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HEAT AND MASS TRANSFER BIBLIOGRAPHY—SOVIET WORKS

R. I. SOLOUKHIN and O. G. MARTYNENKO
Heat and Mass Transfer Institute, Minsk, U.S.S.R.

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BOOKS

I. T. Aladiev (Editor), *Studies on Heat Transfer and Hydrodynamics in the Elements of Power Plants, Collected Papers.* Izd. ENIN, Moscow (1979).

V. M. Borishansky and P. A. Ushakov (Editors), *Heat Transfer and Hydrodynamics of a Single-Phase Flow in Rod Bundles, Collected Papers.* Izd. Nauka, Leningrad (1979).

V. A. Borodulya and L. M. Vinogradov, *Fluidized-Bed Combustion of Solid Fuels.* Izd. Nauka i Tekhnika, Minsk (1980).

L. V. Gogish and G. Yu. Stepanov, *Turbulent Detached Flows.* Izd. Nauka, Moscow (1979).

S. I. Isaev, I. A. Kozhinov, V. I. Kofanov *et al.*, *Heat and Mass Transfer Theory.* Izd. Vysshaya Shkola, Moscow (1979).

E. M. Kartashov, *Analytical Methods for Thermal Conductivity of Solids.* Izd. Vysshaya Shkola, Moscow (1979).

S. S. Kutateladze (Editor), *Thermal Properties of Substances and Materials, Collected Papers.* Izd. Inst. Teplofiz., Novosibirsk (1979).

S. S. Kutateladze and E. M. Khabakhpasheva (Editors), *Rheodynamics, Heat and Mass Transfer, Collected Papers.* Izd. Inst. Teplofiz., Novosibirsk (1979).

S. S. Kutateladze and N. A. Rubtsov (Editors), *Investigation of Heat Transfer and Radiation Transfer Properties, Collected Papers.* Izd. Inst. Teplofiz., Novosibirsk (1979).

B. S. Petukhov (Editor), *Problems of Convective and Radiative-Conductive Heat Transfer.* Izd. Nauka, Moscow (1980).

V. V. Pottosin, *Thermodynamic Foundations of Gasdynamics and Combustion (Thermodynamics for Specialists in Ballistics).* Izd. Tomsk. Univ., Tomsk (1979).

L. L. Vasiliev, G. I. Bobrova and S. A. Tanaeva, *Porous Materials in Cryogenic Technology.* Izd. Nauka i Tekhnika, Minsk (1979).

Yu. V. Vidin (Editor), *Heat Transfer and Hydrodynamics, Collected Papers.* Izd. Krasnoyarsk. Politekh. Inst., Krasnoyarsk (1979).

N. N. Yanenko (Editor), *Investigation of Wall Flows of a Viscous Gas, Collected Papers.* Izd. Inst. Teor. Prikl. Mekh., Novosibirsk (1979).

A. A. Zhukauskas and I. I. Zhyugzhda, *Heat Transfer of a Cylinder in a Liquid Cross-Flow.* Izd. Mokslas, Vilnius (1979).

PAPERS

THERMODYNAMICS

I. M. Abdulagatov and B. G. Alibekov, The state equation for *n*-heptane in the overcritical region, *Zh. Fiz. Khim.* **54**(6), 1400–1403 (1980).

V. A. Abovsky and L. R. Linshits, Concerning thermodynamic effects of gas mixing, *Dokl. Akad. Nauk SSSR* **252**(4), 901–904 (1980).

A. D. Alyokhin and Yu. I. Shimansky, Gravitational distribution of thermodynamic properties of binary solutions near the critical state, *Ukr. Fiz. Zh.* **25**(6), 989–992 (1980).

S. V. Antonov, Classical presentation of classical thermodynamics, *Usp. Fiz. Nauk* **131**(1), 76–78 (1980).

A. K. Baev, Regularities in the activation energies of carbonyl decomposition under heating and correlation with their thermodynamic characteristics, *Zh. Fiz. Khim.* **54**(6), 1361–1369 (1980).

L. F. Blazhievsky, On application of integrals over paths in statistical thermodynamics, *Ukr. Fiz. Zh.* **24**(11), 1737–1745 (1979).

A. N. Gorbunov, Thermodynamic verification of the experimental data on liquid–vapour equilibrium of binary systems under isothermal conditions, *Zh. Fiz. Khim.* **54**(6), 1404–1407 (1980).

Yu. V. Gurikov, Calculation of thermodynamic and transport properties of liquids using low-temperature decompositions, *Zh. Fiz. Khim.* **54**(6), 1412–1416 (1980).

D. N. Kagan, E. E. Shpil'rain and G. A. Krechetova, Analysis of the types of binary systems based on alkaline metals using the data on excessive thermodynamic functions, *Teplofiz. Vysok. Temp.* **18**(3), 639–643 (1980).

V. A. Kazakov, Nonlinear relaxation of thermodynamic quantities, *Izv. VUZov, Fizika* No. 4, 65–68 (1980).

Yu. M. Lukashov, Thermodynamic potentials of the formation of H^+ and OH^- ions in water at high pressures and temperatures, *Teploenergetika* No. 6, 66–67 (1980).

Yu. M. Lukashov, Some thermodynamic laws governing electrolytic dissociation of H_2O within a wide range of state parameters, *Zh. Fiz. Khim.* **54**(6), 1378–1383 (1980).

E. F. Ratnikov and B. L. Gershkovich, Thermodynamic analysis of the systems of atomic power stations providing high-potential heat for the needs of ferrous metallurgy, *Izv. VUZov, Energetika* No. 7, 32–37 (1980).

E. G. Shreder and Yu. I. Paskal', The variational principle of the irreversible thermodynamics, *Izv. VUZov, Fizika* **23**(5), 47–51 (1980).

E. G. Shreder and Yu. I. Paskal', The variational principle of the irreversible thermodynamics for a two-phase system, *Izv. VUZov, Fizika* **23**(7), 6–9 (1980).

V. P. Vasiliev, E. V. Kozlovsky and A. A. Mokeev, Thermodynamics of reactions producing halide mercury complexes (II) in an aqueous solution, *Zh. Neorg. Khim.* **25**(7), 1765–1771 (1980).

I. A. Vasilieva and I. S. Sukhushina, Thermodynamic properties and defective structure of vanadium pentoxide, *Vestnik Moskov. Univ., Ser. 2. Khimiya* No. 3, 219–223 (1980).

I. P. Vyrodov and D. K. Belashchenko, The conference on thermodynamics of irreversible processes. *Zh. Fiz. Khim.* **54**(7), 1894 (1980).

B. F. Yudin, V. D. Vvedensky, G. N. Kudryashova and M. V. Konopel'ko, Thermodynamic analysis of dissociative TiO_2 evaporation in vacuum and in oxidizing atmosphere, *Izv. Akad. Nauk SSSR, Neorg. Mater.* **16**(6), 1033–1036 (1980).

THERMOPHYSICAL (TRANSPORT) PROPERTIES

M. I. Aivazov, T. I. Bryushkova and V. S. Mkrtchyan, Thermal conductivity of solid solutions of TiN-[MnN], *Teplofiz. Vysok. Temp.* **18**(3), 519–522 (1980).

V. V. Aristov, A. A. Makhmudov and S. P. Popov, Solution to a non-stationary problem on the rupture decay in a viscous heat conducting gas, *Zh. Vychisl. Mat. Mat. Fiz.* **20**(4), 1066–1070 (1980).

D. I. Avaliani and I. S. Arveladze, Thermal diffusivity and heat capacity of antifrictional self-lubricating plastics, *Soobshchen. Akad. Nauk. GSSR* **96**(1), 149–152 (1979).
T. I. Babanina, L. F. Kononova and L. F. Panysheva, Thermophysical indices of improved-grade lightweight aggregate concrete, *Beton Zhelezobeton* No. 7, 22 (1980).
I. P. Bazarov, On the magnitude of isochoric heat capacity of pure substances at the critical point, *Zh. Fiz. Khim.* **54**(7), 1891–1892 (1980).
G. A. Berezovsky, Yu. G. Stenin and I. E. Paukov, Low-temperature heat capacity, entropy and enthalpy of tin dibromide, *Zh. Fiz. Khim.* **54**(7), 1871–1873 (1980).
I. S. Bogachyova, K. B. Zemdikhanov, G. Kh. Mukhamedzyanov *et al.*, Thermal conductivity of the solutions of some organic liquids, *Zh. Fiz. Khim.* **54**(6), 1468–1470 (1980).
A. A. Buikis, Stability of one difference scheme for the heat conduction equation subject to the concentrated capacity-type boundary-value condition, *Latv. Mat. Ezhegodnik* Vyp. 23, 194–198 (1979).
E. N. Dimarova, N. V. Gorbokon', I. S. Rez and M. F. Koldobskaya, Thermal conductivity of triglycinesulfate, *Dielektriki Poluprovodniki* Vyp. 17, 15–21 (1980).
V. P. Dushchenko and L. I. Fyoklina, Thermophysical properties of polymer compositions based on polyvinylidenfluoride and thin-dispersed fillers, *Prom. Teplotekh.* **2**(4), 17–22 (1980).
V. Z. Geller, G. V. Zaporozhan and A. L. Rotkop, Investigation of thermal conductivity of some directly distilled and secondary petroleum products, *Izv. VUZov, Neft Gaz* No. 6, 52–55 (1980).
B. A. Grigoriev, A. M. Ishkhanov, Yu. L. Rastorguev and V. V. Pugach, Thermal conductivity of cyclohexane and cyclohexene at high pressures, *Izv. VUZov, Neft Gaz* No. 6, 48–51 (1980).
V. N. Kashcheev, Thermal conductivity of ferroelectrics with hydrogen bonds, *Teor. Mat. Fiz.* **44**(1), 103–117 (1980).
V. V. Kerzhentsev, Yu. K. Vinogradov and V. S. Yargin, Thermal conductivity of cesium vapour, *Temat. Sborn. Nauch. Trudov Mosk. Aviats. Inst.* Vyp. 498, 61–66 (1979).
K. A. Khairutdinov, Once again on the magnitude of isochoric heat capacity of pure substances at the critical point, *Zh. Fiz. Khim.* **54**(7), 1892–1893 (1980).
A. B. Laurinavichyus, F. F. Belinskis and G. A. Derevenskaya, Modelling of the automated system structure of scientific investigations of thermophysical processes, *Trudy Akad. Nauk Lit. SSR, Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 79–90 (1980).
I. I. Perel'shtein and E. B. Parushin, Generalized equations for calculation of viscosity and thermal conductivity of cooling agents, *Kholod. Tekh.* No. 6, 34–37 (1980).
I. I. Perel'shtein and E. B. Parushin, A nomogram for determining viscosity and thermal conductivity of cooling agents, *Kholod. Tekh.* No. 6, 61–62 (1980).
A. N. Piven', T. Ya. Shimchuk and V. L. Chistyakov, Study of the effect of molecular mass on the thermophysical properties of polybutylene terephthalate, *Prom. Teplotekh.* **2**(4), 48–50 (1980).
A. N. Ulashchik, V. Ya. Chekhovskoi, A. I. Romanov *et al.*, Thermal conductivity and integral hemispherical emissivity of magnesia-spinel ceramics in the region of high temperatures, *Teplofiz. Vysok. Temp.* **18**(3), 513–518 (1980).
Yu. K. Vinogradov and E. G. Klenyaev, Study of the thermal conductivity of helium by the method of batch heating, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 498, 66–70 (1979).
B. P. Yuriev, V. S. Khomutinin, A. G. Zhunev *et al.*, Investigation of thermophysical properties of siderite ores and the products of their roasting. *Communic. I, Izv. VUZov, Chyornaya Metallurgiya* No. 1, 21–24 (1980).
Yu. P. Zarichnyak, Towards calculation of thermophysical properties of a new class of composites based on metastable solid solutions of inert gases in aluminum, *Izv. VUZov, Priborostroenie* **23**(7), 79–81 (1980).

HEAT CONDUCTION

M. I. Bevzyuk, O. A. Gerashchenko, T. G. Grishchenko and R. I. Kutas, A new method of determining thermal conductivity of rocks in drill holes, *Prom. Teplotekh.* **2**(4), 99–102 (1980).
A. M. Denisov, An approximate solution to the Volterra first-kind equation associated with a particular inverse problem for the heat conduction equation, *Vestnik Moskov. Univ. Ser.* 15, No. 3, 49–52 (1980).
N. N. Dorozhkin, V. I. Zhornik and V. A. Vereshchagin, Calculation of the temperature field in electrically plated units, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 3, 130–131 (1980).
S. G. Gendler and I. A. Pavlov, Concerning a particular method for solving heat conduction problems in a heterogeneous medium, *Inzh.-Fiz. Zh.* **39**(1), 161 (1980).
Yu. I. Golovin and V. A. Kiperman, Concentration of electrical and thermal fields at the apex of sharp flaws in a metal, *Fiz. Khim. Obr. Mater.* No. 4, 26–31 (1980).
I. E. Kaporin and E. S. Nikolaev, The method of fictitious unknowns for the solution of elliptical difference boundary-value problems in irregular regions, *Diff. Uravn.* **16**(7), 1211–1225 (1980).
L. V. Klychnikov, S. P. Davtyan, S. I. Khudyaev and N. S. Enikolopyan, Concerning the effect of a non-uniform temperature field on distribution of residual stresses in frontal solidification, *Mekh. Komposit. Mater.* No. 3, 509–513 (1980).
O. M. Kostenok, N. V. Bol'shakova and V. L. Mal'ter, The effect of a temperature jump on heat transfer in the pores of bulk materials, *Teplofiz. Vysok. Temp.* **18**(3), 653 (1980).
V. L. Makarov, I. P. Gavrilyuk and V. M. Luzhnykh, The exact and truncated difference schemes for one class of Sturm–Liouville problems with degeneration, *Diff. Uravn.* **16**(7), 1265–1275 (1980).
A. Mamatov, Application of the method of heat potentials to the nonlinear heat conduction equation, *Vopr. Vychisl. Prikl. Mat.* Vyp. 57, 27–35 (1979).
A. D. Markin and L. I. Gushchina, Some results of the solution of inverse nonlinear heat conduction problems for multilayer walls by the perturbation method, *Izv. VUZov, Energetika* No. 7, 114–117 (1980).
A. V. Multanovsky, Some aspects of the study of qualitative characteristics of the optimal filter when applied to heat conduction problems, *Energ. Mashinostroenie (Khar'k. Politekh. Inst.)* Vyp. 29, 110–114 (1980).
N. I. Nikitenko and S. D. Postil, Numerical solution of two-dimensional inverse heat conduction problems, *Teplofiz. Teplotekh.* Vyp. 37, 41–44 (1979).
L. P. Orlov, V. K. Polevikov and V. E. Fertman, Calculation of the temperature field of a shaft encapsulated by a magnetoliquid seal, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 3, 112–115 (1980).
G. A. Pribytkov and V. I. Itin, The temperature field produced by nonisothermal interaction of a solid metal with the melt, *Izv. VUZov, Fizika* No. 4, 123 (1980).
G. G. Schastlivyi and A. I. Titko, Solution of a temperature field problem in energetics, *Izv. VUZov, Energetika* No. 6, 66–70 (1980).
V. A. Sipailov and M. G. Baranov, Estimation of the accuracy of an approximate solution to the problem of heating subject to discontinuous boundary conditions, *Fiz. Khim. Obr. Mater.* No. 3, 16–19 (1980).
Yu. A. Timofeev, An approximate method for calculation of temperature fields of piece-wise homogeneous bodies, *Diff. Uravn.* **16**(8), 1492–1503 (1980).
P. V. Tsoi and S. Yu. Yusupov, An analytical method for the solution of non-correct heat conduction problems, *Dokl. Akad. Nauk Tadzh. SSR* **22**(10), 600–604 (1979).
P. V. Tsoi and S. Yu. Yusupov, Concerning a method for the solution of the inverse heat conduction problems, *Izv. Akad. Nauk SSSR, Energet. Transp.* No. 3, 170–176 (1980).
A. A. Uglov, V. V. Ivanov and A. I. Tuzhikov, Calculation of the temperature field of moving heat sources with regard for

the temperature dependence of coefficients, *Fiz. Khim. Obr. Mat.* No. 4, 7–11 (1980).

K. I. Yangursky, I. V. Atamanova and N. V. Ignatiev, The temperature field of a microminiature subblock hermetically sealed by a compound, *Mikrominiatyuriz. Radioelektr. Ustroistv* Vyp. 2, 41–46 (1979).

A. I. Zhbanov, V. S. Koshelev and V. N. Shevtsov, Solution of the linear two- and three-dimensional unsteady-state heat conduction problems of finite elements pp. 70–72, in *Heat and Mass Transfer*—VI Vol. 9, Izd. ITMO AN BSSR, Minsk (1980).

HYDROMECHANICS

1. *Boundary layer*

L. A. Arkhangel'skaya and A. F. Polyansky, Concerning the effect of injection of chemically active components on non-equilibrium flow in a laminar boundary layer of blunted cones pp. 107–112, in *Heat and Mass Transfer*—VI Vol. 3, Izd. ITMO AN BSSR, Minsk (1980).

I. G. Brykina, E. A. Gershbein and S. V. Peigin, A laminar boundary layer on swept wings of an infinite span in a flow at the angle of attack pp. 27–39, in *Heat and Mass Transfer*—VI Vol. 3, Izd. ITMO AN BSSR, Minsk (1980).

A. M. Lifshits, Stability of an asymptotic boundary layer with suction against finite-amplitude disturbances, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 140–143 (1980).

A. A. Rodionov and T. A. Khantuleva, A non-local model of a relaxing boundary layer, *Vestnik LGU* No. 7, *Mat., Mekh., Astronom.* Vyp. 2, 96–101 (1980).

L. I. Vereshchagina, Invariant solutions to the equations of a spatial non-stationary boundary layer, *Vestnik LGU* No. 7, *Mat., Mekh., Astronom.* Vyp. 2, 61–65 (1980).

M. D. Zdunkevich, Calculation of a turbulent boundary layer in a high-enthalpy flow, *Uchen. Zapiski TsAGI* **11**(1), 105–109 (1980).

2. *Turbulent flows*

V. A. Ablamsky, The critical Reynolds numbers and turbulence parameters in smooth tubes, *Izv. VUZov, Energetika* No. 7, 67–69 (1980).

N. A. Armand and V. N. Sekistov, Application of the nonlinear Daisson equation to the study of propagation of short waves in a Gaussian turbulent medium, *Izv. VUZov, Radiofiz.* **23**(5), 555–569 (1980).

G. B. Bart, I. M. Dementiev and V. G. Ivanov, Study of the width of a turbulent near wake behind a sphere at $M_\infty = 2$, $Re_\infty = 1.5 \cdot 10^6$. *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 137–139 (1980).

E. P. Dyban and E. Ya. Epik, Local isotropy of turbulence in stabilized air flow in ducts, *Teplofiz. Teplotekh.* Vyp. 37, 15–21 (1979).

N. E. Galich, Turbulence generated by laser radiation in a quiescent and moving gas (liquid), *Zh. Tekh. Fiz.* **50**(6), 1196–1202 (1980).

B. N. Gorobets, Turbulent transfer in stratified flows, *Vestnik L'vovsk. Politekh. Inst.* No. 144, 65–66 (1980).

S. F. Krylov and V. V. Yan'kov, On the role of solitons in strong turbulence, *Zh. Eksp. Teor. Fiz.* **79**[1(7)], 82–86 (1980).

V. A. Solopov, Application of the turbulent motion equations to the study of jet flows, *Temat. Sborn. Nauch. Trudov Mosk. Aviats. Inst.* Vyp. 495, 58–63 (1979).

V. A. Zverev, E. M. Krikunova and F. A. Markus, A method for checking the validity of the hypothesis of "frozen" turbulence for randomly inhomogeneous transparent media, *Izv. VUZov, Radiofizika* **23**(5), 570–575 (1980).

NATURAL CONVECTION

S. I. Aladiev, The effect of natural convection on the growth rate of crystals obtained by the method of sublimation pp. 61–67, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

I. Kh. Kolodtsev, Investigation of free convection heat transfer of the saturated vapour of dissociating nitric tetraoxide pp. 152–157, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).

K. V. Pribytkova, S. I. Khudyaev and E. A. Shtessel', The progress of a heterogeneous catalytic reaction under the conditions of natural convection pp. 38–45, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).

N. L. Zolotov, The method of generalized similarity in free-convection problems with arbitrary distribution of temperature or heat flux on a vertical wall, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 167–170 (1980).

FORCED CONVECTION

G. E. Aerov, A. N. Devoino and L. I. Kolykhan, Experimental investigation of the heat transfer mechanism during turbulent flow of a chemically reacting heat carrier in a circular tube pp. 127–134, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).

N. I. Artamonov, A. S. Borisov, V. F. Prisnyakov *et al.*, Experimental investigation of heat transfer of paraffin in closed volumes with a heater positioned axisymmetrically pp. 56–60, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2, Izd. ITMO AN BSSR, Minsk (1980).

G. A. Dreitser and B. S. Baibikov, The effect of the longitudinally variable heat flux density on heat transfer in turbulent gas flows in tubes, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 59–63 (1979).

G. N. Dudin and V. Ya Neiland, Heat transfer in the vicinity of the leading edge cusp of a plate in hypersonic flight, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 40–45 (1980).

B. M. Galitseisky and A. A. Nozdrin, Study of the heat transfer process in channels of a complex shape, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 69–73 (1979).

G. A. Glebov, Calculation of heat transfer in high-enthalpy gas flow past surfaces with account for higher approximations for transport properties, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 18–24 (1979).

A. A. Khavin, Heat transfer and resistance of finned tube bundles, *Teplofiz. Teplotekh.* Vyp. 37, 84–86 (1979).

V. G. Labeish, O. A. Rodionov and O. V. Shelud'ko, Cooling of a high-temperature wall by liquid jets and drops pp. 133–139, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

K. Ya. Paulenis, A. Yu. Skrinska and A. A. Zhukauskas, Heat transfer processes in mineralized slabs heated by conduction, *Trudy Akad. Nauk Lit. SSR Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 61–70 (1980).

V. V. Sevastiyanov, A. T. Sinitsin and F. L. Yakaitis, Study of the heat transfer process in the supercritical region of parameters in the presence of high-frequency pressure oscillations, *Teplofiz. Vysok. Temp.* **18**(3), 546–553 (1980).

M. V. Stradomsky, E. A. Maksimov, T. G. Grishchenko and A. S. Khristich, An experimental installation and the results of investigation of heat transfer during liquid flow in a short cylinder, *Prom. Teplotekh.* **2**(4), 84–88 (1980).

V. A. Tsenev, Study of the local heat transfer boundary conditions in the internal combustion engine cylinders by analysing heat transfer into a cooling medium, *Dvigatelestroenie* No. 1, 23–26 (1980).

A. E. Yampol'sky, Temperature fields in multipass cross-flow heat exchangers with non-mixing heat carriers, *Teploenergetika* No. 7, 53–56 (1980).

A. G. Yurov, Concerning heat transfer between a water surface and atmosphere at high fluxes, *Prom. Teplotekh.* **2**(4), 62–66 (1980).

A. A. Zhukauskas, R. V. Ulinskas and V. F. Zakrevsky, The method for revealing effective heat transfer surfaces, *Trudy Akad. Nauk Lit. SSR Ser. B, Khim., Tekh., Fiz. Geogr.* No. 4, 53–59 (1980).

PHASE CHANGES

1. *Boiling, evaporation*

A. A. Avdeev and A. A. Avdeeva, Liquid boiling on depressurization, *Teploenergetika* No. 8, 53–57 (1980).

B. P. Avksentyuk and N. V. Malykh, Some problems of liquid boiling pp. 109–114, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

S. A. Balankin, E. G. Grigoriev, A. P. Postnikov and D. M. Skorov, Kinetics of mass transfer of a binary compound under the conditions of isothermal evaporation pp. 85–89, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

L. G. Berro, A. Ya. Simonovsky and V. V. Chekanov, Problems of heat transfer in boiling of ferromagnetic liquids in a magnetic field pp. 53–58, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

E. Ya. Blum, M. M. Maiorov and A. O. Tsebers, Problems of heat transfer in boiling of magnetizable liquids pp. 59–65, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

V. A. Chernobai, Concerning calculation of hydraulic resistance in channels during boiling of subcooled liquid, *Teplofiz. Teplotekh.* Vyp. 37, 80–84 (1979).

V. E. Doroshchuk, On the origin of heat transfer crises in tubes during flow of subcooled water and humid steam, *Teploenergetika* No. 8, 44–49 (1980).

G. I. Efimochkin, Investigation of water effervescence during decompression in vacuum mixing preheaters pp. 47–52, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

Yu. G. Ershov and V. I. Khrenov, Heat and mass transfer with phase changes under the conditions of constant electrical field (theoretical part) pp. 66–71, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

I. I. Gogonin and A. R. Dorokhov, Towards generalization of experimental data on the critical heat fluxes in falling liquid films, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 100–102 (1980).

A. L. Koba, Yu. D. Kozhelupenko, N. S. Peretyaka *et al.*, On the crisis of boiling heat transfer under the conditions of forced motion in capillaries, *Teploenergetika* No. 6, 73–74 (1980).

A. V. Korabel'nikov, V. E. Nakoryakov, B. G. Pokusaev *et al.*, Pressure waves in a vapour–liquid medium and behaviour of bubbles in a wave pp. 121–126, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

N. D. Lebedeva, L. F. Nazarova and Yu. A. Katin, Enthalpy of evaporation of five hydrazones at 298.16 K, *Zh. Prikl. Khim.* **53**(6), 1394–1395 (1980).

V. A. Maiorov and L. L. Vasiliev, Specific features of evaporation of a heat carrier flow in porous metals pp. 10–15, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

A. V. Nekrasov, F. Yu. Kashevarov and A. A. Shelyagina, Study of the characteristics of temperature fluctuations of a steam generating pipe wall in the burnout region pp. 28–34, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

V. K. Orlov and V. N. Saveliev, Study of heat transfer in boiling of cryogenic liquids on surfaces with capillary-porous coatings, *Teploenergetika* No. 8, 66–68 (1980).

Yu. N. Ostrovsky, V. E. Pisarev and N. I. Kobasko, The heat transfer crisis in boiling of oils, *Teplofiz. Teplotekh.* Vyp. 37, 60–63 (1979).

E. N. Prozorov, V. M. Starov and N. V. Churaev, The effect of film transfer on liquid evaporation from biporous bodies under isothermal conditions, *Kolloid. Zh.* **42**(4), 680–685 (1980).

V. K. Pustovalov, G. S. Romanov and I. A. Khorunzhii, Heat and mass transfer during evaporation of a dispersed medium under the action of optical radiation pp. 79–84, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

V. K. Shcherbakov and V. Yu. Kravets, The temperature regime and heat transfer in pool boiling on water microsurfaces pp. 90–95, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

V. N. Slesarenko, A. E. Rudakova and G. A. Zakharov, The effect of operational and geometric parameters on heat transfer in boiling under the conditions of tube bundle pp. 41–46, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

M. A. Styrikovich, A. I. Leontiev, I. L. Mostinsky *et al.*, Experimental investigation of hydrodynamics and heat transfer crisis in horizontal steam generating channels with a porous insert pp. 3–9, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

M. A. Styrikovich, V. S. Polonsky, A. S. Zuikov and L. A. Shatenev, The state-of-the-art of boiling mass transfer in capillary-porous structures, *Teplofiz. Vysok. Temp.* **18**(3), 625–633 (1980).

S. A. Zhukov, V. V. Barelko and A. G. Merzhanov, Concerning the stability of heat transfer in the region of transition from convection to nucleate boiling pp. 102–108, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

V. E. Zuikov and B. M. Pavlov, The mechanism of nucleation in boiling of liquids on solid surfaces pp. 96–101, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

L. V. Zysin, L. A. Fel'dberg, A. L. Dobkes and A. N. Svetlakov, Experimental and analytical study of the shape of vapour bubbles during boiling of a subcooled liquid pp. 127–132, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).

2. *Condensation*

D. I. Belkin and G. V. Kravchenko, The choice of effective conditions of the condensation stage in pentaerythritol production, *Khim. Promysh.* No. 7, 396–397 (1980).

V. M. Borishansky, D. I. Volkov, N. I. Ivashchenko *et al.*, Heat transfer during vapour condensation in tubes pp. 3–7, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

A. B. Didkovsky and M. K. Bologa, Concerning the critical intensity of an electrical field under the conditions of vapour film condensation, *Elektron. Obrabot. Materialov* No. 3, 50–52 (1980).

V. P. Isachenko, Yu. M. Brodov, R. Z. Saveliev *et al.*, The effect of vibration on heat transfer and hydrodynamics during water vapour condensation on a vertical tube pp. 20–25, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

N. I. Kuz'min, B. I. Zhizdyuk and A. S. Chegolya, Some regularities in the kinetics of low-temperature condensation of metaphenylenediamine containing acid chlorides of aromatic acids, *Khim. Volokna* No. 3, 4–6 (1980).

Z. L. Miropol'sky, R. I. Shneerova and V. V. Treputnev, Study of heat transfer in longitudinal condensing vapour flow past tubular surfaces, *Teploenergetika* No. 6, 70–72 (1980).

Z. L. Miropol'sky, R. I. Shneerova and V. V. Treputnev, Study of heat transfer and hydraulic resistances in condensation of vapour moving along finned surfaces pp. 26–31, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

V. I. Volodin and A. A. Mikhalevich, Study of the heat and mass transfer mechanism during condensation of a chemically reacting gas in a tube pp. 135–142, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).

3. *Sublimation*

A. A. Gevorkyan, M. P. Ermakova, A. V. Amitin and A. G. Gorelik, The effect of composition of contacting gases on the efficiency of phthalic anhydride desublimation, *Khim. Promysh.* No. 7, 428–429 (1980).

E. I. Kaukhcheshvili, Sublimation, cryobiology. Application of cold in medicine, *Kholod. Tekh.* No. 6, 58–60 (1980).
P. A. Novikov and V. I. Novikova, Heat and mass transfer during sublimation of bodies in a rarefied medium under free convection pp. 38–43, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

4. *Crystallization, solidification, freezing*
Yu. S. Danielyan and P. A. Yanitsky, On formation of ice interlayers in freezing of moist grounds, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 103–107 (1980).
G. G. Devyatykh, Yu. E. Elliev and Yu. V. Maslov, The ultrasonic effect on counter-current crystallization from the melt, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 611–614 (1980).
N. G. Fomin, V. E. Kaplun, A. G. Shestov and K. K. Polyansky, On the optimum control of bulk crystallization from solutions, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 494–500 (1980).
V. P. Il'in and L. V. Yausheva, A difference scheme for the solution of the two-phase Stefan problem, Proceedings of the Seminar *Methods of Computational and Applied Mathematics* Vyp. 5, 82–96 (1979).
V. G. Ponomarenko and G. F. Potebnya, Crystallization of melts on a thin moving wall, *Prom. Teplotekh.* **2**(4), 40–47 (1980).
V. G. Ponomarenko, G. F. Potebnya, V. I. Bei and K. P. Tkachenko, Crystallization of ionole on a cooled rolling crystallizer surface, *Khim. Prom.* No. 6, 363–366 (1980).
F. Raikhel', Yu. M. Tairov, M. G. Travadzhyan and V. F. Tsvetkov, Study of the kinetics of silicon carbide crystallization, *Izv. Akad. Nauk SSSR. Neorg. Mater.* **16**(6), 1011–1013 (1980).
G. Ya. Zemlyanoi and V. P. Dushchenko, On the problem of polycarbonate crystallization, *Izv. VUZov, Fizika* No. 4, 124 (1980).

5. *Melting, thawing*
A. G. Merzhanov, V. A. Raduchev and E. N. Rumanov, Thermal waves of melting and crystallization of a dielectric, *Dokl. Akad. Nauk SSSR* **253**(2), 330–334 (1980).

6. *Heat pipes*
A. N. Alabovsky, A. A. Sakhatsky, A. I. Beloivan and N. Yu. Koloskova, Study of the limiting heat fluxes of inclined thermosiphons with inserts (for cooling metallurgical furnaces), *Izv. VUZov, Chyornaya Metallurgiya* No. 1, 141–145 (1980).
M. K. Bezrodnyi, Heat transfer crises during boiling of liquids in artery thermosiphons pp. 111–116, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
M. K. Bezrodnyi, D. V. Alekseenko, A. Z. Kazhdan and S. S. Volkov, Generalization of experimental data on the limiting heat transfer in two-phase thermosiphons by the thermodynamic similarity method, *Izv. VUZov, Energetika* No. 7, 121–124 (1980).
P. I. Bystrov, V. F. Goncharov, V. N. Kharchenko and A. N. Shul'ts, Investigation of transient heat and mass transfer in liquid metal heat pipes pp. 94–99, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
Yu. F. Gortyshov, The method of investigation of heat transfer in heat pipes during boiling under unsteady-state conditions, *Teplofiz. Vysok. Temp.* **18**(3), 581–584 (1980).
N. Yu. Koloskova and A. I. Beloivan, Investigation of the limiting operating conditions of thermosiphons with inserts, *Izv. VUZov, Chyornaya Metallurgiya* No. 1, 25–27 (1980).
S. V. Konev and V. V. Khrolyonok, Analysis of vapour humidity in a heat pipe pp. 87–93, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
O. I. Mardarsky, I. A. Kozhukhar' and M. K. Bologa, Heat transmitting characteristics of a two-phase electrohydrodynamic thermosiphon pp. 100–104, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
Yu. V. Matveev, V. K. Shchukin, I. I. Mosin and V. N. Voronin, Study of the heat transmitting ability of complex-configuration heat pipes pp. 124–129, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
N. A. Nosach, Yu. K. Gontarev, V. F. Prisnyakov *et al.*, Investigation of heat transfer and hydrodynamics in high-temperature heat pipes operating on alkaline metals pp. 130–135, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
M. G. Semena, A. N. Gershuni, V. K. Zaripov and A. P. Nishchik, Concerning the transition from evaporation to boiling in low-temperature heat pipes with metallic fibrous wicks pp. 117–123, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
M. G. Semena, M. O. Kolosovsky and I. E. Malkina, The maximum heat transmitting ability of artery heat pipes, *Prom. Teplotekh.* **2**(4), 66–71 (1980).
A. P. Simonenko, Experimental study of heat transfer in the evaporative part of a thermosiphon loop pp. 136–141, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
V. I. Tolubinsky, E. N. Shevchuk and N. V. Chistopiyanova, Characteristics of high-temperature heat pipes at an arbitrary law of heat supply pp. 80–86, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
S. L. Vaaz, L. L. Vasiliev, L. P. Grakovich *et al.*, Experimental and theoretical investigation of ground freezing with the help of heat pipes pp. 105–110, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

RADIATION

A. A. Amosov, On solvability of the radiation heat transfer problem by the Stefan–Boltzmann law, *Vestnik Moskov. Univ.* Ser. 15, No. 3, 18–26 (1980).
V. M. Borishansky, M. A. Gotovsky, N. V. Mizonov and V. N. Fromzel', Application of the finite penetration method to predict the depth of heating a flat slab by radiative heat flux, *Inzh.-Fiz. Zh.* **39**(1), 138–142 (1980).
M. V. Brykin, An approximate technique to calculate distribution of radiative fluxes over the surface of blunted bodies in a hypersonic flow, *Teplofiz. Vysok. Temp.* **18**(3), 562–566 (1980).
Yu. A. Kalinin, Yu. I. Kruzhilin, M. S. Samoilov and V. V. Segen', Concerning the form of control of the active solid emitter element cooling, *Izv. VUZov, Mashinostroenie* No. 2, 66–70 (1980).
M. M. Karchevsky and E. M. Fedotov, The difference method of the solution of a radiative heat transfer problem, *Diff. Uravn.* **16**(7), 1226–1234 (1980).
K. Ya. Kondratiev, N. T. Moskalenko and V. F. Terzi, Correlations between radiative heat transfer in the Venus atmosphere and its chemical composition and structure, *Dokl. Akad. Nauk SSSR* **253**(3), 569–572 (1980).
Yu. V. Kozlov, I. D. Liseikin, V. I. Martynova and L. I. Seryogina, Calculation of the temperature regime of membrane screen tubes with regard for radiative heat reflected from lining. *Teploenergetika* No. 8, 58–60 (1980).
V. S. Pikashov, A. E. Erinov, V. A. Velikodnyi and Ya. B. Poletaev, Intensification of heat transfer in flame furnaces by increasing the emissivity of lining, *Prom. Teplotekh.* **2**(4), 117–121 (1980).
Yu. A. Popov, Radiation of scattering volumes having simplest geometries, *Teplofiz. Vysok. Temp.* **18**(3), 567–571 (1980).
Yu. A. Popov, M. M. Mel'man and A. S. Nevsky, Concerning the optimal temperature profile of selective gases in radiative heat transfer, *Inzh.-Fiz. Zh.* **39**(1), 109–112 (1980).
V. V. Puchkova, T. A. Bol'shakova, G. V. Shiryaeva and N. V.

Fomina, Application of composite vinyl ethers in compositions of radiative solidification, *Lakokras. Mater. Ikh Primen.* No. 4, 17–18 (1980).
Yu. A. Surinov and V. V. Rubtsov, Determination of the temperature field of an attenuating medium in an emitting system consisting of two coaxial different-length cylinders, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 81–89 (1980).

COMBINED HEAT AND MASS TRANSFER

O. I. Didenko, Conjugated heat transfer of thin emitting variable-profile bodies in a flow, *Teplofiz. Teplotekh.* Vyp. 37, 86–91 (1979).
O. V. Dobrocheev and V. P. Motulevich, Study of the effect of non-equilibrium recombination of charged particles on heat and mass transfer pp. 143–151, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
V. A. Elyukhin and O. A. Timofeeva, Linear stability of liquid film flow in heat and mass transfer processes, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 542–548 (1980).
V. G. Fyodorov and L. V. Dekusha, On the effect of evaporation on free convection heat transfer, *Prom. Teplotekh.* **2**(4), 58–61 (1980).
B. M. Galitseisky and A. N. Ushakov, Study of the process of heat and mass transfer in porous materials, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 63–69 (1979).
V. M. Gribkov, V. M. Eroshenko, L. I. Zaichik and A. D. Starostin, Heat and mass transfer of metals eroded by local heat sources pp. 147–152, in *Heat and Mass Transfer*—VI Vol. 4, pt. 1. Izd. ITMO AN BSSR, Minsk (1980).
A. A. Ivanov, O. A. Nekhamkina and M. Kh. Strelets, Numerical study of heat and mass transfer in flow of multi-component chemically reactive gas mixtures along tubes pp. 14–21, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
S. A. Martemiyanov, M. A. Vorotyntsev and B. M. Grafov, On turbulent heat and mass transfer near a plane surface at moderate and small Prandtl–Schmidt numbers, *Elektrokhimiya* **16**(7), 919–923 (1980).
A. V. Mezentsev and V. I. Khonichev, Convective heat and mass transfer on a chemically reactive surface in the vicinity of the spreading point in channels of complex configuration pp. 22–29, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
L. V. Mishina, G. Z. Serebryanyi and N. N. Tushin, Generalized correlations for the heat and mass transfer characteristics of a chemically non-equilibrium turbulent gas flow in a tube (boundary conditions of the second kind), pp. 158–165, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
V. E. Nakoryakov, A. P. Burdukov, N. S. Bufetov *et al.*, Heat and mass transfer in vertical rippling liquid films pp. 14–19, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
V. P. Patskov, V. V. Cherkashin and V. A. Kirillov, A mathematical model of heat and mass transfer accompanied by chemical reaction in a porous grain of catalyzer pp. 184–190, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
V. G. Petrov-Denisov, Z. V. Korotkova, A. S. Kushelov and A. I. Matiichenko, Heat and moisture exchange in capillary-porous materials used in the production of heat insulating sheaths of non-channel heat conductors, *Teploenergetika* No. 8, 31–35 (1980).
B. S. Petukhov, I. G. Zal'tsman and V. K. Shikov, Interaction of chemical changes and radiative heat transfer with turbulent temperature fluctuations and its effect on heat transfer in high-temperature gas flows pp. 3–13, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
K. V. Prushkovsky and V. V. Ivanov, Interaction between radiation and convection in high-temperature gas flow past a surface, *Fiz. Khim. Obr. Mater.* No. 3, 20–22 (1980).
V. Ya. Rekhter, Yu. S. Zhukov, V. S. Shvydkii *et al.*, Heat and mass transfer in combined installations for production of iron ore pillets. *Communic. 1, Izv. VUZov, Chyornaya Metallurgiya* No. 12, 86–90 (1979).
V. M. Repukhov, Heat and mass transfer in a turbulent boundary layer on an impermeable and adiabatic wall, *Teplofiz. Teplotekh.* Vyp. 37, 65–73 (1979).
G. I. Sergeev and V. P. Kovalenko, Study of heat and mass transfer in film apparatus during low-frequency perturbations of the interphase surface pp. 166–175, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
N. S. Zhuchkov, V. N. Lapushkin and V. I. Churakov, The photoelectrical method of measuring temperature of the surface of solids under the conditions of complex heat transfer during technological treatment, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 24–30 (1979).

HIGH-TEMPERATURE THERMOPHYSICS

1. *Combustion and detonation processes*

I. M. Abduragimov, A. S. Androsov and A. V. Samotaev, Burning of laminated compositions, *Fiz. Gor. Vzryva* **16**(3), 138–141 (1980).
A. P. Aldushin and B. S. Seplyarsky, Phase transitions in a wave of filtrational burning pp. 54–61, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
L. Yu. Artyukh, P. G. Itskova and A. T. Lukiyanov, Concerning the ambiguity and instability of combustion regimes during viscous liquid flow in a channel pp. 62–69, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
N. R. Bobrova, R. S. Burkina and V. N. Vilyunov, About steady-state combustion in one-dimensional flow of gases, *Fiz. Gor. Vzryva* **16**(3), 54–60 (1980).
V. F. Buldakov, O. Ya. Romanov and V. S. Tarkhov, The inertia K-phase model for unsteady-state combustion of two-component condensed substances, *Fiz. Gor. Vzryva* **16**(3), 40–47 (1980).
A. N. Dremin, V. M. Nelin and V. S. Trofimov, The structure of the unstable detonation front in liquid explosive substances, *Fiz. Gor. Vzryva* **16**(3), 82–92 (1980).
B. S. Ermolaev, A. A. Sulimov, V. A. Foteenkov *et al.*, The nature and specific features of quasi-stationary pulsating convective burning, *Fiz. Gor. Vzryva* **16**(3), 24–34 (1980).
A. M. Grishin and A. N. Subbotin, The effect of filtration on heat and mass transfer characteristics during ignition of reacting substances pp. 70–77, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
A. P. Gritsenko, F. A. Kudryavitsky and G. D. Petrov, Dispersion characteristics of the condensed phase particles in the torch of burning and explosion, *Fiz. Gor. Vzryva* **16**(3), 135–136 (1980).
A. G. Ivanov and S. A. Novikov, Destruction of barriers above the collision regions of detonation waves, *Fiz. Gor. Vzryva* **16**(3), 143–145 (1980).
O. P. Korobeinichev, Application of mass-spectrometry in the study of the structure of flames and combustion processes, *Usp. Khim.* **49**(6), 945–965 (1980).
V. M. Levin, S. I. Baranovsky and V. I. Ivanov, Experimental investigation of heat transfer on a wall in a supersonic flow with combustion and throttling pp. 78–82, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
A. G. Merzhanov, A. P. Aldushin and S. G. Kasparyan, Formation of reaction centers in the process of adiabatic thermal explosion pp. 30–37, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
S. A. Novikov and V. I. Shutov, Concerning propagation of detonation in the band with turn angles, *Fiz. Gor. Vzryva* **16**(3), 153–154 (1980).
V. G. Poyarkov, E. I. Popov and Yu. A. Finaev, The iron monoboride ignition temperature, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 3, 116–118 (1980).

G. T. Sergeev and B. L. Kopeliovich, Heat and mass transfer in a boundary layer during burning of gaseous and liquid fuels pp. 46–53, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
A. S. Sokolov, G. S. Sukhov and L. P. Yarin, Heat and mass transfer in diffusional burning of liquid under forced convection pp. 92–99, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
G. S. Sukhov and L. P. Yarin, Two-dimensional instability of burning of porous substances in a gaseous oxidizer, *Fiz. Gor. Vzryva* **16**(3), 34–40 (1980).
R. S. Tyul'panov and N. K. Bryksenkova, Study of the effect of heat and mass transfer on ignition of gases in flows pp. 100–106, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
V. Yu. Uliyanitsky, A closed model of a direct gas-detonation initiation with regard for instability. I. Point-wise initiation, *Fiz. Gor. Vzryva* **16**(3), 101–113 (1980).

2. *Shock waves*
L. V. Al'tshuler and B. S. Kruglikov, Mathematical simulation of a strong shock wave in water with regard for evaporation, *Trudy VNII Fiz.-Tekh. Radiotekh. Izmer.* Vyp. 44, 24–28 (1979).
V. K. Chernyshyov and V. A. Ivanov, The bench electrical generator of a plane shock wave, *Trudy VNII Fiz.-Tekh. Radiotekh. Izmer.* Vyp. 44, 123–126 (1979).
A. D. Kovalyov and G. P. Shindyapin, Concerning the initial stage of interaction of weak shock waves pp. 116–122, in *Aerodynamics* Vyp. 7. Izd. Sarat. Univ., Saratov (1979).
A. G. Kulikovsky and E. I. Sveshnikova, On the shock waves propagating over the stressed state in isotropic nonlinear-elastic media, *Prikl. Mat. Mekh.* **44**(3), 523–534 (1980).
Yu. M. Lipnitsky and A. V. Nanasenko, Study of the interaction of a shock wave with a pointed cone, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 98–104 (1980).
L. P. Mezhov-Deglin, A. Yu. Iznankin and V. P. Mineev, Observation of shock waves of the second-sound rarefaction in superfluid helium, *Pis'ma v Zh. Eksp. Teor. Fiz.* **32**(3), 217–222 (1980).
A. K. Stanyukovich, Concerning the possibility for experimental modelling of strong shock waves at high initial pressures of the working gas, *Trudy VNII Fiz.-Tekh. Radiotekh. Izmer.* Vyp. 44, 16–19 (1979).
A. P. Zuev and B. K. Tkachenko, Radiation of the Y_3 mode of N_2O behind shock waves, *Zh. Tekh. Fiz.* **50**(6), 1321–1323 (1980).

3. *Low-temperature plasma*
L. I. Bartashevskaya, A. S. Zaitsev and V. I. Tverdokhlebov, Disturbance of the low-pressure oxyacetylene flame plasma by an electric discharge, *Teplofiz. Vysok. Temp.* **18**(3), 638–639 (1980).
V. V. Berbasov, An electric arc in a transverse magnetic field, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 33–43 (1980).
A. M. Bonch-Bruevich, O. I. Kalabushkin, L. N. Kaporsky and V. S. Salyadinov, Non-isotropic state of radiation scattering on the laser spark plasma, *Pis'ma v Zh. Tekh. Fiz.* **6**(11), 667–671 (1980).
N. N. Davydov and V. N. Lapushkin, Investigation of heat and mass transfer in a high-energy high-pressure arc discharge by subliming probes, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 7–12 (1979).
B. N. Devyatov and V. I. Nazaruk, The spectral analysis of the statistical model of turbulent arc fluctuations, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 49–55 (1980).
B. N. Devyatov and V. I. Nazaruk, A locally multiple approach to simulation of flow in the plasmatron channel by the Monte-Carlo method, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 22–29 (1980).
N. V. Dubovitskaya, S. M. Zakharov and L. N. Larikov, Evolution of the dislocation structure of molibdenum monocrystals due to a single electrical discharge, *Fiz. Khim. Obr. Mater.* No. 3, 128–133 (1980).
R. V. Genefel'd and T. D. Romanova, Concerning the Hall effect on turbulent motion of a low-temperature plasma in magnetic and electric fields, *Teplofiz. Vysok. Temp.* **18**(3), 540–545 (1980).
V. A. Godyak and A. Kh. Ganna, Study of the collisional high-frequency discharge within the radio-frequency range, *Fiz. Plazmy* **6**(3), 676–683 (1980).
D. A. Goryachkin, V. M. Irtuganov, V. P. Kalinin and O. I. Pashkov, Impulsing glowing discharge at atmospheric pressure in a system of coaxial cylindrical electrodes, *Zh. Tekh. Fiz.* **50**(6), 1231–1236 (1980).
A. A. Ivanov, S. I. Krasheninnikov, V. A. Nikiforov and V. V. Shapkin, Concerning the optimal parameters of a plasmachemical reactor based on a stationary plasma-beam discharge, *Zh. Tekh. Fiz.* **50**(6), 1310–1311 (1980).
S. V. Kalinin and P. V. Minaev, Experimental study of optical properties of a low-temperature neon plasma. Diagnostics and analysis of the non-equilibrium plasma state, *Teplofiz. Vysok. Temp.* **18**(3), 453–460 (1980).
A. D. Kosoruchkina and E. S. Trekhov, Distribution of electrons over the cross-section of a glowing discharge in nitrogen, *Zh. Tekh. Fiz.* **50**(7), 1530–1532 (1980).
A. S. Kovalyov, I. G. Persiantsev, V. M. Polushkin *et al.*, Towards the problem on the breakdown development mechanism in a semi-self-maintained gas discharge, *Pis'ma v Zh. Tekh. Fiz.* **6**(12), 743–747 (1980).
V. A. Lebsak, A. V. Podmazov and B. V. Ponomaryov, Study of the spark plug for plasma ignition of electric arc air preheaters, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 66–68 (1980).
R. V. Mitin, A. V. Zvyagintsev and N. I. Gonchar, Concerning the threshold regime of the inductive discharge, *Teplofiz. Vysok. Temp.* **18**(3), 497–500 (1980).
V. I. Nazaruk, Statistical simulation of the process of arc interaction with a turbulent flow, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp 2, 30–32 (1980).
M. A. Volodina, T. A. Gorshkova, A. S. Anutyunova and T. M. Repetyuk, Determination of metals in metal-phthalocyanines and some metal catalysts using the low-temperature oxygen plasma, *Zavod. Lab.* **46**(7), 579–581 (1980).
A. F. Zlobina, G. S. Kaz'min, N. N. Koval' and B. E. Kreindel', Plasma parameters in an electronic-emitter expander with an arc contracted discharge, *Zh. Tekh. Fiz.* **50**(6), 1203–1207 (1980).

RHEOPHYSICS

A. A. Averiyanov, O. K. Botchenko and D. V. Fil'bert, Rheological properties of polycaproamide on uniaxial extension with neck formation, *Khim. Volokna* No. 3, 2–4 (1980).
S. A. Balankin, L. P. Gorbachyov, V. G. Grigoriev *et al.*, Warming of a viscoplastic material during its flow between a fixed and a rotating plane pp. 3–6, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
S. L. Benderskaya, B. M. Khusid and Z. P. Shul'man, Non-isothermal flow of non-Newtonian fluids in a channel, *Izv. Akad. Nauk SSSR, Mekh. Zhidk. Gaza* No. 3, 3–10 (1980).
O. Kh. Dakhin, V. A. Gerasimenko, N. V. Tyabin and A. V. Baranov, Heat transfer and resistance of non-isothermal flows of non-Newtonian fluids in tubes pp. 39–48, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
F. A. Garifullin, F. I. Zapparov, N. Z. Mingaleev *et al.*, Study of convection in a horizontal layer of viscoelastic fluid pp. 7–14, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
R. G. Gorodkin, E. V. Korobko, M. M. Ragotner and I. V. Bukovich, Study of the temperature factor effect on the dynamics of an electrorheological suspension pp. 140–146, in

Heat and Mass Transfer—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
S. G. Ivanushkin, Unsteady-state conjugated heat transfer in pulsating flow of non-Newtonian fluids in channels pp. 67–72, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
A. I. Karagodov and Ya. G. Sapunkov, A temperature boundary layer in a non-Newtonian power-law electrically conducting fluid pp. 129–141, in *Aerodynamics* Vyp. 7. Izd. Sarat. Univ., Saratov (1979).
V. V. Kolokol'chikov, Mixed convolution-superposition series in the solution of integral equations of unstable viscoelasticity, *Dokl. Akad. Nauk SSSR* **252**(4), 829–831 (1980).
G. Ya. Kunnos, Rheology of concrete mixtures and its technological problems, *Beton Zhelezobeton* No. 6, 29–30 (1980).
S. P. Levitsky and A. T. Listrov, Study of the effect of dissipation, thermophysical and rheological factors on free oscillations of gas bubbles pp. 80–88, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
V. G. Litvinov and N. E. Shishkova, Heat transfer with the surrounding medium under the conditions of three-dimensional nonlinear viscous liquid flow pp. 73–79, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
T. P. Lyubimova, Convection of a viscoplastic fluid in a closed region heated from below pp. 15–23, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
Yu. A. Machikhin, A. V. Kobylkin and E. P. Tikhomirov, Study of the rheological properties of combined fodders, *Trudy VNII Kombikorm. Prom.* Vyp. 15, 65–66 (1979).
A. Kh. Marder and F. Kh. Tsimermanis, Improvement of the sensitivity of a setup for rheological measurements, *Zavod. Lab.* **46**(6), 534–536 (1980).
S. A. Martemiyanov, M. A. Vorotyntsev and B. M. Grafov, Heat and mass transfer in a turbulent boundary layer of liquids at high Prandtl numbers pp. 109–113, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
V. E. Mironov, V. G. Khorometsky and G. Ya. Kunnos, The effect of thermal and mechanical vibrations on elastoviscoplastic properties of a structuring dispersed system pp. 104–108, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
K. V. Mukuk, Concerning specific features of heat and mass transfer in anomalous oils pp. 24–30, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
K. B. Pavlov and A. S. Romanov, Concerning outflow of a heated non-Newtonian nonlinear viscous liquid jet from a finite-width slit pp. 114–120, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
V. N. Pilipenko and A. G. Mikhailu, The resistance reduction mechanism and heat and mass transfer in turbulent flows with different additives pp. 89–94, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
N. A. Pokryvailo, A. K. Nesterov and Yu. E. Zverkhovsky, The effect of polymer additives on the law of wall turbulence attenuation and convective heat transfer pp. 147–153, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
I. L. Povkh and A. B. Stupin, Turbulent flow and heat transfer of a liquid having anistoropic viscosity pp. 95–103, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
I. L. Povkh, A. I. Serdyuk, A. V. Naumov and N. P. Kovalenko, The connection between a decrease in hydrodynamic resistance of water by cation surface-active agents and physicochemical and micellar characteristics of their solutions, *Inzh.-Fiz. Zh.* **38**(6), 1031–1037 (1980).
N. V. Radionova, G. B. Froishteter and S. Yu. Danilevich, Non-isothermal laminar flow of non-Newtonian fluids in tubes with a constant heat flux on the wall, *Prom. Teplotekh.* **2**(4), 51–55 (1980).
Z. P. Shul'man, S. M. Aleinikov and B. M. Khusid, Rheodynamics and heat transfer during circular tube flow of media having memory pp. 128–139, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
Yu. I. Shvets, A. Sh. Dorfman and O. D. Lipovetskaya, A conjugated problem of heat transfer between two direct-current non-Newtonian power-law liquid flows past a plate pp. 154–158, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
A. M. Stolin and Z. P. Shul'man, Specific features of thermal conditions of viscoplastic fluid flows pp. 31–38, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
A. N. Sundukov, S. L. Nesterov, E. A. Efimova *et al.*, On the thermal regulating mechanisms in biorheological objects pp. 121–127, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
M. P. Vladimirova and B. I. Zhizdyuk, The effect of conditions for carrying out polycondensation on the process of obtaining polymetaphenyleneisophthalamide solutions, *Khim. Volokna* No. 3, 13–14 (1980).
V. F. Volchenok, Transfer processes in nonlinear viscoplastic liquid flow with variable rheological properties pp. 59–66, in *Heat and Mass Transfer*—VI Vol. 6, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).

HEAT AND MASS TRANSFER IN TECHNOLOGICAL PROCESSES

1. *Drying*

N. I. Arbatskaya, L. N. Anokhina, R. F. Bednenko *et al.*, Activators of drying of caseinate solutions, *Moloch. Prom.* No. 1, 29–30 (1980).
V. M. Balandin, V. A. Volkov and A. D. Kalegin, A procedure for calculation of some technological characteristics of equipment for drying potash chloride, *Khim. Prom.* No. 6, 372–373 (1980).
A. A. Dolinsky and Yu. I. Volovik, Thermotechnological aspects of calculation of spray drying chambers, *Prom. Teplotekh.* **2**(4), 72–79 (1980).
A. A. Gukhman, A. Z. Volynets, V. V. Vasiliev and E. V. Gavrilova, Thermal deformations in sublimation dehydration pp. 44–49, in *Heat and Mass Transfer*—VI Vol. 4, pt. 2. Izd. ITMO AN BSSR, Minsk (1980).
K. D. Maletskaya and T. S. Udodova, Study of adherence of drops of resin solutions to a solid sublayer during their dehydration, *Prom. Teplotekh.* **2**(4), 79–83 (1980).
A. V. Mikhailenko and V. F. Frolov, Investigation of fluidized-bed drying of dispersed materials, *Zh. Prikl. Khim.* **53**(6), 1443–1444 (1980).
V. P. Molotkov, S. L. Fetisov, E. B. Tabachnik *et al.*, A control system for air temperature in a drying tower, *Moloch. Prom.* No. 1, 12–14 (1980).
V. V. Motornyi, Numerical investigation of the internal heat and mass transfer processes in colloidal capillary-porous bodies under convective drying, *Teplofiz. Teplotekh.* Vyp. 37, 99–102 (1979).
L. A. Orlov, V. L. Yarovoi and G. G. Nesukai, An installation for drying and cooling milk sugar, *Moloch. Prom.* No. 1, 6–7 (1980).
A. S. Plyashkevich, F. V. Chelin, B. V. Aranovich *et al.*, Heat and mass transfer in rotating drums during drying of flotational concentrates, *Prom. Energetika* No. 7, 39–40 (1980).
D. I. Shtakel'berg and O. N. Galitsa, Thermodynamic analysis of the moist and structural state of ceramic units in drying, *Izv. Akad. Nauk Latv. SSR, Ser. Fiz. Tekh. Nauk* No.

3, 95–104 (1980).
R. G. Tikhomirova, V. P. Pshenitsyna, N. N. Molotkova *et al.*, Spray drying of condensation solutions of carbamide oligomers, *Plast. Massy* No. 6, 25–26 (1980).
I. I. Vasenkov, E. V. Sen'kevich, A. A. Kudrevich *et al.*, Industrial testing of furnace cleaners for gas-heating dryers, *Lakokras. Mater. Ikh Primen.* No. 4, 46–47 (1980).

2. *Heat and mass exchangers*
Yu. S. Borchevkin and B. P. Korol'kov, Dynamics of a heat exchanger having self-contained heating with the heat flux distributed irregularly along the coordinate, *Izv. SO AN SSSR* No. 8, *Ser. Tekh. Nauk* Vyp. 2, 90–99 (1980).
V. I. Bova, I. G. Gorenshtein, I. I. Gurevich *et al.*, A heat exchanger with wire-finned tubes for an AK-0.6 air separator, *Khim. Neft. Mashinostroenie* No. 7, 14 (1980).
E. N. Bukharkin, Towards the technique of calculation of heat exchangers with vapour condensation from a saturated vapour-gas mixture, *Izv. VUZov, Energetika* No. 7, 110–113 (1980).
G. A. Dreitser, Calculation of tubular heat exchangers from prescribed hydraulic resistance, *Temat. Sborn. Nauch. Trudov Moskov. Aviats. Inst.* Vyp. 488, 54–59 (1979).
A. P. Fokin, V. A. Falin, E. V. Balashov and V. A. Martynenko, Determination of the local hydrodynamic and heat and mass transfer properties in spray-tube equipment, *Prom. Teplotekh.* **2**(4), 31–40 (1980).
V. M. Frumin, Heat and mass transfer in a condenser of soda production distillation, *Khim. Prom.* No. 6, 369–371 (1980).
Zh. A. Greben'kov and O. I. Zatsepin, Methods of calculation of variable heat exchanger conditions of power plants with a dissociating heat carrier, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 3, 12–23 (1980).
Yu. G. Klimenko, M. I. Rabinovich and L. F. Krasnaya, High-temperature heat transfer in spouting-bed equipment, *Prom. Teplotekh.* **2**(4), 66–69 (1980).
L. A. Klyachko, Concerning the theories of real liquid flow in a centrifugal burner, *Teploenergetika* No. 6, 41–44 (1980).
V. D. Kovalenko, L. B. Mushin, V. K. Orlov *et al.*, Perforated-plate heat exchangers for cryogenic helium installations, *Khim. Neft. Mashinostroenie* No. 7, 11–12 (1980).
M. A. Mikhailyants, Application of the conditional temperatures of air in the calculation of heat exchangers of air conditioners, *Kholod. Tekh.* No. 6, 23–26 (1980).
V. G. Pron'ko, V. V. Usanov, O. K. Krasnikova *et al.*, Development of very effective heat exchangers of cryogenic helium installations, *Khim. Neft. Mashinostroenie* No. 7, 9–10 (1980).
A. V. Timofeev, M. M. Gursky, L. Ya. Romanchenko and E. A. Izvin, The effect of the surface structure of a regular packing on its hydraulic resistance and mass transfer ability, *Khim. Prom.* No. 6, 371–372 (1980).
Z. V. Tishchenko and V. N. Bondarenko, Study of heat transfer and resistance of gas flows in the channels of plate heat exchangers with ripple finning, *Teplofiz. Teplotekh.* Vyp. 37, 75–80 (1979).
L. K. Vukovich and A. V. Malygin, Towards the improvement of heat transfer of reversible-type air preheaters, *Prom. Energetika* No. 6, 44–45 (1980).

3. *Dispersed systems*
M. I. Balashov and L. A. Serafimov, Principles and technological aspects of organization of continuous superimposed reaction-rectification processes, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 515–521 (1980).
R. Kh. Bekyashev and L. M. Vasilieva, A technique of measuring the density of finely dispersed material in fluidized-bed apparatus, *Zh. Prikl. Khim.* **53**(6), 1314–1320 (1980).
A. P. Belov, V. Ya. Rotach, N. E. Sereda *et al.*, Investigation of pressure fluctuations in a fluidized-bed furnace when roasting cement clinker, *Trudy VNII Tsement. Prom.* Vyp. 54, 51–57 (1978).
V. I. Berdnikov and A. M. Levin, Calculation of the velocity of bubbles and drops, *Teor. Osnovy Khim. Tekhnol.* **14**(6), 535–541 (1980).
V. A. Chernyshyov, I. O. Protodiyakonov and V. M. Kuznetsov, Experimental investigation of the amount of liquid on a perforated tray with a variable flow area, *Zh. Prikl. Khim.* **53**(6), 1400–1402 (1980).
A. L. Dobkes and L. A. Fel'dberg, Application of the spectral transparency method to study the dispersed structure of moist vapour flows, *Teplofiz. Vysok. Temp.* **18**(3), 590–595 (1980).
L. A. Dombrovsky and V. M. Zhiravov, The method for interpretation of optical measurements of particle velocities in two-phase flows, *Teplofiz. Vysok. Temp.* **18**(3), 596–603 (1980).
P. A. Khinkis and V. A. Kernerman, Concerning the non-isothermal state of a fluidized bed due to homogeneous and homogeneous-heterogeneous reactions pp. 191–195, in *Heat and Mass Transfer*—VI Vol. 3. Izd. ITMO AN BSSR, Minsk (1980).
Yu. G. Klimenko, M. I. Rabinovich and L. F. Krasnaya, Determination of the rate of solid phase and interphase heat-transfer surface circulation in spouting-bed installations, *Teplofiz. Teplotekh.* Vyp. 37, 50–54 (1979).
N. D. Koshel', Electrochemical processes in two-phase capillary flows. Numerical simulation of mass transfer, *Elektrokhimiya* **16**(6), 804–808 (1980).
V. M. Kuznetsov, I. O. Protodiyakonov, S. R. Bogdanov and P. G. Romankov, Description of the absorption process based on the statistical model of a bubbling bed, *Zh. Prikl. Khim.* **53**(6), 1329–1334 (1980).
V. T. Lemeshchenko, N. I. Simonova, G. Ya. Rudov and A. N. Planovsky, Concerning the method for predicting the effect of surface-active agents in rectification of diluted multi-component mixtures in a tray column, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 489–493 (1980).
G. N. Malyshev and P. A. Zubtsov, Experimental study of a bulk material flowmeter with preliminary electrization of particles, *Izv. VUZov, Energitika* No. 7, 51–55 (1980).
Yu. V. Martynov, Concerning the velocity fields in a smooth-wall vessel with a stirrer at its bottom, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 575–581 (1980).
A. A. Medvedev, P. G. Romankov and V. M. Alekseev, Experimental study of porosity distribution as a random function of pulsational-gravitational fludization in the low-amplitude oscillation region, *Zh. Prikl. Khim.* **53**(6), 1444 (1980).
Z. N. Memedlyaev, Concerning the interphase shear stress in an ascending purely annular gas-liquid flow, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 620–622 (1980).
I. L. Mostinsky, F. E. Dubinskaya, A. V. Zagorodnikh and Zh. S. Fainberg, Investigation of the efficiency of high-dispersed dust capture when cooling gases in an evaporating scrubber, *Teplofiz. Vysok. Temp.* **18**(3), 604–611 (1980).
V. E. Nakoryakov and N. I. Grigorieva, Calculation of heat and mass transfer in non-isothermal absorption over the starting length of a falling film, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 483–488 (1980).
E. K. Nikolaishvili, B. M. Barabash, L. N. Braginsky *et al.*, Dissolution of solid particles when stirred in apparatus with no baffle plates, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 604–606 (1980).
A. A. Oigenblik, M. G. Slin'ko, S. G. Bashkirova *et al.*, Investigation of mass transfer in a fluidized organized bed, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 601–603 (1980).
V. G. Ponomarenko, Yu. A. Kurlyand, Yu. G. Sverdlin *et al.*, A mathematical model of the hydroclassification of suspensions in crystallizers, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 582–589 (1980).
K. K. Romanenko, N. M. Rostotskaya, N. N. Kalinyuk *et al.*, Determination of oxygen in metals and silica using levitation melting, *Zavod. Lab.* **46**(6), 487–489 (1980).
T. T. Romanova, A. V. Chechyotkin and V. A. Pavlov, Study

of dust entrainment during fluidization of polydispersed materials, *Trudy Moskov. Khim.-Tekhnol. Inst.* Vyp. 105, 139–142 (1979).

O. I. Rozhdestvensky, Z. Sh. Kadzhaya, V. A. Marutyan *et al.*, Heat transfer in a bed of loose material at the onset of fluidization, *Zh. Prikl. Khim.* **53**(6), 1310–1314 (1980).

E. S. Rudakov and N. A. Tishchenko, Non-stationary kinetics of reactions in a closed two-phase system: account for distribution and mass transfer effects, *Dokl. Akad. Nauk. SSSR* **253**(1), 181–185 (1980).

V. V. Sherstobitov, G. G. Mikhailenko, A. Yu. Vinarov and I. V. Bezdetnyi, Hydraulic characteristics of a floating blade packing, *Khim. Prom.* No. 7, 433–434 (1980).

V. N. Shikhov and F. E. Linetskaya, Practical utilization of fluidized-bed electrization, *Khim. Prom.* No. 6, 368–369 (1980).

F. E. Spokoinyi and Z. R. Gorbis, Concerning calculation of the settling rate of aerosol particles under non-isothermal conditions, *Teplofiz. Vysok. Temp.* **18**(3), 647–650 (1980).

Yu. I. Tambovtsev and S. S. Zabrodsky, On the interrelation between the hydraulic resistance and structure of a ferromagnetic fluidized bed, *Vestsi Akad. Navuk BSSR, Ser. Fiz.-Energ. Navuk* No. 3, 61–66 (1980).

I. N. Taganov, N. I. Lukin, P. G. Bannykh and V. N. Zhukov, Experimental study of solid phase motion in a fluidized bed, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 558–563 (1980).

Yu. S. Teplitsky, Towards the theory of unsteady state methods of determining the effective thermal diffusivity of a fluidized bed, *Vestsi Akad. Navuk BSSR. Ser. Fiz.-Energ. Navuk* No. 3, 89–95 (1980).

I. I. Tsirkin and V. A. Zhuzhikov, On optimization of the filtrational process of low-concentrated suspensions, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 570–574 (1980).

A. A. Uglov, Yu. N. Lokhov and A. G. Gnedovets, Concerning disintegration of melted particles in a gas flow, *Fiz. Khim. Obr. Mater.* No. 3, 35–38 (1980).

Yu. M. Vol'fkovich, Macrokinetics of gas-liquid reactions in a porous two-phase catalyst. The effect of a porous structure, *Teor. Osnovy Khim. Tekhnol.* **14**(4), 522–528 (1980).

A. R. Yakuba, N. F. Ostrishko, A. I. Bukhan'ko *et al.*, Capture of dispersed materials in multi-stage cyclones, *Khim. Prom.* No. 7, 432–433 (1980).

M. S. Zak, D. I. Doverman, N. I. Gel'perin and S. V. Tokarev, Study of a pneumatic feeder used for charging polydispersed material to match the fluidized-bed level, *Khim. Neft. Mashinostroenie* No. 8, 3–5 (1980).