZov, Energetika* No. 5, 91–93 (1981).
- G. P. Pitserskikh, The theory of liquid spraying by rotating disks, *Teor. Osnovy Khim. Tekhnol.* 15(5), 746–753 (1981).
- V. I. Popov, Oscillation spectra of moving gas bubbles in the transition of a liquid-gas system into weightlessness, *Izv. Akad. Nauk Latv. SSR, Ser. Fiz. Tekh. Nauk* No. 3, 53–55 (1981).
- V. A. Prisyazhnyuk, V. P. Minenko, G. S. Verteletskii and V. A. Podoinitsyn, The coupling between certain characteristics in the solid body-liquid system, *Zh. Prikl. Khim.* 54(8), 1829–1830 (1981).
- I. G. Roda and V. M. Cherkasov, A study of the work of a through-current device in continuous-action adsorbers, *Khim. Prom.* No. 8, 491–493 (1981).
- O. I. Rozhdestvensky, A. P. Bondarenko, Z. Sh. Kazhdaya *et al.*, Comparison of the relationships used to calculate the porosity of a fluidized bed in laminar flow regime, *Zh. Prikl. Khim.* 54(8), 1888–1890 (1981).
- R. B. Segal and Yu. F. Gaisinsky, An approach to investigation of the behaviour of drops formed on liquid jet fragmentation, *Teor. Osnovy Khim. Tekhnol.* 15(5), 784–786 (1981).
- E. D. Shchukin, E. A. Amelina and V. V. Yaminsky, On the thermodynamic stability of dispersed systems, *Dokl. Akad. Nauk SSSR* 258(2), 419–423 (1981).
- N. M. Smirnov, V. N. Blinichev and V. V. Streltsov, The calculation of the granulometric composition of material

crushed in millers of shock-reflection operation, *Teor. Osnovy Khim. Tekhnol.* **15**(3), 424-428 (1981).

V. M. Suprun, The effect of the fractional composition of the layer on the processes of convective heat and mass transfer from a vertical surface, *Khim. Neft. Mashinostroenie* No. 9, 35-36 (1981).

L. T. Yachmenev and S. N. Bulatov, An analytical calculation

of the extraction with a crossflow from diluted solutions, *Teor. Osnovy Khim. Tekhnol.* **15**(3), 443-446 (1981).

Yu. I. Yalamov, V. S. Galoyan and L. V. Khanukhova, The theory of motion of concentrated solution droplets in the temperature gradient field of a binary viscous mixture, *Zh. Tekh. Fiz.* **51**(2), 409-414 (1981).