

HEAT TRANSFER BIBLIOGRAPHY

E. R. G. ECKERT, E. M. SPARROW, W. E. IBELE, R. J. GOLDSTEIN and C. J. SCOTT

Heat Transfer Laboratory, Department of Mechanical Engineering,
University of Minnesota, Minneapolis, Minnesota, 55455, U.S.A.

APPLICATIONS

- Y. AIHARA, Optimum body geometries of minimum heat transfer at hypersonic speeds, *AIAA JI* 6(11), 2187 (1968).
- H. AL-SHAHRISTANI and D. G. ANDREWS, Heat transfer from teflon-treated surfaces under flow conditions, *Can. J. Chem. Engng* 46(5), 299 (1968).
- P. R. BEAVER and G. A. HUGHMARK, Heat transfer coefficients and circulation rates for thermosiphon reboilers, *AIChE JI* 14(5), 746 (1968).
- W. J. BIFANO, Preliminary analysis of a titanium alloy honeycomb solar absorber having blackened walls, NASA TN D-4727 (1968).
- R. BRUCE, Transient temperature rise in semiconductors, *Electro Tech.* 82(4) 72. (1968).
- J. H. CHANG and G. W. SUTTON, Spectral emissivity measurements of ablating phenolic graphite, Res. Rept. 295, Avco Everett Research Lab., Everett, Mass. (1968).
- F. A. COSTELLO, Limits of validity of RMS approximation for satellite-temperature variances, *J. Heat Transfer* 90(4), 487 (1968).
- C. J. CREMERS, W. D. SHIVER and R. C. BIRKEBAK, Film-cooling of a plasma generator anode, *AIAA JI* 6(9), 1776 (1968).
- A. C. DUCATI, R. G. JOHN, E. MUEHLBERG and R. P. TREAT, Exploratory electromagnetic thruster research, Phase II, 2SS108-1513, Giannini Scientific Corp., Santa Ana, Calif. (1968).
- E. E. FILL, An acoustic temperature switch, *J. Appl. Phys.* 39(12), 5816 (1968).
- S. FUKUI and M. SAKAMOTO, Some experimental results on heat transfer characteristics of air cooled heat exchangers for air conditioning devices, *Bull. JSME* 11(44), 303 (1968).
- J. W. HODGSON, R. T. SATERBAK and J. E. SUNDERLAND, An experimental investigation of heat transfer from a spray cooled isothermal cylinder, *J. Heat Transfer* 90(4) 457 (1968).
- C. L. JAECK, R. T. TORGERSON and V. DERIUGIN, Transpiration cooling system development for re-entry vehicles, NASA CR-73246; D2-114181-1, Space Division, Boeing Co., Seattle, Wash. (1968).
- A. KANZAWA, Heat transfer from plasma to solid wall with potential difference, *Bull. JSME* 11(46), 664 (1968).
- N. H. KEMP, Surface recession rate of an ablating polymer, *AIAA JI* 6(9), 1790 (1968).
- B. G. KIMMEL and G. SCHWARTZ, New ablative plastics and composites, their formulation and processing, Tech. Rept. AFML-TR-66-75, Part III, Air Force Systems Command, Wright-Patterson AFB, Ohio (1968).
- B. KOGLIN, Heat transfer in plastic foams (in German), *Z. Ver. Dt. Ing.* 110(27), 1201 (1968).
- J. LIPPITSCH, Druckabfall und Wärmeübergang im Mantelraum von Rohrbündel-Wärmeaustauschern mit Leitblechen, *Z. Oster. Ing.* 11(9), 310 (1968).
- D. G. MCCONNELL and J. P. CAMPBELL, Thermal design of inflatable spherical shadow shields, NASA TM X-61243, Lewis Research Center, NASA, Cleveland, Ohio (1968).
- J. F. NEWTON, Observables testing of ablative materials, *AIAA JI* 6(12), 2255 (1968).
- P. RAZELOS, H. G. ELROD, JR., and V. PASCHKIS, Experimental and analytical study of the combined geometric analog computer, *J. Heat Transfer* 90(3), 291 (1968).
- M. RESHOTKO, Flow and wall-temperature sensitivity in parallel passages for large inlet to exit density ratios in subsonic flow, NASA TN D-4649 (1968).
- P. D. RICHARDSON and J. H. WHITELAW, Transient heat transfer in human skin, *J. Franklin Inst.* 286(3), 169 (1968).
- J. H. STANG and J. E. BUSH, The periodic technique for testing compact heat exchanger surfaces, Tech. Rept. No. 67, Department of Mechanical Engineering, Stanford University, Stanford, Calif. (1968).
- H. K. THOMAS and J. V. RECESSO, Ablative composites for lifting re-entry thermal protection, AFML-TR-67-270, Air Force Systems Command, Wright-Patterson AFB, Ohio (1968).
- P. F. TOMLAN and J. L. HUDSON, Transient response of countercurrent heat exchangers with short contact time, *Int. J. Heat Mass Transfer* 11(8), 1253 (1968).
- G. A. VARSHAVSKII, Determination of the maximum work in an isolated system with limited energy capacities of the source and sink, *Soviet Phys. Dokl.* 12(12), 1115 (1968).
- E. D. VEILLEUX, Use of thermal greases to conduct heat across sheet-metal interfaces, *J. Spacecraft Rockets* 5(10), 1238 (1968).
- A. J. WHEELER, Single-blow transient testing of matrix-type heat exchanger surfaces at low values of NTU, TR No. 68, Department of Mechanical Engineering, Stanford University, Stanford, Calif. (1968).
- A. G. WILLIAMS, S. S. NADAPURKAR and A. F. HOLLAND, A review of methods for enhancing heat transfer rates in surface condensers, *Chem. Engng* (223), CE 367 (1968).
- N. C. WILLIS, JR. and A. J. CHAPMAN, Analysis of three-fluid, crossflow heat exchangers, *J. Heat Transfer* 90(3), 333 (1968).

BOOKS

- P. D. ADAMS, H. A. DAVIES and S. G. EPSTEIN (Editors), *The Properties of Liquid Metals*, Proc. of an international

- conference held at Brookhaven National Laboratory, Upton, New York, 1966; reprinted from *Advances in Physics* 16, parts 62–64, Taylor and Francis, London, (1967).
- K. J. BELL (Editor), *Advances in Cryogenic Heat Transfer*, American Institute of Chemical Engineers, Symposium Series (1968).
- E. O. DOEBELIN, *Measurement Systems: Application and Design*, McGraw-Hill, New York (1966).
- L. P. FILIPPOV, *Measurement of Thermal Properties of Solid and Liquid Metals at High Temperatures*, Mosk. Univ., Moscow (1967).
- Heat Exchangers—Second Edition*, American Institute of Chemical Engineers, Symposium Series (1968).
- J. R. HOWELL and R. SEGEL, *Thermal Radiation Heat Transfer—II. Radiation Exchange between Surfaces and in Enclosures*, NASA—Special Publication (1968).
- D. H. SAMPSON, *Radiative Contributions to Energy and Momentum Transport in a Gas*, Interscience Tracts on Physics and Astronomy, No. 26, Interscience Publishers, New York (1965).
- ### BOUNDARY LAYER
- H. E. BETHEL, On a convergent multi-moment method for the laminar boundary layer equations, *Aero. Q.* 18(4), H. E. BETHEL, On a convergent multi-moment method for the laminar boundary layer equations, *Aero. Q.* 18(4), 332 (1967).
- T. CEBECI, E. R. WOGULIS and R. D. PARTIN, Effect of transverse curvature on skin friction and heat transfer in laminar flows past slender circular cylinders, *J. Heat Transfer* 90(4), 485 (1968).
- B. T. CHAO and L. S. CHEEMA, Unsteady heat transfer in laminar boundary layer over a flat plate, *Int. J. Heat Mass Transfer* 11(9), 1311 (1968).
- V. G. FOX, L. E. ERICKSON and L. T. FAN, Methods for solving the boundary layer equations for moving continuous flat surfaces with suction and injection, *AIChE J.* 14(5), 726 (1968).
- R. A. HOPKINS and R. M. NEREM, An experimental investigation of heat transfer from a highly cooled turbulent boundary layer, *AIAA J.* 6(10), 1912 (1968).
- D. R. KASSOY, Injection effects in high Prandtl number boundary-layer flows, *AIAA J.* 6(9), 1796 (1968).
- R. E. LUXTON, The calculation of heat transfer coefficients from skin friction coefficients in the compressible laminar boundary layer on an aerofoil, *Aero. Q.* 19(3), 243 (1968).
- R. N. MERONEY, Turbulent sublayer temperature distribution including wall injection and dissipation, *Int. J. Heat Mass Transfer* 11(9), 1406 (1968).
- A. B. PONTER and G. A. DAVIES, Heat transfer to falling films, *Chem. Engng Sci.* 23(6), 664 (1968).
- G. POOTS and G. F. RAGGETT, Theoretical results for variable property, laminar boundary layers in water with adverse pressure gradients, *Int. J. Heat Mass Transfer* 11(10), 1513 (1968).
- J. A. SCHETZ and S. K. OH, Approximate analysis of transient laminar boundary-layer development, *J. Heat Transfer* 90(4), 452 (1968).
- S. SCHREIER, On the flow of an unsteady, compressible boundary layer over a semi-infinite flat plate whose temperature is varied with time, *Z. Angew. Math. Phys.* 19(3), 516 (1968).
- D. A. SPENCE and G. L. BROWN, Heat transfer to a quadratic shear profile, *J. Fluid Mech.* 33(4), 753 (1968).
- ### CHANGE OF PHASE AND TWO-PHASE FLOW
- S. G. BANKOFF, Growth of a vapour bubble in a porous medium, AERE-R 5772, Chemical Engineering Division, Atomic Energy Research Establishment, Harwell, Berkshire, England (1968).
- K. J. BAUMEISTER and T. D. HAMILL, Liquid drops: Numerical and asymptotic solutions of their shapes, NASA TN D-4779 (1968).
- L. BIASI, G. C. CLERICI, R. SALA and A. TOZZI, A theoretical approach to the analysis of an adiabatic two-phase annular dispersed flow, *Energ. Nucl.* 15(6), 394 (1968).
- L. B. COUSINS and G. F. HEWITT, Liquid phase mass transfer in annular two-phase flow: Droplet deposition and liquid entrainment, AERE-R-5657, Chemical Engineering and Process Technology Division, Atomic Energy Research Establishment, Harwell, Berkshire, England (1968).
- L. B. COUSINS and G. F. HEWITT, Liquid phase mass transfer in annular two-phase flow: radial liquid mixing, AERE-R 5693, Chemical Engineering and Process Technology Division, Atomic Energy Research Establishment, Harwell, Berkshire, England (1968).
- M. P. FIORI and A. E. BERGLES, Model of critical heat flux in subcooled flow boiling, Rept. No. DSR 70281-56, Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. (1968).
- R. P. FORSLUND and W. M. ROHSENOW, Dispersed flow film boiling, *J. Heat Transfer* 90(4), 408 (1968).
- J. H. HEALD, JR. and R. F. BROWN, Measurements of condensation and evaporation of carbon dioxide, nitrogen, and argon at cryogenic temperatures using a molecular beam, AEDC-TR-68-110, Air Force Systems Command, Arnold Air Force Station, Tenn. (1968).
- M. HOCH and D. RAMAKRISHNAN, The condensation coefficient of NiO, Tech. Rept. AFML-TR-68-60, University of Cincinnati, Cincinnati, Ohio (1968).
- E. J. HOFFMAN, Explicit solutions of the Nusselt relations for laminar condensation, *Int. J. Heat Mass Transfer* 11(11), 1727 (1968).
- Y. Y. HSU, Analysis of boiling on a fin, NASA TN D-4797 (1968).
- P. G. KOSKY, Bubble growth measurements in uniformly super-heated liquids, *Chem. Engng Sci.* 23(7), 695 (1968).
- P. G. KROEGER and N. ZUBER, Average volumetric concentration in two-phase flow through rectangular channels, *J. Heat Transfer* 90(4), 491 (1968).
- S. B. LAL GARG and R. PRAKASH, Heat transfer during nucleate boiling in vertical tubes (in English), *J. Inst. Engrs, India* 47(11), 487 (1967).
- K. LEE and D. J. RYLEY, The evaporation of water droplets in superheated steam, *J. Heat Transfer* 90(4), 445 (1968).
- T. E. LIPPERT and R. S. DOUGALL, A study of the temperature profiles measured in the thermal sublayer of water,

- Freon-113, and methyl alcohol during pool boiling, *J. Heat Transfer* **90**(3), 347 (1968).
- F. J. MARTO, J. A. MOULSON and M. D. MAYNARD, Nucleate pool boiling of nitrogen with different surface conditions, *J. Heat Transfer* **90**(4), 437 (1968).
- P. M. MEYRIAL, M. L. MORIN and W. M. ROHSENOW, Heat transfer during film condensation of potassium vapor on a horizontal plate, Rept. No. DSR 70008-52, Department of Mechanical Engineering, Projects Lab., Massachusetts Institute of Technology, Cambridge, Mass. (1968).
- L. G. NAPOLITANO, editor, Fluid dynamics of heterogeneous multi-phase continuous media, International Symposium, Naples, 1966; *Astro Acta* **13**(5-6), 451 (1968).
- A. A. NICOL and J. T. MCLEAN, Boiling heat transfer from a rotating horizontal cylinder, *Can. J. Chem. Engng* **46**(5), 304 (1968).
- W. C. PETERSON, M. G. ZAALOUK and A. J. GOETZE, Development and evaluation of transfer functions for nucleate, transition and film boiling, *J. Franklin Inst.* **285**(4), 285 (1968).
- D. R. PITTS, H. H. YEN and T. W. JACKSON, Transient film boiling of water on a horizontal wire, *J. Heat Transfer* **90**(4), 476 (1968).
- N. SAGAWA, An experimental determination of transient condensing heat transfer with heat absorption in circular cylinders. *Bull. JSME* **11**(44), 294 (1968).
- M. SCHINGNITZ, Mass transfer at descending drops (in German), *Chem.-Ing.-Tech.* **40**(19), 964 (1968).
- B. S. SHIRALKAR and P. GRIFFITH, The deterioration in heat transfer to fluids at supercritical pressure and high heat fluxes, Rept. No. DSR 70332-55, Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. (1968).
- S. SIDEMAN and R. E. PECK, Graphical solutions for heat transfer in two-phase laminar flow, *Israel J. Tech.* **5**(3), 203 (1967).
- F. W. STAUB, N. ZUBER and G. BIJWAARD, Experimental investigation of the transient response of the volumetric concentration in a boiling forced-flow system, *Nucl. Sci. Engng* **30**(2), 289 (1967).
- J. L. THRONE, Boiling heat transfer, *Simulation* **11**(4), 165 (1968).
- H. TOKUDA, W. J. YANG and J. A. CLARK, Dynamics of moving gas bubbles in injection cooling, *J. Heat Transfer* **90**(4), 371 (1968).
- J. S. TURTON, The effects of pressure and acceleration on the pool boiling of water and Arcton 11, *Int. J. Heat Mass Transfer* **11**(9), 1295 (1968).
- S. J. D. VAN STRALEN, The growth rate of vapour bubbles in superheated pure liquids and binary mixtures, Part I, Theory, *Int. J. Heat Mass Transfer* **11**(10), 1467 (1968).
- S. J. D. VAN STRALEN, The growth rate of vapour bubbles in superheated pure liquids and binary mixtures, Part II, Experimental results, *Int. J. Heat Mass Transfer* **11**(10), 1491 (1968).
- L. C. WITTE, Film boiling from a sphere, *I/EC Fundamentals* **7**(3), 517 (1968).
- C. P. WITZ, V. E. SCHROCK and P. L. CHAMBRE, Flow about a growing sphere in contact with a plane surface, *Int. J. Heat Mass Transfer* **11**(11), 1637 (1968).
- S. W. WONG and W. Y. CHON, Effects of ultrasonic vibrations on burnout heat flux and critical temperature difference, *Can. J. Chem. Engng* **45**(6), 384 (1967).
- J. ZIEREP and S. LIN, A law of similarity for unsteady condensation processes in supersonic nozzles (in German), *Forsch. Geb. Ing.Wes.* **34**(4), 97 (1968).

CHANNEL FLOW

- L. H. BACK, Laminar heat transfer in electrically conducting fluids flowing in parallel plate channels, *Int. J. Heat Mass Transfer* **11**(11), 1621 (1968).
- R. BRILLER and R. L. PESKIN, Gas solids suspension convective heat transfer at a Reynolds number of 130,000, *J. Heat Transfer* **90**(4), 464 (1968).
- D. A. BOWLUS and J. A. BRIGHTON, Incompressible turbulent flow in the inlet region of pipe, *J. Basic Engng* **90**(3), 431 (1968).
- R. D. CHANDLER, J. N. PANAI, R. B. STEVENS and G. E. ZINSMEISTER, The solution of steady state convection problems by the fixed random walk method, *J. Heat Transfer* **90**(3), 361 (1968).
- B. M. GALITSEISKII, Experimental investigation of non-steady heat exchange in a tube in the case of variation of the thermal flux (in Russian), *Viesci AN BSSR, Ser. Fiz.-Techn. N., Izv. AN BSSR, Ser. Fiz.-Tekhn. N. no. 2*, 65 (1967).
- B. M. GALITSEISKII, Experimental investigation of non-steady heat exchange in a tube with a variation of the discharge of gas (in Russian), *Viesci AN BSSR, Ser. Fiz. Techn. N., Izv. AN BSSR, Ser. Fiz.-Tekhn. N. no. 2*, 65 (1967).
- J. GAVIS and R. L. LAURENCE, Viscous heating of a power-law liquid in plane flow, *I/EC Fundamentals* **7**(3), 525 (1968).
- W. N. GILL, E. W. PORTA and R. J. NUNGE, Heat transfer in thermal entrance region of cocurrent flow heat exchangers with fully developed laminar flow, *Int. J. Heat Mass Transfer* **11**(9), 1408 (1968).
- R. A. GOWEN and J. W. SMITH, Turbulent heat transfer from smooth and rough surfaces, *Int. J. Heat Mass Transfer* **11**(11), 1657 (1968).
- R. W. HANKS, On the theoretical calculation of friction factors for laminar, transitional, and turbulent flow of Newtonian fluids in pipes and between parallel plane walls, *A.I.Ch.E. JI* **14**(5), 691 (1968).
- R. B. KINNEY, Fully developed frictional and heat-transfer characteristics of laminar flow in porous tubes, *Int. J. Heat Mass Transfer* **11**(9), 1393 (1968).
- G. C. LINDAUER and C.-J. HSU, Unsteady forced-convection MHD heat transfer in a parallel plate channel, *AIAA JI* **6**(10), 1973 (1968).
- A. B. METZNER, Viscous heating in plane and circular flow between moving surfaces, *I/EC Fundamentals* **7**(4), 670 (1968).
- M. N. ÖZİSK and H. C. TOPAKOGLU, Heat transfer for laminar flow in a curved pipe, *J. Heat Transfer* **90**(3), 313 (1968).
- K. SANOKAWA, Heat transfer between metallic surfaces in contact. *Bull. J.S.M.E.* **11**(44), 253 (1968).
- G. M. SHRESTHA, Heat transfer in laminar flow in a uni-

- formly porous channel with an applied transverse magnetic field, *Appl. Sci. Res.* **19**(5), 352 (1968).
- J. W. SMITH, R. A. GOWEN and M. E. CHARLES, Turbulent heat transfer and temperature profiles in a rifled pipe, *Chem. Engng Sci.* **23**(7), 751 (1968).
- F. L. TEST, Laminar flow heat transfer and fluid flow for liquids with temperature-dependent viscosity, *J. Heat Transfer* **90**(4), 385 (1968).
- D. M. BUSHNELL, Local afterbody heat transfer to a blunt two-dimensional configuration at Mach 8, NASA TN D-4443 (1968).
- G. W. SUTTON, Molecular mixing lengths for turbulent wakes, Research Rept. 286, Avco Everett Research Labs., Everett, Mass. (1968).

HEAT AND MASS TRANSFER

- T. ANDRE-TALAMON, Sur la diffusion non-linéaire de la chaleur, *Int. J. Heat Mass Transfer* **11**(9), 1351 (1968).
- A. L. CROSBIE and R. VISKANTA, A simplified method for solving transient heat conduction problems with nonlinear boundary conditions, *J. Heat Transfer* **90**(3), 358 (1968).
- A. F. EMERY and W. W. CARSON, A modification to the Monte Carlo method—the exodus method, *J. Heat Transfer* **90**(3), 328 (1968).
- D. V. LEWIS and H. C. PERKINS, Heat transfer at the interface of stainless steel and aluminum—the influence of surface conditions on the directional effect, *Int. J. Heat Mass Transfer* **11**(9), 1371 (1968).
- J. P. PADET, Transfert de chaleur à travers une couche hétérogène, *Int. J. Heat Mass Transfer* **11**(8), 1267 (1968).
- P. D. PATEL, Interface conditions in heat-conduction problems with change of phase, *AIAA Jl* **6**(12), 2454 (1968).
- P. RAFALSKI and W. ZYSZKOWSKI, Lagrangian approach to the nonlinear boundary heat-transfer problem, *AIAA Jl* **6**(8), 1606 (1968).
- W. P. REID, Steady-state temperature in a triangle, *J. Heat Transfer* **90**(3), 365 (1968).
- K. SANOKAWA, Heat transfer between metallic surfaces in contact. 2nd Report, The effects of the thickness of metal and the conditions of both metals in contact being different, *Bull. J.S.M.E.* **11**(44), 264 (1968).
- K. SANOKAWA, Heat transfer between metallic surfaces in contact. 3rd Report, The effect of oxidation of contacting surfaces, *Bull. J.S.M.E.* **11**(44), 276 (1968).
- K. SANOKAWA, Heat transfer between metallic surfaces in contact. 4th Report, The effects of the shape of surface roughness and the waviness, and the approximate method of calculating thermal contact resistance, *Bull. J.S.M.E.* **11**(44), 287 (1968).
- A. J. SURKAN and C. L. WU, Solution of reaction and heat flow problems by nonlinear estimation, *Can. J. Chem. Engng* **46**(4), 229 (1968).
- L. C. TAO, Generalized solution of freezing a pure liquid in a container initially at its melting temperature, *AIChE Jl* **14**(5), 720 (1968).
- H. Y. WONG, A survey of the thermal conductance of metallic contact, Current Papers No. 973, Aeronautical Research Council, London, England (1968).
- D. M. BUSHNELL and L. M. WEINSTEIN, Correlation of peak heating for reattachment of separated flows, *J. Spacecraft Rockets* **5**(9), 1111 (1968).
- J. A. ADAMS and P. W. MCFADDEN, Partial pressure measurements on a subliming organic surface, *J. Heat Transfer* **90**(4), 482 (1968).
- L. W. CARLSON and E. TALMORE, Gaseous film cooling at various degrees of hot-gas acceleration and turbulence levels, *Int. J. Heat Mass Transfer* **11**(11), 1695 (1968).
- M. DAGUENET, Etude du transport de matière en solution, à l'aide des électrodes à disque et à anneau tournants, *Int. J. Heat Mass Transfer* **11**(11), 1581 (1968).
- D. F. DYER and J. E. SUNDERLAND, Heat and mass transfer mechanisms in sublimation dehydration, *J. Heat Transfer* **90**(4), 379 (1968).
- J. ERDOS and A. PALLONE, Interaction of a chemically reacting laminar boundary layer and an ablating surface, Part I. Analysis, ARL 68-0029, Office of Aerospace Research, U.S. Air Force, Wright-Patterson AFB, Ohio (1968).
- M. P. ESCUDIER and J. H. WHITELAW, The influence of strong adverse pressure gradients on the effectiveness of film cooling, *Int. J. Heat Mass Transfer* **11**(8), 1289 (1968).
- Heat Transfer Survey (abstracts in English), *Chem. Proc. Engng* **49**(8), 125 (1968).
- S. C. KACKER and J. H. WHITELAW, The effect of slot height and slot-turbulence intensity on the effectiveness of the uniform density, two-dimensional wall jet, *J. Heat Transfer* **90**(4), 469 (1969).
- C. S. LIU and J. P. HARTNETT, Influence of dissociation on mass transfer cooling in a carbon dioxide-nitrogen binary system, *J. Heat Transfer* **90**(3), 340 (1968).
- G. A. MIKHAILOVSKY, Dynamic processes accompanied by mass transfer—Part 2, *Int. J. Heat Mass Transfer* **11**(10), 1535 (1968).
- R. J. MOFFAT and W. M. KAYS, The turbulent boundary on a porous plate: experimental heat transfer with uniform blowing and suction, *Int. J. Heat Mass Transfer* **11**(10), 1547 (1968).
- D. E. NESTLER, Correlation of turbulent heat flux to deceleration flaps in supersonic flow, *J. Spacecraft Rockets* **5**(8), 998 (1968).
- M. SAARLAS, Calculation of the wall-temperature distribution in transpiration cooling, *AIAA Jl* **6**(8), 1608 (1968).
- Y. SUGANO and D. A. RATKOWSKY, Effect of transverse vibration upon the rate of mass transfer from horizontal cylinders, *Chem. Engng Sci.* **23**(7), 707 (1968).
- J. WALLACE and N. KEMP, Analytic solutions to the massive blowing problem. Part II, Thin layer analysis with constant blowing, Research Rept. 285, Avco Everett Research Lab., Avco Corp., Everett, Mass. (1968).
- A. A. WRAGG, P. SERAFIMIDIS and A. EINARSSON, Mass transfer between a falling liquid film and a plane vertical surface, *Int. J. Heat Mass Transfer* **11**(8), 1287 (1968).

FLOW WITH SEPARATED REGIONS

LIQUID METALS

- N. Z. AZER, Thermal entry length for turbulent flow of liquid metals in pipes with constant wall heat flux, *J. Heat Transfer* **90**(4), 483 (1968).
- W. E. BURCHILL, B. G. JONES and R. P. STEIN, Influence of axial heat diffusion in liquid metal-cooled ducts with specified heat flux, *J. Heat Transfer* **90**(3), 283 (1968).
- J. C. CHEN, Incipient boiling superheats in liquid metals, *J. Heat Transfer* **90**(3), 303 (1968).
- R. E. HOLTZ and R. M. SINGER, Incipient pool boiling of sodium, *AIChE Jl* **14**(4), 654 (1968).
- P. M. MEYRIAL, M. L. MORIN and W. M. ROHSENOW, Heat transfer during film condensation of potassium vapor on a horizontal plate, Rept. No. DSR 70008-52, Engineering Projects Lab., Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. (1968).
- L. C. WITTE, L. BAKER, Jr. and D. R. HAWORTH, Heat transfer from spheres into subcooled liquid sodium during forced convection, *J. Heat Transfer* **90**(4), 394 (1968).

LOW DENSITY

- D. G. BARBEE and TSO-SHIN SHIH, Incompressible flow induced by an infinite isothermal disk rotating in a rarefied gas, *J. Heat Transfer* **90**(3), 359 (1968).
- P. BASSANINI, C. CERCIGNANI and C. D. PAGANI, Influence of the accommodation coefficient on the heat transfer in a rarefied gas, *Int. J. Heat Mass Transfer* **11**(9), 1359 (1969).
- C. CERCIGNANI, P. FORESTI and F. SERNAGIOTTO, Dependence of the slip coefficient on the form of the collision frequency (English abstract), *Nuovo Cim.* **B57**(2), 297 (1968).
- M. EPSTEIN, Effect of incomplete accommodation on the slip coefficient. Air Force Report No. SAMS0-TR-68-266, Air Force Systems Command, Los Angeles Air Force Station, Los Angeles, Calif. (1968).
- G. M. GREGOREK and J. D. LEE, Heat transfer measurements in hypersonic low density flows with phase change coatings, ARL 68-0004, Office of Aerospace Research, U.S. Air Force, Wright-Patterson AFB, Ohio (1968).
- C.-L. SU and D. R. WILLIS, Heat conduction in a rarefied gas between concentric cylinders, *Physics Fluids* **11**(10), 2131 (1968).
- C. R. WIMBERLY, Convective heating of a yawed concave hemisphere in free molecule flow, *AIAA Jl* **6**(12), 2420 (1968).

MAGNETOHYDRODYNAMICS

- T. H. JENSEN and F. R. SCOTT, Turbulent heating of plasma in a mirror, *Physics Fluids* **11**(8), 1809 (1968).
- R. KESSLER and R. H. EUSTIS, Effects of electrode and boundary-layer temperatures on MHD-generator performance, *AIAA Jl* **6**(9), 1640 (1968).
- V. M. SOUNDALGEKAR, MHD channel flow of an electrically conducting, incompressible, viscous, rarefied gas as affected by wall electrical conductances, *Proc. Natl. Inst. Sci. India* **33**(5/6) (1967).
- V. M. SOUNDALGEKAR, On generalized MHD couette flow with heat transfer, *Proc. Natl. Inst. Sci. India* **33**(5/6) (1967).
- V. M. SOUNDALGEKAR, Steady MHD couette flow of an electrically conducting, viscous, incompressible rarefied gas under transverse magnetic field, *Proc. Natl. Inst. Sci. India* **33**(3/4) (1967).
- J. Y. T. TANG and R. SEEBASS, The effect of tensor conductivity on continuous magnetogasdynamic flows, *Q. Appl. Math.* **26**(3), 311 (1968).

MEASUREMENT TECHNIQUES

- R. W. ASTHEIMER and F. SCHWARZ, Thermal imaging using pyroelectric detectors, *Appl. Optics* **7**(9), 1687 (1968).
- F. J. BAYLEY and A. B. TURNER, Bibliography of heat-transfer instrumentation, ARC-R & M-3512, Aeronautical Research Council, Great Britain (1968).
- H. BECKER, Liquid semiconductors as temperature sensors (in German), *Z. Ver. Dt. Ing.* **110**(26), 1149 (1968).
- F. BECKER, Thermokinetic methods of measurement (in German), *Chem.-Ing.-Tech.* **40**(19), 933 (1968).
- S. N. BOBO and A. H. CROWLEY, Use of contiguous optical fibers as a means of carrying thermal information from welds, *Appl. Optics* **7**(9), 1839 (1968).
- S.-B. BORG, Thermal imaging with real time picture presentation, *Appl. Optics* **7**(9), 1697 (1968).
- K. R. BOURQUIN and F. H. SHIGEMOTO, Investigation of air-flow velocity by laser backscatter, NASA TN D-4453 (1968).
- D. BRADLEY and K. J. MATTHEWS, Measurement of high gas temperatures with fine wire thermocouples, *J. Mech. Engng Sci.* **10**(4), 299 (1968).
- D. A. DIDION, An analysis and design of a linear guarded cut-bar apparatus for thermal conductivity measurements, Tech. Rept. 2, Department of Mechanical Engineering, Catholic University of America, Washington, D.C.
- L. F. EAST, Measurement of skin friction at low subsonic speeds by the razor-blade technique, ARC-R & M-3525; RAE-TR-66277; ARC-28724, Aeronautical Research Council, England (1968).
- R. FENSTER and W. K. KAHN, An optical technique for measurement of gas flow profiles utilizing a ring laser, *Appl. Optics* **7**(12), 2383 (1968).
- L. FLOBERG, On the ball flowmeter and the ball viscosimeter (English abstract), *Acta Polytechnica Scandinavica*, Series No. 36 (1968).
- H. FUJITA and L. S. G. KOVASZNY, Measurement of Reynolds stress by a single rotated hot wire anemometer, *Rev. Sci. Instrum.* **39**(9), 1351 (1968).
- D. M. GATES, Sensing biological environments with a portable radiation thermometer, *Appl. Optics* **7**(9), 1803 (1968).
- D. R. GREEN, Principles and applications of emittance-independent infrared non-destructive testing, *Appl. Optics* **7**(9), 1779 (1968).
- D. D. GRIFFIN, Infrared techniques for measuring temperature and related phenomena of microcircuits, *Appl. Optics* **7**(9), 1749 (1968).
- O. C. HAYCOCK, C. D. WESTLUND, E. F. POUND and R. H. WOOLLEY, Falling sphere for measuring atmospheric density, *Rev. Sci. Instrum.* **39**(8), 1094 (1968).

- R. G. HUFF, Determination of convective heat-transfer coefficients on adiabatic walls using a sinusoidally forced fluid temperature, NASA TM-X-1594 (1968).
- P. M. JOHNSON and T. J. BURGESS, Free surface velocity measurement of an impacted projectile by optical Doppler shift, *Rev. Sci. Instrum.* **39**(8), 1100 (1968).
- M. S. KAYANDER, Normalization of the radiation pyrometer errors, *Measurement Techniques* **1**, 49 (1968).
- J. M. KENDALL, The J.P.L. standard total-radiation absolute radiometer, Jet Propulsion Lab., California Institute of Technology, Pasadena, Calif. (1968).
- H. KOENEN, Thermocouples for temperature control, *Instr. & Control Systems* **41**(9), 115 (1968).
- J. R. LAI and G. M. HIDY, Microsensor for measuring humidity, *Rev. Sci. Instrum.* **39**(8), 1197 (1968).
- P. T. LANDSBERG and K. A. JOHNS, The problem of moving thermometers, *Proc. R. Soc. A* **306**(1487), 477 (1968).
- D. LORENZ, Temperature measurements of natural surfaces using infrared radiometers, *Appl. Optics* **7**(9), 1705 (1968).
- M. MOTAMEDI and G. J. JAMESON, A new method for the measurement of the incipient fluidizing velocity, *Chem. Engng Sci.* **23**(7), 791 (1968).
- D. E. MURPHY and R. E. SPARKS, Thermistor anemometer for measurement of low fluid velocities, *I/EC Fundamentals* **7**(4), 642 (1968).
- M. J. POOL and J. R. GUADAGNO, Development of a high temperature liquid metal solution calorimeter, AFML-TR-68-66, Air Force Systems Command, Wright-Patterson AFB, Ohio (1968).
- H. RUSSMANN, Comparison of various methods for the experimental determination of the temperature fields in laminar pre-mixed flames (in German), *Z. Ver. Dt. Ing.* **110**(28), 1248 (1968).
- A. W. SCHULTZ, An infrared transient method for determining the thermal inertia, conductivity, and diffusivity of solids, *Appl. Optics* **7**(9), 1845 (1968).
- R. L. SIMPSON and D. G. WHITTEN, Preston tubes in the transient turbulent boundary layer, *AIAA JI* **6**(9), 1779 (1968).
- O. STAFSUDD and N. STEVENS, Thermopile performance in the far infrared, *Appl. Optics* **7**(11), 2320 (1968).
- C. J. STIGTER, On the possibility of determining thermal properties from contact-surface temperatures, *Physica* **39**(2), 229 (1968).
- D. H. THOMPSON, A tracer-particle fluid velocity meter incorporating a laser, *J. Sci. Instrum.* **1**(2), 929 (1968).
- R. WATSONS, W. G. PLANET and C. C. PITTS, On temperature determination from non-resolved spectra, *Appl. Optics* **7**(10), 1941 (1968).
- R. K. WILLIAMS and W. O. PHILBROOK, Radial heat flow thermal conductivity apparatus for measurements on sulfide and telluride melts, *Rev. Sci. Instrum.* **39**(8), 1104 (1968).
- A. D. WOOD and J. C. ANDREWS, Fast-response total thermal radiation detectors, *IEEE Trans. Aerospace & Electronic Systems* **3**(2), 356 (1967).
- NATURAL CONVECTION**
- J. A. ADAMS and R. L. LOWELL, JR., Free convection organic sublimation on a vertical semi-infinite plate, *Int. J. Heat Mass Transfer* **11**(8), 1215 (1968).
- M. B. BANERJEE, On the stability of a heterogeneous fluid layer heated from above, *J. Phys. Soc. Japan* **25**(4), 1171 (1968).
- P. R. BEAVER and G. A. HUGHMARK, Heat transfer coefficients and circulation rates for thermosiphon reboilers, *A.I.Ch.E. JI* **14**(5), 746 (1968).
- D. A. CYGAN and P. D. RICHARDSON, A transcendental approximation for natural convection at small Prandtl numbers, *Can. J. Chem. Engng* **46**(5), 321 (1968).
- J. A. DELEEUEW DEN BOUTER, B. DEMUNNIK and P. M. HEERTJES, Simultaneous heat and mass transfer in laminar free convection from a vertical plate, *Chem. Engng Sci.* **23**(10), 1185 (1968).
- M. H. HAHN and D. A. DIDION, Natural convection from horizontal rectangular cylinders of various aspect ratios, Tech. Report No. 3, Department of Mechanical Engineering, Catholic University of America, Washington, D.C. (1968).
- W. B. HALL, The effect of buoyancy forces on forced convection heat transfer in a vertical pipe, Research Rept. N.E. 1, Department of Nuclear Engineering, University of Manchester, Manchester, England (1968).
- F. E. FENDELL, Laminar natural convection about an isothermally heated sphere at small Grashof number, *J. Fluid Mech.* **35**(Part 1), 163 (1968).
- H. KATO, N. NISHIWAKI and M. KIRATA, Studies on the heat transfer of fluids at a supercritical pressure: 1st Report. A proposition of reference values of thermal properties and experiments with supercritical carbon-dioxide, *Bull. J.S.M.E.* **11**(46), 654 (1968).
- J. D. JACKSON and K. EVANS-LUTTERODT, Impairment of turbulent forced convection heat transfer to supercritical pressure CO₂ caused by buoyancy forces, Research Rept. N.E. 2, Department of Nuclear Engineering, University of Manchester, Manchester, England (1968).
- R. KRISHNAMURTI, Finite amplitude convection with changing mean temperature. Part 1, Theory, *J. Fluid Mech.* **33**(3), 445 (1968).
- R. KRISHNAMURTI, Finite amplitude convection with changing mean temperature, Part 2, An experimental test of the theory, *J. Fluid Mech.* **33**(3), 457 (1968).
- E. N. LIGHTFOOT, Free-convection heat and mass transfer: the limiting case of $Gr^{*AB}/Gr \rightarrow 0$ and $Pr/Sc \rightarrow 0$, *Chem. Engng Sci.* **23**(8), 931 (1968).
- R. S. PEARSON and P. F. DICKSON, Free convective effects on Stokes flow mass transfer, *A.I.Ch.E. JI* **14**(6), 903 (1968).
- A. I. LEONTIEV and A. G. KIRDYASHKIN, Experimental study of flow patterns and temperature fields in horizontal free convection liquid layers, *Int. J. Heat Mass Transfer* **11**(10), 1461 (1968).
- G. S. H. LOCK and F. J. DEB. TROTTER, Observations on the structure of a turbulent free convection boundary layer, *Int. J. Heat Mass Transfer* **11**(8), 1225 (1968).
- W. H. LIPKEA and G. S. SPRINGER, Heat transfer through gases contained between two vertical cylinders at different temperatures, *Int. J. Heat Mass Transfer* **11**(9), 1341 (1968).
- S. A. MUKHERJEE, An exact solution of a one-dimensional heat-conducting compressible flow buoyancy forces being

- considered (in English), *Arch. Mech. Stosowanej* **19**(4), 617 (1967).
- I. MABUCHI and T. TANAKA, Experimental study on effect of vibration on natural convective heat transfer from a horizontal fine wire (in English), *Bull. J.S.M.E.* **10**(4), 808 (1967).
- W. H. PLOWS, Some numerical results for two-dimensional steady laminar Bénard convection, *Physics Fluids* **11**(8), 1593 (1968).
- D. D. PAPAILIOU and P. S. LYKODIS, Magneto-fluid-mechanic laminar natural convection—an experiment, *Int. J. Heat Mass Transfer* **11**(9), 1385 (1968).
- P. D. RICHARDSON, Local effects of horizontal and vertical sound fields on natural convection from a horizontal cylinder, AF1754/5, Division of Engineering, Brown University, Providence, Rhode Island (1968).
- P. D. RICHARDSON and J. A. PETERKA, Natural convection from a horizontal cylinder at moderate Grashof numbers, ARL 67-0275, Office of Aerospace Research, U.S. Air Force, Wright-Patterson AFB, Ohio (1967).
- Y. SUGANO and D. A. RATKOSKY, Effect of transverse vibration upon the rate of mass transfer from horizontal cylinders, *Chem. Engng Sci.* (7), 707 (1968).
- C. TIEN, Thermal instability of a horizontal layer of water near 4°C, *A.I.Ch.E. J.* **14**(4), 652 (1968).
- R. L. SHANNON and C. A. DEPEW, Combined free and forced laminar convection in a horizontal tube with uniform heat flux, *J. Heat Transfer* **90**(3), 353 (1968).
- E. M. SPARROW and L. DEM. F. GUINLE, Deviations from classical free convection boundary-layer theory at low Prandtl numbers, *Int. J. Heat Mass Transfer* **11**(9), 1403 (1968).
- H. S. TAKHAR, Free convection from a flat plate, *J. Fluid Mech.* **34**(part 1), 81 (1968).
- G. VERONIS, Effect of a stabilizing gradient of solute on thermal convection, *J. Fluid Mech.* **34**(Part 2), 315 (1968).

PACKED AND FLUIDIZED BEDS

- A. CLAMEN and W. H. GAUVIN, Effects of turbulence on particulate heat and mass transfer, *Can. J. Chem. Engng* **46**(4), 223 (1968).
- S. DI CAVE, Mass transfer coefficients in packed beds, turbulent flow through beds of small granulometry (English abstract), *Ing. Chim. Italiano* **4**(10), 155 (1968).
- E. GÜNTER, Measurement of gas flow heat transfer and pressure drop in packed beds and the effect of void fraction and temperature ratio (in German), *Z. Ver. Dt. Ing.* **110**(22), 1006 (1968).
- D. HANDLEY and P. J. HEGGS, Momentum and heat transfer mechanisms in regular shaped packings, *Trans. Inst. Chem. Engrs* **46**(9), T251 (1968).
- W. SCHMIDT-FATHMANN, Investigations on the effective heat conductivity of wire gauze packings with fluid through-flow (in German), *Z. Ver. Dt. Ing.* **110**(26), 1154 (1968).

RADIATION

- J. D. ANDERSON, JR., Heat transfer from a viscous nongray radiating shock layer, *AIAA J.* **6**(8), 1570 (1968).
- J. D. ANDERSON, JR., An equation for stagnation-point radiative heat transfer, *AIAA J.* **6**(11), 2216 (1968).
- J. D. ANDERSON, JR., An equation for rapid calculation of stagnation point radiative heat transfer (including shock layer radiative cooling and non-gray self-absorption), NOLTR 68-56, U.S. Naval Ordnance Lab., White Oak, Md. (1968).
- W. Z. BLACK and R. J. SCHOENHALS, A study of directional radiation properties of specially prepared V-groove cavities, *J. Heat Transfer* **90**(4), 420 (1968).
- M. I. G. BLOOR, Effect of radiative heat transfer on the hypersonic shock layer, *AIAA J.* **6**(10), 2006 (1968).
- R. K. BURNS and C. C. OLIVER, Downstream radiation flux to blunt entry vehicles, *AIAA J.* **6**(12), 2452 (1968).
- J. P. CAMPBELL and D. G. MCVONNEL, Radiant-interchange configuration factors for spherical and conical surfaces to spheres, NASA TN D-4457 (1968).
- G. EMANUEL, Radiative transport in an optically thick planar medium, *Int. J. Heat Mass Transfer* **11**(9), 1413 (1968).
- G. EMANUEL, Application of matched asymptotic expansions to radiative transfer in an optically thick gas, SAMSO-TR-68-267, Air Force Systems Command, Los Angeles Air Force Station, Los Angeles, Calif. (1968).
- R. A. GOLOBIC and R. M. NEREM, Shock-tube measurements of end-wall radiative heat transfer in air, *AIAA J.* **6**(9), 1741 (1968).
- R. GRIEF, Nongray radiation heat transfer in the optically thin region, *J. Heat Transfer* **90**(3), 363 (1968).
- A. S. GUPTA and A. S. CHATTERJI, Flow of a compressible radiating fluid past an infinite plate with suction, *AIAA J.* **6**(11), 2209 (1968).
- R. P. HEINISCH, R. M. SINGER and R. VISKANTA, Transient combined conduction and radiation in an absorbing nonemitting medium, ANL-7407, Argonne National Lab., Argonne, Ill. (1968).
- R. G. HERING and T. DEGENHART, Radiant energy transport through a circular tube, *J. Heat Transfer* **90**(4), 489 (1968).
- R. G. HERING and T. F. SMITH, Surface radiation properties from electromagnetic theory, *Int. J. Heat Mass Transfer* **11**(10), 1567 (1968).
- M. IQBAL and B. D. AGGARWALA, Solar heating of a long circular cylinder with semigray surface properties, *J. Spacecraft Rockets* **5**(10), 1229 (1968).
- J. LAWTON, M. E. MORRISON and K. SCHELLER, Radiative transfer from an inhomogeneous non-scattering gas in the infrared, ARL 68-0118, Office of Aerospace Research, U.S. Air Force, Wright-Patterson AFB, Ohio (1968).
- J. T. C. LIU, On radiative transfer in the low Reynolds number blunt body stagnation region at hypersonic speeds. Part I. Emission dominated case, Report No. Nonr 562(35)/21, Div. of Engineering, Brown University, Providence, Rhode Island (1968).
- C. H. MARSTON, G. FRIND and B. DAMSKY, Radiation heat flux from high pressure arcs, AEDC-TR-68-146, Air Force Systems Command, Arnold Air Force Station, Tenn. (1968).
- R. L. MERRIAM and R. VISKANTA, Radiative characteristics of absorbing, emitting, and scattering media on opaque substrata, *J. Spacecraft Rockets* **5**(10), 1210 (1968).
- P. MIGHDOLL and R. D. CESS, Infrared radiative equilibrium under large path length conditions, *AIAA J.* **6**(9), 1778 (1968).

- F. E. NICODEMUS, Emissivity of isothermal spherical cavity with gray Lambertian walls, *Appl. Optics* 7(7), 1359 (1968).
- M. PEREZ and A. F. BALDO, Radiant heating of an absorbing and scattering slab, *J. Franklin Inst.* 285(6), 424 (1968).
- S. P. PERGAMENT and R. D. CESS, Limiting solutions for boundary-layer flow of a radiating gas, *J. Heat Transfer* 90(3), 367 (1968).
- A. F. SAROFIM, H. C. HOTTEL and E. J. FAHIMIEN, Scattering of radiation by particle layers, *AIAA Jl* 6(12), 2262 (1968).
- J. R. SCHORNHORST and R. VISKANTA, An experimental examination of the validity of the commonly used methods of radiant heat transfer analysis, *J. Heat Transfer* 90(4), 429 (1968).
- P. M. SFORZA and L. D. PORTER, Coupled radiation and conduction in free mixing, *AIAA Jl* 6(12), 2267 (1968).
- F. SHAHROKHI and P. WOLF, Theoretical analysis of radiative heat transfer in a scattering medium, *Appl. Optics* 7(10), 1937 (1968).
- F. SHAHROKHI and P. WOLF, Numerical solution to the radiation heat-transfer equation for scattering medium, *AIAA Jl* 6(9), 1748 (1968).
- D. M. SHCHERBINA, Installation for evaluating spectral reflection factors, *Meas. Tech.* No. 2, 177 (1968).
- J. R. SCHORNHORST and R. VISKANTA, Effect of direction and wavelength dependent surface properties on radiant heat transfer, *AIAA Jl* 6(8), 1450 (1968).
- G. M. SIMMONS and J. H. FERZIGER, Non-grey radiative heat transfer between parallel plates, *Int. J. Heat Mass Transfer* 11(11), 1611 (1968).
- L. W. STOCKHAM and T. J. LOVE, Radiative heat transfer from a cylindrical cloud of particles, *AIAA Jl* 6(10), 1935 (1968).
- W. SWINDELL, A precision reflectometer, *Appl. Optics* 7(8), 1455 (1968).
- J. L. SYNGE, Jets of radiation, *Q. Appl. Math.* 26(2), 153 (1968).
- S. N. TIWARI and R. D. CESS, The effect of surface emissivity upon infrared gaseous radiation, *Int. J. Heat Mass Transfer* 11(11), 1731 (1968).
- B. J. BAILEY and K. KELLNER, The thermal conductivity of liquid and gaseous argon, *Physica* 39(3), 444 (1968).
- R. S. BROKAW, Transport properties of high temperature gases, NASA TM X-52315 (1968).
- P. I. BROOKER and H. S. GREEN, An exact solution of Boltzmann's equation for a rigid sphere gas, *Aust. J. Phys.* 21(5), 543 (1968).
- L. T. CARMAICHAEL, JOAN JACOBS and B. H. SAGE, Thermal conductivity of fluids. A mixture of methane and n-butane, *Chem. Engng Data* 13(4), 489 (1968).
- S. D. CRAMER and J. M. MARCHELLO, Procedure for fitting non-Newtonian viscosity data, *A.I.Ch.E. Jl* 14(5), 814 (1968).
- R. M. DESMOND and W. E. IBELE, Prandtl number and thermal conductivity of steam at one atmosphere, *J. Heat Transfer* 90(4), 488 (1968).
- L. S. DZUNG, Note on the meaning of "heat," *Int. J. Heat Mass Transfer* 11(10), 1575 (1968).
- M. R. GIBSON and E. A. BRUGES, An equation of state for compressed water from 1 to 1000 bar and from 0°C to 150°C, *J. Mech. Engng Sci* 10(4), 319 (1968).
- F. S. HEROME, J. T. TSENG and L. T. FAN, Viscosities of aqueous glycol solutions, *Chem. Engng Data* 13(4), 496 (1968).
- J. KESTIN and V. L. SHAH, The effect of long-range intermolecular forces on the drag of an oscillating disk and on the viscosity of gases, AFFDL-TR-68-86, Air Force Systems Command, Wright-Patterson AFB, Ohio (1968).
- R. A. MATULA, High temperature thermal conductivity of rare gases and gas mixtures, *J. Heat Transfer* 90(3), 319 (1968).
- R. D. MCCARTHY, Computer programs for saturation properties of hydrogen, NASA CR-95831; NBS-9711, Institute for Basic Standards, National Bureau of Standards, Boulder, Colo. (1968).
- K. J. MEYER, Relationship between the velocity of sound and thermal conductivity with liquid fluorine-chlorine derivatives of methane and ethane (in German), *Z. Ver. Dt. Ing* 110(22), 1607 (1968).
- K. T. SHIH and W. E. IBELE, Helium transport properties and the Lennard-Jones 6-9 potential, *J. Heat Transfer* 90(4), 413 (1968).
- W. TAUSCHER, Thermal conductivity of liquid refrigerants measured by an unsteady state hot wire method, Part II (in German), *Kältetechnik-Klimatisierung* 20(9), 287 (1968).

ROTATING SURFACES OR FLUIDS

- R. A. CONOVER, Laminar flow between a rotating disk and a parallel stationary wall with and without radial inflow, *J. Basic Engng* 90(3), 325 (1968).
- E. L. KOSCHMIEDER, Convection on a non-uniformly heated, rotating plane, *J. Fluid Mech.* 33(part 3), 515 (1968).
- J. R. LAFFERTY, F. G. HAMMITT and R. CHEESEWRIGHT, Velocity distributions in two-phase vortex flow, *J. Basic Engng* 90(3), 368 (1968).

THERMODYNAMIC AND TRANSPORT PROPERTIES

- J. B. AINSCOUGH and M. J. WHEELER, The high-temperature thermal conductivity of sintered uranium dioxide, *Brit. J. Appl. Phys.* D1(7), 859 (1968).
- B. K. ANNIS, A. E. HUMPHREYS and E. A. MASON, Intermolecular forces: Thermal diffusion and diffusion in He-Kr and H²-Kr, *Physics Fluids* 11(10), 2122 (1968).

TRANSFER MECHANISMS

- A. FERRI, A critical review of heterogeneous mixing problems, *Astronautica Acta* 13(5-6), 453 (1968).
- N. A. FRANKEL and A. ACRIVOS, Heat and mass transfer from small spheres and cylinders freely suspended in shear flow, *Physics Fluids* 11(9), 1913 (1968).
- G. R. INGER and W. W. TIEMAN, Massive blowing into simple two-dimensional and axisymmetric shear flows, Douglas Paper-4362, Missilve and Space Systems Division, Douglas Aircraft Co., Santa Monica, Calif. (1968).
- L. N. PERSEN, Preliminary analytical explorations of heat transfer from boundary layers containing streamwise vortices, ARL 67-0280, Offices of Aerospace Research, Wright-Patterson AFB, Ohio (1967).

- G. D. RAITBY and E. R. G. ECKERT, The effect of turbulence parameters and support position on the heat transfer from spheres, *Int. J. Heat Mass Transfer* **11**(8), 1233 (1968).
- W. Z. SADEH, S. P. SUTERA and P. F. MAEDER, An investigation of vorticity amplification in stagnation flow, AF 1754/4, Division of Engineering, Brown University, Providence, Rhode Island (1968).
- E. I. SEBACHER, R. W. GUY and L. P. LEE, Diffusive separation in free jets of nitrogen and helium mixtures, NASA TM X-61220, Langley Research Center, Langley Station, Va. (1968).
- R. A. SEBAN and G. L. CALDWELL, The effect of a spherical protuberance on the local heat transfer to a turbulent boundary layer, *J. Heat Transfer* **90**(4), 408 (1968).
- J. R. TYLDESLEY and R. S. SILVER, The prediction of the transport properties of a turbulent fluid, *Int. J. Heat Mass Transfer* **11**(9), 1325 (1968).
- T. M. WEEKS, Influence of free-stream turbulence on hypersonic stagnation zone heating, AFFDL-TR-67-195; AD-671519, Air Force Systems Command, Wright-Patterson AFB, Ohio (1968).