

HEAT TRANSFER BIBLIOGRAPHY

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APPLICATIONS

- V. W. ANTONETTI and A. L. PASCUZZO, Cooling large scale computer systems, *ASHRAE JI* **13** (8), 25 (1971).
- V. F. BAGRETISOV and S. I. ZAKHAROV, Purification of circulating water by distillation, *Soviet Atomic Energy* **30**, 429 (1971).
- R. L. BAIN, F. J. STERMOLE and J. O. GOLDEN, Gravity-induced free convection effects in melting phenomena for thermal control, *J. Spacecraft Rockets* **8**, 1000 (1971).
- G. BECK and J. C. CHEVRIER, Comparaison des données à l'aide d'une methode numerique, à celles due régime permanent, *Int. J. Heat Mass Transfer* **14**, 1731 (1971).
- L. D. BERMAN, E. S. GINZBURG, I. N. SCHMIGOL' and S. F. RYZHENKOV, Performance of condenser tubes made from different types of brass with mineralized water of varying composition, *Thermal Engng* **17** (8), 113 (1970).
- I. O. BOHACHEVSKY and R. N. KOSTOF, Supersonic flow over convex and concave shapes with radiation and ablation effects, NASA CR-121371, TM-71-1013-5. Bellcomm. Inc., Washington, D.C. (1971).
- I. I. BUKSHTEIN and L. N. KAS'YANOV, Industrial tests of the reheat steam temperature control system in the P-50 boiler, *Thermal Engng* **17** (8), 47 (1970).
- J. C. CHATO, R. J. LAVERMAN and J. M. SHAH, Analyses of parallel flow, multi-stream heat exchangers, *Int. J. Heat Mass Transfer* **14**, 1691 (1971).
- J. E. COC and B. K. SAHNI, The concentric-sphere heat exchanger, *J. Heat Transfer* **93**, 468 (1971).
- C. J. CREMERS, Density, pressure and temperature effects on heat transfer in Apollo 11 fines, *AIAA JI* **9**, 2180 (1971).
- M. YE. DEYCH, G. A. FILIPPOV, F. V. KAZINTSEV, O. A. POVAROV and O. I. NAZAROV, Concerning the motion of liquid particles on surfaces of turbine rotor blades with an arbitrary profile, *Heat Transfer, Sov. Res.* **3** (5), 170 (1971).
- R. GRIEF and D. M. McELIGOT, Influence of optically thin radiation on heat transfer in the thermal entrance region of a narrow duct, *J. Heat Transfer* **93**, 473 (1971).
- E. J. HOFFMAN, Energy transformation (in English), *Energy Conversion* **10**, 33 (1970).
- R. H. KEIL and M. H. I. BAIRD, Enhancement of heat transfer by flow pulsation, *I/EC Proc. Des. Dev.* **10**, 473 (1971).
- E. I. KONOPLEV and A. L. BYCHKOVSKII, A method of calculating the temperature in heated tubes with cross fins, *Thermal Engng* **17** (7), 111 (1970).
- D. L. KOSTOVETSKII and B. N. TOKARSKII, Calculating the temperature field and stresses in steam lines under transient conditions, *Thermal Engng* **17** (7), 92 (1970).
- N. S. LELEYEV and A. N. BEZGRESHNOV, Unsteady fluid flow in steam-generator tubes, *Heat Transfer, Sov. Res.* **3** (5), 163 (1971).
- V. I. LOKAI, Investigating the effectiveness of air cooling of gas turbine blades, *Thermal Engng* **17** (7), 69 (1970).
- B. YA. LYUBOV and N. I. YALOVVOY, Heat transfer from a billet during rolling, *Heat Transfer, Sov. Res.* **3** (5), 201 (1971).
- L. A. LYS and I. VON ALLMEN, Heat exchangers for gas turbine fast reactors, EIR-187; Conf-700430-1, Eidgenoesisches Institut für Reaktorforschung, Wurenlingen, Switzerland (1970).
- P. L. MANTLE, A. R. FREEMAN and J. WATTS, Conductivity effects on ribbed surface heat transfer, *Int. J. Heat Mass Transfer* **14**, 1825 (1971).
- C. J. MESSA, G. W. POEHLEIN and A. S. FOUST, Heat exchanger modeling by conservative scalar pulse testing, *I/EC Proc. Des. Dev.* **10**, 466 (1971).
- J. A. MILLER and P. F. PUCCI, Heat transfers to an airfoil in oscillating flow, *J. Engng Pwr* **93**, 461 (1971).
- M. J. MIRTICH and J. M. BOZEK, FEP encapsulated N/P silicon solar cells after simulated micrometeoroid exposure, *J. Spacecraft Rockets* **8**, 1164 (1971).
- S. I. MOCHAN, V. S. NAZARENKO, I. Z. LIFSHTS and V. M. NOSOV, Problems of making larger regenerative air heaters, *Thermal Engng* **17** (8), 6 (1970).
- A. P. ORNATSKII and V. G. PROKOPOV, Selection of the profile of finned tubes for furnace walls, *Thermal Engng* **17** (10), 91 (1970).
- V. B. PAKSHVER, Achievements and problems of district heating in the U.S.S.R., *Thermal Engng* **17** (10), 1 (1970).
- C. W. PENNINGTON and G. L. MOORE, Measurement of solar-optical properties of glazing materials, *ASHRAE JI* **13** (7), 55 (1971).
- L. N. PERSEN, Surface patterns of ablating bodies studied by means of water experiment simulation, *Z. Flugwiss.* **19** (8/9), 360 (1971).
- V. L. POKHORILER, Temperature distributions and stresses in components of power generating equipment with a variable warming up rate, *Thermal Engng* **17** (7), 79 (1970).
- I. F. PSHENISNOV and M. I. LUZHNNOV, Investigation of the influence of nonuniformity of heat transfer along the surface of a round fin on its effectiveness, *Thermal Engng* **17** (9), 127 (1970).
- H. S. RIESBOL, Thermal-hydraulic study: Arkansas cooling

- reservoir, *J. Power Div., Proc. American Soc. Civil Engrs* **97**, PO 1, 93 (1971).
- A. Z. ROSINSKII and G. G. SKLOVER, Certain features of heat transfer and hydrodynamics in oil coolers with disc-and-doughnut and segmental baffles, *Thermal Engng* **17** (9), 65 (1970).
- A. P. SARYGIN, I. N. SOKOLOV, V. I. KONDRAT'EV, E. V. KULIKOV, I. S. DUBROVSKII and E. V. KOZIN, Some questions relating to the hydrodynamics of a boiling vessel-type reactor, *Soviet Atomic Energy* **30** (4), 432 (1971).
- A. F. SAVOSTIN and A. M. TIKHONOV, Investigation of the characteristics of plate-type heating surfaces, *Thermal Engng* **17** (9), 113 (1970).
- S. SEGERSTROM, Heat pumps today, *ASHRAE JI* **13** (7), 63 (1971).
- I. E. SEMENOVKER and YU. A. GOL'DBERG, Theoretical hydraulic and temperature stratification in waterwalls of supercritical boilers, *Thermal Engng* **17** (8), 82 (1970).
- R. K. SHAH, Temperature effectiveness of multiple sandwich rectangular plate-fin surfaces, *J. Heat Transfer* **93**, 471 (1971).
- R. E. SHELDahl, G. F. WRIGHT, JR. and E. MUEHLBERGER, A channel test device for arc jet material ablation studies, *J. Spacecraft Rockets* **8**, 1162 (1971).
- V. A. SIVARTS and I. SH. BUSHLER, Selection of optimal parameters for reheaters in saturated steam turbine plants, *Thermal Engng* **17** (9), 46 (1970).
- E. E. SHVARTSMAN, Taking into account the capacity of regenerative heat exchangers under transient conditions of gas turbine plants, *Thermal Engng* **17** (7), 75 (1970).
- E. YA. SOKOLOV, A. I. KORNEICHEV, E. G. SKOVSKAYA and M. O. FRIDMAN, Selection of optimal composition of equipment for industrial and space heating heat and power stations, *Thermal Engng* **17** (10), 7 (1970).
- H. STEFAN, Stratification of flow from channel into deep lake, *J. Hydraulics Div., Proc. Am. Soc. Civil Engrs* **96**, HY 7, 1417 (1970).
- K. D. STOLZENBACH and D. R. F. HARLEMAN, An analytical and experimental investigation of surface discharges of heated water, Rept. No. 135, Ralph M. Parsons Lab. for Water Resources and Hydrodynamics, Dept. of Civil Engineering, Massachusetts Institute of Technology, Cambridge, Mass. (1971).
- V. I. SUBBOTIN, A. V. ZHUKOV, M. PASHEK, E. YA. SVIRIDENKO, P. A. USHAKOV and V. SHUL'TS, Experimental study on models of the operating temperature regimes of the fuel elements of a Bor-60 reactor, *Heat Transfer, Sov. Res.* **3** (5), 15 (1971).
- C. L. TIEN and K. H. SUN, Minimum meniscus radius of heat pipe wicking materials, *Int. J. Heat Mass Transfer* **14**, 1853 (1971).
- S. S. TOMPLINS, Numerical analysis of the transient response of ablating axisymmetric bodies including the effects of shape change, NASA TN D-6220 (1971).
- O. S. VINOGRADOV and P. I. PUCHKOV, Heat transfer and resistance of bundles of tubes with multiple spiral fins, *Thermal Engng* **17** (8), 93 (1970).
- G. F. WIDHOPE, Heat-transfer correlations for blunt cones at angle of attack, *J. Spacecraft Rockets* **8**, 1002 (1971).
- A. WILLIAMS, Heat flow across stacks of steel laminations, *J. Mech. Engng Sci.* **13**, 217 (1971).
- E. P. WILLIAMS and G. G. INGER, Ablation surface cross-hatching on cones in hypersonic flow, *AIAA JI* **9**, 2977 (1971).
- N. M. ZINGER and A. I. MIRKINA, Investigation of consumer's district heating branches with two-stage heaters connected in series, using a digital computer, *Thermal Engng* **17** (10), 23 (1970).

BOOKS

- S. V. PATANKAR and D. B. SPALDING, *Heat and Mass Transfer in Boundary Layers*, Second Edition, Intertext, London (1970).
- R. SIEGEL and J. R. HOWELL, *Thermal Radiation Heat Transfer*, McGraw-Hill, New York (1972).
- J. C. SLATTERY, *Momentum, Energy, and Mass Transfer in Continua*, McGraw-Hill, New York (1972).

BOUNDARY LAYER AND EXTERNAL FLOWS

- I. E. BECKWITH, W. D. HARVEY and F. L. CLARK, Comparisons of turbulent boundary-layer measurements at Mach number 19.5 with theory and an assessment of probe errors, NASA TN D-6192 (1971).
- E. BILGEN, Stability of three-dimensional boundary layer of dilute polymer solutions, *J. Basic Engng* **93**, 85 (1971).
- T. K. BOSE and T. R. SANKARANARAYANAN, Heat-transfer optimization of convergent section of a hypersonic flow nozzle, *J. Spacecraft Rockets* **8**, 1090 (1971).
- P. BRADSHAW and D. H. FERRISS, Calculation of boundary layer development using the turbulent energy equation. 8, Compressible heat transfer, Aerodynamics Div., National Physical Lab., Teddington, England (1970).
- R. A. BURBANK and J. A. FILLO, Curvature effects in laminar boundary layers, *J. Basic Engng* **93**, 91 (1971).
- D. M. BUSHNELL and D. J. MORRIS, Shear-stress, eddy-viscosity and mixing-length distributions in hypersonic turbulent boundary layers, NASA TM X-2310, Lewis Research Center, Cleveland, Ohio (1971).
- L. S. CARETTO, R. M. CURR and D. B. SPALDING, Two numerical methods for three-dimensional boundary layers, EF/TN/A/40, Dept. of Mechanical Engineering, Imperial College of Science and Technology, London, England (1971).
- V. E. DENNY and R. B. LANDIS, An improved transformation of the Patankar-Spalding type of numerical solution of two-dimensional boundary layer flows, *Int. J. Heat Mass Transfer* **14**, 1859 (1971).
- A. SH. DOREFMAN and V. K. VISHNEVSKII, Approximate solutions of the equations of the dynamic and thermal boundary layers for non-Newtonian fluids with arbitrary pressure gradients and surface temperatures, *Int. Chem. Engng* **11**, 377 (1971).
- J. E. HARRIS, Numerical solution of the equations for compressible laminar, transitional, and turbulent boundary layers and comparisons with experimental data, NASA TR R-368; L-7660; NASA, Langley Research Center, Langley Station, Va. (1971).

- G. HETSRONI and M. SOKOLOV, Distribution of mass, velocity, and intensity of turbulence in a two-phase turbulent jet, *J. Appl. Mech.* **38**, 315 (1971).
- V. KADAMBI and B. K. GUPTA, Effect of longitudinal surface curvature on heat transfer with dissipation, *Int. J. Heat Mass Transfer* **14**, 1575 (1971).
- H. T. KIM, S. J. KLINE and W. C. REYNOLDS, The production of turbulence near a smooth wall in a turbulent boundary layer, *J. Fluid Mech.* **50**, 133 (1971).
- E. J. KLEIN, Excitation of boundary-layer turbulence through spark discharges, NASA TN D-6378 (1971).
- S. KRISHNAN and L. R. GLICKSMAN, A two-dimensional analysis of a heated free jet at low Reynolds numbers, *J. Basic Engng* **93**, 395 (1971).
- P. F. LEMIEUX, R. N. DUBEY and T. E. UNNY, Variational method for a pseudoplastic fluid in a laminar boundary layer over a flat plate, *J. Appl. Mech.* **38**, 345 (1971).
- D. C. MATHEWS, M. E. CHILDS and G. C. PAYNTER, Use of Coles' universal wake function for compressible turbulent boundary layers, *J. Aircraft* **7**, 137 (1970).
- R. F. MONS and P. M. SFORZA, Turbulent heat and mass transfer in axisymmetric jets, PIBAL Rept. no. 71-14, Dept. of Aerospace Engineering and Applied Mechanics, Polytechnic Institute of Brooklyn, New York (1971).
- L. MUHLSTEIN, JR., Experimental investigation of the influence of the turbulent boundary layer on the pressure distribution over a rigid two-dimensional wavy wall, NASA TN D-6477 (1971).
- W. NESTLER, Incompressible turbulent wall boundary layers with maximum deceleration (in German), *Maschinenbautechnik* **19** (2), 65 (1970).
- D. J. PEAKE, J. M. ROMESKI and G. BRAKMAN, Some preliminary assessments of compressible turbulent boundary layer studies at Mach 4 and at high Reynolds numbers, including flows in relaxing and adverse pressure gradients, National Aeronautical Establishment, Ottawa, Ontario, Canada (1971).
- A. B. PONTER, S. DUREPOS and C. P. HAIGH, Heat transfer to falling water films containing surface-active agents, *A.I.Ch.E. J.* **17**, 1241 (1971).
- J. W. RAMSEY and R. J. GOLDSTEIN, Interaction of a heated jet with a deflecting stream, *J. Heat Transfer* **93**, 365 (1971).
- M. RESHOTKO, Roughness effects on heat transfer in the supersonic region of a conical nozzle, *J. Spacecraft Rockets* **8**, 1097 (1971).
- L. ROBILLARD, On a series solution for the laminar boundary layer along a moving wall, *J. Appl. Mech.* **38**, 550 (1971).
- H. SCHLICHTING, A survey of some recent research investigations on boundary layers and heat transfer, *J. Appl. Mech.* **38**, 289 (1971).
- E. M. SPARROW and H. S. YU, Local nonsimilarity thermal boundary-layer solutions, *J. Heat Transfer* **93**, 328 (1971).
- K. STEWARTSON, On laminar boundary layers near corners, *Q.J. Mech. Appl. Math.* **24**, 387 (1971).
- W. SZABLEWSKI, Turbulente Grenzschichten mit Druckanstieg, *Z. Angew. Math. Mech.* **51**, 283 (1971).
- J. WITTING, Effects of plane progressive irrotational waves on thermal boundary layers, *J. Fluid Mech.* **50**, 321 (1971).
- CHANGE OF PHASE AND TWO-PHASE FLOW**
- K. AKAGAWA, T. SAKAGUCHI, M. KONO and M. NISHIMURA, Study on distribution of flow rates and flow stabilities in parallel long evaporators, *Bull. JSME* **14**, 837 (1971).
- V. B. ASTAF'EV and A. M. BAKLASTOV, Condensation of steam on a horizontal rotating disc, *Thermal Engng* **17** (9), 82 (1970).
- V. B. ASTAF'EV and A. M. BAKLASTOV, Flow of the film and heat transfer with steam condensation on a rotating disc, *Thermal Engng* **17** (10), 111 (1970).
- G. L. BABUKHA, L. YE. STERNIN and A. A. SHRAYBER, Calculation of two-phase flow losses in nozzles with coalescence and breakup of condensate droplets, *Heat Transfer, Sov. Res.* **3** (5), 47 (1971).
- L. H. BACK and R. F. CUFFEL, Turbulent boundary layer and heat-transfer measurements along a convergent-divergent nozzle, *J. Heat Transfer* **93**, 397 (1971).
- S. G. BANKOFF, Minimum thickness of a draining liquid film, *Int. J. Heat Mass Transfer* **14**, 2143 (1971).
- S. J. BOARD, A. J. CLARE, R. B. DUFFEY, R. S. HALL and D. H. POOLE, An experimental study of energy transfer processes relevant to thermal explosions, *Int. J. Heat Mass Transfer* **14**, 1631 (1971).
- R. B. CHAPMAN and M. S. PIESSET, Thermal effects in the free oscillation of gas bubbles, *J. Basic Engng* **93**, 373 (1971).
- H. H. CHIU, Unsteady vaporization of liquid droplet, *Q. Appl. Math.* **29**, 421 (1971).
- K. R. CHUN and R. A. SEBAN, Heat transfer to evaporating liquid films, *J. Heat Transfer* **93**, 391 (1971).
- D. F. D'ARCY, On acoustic propagation and critical mass flux in two-phase flow, *J. Heat Transfer* **93**, 413 (1971).
- S. N. FAINZEL'BERG and V. I. USENKO, Influence of inertial acceleration on heat transfer with free convection and boiling of freons, *Thermal Engng* **17** (9), 131 (1970).
- C. P. HAIGH and A. B. PONTER, Sound emission from boiling on a submerged wire, *Can. J. Chem. Engng* **49**, 309 (1971).
- M. HECKLE, Two-phase gas/liquid flow through throttling devices (in German), *Z. Ver. Dt. Ing.* **113**, 848 (1971).
- S. HINATA and M. OHKI, The relationship between the apparent viscosity and the void fraction in two-phase flow, *Bull. JSME* **14**, 951 (1971).
- S. ILTSCHIEFF, Concerning tests for achieving drop condensation with fluorinated refrigerants (in German), *Kältetechnik-Klimatisierung* **23**, 237 (1971).
- M. JERGEL and R. STEVENSON, Static heat transfer to liquid helium in open pools and narrow channels, *Int. J. Heat Mass Transfer* **14**, 2099 (1971).
- A. V. KUZIKOVSKIY, V. A. POGODAEV and S. S. KHMELEVTSOV, Evaporation of water droplets by a flashing light source, *Heat Transfer, Sov. Res.* **3** (5), 124 (1971).
- D. P. LEBEDEV, T. L. PEREL'MAN, V. I. DERKACHEV and V. B. TIMOFEEV, The mechanism of water-ice sublimation under vacuum from a single, radiatively-heated macrocapillary, *Heat Transfer, Sov. Res.* **3** (5), 27 (1971).
- D. P. LEBEDEV, T. L. PEREL'MAN, V. I. DERKACHEV, V. B. TIMOFEEV and V. V. ALEKSEYEV, Study of the mechanism of ice-water sublimation with conduction heating and continuous mass replenishment using a model of a

- capillary-porous body, *Heat Transfer, Sov. Res.* **3** (5), 33 (1971).
- R. F. LOVENGUTH and D. HANESIAN, Boiling heat transfer in the presence of non-uniform direct current electric fields, *I/EC Fundamentals* **10**, 570 (1971).
- D. D. MCBRIDE and P. M. SHERMAN, A solution for equilibrium condensation on two component flow through a nozzle, *Astronautica Acta* **16** (2), 97 (1971).
- D. MOALEM and S. SIDEMAN, Bubble condensation with non-homogeneous distribution of non-condensables, *Int. J. Heat Mass Transfer* **14**, 2152 (1971).
- V. A. NIEBERLEIN, Mass transfer during film boiling on vertical fibers, *Int. J. Heat Mass Transfer* **14**, 1860 (1971).
- A. ORELL and S. G. BANKOFF, Formation of a dry spot in a horizontal liquid film heated from below, *Int. J. Heat Mass Transfer* **14**, 1835 (1971).
- W. C. PETERSON and M. G. ZAALOUK, Boiling-curve measurements from a controlled heat-transfer process, *J. Heat Transfer* **93**, 408 (1971).
- I. PRICE and J. W. BRAMALL, A diametral effect on vapour column formations in film boiling in carbon dioxide near the critical state, *Int. J. Heat Mass Transfer* **14**, 1747 (1971).
- V. F. PRISNYAKOV, Draining of a two-phase fluid from a tank, *Heat Transfer, Sov. Res.* **3** (5), 73 (1971).
- M. G. RASSOKHIN, R. S. SHVETSOV and A. V. KUZ'MIN, Calculations on boiling heat transfer, *Thermal Engng* **17** (9), 86 (1970).
- G. R. RUBIN, L. I. ROYZEN and I. N. DUL'KIN, Heat transfer in liquid boiling on insulation-coated fins, *Heat Transfer, Sov. Res.* **3** (5), 130 (1971).
- M. SADDY and G. J. JAMESON, Prediction of departure diameter and bubble frequency in nucleate boiling in uniformly superheated liquids, *Int. J. Heat Mass Transfer* **14**, 1771 (1971).
- R. A. SEBAN, A comment on the periodic freezing and melting of water, *Int. J. Heat Mass Transfer* **14**, 1862 (1971).
- I. G. SHEKRILADZE, SH. A. MESTVIRISHVILI and A. N. MIKASHVIDZE, Experimental study of the effect of condensation on transition to turbulent flow in a descending liquid film with a cocurrent gas flow, *Heat Transfer, Sov. Res.* **3** (5), 120 (1971).
- J. J. SHEPPARD, JR. and W. S. BRADFIELD, Stagnation point free convection film boiling on a hemisphere, P-4543, RAND Corp., Santa Monica, Calif. (1971).
- M. SILVESTRI, M. N. BATTISTON and M. JAVARONE, A gas volumetric technique for the measurement of heat transfer coefficient in pool boiling, *Int. J. Heat Mass Transfer* **14**, 2168 (1971).
- G. G. SKLOVER and A. V. GERASIMOV, Heat transfer and resistance with condensation of steam moving rapidly in a vertical tube bundle, *Thermal Engng* **17** (8), 79 (1970).
- G. G. SKLOVER and M. D. RODIVILIN, Generalization of experimental data on steam condensation under vacuum on a vertical water jet, *Thermal Engng* **17** (10), 41 (1970).
- S. I. TANG and T. W. McDONALD, A study of biling heat transfer from a rotating horizontal cylinder, *Int. J. Heat Transfer* **14**, 1642 (1971).
- E. E. TIMM and F. G. HAMMITT, Bubble collapse adjacent to a rigid wall, a flexible wall and a second bubble, PB-199464; UMICH-03371-8-INT, Cavitation and Multiphase Flow Lab., Michigan University, Ann Arbor, Mich. (1971).
- V. I. VISHNYAKOV, K. V. DEMENT'YEV and A. M. MAKAROV, Heat transfer from steam condensing at a jet of cold liquid, *Heat Transfer, Sov. Res.* **3** (5), 135 (1971).
- J. R. WIEBE and R. L. JUDD, Superheat layer thickness measurements in saturated and subcooled nucleate boiling, *J. Heat Transfer* **93**, 455 (1971).

CHANNEL FLOW

- M. AKIYAMA and K. C. CHENG, Boundary vorticity method for laminar forced convection heat transfer in curved pipes, *Int. J. Heat Mass Transfer* **14**, 1659 (1971).
- M. AKIYAMA, G. J. HWANG and K. C. CHENG, Experiments on the onset of longitudinal vortices in laminar forced convection between horizontal plates, *J. Heat Transfer* **93**, 335 (1971).
- K. M. ATESMEN, The dispersion of matter in turbulent shear flow, *Int. J. Heat Mass Transfer* **14**, 2146 (1971).
- M. BENTWICH, Analysis of a model two component finite width stream reactor, *Int. J. Engng Sci.* **9**, 959 (1971).
- G. G. BRANOVER, N. M. SLYUSAREV and E. V. SCHERBININ, Measurement of velocity distributions and fluctuations in a flat channel placed in a traverse magnetic field, *Heat Transfer, Sov. Res.* **3** (5), 86 (1971).
- J. W. CHRISTIAN and J. E. HITCHCOCK, Laminar gas flow and heat transfer in a parallel-plate channel with large temperature differences, *J. Heat Transfer* **93**, 469 (1971).
- P. M. CHUNG, Turbulence description of Couette flow, NASA CR-119687; TR-E-39, Dept. of Energy Engineering, Illinois University, Chicago, Illinois (1971).
- V. I. EVENKO and N. A. ALEKSANDROV, A study of local heat transfer in the entry section of a tube with different radii of curvature of the inlet edge, *Thermal Engng* **17** (7), 107 (1970).
- N. GALILI and R. TAKSERMAN-KROZER, Heat effects in viscous flow through a pipe, *Israel J. Technol.* **9**, 439 (1971).
- R. C. GUPTA, Laminar flow in the inlet region of a porous tube (in English), *Appl. Sci. Res.* **22**, 360 (1970).
- H. HASHIMOTO, Breakdown of swirling cavity flow in a circular pipe, *J. Basic Engng* **93**, 92 (1971).
- E. S. HSIA, Entrance development of the weakly interacted MHD plane channel flow as affected by wall conductances, *J. Appl. Mech.* **38**, 665 (1971).
- H. ITO and K. NANBU, Flow in rotating straight pipes of circular cross section, *J. Basic Engng* **93**, 383 (1971).
- M. JERGEL, K. HECHLER and R. STEVENSON, The effect of forced circulation on heat transfer with liquid helium in narrow channels, *Cryogenics* **10**, 413 (1970).
- YA. S. KADANER, YU. P. RASSADKIN and E. I. SPEKTOR, Heat transfer in laminar liquid flow through a pipe cooled by radiation, *Heat Transfer, Sov. Res.* **3** (5), 182 (1971).
- T. D. A. KENNEDY, Heat transfer to gas flowing in convergent annular passages, AERE-R-6564, Atomic Energy Research Establishment, United Kingdom Atomic Energy Authority, Harwell, England (1971).
- M. KIYA, S. FUKUSAKO and M. ARIE, Laminar swirling flow

- in the entrance region of a circular pipe, *Bull. JSME* **14**, 659 (1971).
- C. J. LAWN and C. J. ELLIOTT, Fully developed turbulent flow through concentric annuli, RD-B-N-1878, Nuclear Labs., Central Electricity Generating Board, Berkeley, England (1971).
- T. MIZUSHINA, F. OGINA, Y. OKA and H. FUKUDA, Turbulent heat and mass transfer between wall and fluid streams of large Prandtl and Schmidt numbers, *Int. J. Heat Mass Transfer* **14**, 1705 (1971).
- T. L. MONTGOMERY, Aerosol deposition in a pipe with turbulent airflow, Ph.D. thesis, Pittsburgh University, Pittsburgh, Pa. Available Univ. Microfilms order no. 70-17063 (1970).
- Y. MORI, T. FUKADA and W. NAKAYAMA, Convective heat transfer in a rotating radial circular pipe, *Int. J. Heat Mass Transfer* **14**, 1807 (1971).
- Y. MORI, Y. UCHIDA and T. UKON, Forced convective heat transfer in a curved channel with a square cross section, *Int. J. Heat Mass Transfer* **14**, 1787 (1971).
- A. K. MUNTJEWERF, H. A. LENIGER and W. J. BEEK, An experimental investigation of heat transfer to laminar Newtonian flows in uniformly heated, vertical flat rectangular ducts (in English), *Appl. Sci. Res.* **23**, 134 (1970).
- A. K. RUNCAL, Steady turbulent flow and heat transfer downstream of a sudden enlargement in a pipe of circular cross-section, EF-TN-A-39, Dept. of Mechanical Engineering, Imperial College of Science and Technology, London, England (1971).
- M. SEVERA, Axial flows of incompressible Newtonian liquid between two eccentric cylinders (in English), *Acta Technica CSAV* **15**, 706 (1970).
- Y. T. SHAH and T. REMMEN, Radial mass transfer effects in a porous wall tubular reactor, *Int. J. Heat Mass Transfer* **14**, 2109 (1971).
- V. I. SUBBOTIN, P. A. USHAKOV, YU. D. LEVCHENKO and L. N. BIBIKOV, Study of the velocity profiles in the inlet section of a densely packed bundle of rods, *Heat Transfer, Sov. Res.* **3** (5), 1 (1971).
- T. B. SWEARINGEN and D. M. MCELIGOT, Internal laminar heat transfer with gas-property variation, *J. Heat Transfer* **93**, 432 (1971).
- L. THOMAS, Temperature profiles for turbulent flow in tubes and basic surface renewal models, *Chem. Engng Sci.* **26**, 1271 (1971).
- W. J. THOMSON and T. H. TSAI, Limiting Nusselt numbers in finite MHD ducts, *Int. J. Heat Mass Transfer* **14**, 2171 (1971).
- R. TURIAN, T. F. YUAN and G. MAURI, Pipeline flow of solids-liquid suspensions, PB-199708; W71-08397, Dept. of Chemical Engineering and Metallurgy, Syracuse University, Syracuse, N.Y. (1970).
- J. VILLERMAUX, Diffusion dans un réacteur cylindrique, *Int. J. Heat Mass Transfer* **14**, 1963 (1971).
- C. Y. WANG, Pulsatile flow in a porous channel, *J. Appl. Mech.* **38**, 553 (1971).
- Y. C. WU, A. F. MILLS and V. E. DENNY, Turbulent flow of gas mixtures undergoing equilibrium and nonequilibrium reactions in a tube with surface mass transfer, *Int. J. Heat Mass Transfer* **14**, 2063 (1971).

CONDUCTION

- M. BEN-AMOR, Continuum model of heat conduction in laminated composites, *Int. J. Engng Sci.* **9**, 1075 (1971).
- L. Y. COOPER, Further observations on a problem of constant surface heating of a variable-conductivity halfspace, *Q. Appl. Math.* **29**, 375 (1971).
- D. F. DYER and J. E. SUNDERLAND, Freeze-drying of bodies subject to radiation boundary conditions, *J. Heat Transfer* **93**, 427 (1971).
- D. M. FRANCE, Analytical solution to steady-state heat-conduction problems with irregularly shaped boundaries, *J. Heat Transfer* **93**, 449 (1971).
- L. A. HALE and S. A. ANDERSON, Surface temperatures and heat fluxes associated with the evaporation of a liquid film, *J. Heat Transfer* **93**, 357 (1971).
- G. F. KOHLMAYR, Synthesis of the step-change single-blow transient temperature response, *Z. Angew. Math. Phys.* **22**, 724 (1971).
- I. J. KUMAR, An extended variational formulation of the non-linear heat and mass transfer in a porous medium, *Int. J. Heat Mass Transfer* **14**, 1759 (1971).
- M. K. LIU and F. A. WILLIAMS, Heat conduction calculation for a model of the surface of the moon, *Int. J. Heat Mass Transfer* **14**, 1843 (1971).
- E. LORENZINI, A variational formulation applied to heat conduction equation (in English), *Bull. Acad. R. Belg., Cl. Sci.* **56** (5), 367 (1970).
- M. MARSAL, An approximate method for treatment of thermal transients in systems with nonlinear external resistance (in German), *Acta Technica CSAV* **15**, 540 (1970).
- G. H. MEYER, A numerical method for two-phase Stefan problems, *SIAM J. Numerical Analysis* **8**, 555 (1971).
- V. L. POKHORILER, Calculation of temperature distribution and stresses in components of spherical configurations, *Thermal Engng* **17** (9), 50 (1970).
- R. SALA, An approximate method for studying heat diffusion in slab under heat dissipation by radiation and convection at the boundary (in Italian), *Termotecnica* **25**, 27 (1971).
- P. SAWITZKI, Calculation of two-dimensional, stationary temperature fields with temperature independent heat conductivity (in German), *Z. Ver. Dt. Ing.* **113**, 1100 (1971).
- S. SELAMOGLU, On the stability of steady temperature distribution in a transparent solid with internal energy source, *Int. J. Heat Mass Transfer* **14**, 1589 (1971).
- J. E. WILKINS, JR., Maximum internal temperatures in one-dimensional geometries with nonuniform heat generation and equal surface temperature, *SIAM J. Appl. Math.* **21**, 306 (1971).

FLOW WITH SEPARATED REGIONS

- P. BRADSHAW and F. Y. F. WONG, The relaxation of a turbulent shear layer after reattachment, IC/71/05, Dept. of Aeronautics, Imperial College of Science and Technology, London, England (1971).
- D. L. FENTON and R. A. WHITE, Heat transfer in resonant cavities spanned by low speed, turbulent, shear layers, *J. Basic Engng* **93**, 455 (1971).

- D. P. McERLEAN, The near wake of a blunt based axisymmetric body at Mach 14, Ph.D. Thesis, Rutgers (1970). Available Univ. Microfilms Order No. 70-16944.
- J. H. MASLIYAH, Heat transfer mechanism in recirculating wakes, *Int. J. Heat Mass Transfer* **14**, 2164 (1971).
- J. W. MITCHELL, Base heat transfer in two-dimensional subsonic fully separated flows, *J. Heat Transfer* **93**, 342 (1971).
- M. G. MOROZOV, Similarity of supersonic separated flows, NASA TT F-13577, Scientific Translation Service, Santa Barbara, Calif. (1971).

HEAT AND MASS TRANSFER

- T. CEBECI, Behavior of turbulent flow near a porous wall with pressure gradient, *AIAA J* **8**, 2152 (1971).
- F. COURET, Transfert de matière, avec réaction chimique irréversible, dans une couche limite laminaire, *Int. J. Heat Mass Transfer* **14**, 2017 (1971).
- R. S. COLLADAY and F. S. STEPKA, Examination of boundary conditions for heat transfer through a porous wall, NASA TN D-6405 (1971).
- M. CORNIL, Hot wire measurements in supersonic flow for investigating a boundary layer with injection, NASA TT F-13939, Scientific Translation Service, Santa Barbara, Calif. (1971).
- F. EISEL, Die Berechnung der Grenzschichten für gekoppelten Wärmeübergang und Stossausaustausch bei Verdunstung eines Flüssigkeitsfilms über einer parallel ageströmten Platte unter Berücksichtigung veränderlicher Stoffwerte, *Int. J. Heat Mass Transfer* **14**, 1537 (1971).
- I. C. FINLAY, An analysis of heat transfer during flow of an air/water mist across a heated cylinder, *Can. J. Chem. Engng* **49**, 333 (1971).
- N. HAMAKAWA, N. TAKAHASHI and S. OHTANI, Heat and mass transfer by forced convection under frosting conditions, *Int. Chem. Engng* **11**, 566 (1971).
- H. L. JULIEN, W. M. KAYS and R. J. MOFFAT, Experimental hydrodynamics of the accelerated turbulent boundary layer with and without mass injection, *J. Heat Transfer* **93**, 373 (1971).
- J. KESTIN and R. T. WOOD, The influence of turbulence on mass transfer from cylinders, *J. Heat Transfer* **93**, 321 (1971).
- H. KUBOTA, An aerodynamic study of hypersonic heat shielding problem with local mass injection at multiple stations (in English), Rept. 460, Inst. of Space and Aeronautical Sciences, University of Tokyo, Tokyo, Japan (1971).
- S. C. LUBARD and F. L. FERNANDEZ, The turbulent boundary layer with mass transfer and pressure gradient, *J. Appl. Mech.* **38**, 688 (1971).
- T. MAEDA, Fundamental studies of turbulent boundary layers with injection or suction through porous walls, *Bull. JSME* **14**, 938 (1971).
- K. R. MEON and A. C. JAIN, Görtler's series solution of laminar boundary layer equations with suction or injection, *Z. Angew. Math. Mech.* **51**, 245 (1971).
- M. N. R. NINA and J. H. WHITELAW, The effectiveness of film cooling with three-dimensional slot geometries, *J. Engng Pwr* **93**, 425 (1971).
- R. CLAYTON ROGERS, Mixing of hydrogen injected from multiple injectors normal to a supersonic airstream, NASA TN D-6476; L-7896, Langley Research Center, NASA, Langley Station, Va. (1971).
- R. L. SIMPSON, The effect of a discontinuity in wall blowing on the turbulent incompressible boundary layer, *Int. J. Heat Mass Transfer* **14**, 2083 (1971).
- E. P. VOLCHKOV and YE. I. SINAYKO, Measuring the gas concentration at a wall with local injection of argon and helium at the entrance length of a pipe, *Heat Transfer, Sov. Res.* **3** (5), 101 (1971).

LIQUID METALS

- L. THOMAS, An analysis for low turbulence intensity liquid metal heat transfer, *Int. J. Heat Mass Transfer* **14**, 1747 (1971).
- L. C. THOMAS, A turbulent transport model with emphasis on heat transfer to liquid metals, *Can. J. Chem. Engng* **49**, 326 (1971).

LOW DENSITY

- J. W. CIPOLLA, JR., Heat transfer and temperature jump in a polyatomic gas, *Int. J. Heat Mass Transfer* **14**, 1599 (1971).
- A. D. TEREKHOV and YE. N. FROLOVA, Correlation of thermal accommodation coefficient and emissivity with surface roughness, *Heat Transfer, Sov. Res.* **3**, 195 (1971).
- S. M. YEN, Monte Carlo solutions of nonlinear Boltzmann equation for problems of heat transfer in rarefied gases, *Int. J. Heat Mass Transfer* **14**, 1865 (1971).

MAGNETOHYDRODYNAMICS AND PLASMA

- L. B. DAVIS, JR. and C. J. CREMERS, Film-cooling on the anode of a plasma generator, *J. Spacecraft Rockets* **8**, 1096 (1971).
- D. A. MANDELL, Radiative energy transfer within a non-isothermal air plasma, *J. Heat Transfer* **93**, 385 (1971).
- O. I. YASKO, On heat transfer effect on electric arc motion in a transverse magnetic field, *Int. J. Heat Mass Transfer* **14**, 1983 (1971).

MEASUREMENT TECHNIQUES

- A. D. AKIMENKO, G. L. LEBEDEV and A. A. SKVORTSOV, Measuring temperature with a thermal probe by reference to the thermal flux, *Measurement Techniques* **14**, 725 (1971).
- G. BARBERY and Y. BERUBE, An automated method for analysis of dissolved gases in water of high temperatures and pressures, *I/EC Fundamentals* **10**, 632 (1971).
- W. BEHRENS, Total temperature thermocouple probe based on recovery temperature of circular cylinders, *Int. J. Heat Mass Transfer* **14**, 1621 (1971).
- M. K. BEVIR, Long induced voltage electromagnetic flowmeters and the effect of velocity profile, *Q. J. Mech. Appl. Math.* **24**, 347 (1971).
- L. A. CHARIKHOV, V. M. GITTER, S. M. DYKARSKII and V. M. ZUEV, Classification and terminology in the field of

- contactless thermometry, *Measurement Techniques* **14**, 579 (1971).
- P. M. CUKOR and J. M. PRAUSNITZ, Apparatus for accurate, rapid determination of the solubilities of gases in liquids at elevated temperatures, *I/EC Fundamentals* **10**, 638 (1971).
- W. DANNER, Determination of ceramic fuel thermal conductivity and gap conductance by the balanced oscillator method (in English), *Nucl. Engng Design* **14**, 51 (1970).
- T. J. DUDZINISKI and L. N. KRAUSE, Effect of inlet geometry on flow-angle characteristics on miniature total-pressure tubes, NASA TN D-6406 (1971).
- F. EISFELD, Development of a heat flow meter for temperatures from 100 to 300°C and heat fluxes from 10^3 kcal/m²h and its calibration (in German), Deutsche Luft- und Raumfahrt Mitteilung 71-07 (1971).
- W. M. FARMER and D. B. BRAYTON, Analysis of atmospheric laser-Doppler velocimeters, *Appl. Optics* **10**, 2319 (1971).
- R. J. GOLDSTEIN and R. J. ADRIAN, Measurement of fluid velocity gradients using laser-Doppler techniques, *Rev. Scient. Instrum.* **42**, 1317 (1971).
- N. I. IOFFE, Calculation of the temperature error in differential-transformer type pressure transducers, *Measurement Techniques* **14**, 401 (1971).
- M. N. KEMEL'MAN, M. G. KOZLOV, G. N. RYABOVA and I. A. KONYASHOV, Automatic measurement of stream density in the region of phase transition near the critical point, *Thermal Engng* **17** (10), 88 (1971).
- V. A. KOCHAN and K. M. OBELEVSKAYA, Improved accuracy in temperature measurement by allowance for the parameters, *Measurement Techniques* **14**, 410 (1971).
- P. KOLTZSCH, Method for the determination of the degree of turbulence by means of sound level measuring devices (in German), *Maschinenbautechnik* **19** (2), 83 (1970).
- N. A. LANDIYA, N. G. LEZHAVA and G. D. CHACHANIDZE, MMT-4 thermistor in a high-temperature calorimeter, *Measurement Techniques* **14**, 270 (1971).
- M. J. LEWIS, B. P. ROMAN and G. ROUEL, Techniques for measuring the thermodynamic properties of a dense gas, VKI-TM-23, Von Kármán Institute for Fluid Dynamics, Rhode Saint-Genese, Belgium (1971).
- G. G. MAYEER, A comparison of boundary-layer transition data from temperature-sensitive paint and thermocouple techniques, *AIAA J* **8**, 2299 (1971).
- W. T. MAYO, JR. and J. B. ALLEN, New Doppler holographic technique for fluid velocity visualization and measurement, *Appl. Optics* **10**, 2119 (1971).
- YA. M. NAZIEV, Studies of thermal conductivity of n-Hexane near the critical point, *Heat Transfer, Sov. Res.* **3-5**, 82 (1971).
- U. OKAMOTO, J. HANAWA and T. KAMEOKA, Visualization techniques of closed conduit flows by hydrogen, *Bull. JSME* **14**, 1088 (1971).
- B. P. PAVLOV, Correction of indications of thermocouples, *Measurement Techniques* **14**, 733 (1971).
- P. G. PUGH, J. W. PETO and L. C. WARD, Experimental verification of predicted static hole size effects on a model with large streamwise pressure gradients, Current Papers No. 1139, Aeronautical Research Council, London (1971).
- V. L. SVERDLOV, I. KH. SOLOGYAN and V. L. OLEKSYUK, Error of photoelectric radiation pyrometers due to a change in the temperature, *Measurement Techniques* **14**, 729 (1971).
- A. G. SHASHKOV, V. I. TYUKAEV and A. T. NIKITIN, Thermal diffusivity of composite materials at high temperatures, *Int. J. Heat Mass Transfer* **14**, 1567 (1971).
- D. F. SIMBIRSKII, A. M. FRID, L. S. GRIGOR'EV, A. YA. ANIKIN and V. G. BOGDANOV, Investigation of temperature distributions by film surface thermocouples, *Thermal Engng* **17** (8), 75 (1970).
- J. E. S. VENART and N. MANI, Thermal conductivity of heavy water (D₂O), *J. Mech. Engng Sci.* **13**, 205 (1971).
- L. A. VYATICH and R. M. ARANOVICH, Pyrometers for measuring low temperatures, *Measurement Techniques* **14**, 582 (1971).
- H. G. WENZEL and M. J. MATHEWS, Photomicroscopic sublayer velocity measurements, *J. Hydraulics Div., Proc. ASCE* **96**, HY 12, 2467 (1970).

NATURAL CONVECTION

- T. AIHARA, Natural convection heat transfer from vertical rectangular-fin arrays, *Bull. JSME* **14**, 818 (1971).
- A. E. BERGLES and R. R. SIMONDS, Combined forced and free convection for laminar flow in horizontal tubes with uniform heat flux, *Int. J. Heat Mass Transfer* **14**, 1989 (1971).
- P. M. BRDLIK and V. I. DUBOVIK, Combined laminar convection of a binary mixture about a vertical surface, *Heat Transfer, Sov. Res.* **3** (5), 92 (1971).
- G. S. CHARLSON and R. L. SANI, On thermoconvective instability in a bounded cylindrical fluid layer, *Int. J. Heat Mass Transfer* **14**, 2157 (1971).
- R. P. DAVIES-JONES, Thermal convection in a horizontal plane Couette flow, *J. Fluid Mech.* **49**, 193 (1971).
- C. A. DEPEW and S. E. AUGUST, Heat transfer due to combined free and forced convection in a horizontal and isothermal tube, *J. Heat Transfer* **93**, 380 (1971).
- B. GEBHART and L. PERA, The nature of vertical natural convection flows resulting from the combined buoyancy effects of thermal and mass diffusion, *Int. J. Heat Mass Transfer* **14**, 2025 (1971).
- A. D. GOSMAN, F. C. LOCKWOOD and D. G. TATCHELL, A numerical study of the heat transfer performance of the open thermosyphon, *Int. J. Heat Mass Transfer* **14**, 1717 (1971).
- K. GOTOH and N. IKEDA, The stability of an unsteady convection between two parallel vertical planes, *J. Phys. Soc. Japan* **30**, 864 (1971).
- C. A. HIEBER and B. GEBHART, Stability of vertical natural convection boundary layer: expansions at large Prandtl number, *J. Fluid Mech.* **49**, 577 (1971).
- G. M. HOMSY and J. L. HUDSON, Centrifugal convection and its effect on the asymptotic stability of a bounded rotating fluid heated from below, *J. Fluid Mech.* **48**, 605 (1971).
- N. D. JOSHI and S. P. SUKHATME, An analysis of combined free and forced convection heat transfer from a horizontal circular cylinder to a transverse flow, *J. Heat Transfer* **93**, 441 (1971).
- M. KELLEHER, Free convection from a vertical plate with

- discontinuous wall temperature, *J. Heat Transfer* **93**, 349 (1971).
- E. K. LEVY, Optimum plate spacings for laminar natural convection heat transfer from parallel vertical isothermal flat plates, *J. Heat Transfer* **93**, 463 (1971).
- Y. OSHIMA, Experimental studies of free convection in a rectangular cavity, *J. Phys. Soc. Japan* **30**, 872 (1971).
- J. K. PLATTEN, A variational formulation for the stability of flows with temperature gradients, *Int. J. Engng Sci.* **9**, 855 (1971).
- J. R. SELMAN and J. NEWMAN, High Sc limit of free convection at a vertical plate with uniform flux condition, *J. Heat Transfer* **93**, 465 (1971).
- W. G. SPUNDE, Free convection from a line source of heat, *Z. Angew. Math. Phys.* **22**, 761 (1971).
- M. TAKASHIMA, Thermal instability of fluid layer bounded below by a solid layer of finite conductivity, *J. Phys. Soc. Japan* **31**, 283 (1971).
- A. R. TENNER and B. GEBHART, Laminar and axisymmetric vertical jets in a stably stratified environment, *Int. J. Heat Mass Transfer* **14**, 2051 (1971).
- T. TSUBOUCHI and H. MASUDA, Natural convection heat transfer from horizontal finned circular cylinder, Rept. 227, Institute High Speed Mechanics, Tohoku University, Tohoku, Japan (1971).
- C. P. WANG, Motion of an isolated buoyant thermal, *Physics Fluids* **14**, 1643 (1971).
- A. WATSON, Natural convection of a heat generating fluid in a closed vertical cylinder: an examination of theoretical predictions, *J. Mech. Engng Sci.* **13**, 151 (1971).
- L. M. ZYSINA-MOLOZHEN and G. M. TKACHENKO, Heat transfer in thermosyphons in centrifugal and coriolis force fields, *Heat Transfer, Sov. Res.* **3** (5), 142 (1971).
- J. J. BERNARD and JEANNE GENOT, Rayonnement thermique des surfaces de révolution, *Int. J. Heat Mass Transfer* **14**, 1611 (1971).
- A. G. BLOKH and M. L. MODZALEVSKAYA, Spectral absorptivity of carbon particle flow in flames, *Thermal Engng* **17** (10), 68 (1970).
- R. P. CAREN and C. K. LIU, Effect of inhomogeneous thin films on the emittance of a metal substrate, *J. Heat Transfer* **93**, 466 (1971).
- R. ECHIGO, S. HASEGAWA and Y. MIYAZAKI, Composite heat transfer with thermal radiation in non-grey medium. Part I. Interaction of radiation with conduction, *Int. J. Heat Mass Transfer* **14**, 2001 (1971).
- I. S. HABIB, Solidification of semi-transparent materials by conduction and radiation, *Int. J. Heat Mass Transfer* **14**, 2161 (1971).
- T. HIROSE and A. MITSUNAGA, An investigation of radiant heat exchange in boiler, *Bull. JSME* **14**, 829 (1971).
- H. U. MEIER and J. C. ROTTA, Temperature distributions in supersonic turbulent boundary layers, *AIAA JI* **9**, 2149 (1971).
- V. V. MITOR and I. N. KONOPEL'KO, A study of the emissivity factor of ash deposits and certain refractory materials, *Thermal Engng* **17** (10), 61 (1970).
- H. F. NELSON and A. L. CROSBIE, Continuum radiative flux from nonisothermal nongray atomic gases, *AIAA JI* **9**, 1929 (1971).
- M. RUIZ-URBIETA, E. M. SPARROW and E. R. G. ECKERT, Film thickness and refractive indices of dielectric films on dielectric substrates, *J. Opt. Soc. Am.* **10**, 1392 (1971).
- L. W. STOCKHAM and A. C. McLELLAN, Angular distribution of thermal radiation from a cylindrical particle cloud, *AIAA JI* **9**, 2115 (1971).

PACKED AND FLUIDIZED BEDS

- A. P. BASKAKOV and N. F. FILIPPOVSKIY, Experimental study of heat transfer between a fluidized bed and vertical or oblique thin plates, *Heat Transfer, Sov. Res.* **3** (5), 176 (1971).
- G. S. BEAVERS and E. M. SPARROW, Compressible gas flow through a porous material, *Int. J. Heat Mass Transfer* **14**, 1855 (1971).
- YU. A. BUYE VICH and V. V. BUTKOV, Mass transfer regimes in reactors with a dispersed phase, *Heat Transfer, Sov. Res.* **3** (5), 51 (1971).
- M. GOLDSTEIN and R. SIEGEL, Analysis of heat transfer for compressible flow in two-dimensional porous media, *Int. J. Heat Mass Transfer* **14**, 1677 (1971).

RADIATION

- A. A. ABRYUTIN and E. S. KARASINA, Emissivity factor and absorptivity of ash deposits in boiler furnaces, *Thermal Engng* **17** (10), 64 (1970).
- A. S. ADORJAN and F. A. WIERUM, Radiative properties of rough surfaces, *AIAA JI* **9**, 2172 (1971).
- H. L. BEACH, M. N. OZISIK and C. E. SIEWERT, Radiative transfer in linearly anisotropic-scattering, conservative and non-conservative slabs with reflective boundaries, *Int. J. Heat Mass Transfer* **14**, 1551 (1971).

ROTATING SURFACES OR FLUIDS

- B. E. BOYACK and W. RICE, Integral method for flow between co-rotating disks, *J. Basic Engng* **93**, 350 (1971).
- K. G. GUDERLEY and N. L. SOONG, Particular solutions for slow viscous flows close to solid body rotation: Analytic discussion and examples, ARL 71-0037, Aerospace Research Labs., Air Force Systems Command, Wright-Patterson AFB, Ohio (1971).
- D. K. HENNECKE, E. M. SPARROW and E. R. G. ECKERT, Flow and heat transfer in a rotating enclosure with axial throughflow, *Wärme- und Stoffübertragung* **4**, 222 (1971).
- M. S. JAWA, A numerical study of axially symmetric flow between two rotating infinite porous disks, *J. Appl. Mech.* **38**, 683 (1971).
- W. S. LEWELLEN, A review of confined vortex flows, NASA Contractor Rept. CR-1772 (1971).
- F. K. MOORE and S. LEBOVICH, Self-confined rotating flows for containment, N71-33626-20-22, Cornell University, Ithaca, N.Y. (1971).
- R. POPLAWSKI and H. L. TOMS, JR., Experimental investigation of the maximum Mach number in a confined compressible vortex, AD-723279; AR-71-0018, Aerospace Research Labs., Air Force Systems Command, Wright-Patterson AFB, Ohio (1971).
- T. SAKURAI, A. CLARK, JR. and PATRICIA A. CLARK, A note

- on "spindown of Bousinesq fluid in a circular cylinder," *J. Phys. Soc. Japan* **30**, 1517 (1971).
- O. SAWATZKI and J. ZIEREP, Flow between a fixed outer sphere and a concentric rotating inner sphere (in German), *Acta Mechanica* **9**, 13 (1970).
- K. E. TORRANCE and R. M. KOPECKY, Numerical study of axisymmetric vortex breakdowns, NASA Contractor Rept. CR-1865 (1971).
- ### THERMODYNAMIC AND TRANSPORT PROPERTIES
- M. M. ABBOTT, T. G. KAUFMANN and L. DOMASH, A correlation for predicting liquid viscosities of petroleum fractions, *Can. J. Chem. Engng* **49**, 379 (1971).
- P. CHAND, Viscosity of dusty gases, *Chem. Engng Sci.* **26**, 1019 (1971).
- E. T. CHANG, N. A. GOCKEN and T. M. POSTON, Thermodynamic properties of gases in propellants, solubilities of gaseous NH_3 , CO , CO_2 , and SF_6 , *J. Chem. Engng Data* **16**, 404 (1971).
- C. C. CHAPPELOW, P. S. SNYDER and J. WINNICK, Density of liquid n-octane, *J. Chem. Engng Data* **16**, 440 (1971).
- T. F. CHUNG, L. T. FAN and C. L. HWANG, General mathematical models of transport processes with and without chemical reactions, *Can. J. Chem. Engng* **49**, 340 (1971).
- V. P. DOBRODEEV, Relation between the thermodynamic properties of real gases and values of true polytropic exponents, *Thermal Engng* **17** (9), 135 (1970).
- C. EON, C. POMMIER and G. GUIOCHON, Vapour pressures and second virial coefficients of some five-membered heterocyclic derivatives, *J. Chem. Engng Data* **16**, 408 (1971).
- C. J. D. FELL and H. P. HUTCHISON, Diffusion coefficients for sodium and potassium chlorides in water at elevated temperatures, *J. Chem. Engng Data* **16**, 427 (1971).
- J. L. HALUSKA and C. P. COLVER, Molecular binary diffusion for nonideal liquid systems, *I/EC Fundamentals* **10**, 610 (1971).
- C. M. IVEY and J. D. TARASUK, A table of P-V-T properties for superheated heavy water vapour (570 to 700 deg F and 910 to 2030 psia), *J. Heat Transfer* **93**, 475 (1971).
- D. P. KOLODNYI, Approximate analytical dependence of the temperature on the pressure of saturated steam, *Thermal Engng* **17** (8), 104 (1970).
- A. KUMAGAI and T. TORIUMI, Pressure-volume-temperature relationship of liquid ammonia, *J. Chem. Engng Data* **16**, 293 (1971).
- J. P. LENCZYK and H. T. COLLINAN, JR., Determination of the thermodynamic contribution to the diffusion coefficient matrix of a ternary liquid system, *I/EC Fundamentals* **10**, 600 (1971).
- D. C. K. LIN, J. J. MCKETTA and I. H. SILBERBERG, Thermodynamic properties of cyclopropane, *J. Chem. Engng Data* **16**, 416 (1971).
- JOSETTE MESNAGE and A. A. MARSAN, Vapour-liquid equilibrium at atmospheric pressure, *J. Chem. Engng Data* **16**, 434 (1971).
- R. G. MORTIMER and NANCY H. CLARK, Transition state theory for diffusion coefficients in multicomponent liquids, *I/EC Fundamentals* **10**, 604 (1971).
- E. S. NOWAK and J. CHAN, An experimental investigation of the enthalpy of saturated heavy-water liquid, *J. Heat Transfer* **93**, 422 (1971).
- S. L. RIVKIN, A. YA. LEVIN and L. B. IZRAILEVSKII, Study of the coefficient of dynamic viscosity of steam close to the saturation line, *Thermal Engng* **17** (8), 127 (1970).
- S. A. SANNI, C. J. D. FELL and H. P. HUTCHISON, Diffusion coefficients and densities for binary organic liquid mixtures, *J. Chem. Engng Data* **16**, 424 (1971).
- A. M. SIROTA, A. YA. GRISHKOV and A. G. TOMISHKO, Experimental investigation of specific heat of water near the fusion line, *Thermal Engng* **17** (9), 90 (1970).
- R. R. SPEAR, R. L. ROBINSON, JR. and K. C. CHAO, Critical states of ternary mixtures and equations of state, *I/EC Fundamentals* **10**, 588 (1971).
- W. S. STRETT, Pressure-volume-temperature data for neon from 80–130°K and pressures to 2000 atmospheres, *J. Chem. Engng Data* **16**, 289 (1971).
- N. I. TIMOSHENKO, V. P. KOBELEV and E. P. KHOLODOV, Experimental determination of the refractive index and calculation of the second virial coefficient of CO_2 , *Thermal Engng* **17** (9), 96 (1970).
- ### TRANSFER MECHANISMS
- Y. NAKAIKE, Y. TADENUMA, T. SATO and K. FUJINAWA, An optical study of interfacial turbulence in a liquid-liquid system, *Int. J. Heat Mass Transfer* **14**, 1951 (1971).
- S. W. ZELAZNY, Eddy viscosity in quiescent and co-flowing axisymmetric jets, *AIAA JI* **9**, 2292 (1971).