

HEAT AND MASS TRANSFER BIBLIOGRAPHY—SOVIET WORKS

O. G. MARTYNENKO

Heat and Mass Transfer Institute, BSSR Academy of Sciences, Minsk, BSSR, U.S.S.R.

(Received 17 June 1975)

BOOKS

- A. I. Borisenko et al. (editors), *Aerodynamics and Heat Transfer in Electric Machines, Collected Papers*. Kharkov (1974).
I. N. Chersky (editor), *Behaviour of Polymers under Low-Temperature Conditions*. Yakutsk (1974).
V. A. Gastev et al. (editors), *Mechanics of Rod Systems and Continua, Collected Papers*. Leningrad (1974).
V. M. Ievlev, *Turbulent Flow of High-Temperature Continua*. Nauka, Moscow (1975).
G. M. Kamfer, *Heat and Mass Transfer and Evaporation Involving Mixture Formation in Diesels*. Vyssh. Shkola, Moscow (1974).
L. V. Komarovskiy (editor), *Collection of Papers on Gas Dynamics*. Izd. Tomsk. Univ., Tomsk (1974).
L. A. Kozdoba, *Methods of Solution of Non-Linear Heat Conduction Problems*. Nauka, Moscow (1975).
E. A. Krasnoshchyokov and A. S. Sukomel, *Book of Heat Transfer Problems*, 3rd edn. Energiya, Moscow (1975).
V. A. Rabinovich (editor), *Thermophysical Properties of Substances and Materials*. Izd. Standartov, Moscow (1975).
E. U. Repik and Yu. P. Sosedko, *An Effect of Flow Turbulence on Results of Weight Measurements in Wind Tunnels*. Trudy TsAGI, Moscow (1975).
G. S. Roslyakov and L. A. Chudov, *Some Applications of the Network Method in Gas Dynamics*. Izd. Mosk. Univ., Moscow (1974).
B. S. Sazhin and E. A. Chuvtilo, *Standard Dryers with a Weighted Bed of Material*. Moscow (1975).
A. G. Shashkov (editor), *Heat and Mass Transfer and Thermophysical Properties of Substances, Collected Papers*. Minsk (1974).
V. K. Shchukin, *Heat Transfer and Hydrodynamics of Internal Flows in Electromagnetic Mass Force Fields*. Kazan (1974).
Yu. V. Svetlov and S. P. Gorbachev, *Heat Transfer with Forced Convection of Cryogenic Liquids in a Supercritical Region*. Moscow (1975).
V. Z. Svoisky, *Transport Properties in a Dense Gas. Asymptotic Form of the First Correction for Density*. Moscow (1974).
V. I. Tolubinsky et al. (editors), *Thermal Physics and Thermal Engineering*, vyp. 28. Naukova Dumka, Kiev (1974).
V. A. Trushin, *Applied Thermodynamics, Lectures*. Ufa (1974).
B. I. Verkin et al. (editors), *Physics of a Condensed State, Collected Papers*. Kharkov (1974).
N. N. Yanenko (editor), *Numerical Methods of Continuum Mechanics, Collected Papers*, Vol. 5(4). Novosibirsk (1974).
S. S. Zabrodsky and A. I. Tamarin (editors), *Heat and Mass Transfer in Processes of Thermal Treatment of Disperse Materials*. Minsk (1974).
E. M. Zhukhovitsky et al. (editors), *Hydrodynamics, Collected Papers*. Perm (1974).

GENERAL

- N. I. Gelperin, G. I. Lapshenkov, A. L. Taran and A. V. Taran, A study of processes with varying substance state of aggregation by the method of electrical analogs, *Teoret. Osnovy Khim. Tekh.* 9(3), 380–386 (1975).

A. M. Kuliev, To the problem of determining a convenient form of writing the similarity criteria, *Izv. Akad. Nauk. SSSR, Energetika i Transport* No. 2, 162–164 (1975).

I. P. Zvyagin, To the theory of transport phenomena by localized states, *Vestnik Mosk. Univ., Ser. III, Fiz. Astronom.* 16(1), 9–15 (1975).

Thermodynamics

Kh. I. Amirkhanov, B. G. Alibekov, D. I. Vikhrov, V. A. Mirskaya and L. N. Levina, Some thermodynamic properties of normal alkanes on a saturation line (liquid), *Teplofiz. Vysok. Temper.* 13(2), 309–313 (1975).

I. N. Belyaev and S. A. Mareskin, A thermodynamic study of melts of hydrohalogenous lead systems—II, *Phys. Khim.* 49(4), 1054–1055 (1975).

B. A. Grigoriev, R. M. Murdaev and Yu. L. Rastorguev, An experimental study of P–V–T relationship of cyclohexane at high temperature and pressure conditions, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 3, 61–63 (1975).

A. I. Gusev and G. P. Shveikin, Estimation of thermodynamic characteristics of vacancies in zirconium nitride, *Izv. Akad. Nauk. SSSR, Neorgan. Mater.* 11(4), 653–656 (1975).

E. A. Maiorova and A. G. Morachevsky, Thermodynamic properties of weak solutions of sodium in liquid tellurium, *Elektrokhim.* 11(5), 821–822 (1975).

F. M. Mustafaev, I. Ya. Aliev, T. H. Azizov and A. S. Abbasov, A study of thermodynamic properties of the In–Te system, *Izv. Akad. Nauk. SSSR, Neorgan. Mater.* 11(4), 623–625 (1975).

L. M. Rosenfeld and V. F. Gershkovich, A thermodynamic analysis of cycles for producing electric energy, hot water and cold in energetic systems with an absorptive lithiobromic reducing thermotransformer, *Izv. Sib. Otd. Akad. Nauk. SSSR, Ser. Tekh. Nauk* No. 3, 125–131 (1975).

I. A. Vasilieva, Ya. I. Gerasimov, A. F. Maiorova and I. V. Pervova, Thermodynamic properties of oxides and a phase diagram of the Tb–O system within the region of compounds 1.54 O: T 1.74 and temperatures of 850–1000°C, *Dokl. Akad. Nauk. SSSR* 221(4), 865–867 (1975).

S. P. Yatsenko and E. A. Saltykova, Thermodynamic properties of liquid melts of the Li–In system, *Elektrokhim.* 11(4), 580–581 (1975).

NON-LINEAR THERMODYNAMICS OF CONTINUA

V. N. Nikolaevsky, A stress tensor and averaging in mechanics of continua, *Prikl. Mat. Mekh.* 39(2), 374–379 (1975).

Thermophysical (Transport) Properties of Substances

L. I. Anatychuk, A. V. Mikhailenko and L. V. Pavlova, On photon heat conduction in orthorhombic system crystals, *Fiz. Tekh. Poluprovod.* 9(5), 1004–1005 (1975).

M. A. Anisimov, N. S. Zaogolnikova, G. I. Ovodov, T. M. Ovodova and A. L. Seifer, Heat capacity anomaly and a possible phase ordering-type transition in an aqueous solution, *Letters Eksp. Teoret. Fiz.* 21(8), 476–479 (1975).

A. A. Bilyk, N. F. Gladky, Yu. G. Kotelevsky and B. D. Timofeev, Thermal conductivity of liquid nitrogen tetroxide

- in the temperature range of 270–400°K and pressures of 0.1–20 MPa, *Teploenergetika* No. 6, 75–76 (1975).
- R. A. Bychkov and Yu. M. Proselkov, A study of heat conduction of clay mortar (to application for deep drilling), *Izv. Ser-Kavk. Nauch. Tsentr Vyssh. Shkoly, Ser. Tekh. Nauk* No. 3, 28–29 (1974).
- B. K. Demidovich, N. P. Sadchenko, M. S. Donner, S. P. Kamenetsky and I. L. Maizel, Thermal conductivity of foam glass for low-temperature insulation, Collected Papers, *Vsesoyuzn. Nauch-Issled. Proektn. In-ta Teploproekt* 27, 107–111 (1974).
- G. N. Dulin, Yu. P. Zarichnyak and N. A. Khankova, Calculation of thermal conductivity of the concentrated liquid solutions of electrolytes, *Teoret. Osnovy Khim. Tekh.* 9(3), 463–466 (1975).
- B. I. Ermolaev, Heat conduction and electric resistance of titanium-based solutions and its melts at temperatures of 20–80 up to 1000°K, *Metall. Term. Obrab. Metal.* No. 12, 46–47 (1974).
- L. I. Filatova, Instrumental error of "Lambda" in measurements of thermal conductivity, *Trudy Metrol. In-tov SSSR* 155, 15–17 (1974).
- I. M. Frenkel and O. A. Sergeev, The state primary standard of specific heat capacity unit of solids in the temperature range of 273.15–700°K, *Izmerit. Tekh.* No. 4, 45–49 (1975).
- G. T. Gasanov and N. A. Ismailova, On one method of determination of the temperature relationship of thermo-physical properties of rocks, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 3, 65–69 (1975).
- V. M. Glazov, A. S. Burkhanov and A. A. Aivazov, Variation of thermal conductivity of copper chalcogenides in the process of melting, *Izv. Akad. Nauk. SSSR, Neorgan. Mater.* 11(5), 844–847 (1975).
- I. L. Gufeld, Ya. G. Danilovich, V. V. Postnov, P. A. Pshenichkin and I. V. Chermashentsev, Thermophysical characteristics controlling thermal stability of electrobrush compositions, *Elektrotekhnika* No. 9, 57–59 (1974).
- K. D. Guseinov and S. G. Magerramov, A study of thermal conductivity of isoamyoformates at different temperatures and pressures, *Teplofiz. Vysok. Temper.* 13(2), 446–447 (1975).
- K. D. Guseinov and M. N. Mamedov, A study of heat conduction and P–V–T relationship of aldehydes, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 3, 75–76 (1975).
- A. M. Kerimov and M. K. Alieva, A study of the isochoric heat capacity of steam, *Teploenergetika* No. 5, 58–60 (1975).
- E. S. Machavariani, D. I. Avaliani and V. Sh. Muselian, A device for investigating heat and electric conduction of metals and alloys, *Trudy Grus. Politekh. In-ta* No. 1, 143–146 (1974).
- I. A. Makharadze, I. B. Baratazhvili, B. Sh. Tsagareishvili and G. G. Gvelesiani, Enthalpy and heat capacity of manganese phosphides at high temperatures, *Izv. Akad. Nauk. SSSR, Neorgan. Mater.* 11(4), 599–601 (1975).
- K. M. Mamedova, A. N. Aliev and A. Yu. Dzhangirov, Thermal conductivity, electrical conductivity and thermoelectromotive force of solid solutions (ZnSb) $1-x$ –(CuSb) x , *Izv. Azer. SSR, Ser. Fiz.-Tekh. i Mat. Nauk* No. 4, 121–123 (1974).
- R. A. Medzhidov and S. M. Rasulov, Enthalpy and heat capacity of tellurium in the temperature range of 0–750°C, *Izv. Akad. Nauk. SSSR, Neorgan. Mater.* 11(4), 646–648 (1975).
- V. F. Mysik, A. S. Kukarkin, B. I. Kutaev, B. I. Rabanin and M. A. Sheptovitsky, Determination of thermal diffusivity and thermal conductivity of coal moulding filling during continuous coking, *Koks Khim.* No. 5, 20–23 (1974).
- I. I. Novikov and I. P. Mardykin, On heat capacity of ytterium, lanthanum, praseodymium at high temperatures, *Teplofiz. Vysok. Temper.* 13(2), 318–323 (1975).
- V. M. Polovov and L. G. Maistrenko, Heat capacity of europium, *Zh. Eksp. i Teoret. Fiz.* 68(4), 1418–1422 (1975).
- N. A. Puchkelevich, E. Ya. Litovsky, Ya. A. Landa, V. G. Borisov and A. R. Nikolaev, Thermophysical properties of resin-based refractories, *Ogneupory* No. 10, 20–25 (1974).
- Yu. L. Rastorguev, B. A. Grigoriev and G. S. Yanin, An experimental study of isobaric heat capacity of aromatic hydrocarbons, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 4, 73–77 (1975).
- O. A. Sergeev and A. Z. Chechelnitsky, A precision device for measuring thermal conductivity of solid materials within 1.0–20 W/m²K at temperatures of 300–1100°K, *Trudy Metrol. In-tov SSSR* 155, 78–86 (1974).
- V. V. Shlyapnikov, Determination of isochoric heat capacity of water on a boundary curve and at the one-phase to two-phase state transition, *Teploenergetika* No. 5, 79–80 (1975).
- O. V. Tserodze, A formula for determination of thermal conductivity of liquid Freons, *Trudy Gruz. Politekh. In-ta* No. 1, 162–164 (1974).
- M. I. Vladimir and V. A. Moskalenko, Heat conduction of double-zone superconductors, *Teoret. i Matem. Fiz.* 23(1), 104–110 (1975).
- A. A. Zatovskaya, On Brownian movement of a particle in heat-conducting liquid, *Ukr.-Fiz. Zh.* 19(9), 1449–1455 (1974).
- V. V. Zigel and G. M. Orlova, Low-temperature heat capacity of GeSe₂, *Zh. Prikl. Khim.* 48(4), 756–761 (1975).
- G. M. Zlobintsev, V. V. Kozinets, B. A. Merisov, E. M. Ogneva, V. I. Sokolov and A. V. Blinova, Thermal conductivity of structural aluminium alloys at low temperatures, *Metall. Term. Obrab. Metal.* No. 5, 69–70 (1975).

HEAT CONDUCTION

- V. N. Abrashin and L. I. Ivanova, Difference schemes for multidimensional quasilinear parabolic equations, *Differents. Uravn.* 11(5), 889–899 (1975).
- A. M. Aizen, L. F. Chernykh and A. T. Lisovenko, On a solution of non-linear heat conduction problems for double-layer media with a non-ideal heat contact, *Teplofiz. Vysok. Temper.* 13(2), 397–402 (1975).
- S. A. Blokh, An approximate solution of unsteady heat conduction in a rectangular parallelepiped, *Teplofiz. Vysok. Temper.* 13(2), 451–453 (1975).
- N. V. Diligensky, V. I. Pilinsky and Yu. M. Yanyushkin, A study of unsteady temperature fields when grinding with a non-equilibrium abrasive disk, *Fiz. Khim. Obrab. Mater.* No. 2, 24–28 (1975).
- G. B. Kardakova and V. S. Nikiforovsky, Temperature fields in a half-space destructed by thermal treatment, *Fiz.-Tekh. Prob. Razrabot. Polez. Iskopаемых* No. 5, 53–56 (1974).
- M. M. Lavrentiev and M. V. Klibanov, On the one integral first-kind equation and inverse problem for a parabolic equation, *Dokl. Akad. Nauk. SSSR* 221(4), 782–783 (1975).
- L. E. Melamed, On integral transforms with arbitrary limits of integration, *Fiz. Khim. Obrab. Mater.* No. 2, 29–33 (1975).
- V. S. Nikiforovsky and V. M. Seryakov, Concerning thermal and stressed state and distribution of composite bodies under heating, *Izv. Sib. Otd. Akad. Nauk. SSSR, Ser. Tekh. Nauk* No. 3(1), 109–114 (1975).
- M. B. Pankova and V. S. Savinich, An effect of a heat impulse form on metal melting, *Fiz. Khim. Obrab. Mater.* No. 2, 146–150 (1975).
- L. T. Pashkov, On a boundary regime recovery for the one-dimensional heat-conduction equation by the regularization method, *Teplofiz. Vysok. Temper.* 13(2), 392–396 (1975).
- S. V. Reznik and S. T. Surzhikov, Concerning a temperature field in a semitransparent material under intensive heat transfer conditions, *Izv. Vyssh. Ucheb. Zaved., Mashinostr.* No. 10, 65–68 (1974).
- V. V. Salomatov and A. A. Makeev, Concerning prediction of temperature stresses in non-linear heat transfer phenomena, *Izv. Akad. Nauk. SSSR, Energetika i Transport* No. 2, 152–156 (1975).
- A. A. Shershnev and E. B. Mikhailov, A distortion effect of a thermocouple on a temperature field of a heated body with low thermal conductivity, *Izv. Vyssh. Ucheb. Zaved., Pribostr.* 18(3), 110–115 (1975).

A. A. Ugllov, V. N. Geminov and A. A. Kaplan, Application of the Stark criterion for a temperature drop problem with bilateral electronic heating of a sample, *Fiz. Khim. Obrub. Mater.* No. 2, 143–144 (1975).

V. I. Ushakov, Concerning thermal prediction of gas lines, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 3, 85–86 (1975).

A. N. Valiullin, V. A. Murzich and L. K. Silvestrov, Computer calculations of a thermal regime of an underground low-temperature reservoir for liquefied propane–butane storage, *Izv. Sib. Otd. Akad. Nauk. SSSR, Ser. Tekh. Nauk* No. 3, vyp. 1, 115–124 (1975).

L. V. Volodko, A. S. Klyuchnikov, V. P. Efimov, A. S. Pavlovsky and I. G. Patrikeev, Temperature calculation in materials with unilateral heating by a radiative flux, *Vest. Belorusk. Univ., Ser. I, Mat., Fiz., Mekh.* 46–50 (1974).

HYDROMECHANICS

1. Boundary layer

R. A. Safarov, A turbulent boundary layer in the multi-component gas mixture, *Teplofiz. Vysok. Temper.* 13(2), 346–352 (1975).

V. I. Roev, A method of displacements in calculations of a time-variable temperature field and dynamic loads, *Izv. Vyssh. Ucheb. Zaved., Stroit. i Arkhit.* No. 9, 48–53 (1974).

2. Turbulent flow

D. I. Avaliani and T. Sh. Zoidze, Intensity fluctuations of a laser ray propagating in turbulent liquid, *Trudy Gruz. Politekh. In-ta* No. 1, 137–139 (1974).

S. G. Azizov, Velocity distribution in a dispersing turbulent flow, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Vodosnabzhen.*, 46, 66–70 (1974).

G. R. Baranov, I. L. Kuznetsov and A. M. Trokhan, A measurement of velocity and turbulence of supersonic flows by the optic time-flight method, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Fiz.-Tekh. Radiotekh. Izmer.* vyp 14, 90–96 (1974).

V. A. Lebiga and V. V. Chernykh, Some problems of the measuring technique of turbulence at supersonic velocities, *Izv. Sib. Otd. Akad. Nauk. SSSR, Ser. Tekh. Nauk.* No. 3, vyp 1, 78–82 (1975).

V. A. Sabelnikov, On an exchange term in anisotropic homogeneous turbulent flows with a mean velocity gradient, *Uchen. Zap. TsAGI* 5(4), 20–23 (1974).

N. K. Shelkovnikov, An effect of “slipping mean” operation on determination of turbulent inhomogeneities parameters, *Vest. Mosk. Univ., Ser. III, Fiz. Astronom.* 16(1), 111–113 (1975).

V. G. Sviridov, L. G. Genin, T. E. Krasnoshchikova and S. P. Manchka, Energy balance of temperature fluctuations with a turbulent mercury flow in a circular tube, *Teplofiz. Vysok. Temper.* 13(2), 354–360 (1975).

A. M. Trokhan and S. P. Stefanov, An optical-acoustic method of measuring turbulence characteristics, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Fiz.-Tekh. Radiotekh. Izmer.* vyp. 14, 40–46 (1974).

Yu. N. Vlasov and Yu. D. Chashechkin, Visualization of flows for measuring velocity and turbulence of liquid, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Fiz.-Tekh. Radiotekh. Izmer.* vyp. 14, 90–96 (1974).

T. Sh. Zoidze, G. G. Vlasenko and D. I. Nikuradze, An experimental installation for investigating the laser beam expansion with turbulent liquid fluctuations, *Trudy Gruz. Politekh. In-ta* No. 1, 151–152 (1974).

3. Kinetic theory of liquids and gases

I. L. Bukhbinder, A. R. Kessel and T. N. Khazanovich, A statistic derivation of the kinetic equation for a subsystem in a “viscous medium”, *Teoret. Mat. Fiz.* 23(1), 121–131 (1975).

V. S. Galkin, Derivation of slow gas mixture equations from the Boltzmann equation, *Uchen. Zap. TsAGI* 5(4), 40–47 (1974).

I. I. Olkhovsky, On the first approximation of “temperature” expansion of the Bogolyubov “chain”, *Dokl. Akad. Nauk. SSSR* 221(5), 1063–1065 (1975).

Yu. I. Yalamov and A. M. Golikov, Concerning thermal sliding dependence of gases on the nature of molecule accommodation, *Letters Zh. Tekh. Fiz.* 1(8), 374–377 (1975).

FORCED CONVECTION

E. G. Andreev and G. G. Khundzhua, Heat transfer and thermal structure of boundary layers in the sea-atmosphere system during small-scale interaction, *Vest. Mosk. Univ.-ta, Ser. III, Fiz., Astron.* 16(1), 54–59 (1975).

V. Ya. Borovoi and M. V. Ryzhkova, Gas flow and heat transfer over a cone near a transverse jet with a laminar boundary layer, *Uchen. Zap. TsAGI* 5(4), 48–58 (1974).

P. M. Dauyetas, I. I. Zhyugzhda and A. A. Zhukauskas, Heat transfer of different sections of a cylinder with a transverse water flow around it at critical Reynolds values, *Trudy Akad. Nauk. Lit. SSR, Ser. B, Khim., Tekh., Fiz., Geograph.* 1(86), 95–101 (1975).

V. A. Garpinchenko, L. I. Kudryashev and N. N. Shepelev, Concerning determination of the convective flow-to-a-particle heat transfer at small Reynolds numbers, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Tsement. Mashinostr.* 17, 21–27 (1974).

V. L. Goldzberg, V. I. Maron and V. Z. Fisher, Pressure and temperature distribution in a liquefied natural gas with phase transformations, *Izv. Akad. Nauk. SSSR, Energet. i Transport* No. 2, 128–133 (1975).

G. P. Golovinsky, High-temperature heat transfer agents, *Khim. Prom.* No. 4, 311–314 (1975).

V. I. Gomelauri, T. Sh. Magrakvelidze, A. N. Mikashavidze, A. G. Khoshtariya and T. A. Chuchulashvili, An experimental study of heat transfer enhancement of a superheated vapour by the method of two-dimensional roughness, *Soobshch. Akad. Nauk. Gruz. SSR* 75(2), 409–412 (1974).

V. M. Kapinos, N. B. Chirkin, L. V. Povolotsky, A. F. Slitenko and I. L. Volovelsky, An experimental study of heat transfer with an air–water flow, *Teploenergetika* No. 5, 28–31 (1975).

A. I. Karpovich, G. I. Soloviev, I. M. Plekhov and A. I. Ershov, A study of heat transfer in an apparatus with single-pass bubbling contact arrangements, *Izv. Vyssh. Ucheb. Zaved. Energetika* No. 4, 137–139 (1975).

V. I. Katinas, S. A. Shvegdzhda, I. I. Zhyugzhda and A. A. Zhukauskas, Turbulized viscous liquid flows around a frontal section of a circular cylinder and its heat transfer, *Trudy Akad. Nauk. Lit. SSR, Ser. B, Khim., Tekh., Fiz., Geograph.* 1(86), 103–114 (1975).

A. I. Krotkus and A. A. Sirvila, Impedance in a forced convection system (2. System $K_3Fe(CN)_6/K_4Fe(CN)_6$), *Trudy Akad. Nauk. Lit. SSR, Ser. B, Khim., Tekh., Fiz., Geograph.* 1(86), 11–17 (1975).

D. P. Lebedev and E. F. Andreev, Heat transfer with the laminar flow and pulsation suction of liquid into a porous plate with its subsequent sublimation into vacuum, *Izv. Vyssh. Ucheb. Zaved., Energetika* No. 4, 82–89 (1975).

A. M. Mamedov, F. I. Kalbaliev and G. I. Isaev, A study of convective heat transfer of toluene under turbulent flow and supercritical pressure conditions, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 4, 69–72 (1975).

A. A. Mosunov, Yu. G. Yaroshenko, F. R. Shklyar, S. P. Kashtanova, E. D. Lekomtseva and V. P. Shtiglits, An effect of non-uniform gas–air flow distribution on temperature in a blast-furnace air heater packing, *Izv. Vyssh. Ucheb. Zaved., Chernaya Metallurg.* No. 4, 44–47 (1975).

A. A. Peresko, L. G. Fedorov and M. S. Zhigalov, An effect of acoustic fluctuations on heat transfer rate in sugar solutions, *Sakharn. Prom.* No. 11, 54–56 (1974).

V. N. Popov and V. M. Belyaev, Heat transfer in a circular tube under transient and turbulent liquid flow conditions at small Reynolds numbers, *Teplofiz. Vysok. Temper.* 13(2), 370–378 (1975).

D. F. Simbirsky, V. G. Bogdanov, G. N. Tretiyachenko, P. I. Kuriat and A. P. Voloshchenko, Experimental and theoretical determination of thermoelectromotive force and

- heat transfer conditions of a turbine blade with use of high-temperature film thermocouples, *Problemy Prochnosti* No. 7, 42–47 (1974).
- Yu. V. Vikhrev, A. S. Konkov and I. T. Sinitsyn, A temperature regime of horizontal tubes with a vapour–water mixture flowing in it, *Energomashinostr.* No. 4, 20–22 (1975).
- O. N. Vitkovskaya and A. P. Rudakova, Calculation of air flow in a magnetohydrodynamic accelerator channel with regard for channel resistance and heat transfer in a construction wall, *Uchen. Zap. TsAGI* 5(4), 100–105 (1974).
- Ya. S. Zholudov and V. M. Legky, To prediction of the efficiency coefficient and temperature regime of annular-finned tubes, *Teploenergetika* No. 5, 39–42 (1975).
- V. V. Uvarov, E. A. Mashunin and G. A. Pugin, Heat transfer over a flow rearrangement region in a channel of a cooled blade (gas turbines), *Izv. Vyssh. Ucheb. Zaved., Mashinostr.* No. 11, 182–185 (1974).

NATURAL CONVECTION

- N. S. Alferov, B. F. Balunov and R. A. Rybin, To prediction of heat transfer with mixed convection, *Teploenergetika* No. 6, 71–75 (1975).
- V. P. Korbut, Convective flows from heated vertical surfaces and their interaction, *Izv. Vyssh. Ucheb. Zaved. Stroit. Arkhitekt.* No. 3, 128–134 (1975).

PHASE CONVERSIONS

1. Boiling evaporation

- A. A. Khudenko, I. I. Statkevich and A. Kurbanov, A study of evaporative systems of antithermal protection and cooling of buildings, *Izv. Vyssh. Ucheb. Zaved., Stroit. i Arkhitekt.* No. 4, 128–131 (1975).
- A. L. Suvorov, T. L. Razinkova, G. M. Kukavadze, A. F. Bobkov, B. Ya. Kuznetsov and V. A. Kuznetsov, Kinetics of evaporation by a field (continuous regime), *Zh. Ekspерим. i Teoret. Fiz.* 68(4), 1460–1470 (1975).
- Ya. A. Zakharko, I. L. Mostinsky, M. S. Pinkhasik and V. D. Cherkas, On a role of potassium carbonate decomposition with its drops evaporating in a high-temperature gas flow, *Teplofiz. Vysok. Temper.* 13(2), 386–391 (1975).

2. Condensation

- V. T. Buglaev, M. M. Andreev and M. N. Lifshits, Heat and mass transfer with vapour condensation on tube bundles, *Izv. Vyssh. Ucheb. Zaved., Mashinostr.* No. 10, 77–80 (1974).
- G. A. Filippov, L. I. Seleznev and I. V. Gordeeva, Calculation of flow parameters with a spontaneous vapour condensation in supersonic nozzles, *Teploenergetika* No. 5, 16–21 (1975).
- A. M. Makarov, A. P. Shakhorin and A. N. Volkova, Vapour condensation on a free laminar flow of cold liquid with variable velocity of a main stream, *Izv. Akad. Nauk. SSSR. Energetika i Transport* No. 2, 157–161 (1975).
- A. A. Mikhalevich and V. I. Peslyak, Calculation of finning efficiency under coolant condensation conditions over a small-finned surface, *Dokl. Akad. Nauk. BSSR* 19(5), 420–423 (1975).
- Z. L. Miropolsky and A. Kurbanmukhamedov, Heat transfer with vapour condensation inside coil pipes, *Teploenergetika* No. 5, 83–86 (1975).

3. Sublimation

- D. P. Lebedev and Le-Kue-Ku, Formation of thermoelastic stresses during thermonradiative “thermal shock” with ice sublimation in vacuum, *Elektron. Obrab. Mater.* No. 1, 43–46 (1975).

4. Crystallization, solidification and freezing

- E. A. Basistov, A. E. Golub, G. M. Kurdyumov and T. B. Damant, On controllability of the directed crystallization processes in one-dimensional temperature field, *Teoret. Osnovy Khim. Tekhnol.* 9(3), 359–363 (1975).
- V. M. Kharin, To the theory of sugar crystallization, *Izv.*

Vyssh. Ucheb. Zaved., Pishchev. Tekhnol. No. 2, 129–136 (1975).

- V. M. Kharin and A. L. Zharkov, Concerning the growth rate and crystal solution with free precipitation in a solution, *Teoret. Osnovy Khim. Tekhnol.* 9(3), 443–446 (1975).
- E. G. Krotov and I. I. Pluzhnikov, On a possible contact freezing of vegetables in liquid Freon-12, *Kholod. Tekhnika* No. 4, 47–49 (1975).

S. I. Pedos, E. D. Yukhtanov and G. S. Agafonova, A study of conditions of the $Cd_xHg_{1-x}Te$ crystallization from mercury solutions, *Izv. Akad. Nauk. SSSR. Neorgan. Mater.* 11(4), 760–761 (1975).

5. Melting, thawing

- G. A. Anisovich and P. I. Vershinin, Heat transfer with zone crucible recast of a thin cylindric rod, *Dokl. Akad. Nauk. BSSR* 19(5), 424–427 (1975).

6. Heat Pipes

- V. S. Mikhailov, A. M. Krapivin, P. I. Bystrov and G. I. Pokandyuk, An experimental study of turbulent flow dynamics in heat pipes, *Teplofiz. Vysok. Temper.* 13(2), 379–385 (1975).
- A. S. Utynok. Applicability of heat pipes properties for measuring technique, *Metrologiya* No. 5, 60–65 (1975).

RADIATION

- A. P. Gagarin, V. V. Druzhinin, N. A. Raba and S. V. Maslenikov, A destructive effect of thermal radiation of laser erosion plasma under the developed scanning conditions, *Letters Zh. Tekh. Fiz.* 1(7), 311–315 (1975).
- V. M. Melentiev and I. G. Khreshchik, On radiative heat transfer in a cylindrical chamber filled with an isothermal medium, *Izv. Sev-Kavkaz. Nauch. Tsentr. Vyssh. Shkoly, Ser. Tekh. Nauk* No. 3, 38–41 (1974).
- G. V. Myakin and A. D. Khrispunov, Measurement of effective spectral coefficients of source radiation, *Izv. Sib. Otd. Akad. Nauk. SSSR, Ser. Tekh. Nauk* No. 3, vyp. 1, 94–95 (1975).
- Yu. A. Surinov and V. E. Fedyanin, A study of radiation heat transfer in a conical chamber with an absorbing medium, *Izv. Vyssh. Ucheb. Zaved., Chern. Metallurg.* No. 9, 150–153 (1974).

COMBINED HEAT AND MASS TRANSFER

- V. P. Alekseev and G. E. Vainshtein, Determination of kinetic parameters of a combined heat and mass transfer process, *Teoret. Osnovy Khim. Tekhnolog.* 9(3), 346–351 (1975).
- E. N. Bezrukova and A. A. Men', On boundary conditions in the radiation-conduction heat transfer problems, *Trudy Metrol. In-tov SSSR* vyp. 155, 113–119 (1974).
- E. Ya. Blum, Heat and mass transfer in a magnetic field, *Magnit. Gidrodinamika* No. 1, 35–46 (1975).
- El'-Ridi-Medkhat Kotb, L. G. Kalinin and I. G. Chumak, A study of heat and mass transfer over smooth tubes with the aid of thermal and optical methods, *Kholod. Tekhnika* No. 4, 35–38 (1975).
- A. A. Men', On a solution of the unsteady-state radiation-conduction heat transfer problem for a medium with a variable temperature of boundaries, *Trudy Metrol. In-tov SSSR* vyp. 155, 101–112 (1974).
- V. S. Novikov, Transfer equations for liquids near critical points, *Teplofiz. Vysok. Temper.* 13(2), 361–369 (1975).
- V. A. Val'dman, I. M. Anoshin and V. V. Medvedev, Heat and mass transfer with rectification in a rotary direct-flow apparatus, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnol.* No. 2, 164–167 (1975).

RHEOPHYSICS

- D. G. Agalarov and I. R. Mardukhaev, A solution of wave propagation in viscoelastic rods, *Mekhanika Polimerov* No. 2, 374 (1975).
- M. S. Akutin, B. V. Andrianov, V. S. Kulyamin, D. O.

- Zisman and L. A. Babanova, Rheological properties of polystyrene compositions with thermoelastoplastic, *Plast. Massy* No. 4, 44–45 (1975).
- V. A. Anufriev, O. M. Yakhno and A. D. Petukhov, Concerning a two-layer flow behaviour of polymer melts, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 218–228. Minsk (1975).
- V. F. Batrameev and M. V. Kulakov, Measurement of polymer melt viscosity during continuous caprolactam polymerization by an automatic rotary viscometer, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 139–145. Minsk (1975).
- N. G. Bekin and O. N. Kalachev, A study of a non-isothermal asymmetrical calendering process, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 243–247. Minsk (1975).
- G. V. Berezhnaya, D. F. Kagan and L. I. Zakharchuk, Polyethylene mixture flow of low and high densities, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 108–112. Minsk (1975).
- G. K. Berman, S. A. Machikhin and O. A. Ryabov, Flouy dough flow in circular channels and between two parallel round plates, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnol.* No. 2, 118–120 (1975).
- V. V. Bogdanov, A. M. Voskresensky, E. V. Korotyshev, R. G. Mirzaev and V. N. Krasovsky, Intensification of mixing processes of polymer materials, in *Rheology of Polymer and Disperse Systems*, part I, pp. 258–266. Minsk (1975).
- E. A. Bogdanova and G. S. Lavrenova, A study of the pH effect of milk on rheological characteristics and degree of dispersion of protein particles of a curdy clot, *Trudy Vsesoyuzn. Nauch.-Issled. In-ta Moloch. Prom. vyp.* 36, 3–5 (1974).
- E. K. Borisenkova, G. P. Belov and B. V. Yarlykov, An effect of the side CH_3 -groups on rheological properties of linear polyethylenes, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 102–107. Minsk (1975).
- I. P. Brieds and L. A. Faitelson, A dependence of rheological properties of polyethylene melts on its molecular structure, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 85–93. Minsk (1975).
- V. P. Budtov, On an influence of molecular weight on a viscosity factor of moderately concentrated polymer solutions, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 78–84. Minsk (1975).
- V. I. Bukhgalter, M. G. Tsiprin and V. M. Yuzhin, Polyethylene melt flow under steady and batch deformation conditions, *Mekhanika* No. 2, 368–370 (1975).
- A. A. Buniyat-Zade, T. M. Ismailov, B. P. Svyatodukhov and R. A. Gasanov, A study of rheological properties of an olefinic series, in *Rheology of Polymer and Dispersed Systems and Rheophysics*, part I, pp. 94–101. Minsk (1975).
- I. P. Chashchin and A. G. Piyankov, On polymer admixture effect on heat transfer and hydraulic resistances in an organic liquid flow, *Khim. i Nefti Mashinostr.* No. 4, 17 (1975).
- A. D. Charnyshov, On the rigid zone surface properties within a viscoplastic flow region, *Prikl. Mekh.* 10(5), 114–118 (1975).
- V. V. Devlikamov, I. M. Kabirov and Z. A. Khabibullin, Rheological characteristics of anomalous petroleum, *Izv. Vyssh. Ucheb. Zaved., Neft i Gaz* No. 4, 41–45 (1975).
- D. N. Emelianov, L. I. Myasnikova, N. A. Mikhalev, I. A. Voronkova, B. V. Myasnikov, V. A. Myachev, A. V. Ryabov and B. P. Shtarkman, A study of rheological properties of the polymerizing methyl metacrylat and polymethylmethacrylat solutions in methylisobutyrate, *Izv. Vyssh. Ucheb. Zaved., Khim. i Khim. Tekhnolog.* 18(4), 634–637 (1975).
- L. A. Faitelson and V. P. Kovtun, Shear flow of monodispersed fibrous compositions, *Mekh. Polim.* No. 2, 326–334 (1975).
- V. D. Fikhman and B. V. Radushkevich, High-elastic deformations of atactic polystyrene with uniform stretching and temperatures above that of the glass-transition region, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 167–173. Minsk (1975).
- M. L. Fridman, A. K. Panov and K. D. Vachagin, An effect of the periodic mechanical deformation on a polymer melt flow in prismatic channels, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 123–128. Minsk (1975).
- M. L. Fridman, Yu. G. Yanovsky, E. I. Frenkin and L. I. Kasradze, An effect of glass fiber filling on the viscoelastic properties of polypropylene, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 185–197. Minsk (1975).
- V. I. Gartsman and B. M. Gorelik, An effect of three-dimensional structure density in polybutadiene rubbers on frequency dependences of dynamic functions, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 113–122. Minsk (1975).
- L. S. Golubova, V. P. Shustov and O. R. Yurkevich, An effect of disperse admixtures on some thermoplastic melts consistency, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 72–77. Minsk (1975).
- V. V. Goncharenko, A. D. Petukhov, V. A. Senatos and Yu. E. Lukach, A degree of thermal shrinkage of sleeve polymer films, in *Rheology of Polymer and Disperse Systems*, part I, pp. 229–233 (1975).
- V. V. Gubaev, V. A. Fyodorov, R. G. Timerghaleev and V. A. Voskresensky, A study of the vibration effect on rheological properties of some multicomponent polymer systems, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 35–39. Minsk (1975).
- V. E. Gul' and T. V. Shamraevskaya, Ways of strength increase of polymer materials, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 57–62. Minsk (1975).
- R. S. Gurbanov, Z. M. Akhmedov and E. T. Abdinov, On the non-Newtonian liquid flow equations for a porous medium, *Izv. VUZov, Neft i Gaz* No. 4, 31–34 (1975).
- V. I. Irzhak and L. I. Kuzub, Viscosity of concentrated polymer solutions, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 156–160. Minsk (1975).
- A. I. Isaev and E. V. Katsyutsevich, Cyclic deformation with great amplitudes of linear polymers at the high-elastic state, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 23–34. Minsk (1975).
- G. B. Froinshteter and E. L. Smorodinsky, Laminar heat transfer of non-Newtonian liquids in tubes with variable physical properties, *Teoret. Osnovy Khim. Tekhnolog.* 9(3), 392–405 (1975).
- R. M. Khasaev, A. T. Abbasov and A. K. Mamedov, Convective mass transfer with a structural regime of viscoplastic liquid flow between two parallel plates, *Uchen. Zap. Azerb. In-ta Nefti i Khim.* No. 6, 34–39 (1974).
- V. P. Klochkov, V. P. Ivanov and V. M. Zemlyansky, Velocity measurement of a sugar solution in vertical tubes with the aid of probeless methods, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnolog.* No. 2, 137–139 (1975).
- M. A. Koltunov and I. E. Troyanovsky, A problem statement of the geometrically non-linear theory of viscoelasticity, *Mekh. Polim.* No. 2, 234–240 (1975).
- A. A. Komarov, N. G. Bekin, V. A. Nemytkov and N. D. Zakharov, On peculiarities of measuring rheological characteristics of liquid consolidating oligomeric systems, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 134–138. Minsk (1975).
- V. N. Kuleznev, O. L. Melnikova and V. D. Klykova, Characteristics of the two-phase solution flow and melts of PS and PB mixtures with the narrow molecular-weight distribution, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 63–71. Minsk (1975).
- V. V. Leitland and I. P. Briedis, Longitudinal flow with constant strain rate, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 174–180. Minsk (1975).
- A. I. Leonov, E. Kh. Lipkina, E. D. Paskhin and A. N. Prokunin, Some viscosimetric flows of elastic fluids, in

- Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 51–56. Minsk (1975).
- A. Ya. Malkin and M. P. Zabugina, Relaxation of normal stresses in flowing polymer systems, *Mekh. Polim.* No. 2, 335–339 (1975).
- V. D. Meerson, V. N. Krasovsky and K. A. Salazkin, Peculiarities of polymer calendering with use of wedge-shaped devices, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 248–257. Minsk (1975).
- I. Minster, Viscoelastic creeping of polymer materials, *Mekh. Polim.* No. 2, 358–361 (1975).
- L. I. Myasnikova, D. N. Emeliyanova, G. D. Panova and A. V. Ryabov, Rheological characteristics of polymethyl-metacrylate solutions in methylisobutyrate, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 129–133. Minsk (1975).
- A. P. Neverov, E. A. Pakshver and L. V. Rachinsky, Elastic reduction of polyacrylonitrile gel-fibers after uniaxial stretching, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 181–188. Minsk (1975).
- Yu. Ya. Podolsky, V. I. Brizitsky and A. I. Isaev, Polarization-optical investigations of a linear polymer flow, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 3–12. Minsk (1975).
- B. S. Radovsky, A behaviour of a highway construction as stratified viscoelastic medium under movable load action, *Izv. Vyssh. Ucheb. Zaved., Stroit. i Arkhitekt.* No. 4, 141–146 (1975).
- L. Z. Rogovina, G. L. Slonimsky, V. A. Grigorieva and V. G. Vasiliev, Rheological properties of polymer jelly and an effect of solvent nature on them, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 146–155. Minsk (1975).
- P. N. Shershnev and N. V. Tyabin, Elastic reduction of the filled rubber mixtures after outflowing from circular channels, *Mekh. Polim.* No. 2, 364–368 (1975).
- P. G. Shishkin, A dependence of stresses on deformations in polymers with initial deformation, *Prikl. Mekh.* 11(4), 121–124 (1975).
- Yu. B. Skrobin and N. V. Tyabin, Isothermal flow of a viscoelastic medium in a gap between rotating rollers, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 234–242. Minsk (1975).
- I. I. Stepank and N. A. Burenkov, On suspension motion in porous media, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnolog.* No. 2, 159–163 (1975).
- V. I. Vlasov, A two-layer flow of polymer melts in circular caps of extruders, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 206–217. Minsk (1975).
- S. N. Vybornova, A study of rheological properties of rocks disposed to swelling, *Nauch. Soobshch. In-ta Gornogo Dela im. Skochinskogo* 125, 96–99 (1974).
- L. P. Uliyanov, Dynamic tests of polymers in the low-frequency band, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 40–50. Minsk (1975).
- Yu. G. Yanovsky and V. V. Baranchaeva, A viscoelastic behaviour of linear polymers with periodical deformation of small amplitudes, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 13–22. Minsk (1975).
- G. Zh. Zhangereeva, M. P. Zabugina and A. Ya. Malkin, High-elasticity of the monodispersed polymers and their mixtures, in *Rheology of Polymer and Disperse Systems and Rheophysics*, part I, pp. 161–166. Minsk (1975).
- V. I. Bader, L. K. Vasanova and N. I. Syromyatnikov, Article drying on a gas-jet cushion, *Stroit. Mater.* No. 4, 14–15 (1975).
- G. G. Belyansky, M. K. Bologa, E. Ya. Zafrin and L. D. Ivanov, On volume evaporation with sublimation drying in a superhigh-frequency field, *Elektron. Obrab. Mater.* No. 1, 46–50 (1975).
- Z. I. Finkelberg and L. A. Chemelkova, The statistical analysis program for the electronic computer "Minsk-22" of information on post harvesting treatment of grain in collective and state farms, *Trudy Vsesoyuzn. Nauch-Issled. In-ta Mekhan. Selsk. Khoz-va* 65, 126–129 (1974).
- V. M. Gorbatov, I. D. Soloviev, V. A. Slepukhin and V. V. Cherepov, The automatic centrifugal dryer ЦС-8М for potato starch, *Sakh. Prom.* No. 11, 60–65 (1975).
- S. A. Ivanova, G. Ya. Smirnov, L. M. Ignatieva, G. M. Goncharov and M. A. Zhurkina, Drying hydrodeposit in a horizontal film apparatus, *Maslozhir. Prom.* No. 2, 32–34 (1974).
- V. V. Kutovoi and N. M. Rolich, A study of methods and means of adjustment and control of the production grain-cleaning and drying lines, *Trudy Vsesoyuzn. Nauch-Issled. In-ta Mekhan. Selsk. Khoz-va* 65, 169–174 (1974).
- V. A. Labutin and L. G. Golubev, A batch drying of granular materials in a movable bed, *Teoret. Osnovy Khim. Tekh.* 9(3), 456–458 (1975).
- E. L. Lamm and B. I. Leonchik, Circulation in the drying apparatuses with centrifugal spraying, *Khim. i Neft Mashinostr.* No. 4, 13–14 (1975).
- A. M. Levin, A. K. Rodin, G. M. Slepikh and V. A. Ivanov, Air conditioning in the sausage drying processes, *Kholod. Tekh.* No. 4, 46–47 (1975).
- A. V. Neimark, L. M. Pisman, V. E. Babenko and L. I. Kheifets, Kinetics of drying a porous particle with regard for capillary properties, *Teoret. Osnovy Khim. Tekh.* 9(3), 369–374 (1975).
- I. T. Prilipko, Ways of intensification of drying the paper linen, *Bum. Prom.* No. 12, 14–15 (1974).
- V. A. Sheiman, Yu. P. Uvarov, N. D. Baranenko, A. G. Ermolaev, Yu. V. Bylkov and A. V. Vorobiev, Industrial pneugas dryers for potassium salts, *Khim. Prom.* No. 4, 294–298 (1975).
- I. P. Tsybin, R. S. Kalugin, E. M. Grishpun, Z. K. Zhuravleva and M. Z. Naginsky, Intensification of drying Dinas-concrete blocks, *Ogneupory* No. 2, 14–16 (1974).
- K. K. Zhiltsov, G. Ya. Krichevsky, L. M. Lurie, A. A. Artemiev, V. B. Dmitriev, V. N. Sokolov, V. P. Shurchkov and A. A. Shulga, Automatic control of drying materials in tube-dryers, *Mekhaniz. i Avtomat. Proizvodstva* No. 5, 14–17 (1974).

2. Heat exchangers

- O. I. Chaban, A. I. Danilov, R. V. Ostapuk and M. G. Stashkiv, Interrelation of temperatures in the complex heat exchangers, *Energomashinostr.* No. 4, 28–30 (1975).
- B. P. Gebenkov, E. S. Ramenskaya, Ya. A. Tikhomirov and L. G. Shelepova, A study of the slotted radioactive recuperators, *Gaz. Prom.* No. 9, 46–49 (1974).
- O. M. Rabinovich, V. M. Petko, D. G. Faershtein, P. A. Gorbatko, V. A. Tretiyakov, A study of aerodynamics of an open furnace with the frontal arrangement of two-helical burners and counter input of discharged air, *Energomashinostr.* No. 4, 18–20 (1975).
- L. G. Semenyuk, Concerning determination of efficiency coefficients of contact heat exchangers, *Prom. Energetika* No. 11, 54–56 (1974).

3. Dispersed systems

- M. M. Akhmetov, R. M. Masagutov and Z. I. Syungaev, Regularities of heating the fluidized granular material beds with electric current transmission through them, *Khim. Prom.* No. 2, 380–381 (1975).
- A. P. Baskakov, O. K. Vitt and V. A. Kirakosyan, Concerning determination of a heat transfer coefficient with the aid of a

HEAT AND MASS TRANSFER IN ENGINEERING PROCESSES

1. Drying

- A. A. Andryukhin, V. S. Kashtan, I. T. Shkaranda, V. A. Dzevulsky and I. A. Neduzny, An experimental study of convective drying of leathers for foot-wear bottom under oscillating conditions, *Izv. Vyssh. Ucheb. Zaved., Tekh. Legkoi Prom.* No. 3, 53–57 (1974).

- thermoanemometric sensor, *Teoret. Osnovy Khim. Tekhnol.* **9**(3), 458–463 (1975).
- K. Bile, O. S. Chekhov and N. A. Kochergin, Some problems of the bubbling bed hydrodynamics on a plate with two zones of phase contacts, *Teoret. Osnovy Khim. Tekhnolog.* **9**(3), 466–470 (1975).
- P. P. Buinov, Designing an experiment with optimization of loose mixture separation, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnol.* No. 2, 143–146 (1975).
- V. M. Dementiev and S. M. Grafman, Some problems of fluidization of a large-particle bed, *Teoret. Osnovy Khim. Tekhnol.* **9**(3), 470–473 (1975).
- Z. R. Gorbis, V. V. Pushkov and F. E. Spokoiny, Heat transfer with gas suspension in an annular channel under an electric field action, *Elektron. Obrab. Mater.* No. 1, 38–43 (1975).
- Yu. P. Gupalo and G. P. Cherepanov, Fluidization in the presence of a barrier, *Prikl. Matem. Mekh.* **39**(2), 316–323 (1975).
- A. I. Katalov, A. N. Planovsky and V. N. Mazaev, Concerning an analysis of the intercomponent kinetic interaction effects in a rectification process, *Teoret. Osnovy Khim. Tekhnolog.* **9**(3), 339–345 (1975).
- A. A. Kondratiev, L. N. Frolova and L. A. Serafimov, Peculiar cases of rectification of the non-ideal mixtures, *Teoret. Osnovy Khim. Tekhnolog.* **9**(3), 323–332 (1975).
- V. S. Korin, V. N. Gorin and R. F. Romm, Control of thermal regime of oxidized chlorination of ethylene in a fluidized catalizator bed, *Khim. Prom.* No. 4, 302–307 (1975).
- N. S. Lokotanov and O. A. Nosyrev, Experience of gas purification on a ceramic filter with dehydration and calcination of solution-waste in an apparatus with a fluidized bed, *Atom. Energ.* **38**(5), 331–332 (1975).
- A. V. Makeev, Methods and procedure of an experimental study of discharge loose materials, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekh.* No. 4, 159–163 (1975).
- A. S. Martsennyyuk and V. N. Stabnikov, A gravitational liquid flow along a perforated attachment with cross slots, *Izv. Vyssh. Ucheb. Zaved., Pishch. Tekh.* No. 2, 147–151 (1975).
- G. Z. Mirzabekyan and I. N. Grigoriev, A kinetics equation of charging and deposition of particles in electrofilters with regard for turbulent aerosol mixing, *Izv. Akad. Nauk. SSSR, Energetika i Transport* No. 2, 51–60 (1975).
- A. G. Mirzakbayan and R. E. Akopyan, Some predictions of the apparatuses with a suspended bed of polydispersed solid particles, *Arm. Khim. Zh.* **27**(8), 700–705 (1974).
- N. A. Nikolaev, A. D. Sergeev, L. P. Kholpanov, V. T. Zarudsky, V. A. Malyssov and N. M. Zhavoronkov, A study of wave characteristics of an ascending concurrent flow in the air–water system, *Teoret. Osnovy Khim. Tekhnolog.* **9**(3), 406–411 (1975).
- V. G. Pravdin, M. F. Mikhalev, O. M. Todes, I. P. Mukhnenov, A. T. Bartov and M. A. Kontorin, Estimation of a degree of spatial non-homogeneity of a fluidized bed, *Teoret. Osnovy Khim. Tekhnolog.* **9**(3), 474–477 (1975).
- A. S. Pushnov, I. I. Gelperin and A. M. Kagan, Models and mechanisms of heat transfer in a fixed granular bed, *Trudy GIAP* **23**, 77–84 (1974).
- N. A. Shakhova and V. E. Kats, Expansion of an inhomogeneous fluidized bed, *Khim. Prom.* No. 5, 375–377 (1975).
- I. T. Shvets, N. A. Diky and A. A. Mochalov, An analytical solution of cooling liquid in a hot gas flow with constant vapour concentration with regard for a variable drop radius, *Teplofiz. i Teplotekh. (AN Ukr. SSR)* **24**, 28–32 (1973).
- V. G. Soloviev, V. M. Kurganov, A. I. Vaseiko and A. V. Agafonov, A study of a behaviour of an ascending gas–liquid flow in a fixed bed of granulated material, *Khim. i Tekh. Topliv. i Masel* No. 4, 40–42 (1975).
- V. V. Surovtsev, A. N. Planovsky and B. G. Baldin, Condensation of the phthalic anhydride from a phthaloair mixture of industrial concentrations in an apparatus with a fluidized bed of inert coolants, *Khim. Prom.* No. 5, 378–379 (1975).
- E. N. Yanchuk and Yu. N. Shimansky, A study of porosity fields of a fluidized bed near a horizontal cylinder surface, *Izv. Akad. Nauk. SSSR, Energetika i Transport* No. 2, 124–127 (1975).