

HEAT AND MASS TRANSFER BIBLIOGRAPHY— SOVIET WORKS

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BOOKS

- V. V. Aleksandrov (Ed.), *Radiating Gas Dynamics*, Collected Papers 1. Computing Center, AN SSSR (1974).
- I. P. Alyakritsky and S. A. Mandrykin, *Drying of Electrical Machines and Transformers*, 2nd edn. Energiya, Moscow (1974).
- N. M. Belyaev and Ryadno, *Unsteady Heat Conduction*. Izd. Gos. Un-ta, Dnepropetrovsk (1973).
- A. I. Borisenko et al. *Aerodynamics and Heat Transfer in Electrical Machines*. Trudy Kharkovsk. Aviats. In-ta (1973).
- A. I. Borisenko, V. G. Dan'ko and A. I. Yakovlev, *Aerodynamics and Heat Transfer in Electrical Machines*. Energiya, Moscow (1974).
- E. N. Eremin, *Fundamentals of Chemical Thermodynamics*. Vyssh. Shkola, Moscow (1974).
- P. F. Fil'chakov and A. G. Tarapon (Eds.), *Modelling of Thermophysical Problems*, Collected Papers. Izd. In-ta Mat. AN UkrSSR, Kiev (1973).
- B. A. Grigoriev, *Radiant Impulse Heating, Pt. 1, Properties of Impulse Radiation and Radiant Heating*. Nauka, Moscow (1974).
- B. A. Grigoriev, *Radiant Impulse Heating, Pt. 2, Unsteady Temperature Fields with Radiant Impulse Heating*. Nauka, Moscow (1974).
- V. P. Glushko (Ed.), *Thermodynamic and Thermophysical Properties of Combustion Products*, Vol. 7, *Fluoric Fuels*. VINITI AN Ukr.SSR, Moscow (1974).
- N. Z. Gusev and A. A. Koshelev, *Mass Transfer Processes, Lectures on "Fundamentals of Heat and Mass Transfer"*, Pt. 1. Trudy Irkutsk. Politekh. In-ta (1973).
- N. S. Ivanov (Ed.), *Thermophysics and Mechanics of Materials, Media and Engineering Constructions at low Temperatures*, Collected Papers, Pt. 1, *Thermophysics and Mechanics of Surrounding Media and Materials*. Filial SO AN SSR, Yakutsk (1974).
- V. V. Kharitonov and O. S. Sorokin, *Some Non-linear Heat Conduction Problems*. A. G. Shashkov (Ed.). Nauka i Tekhnika, Minsk (1974).
- Yu. A. Kirichenko et al. (Eds.), *Problems on Hydrodynamics and Heat Transfer in Cryogenic Systems*, Collected Papers 3. Trudy Fiz.-Tekhn. In-ta Nizkikh Temp., Kharkov (1973).
- V. A. Kirillin, V. V. Sychev and A. E. Sheindlin, *Engineering Thermodynamics, Textbook for Students*, 2nd edn. Energiya, Moscow (1974).
- L. F. Kozlov, *Study of a Laminar Boundary Layer and its Transition into a Turbulent One*. Naukova Dumka, Kiev (1974).
- N. F. Krasnov (Ed.), *Applied Aerodynamics*, Vyssh. Shkola, Moscow (1974).
- S. D. Labinov et al. (Eds.), *Thermophysical Properties of Hydrocarbons, Their Mixtures, Petroleum and Petroleum Fractions*, vpp. 1. Izd. Standard., Moscow (1973).
- M. A. Lavrentiev et al. (Eds.), *Continuum Dynamics*, Collected Papers 14. *Solid Dynamics*. Sibirsk. Otdel. In-ta Gidrodinamiki, Novosibirsk (1974).
- M. A. Lavrentiev et al. (Eds.), *Continuum Dynamics*, Collected Papers 15. *Dynamics of Quick-Response Processes*. Sibirsk. Otdel. In-ta Gidrodinamiki (1973).
- S. V. Morozov, *Drying of Fibrous Materials*. Leg. Prom., Moscow (1974).
- K. V. Pokrovsky and S. R. Kolmanyany, *Application of Thermodynamics of Real Gases to Casing-head Gases*. Baku (1973).
- P. G. Prusakov and S. P. Mancha et al. (Eds.), *Study of Thermophysical Properties of Substances and Heat and Mass Transfer*, Collected Papers. Trudy MEI vvp. 179, Moscow (1974).
- L. I. Sedov and V. V. Lokhin (Eds.), *Models and Problems on Continuum Mechanics*, Collected Papers. Izd. Moskovsk. In-ta (1974).
- G. F. Shaidurov et al. (Eds.), *Hydrodynamics*, Collected Papers 5. Uchen. Zap. Perm. Un-ta vvp. 5 (1974).
- A. G. Shashkov (Ed.), *Heat and Mass Transfer in a Heated Gas Flow*. Nauka i Tekhnika, Minsk (1974).
- A. G. Shashkov, L. Kreichi and V. I. Krylovich et al. *Heat Transfer in the Electric Arc Gas Heater*. Energiya, Moscow (1974).
- G. F. Shilin (Ed.), *Heat and Mass Transfer in Bodies and Systems under Different Boundary Conditions*, Collected Papers, vpp. 4. Omsk (1973).
- V. N. Sokolov and M. D. Bushkov, *Heat Exchangers*. LTI (1974).
- L. E. Sternin, *Fundamentals of Hydrodynamics of Two-Phase Flows in Nozzles*. Mashinostr., Moscow (1974).
- A. M. Suchanov, *Heat Transfer Problems, Section of General Thermal Engineering*. Textbook on programming for students. Tash. IIT, Tashkent (1973).
- G. F. Telenin (Ed.), *High-Speed Aerodynamics*, Collected Papers. Izd. Mosk. Un-ta, Nauchn. Trudy In-ta Mekhan. vvp. 30 (1973).
- V. I. Tolubinsky et al. (Eds.), *Problems on Engineering Thermophysics, Proc. IV Scientific Conference of Young Research Workers*, vpp. 4. Naukova Dumka, Kiev (1973).
- A. S. Tsekhanov (Ed.), *Heat and Power Engineering*, Collected Papers. Voronezh (1973).
- P. P. Vorotnikov, *Turbulent Boundary Layer near the Intersection Line of Two Planes. Boundary Layer on the Body of Revolution at Variable Circumferential Temperature*. Trudy TsAGI, vpp. 1553 (1973).

GENERAL

- T. A. Malinovskaya and V. V. Reinfart, XI Symposium on Mechanical Suspension Separation, *Teoret. Osnovy Khim. Tekhnolog.* 8(4), 642-643 (1974).
- M. N. Markova, Seminar on Theoretical Fundamentals of Chemical Technology, *Teoret. Osnovy Khim. Tekhnolog.* 8(4), 639-642 (1974).
- V. V. Sychev, S. I. Pishchikov and E. M. Shelkov, Study of physical and engineering problems of power engineering at High Temperature Institute of the USSR Academy of Sciences, *Izv. AN SSSR, Energetika i Transport* No. 3, 91-96 (1974).

*Deceased.

THERMODYNAMICS

- D. N. Andreevsky, G. Ya. Kabo and G. E. Esupenok, Equilibrium and thermodynamics of isomerization reactions of methylchloropentane, *Zh. Fiz. Khim.* **48**(6), 1614 (1974).
- S. S. Boksha and M. D. Bondarenko, Some problems on thermodynamic calculation of a one-stage gas pistonless compressor, *Teplotfiz. Teplotekhn.* (25), Kiev, 129–130 (1973).
- B. S. Bokstein, L. M. Klinger and L. S. Shvindlerman, To thermodynamics of melting of grain boundaries, *Zh. Fiz. Khim.* **48**(6), 1527–1528 (1974).
- E. T. Bruk-Levinson and V. S. Vikhrenko, To the statistical theory on the effect of electric and magnetic fields upon sound propagation in liquids, *DAN BSSR* **18**(7), 590–592 (1974).
- B. P. Burylev, A. V. Vakhobov and T. D. Dzhuraev, Thermodynamic activities of components of aluminium alloys with barium and strontium, *Zh. Fiz. Khim.* **48**(6), 1377–1380 (1974).
- G. V. Evseeva and L. V. Zenkevich, Determination of the thermodynamic properties of ammonium iodide, *Vestn. Moskovsk. Un-ta, Ser. 11, Khim.* **15**(4), 359–360 (1974).
- B. V. Fedorov, N. N. Shipkov and A. Ya. Shinyaev, To thermodynamics of phase introduction, *Zh. Fiz. Khim.* **48**(6), 1374–1376.
- Z. I. Geller, V. F. Chaikovskiy and A. V. Egorov, Thermodynamic properties of diphtordichlormethane and triphthormonobrommethane mixture, *Teplotfiz. Teplotekhn.* **25**, 36–38, Kiev (1973).
- N. S. Kirpach and G. M. Shchegolev, Thermodynamic analysis of Nernst thermodynamic generator involving internal heat transfer, *Teplotfiz. Teplotekhn.* No. 25, 38–42, Kiev (1973).
- V. N. Kozlyuk, Thermodynamic analysis of permeable thermoelectric heaters, *Teplotfiz. Teplotekhn.* No. 25, 113–115, Kiev (1973).
- V. N. Kozlyuk and G. M. Shchegolev, Thermodynamic analysis of permeable thermoelectric refrigerators, *Teplotfiz. Teplotekhn.* No. 25, 96–100, Kiev (1973).
- S. V. Levanova, R. M. Rodova, A. M. Rozhnov and L. A. Shevtsova, Thermodynamic calculation of equilibrium compound of phtorbutene mixtures, *Zh. Fiz. Khim.* **48**(7), 1875–1876 (1974).
- A. G. Ponomarenko, Problems on thermodynamics of variable compound phases with collective electronic system — I. Free energy of a phase, *Zh. Fiz. Khim.* **48**(7), 1668–1671 (1974).
- G. B. Sergeev, V. V. Smirnov and G. A. Bakarino, Thermodynamic properties of bromine, iodine, and iodine chloride complexes with olefins, *Vestn. Moskovsk. Un-ta, Ser. 11, Khim.* **15**(3), 358–359 (1974).
- A. I. Sokolovsky, Thermodynamics of flows in a state of degenerated statistical equilibrium, *Ukr. Fiz. Zh.* **19**(7), 1099–1106 (1974).
- V. N. Storozhenko, Thermodynamic properties of interaction between aluminium chloride and sodium chloride in the equimolecular compound melt, *Zh. Fiz. Khim.* **48**(7), 1709–1712 (1974).
- Yu. V. Shulepov, To the statistical theory of non-uniform classical liquids, *Ukr. Fiz. Zh.* **19**(7), 1080–1085 (1974).
- S. S. Vallander, Thermodynamic limit of multitemperature mixtures of classical neutral particles, *Teoret. i Mat. Fiz.* **20**(1), 100–111 (1974).
- I. A. Vasilieva and Zh. V. Granovskaya, Thermodynamic properties of zirconium oxides, *Zh. Fiz. Khim.* **48**(6), 1536–1538 (1974).
- E. V. Veitsman, Some problems on the structure of interface region in the light of irreversible thermodynamics, *Zh. Fiz. Khim.* **48**(7), 1713–1718 (1974).
- G. A. Vorobieva, G. M. Trofimova, A. A. Berlin and N. S. Enikolonyan, Thermodynamic approach to controlling above-molecular and molecular structures of polymers during their synthesis, *Vysokomolek. Soed., Ser. A*, **16**(7), 1493–1497 (1974).
- V. N. Yaglov, L. A. Marina and G. I. Novikov, Thermo-

dynamic peculiarities of dehydration of crystalline hydrates of cobalt and nickel phosphates, *DAN BSSR* **18**(7), 624–627 (1974).

L. S. Yurkova, A. F. Kolosova and K. M. Ol'shanova, Some thermodynamic functions of interaction between AB-17 anionite and water, *Zh. Fiz. Khim.* **48**(7), 1698 (1974).

NON-LINEAR CONTINUUM THERMOMECHANICS

O. B. Khairullina, Calculation of temperature stresses for the non-linear law of viscoelasticity, *Chislen. Metody Mekh. Splosh. Sred* **3**(5), 75–84 (1972).

A. I. Lurie and V. A. Pal'mov, Problems on continuum mechanics (bibliography), *Usp. Fiz. Nauk* **113**(3), 555–556 (1974).

THERMOPHYSICAL (TRANSPORT) PROPERTIES OF SUBSTANCES

A. M. Aizen, I. S. Redchits and I. M. Fedotkin, Engineering method for calculating steady heat conduction through multilayer wall with sources in case of non-ideal thermal contact, *Teplotfiz. Vysok. Temp.* **12**(3), 675–680 (1974).

M. P. Anisimov, N. N. Zhamskaya and I. E. Paukov, Low temperature heat capacity, entropy and enthalpy of SnI₂, *Zh. Fiz. Khim.* **48**(7), 1878–1879 (1974).

M. A. Bezumova and A. A. Zaitsev, On some methods of calculation of crystal heat capacity without determining a frequency spectrum, *Izv. VUZov, Fizika* No. 5, 124–126 (1974).

G. F. Bogatov, B. A. Grigoriev and R. A. Andolenko, Study of thermophysical properties of M-206-oil, *Izv. VUZov, Neft Gaz* No. 6, 62–90 (1974).

Yu. A. Byval'tsev, B. G. Perelygin and K. K. Polyansky, Heat capacity of aqueous solutions of lactose, *Izv. VUZov, Pishch. Tekhnolog.* No. 3, 159–161 (1974).

G. P. Bystrai, V. N. Desyatnik and V. A. Zlokazov, Thermal conductivity of melted mixtures of uranium tetrachloride and potassium, and sodium chlorides, *Atomn. Energ.* **36**(6), 517–518 (1974).

V. G. Fedorov and B. P. Shubenko, Experimental determination of basic thermophysical properties of liquids, *Teplotfiz. Teplotekhn.* No. 25, 66–69, Kiev (1973).

V. S. Fridlender, V. S. Neshpor, V. K. Kapralov and A. G. Miroshnichenko, Diffusion and heat conduction of low dense pyrolytic graphite, *Teplotfiz. Vysok. Temp.* **12**(3), 671–673 (1974).

E. I. Gluzberg, V. A. Aleksandrov and G. N. Krikunov, Thermal diffusivity of Karaganda coals, *Khim. Tverd. Topliv* No. 3, 73–75 (1974).

P. D. Golub' and I. I. Perepechko, Thermophysical properties of polymers near liquid helium temperature, *Vysokomolek. Soed., Ser. A*, **16**(7), 1593–1598 (1974).

M. A. Gromov, Formula for calculating thermal conductivity of cream, *Molochn. Prom.* No. 2, 25–27 (1974).

G. E. Gorelik, N. V. Pavlyukevich, T. L. Perelman and G. I. Rudin, Estimate of the effect of thermal conductivity upon critical parameters of electronic beam treatment of metals with dagger melt, *Fiz. i Khim. Obrabot. Mat.* No. 3, 30–32 (1974).

F. F. Lezhenin, A. A. Korneichuk, V. I. Berzhatyi and V. P. Gritsaenko, Study of thermal conductivity of boron oxide, *Teplotfiz. Teplotekhn.* No. 25, 94–96 (1973).

F. F. Lezhenin, A. E. Zhuravel', A. A. Korneichuk, A. I. Kravets and S. I. Dekhtyarenko, Determination of a temperature dependence of thermal conductivity of pyroceramic, *Teplotfiz. Teplotekhn.* No. 25, 69–70 (1973).

Kh. Madzhidov and K. D. Guseinov, Study of thermal conductivity of acetates, *Zh. Fiz. Khim.* **48**(6), 1363–1366 (1974).

A. A. Men', A. Z. Chichelnitsky, F. K. Volynets and E. P. Smirnaya, Thermal conductivity and natural absorption of polycrystalline magnesium fluoride, *Opt. Mekh. Prom.* No. 1, 41–43 (1974).

E. I. Merzlyakov, Determination of thermophysical properties of rocks by the quasi-steady two-layer plate heating method, *Teplotfiz. Teplotekhn.* No. 25, 104–107, Kiev (1973).

B. M. Mogilevsky and V. F. Tumpurova, Thermal conductivities of crystalline fluorines of alkali-earth metals, *Fiz. Tverd. Tela* **16**(6), 1786–1789 (1974).

A. I. Mochalin, Method of determination of thermophysical properties of thin samples, in particular, of polymer films, *Sb. Nauchn. Trudov Yaroslav. Tekhn. In-ta* **32**, 103–110 (1972).

A. A. Neustroev, V. A. Stekol'shchikov, G. L. Kholovskiy and V. E. Golovin, Determination of thermophysical properties of casts of reinforced metals, *Liteinoe Proizv.* No. 2, 29–30 (1974).

V. Z. Olenin, Yu. G. Marchenko, A. I. Kashcha and G. Ya. Chalyi, Computer calculation of thermophysical properties of components of raw benzol and bituminous coal absorbing oil, *Koks Khim.* No. 2, 32–33 (1974).

M. G. Ostronov, Yu. B. Samarina, I. I. Gelperin, V. N. Koloshina, Heat capacity and thermodynamic properties of silica gel at low temperatures, *Zh. Fiz. Khim.* **48**(7), 1822–1823 (1974).

I. E. Paukov, M. P. Anisimov and I. G. Luk'yanov, Heat capacity at low temperatures, absolute entropy and enthalpy at standard conditions of LiBr, *Zh. Fiz. Khim.* **48**(6), 102 (1974).

B. K. Petrov and A. I. Kochetkov, Effect of a temperature dependence of thermal conductivity of silicon upon a steady temperature distribution in silicon transistors, *Radiotekhn. Elektronika* **19**(1), 214–216 (1974).

K. Ya. Reznik, L. B. Dubilirer, A. N. Piven and A. T. Serkov, Study of the thermophysical properties of viscose, *Khim. Volokna* No. 3, 35–37 (1974).

Yu. V. Seleznev, Thermophysical analysis of space-time gas processes in heat-power plants, *Teplofiz. Teplotekhn.* No. 25, 118–121 (1973).

I. B. Sladkov and T. G. Kotina, Thermal conductivities and thermal diffusivities of some halides of elements III, IV and V groups in a liquid state, *Zh. Fiz. Khim.* **48**(7), 1878 (1974).

V. E. Troshchiev and V. K. Ladagin, On divergent modification of separate mapping scheme on gas dynamics and heat conduction, *Chislen. Metod. Mekh. Splosh. Sredy* **3**(5), 68–74 (1974).

A. N. Vyshesl'skiy, M. A. Gromov and V. V. Pereverzev, Thermophysical properties of groats, *Izv. VUZov, Pishch. Tekhnolog.* No. 3, 108–111 (1974).

HEAT CONDUCTION

G. G. Aliev, On one non-linear inverse problem of unsteady heat conduction, *Izv. AN AzSSR, Ser. Fiz. Tekhn. Mat. Nauk* No. 2, 121–128 (1973).

V. A. Berzin', Ya. Ya. Klyavin and Ya. R. Shmit, Qualitative criteria of estimation of a temperature field of a solidifying ingot, *Izv. AN Latv. SSR, Ser. Fiz. Tekhn. Nauk* No. 3, 70–76 (1974).

S. A. Blokh, On one generalized solution of unsteady thermal conductivity of a hollow cylinder, *Teplofiz. Vysok. Temp.* **12**(3), 585–592 (1974).

L. I. Buglak, Study of temperature fields of walls of furnace chambers of different-construction coke furnace batteries, *Koks Khim.* No. 2, 25–27 (1974).

Ya. I. Burak and A. P. Gachkevich, On effect of an electromagnetic time-periodic field upon temperature fields and voltage in the electrically conducting layer, *Prikl. Mekh.* **10**(7), 42–48 (1974).

D. I. Fedorovich, Calculation of local temperature fields in the ground under surface heat sources by the method of equally-dependent sections, *Stroit. v Raion. Vost. Sibir. i Krainego Severa* **19**, 73–85 (1971).

A. A. Golyнкиn, Yu. V. Myasnikov, Application of the elementary balance method to calculating the temperature fields in conic and spherical bodies, *Teplofiz. Teplotekhn.* No. 25, 88–90 (1973).

P. M. Kolesnikov and N. S. Kolesnikova, Periodic solutions of the heat conduction equation involving periodically varying coefficients, *Term. Gaz. Linzy Termogid. Svetovody* 74–98, Minsk (1974).

V. I. Kolyaskin, L. K. Kudryavtseva and P. A. Ushakov, Study of temperature fields of sodium-potassium alloy flow in the cell of the packed bar bundle, *Teplofiz. Vysok. Temper.* **12**(3), 559–564 (1974).

V. A. Menshchikov, N. I. Nikitina, G. G. Krasdopulo, M. E. Aerov and L. G. Baryshnikova, Calculation of temperature fields in the tube cross-section of the pyrolysis furnace, *Teoret. Osnovy Khim. Tekhnolog.* **8**(4), 624–627 (1974).

G. M. Maizel', S. G. Bratchikov, B. Sh. Statnikov, R. F. Kuznetsov and V. A. Tverinin, Simultaneous solution of the problems on heat transfer and gas dynamics with calcination of ferro-ore nodules in fixed layer, *Metallurg. Teplotekhn.* No. 2, 148–154, Moscow (1974).

A. A. Panteleev and V. A. Trushin, To calculation of unsteady temperature fields cooled by turbine blades, *Teploenergetika* No. 8, 33–35 (1974).

Yu. S. Shatalov, Case of inapplicability of the quasi-inversion method for determining boundary functions governing the solution of the heat conduction equation, *Diff. Uravn.* **10**(7), 1335–1337 (1974).

V. K. Shcherbakov and I. G. Sharaevskiy, Solution of linear problems of unsteady heat conduction on R-network models by the integral Laplace transformation, *Teplofiz. Teplotekhn.* No. 25, 83–87 (1973).

G. P. Smirnov, On one solution of boundary-value problems for heat and mass transfer problems, *Uchen. Zap. Bashkir. In-ta* (65), *Ser. Mat. Nauk* No. 2, 48–55 (1973).

V. N. Tkalic, N. V. Goncharov and N. A. Britov, Change of a temperature field of a slab during rolling, *Stal'* No. 1, 52–55 (1974).

B. A. Vasiliev, Mixed boundary-value problem on the theory of steady heat conduction for a semi-plane with the third-kind boundary condition, *Diff. Uravn.* **10**(7), 1325–1327 (1974).

HYDROMECHANICS

1. Turbulent flow

N. O. Akatnov, On linear turbulence scales in the semi-empirical theory, *Izv. AN SSSR, Mekh. Zhid. i Gaza* No. 3, 53–57 (1974).

S. U. Bagirov, On the distribution of averaged water velocities over the turbulent flow depth, *Uchen. Zap. Azerb. Politekhn. In-ta* No. 2, 208–210 (1972).

S. M. Belotserkovskiy and M. I. Nisht, To study of a turbulent wake behind a plate, *DAN SSSR* **216**(6), 1240–1243 (1974).

V. N. Deshnyansky and E. A. Novikov, Modelling of cascade processes in turbulent flows, *Prikl. Mat. i Mekh.* **38**(3), 507–513 (1974).

M. E. Deich and L. I. Seleznev, Generalized turbulence model for analysis of formation of a condensed phase in turbulent flows, *Izv. AN SSSR, Energ. i Transp.* No. 3, 123–129 (1974).

E. P. Dyban, E. Ya. Epik and L. D. Kozlova, Effect of external flow turbulence on flow past a circular cylinder, *Teplofiz. Teplotekhn.* No. 25, 10–13, Kiev (1973).

F. Kaplansky, Numerical solution of equations for turbulent eddy pair in the incompressible liquid, *Izv. AN SSSR, Fiz. Mat.* **23**(1), 53–57 (1974).

I. A. Kel'manson and G. N. Kogai, Experimental study of a turbulent flow structure in the straight and curvilinear diffusers of Venturi's tube, *Probl. Teploenerg. i Prikl. Teplofiz.* No. 8, 126–130 (1972).

V. K. Lyakhov, Version of a physical model of a near-wall turbulent liquid flow, *Izv. VUZov, Energetika* No. 6, 95–99 (1974).

A. A. Ovsyannikov, Chemical reactions under turbulence conditions, *Model. i Metody Raschetn. Fiz.-Khim. Protsev. v Nizkotemp. Plazme*, Moscow, 47–67 (1974).

B. P. Ustimenko and N. D. Gobyzova, Approximate calculation of a turbulent flow structure in the flat curvilinear channel, *Probl. Temploenerg. Prikl. Teplofiz.* No. 8, 82–89 (1972).

O. F. Vasiliev, B. G. Kuznetsov, Yu. M. Lytkin and G. G. Chernykh, Development of the turbulized liquid region in

- the stratified medium, *Izv. AN SSSR, Mekhan. Zhid. i Gaza* No. 3, 45–52 (1974).
- V. N. Zmeikov and A. T. Yakovlev, Turbulent flow structure in the flat eddy chamber, *Problem. Teploenerg. i Prikl. Teplofiz.* No. 8, 101–107 (1972).
2. *Boundary layer*
- K. F. Aksenov, Variational formation and functional of a flat thermal boundary layer, *Izv. VUZov, Energetika* No. 7, 94–98 (1974).
- A. K. Auko, Axisymmetric boundary layer with thermally insulating surface, *Sb. Nauchn. Trudov Kiev. In-ta, Inzh. Grazhd. Aviats., Nadezhn. Dolgovechn. Aviats. Gazoturb. Dvigat.* No. 3, 140–142 (1972).
- V. A. Bashkin and N. P. Kolina, Calculation of a boundary layer near a surface section with relatively large curvature, *Trudy TsAGI* No. 1374, 3–10 (1972).
- V. Ya. Borovoi and M. V. Ryzhkova, Heat transfer on a plate and cone in case of three-dimensional interaction between a boundary layer and shock wave forming near a cylindrical obstacle, *Trudy TsAGI* No. 1374, 166–185 (1972).
- A. P. Girol' and R. A. Antonyuk, On a velocity distribution in the turbulent boundary layer, *Aerodynamics* No. 5, pt. 1, 7–9, Kiev (1973).
- Yu. S. Kachanov, V. V. Kozlov and V. Ya. Levchenko, Experimental study of cooling effect on laminar boundary layer stability, *Izv. Sibirsk. Otdel. AN SSSR 8, Ser. Tekhn. Nauk* No. 2, 75–79 (1974).
- N. V. Khusnutdinov, Temperature boundary layer in a two-component compressible medium, *Dinam. Splosh. Sredy* No. 10, 149–157 (1972).
- A. S. Korolev, Experimental study of heat transfer and pressure distribution on a sharp plate with strong interaction between flow and a boundary layer, *Trudy TsAGI* No. 1374, 186–192 (1972).
- S. F. Krendelev, On similarity pasting of a boundary layer with external flow, *Dinam. Splosh. Sredy* No. 10, 208–211 (1972).
- V. M. Lutovinov, Flow in the boundary layer with two unstability regions, *Uchen. Zap. TsAGI* 4(6), 88–93 (1973).
- E. M. Lyubavin and Ya. S. Khodorkovsky, Similarity problems for a space boundary layer with suction or injection, *Zh. Prikl. Mekhan. Tekhn. Fiz.* No. 3, 178–179 (1974).
- L. M. Lyamshev, S. A. Salosina and A. G. Shustikov, On effect of discrete liquid suction upon pressure fluctuations in the turbulent boundary layer, *DAN SSSR* 214(1), 44–47 (1974).
- V. P. Marshov and A. V. Smol'yakov, Field of near-wall pressures in the turbulent boundary layer on the rough surface, *Izv. AN SSSR, Mekhan. Zhid. Gaza* No. 3, 72–77 (1974).
- I. L. Mironenko, Velocity distribution in the incompressible turbulent boundary layer on the permeable flat surface with transpiration cooling, *Teplofiz. Teplotekhn.* No. 25, 90–94, Kiev (1973).
- B. N. Semenov, On the external boundary condition in the problem on laminar boundary layer stability, *Dinam. Splosh. Sredy* No. 10, 227–232 (1972).
- E. A. Stepanov, Program of numerical integration of the equation governing a two-dimensional binary laminar boundary layer on the permeable surface, *Trudy TsAGI* No. 1374, 75–118 (1974).
- L. I. Vereshchagina, On one solution of equations for a space unsteady boundary layer, *Vestn. Leningr. In-ta No. 7, Mat., Mekhan. Astron.* No. 2, 102–106 (1974).
- A. A. Zaitsev and M. M. Sivaramakrishnan, Study of the stability of a compressible boundary layer, *Izv. AN SSSR, Mekhan. Zhid. Gaza* No. 3, 58–65 (1974).
- V. M. Ievlev, Heat transfer, friction and diffusion in the high temperature turbulent flows, *Izv. AN SSSR, Energ. i Transport* No. 3, 57–80 (1974).
- V. I. Goldobeev, V. K. Shchukin, A. A. Khalatov and A. P. Yakshin, Heat transfer in the starting length with partial gas flow swirl at the inlet, *Izv. VUZov, Aviats. Tekhnika* No. 4, 108–113 (1973).
- T. E. Krasnoshchekova, S. P. Manchka and V. G. Sviridov, Study of statistical characteristics of temperature fluctuations in the turbulent mercury flow, *Teplofiz. Vysok. Temper* 13(3), 550–558 (1974).
- F. I. Kalbaliev, Theoretical calculation of heat transfer in the turbulent boundary layer, *Izv. VUZov, Neft Gaz* No. 6, 75–79 (1974).
- Yu. N. Koichev and Yu. S. Chumakov, Effect of transfer processes in the laminar sublayer on friction and heat transfer in the non-equilibrium dissociating turbulent boundary layer, *Izv. AN SSSR, Mekhan. Zhid. i Gaza* No. 4, 114–119 (1974).
- V. I. Kuznetsov, Stabilized heat transfer in the flat permeable-wall channel, *Trudy Nauchn. Issled. In-ta Grazhd. Aviats.* No. 88, 97–103 (1973).
- V. I. Lokai, A. G. Karimova and N. S. Tkachenko, To the problem on the effect of shroud on the intensity of heat transfer to the turbine casing, *Izv. VUZov, Aviats. Tekhn.* No. 1, 106–109 (1974).
- B. S. Petukhov and L. I. Roizen, Generalized relations for heat transfer in the circular tubes, *Teplofiz. Vysok. Temp.* 12(3), 565–569 (1974).
- Yu. Ya. Pechenegov, Experimental study of heat transfer in the turbulent air flow in the tube at small *Re*, *Izv. VUZov, Energ.* No. 7, 85–89 (1974).
- E. P. Plotkin, A. A. Golyntin and Yu. V. Myasnikov, Heat transfer in vapor intake units when starting the turbine, *Teplofiz. Teplotekhn.* No. 25, 125–129, Kiev (1973).
- Ya. L. Polynsky, V. M. Marushkin and T. Ya. Kul'mukhamedov, Heat transfer and resistance with crossflow past swirls of vapour coolers and HBD TK3 drainage, *Teploenergetika* No. 7, 46–48 (1974).
- V. P. Popov and Yu. S. Skoroponov, Effect of temperature factor on flow and heat and mass transfer in the flat parallel channel, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 119–123 (1974).
- N. N. Tushin, B. E. Tverkovkin and V. B. Nesterenko, Heat transfer in laminar flow of chemically reacting NO_2 in the cooled flat tube under the second kind boundary conditions, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 11–118 (1974).
- N. A. Zheltukhin, V. V. Zametalin, N. M. Terekhova, Hydrodynamic stability of boundary layers with mass transfer, *Izv. AN SSSR, Mekhan. Zhid. Gaza* No. 3, 23–27 (1974).
- N. V. Zozulya, A. A. Khavin and B. L. Kalinin, Effect of fin deformation on heat transfer and resistance of bundles of oval tubes with cross fins, *Teplofiz. Teplotekhn.* No. 25, 33–36, Kiev (1973).

NATURAL CONVECTION

FORCED CONVECTION

- A. M. Andreev, V. N. Piskunov, Yu. A. Sokovishin and V. S. Yuferev, Conjugated problem on free convective heat transfer for vertical plate with heating from bottom, *Term. Gaz. Linz. Termodinam. Svetovod.* 168–185 (1974).
- V. A. Grilikhes, Some peculiarities of convective heat transfer in high temperature helioreceivers, *Geliotekhnika* No. 6, 3–8 (1973).
- Yu. L. Martisov and V. N. Piskunov, Application of multi-layer envelopes for suppression of temperature gradients, *Term. Gaz. Linzy Termodinam. Svetovod.* 203–210, Minsk (1974).
- V. V. Ris and S. A. Fedyushin, Experimental study of a flat laminar jet with free convection, *Term. Gaz. Linz. i Termodin. Svetovod.* 186–202, Minsk (1974).
- Yu. A. Sokovishin, Simultaneous free and forced convection on the vertical surface, *Term. Gaz. Linz. i Termodin. Svetovod.* 158–167, Minsk (1974).
- I. A. Vatutin and Yu. L. Martisov, Weak thermal convection

for non-linear temperature dependence of density, *Term. Gaz. Linz. Termodin. Svetovod.* 150–157, Minsk (1974).
 M. Z. Zhivov, Yu. A. Sokovishin and Yu. V. Vadiliev, Simultaneous convection of conducting binary mixture in the presence of heterogeneous chemical reactions, *Magnit. Gidrodinam.* No. 2, 94–97 (1974).

CAPILLARY-POROUS BODIES

L. G. Gerov, The study of counter-current capillary impregnation in fractured-porous collectors, *Izv. VUZov, Neft i Gaz* No. 6, 67–70 (1974).
 A. N. Konovalov, Method of fictitious regions in the problems on filtration of a two-phase incompressible liquid with regard for capillary forces, *Chislen. Metod. Mekh. Sploshn. Sred.* 3(5), 52–67 (1972).
 Yu. A. Peslyak, On fracture equilibrium in a porous medium with pumping of a filtrating liquid, *Zh. Prikl. Mekhan. i Tekhn. Fiz.* No. 3, 155–161 (1974).
 M. V. Tovbin, V. G. Chalenko and L. S. Shcherbina, On the role of film transfer with water evaporation from capillary-porous bodies, *Ukr. Khim. Zh.* 40(1), 12–18 (1974).
 L. I. Varazashvili and V. Ya. Kulik, On inapplicability of some fundamental concepts of classical thermodynamics to description of capillary phenomena in real porous media, *Trudy Nauchn. Issled. Lab. Gidrogeol. Inzh.-Geol. Prob. (Gruz. Politekhn. In-t)* No. 4, 142–146 (1972).

PHASE CONVERSIONS

A. P. Aldushin, On steady propagation of the exothermal reaction front in condensed medium, *Zh. Prikl. Mekh. i Tekhn. Fiz.* No. 3, 96–105 (1974).
 K. S. Altundzhi, Determination of boiling temperature of sugar solutions with different pressures, *Sakharn. Prom.* No. 3, 35–37 (1974).
 A. F. Babitsky, On outflow of boiling liquid, *Teplofiz. Teploekhn.* No. 25, Kiev, 115–117 (1973).
 V. V. Beloborodov and G. V. Donskova, The boiling temperature of miscellas formed by different solutions depending on concentration, *Izv. VUZov, Pishchev. Tekhnolog.* No. 3, 151–152 (1974).
 B. Ya. Berezin, S. A. Kats, M. M. Kenisarin and V. Ya. Chekhovskoi, Heat and the melting point of titanium, *Teplofiz. Vysok. Temp.* 12(3), 524–529 (1974).
 N. I. Gel'perin, G. A. Nosov and V. V. Fillipov, Crystallization of melt at submergence of cooled different-shaped bodies into it, *Teoret. Osnovy Khim. Tekhnolog.* 8(4), 517–527 (1974).
 V. V. Gonchar and N. A. Fedorov, Entrainment of boiling zone outside the limits of heating tubes of evaporation apparatus with induced circulation, *Izv. VUZov, Energetika* No. 6, 79–82 (1974).
 V. A. Grigoriev, Yu. M. Pavlov, E. V. Ametistov and A. V. Klimenko, Study of rate of vapour bubble growth in boiling of cryogenic liquids, *Izv. VUZov, Energetika* No. 7, 79–84 (1974).
 I. N. Ivchenko and Yu. I. Yalamov, On evaporation and condensation of spherical drops with arbitrary Knudsen numbers, *Izv. AN SSSR, Mekhanika Zhidkosti Gaza* No. 3, 164–166 (1974).
 D. Sh. Kleiman and V. I. Soloviev, Experimental study of heat transfer in boiling of carboxylic acids, *Zh. Vsesoyuzn. Khim. Obshch. im. Mendeleeva* 19(1), 113–114 (1974).
 Ya. Ya. Klyavin' and Ya. R. Shmit, The determination method for deforming regimes of a continuous ingot providing the minimum deformation of its envelope, *Izv. AN Latv. SSR, Ser. Fiz. i Tekhn. Nauk* No. 3, 77–80 (1974).
 O. N. Lebedev, Study of evaporation of a fuel drop suspended in a gas flow, *Trudy Novosib. In-ta Inzhenerov Vodn. Transporta* 69(2), 10–20 (1972).
 A. A. Leontiev and V. E. Fortov, On melting and evaporation of metals in a discharging wave, *Zh. Prikl. Mekhan. Tekhn. Fiz.* No. 3, 162–166 (1974).
 A. A. Lushnikov and A. G. Sutugin, On spontaneous con-

densation in mixing of different temperature flows, *Teoret. Osnovy Khim. Tekhnolog.* 8(4), 608–610 (1974).

A. V. Makarov, O. T. Nikitin and A. D. Chervonnyi, Mass-spectral study of indium metaborate evaporation, *Vestnik Mosk. Un-ta Ser. 2, Khimiya* 15(2), 193–196 (1974).
 V. G. Mironov, V. M. Baloshin, L. A. Baibursky, P. I. Krechetova and E. D. Shul'zhenko, Peculiarities of thermal decomposition of cracking-residue at atmospheric boiling out, *Metallurgic Heat Engineering* No. 2, Moscow, 162–165 (1974).
 L. S. Mrezhin and F. P. Zaostrovsky, Study of heat transfer at vapour condensation on a vertical profiling tube, *Trudy Ural'sk. Politekhn. In-ta* sb. 205, 10–14 (1972).
 O. G. Polyachenok, On the possible effect of adiabatic vapour cooling processes upon the results of electron-diffraction investigation of molecules, *Teplofiz. Vysok. Temp.* 12(3), 537–541 (1974).
 A. A. Skimbov, M. K. Bologa and I. A. Kozhukhar, Effect of non-uniform electrical field on heat transfer in boiling of binary mixtures, *Elektronnaya Obrabotka Materialov* No. 3, 45–50 (1974).
 V. I. Subbotin, S. P. Kaznovsky and A. P. Sapankevich, Experimental study of methods for increasing the critical power of steam generating tubes, *Izvest. AN SSSR, Energetika i Transport* No. 3, 162–170 (1974).
 V. I. Tolubinsky, D. M. Kostanchuk and Yu. N. Ostrovsky, The beginning of subcooled water boiling at low speeds of its forced motion, *Thermal Physics and Heat Engineering* No. 25, Kiev, 19–22 (1973).
 V. I. Tolubinsky, Yu. N. Ostrovsky, V. E. Pisarev, A. A. Kriveshko and D. M. Kostanchuk, Heat transfer intensity at boiling of benzol-ethanol mixture depending on pressure, *Thermal Physics and Heat Engineering* 25, Kiev, 8–10 (1973).
 V. I. Usenko and S. N. Fainzil'berg, Effect of acceleration upon the critical heat load in Freon boiling on elements with small transverse sizes, *Teplofiz. Vysok. Temper.* 12(3), 570–577 (1974).
 G. N. Velichko, V. M. Stefanovsky and A. Z. Shcherbakov, Study of heat transfer at full condensation of binary ethanol-water mixture, *Izv. VUZov, Pishchev. Tekhnolog.* No. 3, 119–122 (1974).
 A. K. Vnukov and D. I. Gromov, Condensation of sulphuric acid from smoke gases, *Teploenergetika* No. 8, 52–55 (1974).
 A. N. Volchok, On evaporation of fruit juices from a free surface, *Izv. VUZov, Pishchev. Tekhnolog.* No. 3, 161–162 (1974).
 M. N. Voronovich, V. S. Dorozhkin and S. V. Selitskii, Liquid boiling-up on circuits when related by the high intensity flow, *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 161–168 (1972).
 A. M. Zavodovsky, A. L. Berkovich and R. I. Balygina, The calculation method of a condensing vapour expansion process, *Izv. VUZov, Energetika* No. 6, 63–68 (1974).

RADIATION

S. G. Agamalyan, The effect of irradiation on fatigued strength of polyethylene and polycarbonate, *Fiz.-Khim. Mekhanika Materialov* No. 3, 107–108 (1974).
 V. N. Drulis, G. A. Khabibulin and Yu. P. Yakovlev, Determination of local generalized angular radiation coefficients for surfaces of a compound geometric profile, *Izv. VUZov, Aviats. Tekhnika* No. 1, 140–142 (1974).
 V. P. Fotin and F. R. Shklyar, The statistical method for calculation of local generalized angular coefficients, *Metallurgic Heat Engineering* No. 2, Moscow, 124–127 (1974).
 O. A. Gerashchenko, S. A. Sazhina and M. S. Paniashvili, The absolute bilateral detector for measurement of heat radiation, *Thermal Physics and Heat Engineering* No. 25, Kiev, 52–55 (1973).
 T. S. Gromenko and Yu. A. Surinov, Numerical calculations for local characteristics of radiant heat transfer for a pair of coaxial finite cylinders separated by the absorbing medium, *Izv. Sib. Otd. An SSSR No. 8, Ser. Tekhn. Nauk* No. 2, 90–96 (1974).

- L. V. Il'chukova and A. S. Nevsky, Emissivity of macro-rough surfaces, *Metallurgic Heat Engineering* No. 2, Moscow, 114-118 (1974).
- O. V. Likholeto and G. P. Boikov, Vibrational levels of a temperature wave in radiant heat transfer, *Sb. Nauchn. Trudov po San. Tekhnike (Volgogr. In-t Inzhenerov Gorn. Khoz-va)*, No. 4, 250-251 (1972).
- A. T. Luk'yanov and I. K. Chepeleva, Study of radiant heat transfer with application of flat electroconducting media, *Izvest. AN KazSSR, Ser. Fiz.-Mat. No. 6*, 75-77 (1973).
- L. A. Malysheva and G. P. Boikov, The experimental study of radiant heating of heavy screens, *Sb. Nauchn. Trudov po San. Tekhnike (Volgogr. In-t Inzhenerov Gorn. Khoz.)* No. 4, 422-426 (1972).
- L. A. Malysheva and G. P. Boikov, The ordered thermal regime in a flat heavy screen heated by radiation, *Sb. Nauchn. Trudov po San. Tekhnike (Volgogr. In-t Inzhenerov Gorn. Khoz.)* No. 4, 422-426 (1972).
- N. V. Marchenko, On calculation of radiant heat transfer in electrothermal plants, *Trudy VNIIE TO (Vsesoyuzn. Nauchno-Issled. In-t Elektroterm. Oborudov.)* No. 6, 47-49 (1973).
- I. N. Naumova and Yu. D. Shmyglevsky, The method of discrete ordinates in dynamics of an axisymmetric flow of radiant gas, *Zhurn. Vychisl. Matem. Matem. Fiz.* 14(3), 803-806 (1974).
- A. S. Nevsky, A. I. Malysheva and G. Ya. Chumakova, Emissivity of a layer and a sphere of carbon dioxide and water vapour, *Metallurgic Heat Engineering* No. 2, Moscow, 118-124 (1974).
- I. A. Polyushkina and Yu. A. Surinov, Numerical calculations of radiant heat transfer local characteristics for a cylindrical system consisting of four zones, *Sborn. Nauchn. Trudov po Teplo-i Massoobmenu* No. 4, 53 (1972).
- E. I. Popov, Yu. A. Finaev and V. G. Poyarkov, Characteristics of the secondary aluminum powder ignition, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 96-99 (1974).
- G. E. Ryabinkina, V. V. Nashchokin and V. I. Maklyukov, Radiant heat transfer in baking compartment kilns, *Khlebopekarn. Konditersk. Prom.* No. 2, 6-8 (1974).
- COMBINED HEAT AND MASS TRANSFER**
- S. N. Belomytsev, Heat and mass transfer in motion of suspension along a pipeline, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinost.* No. 62, 126-133 (1973).
- B. I. Fedorov, G. Z. Plavnik, I. V. Prohkorov and L. G. Zhukhovitsky, Heat and mass transfer from a rotating disk, *Izvest. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 81-84 (1974).
- A. Z. Kuliev, A. I. Gryadunov and D. Mamatisakov, An equation of steady-state convective-evaporative heat transfer on a single radiator, *Geliotekhnika* No. 6, 9-11 (1973).
- V. I. Shcherbinin and A. Kh. Bokovikova, Study of complicated heat transfer in a short cylindrical channel, *Metallurgic Heat Engineering* No. 2, Moscow, 128-133 (1974).
- RHEOPHYSICS**
- Zh. A. Akilov and A. K. Azizov, Unsteady motion of a non-linear visco-plastic medium in the plane tube, *Izvest. AN Uz SSR, Ser. Tekhn. Nauk* No. 1, 50-52 (1974).
- I. M. Ametov, The approximate method for calculation of visco-elastic liquid motion in an initial section of a plane tube, *Izv. VUZov, Neft i Gaz* No. 6, 71-74 (1974).
- G. M. Bartenev and A. Kh. Khagabanov, Peculiarities of rheological properties of inorganic glasses above the glass transition temperature, *Zh. Fiz. Khim.* 48(6), 1416-1419 (1974).
- Ya. M. Bilalov, T. M. Ismailov and A. V. Ivanov, Study of rheological characteristics of particular polymers, *Kauchuk i Rezina* No. 1, 10-13 (1974).
- N. M. Druzhkin and A. M. Volkov, Reference rheological and thermophysical properties of high-viscous compounds (mastics), *Lakokrasochn. Materialy Ikh Primenenie* No. 3, 61-62 (1974).
- E. M. Emel'yanov and A. D. Chernyshev, On formation of rigid zones in a viscoplastic medium, *Zh. Prikl. Mekh. Tekhn. Fiz.* No. 3, 143-148 (1974).
- S. I. Golaido, L. K. Martinson and K. B. Pavlov, Magneto-hydrodynamic shear liquid flows with the power rheological law under conditions of transverse removal, *Magnitn. Gidrodinamika* No. 2, 58-62 (1974).
- V. G. Karnaukhov and V. I. Kozlov, Propagation of non-stationary perturbations in a visco-elastic medium, *Prikl. Mekhan.* 10(7), 36-41 (1974).
- Yu. V. Khankin and B. N. Egorov, Rheological properties of pentaplast and estimation of its weldability, *Plast. Massy* No. 7, 21-22 (1974).
- V. Khol'tsmyuller, The Newtonian and non-Newtonian flows of polymers as the development of molecular dislocations, *Vysokomolek. Soedineniya, Ser. A*, 16(7), 1486-1492 (1974).
- L. M. Kovalenko, O. A. Korobchansky, E. G. Mal'tsev and A. M. Maslov, The hydraulic resistance at nonisothermal flow of non-Newtonian liquids in channels of plate exchangers, *Sb. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinost.* No. 62, 27-33 (1973).
- Lyong Lang, The research technique for rheological properties of rocks with variable loads under deflection conditions, *Nauchn. Trudy Mosk. Gorn. In-ta. Sborn. po Probleme "Nauchn. Osnovy Sozdaniya Vysokoproizv. Kompleksno-Mekhaniz. Avtomatiz. Shakht"* No. 4, p. 1, 141-144 (1971).
- R. I. Mamedov, S. I. Sadykh-Zade and G. D. Aliev, Rheological properties of modified polypropylene, *Plast. Massy* No. 6, 49-50 (1974).
- V. N. Manin, N. V. Kuznetsov and A. N. Gromov, The research method of rheological properties of visco-elastic liquids, *Zavodsk. Laborat.* No. 40, No. 2, 200-202 (1974).
- M. A. Martsenyuk, On magnetic viscosity of ferromagnetic particle suspension, *Zh. Eksp. Teoret. Fiz.* 66(6), 2279-2289 (1974).
- A. K. Mirzadzhanzade, V. A. Mamaev, G. E. Odishariya and O. V. Klapchuk, The experimental study of characteristics for turbulent wake behind the cylinder covered by the visco-elastic film, *Izv. VUZov, Neft i Gaz* No. 6, 80-84 (1974).
- V. V. Novozhilov, The reply on the critical letter by G. Yu. Stepanov, *Izv. AN SSSR, Mekhanika Zhidkosti Gaza* No. 3, 184-185 (1974).
- A. E. Pervushin, On estimation of the internal friction heat effect on characteristics of structural flow of viscoplastic liquid in a circular tube, *Zh. Prikl. Mekh. Tekhn. Fiz.* No. 3, 79-85 (1974).
- Sh. V. Pichkhadze, S. M. Soshina and M. S. Merabishvili, Study of rheological properties of printing inks containing bentonite clays, *Nauchno-Issled. Trudy Gruz. Nauchno-Issled. In-ta Tekstil'n. Prom. sb.* 5, 193-201 (1971).
- S. G. Romanovsky and A. G. Beketova, Study of the heat and mass transfer mechanism and structural-physical properties of rheological materials at their heat treatment in an electromagnetic field, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 85-95 (1974).
- V. N. Shilov and Yu. F. Deinega, The electrorheological effect and interelectrode circulation of disperse phase particles, *Elektronnaya Obrabotka Materialov* No. 3, 44-45 (1974).
- Z. P. Shul'man, A. D. Matsepuro and V. A. Kuz'min, Formation of bridges from particles of a disperse phase in the electrorheological effect, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 130-134 (1974).
- Yu. B. Skrobin, A. G. Zhirnov and N. V. Tyabin, On the determination of the calendered sheet gauge, *Izv. VUZov, Khim. Khim. Tekhn.* 17(6), 913-917 (1974).
- V. E. Sorokin and I. I. Perepechko, Visco-elastic properties of fluorine-containing polymers in the region of helium temperatures, *Vysokomolek. Soedin., Ser. A*, 16(7), 1653-1657 (1974).
- G. Yu. Stepanov, On the paper "Rheology of steady turbulent flows of incompressible liquid" by V. V. Novozhilov (*Izv. AN SSSR, MZHG* No. 3 (1973), *Izv. AN SSSR, Mekhanika Zhidkosti Gaza* No. 3, 183-184 (1974)).

- V. P. Zhukova and I. I. Lishtvan, Study of rheological properties of peat wax, *Kolloid. Zh.* **36**(4), 774–776 (1974).
 S. G. Zvereva, A. G. Fokin and T. D. Shermegor, Effective rheological properties of stratified materials, *Izv. AN SSSR, Mekhanika Tverd. Tela* No. 1, 95–102 (1974).
 O. V. Voinov, A. A. Trapeznikov, On the theory of a disk viscosimeter at small values of the surface viscosity, *Kolloidn. Zh.* **36**(4), 757–760 (1974).

HEAT AND MASS TRANSFER IN TECHNOLOGICAL PROCESSES

1. Drying

- V. Atanazevich, K. Kutsenko, V. Komov, V. Peshkova and L. Lipovetsky, Intensification of seed corn drying, *Mukomol'no-Elevatorn. Kombikorm. Prom.* No. 2, 10–12 (1974).
 S. G. Barashkov, L. I. Aristov, N. V. Alifanov and A. V. Nilovskaya, Drying of glycoalkaloids in a spray dryer, *Khimiko-Farmatsev. Zh.* **8**(6), 37–38 (1974).
 S. A. Blokh, A. P. Rudenko and V. I. Terpilov, The air-jet cooling of ceramic tiles in quick-operated conveyer dryers and furnaces, *Steklo i Keramika* No. 7, 18–19 (1974).
 N. A. Chemarda, E. I. Vasyuchkov and M. I. Beilin, On intensification of performance of rotary dryers, *Koks i Khimiya* No. 1, 41–43 (1974).
 N. F. Dokuchaev, Simplification of induction drying calculation, *Sborn. Nauchn. Trudov po Teplo- Massoobmenu* No. 4, 99–104 (1972).
 N. F. Dokuchaev, I. A. Polyushkina, V. M. Tret'yakov and A. S. Shubin, Comparison of different methods of wood drying and the induction method, *Sborn. Nauchn. Trudov po Teplo- Massoobmenu* No. 4, 105–113 (1972).
 V. E. Kutsakova, On residence time of materials in a spiral tube dryer, *Izv. VUZov, Pishchev. Tekhnolog.* No. 3, 123–127 (1974).
 S. I. Lugovskii, A. N. Mazanov and G. N. Mazanov, Drying of wood by the high-pressure fans, *Sborn. Nauchn. Trudov po San. Tekhnike (Volgogr. In-t Inzhenerov Gor. Khoz-va)*, No. 4, 80–81 (1972).
 A. I. Lyuboshits, L. Ya. Fadeeva and V. S. Kazakevich, Drying of casein in a fluidized bed, *Molochn. Prom.* No. 2, 13–17 (1974).
 M. Ya. Moroshkin, V. N. Smolin, V. F. Klaptsov and Ya. I. Min'kovskii, On fractional composition of a catalyzer at spray drying of aluminium silica gel suspension, *Khim. Neft. Mashinostr.* No. 6, 17–19 (1974).
 M. V. Raeva, F. R. Shklyar and Yu. A. Frolov, A heat and mass transfer model at drying of a disperse bed, *Mettalurgic Heat Engineering* No. 2, Moscow, 154–162 (1974).
 P. G. Romankov, *Drying. Fluidization*, Moscow, 499–521 (1974).
 Ya. I. Rustamov, M. V. Lykov and S. I. Sadykh-Zade, Kinetics of a process of simultaneous drying and granulated superphosphate defluorization, *Khim. Prom.* No. 7, 514–516 (1974).
 A. D. Satanovsky, B. N. Protsyshin and V. I. Sosnovsky, On the optimum phase of cutters of rotor crusher-dryers, *Thermal Physics and Heat Engineering* No. 25, Kiev, 48–50 (1973).
 V. A. Sheiman, Calculation of the material temperature at drying in a fluidized bed with oscillating regime, *Izv. AN BSSR, Ser. Fiz.-Energ. Nauk* No. 2, 124–129 (1974).
 V. A. Shtompel', Yu. M. Tikhomirova and M. P. Nosov, Study of the drying process kinetics of polycapramide crumbs, *Khim. Volokna* No. 3, 15–17 (1974).
 B. S. Strogal'shchikov, M. V. Lykov, I. P. Dobrovolsky and A. G. Rakoch, The choice of the rational technology of the lead-molibdate chrome drying, *Lakokr. Materialy i Ikh Primenenie* No. 3, 51–53 (1974).
 S. V. Yakovlev, V. I. Kalitsyn and A. P. Varlygin, The thermal drying of civil standing water deposits rendered harmless mechanically in a fluidized bed, *Vodosnabzh. i San. Tekhnika* No. 12, 5–9 (1973).

2. Heat exchangers

- A. M. Dorofeeva, I. V. Marfenina, Calculation of a three-flow heat exchanger (for obtaining liquid oxygen), *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 124–132 (1972).
 I. P. Efremenko and N. Kh. Gal'perina, Study of strength properties of fluoroplastic pipes used in heat exchangers from non-metals, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinostr.* No. 62, 119–125 (1973).
 I. P. Efremenko, V. M. Luk'yanenko, M. G. Mikhailus and V. S. Sergeev, Heat exchangers from fluoro-polymers, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinostr.* No. 62, 108–115 (1973).
 I. M. Fedotkin, I. V. Kosminsky, V. N. Gorokh and F. T. Timoshenko, Effect of pulsations on scale formation and heat transfer in shell-and-tube heat exchangers, *Sakharn. Prom.* No. 3, 59–62 (1974).
 V. S. Fokin, L. P. Pertsev, K. I. Lebedev and Yu. N. Anosov, The engineering methods for evaporators with the boiling up pipe, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinostr.* No. 62, 67–71 (1973).
 V. S. Fokin, Yu. N. Anosov and Z. A. Shukova, Study of heat transfer in evaporators with a boiling up pipe under natural circulation, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. In-ta Khim. Mashinostr.* No. 62, 60–66 (1973).
 I. I. Golovach, Calculation of heat exchanger systems, *Azerb. Khim. Zhurn.* No. 3, 121–124 (1973).
 B. Ya. Mazurovsky, On rolling out of heat exchangers with the small degree of perforation, *Kuznechno-Shtampovochn. Proizvodstvo* No. 2, 22–24 (1974).
 E. G. Morozov, A. A. Nemchenko and I. T. Ovchinnik, The effect of connection diagrams of sections on the heat transfer coefficient of air heaters, *Sborn. Nauchn. Trudov po San. Tekhnike (Volgogr. In-t Inzhenerov Gorn. Khoz-va)*, No. 4, 342–347 (1972).
 L. P. Pertsev and L. M. Kovalenko, On trends and results of development and application of new high-intensity plate heat exchangers, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. i Konstr. In-ta Khim. Mashinostr.* No. 62, 3–12 (1973).
 A. D. Suslov, The main peculiarities of operation of machines with built-up heat exchangers, *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchil.)* No. 149, 81–91 (1972).
 A. D. Suslov and N. I. Frolova, Heat transfer in intertubular space of twisted finned microheat exchangers (microcoolers), *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 118–122 (1972).
 A. D. Suslov and N. I. Frolova, Heat transfer in intertubular space of twisted finned heat exchangers, *Khim. i Neft. Mashinostr.* No. 7, 17–18 (1974).
 A. D. Suslov, N. I. Frolova and A. M. Gorshkov, The losses of pressure in intertubular space of low-temperature heat exchangers, *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 133–139 (1972).
 B. A. Troshen'kin and Yu. N. Anosov, Distribution of liquid in evaporators with a falling film, *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinostr.* No. 62, 85–94 (1973).
 B. A. Troshen'kin, G. I. Solov'eva and L. N. Protopopova, Hydrodynamics of a liquid falling film (calculation of industrial evaporators), *Sborn. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. In-ta Khim. Mashinostr.* No. 62, 95–99 (1973).

3. Dispersed materials

- A. P. Baskakov, G. A. Malykh and I. I. Shishko, Separation of materials in the apparatus with a fluidized bed at continuous charging and uncharging, *Khim. Prom.* No. 6, 459–461 (1974).
 A. P. Baskakov and V. K. Maskaev, Heat transfer between a surface and a bed liquefied by the suspension of matter in gas, *Teoret. Osnovy Khim. Tekhnolog.* **8**(4), 620–624 (1974).
 V. V. Kafarov, I. N. Dorokhov, Yu. E. Lugovoi and N. E.

- Molchanova, A mathematical model for an unsteady-state absorption process in a packed column, *Teoret. Osnovy Khim. Tekhnologii* **8**(4), 489–501 (1974).
- V. N. Korolev and N. I. Syromyatnikov, On external heat and mass transfer in installations with a fluidized bed, *Trudy Ural'sk. Politekhn. In-ta* sb. 205, 125–128 (1972).
- V. A. Kurochkin and D. V. Zhukov, On a design hydrodynamic model of a fluidized bed, *Sborn. Trudov Vsesoyuzn. Nauchno-Issled. Proekt. In-ta Teploproekt* No. 25, 76–85 (1973).
- V. Ya. Levchenko, On dynamics of heat and mass transfer in sorption process of a two-component gas mixture on solid sorbent, *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 150–154 (1972).
- Yu. I. Makarov, V. P. Polyanskii and L. V. Sukova, Optimum dynamic characteristics for a continuous mixer of raw materials, *Teoret. Osnovy Khim. Tekhnologii* **8**(4), 631–636 (1974).
- A. K. Manovyan and E. A. Gaivansky, Effect of non-horizontality of a plate from S-shaped elements on hydrodynamics of a bubbling bed, *Khim. Tekhnolog. Topliv Masel* No. 6, 27–30 (1974).
- V. M. Markovsky, B. G. Sapozhnikov and N. I. Syromyatnikov, On the analogy between a vibroboiling bed and liquid, *Teoret. Osnovy Khim. Tekhnologii* **8**(4), 636–638 (1974).
- E. I. Mikulin and Yu. A. Shevich, Heat transfer and resistance in netted packings, *Trudy MVTU (Mosk. Vyssh. Tekhn. Uchilishche)* No. 149, 140–149 (1972).
- V. G. Ponomarenko, K. P. Tkachenko, R. V. Zherdenko and V. A. Sokolova, Regularities of a crystallization process in a fluidized bed, *Sb. Nauchn. Trudov Vsesoyuzn. Nauchno-Issled. Konstr. In-ta Khim. Mashinostr.* No. 62, 134–141 (1973).
- A. I. Rodionov, L. N. Petushinsky and A. M. Semenikhin, Study of mass transfer kinetics in a liquid phase on valve heads, *Teoret. Osnovy Khim. Tekhnol.* **8**(4), 502–506 (1974).
- A. A. Shraiber, On pulsation motion of fine particles of a discrete phase in turbulent flows of suspension of matter in gas, *Thermal Physics and Heat Engineering* No. 25, Kiev, 73–79 (1973).
- T. N. Sycheva and E. V. Donat, Study of solid particle entrainment from a polydispersed fluidized bed, *Khim. Prom.* No. 6, 456–459 (1974).
- R. A. Tkalenko, On similarity motions of two-phase media, *Izv. AN SSSR, Mekhanika Zhidkosti Gaza* No. 3, 78–87 (1974).
- I. A. Vakhrushev and V. A. Basov, Development of a two-phase theory of heterogeneous fluidization, *Teoret. Osnovy Khim. Tekhnolog.* **8**(4), 563–571 (1974).
- A. M. Voitko and T. S. Didyk, Study of energetic expenses on a compressor and a fan at refrigerating of fruit and vegetables raw materials in fluidized and dense beds, *Kholod. Tekhnika* No. 7, 38–42 (1974).
- B. M. Yakubov, G. F. Agaev and Yu. A. Yusifov, Determination of optimum phase relation in fluidization of the granular material by aerated liquid, *Izv. VUZov, Neft Gaz* No. 7, 79–80 (1974).