

HEAT TRANSFER BIBLIOGRAPHY—RUSSIAN WORKS

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BOOKS

- V. A. ANDREEV, *Heat Exchangers for Viscous Liquids. Principles of Design and Calculation* (Teploobmennye apparaty dlya vyzkikh zhidkostey. Osnovy raschyota i proektirovaniya). Gosenergoizdat, Moscow–Leningrad (1961).
- Atlas of Gas Dynamic Functions for High Velocities and High Temperatures of an Air Flow* (Atlas gazo-dinamicheskikh funktsii pri bol'sikh skorostyakh i vysokikh temperaturakh vozdushnogo potoka). Gosenergoizdat, Moscow–Leningrad (1961).
- A. G. GOLOVINTSOV and B. N. YUDAEV, *Engineering Thermodynamics* (Tekhnicheskaya termodinamika). Mashgiz, Moscow (1961).
- E. V. KUDRYAVTSEV, K. N. CHAKALEV and N. V. SHUMAKOV, *Non-steady Heat Transfer* (Nestatsionarny teploobmen). Izd. Akad. Nauk SSSR, Moscow (1961).
- M. A. MAMONTOV, *Problems of Thermodynamics of a Solid of Variable Mass* (Voprosy termodinamiki tela peremennoi massy). Oborongiz, Moscow (1961).
- I. I. NOVIKOV and V. M. ZAITSEV, *Thermodynamics in the Form of Questions and Answers* (Thermodinamika v voprosakh i otvetakh). Gosatomizdat, Moscow (1961).
- I. I. NOVIKOV and K. D. VOSKRESENSKY, *Applied Thermodynamics and Heat Transfer* (Prikladnaya termodinamika i teploperedacha). Atomizdat, Moscow (1961).
- V. F. NOZDREV, *Course of Thermodynamics* (Kurs termodinamiki). Vyssh. Shkola, Moscow (1961).
- Physical Gas Dynamics and Heat Transfer* (Fizicheskaya gazodinamika i teploobmen). Collected articles. Edited by A. S. Predvoditelev. Izd. Akad. Nauk SSSR, Moscow (1961).
- A. M. SHKLOVER, *Heat Transfer under Periodic Thermal Action* (Teploperedacha pri periodicheskikh teplovyykh vozdeistviyakh). Gosenergoizdat, Moscow–Leningrad (1961).
- E. G. SHUMSKY and B. A. BOGDASAROV, *General Thermal Engineering* (Obshchaya teplotekhnika). Mashgiz, Moscow (1961).

ANALYTICAL METHODS FOR SOLVING HEAT AND MASS TRANSFER PROBLEMS

- G. N. ABRAMOVICH, On mixing turbulent jets of different density (O smeshenii turbulentnykh strui raznoi plotnosti). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 3, 55–57 (1961).
- E. I. ANDRIANKIN, On the influence of radiative heat conduction with a strong explosion (O vliyanii luchistoi teploprovodnosti pri sil'nom vzryve). *Inzh. Fiz. Zh.* 4, 11, 68–72 (1961).
- E. A. ARINSSTEIN, The heat conduction equation in a region with a movable boundary (Uravnenie teploprovodnosti v oblasti s podvizhnou granitsei). *Izv. Vyssh. Ucheb. Zav., Fiz.* No. 4, 172–173 (1961).
- V. I. AVDONIN and I. I. NOVIKOV, The propagation of sound in saturated steams of liquids (K voprosu o rasprostraneni zvuka v nasyshchennykh parakh zhidkosti). *Inzh. Fiz. Zh.* 4, 12, 11–15 (1961).
- V. P. BAKALEEV, The possibility of solving non-linear problems of heat conduction (O vozmozhnosti resheniya nelineinykh zadach teploprovodnosti). *Inzh. Fiz. Zh.* 4, 10, 119–122 (1961).
- B. V. BELOGUROV, Thermodynamic theory of surface tension (Termodinamicheskaya teoriya poverkhnostnogo natyazheniya). *Zh. Fiz. Khim.* 35, 12, 2717–2726 (1961).
- M. YA. BROVMAN and E. V. SURIN, Approximate solution of equations of the parabolic type applicable to the problems of heat conduction (Priblizhyonnoe reshenie uravnenii parabolicheskogo tipa primenitel'no k zadacham teploprovodnosti). *Inzh. Fiz. Zh.* 4, 12, 75–82 (1961).
- S. K. GODUNOV, Estimations of errors for the approximate solutions of the simplest equations of gas dynamics (Otsenki nevyasok dlya priblizhennykh reshenii prosteishikh uravnenii gazovoi dinamiki). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* 1, 4, 622–637 (1961).
- S. K. GODUNOV, A. V. ZABRODIN and G. P. PROKOPOV, Difference scheme for two-dimensional non-stationary problems of gas dynamics and calculation of a flow with a detached shock wave (Raznostnaya skhema dlya dvukhmernykh nestatsionarnykh zadach gazovoi dinamiki i raschyot obtekaniya s otoshedshai udarnoi volnoi). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* 1, 6, 1020–1050 (1961).
- Yu. A. DEM'YANOV and K. G. OMEL'CHENKO, On the use of dimensional analysis in solving some heat conduction problems (K ispol'zovaniyu analiza razmernostei pri reshenii nekotorykh zadach teploprovodnosti). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 107 (1961).
- S. P. DETKOV, Calculation of radiant heat transfer on digital computers (Raschyot teploperedachi luches-puskaniem s ispol'zovaniem elektronno-tsifrovyykh mashin). *Teploenergetika* No. 9, 33–36 (1961).
- A. A. DMITRIEV, The application of the thermodynamic determination of entropy in the presence of the field of the gravitation force (O primenenii termodinamicheskogo opredeleniya entropii pri nalichii polya sily tyazhesti). *Inzh. Fiz. Zh.* 4, 11, 114–116 (1961).
- V. P. DUSHCHENKO and P. P. LUTSIK, A non-stationary temperature field in a three-layered medium where

- phase transformations are present (Nestatsionarnoe temperaturnoe pole v tryokhsloinoi srede pri nalichii fazovykh prevrashchenii). *Inzh. Fiz. Zh.* **4**, 12, 52–60 (1961).
- E. P. DYBAN, S. K. RUDKIN, M. V. STRADOMSKY, I. T. SHVETS and E. YA. EPIK, An investigation of the radial component of velocity pulsation with turbulent air flow in relatively short pipes with different levels of initial disturbance (Issledovanie radial'noi sostavlyushchey pul'stsei skorosti pri turbulentnom techenii vozdukh v otnositel'no korotkikh trubakh s razlichnym urovнем nachal'nykh vozmushchenii). *Inzh. Fiz. Zh.* **4**, 11, 3–9 (1961).
- I. V. FRYAZINOV, Stability of difference schemes for the heat conduction equations with variable coefficients (Ob ustochivosti raznostnykh skhem dlya uravneniya teploprovodnosti s peremennymi koefitsientami). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* **1**, 6, 1122–1127 (1961).
- YA. Z. KAZAVCHINSKY, P. K. KESSELMAN and V. A. RABINOVICH, The second virial coefficient and its extrapolation into the high temperature field (O vtorom virial'nom koefitsiente i ego ekstrapolyatsii v oblast' vysokikh temperatur). *Inzh. Fiz. Zh.* **4**, 12, 16–21 (1961).
- L. P. KHOSSON, The differential method of verifying thermal calculation for surfaces with convective heat transfer (Differentsial'nyi metod poverochnogo teplovo-goschuya konvektivnykh poverkhnostei). *Teploenergetika*, No. 8, 88–91 (1961).
- P. I. KHRISTICHENKO, The non-stationary temperature field of a spherical shell (Onestatsionarnom temperaturnom pole sfericheskoi obolichki). *Inzh. Fiz. Zh.* **4**, 12, 70–74 (1961).
- Kh. YA. KHRISTOV, The diffusion equation of neutrons which scatter isotropically with one and the same velocity in the one-dimensional stationary case (Ob uravnenii diffuzii odnoskorostnykh izotropno-rasseyayushchikhsya neutronov v odnomernom statsionarnom sluchae). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* **1**, 5, 825–835 (1961).
- A. F. KHRUSTALEV, The temperature field of an unlimited flat wall (O temperaturnom pole neogranichennoi ploskoi stenki). *Inzh. Fiz. Zh.* **4**, 11, 81–88 (1961).
- I. A. KOMAROV, Heat transfer with vapour condensation from the vapour-gas mixture (O teploperedache, soprovozhdennyi kondensatsiei para iz parogazovo smesi). *Izv. Vyssh. Ucheb. Zav., Khim. i Khimich. Tekhnol.* **4**, 2, 303–309 (1961).
- L. I. KUDRYASHEV and A. A. SMIRNOV, The effect of non-stationary thermal conditions on the heat transfer coefficient in case of external flow round solids (Vliyanie teplovoi nestatsionarnosti na koefitsient teploobmena v sluchae vneshnego obtekaniya). *Inzh. Fiz. Zh.* **4**, 10, 21–29 (1961).
- M. P. KUZ'MIN, Electric simulation of non-stationary thermal processes in a flat wall (Electromodelirovanie nestatsionarnykh teplovых protsessov vo ploskoi stenke). *Inzh. Fiz. Zh.* **4**, 10, 15–20 (1961).
- A. K. LEONT'EV, The effect of thermal skin effect on the distribution of temperature in a cylindrical conductor heated by an electric current (Vliyanie teplovogo skin-effekta na raspredelenie temperatury v tsilindrcheskom provodniku, nagrevaemom elektricheskim tokom). *Inzh. Fiz. Zh.* **4**, 10, 101–103 (1961).
- A. V. LUIKOV and E. A. ZHIKHAREV, A new separation method of molecular solutions and gas mixtures (Novy metod razdeleniya molekularnykh rastvorov i gazonovkh smesei). *Inzh. Fiz. Zh.* **4**, 12, 22–31 (1961).
- V. P. MOTULEVICH, A complete system of equations of a laminar boundary layer and boundary conditions in the presence of sources of mass and energy in the flow and on the surface of the solid (Polnaya sistema uravneneii laminarnogo pogranichnogo sloya i krayevykh usloviy pri nalichii v potoke i na poverkhnosti tela istochnikov veshchestva i energii). *Inzh. Fiz. Zh.* **4**, 10, 44–51 (1961).
- V. P. MOTULEVICH, Heat and mass transfer at the central point of a blunted solid in the presence of heterogeneous chemical reactions (K voprosu o teplo- i massoobmene v lobovoi tochke prituplyonnykh tel pri nalichii geterogennykh khimicheskikh reaktsii). *Inzh. Fiz. Zh.* **4**, 11, 10–18 (1961).
- A. T. POLETSKY, Integration of differential equations of an unsteady flow of a thin viscous layer (K integriruvaniyu differentsial'nykh uravnenii neustanovivshegosya techeniya tonkogo vyazkogo sloya). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 4, 33–37 (1961).
- M. S. POVARNITSYN, An investigation of the thermal field in a sandwich plate with honeycomb core having asymmetrical heating (Issledovanie temperaturnogo polya v trekhloinoi plastine s sotovym zapolnitel'm pri nesimmetrichnom nagreve). *Inzh. Fiz. Zh.* **4**, 10, 64–70 (1961).
- M. A. PUDOVKIN, Solution of the third linear thermal problem with a uniformly moving boundary in the semi-infinite region (Reshenie tret'ei lineinoi teplovoi zadachi s ravnomerno dvizhushchey granitsei v polubeskonechnoi oblasti). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 4, 145–147 (1961).
- G. D. RABINOVICH, Stationary heat transfer between three heat transfer agents with parallel flow in a recuperative apparatus (Statsionarnyi teploobmen mezhdu tremya teplonositelyami pri parallel'nom toke v rekuperativnom apparate). *Inzh. Fiz. Zh.* **4**, 11, 37–43 (1961).
- E. A. ROMASHKO, A non-stationary problem of heat and neutron transfer in a non-multiplying medium (Nestatsionarnaya zadacha teplo- i neutronoperenos v nerazmnogayushchey srede). *Inzh. Fiz. Zh.* **4**, 10, 40–43 (1961).
- L. A. ROTT, Application of the generalized functions to thermodynamics of infinitely diluted solutions (Prijmenenie obobshchennykh funktsii v termodinamike beskonechno razbaylennykh rastvorov). *Zh. Fiz. Khim.* **35**, 9, 2095–2098 (1961).
- A. A. SAMARSKY and I. V. FRYAZINOV, Convergence of uniform difference schemes for heat conduction equation with discontinuous coefficients (O skhodimosti odnorodnykh raznostnykh skhem dlya uravneniya teploprovodnosti s razryvnymi koefitsientami). *Zh.*

- Vychislitel'noi Matematiki i Mat. Fiz.* **1**, 5, 806–824 (1961).
- Y. A. SAMOLOVICH, The calculation of the heating of rectangular solids for practical conditions (Raschyt nagreva tel priyamougol'noi formy po tekhnologicheskim usloviyam) *Inzh. Fiz. Zh.* **4**, 11, 73–80 (1961).
- G. F. SHAIKHOV, Thermal instability of a liquid in a horizontal cylinder (Teplovaya neustoichivost' zhidkosti v gorizontálnom tsilindre). *Inzh. Fiz. Zh.* **4**, 11, 109–113 (1961).
- Z. P. SHUL'MAN, An approximate calculation of a laminar boundary layer in a non-compressible liquid where heat and mass transfer exist (Priblizhyonnyi raschyt laminarnogo pogranichnogo sloya v neszhimaemoi zhidkosti pri nalichii teplo- i massoobmena). *Inzh. Fiz. Zh.* **4**, 11, 19–28 (1961).
- YA. A. SIROTN, A numerical method of calculation of turbulent incompressible inviscid flow in axisymmetrical ducts (Chislennyi metod raschyota vikhrevogo potoka ideal'noi neszhimaemoi zhidkosti v osesimmetrichnykh kanalakh). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.*, No. 5, 44–51 (1961).
- S. M. SMIRNOV, The equation of the curve of drying (Uravnenie krivoi suski). *Izv. Vyssh. Ucheb. Zcv., Tekhnol. Lyogk. Prom.*, No. 3, 47–58 (1961).
- A. G. TEMKIN, Inverse problems of thermal conduction of an asymmetrical field (Obratnye zadachi teploprovodnosti asimmetrichnogo polya). *Inzh. Fiz. Zh.* **4**, 10, 52–63 (1961).
- A. G. TEMKIN, The place of the mean isotherm of the non-stationary field (Položenie srednei izotermы nestatsionarnogo polya). *Izv. Vyssh. Ucheb. Zav., Energetika* No. 8, 83–91 (1961).
- P. V. TSOI, The boundary value problem for a system of differential equations of the parabolic type (Kraevaya zadacha dlya sistemy differentials'nykh uravnenii parabolicheskogo tipa). *Inzh. Fiz. Zh.* **4**, 12, 61–69 (1961).
- V. I. VAN'KO, Non-stationary temperature fields in disks of compound hyperbolic profile in the absence of heat transfer through the faces (Nestatsionarnye temperaturnye polya v diskakh sostavnogo giperbolicheskogo profilya pri otsutstvii teploobmena na tortsovyykh poverkhnostyakh). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 4, 143–144 (1961).
- G. A. VARSHAVSKY, An investigation of some heat conduction problems with the heat conduction coefficient dependent on temperature (Issledovanie nekotorykh zadach teploprovodnosti pri koefitsiente teploprovodnosti zavisivayushchem ot temperatury). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 3–15 (1961).
- M. P. VUKALOVICH and I. I. NOVIKOV, An equation for the index of the adiabatic line of moist vapour (K voprosu ob uravnenii dlya pokazatelya adiabaty vlaghnogo para). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 108–110 (1961).
- V. A. ZAGORUCHENKO and A. A. VASSERMAN, The equation of state and thermodynamic properties of methane (Uravnenie sostoyaniya i termodinamicheskie svoistva metana). *Inzh. Fiz. Zh.* **4**, 11, 59–63 (1961).
- N. N. YANENKO and Yu. E. BOYARINTSEV, The convergence of difference schemes for the heat conduction equation with variable coefficients (O skhodimosti raznostnykh skhem dlya uravneniya teploprovodnosti s peremennymi koefitsientami). *Dokl. Akad. Nauk SSSR* **139**, 6, 1322–1324 (1961).
- ### GENERAL HEAT AND MASS TRANSFER PROBLEMS
- I. M. ANOSHIN, Mass transfer coefficients during the process of rectification on (mesh) sieve plates (O koefitsientakh massoperedachi v protsesse rektifikatsii na sitchatykh tarelkakh). *Izv. Vyssh. Ucheb. Zav., Pishch. Tekhnol.* No. 5, 131–134 (1961).
- V. A. BASHKIN and E. E. SOLODKIN, The determination of the heat transfer coefficient (Ob opredelenii koefitsienta teploperedachi). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 16–24 (1961).
- G. A. BEDA, Liquid film flow (O techenii zhidkoi plyonki). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 110–111 (1961).
- A. I. BORISENKO, E. P. ZIMIN and A. I. YAKOVLEV, Liquid flow and heat transfer in a channel formed by rotating coaxial cylinders with fluid moving axially (Techenie zhidkosti i teploobmen v kanale, obrazovanom vrashchayushchimisya koaksial'nymi tsilindrami, pri nalichii osevogo dvizheniya zhidkosti). *Inzh. Fiz. Zh.* **4**, 10, 129–133 (1961).
- P. V. CHERPAKOV, The control of the thermal condition in a cylinder with heat sources (O regulirovaniyu teplovoego rezhima v tsilindre s istochnikami). *Trudy Kubyshevsk. Aviatsionnogo In-ta* vyp. 12, 55–58 (1961).
- N. V. CHURAEV and N. I. IL'IN, The effect of structure on the processes of motion of water in capillary-porous solids (Vliyanie struktury na protsessy peredvizheniya vody v kapillyarno-poristykh sredakh). *Inzh. Fiz. Zh.* **4**, 10, 44–40 (1961).
- B. N. DEVYATOV and G. S. KHOR'KOVA, Inertia and controllability of counterflow heat exchangers during interruption of conditions according to the velocity of heat transfer fluid (Inertsionnost' i reguliruemost' protivotochnykh teploobmennikov pri narusheniyakh rezhima raboty po skorosti dvizheniya teplonositelya). *Izv. Sibirsk. Otdel. Akad. Nauk SSSR* No. 8, 36–43 (1961).
- V. V. DIL'MAN and V. P. RUCHINSKY, Increasing the efficiency of mass transfer apparatus (Povyshenie effektivnosti massoobmennykh apparatov). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Metall. i Toplivo* No. 4, 160–165 (1961).
- L. A. DORFMAN, The influence of radial flow between a rotating disk and housing on resistance and heat transfer (Vliyanie radial'nogo techeniya mezhdu vrashchayushchimisya diskom i kozhukhom na ikh soprotivlenie i teploperedachu). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 4 26–32 (1961).
- S. A. DRUZHININ, Calculation of the internal heat transfer with transpiration cooling (O raschyote vnutrennego teploobmena pri poristom okhlazhdennii). *Teploenergetika* No. 9, 73–77 (1961).

- M. I. DUBOVIS, The evaluation of temperature on the plane of contact in systems with heat removal into a semi-infinite medium (Otsenka temperatury na ploskosti kontakta v sistemakh s teplootvodom v polubeskonechnuyu sredu). *Inzh. Fiz. Zh.* **4**, 11, 89–93 (1961).
- G. P. FILIPPOVA and I. P. ISHKIN, Calculation of the viscosity of compressed gases by the similarity method (Raschyt vyzkosti szhatykh gazov metodom podobnosti). *Inzh. Fiz. Zh.* **4**, 10, 9–14 (1961).
- G. P. GOLOVINSKY, Heat transfer agents for industry and heat transfer intensity (Promyslennye teplonositeli i intensivnost' teploobmena). *Teploenergetika* No. 9, 84–86 (1961).
- S. S. GRIGORYAN, T. V. MARCHENKO and YU. L. YAKIMOV, Non-stationary motions of gas in shock tubes of a variable cross section (O nestatsionarnykh dvizheniyakh gaza v udarnykh trubakh peremennogo secheniya). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 4, 109–113 (1961).
- A. A. IVASHKEVICH, Critical heat flows and the heat transfer coefficient in boiling of a liquid in channels under conditions of the forced motion (Kriticheskie teplovye potoki i koefitsient teplootdachi pri kipenii zhidkosti v kanalakh v usloviyah vynuzhdennogo dvizheniya). *Teploenergetika* No. 10, 74–78 (1961).
- V. S. KAKHANOVICH, A method of measuring expenditure of heat with correction for several parameters (Metod izmereniya raskhoda tepla s korrektcii po neskol'kim parametram). *Inzh. Fiz. Zh.* **4**, 11, 125–128 (1961).
- E. S. KARASINA and L. I. KROPP, An investigation of heat transfer in a furnace chamber with screen superheater during the combustion of AlII (Issledovanie teploobmena v topochnoi kamere s shirmovym peregrevatelyem pri sziganii AlII). *Teploenergetika* No. 8, 61–67 (1961).
- S. M. KOGARKO and V. YA. BASEVICH, On the mechanism of burning of an "atomized" liquid fuel in turbulent flow (K mekhanizmu goreniya raspylyonnogo zhidkogo topliva v turbulentnom potoke). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Metall. i Toplivo* No. 4, 137–142 (1961).
- V. I. KONOVALOV and P. G. ROMANKOV, An investigation of mass transfer and hydrodynamics in a sloping vibrational counterflow extractor (Issledovanie masosoperedachi i gidrodinamiki v naklonnom protivotochnom vibratsionnom ekstraktore). *Zh. Prikl. Khim.* **34**, vyp. 10, 2217–2226 (1961).
- P. P. KORYAKOV, A numerical calculation of high temperature laminar flows (Chislennyi raschyt vysokotemperaturnykh laminarnykh strui). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* **1**, 5, 856–868 (1961).
- L. A. KOZDOBA and V. I. MAKHNENKO, Electrical modeling on ohmic resistance networks of moving temperature fields (Elektromodelirovaniye na setkakh omicheskikh soprotivlenii podvizhnykh temperaturnykh polei). *Inzh. Fiz. Zh.* **4**, 11, 94–98 (1961).
- P. L. KRISTENKO, Several means of power intensification of a reactor with a gas coolant (O nekotorykh putyakh povysheniya moshchnosti reaktora s gazovym teplonositelem). *Atomn. Energiya* **11**, vyp. 6, 506–514 (1961).
- A. F. KHRUSTALYOV, Transmission of heat through a cylindrical wall (O peredache tepla cherez tsilindricheskuyu stenu). *Inzh. Fiz. Zh.* **4**, 12, 98–101 (1961).
- P. N. KUBANSKY, Heat transfer from a heat transfer surface with a resonant system in the wall to a forced flow (Teplootdacha ot poverkhnosti teploobmena s resonansnoi sistemoi v stenke k vynuzhdennomu potoku). *Akust. Zh.* **7**, vyp. 3, 313–319 (1961).
- Yu. V. LAPIN, Heat and mass transfer of a turbulent flow of a compressible gas with the introduction of foreign matter (Masso-i teploperedelenie pri turbulentnom techenii szhimaemogo gaza i podvode inorodnogo veshchestva). *Zh. Tekh. Fiz.* **31**, vyp. 11, 1395–1406 (1961).
- B. L. LIVSHITS and V. O. FOGEL, The dependence of heat transfer in a reactor with welded half-tubes upon the type of mixers (Zavisimost' teploobmena v reaktore s privarnymi polutrubami ot tipa meshalok). *Lako-krasochnye Materialy i ikh Primenenie* No. 5, 70–74 (1961).
- G. I. MARCHUK, Review of methods for nuclear reactor design (Obzor metodov raschyota yadernykh reaktorov). *Atomn. Energiya* **11**, vyp. 4, 356–369 (1961).
- V. S. MARTYNOVSKY and V. A. NAER, Semiconductor intensifiers of heat transfer and thermal insulators (Poluprovodnikovye intensifikatory teploperedachi i teploizolyatory). *Kholodil'naya Tekh.* No. 3, 4–7 (1961).
- A. A. MATVEENKO and I. V. CHAIKOVSKAYA, On design formula of counter-flow and single-flow heat transfer (O raschyotnykh formulakh protivitochnogo i prymotochnogo teploobmena). *Nauch. Zapiski Odesskogo Politekh. In-ta* **32**, 35–43 (1961).
- V. A. MAKHIN, On the motion of pulverized liquid drops in swirling air flow (The calculation of pulverizing fuel) (O dvizhenii kapel' raspylyonnoi zhidkosti v zakruchennom potoke vozdukh (K raschytu raspliyeniya topliva)). *Nauch. Zapiski Dnepropetrovskogo In-ta* **55**, vyp. 6, 11–24 (1961).
- I. I. MEZHIROV, On imperfect gas flow with heat transfer (O techenii nesovershennogo gaza pri nalichii teploobmena). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 3, 184–185 (1961).
- Z. L. MIROPOL'SKY and M. E. SHITSMAN, Critical heat flows with boiling of water in channels (Kriticheskie teplovye potoki pri kipenii vody v kanalakh). *Atomn. Energiya* **11**, vyp. 6, 515–521 (1961).
- Z. L. MIROPOL'SKY and L. E. FAKTOROVICH, A generalization of experimental data on the influence of the heated length of a channel on critical flows (Obobshchenie eksperimental'nykh dannyykh o vliyanii obogrevayemoi dliny kanala na kriticheskie teplovye potoki). *Dokl. Akad. Nauk SSSR* **141**, 6, 1353–1356 (1961).
- M. G. MURASHKO, An investigation of filtration motion of liquid allowing for the effect of heat and mass transfer (Issledovanie fil'tratsionnogo dvizheniya zhidkosti s uchystom vliyanii yaylenii teplo- i massoperenosu). *Inzh. Fiz. Zh.* **4**, 10, 30–35 (1961).
- YA. M. NAZIEV, The temperature distribution in an infinite hollow cylinder in a variable heat flow (Raspredelenie temperatury v neogranichennom polom)

- tsilindre pri peremennom teplovom potoke). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Energet. i Avtoma.* No. 4, 60–63 (1961).
- V. N. NIKOLAEVSKY, On the forming of the non-linear theory of elastic filtration of a liquid and a gas (K postroeniyu nelineinoi teorii uprugogo regima fil'tratsii zhidkosti i gaza). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 4, 67–76 (1961).
- E. A. NOVIKOV, On an energy spectrum of an incompressible turbulent flow (O spektre energii turbulentnogo potoka neszhimaemoi zhidkosti). *Dokl. Akad. Nauk SSSR* **139**, 2, 331–334 (1961).
- P. A. NOVIKOV, An investigation of sublimation in vacuum conditions (Issledovanie protsessa sublimatsii v usloviyakh vakuumma pri dvizhenii tel). *Inzh. Fiz. Zh.* **4**, 10, 36–39 (1961).
- A. P. ORNATSKY and A. M. KICHIGIN, An investigation of hydraulic resistance of an underheated water flow in a tube with a small diameter and with large heat flows (Issledovanie gidravlicheskogo soprotivleniya pri techenii nedogretoi vody v trubke malogo diametra i bol'shikh teplovых potokov). *Teploenergetika*, No. 8, 56–60 (1961).
- A. A. PAVLENKOV, The effect of natural convection on the heat transfer coefficient and on the upward force in a flow round a cylinder (Vliyanie svobodnoi konvektsii na koefitsient teploprovodnosti i pod'yomnuyu silu pri obtekaniyu tsilindra). *Trudy Kuibyshevskogo Aviats. In-ta* vyp. 12, 193–197 (1961).
- G. B. PEKELIS, The determination of parameters of a gas and liquid on the boundary of zones in a scrubber for heating liquids (Opredelenie parametrov gaza i zhidkosti na granitse zon v skrubbere dlya nagревa zhidkosti). *Inzh. Fiz. Zh.* **4**, 12, 37–42 (1960).
- V. A. POLYANSKY, The effect of Joule heating on heat transfer at the critical point (Vliyanie dzhouleva nagревa na teploperedachi v kriticheskoi tochke). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 5, 11–15 (1961).
- A. A. POTAPOV and P. M. KRASNOKUTSKY, Finning of steel tubes of heat exchangers by transverse-screw thread-rolling (Orebrenie stal'nykh trub teploobmennoi apparatury poperechno-vintovoi nakatkoj). *Khim. Mash.* No. 5, 43–44 (1961).
- S. V. RYZHKOV, An experimental method of calculation of heat transferred by radiation and heat conduction during the investigation of heat transfer of a cylinder in an air flow (Eksperimental'nyi metod uchyota tepla, peredavaemogo radiatsiei i teploprovodnost'yu, pri issledovanii teplootdachi tsilindra v vozmushchyonnom potoke). *Trudy Nikolaevskogo Korablenstroita. In-ta* vyp. 22, 61–63 (1961).
- I. F. SHAKHNOV, On disturbances of a supersonic flow by direct or continuously distributed heat sources (O vozmushcheniyakh sverkhzvukovogo potoka, vyzvannyykh diskretnymi ili nepreryvno raspredelitel'nymi istochnikami tepla). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 5, 16–21 (1961).
- V. K. SHCHERBAKOV, Peculiarities of the heat transfer process through a wall with longitudinal fins with large heat fluxes (Osobennosti protsessa teploperedachi cherez stenku, orebryonnuyu prodol'nymi ryobrami pri bol'sikh teplovых potokakh). *Izv. Vyssh. Ucheb Zav., Energetika* No. 9, 76–82 (1961).
- I. A. SHEPELEV, A turbulent convective current above a heat source (Turbulentnaya konvektivnaya struya nad istochnikom tepla). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 4, 3–9 (1961).
- V. P. SKRIPOV and V. I. KUKUSHKIN, Instrument for the control of critical superheating of a liquid (Pribor dlya nablyudenija predel'nogo peregrevu zhidkosti). *Zh. Fiz. Khim.* **35**, 12, 2811–2813 (1961).
- V. A. SMIRNOV, Some additions to the regular heat regime theory (Nekotorye dopolneniya k teorii reguljarnogo teplovого rezhima). *Nauch. Trudy Mosk. Tekhnol. Instituta Lyogkoi Prom.* vyp. 20, 184–188 (1961).
- A. F. SOROKIN and V. F. STEPANCHUK, The study of the laws of heat and mass transfer must be thorough and detailed (Za vsestoronnee, kompleksnoe izuchenie zakonomernostei teplo- i massoobmena). *Izv. Vyssh. Ucheb. Zav., Energetika* No. 9, 108–109 (1961).
- M. A. STYRIKOVICH, Z. L. MIROPOLOVSKY and SHEN' CHZHAO-YUAN', The effect of non-uniformity of heating along the tube on the magnitude of critical heat flows (Vliyanie neravnomerosti obogreva po dlinе truby na velichinu kriticheskikh teplovых porokov). *Dokl. Akad. Nauk SSSR* **139**, 4, 859–862 (1961).
- V. I. SUBBOTIN, M. KH. IBRAGIMOV, M. N. IVANOVSKY, M. N. ARNOL'DOV and E. V. NOMOFILOV, Heat transfer in turbulent liquid metal flows in tubes (Teplo-otdacha pri turbulentnom techenii zhidkikh metallov v trubakh). *Atomn. Energiya* **11**, vyp. 2, 133–139 (1961).
- N. I. SYROMYATNIKOV, L. K. VASANOVA and YU. N. SHIMANSKY, The apparatus for investigation of heat transfer processes in "boiling layer" reactor (Ustanovka dlya issledovaniya protsessov teploobmena v yuadernykh reaktorakh s "kipyashchim" sloem). *Atomn. Energiya* **11**, vyp. 6, 544–546 (1961).
- P. K. TAGIROV, The determination of the pressure and the temperature with sudden expansion of sonic or supersonic flows (Opredelenie dannogo davleniya i dannoi temperatury pri vnezapnom rasshireniyu zvukovogo ili sverkhzvukovogo potokov). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 5, 30–37 (1961).
- O. B. TSITROVICH and V. S. EVSYUKOV, The problems of calculation of a material and heat balance of gas generators and furnaces with a fluidized bed (Voprosy raschycota material'nogo i teplovого balansa gazo-generatorov i topok s kipyashchim sloem). *Trudy Leningr. Inzh. Ekonomich. In-ta* vyp. **36**, 96–103 (1961).
- A. I. TUTNOV, An instrument for controlling the condition of tubes made of non-ferrous metals (in condensers and heat exchangers) (Pribor dlya kontrolya sostoyaniya trubok iz tsvetnogo metalla (ustanovlennykh v kondensatorakh i teploobmennikakh)). *Bezopasnost' Truda v Prom.* No. 9, 29 (1961).
- K. P. VISHNEVSKY, An investigation of heat transfer in a layer by the thermal control method (Issledovanie teploobmena v sloe metodom teplovого reguljarnogo rezhima). *Trudy Kuibyshevsk. Aviats. In-ta* vyp. 12, 185–192 (1961).

- E. I. VOL'PER and T. A. SAVITSKY, The influence of contamination on heat transfer and aerodynamic resistance of an experimental air heater with the heating surface out of profiled sheet (Vliyanie zagryaznenii na teploperedachu i aerodynamicheskoe soprotivlenie optytnogo vozdukhopodogrevatelya s poverkhnost'yu nagreva iz profil'nykh listov). *Energomashinostroenie* No. 11, 9-13 (1961).
- N. A. ZAKHARIKOV and V. P. KONONKO, Heat transfer in furnaces with luminous and non-luminous flames (Teploperedacha v pechakh pri svetlyashchemsya i nesvetlyashchemsya fakelakh). *Gazovaya Prom.* No. 11, 22-27 (1961).
- A. A. ZHUKAUSKAS and I. I. ZHUGZHDA, An experimental investigation of heat transfer of a plate with longitudinal flow in the laminar boundary layer (Eksperimental'noe issledovanie teploobmena plastiny pri proadol'nom obtekaniyu v laminarnom pogranichnom sloe). *Inzh. Fiz. Zh.* 4, 11, 105-108 (1961).
- E. P. ZIMIN, Heat transfer with flow of liquid in a pipe with distributed heat sources (Teploobmen pri techenii zhidkosti v trube s raspredelennymi istochnikami tepla). *Inzh. Fiz. Zh.* 4, 10, 127-128 (1961).
- O. V. YAKOVLEVSKY, The hypothesis on universality of ejection properties of turbulent gas flows and its application (Gipoteza ob universal'nosti ezhektsionnykh svoistv turbulentnykh strui gaza i ego prilozheniya). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 3, 40-54 (1961).

HEAT AND MASS TRANSFER WITH PHASE CONVERSIONS

- L. S. KOKOREV and V. T. PETROVICHES, Measurement of the heat transfer coefficient under non-stationary conditions (Izmerenie koefitsienta teploobmena v nestatsionarnom rezhime). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 1, 121-124 (1961).
- A. G. MERZHANOV, V. V. BARZYKIN, V. G. ABRAMOV and F. I. DUBOVITSKY, Thermal explosion in a liquid phase under conditions of pure convective heat transfer (Teplovoy vzryv v zhidkoi faze v usloviyakh chisto konvektivnoi teploperedach). *Zh. Fiz. Khim.* 35, 9, 2083-2089 (1961).
- V. V. SHCHENNIKOV, The calculation of a laminar boundary layer on a sublimating surface (Raschyot laminarnogo sloya u sublimiruyushchei poverkhnosti). *Zh. Vychislitel'noi Matematiki i Mat. Fiz.* 1, 5, 869-883 (1961).
- M. A. STYRIKOVICH, A. V. SURNOV and YU. G. VINOKUR, Experimental data on the thermodynamics of a two-phase layer (Eksperimental'nye dannye po gidrodinamike dvukhfaznogo sloya). *Teploenergetika* No. 9, 56-60 (1961).
- D. F. TOLKACHYOV, An investigation of convective heat transfer in two-phase flow of a "combined layer" type at the temperature of less than 300° (Issledovanie konvektivnogo teploobmena v dvukhfaznom potoke tipa "kombinirovannyi sloy" pri temperaturе menee 300°) *Izv. Kazansk. Filiala Akad. Nauk SSSR. Ser. Energet. i Vodnogo khozyaistva* vyp. 2, chast' 2. *Voprosy Energetiki* 75-100 (1961).

HEAT AND MASS TRANSFER IN CHEMICAL CONVERSIONS

- S. I. ANISIMOV, On stationary temperature distribution with a chemical reaction (O statsionarnom raspredelenii temperatury pri nalichii khimicheskoi reaktsii). *Dokl. Akad. Nauk BSSR* 5, 9, 380-382 (1961).
- Yu. A. DUSHIN, The rate of decomposition (combustion) of polymers in a high temperature gas medium (Skorost' razlozheniya (goreniya) polimerov v vysokotemperaturnoi gazovoi srede). *Inzh. Fiz. Zh.* 4, 10, 123-126 (1961).
- A. S. IPPOLITOV, Speed of flame front propagation in a turbulent air-dust torch (Skorost' rasprostraneniya fronta plameni v turbulentnom pylevozdushnom fakele). *Inzh. Fiz. Zh.* 4, 10, 3-8 (1961).
- A. E. KADYSHEVICH and V. A. DOKUCHAEVA, The application of visible and infra-red pyrometry methods to measuring flame temperature within a confined space (O primenenii metodov vidimoi i infrakrasnoi pirometrii dlya izmerenija temperatury plameni v ogranicennom prostranstve). *Izv. Vyssh. Ucheb. Zav., Chyornaya Metall.* No. 9, 180-190 (1961).
- L. S. KAZACHENKO, Methods of measuring turbulent velocity of flame propagation (O metodakh izmerenii turbulentnoi skorosti rasprostraneniya plameni). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 3, 112-117 (1961).
- N. I. KOBOZEV, The problem of ordered and disordered energy in chemical thermodynamics. I. (Problema uporyadochennosti i neuporyadochennosti energii v khimicheskoi termodinamike. I.). *Zh. Fiz. Khim.* 35, 12, 2736-2744 (1961).
- N. I. KOBOZEV, The problem of ordered and disordered energy in chemical thermodynamics. II. Equilibrium of vectorial-Brownian forms of energy in chemical thermodynamics (Problema uporyadochennosti i neuporyadochennosti energii v khimicheskoi termodinamike. II. Ravnovesie vektorno-brounovskikh form energii v khimicheskoi termodinamike). *Zh. Fiz. Khim.* 35, 12, 2745-2750 (1961).
- S. M. KOGARKO and V. Yu. BASEVICH, On the mechanism of burning of a pulverized liquid fuel in a turbulent flow (K mekhanizmu goreniya raspylyonnogo zhidkogo topliva v turbulentnom potoke). *Izv. Akad. Nauk SSSR. Otdel. Tekh. Nauk. Metall. i Toplivo* No. 4, 137-142 (1961).
- V. A. PARILOV, Processes of drying, ashing and yield of volatiles in a bed of brown coal with ignition from below (Protsessy sushki, ozoleniya i vykhoda letuchikh v sloe podmoskovnogo burego uglya pri nizhnem zazhiganiyu). *Teploenergetika* No. 11, 46-48 (1961).
- L. M. PAVLOVA, Non-equilibrium dissociating air flows similar to equilibrium ones (Neravnovesye techeniya dissostsiruyushchego vozdukha, blizkie k ravnovesiyu). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 3, 13-17 (1961).
- P. I. SOLOUKHIN, The transition of combustion to detonation in gases (Perekhod goreniya v detonatsiyu v gazakh). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 4, 128-132 (1961).
- V. P. STULOV, A boundary layer on a plate with non-equilibrium dissociation taken into account (Pogra-

nichnyi sloi na plastine s uchiyotom neravnovesnoi dis-sotsiatsii). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 3, 5–12 (1961).

Yu. A. TKACH and O. K. DAVTYAN, An investigation of the mechanism of oxidation, hydrogenation and electrochemical combustion on solid catalysts (Issledovanie mekhanizma okisleniya, gidrirovaniya i elektrokhimicheskogo gorenija na tvyordykh katalizatorakh). *Zh. Fiz. Khim.* **35**, 12, 2727–2735 (1961).

P. A. ZUCHKOV, The development of the ignition process in a moist fuel (Rasvitie protsesssa vosplameneniya vlaghnogo topliva). *Trudy Leningrad. Tekhnol. In-ta* vyp. 8, 156–161 (1961).

HEAT AND MASS TRANSFER IN DRYING PROCESSES

M. A. BERLINER, Automation of drying processes (Avtomatizatsiya protsessov sushki). *Mekhanizatsiya i Avtomatizatsiya Proizvodstva* No. 10, 50–53 (1961).

N. G. FILONENKO, Semiconductors for measuring the temperature of drying cylinder surfaces (Primenenie poluprovodnikov dlya izmerenija temperatury poverkhnosti sushil'nykh tsilindrov). *Trudy Leningrad. Tekhnol. In-ta* vyp. 8, 162–168 (1961).

V. M. KAZANSKY, The application of a galvanometric amplifier for the recording of drying thermograms (Primenenie gal'vanometricheskogo usilitelya dlya zapisi termogramm sushki). *Inzh. Fiz. Zh.* **4**, 10, 108–110 (1961).

M. F. KAZANSKY and A. L. VEREZOMSKAYA, An investigation of the kinetics of compression of colloidal capillary porous solids in drying (Issledovanie kinetiki szhatiya kolloidnykh kapillyarno-poristykh tel pri sushke). *Inzh. Fiz. Zh.* **4**, 10, 104–107 (1961).

V. V. PUCHKOVSKY and I. D. KABANOV, Changes in dielectric losses during the drying of paper-bakelite cylinders and their influence on the drying process (Izmerenie dielektricheskikh poter' pri sushke bumazhno-bakelitovykh tsilindrov i ikh vliyanie na khod sushki). *Trudy Chelyabinskogo In-ta Mekhanizatsii i Elektrififikatsii Selsk. Khoz-va* vyp. **12**, 160–168 (1961).

P. T. SMENKOVSKAYA, On some results of experimental investigation of drying by sublimation in vacuum (O nekotorykh resul'tatakh eksperimental'nogo issledovaniya sushki sublimatsiei v vakuum). *Inzh. Fiz. Zh.* **4**, 11, 51–54 (1961).

M. I. VERBA and B. I. LEONCHIK, On the calculation of evaporation during pulverization drying of superheated solutions (K raschyotu ispareniya pri raspilyonoi sushke peregretykh rastvorov). *Izv. Vyssh. Ucheb. Zav., Energetika* No. 7, 76–78 (1961).

HEAT AND MASS TRANSFER IN THE PRODUCTION OF BUILDING MATERIALS AND CONSTRUCTION

M. A. ZADOYAN, Creep of a concrete slab at high temperatures (O polzuchesti betonnoi plity pri vysokikh temperaturakh). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 4, 130–135 (1961).

THERMAL PROPERTIES OF VARIOUS MATERIALS AND HEAT TRANSFER FLUIDS, AND THE METHODS OF DETERMINATION

L. A. BROVKIN, Determination of the thermal diffusivity coefficient under a quasi-stationary regime (Opredelenie koefitsienta temperaturoprovodnosti pri kvasistatsionarnom rezhime). *Zavodskaya Lab.* **27**, 5, 578–581 (1961).

L. A. DUDNIK, The measurement of the temperature of electrodes of miniature valves by means of thermocouples (Ob izmerenii temperatury elektrodov miniatyurnykh lamp pri pomoshchi termopar). *Inzh. Fiz. Zh.* **4**, 11, 117–119 (1961).

L. P. FILIPPOV, Relative methods of measuring thermal properties of liquids (Ob otnositel'nykh metodakh izmerenija teplovykh svoistv zhidkosti). *Inzh. Fiz. Zh.* **4**, 11, 55–58 (1961).

B. T. GEILIKMAN and V. Z. KRESIN, Heat conduction of pure superconductors and sound absorption in superconductors (O teploprovodnosti chistykh sverkhprovodnikov i pogloschenii zvuka v sverkhprovodnikakh). *Zh. Eksp. Teor. Fiz.* **41**, vyp. 4, 1142–1150 (1961).

V. A. GRISHIN, A method of continuous compensation in thermal measurements and its theory (Metod tekushchei kompensatsii v teplovykh izmereniyakh i ego teoriya). *Inzh. Fiz. Zh.* **4**, 10, 79–83 (1961).

V. M. IVANOV, L. P. FILIPPOV and T. L. SMETANNIKOVA, Thermal conductivity of fuel-water emulsions (Teploprovodnost' toplivno-vodyanykh emul'sii). *Teploenergetika* No. 8, 68–71 (1961).

G. A. KASPARYAN, Methods for determining thermal properties of lagging materials (Metody opredeleniya teplofizicheskikh kharakteristik teploizolyatsionnykh materialov). *Izv. Akad. Nauk Arm. SSR, Seriya Tekh. Nauk.* **14**, 1, 31–46 (1961).

A. V. KISELEV and G. G. MUTTIK, An isothermal calorimeter with constant heat transfer (Izotermicheskii kalorimetrik s postoyannym teploobmenom). *Zh. Fiz. Khim.* **35**, 9, 2153–2155 (1961).

M. O. KOSTRYUKOVA and T. A. LEISTNER, Heat capacity of nickel ferrite over a low temperature range (Teplyomost' nikel'evogo ferrita v oblasti nizkikh temperatur). *Vestn. Mosk. Universiteta, Ser. 3. Fiz. i Astronom.* No. 5, 68–70 (1961).

V. V. KUREPIN and E. S. PLATUNOV, An instrument for rapid wide-range temperature thermal testing of lagging and of semiconducting materials (dynamic $\alpha\lambda$ -calorimeters) (Pribor dlya skorostnykh shirokotemperaturnykh teplofizicheskikh ispytanii teploizolyatsionnykh poluprovodnikovykh materialov (dinamicheskii $\alpha\lambda$ -kalorimetri). *Izv. Vyssh. Ucheb. Zav., Priborostroenie* **4**, 5, 119–126 (1961).

N. M. KUZNETSOV, The state equation and heat capacity of water over a wide range of thermodynamical parameters (Uravnenie sostoyaniya i teploprovodnost' vody v shirokom diapasone termodynamicheskikh parametrov). *Zh. Prikl. Mekh. i Tekh. Fiz.* No. 1, 112–120 (1961).

V. E. MIKRYUKOV and A. G. KARAGEZYAN, Thermal and electrical properties of alloys of the Al–Mg and Al–Cu

- systems (Teplovye i elektricheskie svoistva splavov sistem Al-Mg i Al-Cu). *Inzh. Fiz. Zh.* **4**, 12, 90-93 (1961).
- E. S. PLATUNOV, A method of rapid measurements of thermal conductivity and heat capacity of materials over a wide temperature range (Metod skorostnykh izmerenii materialov v shirokom intervalle temperatur). *Izv. Vyssh. Ucheb. Zav.* **4**, 4, 90-97 (1961).
- J. I. RUDNEV, V. S. LYASHENKO and M. D. ABRAMOVICH, The thermal conductivity of sodium and lithium (Teploprovodnost' natriya i litiya). *Atomn. Energiya* **11**, vyp. 3, 230-240 (1961).
- L. I. SLOBODYANIK and A. A. SENEDETSKY, On determination of the heat conduction coefficient of building materials under conditions of spatial heat flow (K voprosu opredeleniya koefitsienta teploprovodnosti stroitel'nykh materialov v usloviyakh prostranstvennogo teplovogo potoka). *Inzh. Fiz. Zh.* **4**, No. 10, 84-89 (1961).
- D. F. TOLKACHEV, An estimate of various granular materials from the viewpoint of their thermal properties (Otseinka razlichnykh zernistykh materialov s tochki zreniya ikh teplofizicheskikh svoistv). *Izv. Kazansk. Filiala Akad. Nauk SSSR. Seriya Energet. i Vodnogo Khozyaistva* vyp. 2, chast' 2. *Voprosy Energetiki* 101-107 (1961).
- M. V. VENEDIKTOV and V. P. BIBIK, The determination of the coefficients of thermal diffusivity and absorption of ultrasound for moist capillary-porous solids (Opredelenie koefitsientov temperaturoprovodnosti i pogloshcheniya ul'trazvukova vlagznykh kapillyarno-poristykh tel). *Inzh. Fiz. Zh.* **4**, 11, 120-122 (1961).
- N. A. YARYSHEV and I. N. SOKOLOV, Determination of thermal resistances and heat conduction coefficients of thin-layered materials in unsteady conditions (Opredelenie termicheskikh soprotivlenii i koefitsientov teploprovodnosti tonkosloinykh materialov v nestatsionarnom rezhime). *Izv. Vyssh. Ucheb. Zav., Priborostroenie* **4**, 4, 85-89 (1961).
- V. B. ZENKEVICH, An experimental determination of the thermal conductivity of liquid petroleum products (Eksperimental'noe opredelenie teploprovodnosti zhidkikh nefteproduktov). *Izv. Vyssh. Ucheb. Zav., Energetika* No. 8, 77-82 (1961).
- niyi sloi v plazme). *Zh. Tekh. Fiz.* **31**, vyp. 7, 775-780 (1961).
- G. A. ASKAR'YAN, Radiation of an ionized region of a spark discharge (Izluchenie ionizirovannoi oblasti iskrovogo razryada). *Zh. Tekh. Fiz.* **31**, vyp. 7, 781-784 (1961).
- I. B. CHEKMAREV and YA. S. UFLYAND, Some possibilities of acceleration of electrically conducting fluid using crossed magnetic fields (O nekotorykh vozmozhnostyakh uskorenija elektroprovodnoi zhidkosti s pomoshch'yu skreshchennykh magnitnykh polei). *Prikl. Mat. i Mekh.* **25**, vyp. 5, 845-850 (1961).
- V. E. GOLANT, N. I. ORLOV and L. P. PAKHOMOV, The achievement of high density plasma by means of hot cathode discharge in a magnetic field (Poluchenie plotnoi plazmy v razryade s nakalyonnym katodom v magnitnom pole). *Zh. Tekh. Fiz.* **31**, vyp. 7, 797-801 (1961).
- M. M. PRUDNIKOV, Homogeneous plasma turbulence in a strong magnetic field (Odnorodnaya plazmennaya turbulentnost' v sil'nom magnitnom pole). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 4, 10-13 (1961).
- M. F. SHIROKOV, E. P. VAULIN and N. A. CHESNOKOV, Some experiments on stationary plasma flow in a Homopolar (Nekotorye optry po statsionarnomu techeniyu plazmy v gomopolyare). *Zh. Tekh. Fiz.* **31**, vyp. 7, 802-805 (1961).
- V. S. TKALICH, Unsteady motion in non-ideal magnetohydrodynamics (O nestatsionarnykh dvizheniyakh v neideal'noi magnitnoi gidromekhanike). *Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk. Mekh. i Mash.* No. 5, 22-29 (1961).
- V. N. TSITOVICH, Transient radiation of currents in passing through the plasma boundary (O perekhodnom izluchении tokov pri prokhozdenii cherez granitsu plazmy). *Zh. Tekh. Fiz.* **31**, vyp. 7, 766-774 (1961).
- A. A. VLASOV, The theory of a new plasmoid (Teoriya novogo plazmuida). *Zh. Tekh. Fiz.* **31**, vyp. 7, 785-796 (1961).
- L. A. VULIS and P. L. GUSIKA, On the inversion of reaction in magnetohydrodynamics (Ob obrashchenii vozdeistvii v magnitnoi gidrodinamike). *Zh. Tekh. Fiz.* **31**, vyp. 7, 806-818 (1961).
- L. A. VULIS and P. L. GUSIKA, Hydrogaseous analogy in magnetohydrodynamics (Gidrogazovaya analogiya v magnitnoi hidrodinamike). *Zh. Tekh. Fiz.* **31**, vyp. 7, 819-823 (1961).
- V. M. YAKOVENKO, Transient radiation in plasma with temperature taken into account (Perekhodnoe izluchenie v plazme s uchayotom temperatury). *Zh. Eksp. Teor. Fiz.* **41**, vyp. 2, 385-388 (1961).

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E. I. ANDRIANKIN and YU. S. SAYASOV, The effect of an external magnetic field on the boundary layer in plasma (Vliyanie vneshnego magnitnogo polya na pogranich-