

HEAT TRANSFER BIBLIOGRAPHY—JAPANESE WORKS

TAKASHI SATO

Department of Mechanical Engineering, Kyoto University, Kyoto, Japan

(Received 19 June 1971)

APPLICATION AND OUTLOOK

- T. HAYASHI and M. KUDOH, Thermal resistance of gas film under vacuum and its application to industry, *J. Japan Soc. Mech. Engrs* **73** (618), 937 (1970).
- R. IZUMI, H. KOYAMA and T. ASABA, On the heat exchanger with heat storage materials (Continued), *Trans. Japan Soc. Mech. Engrs* **36** (289), 1543 (1970).
- Y. KATTO, Heat transmission under low gravitational conditions, *J. Japan Soc. Mech. Engrs* **73** (622), 1517 (1970).
- M. KOZEKI, H. NARAI, T. FURUKAWA and K. KUROSU, A study of helically-coiled tube once-through steam generator, *J. Japan Soc. Mech. Engrs* **73** (615), 538 (1970).
- G. MATSUI, Flow instability in boiling channel systems experiment, *J. Atom. Energy Soc. Japan* **13** (2), 66 (1971).
- T. MIZUSHINA, S. IUCHI, T. OSHIMA, I. ITO and T. HAMAURA, Calculation on finned tube cooler condensers, *Chem. Engng. Japan* **34** (3), 292 (1970).
- H. NISHIMURA, Y. HIRAIZUMI and E. SUZUKI, Optimal system patterns of heat exchanger system, *Chem. Engng. Japan* **34** (10), 1099 (1970).
- K. OKADA, M. ONO, T. TOMMURA, T. OKUMA, H. KONNO and S. OHTANI, Temperature distribution of fluid plate type heat exchanger, *Chem. Engng. Japan* **34** (10), 93 (1970).
- H. TAMAKI, N. WAKISAKA, K. OHARA, S. NOZU and A. AZUMA, A study of heat transfer in supercharged boiler furnaces, *Trans. Japan Soc. Mech. Engrs* **36** (281), 111 (1970).
- H. TANIGUCHI and M. FUNAZU, The numerical analysis of temperature distribution in a three dimensional furnace, *Trans. Japan Soc. Mech. Engrs* **36** (284), 610 (1970).
- CHANGE OF PHASE AND TWO PHASE FLOW**
- K. AKAGAWA, H. HAMAGUCHI, T. SAKAGUCHI and T. IKARI, Studies on the fluctuation of pressure drops in two-phase slug flow (1st Report, Experimental results of the fluctuation of pressure drops in a vertical tube), *Trans. Japan Soc. Mech. Engrs* **36** (289), 1520 (1970).
- K. AKAGAWA, H. HAMAGUCHI, T. SAKAGUCHI and T. IKARI, Studies on the fluctuation of pressure drops in two-phase slug flow (2nd Report, Theoretical analysis of fluctuation of pressure drops), *Trans. Japan Soc. Mech. Engrs* **36** (289), 1528 (1970).
- K. AKAGAWA, H. HAMAGUCHI and T. SAKAGUCHI, Studies on the fluctuation of pressure drops in two-phase slug flow (3rd Report, Pressure recovery behind a bubble, and bubble and liquid slug lengths), *Trans. Japan Soc. Mech. Engrs* **36**, (289), 1535 (1970).
- T. FUJII, H. UEHARA and K. HIRATA, Film condensation heat transfer on a vertical surface (In the case of combined body force and forced convection), *Trans. Japan Soc. Mech. Engrs* **37** (294), 355 (1971).
- T. FUJII, H. UEHARA and C. KURATA, Film condensation of flowing vapour on a horizontal cylinder, *Trans. Japan Soc. Mech. Engrs* **37** (294), 364 (1971).
- T. FUJII, H. UEHARA, K. HIRATA and K. ODA, Condensation heat transfer and flow resistance in cross flow of low pressure saturated steam through tube banks, *Trans. Japan Soc. Mech. Engrs* **37** (294), 373 (1971).
- T. FUJISHIRO and K. TORIKAI, Pool boiling on a platinum wire at subatmospheric pressures, *Trans. Japan Soc. Mech. Engrs* **36** (292), 2087 (1970).
- S. HINATA and M. OHKI, The relationship between the apparent viscosity and the void fraction in two-phase flow, *Trans. Japan Soc. Mech. Engrs* **37** (293), 97 (1971).
- Y. IIDA and K. KOBAYASI, On the behavior of generating vapour bubbles in saturated pool boiling (Part 1, The behavior in nucleate boiling and film boiling), *Trans. Japan Soc. Mech. Engrs* **36** (283), 438 (1970).
- Y. IIDA and K. KOBAYASI, On the behavior of generating vapour bubbles in saturated pool boiling (Part 2, The behavior near the burn-out point and in transition boiling), *Trans. Japan Soc. Mech. Engrs* **36** (283), 446 (1970).
- S. ISIGAI, T. TAKAGI, S. ITIYAMA and M. KAJI, Boiling critical heat flux in horizontal tubes (3rd Report, Burnout in uniformly heated horizontal tubes), *Trans. Japan Soc. Mech. Engrs* **36** (284), 622 (1970).
- S. ISIGAI and T. TAKAGI, Boiling critical heat flux in horizontal tubes (4th Report, Analysis on burnout heat flux in annular mist flow), *Trans. Japan Soc. Mech. Engrs* **36** (284), 629 (1970).
- Y. KATTO and S. YOKOYA, Mechanism of boiling crisis and transition boiling in pool boiling, *Trans. Japan Soc. Mech. Engrs* **37** (295) 535 (1971).
- S. KOTAKE, On the evaporation of droplets on hot surface, *Trans. Japan Soc. Mech. Engrs* **36** (287), 1146 (1970).
- T. MIYAUCHI and M. YOKURA, On the mechanisms of nucleate boiling heat transfer, *Chem. Engng. Japan* **34** (11), 1176 (1970).
- N. YAMAKAWA, N. TAKAHASHI and S. OHTANI, Heat and mass transfer by forced convection under the frosting condition, *Chem. Engng. Japan* **35** (3), 328 (1971).

- K. NISHIKAWA, Y. FUJITA, T. NAWATA and K. HIRAHAYA, Effect of pressure on nucleate boiling heat transfer of water, *Mem. Fac. Engng. Kyushu Univ.* **30** (2), 27 (1970).
- T. SATO, H. MATSUMURA and M. OKADA, On the behaviour of vapour bubbles in subcooled boiling with forced convection (Part 1, Generating periods and life times of vapour bubbles), *Trans. Japan Soc. Mech. Engrs* **37** (293), 105 (1971).
- T. SATO, H. MATSUMURA and M. OKADA, On the behaviour of vapour bubbles in subcooled boiling with forced convection (Part 2, Fractions of heating surface covered by bubbles and void volumes), *Trans. Japan Soc. Mech. Engrs* **37** (293), 113 (1971).
- H. TAKEDA, T. HAYAKAWA and S. FUJITA, Boiling heat transfer coefficients in binary liquid mixtures, *Chem. Engng. Japan* **34** (7), 751 (1970).

CONDUCTION

- K. KATAYAMA and H. UMEMIYA, Heat conduction of semi-conductors (1st Report, Researches of fundamental equations and boundary conditions), *Trans. Japan Soc. Mech. Engrs* **36** (281), 67 (1970).
- Y. TAKEUCHI, N. SUMI and H. NADA, Approximate solutions of steady temperature distribution in a heat-generating multi-bore cylinder, *Trans. Japan Soc. Mech. Engrs* **36** (282), 258 (1970).

CONVECTIVE HEAT TRANSFER

- K. ENDOH, H. TSURUGA, H. HIRANO and M. MORIHIRA, Effect of turbulence on heat and mass transfer, *Chem. Engng. Japan* **35** (2), 257 (1971).
- S. GOTO and N. MORITA, Temperature and concentration distributions in packed beds of catalyst with external and internal transport effects, *J. Chem. Engng Japan (English)* **3** (2), 192 (1970).
- R. IZUMI and S. SUGIURA, Heat transfer in a vibrating vertical plate, *Trans. Japan Soc. Mech. Engrs* **36** (291), 1918 (1970).
- S. MOCHIZUKI and K. TAMURA, On the temperature profile of the laminar flow along a flat plate, *Mem. Defense Academy* **10** (1), 149 (1970).
- Y. MORI and S. TOKUDA, Unsteady heat transfer from an oscillating circular cylinder (3rd Report, Time mean), *Trans. Japan Soc. Mech. Engrs* **36** (289), 1510 (1970).
- T. NAKAJIMA, Heat transfer in parallel flow through rod bundles, *Mem. Fac. Engng. Kobe Univ.* **16**, 115 (1970).
- H. NAKAMURA and K. OBARA, Heat transfer between two fluids flowing along thin plate, *Trans. Japan Soc. Mech. Engrs* **36** (283), 446 (1970).
- H. NAKAMURA, S. HIRAOKA and I. YAMADA, Flow and heat transfer of laminar forced convection in arbitrary triangular ducts, *Chem. Engng. Japan* **35** (2), 255 (1971).
- R. YAMAZAKI and G. JINBO, Heat transfer between fluidized beds and heated surfaces (Effect of particle size), *J. Chem. Engng Japan (English)* **3** (1), 44 (1970).

MASS TRANSFER

- A. ENDO, M. SUZUKI and S. OHTANI, Mass transfer from

- discontinuous source, *Chem. Engng. Japan* **34** (3), 299 (1970).
- H. HARA, K. SHIMADA, K. ANDOU and K. ENDOH, The influence of ultrasonic wave on mass transfer from a flat plate in low Re number, *Chem. Engng. Japan* **35** (3), 341 (1971).
- M. HARADA, A. FUJIKI and W. EGUCHI, Mass transfer through drops of free rise (On the mechanism of mass transfer in continuous phase), *Chem. Engng. Japan* **34** (8), 863 (1970).
- M. HARADA and W. EGUCHI, Mechanism of mass transfer through a drop of free rise (On the mass transfer rate inside a drop), *Chem. Engng. Japan* **35** (1), 85 (1971).
- M. HOZAWA, H. KONO, T. TADAKI and S. MAEDA, On the mass transfer characteristics of the spray type liquid extraction column, *Chem. Engng. Japan* **35** (3), 351 (1971).
- S. KIKKAWA and S. ITO, Fundamental investigation on the combustion process of atomized droplets, *The Sci. Engng Review of Doshisha Univ.* **11** (2), 81 (1970).
- A. KIKUCHI, T. TADAKI and S. MAEDA, Mass transfer in the double-tube bubble column, *Chem. Engng. Japan* **34** (7), 762 (1970).
- T. MIZUSHINA, S. TAKESHITA, Y. HIRATA, H. KOJIMA and M. YASUNAMI, Transport phenomena at high mass flux, *Chem. Engng. Japan* **34** (1), 59 (1970).
- K. ONDA, H. TAKEUCHI and M. TAKAHASHI, Effective interfacial area and mass transfer coefficients for liquid extraction in packed columns, *Chem. Engng. Japan* **34** (2), 221 (1971).
- T. SHIROTSUKA and A. HIRATA, Continuous phase mass transfer from single drops in liquid-liquid system, *Chem. Engng. Japan* **35** (1), 78 (1971).
- R. TOEI, R. MATSUNO and K. NISHITANI, Gas interchange between bubble phase and continuous phase in gas-solid fluidised bed at coalescence, *Mem. Fac. Engng. Kyoto Univ.* **32** (2), 194 (1970).
- H. UYEHA and Y. HAGIWARA, An application of film theory to analysis of mass transfer in liquid phase on molecular distillation, *Chem. Engng. Japan* **34** (2), 165 (1970).

MEASUREMENT TECHNIQUES

- M. KITAYAMA and R. HARADA, Study on measurements of local void velocity by double type probe, *J. Atom. Energy Soc. Japan* **12** (8), 449 (1970).
- M. KITAYAMA and O. KAWATE, Study on measurements of local void velocity by single type probe, *J. Atom. Energy Soc. Japan* **12** (12), 715 (1970).
- T. SHIROTSUKA and A. HIRATA, A new method for measuring the instantaneous and local mass transfer rate, *J. Chem. Engng Japan (English)* **3** (2), 176 (1970).

NATURAL CONVECTION

- T. AIHARA, Natural convection heat transfer from vertical rectangular-fin arrays (Part 1, Heat transfer from base plates of vertical open-channels), *Rep. Inst. High Sp. Mech., Japan* **21**, 105 (1969/1970).
- T. AIHARA, Natural convection heat transfer from vertical rectangular-fin arrays (Part 2, Heat transfer from fin-edges), *Rep. Inst. High Sp. Mech., Japan* **21**, 135 (1969/

- 1970) and *Trans. Japan Soc. Mech. Engrs* **36** (282), 239 (1970).
- T. AIHARA, Natural convection heat transfer from vertical rectangular-fin arrays (Part 3, Heat transfer from fin-plats), *Rep. Inst. High Sp. Mech., Japan* **21**, 163 (1969/1970) and *Trans. Japan Soc. Mech. Engrs* **36** (282), 248 (1970).
- T. AIHARA, Natural convection heat transfer from vertical rectangular-fin arrays (Part 4, Heat transfer characteristics of nonisothermal fin arrays), *Trans. Japan Soc. Mech. Engrs* **36** (292), 2077 (1970).
- T. FUJII, M. TAKEUCHI and M. FUJII, Effects of artificial protrusions upon natural-convection heat transfer. *Trans. Japan Soc. Mech. Engrs* **36** (286), 994 (1970).
- T. FUJII, M. TAKEUCHI and M. FUJII, Flow patterns and temperature profiles in the natural-convection boundary layer, *Trans. Japan Soc. Mech. Engrs* **36** (288), 1349 (1970).
- H. IMURA and J. OGATA, Natural convection heat transfer from an inclined flat plate (On the small heating surface), *Techn. Rept. Kumamoto Univ.* **19** (1), 11 (1970).
- T. MASUOKA, Heat transfer by free convection in a porous medium heated from below, *Trans. Japan Soc. Mech. Engrs* **37** (293), 90 (1971).
- K. NISHIKAWA, T. ITO and H. YAMASHITA, Free convective heat transfer to a supercritical fluid, *Mem. Fac. Engng Kyushu Univ.* **30** (2), 17 (1970).

PROPERTIES OF GASES AND LIQUIDS

- K. HIJIKATA, Y. MORI and H. KAWADA, Sound velocity in gas with particles (2nd Report, Theoretical study of sound velocity in gas flow), *Trans. Japan Soc. Mech. Engrs* **37** (295), 556 (1971).
- S. HOSHINA, Estimation of diffusion coefficients in non-newtonian fluid and in slurry, *Chem. Engng. Japan* **34** (12), 1330 (1970).
- T. MIZUSHINA and F. OGINO, Eddy viscosity and universal velocity profile in turbulent flow in a straight pipe, *J. Chem. Engng Japan (English)* **3** (2), 166 (1970).
- Y. MORI, K. HIJIKATA and H. KAWADA, Sound velocity in gas with particles (1st Report, Theoretical study of sound velocity in stationary gas), *Trans. Japan Soc. Mech. Engrs* **37** (295), 546 (1971).
- S. SUGIYAMA, M. HASATANI and A. YATA, Effective thermal conductivity of a packed bed of glass sphere, *Chem. Engng. Japan* **34** (5), 545 (1970).
- I. TANISHITA, A. NAGASHIMA and Y. MURAI, Correlation of viscosity, thermal conductivity and Prandtl number for water and steam as a function of temperature and pressure *Trans. Japan Soc. Mech. Engrs* **37** (295), 515 (1971).

RADIATION

- R. ECHIGO and S. HASEGAWA, Composite heat transfer with thermal radiation (Part I, Interaction of radiation with conduction in non-gray mediums), *Trans. Japan Soc. Mech. Engrs* **36** (283), 430 (1970).
- T. HIROSE and A. MITSUNAGA, An investigation of radiant heat exchange in boiler, *Trans. Japan Soc. Mech. Engrs* **36** (292), 2093 (1970).
- E. Y. H. KENG and C. ORR, Jr., Radiant heat transfer to absorbing fluid media, *J. Chem. Engng Japan (English)* **3** (2), 171 (1970).
- T. KUNITOMO and T. SATO, Theoretical study on infrared monochromatic absorption coefficient of soot particles, *Trans. Japan Soc. Mech. Engrs* **36** (285), 799 (1970).
- Y. KUROSAKI, Heat transfer by radiation and transport mechanisms (3rd Report, The entrance region of flow between parallel flat plates with simultaneous radiation and convection), *Trans. Japan Soc. Mech. Engrs* **36** (290), 1719 (1970).
- M. NISHIMURA, S. SUGIYAMA and M. HASATANI, Temperature distribution in a flowing, absorbing-emitting medium supplied with the radiant energy flux through the transparent wall, *Chem. Engng. Japan* **34** (6), 652 (1970).

ROTATING SURFACES

- I. MABUCHI, T. TANAKA and Y. SAKAKIBARA, Studies on the convective heat transfer from rotating disk (5th Report, Experiment on the laminar heat transfer from a disk rotating in uniform forced stream), *Trans. Japan Soc. Mech. Engrs* **36** (290), 1727 (1970).
- Y. MORI, W. NAKAYAMA and T. FUKADA, Convective heat transfer in a rotating radial circular pipe (2nd Report, Experimental study in laminar region and experimental and analytical study in turbulent region), *Trans. Japan Soc. Mech. Engrs* **36** (286), 982 (1970).
- M. SAKAMOTO, S. FUKUI and M. KOMORI, Convective heat transfer of tube rotating about its axis (1st Report, Laminar flow), *Trans. Japan Soc. Mech. Engrs* **37** (294), 346 (1971).
- R. SHIMOMURA, Heat transfer from a rotating disk in parallel with a disk, *Trans. Japan Soc. Mech. Engrs* **36** (284), 603 (1970).