

Heat transfer bibliography—Japanese works

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CONDUCTION

- T. Amano, Thermal performance of multilayer insulation (1st report, derivation of a prediction-based heat-flux equation), *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2142 (1993).
- T. Amano, Thermal performance of multilayer insulation (2nd report, expansion and application of the prediction-based heat flux equation), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 284 (1994).
- T. Amano and A. Ohara, Thermal performance of multilayer insulation (3rd report, effects of various parameters on heat flux), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 292 (1994).
- Y. Fujisawa, M. Taki, Y. Sofue and T. Yoshida, Fundamental evaluation of functionally gradient materials in the simulation of a high-temperature, high-speed rotating field, part 1: evaluation tests of stepwise graded material, *Tech. Rep. Nat. Aerospace Laboratory* TR1209 (1993).
- K. Goodson and M. L. Flik, Thermal conduction processes with sub-micrometer lengthscales in electronic circuits, *Thermal Sci. Engng* (English) **2**(1), 191 (1994).
- S. Hirasawa, H. Yamaguchi, N. Owada, M. Endo and Y. Saito, Fast computation of microscale temperature distribution in LSI chips, *Thermal Sci. Engng* (English) **2**(1), 202 (1993).
- S. Kotake and S. Wakuri, Molecular dynamics study of heat conduction in solid materials, *J.S.M.E. Int. J. Series B* (English) **37**(1), 103 (1994).
- A. Lavine and C. Bai, Hyperbolic heat conduction in thin domains, *Thermal Sci. Engng* (English) **2**(1), 185 (1994).
- Y. Ochiai and R. Ishida, Transient heat conduction analysis for two-dimensional orthotropic bodies by boundary element method, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3906 (1993).
- M. Takatsu, T. Nishikawa and Y. Mizutani, Maximum thermal stress in ceramics with temperature-dependent thermal conductivity under rapid heating or cooling, *Kagaku Kogaku Ronbunshu* (*Trans. Chem. Engng Japan*) **19**(4), 633 (1993).
- A. Watanabe and S. Kotake, Study on molecular dynamics mechanism of heat conduction, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 2142 (1993).

NATURAL CONVECTION

- V. T. Ca, T. Asaeda and S. W. Armfield, Natural convection in a street canyon, *Res. Rep. Dep. Civ. Envir. Engng Saitama Univ.* (English), **23**, 121 (1993).
- M. Fujii, S. Gima, T. Tomimura and X. Zhang, An experimental study of natural convection from an array of vertical parallel plates, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3224 (1993).
- N. Hattori, R. Kawasima, T. Yamada and K. Kataoka, Natural convection heat transfer from horizontal circular cylinder banks to air, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3216 (1993).
- A. Hirata, S. Nishizawa, M. Noguchi, M. Sakurai, S. Yasuhiro and N. Imaishi, Marangoni convection in a liquid bridge under microgravity conditions during parabolic flight, *J. Chem. Engng Japan* (English) **27**(1), 65 (1994).
- O. Hirayama and R. Takaki, Stability of stationary thermal convection with temperature dependent viscosity, *Nagare* (*J. Japan Soc. Fluid Mech.*) No. 12, 169 (1993).
- Y. T. Hsiao, T. Hanzawa and N. Sakai, Numerical analysis of free convection heat transfer in vertical duct with laminar upflow, *J. Chem. Engng Japan* (English) **26**(5), 493 (1993).
- S. Iida and K. Ogawara, Bifurcation structures of Lorenz-type 5-equation model in thermal convection, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 366 (1994).
- T. Ikeda and T. Fujii, Natural convection heat transfer of a spherical lighting fitting, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2252 (1993).
- T. Inagaki and K. Komori, Experimental study of heat transfer enhancement in turbulent natural convection along a vertical flat plate (1st report, the effect of injection and suction), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1298 (1993).
- K. Kakuda, Y. Kawahara and N. Tosaka, Petrov-Galerkin finite element analysis using exponential functions for natural convection in a square cavity, *Trans. Japan Soc. Mech. Engrs* **B59**(564), 2463 (1993).
- F. Kimura and K. Kitamura, Heat transfer and fluid flow of natural convection over horizontal-heated plate (high-Rayleigh-number flow), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 566 (1994).
- K. Kitamura, N. Nagae and F. Kimura, Enhancement of natural-convection heat transfer from a horizontal heated plate, *Trans. Japan Soc. Mech. Engrs* **B60**(569), 270 (1994).
- H. Koizumi and I. Hosokawa, Controlling the generation of Bénard cells in combined convection of a horizontal rectangular duct heated from below (experiment of mass transfer), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 560 (1994).
- M. Kuriyama, X. Li, E. Harada and H. Konno, Natural-convection heat transfer to air from a vertical array of two horizontal circular cylinders, *Kagaku Kogaku Ronbunshu* (*Trans. Chem. Engng Japan*) **19**(6), 1074 (1993).

- J. Mizushima, Mechanism of the pattern formation in Rayleigh-Bénard convection, *J. Phys. Soc. Japan* (English) **63**(1), 101 (1994).
- H. Mori and H. Ogata, Natural convection heat transfer to liquid helium in a high centrifugal acceleration field, *J.S.M.E. Int. J. Series B* (English) **37**(1), 109 (1994).
- S. Nomura and M. Nakagawa, Cavitation intensity and heat transfer on bottom surface by applying ultrasonic vibration, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2082 (1993).
- S. Nomura and M. Nakagawa, Ultrasonic enhancement of heat transfer on narrow surface, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2232 (1993).
- Y. Oki and T. Tanahashi, Numerical analysis of natural convection of thermo-electrically conducting fluids in a square cavity under a constant magnetic field (1st report, estimation of induced heating term), *Trans. Japan Soc. Mech. Engrs* **B59**(562), 1835 (1993).
- Y. Oki and T. Tanahashi, Numerical analysis of natural convection of thermo-electrically conducting fluids in a square cavity under a constant magnetic field (2nd report, improved scheme for magnetic field analysis, enstrophy, hydromagnetic cross helicity), *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2165 (1993).
- M. Osakabe and Y. Li, Entrainment behavior on density interface of stratified fluids (2nd report, depression of entrainment at high Richardson number), *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3871 (1993).
- M. Oshima, G. Yagawa and S. Yoshimura, Finite element analysis of three-dimensional magneto-thermal-hydraulic melt flow in single crystal growth using magnetic Czochralski method, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 1848 (1993).
- H. Takeda and T. Koga, Study on the phenomena of natural circulation in LMFBR, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep. No. U93005*, 1 (1993).
- T. Yabuta and K. Yoshioka, Calculation of buoyancy-driven flow in a square cavity by application of the PD method, *Rep. Fac. Engng Oita Univ.* No. 29, 7 (1994).
- FORCED CONVECTION**
- T. Atarashi, T. Hatada and T. Daikoku, Air-cooled heat sink for electronic equipment (heat transfer characteristics of inclined strip fins and a multiflow air duct system), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 620 (1994).
- Y. Hagiwara, G. Xi, S. Futagami and K. Suzuki, An experimental study of flow characteristics of offset fin and in-line fin arrays (effects of fin thickness and fin pitches on flow instability), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1222 (1993).
- K. Hamabe, K. Ishida, T. Tanizawa, M. Shiraha and H. Kimoto, Heat transfer coefficient distribution on blade surfaces and platform of gas turbine cascade, *Trans. Japan Soc. Mech. Engrs* **B59**(564), 2536 (1993).
- N. Hattori, K. Oomori and J. Kimura, Forced convection heat transfer from yawed circular cylinders to air, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3597 (1993).
- N. Hattori and T. Takahashi, Heat transfer from a single row of circular cylinders placed in the transverse direction of water flow, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 4064 (1993).
- K. Hishida, H. Kishizawa, T. Tominaga and M. Maeda, Enhancement and control of local heat transfer in a gas flow containing soft magnetic particles, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3919 (1993).
- K. Ichimiya, Y. Fjui and H. Saitoh, Effects of porous medium in a flow passage with miter-bend, *Trans. JAR* **10**(1), 11 (1993).
- K. Ichimiya, M. Katayama and Y. Suzuki, Effects of contraction fins on local heat transfer, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 582 (1994).
- K. Ichimiya and T. Nasu, Heat transfer characteristics of an oblique impinging jet with confined wall, *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1698 (1993).
- O. Iida and N. Kasagi, Direct numerical simulation of homogeneous isotropic turbulence with heat transport (Prandtl number effects), *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3359 (1993).
- T. Inaba and T. Kubo, Enhanced heat transfer through oscillatory flow, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2265 (1993).
- H. Inaba, K. Ozaki and S. Kanaoka, A fundamental study of heat-transfer enhancement and flow-drag reduction in tubes by means of wire coil insert (1st report, characteristics of flow resistance and heat transfer in tubes with wire coil insert), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 240 (1994).
- T. Ishikawa and T. Kamiya, Limits of Reynolds number for effective use of heat transfer promoters—twisted type and static mixer, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **20**(1), 41 (1994).
- S. Isshiki, T. Obata, N. Kasagi and M. Hirata, An experimental study on heat transfer in a pulsating pipe flow (1st report, time-averaged turbulent characteristics), *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2245 (1993).
- S. Isshiki, T. Obata, N. Kasagi and M. Hirata, An experimental study on heat transfer in a pulsating pipe flow (2nd report, phase-averaged turbulent characteristics), *Trans. Japan Soc. Mech. Engrs* **B59**(564), 2522 (1993).
- K. Itomi and I. Suzuki, Heat transfer of radial rotor duct in motor, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3210 (1993).
- S. Kikkawa, M. Senda, K. Sakaguchi and H. Shibutani, Transpiration cooling with circular air impinging jets, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2058 (1993).
- T. Kinoshita, K. Tsunoda and K. Yoshikawa, Heat transfer in a disk MHD generator under the influence of Lorentz force, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3617 (1993).
- N. Kitahara, K. Isamoto and Y. Maeda, A computer simulation for fluid flow in arc welding, *Res. Rep. Maizuru Coll. Technol.* No. 28, 31 (1993).
- K. Kitamura and H. Umeda, Heat transfer of combined forced and natural convection from a horizontal cylinder (heat transfer of cross flow), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 587 (1994).
- M. Kuriyama, X. Li, E. Harada and H. Konno, Cooling characteristics of highly viscous liquids in a channel with a large number of right-angled bends, *Trans. JAR* **10**(1), 57 (1993).
- H. Kuroda, Energy separation in swirling flow (dedicated to professor Kichiro Takao), *Scient. Engng Rep. Natn. Def. Acad.* **31**(1), 105 (1993).
- K. Minakami, S. Mochizuki, A. Murata, Y. Yagi and H. Iwasaki, Heat transfer characteristics of pin-fins with in-line arrangement (1st report, effect of the pin pitch), *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3602 (1993).
- K. Minakami, S. Mochizuki, A. Murata, Y. Yagi and H. Iwasaki, Heat-transfer characteristics of pin-fin arrays (2nd report, empirical formulas of heat transfer and pressure loss performances), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 255 (1994).
- M. Mizuno, M. Hori and K. Kudo, Heat transfer and flow characteristics of offset fins in low-Reynolds-number region (effect of thermal conductivity of fins), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 263 (1994).
- A. Nakano and M. Murakami, Investigations of second sound Helmholtz oscillation and the superfluid turbulence in a He II thermal counterflow jet, *Cryogenic Engng* **28**(3), 143 (1993).
- S. Nishio, M. Honma and W.-M. Zhang, Oscillation-controlled heat transport tube (1st report, effect of liquid properties), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 233 (1994).

- S. Nishio and W.-M. Zhang, Oscillation-controlled heat transport tube (2nd report, optimum conditions), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 627 (1994).
- Y. Nonaka, Instability waves in cold air flows, *Nagare (J. Japan Soc. Fluid Mech.)* No. 12, 409 (1993).
- S. Okamoto, S. Seo, H. Morishita and I. Satoh, Effect of rib shape on flow property and heat transfer over rows of two-dimensional ribs on ground plane, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2238 (1993).
- K. Oyakawa, I. Senaha, J. Sakugawa, M. Oshiro and T. Shinzato, Heat transfer for two-dimensional jet impingement on a confined wall in a dead-end duct, *Bull. Fac. Engng Univ. Ryukyus* No. 46, 37 (1993).
- K. Oyakawa, T. Taira and E. Yamazato, Studies of heat transfer control by jet discharge at reattachment region downstream of a backward-facing step (2nd report, for various expansion ratios), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 248 (1994).
- M. Ozawa, Y. Ueda, M. Hasegawa and H. Kobayashi, Convective heat transfer in simulated tube-nested combustor, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2257 (1993).
- M. Sano and Y. Asako, Fluid flow and heat transfer in a periodically diverging-converging turbulent duct flow, *J.S.M.E. Int. J. Series B (English)* **36**(2), 207 (1993).
- H. Sato, T. Minaga, M. Tagawa and Y. Nagano, Structures of the intermittent region of a turbulent thermal boundary layer, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 594 (1994).
- T. Shakouchi and I. Kajino, Flow and forced heat transfer over forward facing double steps, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(3), 455 (1993).
- N. Shikazono and N. Kasagi, A fundamental study on second-moment closure of turbulent scalar transport, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2279 (1993).
- K. Sugiyama, M. Miyata, R. Ishiguro and T. Enoto, Rarefied gas flow induced by wall temperature gradient in containers, *Trans. Japan Soc. Mech. Engrs* **B60**(569), 229 (1994).
- H. Suzuki, K. Fukutani, T. Takishita and K. Suzuki, Heat transfer characteristics in a channel flow obstructed by a square rod mounted in an asymmetric position, *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1692 (1993).
- S. Syoya and K. Fukui, Structure of mixed density-stratified turbulent flow between horizontal parallel plates, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(3), 398 (1993).
- H. Takasaki and T. Igarashi, Fluid flow and heat transfer around the rectangular blocks in a parallel duct flow, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2021 (1993).
- S. Torii and H. Fuse, Heat transfer and flow characteristics behind cylinders (effects of scale of free-stream turbulence and cylinder size), *Res. Rep. Fac. Engng Kagoshima Univ.* **35**, 13 (1992).
- K. Tutumi and S. Masuda, Heat transfer characteristics of hot-wire probe in rarefied gas flow, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1101 (1993).
- A. Uchiyama, M. Yamamoto, T. Shizawa and S. Honami, Behavior of cooling jet in the lateral injection in film cooling (1st report, time-averaged velocity and temperature field), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 614 (1994).
- S. Ushijima, Prediction of thermal stratification in a curved duct with 3D body-fitted coordinates, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. U93038, 1 (1993).
- M. Wang, T. Tsuji, Y. Nagano and E. Naito, Combined free and forced convection of low-Prandtl-number fluids in a vertical pipe, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3565 (1993).
- G. Xi, S. Futagami, Y. Hagiwara and K. Suzuki, Flow and heat transfer characteristics of fin arrays in the middle range of Reynolds number (1st report, statistical characteristics of unsteady flow and temperature fields), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1318 (1993).
- G. Xi, S. Futagami, Y. Hagiwara and K. Suzuki, Flow and heat transfer characteristics of fin arrays in the middle range of Reynolds number (2nd report, mechanism of heat transfer promotion), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1324 (1993).

BOILING AND EVAPORATION

- T. Aihara, A. Komura, S. Okada, K. Kuroda, T. Ohara and H. Yamamoto, Rapid transient boiling heat-transfer from a coated strip vertically placed in liquid helium—I, *Cryogenic Engng* **29**(1), 2 (1994).
- J. H. Chiang, M. Aritomi and M. Mori, Fundamental study on thermo-hydraulics during start-up in natural circulation boiling water reactor (II) (natural circulation oscillation induced by hydrostatic head fluctuation), *J. Nucl. Sci. Technol. (English)* **30**(3), 203 (1993).
- S. Fuchino, N. Tamada, T. Ito and N. Natori, Optical observation of pool boiling in cooling channels, *Cryogenic Engng* **28**(3), 160 (1993).
- T. Fujii, S. Koyama, N. Inoue, K. Kuwahara and S. Hirakuni, An experimental study of evaporation heat transfer of refrigerant HCFC22 inside an internally grooved horizontal tube, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2035 (1993).
- M. Furukawa, E. Enomoto, and K. Sekoguchi, Boiling heat transfer in high temperature generator of absorption chiller/heater, *Trans. JAR* **10**(2), 209 (1993).
- S. Hinata, N. Himeno, M. Sakurai and H. Iwada, Simultaneous measurements of void fraction and temperature above a horizontal surface in nucleate pool boiling, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2001 (1993).
- F. Inasaka, Critical heat flux of subcooled flow boiling in water under uniform heating conditions, *Pap. Ship Res. Inst. (English)* **30**(4), 1 (1993).
- T. Iwamura, H. Watanabe, T. Okubo, F. Araya and Y. Murao, CHF experiments under steady-state and transient conditions of tight lattice core with non-uniform axial power distribution, *J. Nucl. Sci. Technol. (English)* **30**(5), 413 (1993).
- Y. Katto, Limit conditions of steady-state countercurrent annular flow and onset of flooding, with reference to CHF of boiling in a bottom-closed vertical tube, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3167 (1993).
- O. Kido, H. Yoneda, K. Nakayama, H. Uehara and A. Miyara, Evaporation heat transfer and pressure drop of HCFC22 inside a horizontal rectangular channel (2nd report: grooved surface with 0.34mm of the groove pitch), *Trans. JAR* **10**(1), 19 (1993).
- I. Kinoshita, A. Ohto and Y. Nishi, System concept and fundamental heat transfer characteristics of direct contact high-reliable SG for FBRs, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. T92024, 1 (1993).
- Y. Koizumi, T. Yoshinari, T. Ueda, T. Matsuo and T. Miyashita, Study on dry-out heat flux of two-phase natural circulation, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 545 (1993).
- S. Kumagai, Y. Sano, T. Kamata, S. Suzuki and R. Kubo, Boiling heat transfer to an impinged jet in cooling a hot metal slab, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 609 (1994).
- O. Miyatake, T. Hashimoto and Y. Ando, Effect of bubble nucleus size on bubble growth rate in a superheated liquid, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(6), 1038 (1993).
- M. Narasaki, S. Fuchizawa, M. Kogawara and M. Inaba, Effects of surface oxidation on cooling characteristics during quenching of heated metals in subcooled water, *Tetsu to Hagane (J. Iron Steel Inst. Japan)* **79**(5), 583 (1993).
- S. Nishio and K. Oikawa, Electronic device cooling by pool boiling (control of boiling incipience by impinging gas

- bubbles), *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3174 (1993).
- H. Ohkubo and S. Nishio, Evaluation of parameters affecting mist cooling heat transfer in high-temperature region, *Tetsu to Hagane (J. Iron Steel Inst. Japan)* **79**(4), 497 (1993).
- H. Ohtake and S. Nishio, Natural-convection film-boiling heat transfer experiment of subcooled film boiling with long vapor film, *J.S.M.E. Int. J. Series B (English)* **37**(1), 116 (1994).
- K. Okuyama and Y. Iida, Film-boiling heat transfer with a catalytic decomposition reaction, *J.S.M.E. Int. J. Series B (English)* **37**(1), 123 (1993).
- H. Sakashita and T. Kumada, A new model for CHF in a pool boiling at higher pressure, *J.S.M.E. Int. J. Series B (English)* **36**(3), 422 (1993).
- M. Shoji, H. Sugauma and K. Wakamatsu, Burnout heat flux on a horizontal ribbon, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2287 (1993).
- M. Takahashi, A. Inoue, M. Matsuzaki and R. Ohkawa, Saturated pool boiling heat transfer of toluene-solvent magnetic fluid on a horizontal surface (effects of field gradient, concentration of particles, and pressure), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1271 (1993).
- M. Takahashi, A. Inoue and K. Shinbo, Saturated pool boiling heat transfer of hexane-solvent magnetic fluid on a horizontal surface (comparison with toluene-solvent magnetic fluid), *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2007 (1993).
- M. Takahashi, A. Inoue and K. Shinbo, Saturated pool boiling heat transfer of toluene-solvent magnetic fluid on a vertical cylindrical surface (effects of field gradient and concentration of particles), *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2015 (1993).
- T. Takano and K. Kobayasi, Effect of coating thickness on the vaporization of a liquid droplet on a hot surface coated with flame-sprayed ceramics, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3180 (1993).
- H. Tsuchida and S. Aiba, Heat transfer in boiling from horizontal tube enclosed by concentric outer tube with two horizontal slender holes, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3899 (1993).
- S. Yoshida, H. Hong and H. Mori, Enhancement of heat transfer to a non-azeotropic refrigerant mixture in a horizontal, spirally grooved evaporator tube, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1285 (1993).
- N. Yoshiyasu, K. Adachi and R. Takaki, Effect of ambient temperature on the self-induced vibration of boiling drop, *J. Phys. Soc. Japan (English)* **62**(7), 2314 (1993).

CONDENSATION

- T. Fujii and L. Xu, Free-convection condensation of steam on a vertical surface in the presence of a small amount of noncondensing gas, *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1664 (1993).
- S. Fujikawa and M. Maerefat, A shock method for the study of vapor-liquid interface phenomena, *Thermal Sci. Engng (English)* **2**(1), 60 (1994).
- R. Hashimoto, K. Yanagi and T. Fujii, Effects of condensate flow pattern upon gravity-controlled condensation of ethanol and water mixtures on a vertical surface, *Trans. Japan Soc. Mech. Engrs* **B60**(569), 215 (1994).
- H. Honda, H. Takamatsu, K. Kim, H. Urakami and N. Takada, A comparison of heat transfer coefficients for condensation of CFC-11 and HCFC-123 on an in-line bundle of horizontal finned tubes, *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1672 (1993).
- N. Kobayashi and S. Kotake, Study of cluster condensation with molecular beam TOF method, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3877 (1993).
- S. Nozu, S. Inoue and H. Inaba, Numerical simulation of

absorption of carbon-dioxide gas into a condensate film, *Trans. JAR* **10**(2), 185 (1993).

- K. Sugiyama, R. Ishiguro, Y. Imai and H. Yoshida, Vapor molecule behavior in the vicinity of metal condensation interface, *Thermal Sci. Engng (English)* **2**(1), 70 (1994).
- T. Tsuruta, Y. Kato, T. Yasunobu and T. Masuoka, Estimation of condensation coefficient by dropwise condensation method (condensation coefficients of ethylene glycol and water), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 508 (1994).
- T. Tsuruta, T. Masuoka and Y. Kato, Estimation of condensation coefficient from dropwise condensation heat transfer, *Thermal Sci. Engng (English)* **2**(1), 98 (1994).

MULTIPHASE FLOW

- Y. Abe, H. Akimoto, H. Kamo and Y. Murao, Elimination of numerical pressure spikes induced by two-fluid model, *Nucl. Sci. Technol. (English)* **30**(12), 1214 (1993).
- T. Hibiki, K. Mishima, K. Yoneda, S. Fujine, K. Kanda, H. Nishihara, A. Tsuruno and M. Matsubayashi, Application of neutron radiography to visualization and void fraction measurement of air-water two-phase flow in a small diameter tube, *Nucl. Sci. Technol. (English)* **30**(6), 516 (1993).
- F. Inada and T. Ohkawa, Thermo-hydraulic instability of natural circulation BWR (2nd report; explanation of instability mechanism at start-up by homogeneous and thermodynamic equilibrium model considering flashing effect), *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep. No. T92066*, 1 (1993).
- J. Ishimoto, M. Okubo, H. Nishiyama and S. Kamiyama, Basic study on an energy conversion system using gas-liquid two-phase flows of magnetic fluid (analysis on the mechanism of pressure rise), *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3071 (1993).
- I. Kataoka and A. Tomiyama, Basic equations and their mathematical feature of gas-liquid two-phase dispersed flow based on two-fluid model, *Jap. J. Multiphase Flow (English)* **7**(2), 132 (1993).
- S. Kawano, H. Hashimoto and T. Suyama, Thermal and fluid flow of immiscible two-layer liquids in vertical cylindrical container (application to solid spherical shell generator in liquid-liquid-gas systems), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 85 (1994).
- Y. Koizumi and T. Ueda, Initiation conditions of liquid ascent of the countercurrent two-phase flow in vertical pipes (in the presence of two-phase mixture in the lower portion), *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3537 (1993).
- T. Miyakawa, M. Cho and H. Kurihashi, Heat transfer augmentation by the use of two-phase jet (part 1. On the flow of planer air-water two-phase flow jet), *Bull. Hachinohe Inst. Technol. No. 13*, 70 (1993).
- M. Nakazatomi, H. Shimizu, T. Ochiai and K. Sekoguchi, Effects of system pressure on flow regime transitions in vertical upward gas-liquid two-phase flow, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3883 (1993).
- S. Nishizawa and A. Hirata, Momentum, with heat and mass transfer through gas-liquid interface with accelerated interfacial velocity, *J. Chem. Engng Japan (English)* **26**(6), 649 (1993).
- T. Ohkawa and A. Tomiyama, Applicability of high-order upwind schemes to two-fluid model (1st report: examination based on a linear model equation), *Jap. J. Multiphase Flow* **7**(3), 241 (1993).
- T. Okamura, T. Suzuki and S. Kabashima, Heat transport with phase transition in a pressurized He II channel (experiment), *Cryogenic Engng* **28**(9), 540 (1993).
- T. Okamura, N. Seki and S. Kabashima, Heat transport with phase transition in a pressurized He II channel (numerical simulation), *Cryogenic Engng* **28**(9), 545 (1993).
- T. Okawa, Development of gas-liquid two-phase flow

- numerical analysis method (III) (applicability of high-order upwind difference method to two-fluid model, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep. No. T93005*, 1 (1993).
- M. Osakabe, J. X. Du and T. Kubo, Two-phase critical flow at hot water relief valve, *Trans. Japan Soc. Mech. Engrs B59*(560), 1349 (1993).
- M. Osakabe, Z. M. Peng and H. Futamata, Top flooding in annuli, *Trans. Japan Soc. Mech. Engrs B59*(568), 3925 (1993).
- T. Sakaguchi, H. Shakutsui, A. Tomiyama, H. Minagawa and H. Takahashi, Nondimensional expression of volumetric fractions of gas-liquid-solid three-phase bubbly flow in vertical pipes (application of the multiplier method), *J.S.M.E. Int. J. Series B (English)* 36(3), 412 (1993).
- K. Sekoguchi and T. Furukawa, Effect of liquid viscosity on liquid lump velocity in vertical upward gas-liquid two-phase flow (1st report, mean liquid lump velocity and its standard deviation), *Trans. Japan Soc. Mech. Engrs B60*(570), 552 (1994).
- K. Sekoguchi, H. Shimizu, M. Nakazatomi, G. Miyake, M. Takeishi and K. Mori, Effects of pressure on velocity of liquid lumps in horizontal gas-liquid two-phase flow, *J.S.M.E. Int. J. Series B (English)* 36(2), 335 (1993).
- Y. Shibata, Stability analysis of two-phase annular flow (1st report, analysis of Rayleigh equation in cylindrical coordinates by small amplitude disturbance method), *Res. Rep. Ibaraki Natn Coll. Technol.* 28, 59 (1993).
- K. Takamori and A. Minato, Evaluation method for two-phase flow and heat transfer in a feed-water heater (numerical simulation of gas-liquid two-phase flow behavior with condensation heat transfer), *Trans. Japan Soc. Mech. Engrs B59*(568), 3891 (1993).
- A. Tomiyama, I. Kataoka, N. Furutani, T. Sakaguchi and S. Sugawara, Study on prediction of annular-mist flow based on the three-fluid model (1st report, examination on numerical stability of governing equation system), *Jap. J. Multiphase Flow* 8(1), 24 (1994).
- K. Usui, Annular two-phase flow in a C-shaped bend (flow of liquid drop entrained in gas core), *Trans. Japan Soc. Mech. Engrs B59*(560), 1216 (1993).
- O. Watanabe and H. Fujita, Characteristics of liquid film thickness of air-water annular two-phase flow in a helically coiled tube (horizontal coil), *Trans. Japan Soc. Mech. Engrs B59*(561), 1719 (1993).
- N. Yamaguchi, K. Sakata, A. Tsuge, T. Nakamura and I. Saito, Study on two-phase flow behavior and turbulent excitation mechanism in a U-bend tube-bundle in steam generators based on air-water two-phase flow model tests, *J.S.M.E. Int. J. Series B (English)* 36(3), 439 (1993).
- transfer from a horizontal ice cylinder immersed in saline water (effect of liquid depth to saline water surface), *Trans. Japan Soc. Mech. Engrs B59*(564), 2509 (1994).
- S. Fukusako, M. Yamada and C. Watanabe, Melting heat transfer from a horizontal ice cylinder immersed in saline water (effect of ambient saline water concentration), *Trans. Japan Soc. Mech. Engrs B60*(569), 276 (1994).
- Y. Hayashi N. Momose and Y. Tada, Micro-freezing of biological material, *Thermal Sci. Engng (English)* 2(1), 85 (1994).
- S. Hirano, K. Yasuda, H. Kodama, T. Kimura, K. Fukui and S. Matsunaga, Calculation of heat transfer coefficient at roll-solidified shell interface of twin-roll type caster, *Tetsu to Hagane (J. Iron Steel Inst. Japan)* 79(6), 659 (1993).
- T. Hirata, S. Ando and M. Ishikawa, The onset conditions for enhancement of ice accumulation associated with heat conductor plates located perpendicularly to heat transfer surfaces (1st report, analysis for still water), *Trans. Japan Soc. Mech. Engrs B59*(560), 1303 (1993).
- H. Inaba and H. Otake, Snow melting mechanism of radiative heat absorption material, *Trans. Japan Soc. Mech. Engrs B59*(567), 3580 (1993).
- H. Inaba, H. Otake and A. Shigemori, Fundamental study on melting of inclined frost layer by radiative heat energy, *Trans. Japan Soc. Mech. Engrs B59*(567), 3572 (1993).
- H. Inaba and K. Takeya, Influence of certain factors on supercooling phenomenon of still water, *Trans. Japan Soc. Mech. Engrs B59*(567), 3557 (1993).
- H. Inaba, K. Takeya and S. Nozu, Effect of various parameters on supercooling phenomenon of still bulk water and water solution, *Trans. Japan Soc. Mech. Engrs B59*(560), 1202 (1993).
- K. Kaino, Similarity curve in the solidification process of latent heat storage unit with straight fins (3rd report, effect of fin on the formation of the similarity rule), *Trans. Japan Soc. Mech. Engrs B59*(560), 1228 (1993).
- K. Kaino, Heat exchanger effectiveness in the solidification process of a latent heat storage unit calculated using a similarity curve in which heat release fraction is adopted as an independent variable, *Trans. Japan Soc. Mech. Engrs B59*(564), 2543 (1993).
- K. Kunimine, Y. Hayashi and N. Shimizu, Micro-macro solidification of supercooled mixtures, *Thermal Sci. Engng* 1(4), 9 (1993).
- Y. Kurosaki, I. Satoh and H. Kim, Effects of thermal molding conditions on the residual stress and residual birefringence in an injection-molded polymer strip, *Trans. Japan Soc. Mech. Engrs B59*(566), 3236 (1993).
- K. Matsumoto, M. Okada, M. Murakami and Y. Yabushita, Solidification of porous medium saturated with aqueous solution in a rectangular cell (discussion on influence of initial concentration of solution and mean diameter of beads), *Trans. Japan Soc. Mech. Engrs B59*(567), 3544 (1993).
- H. Miki, F. Seto, M. Nishimoto and J. Nishimoto, Effects of dehydration on fish muscles at chilled temperature, *Trans. JAR* 10(3), 377 (1993).
- Y. Ogawa and M. Uno, Rupture of cylindrical ice model and tuna fish during freezing, *Trans. JAR* 10(3), 383 (1993).
- A. Saito, S. Okawa, K. Kaneko and H. Kaneko, Simulation on continuous casting process (reconsideration of heat balance and improvement of efficiency in continuous casting process), *Trans. Japan Soc. Mech. Engrs B59*(565), 2890 (1993).
- A. Saito, S. Okawa and H. Nishimura, Simulation of melting process of ice by molecular dynamics, *Trans. JAR* 10(3), 367 (1993).
- T. Saitoh and H. Kato, Numerical analysis for combined natural convection and close-contact melting in a cylindrical capsule, *Trans. Japan Soc. Mech. Engrs B60*(569), 223 (1994).
- K. Sasaguchi, K. Kusano and N. Nisimizu, Solid/liquid

MELTING AND SOLIDIFICATION

- T. Endoh and E. Hasegawa, On the steady melting of a phase-change material due to a heated horizontal plate with a finite width, *Trans. Japan Soc. Mech. Engrs B59*(562), 2043 (1993).
- T. Endoh and E. Hasegawa, Relation between aspect ratio of heated body and squeezing force in close-contact melting, *Trans. Japan Soc. Mech. Engrs B60*(570), 537 (1994).
- S. Fukusako, M. Yamada and M. H. Kim, Melting heat transfer of liquid ice in a rectangular cavity, *Trans. JAR* 10(2), 273 (1993).
- S. Fukusako, M. Yamada and M. H. Kim, Experimental and numerical study on melting heat transfer of liquid ice in a rectangular cavity, *Bull. Fac. Engng Hokaido Univ.* No. 166, 13 (1993).
- S. Fukusako, M. Yamada and C. Watanabe, Melting heat transfer from an ice cylinder immersed in saline water, *Bull. Fac. Engng Hokaido Univ.* No. 166, 25 (1993).
- S. Fukusako, M. Yamada and C. Watanabe, Melting heat

- phase change heat transfer in porous media (effects of fins on the solidification process), *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1712 (1993).
- K. Sasaguchi and H. Takeo, Solid/liquid phase change heat transfer in porous media (effect of the orientation of a hot wall with fins on the melting process), *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1678 (1993).
- M. Tago, S. Fukusako, M. Yamada and A. Horibe, Freezing behavior in a return bend with rectangular cross section, *Trans. JAR* **10**(1), 37 (1993).
- K. Takahashi, N. Inoue and H. Shinano, Effect of freeze concentration of various salt solutions on the denaturation of carp myofibrils, *Trans. JAR* **10**(3), 423 (1993).
- M. Yamada, S. Fukusako, H. Morizane and M. H. Kim, Melting heat transfer along a horizontal heated tube immersed in liquid ice, *J.S.M.E. Int. J. Series B* (English) **36**(2), 343 (1993).

FLUIDIZED OR PACKED BED

- H. Inaba, K. Ozaki and S. Nozu, Convection heat transfer of horizontal-spherical particle layer heated from below and cooled from above, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1194 (1993).
- H. Inaba, K. Ozaki and S. Nozu, Mixed convection heat transfer in a open shallow cavity heated from below and packed with one step arrangement of spherical particles, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3588 (1993).
- S. Kagawa, S. Furukawa and late K. Ikeda, Dynamical behavior of non-isothermal fixed bed adsorption column (numerical simulation using a cell model with emphasis of radial transport phenomena), *J. Technol. Res. Coll. Engng Kanto Gakuin Univ.* (English) **36**(2), 83 (1993).
- K. Kato, S. Yoshioka and T. Murakami, Particle mixing and temperature distribution in a two-stage fluidized bed, *Kagaku Kogaku Ronbunshu* (*Trans. Chem. Engng Japan*) **20**(1), 34 (1994).
- Y. Katoh, M. Miyamoto, S. Kaneko and L. R. Glicksman, Flow patterns of fluidizing particles in a circulating fluidized bed (part 2), *Mem. Fac. Engng Yamaguchi Univ.* **43**(2), 243 (1993).
- Y. Katoh, M. Miyamoto, S. Kaneko and L. R. Glicksman, Observation of the fluidizing particle cluster in a riser of a circulating fluidized bed using a high speed video system, *Mem. Fac. Engng Yamaguchi Univ.* **43**(2), 243 (1993).
- M. Miyamoto, Y. Katoh and Y. Idei, Heat transfer and particle behavior around horizontal tube bundle in gas fluidized bed, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1291 (1993).
- T. Oshita, T. Higo, S. Kosugi and N. Inumaru, Formation of internal circulation in a fluidized bed boiler and control of overall heat transfer coefficient, *Kagaku Kogaku Ronbunshu* (*Trans. Chem. Engng Japan*) **19**(6), 956 (1993).
- T. Suekane, H. Fukai and K. Yoshikawa, Molten coal slag removal by packed bed under high temperatures, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2674 (1993).

MASS TRANSFER

- T. Mamyoda and K. Asano, Numerical analysis of drag coefficients and heat and mass transfer of a cylinder with diffusive surface mass suction or injection, *J. Chem. Engng Japan* (English) **26**(4), 382 (1993).
- I. Morioka, M. Kiyota and R. Nakao, Absorption of water vapor into a film of aqueous solution of LiBr falling along a vertical pipe, *J.S.M.E. Int. J. Series B* (English) **36**(2), 351 (1993).
- M. Ogawa, Numerical analysis of mass transfer with graphite oxidation in a laminar flow through a circular tube, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1181 (1993).
- M. Ogawa, Mass transfer with graphite oxidation in gas

- mixture laminar flow through circular tube, *J. Atom. Energy Soc. Japan* **35**(3), 245 (1993).
- D. H. Rie and T. Kashiwagi, Numerical analysis of heat and mass transfer enhancement process accompanying interfacial disturbance in water vapor absorption, *J.S.M.E. Int. J. Series B* (English) **36**(4), 636 (1993).
- K. Sada and Y. Ichikawa, Numerical simulation of tracer gas diffusion from continuous point source (2nd report, calculations of tracer gas concentration in unstable boundary layer), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 119 (1994).
- Y. Sano and S. Yamamoto, Mutual diffusion coefficient of aqueous sugar solutions, *J. Chem. Engng Japan* (English) **26**(6), 633 (1993).
- T. Takeda and M. Hishida, Study on molecular diffusion and natural circulation of two-component gases (2nd report, numerical analysis with a reverse-U-shaped tube), *Trans. Japan Soc. Mech. Engrs* **B60**(569), 208 (1994).
- W. S. Wu and G. P. Rangaiiah, An experimental study of oxygen evolution and mass transfer at microelectrodes, *J. Chem. Engng Japan* (English) **26**(6), 620 (1993).

THERMAL RADIATION

- K. Hanamura, N. Saiki, T. Hayashi and R. Echigo, New methanol-steam reformer with porous radiative converters, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2065 (1993).
- K. Kudo, H. Taniguchi, A. Kuroda, A. Mochida, M. Ohtaka, H. Yokota, M. Fujisaki, S. Kosaka and T. Yamada, Parallelization of 3-D radiative heat transfer analysis in nongray gas, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3610 (1993).
- K. Kudo, H. Taniguchi, A. Kuroda, M. Obata, M. Otaka and H. Yokota, Improvement of analytical method on radiative heat transfer in nongray media by Monte Carlo method, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1265 (1993).
- K. Kudo, H. Taniguchi, A. Kuroda, M. Sumarsono and T. Fukuchi, Radiative characteristics of nongray gas containing anisotropic scattering particles, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2640 (1993).
- S. Kumar, Thermal radiation transport regimes in microstructures, *Thermal Sci. Engng* (English) **2**(1), 149 (1994).
- T. Makino, K. Kaga and H. Murata, Numerical experiment on transient behavior of reflection characteristics of real surfaces of metallic materials, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1252 (1993).
- T. Makino and H. Kurata, Scattering of radiation by flake-type particle with rough surface, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 530 (1994).
- T. Makino and H. Wakabayashi, Numerical simulation on melting behavior of an atomic layer irradiated by thermal radiation, *Thermal Sci. Engng* (English) **2**(1), 158 (1994).
- T. Makino, T. Yoshida and S. Tanaka, A new reflectometer for measuring a spectrum of hemispherical reflectance for perfect-diffuse hemispherical irradiation, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2875 (1993).
- S. Maruyama, Radiation heat transfer control by a porous layer and gas injection, *J.S.M.E. Int. J. Series B* (English) **36**(4), 651 (1993).
- S. Maruyama and T. Aihara, Radiation heat transfer of arbitrary axisymmetric bodies with specular and diffuse surface, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3202 (1993).
- H. Masuda, H. Kou and I. Mizuta, Control of radiation heat transfer from solid surface by a grating of parallel circular cylinders, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1330 (1993).
- H. Nakabayashi, N. Ishikawa and Y. Kodama, Estimation of net radiation in a forest during the snow melt season, *Low Temp. Sci. Ser. 51* (1993).

- J. Yamada and Y. Kurosaki, Radiation transfer in fibrous media with large size parameters, *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3187 (1993).
- H. Wakabayashi, Y. Shimazu, T. Furuta and T. Makino, Numerical simulation on melting behavior of an atomic layer irradiated by thermal radiation, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2271 (1993).
- T. Watanabe, S. Shirasawa and T. Uchino, Automatic emissivity compensation and noise reduction of radiation thermometry in fabrication of LSI, *Thermal Sci. Engng* **1**(2), 1 (1993).

MOLECULAR AND MICROSCALE HEAT TRANSFER

- H. H. Bau, Transport processes associated with micro-devices, *Thermal Sci. Engng* (English) **2**(1), 172 (1994).
- R. A. Dimenna and R. O. Buckius, Microgeometrical contour contributions to surface scattering, *Thermal Sci. Engng* (English) **2**(1), 166 (1994).
- K. Hijikata, K. Ito, O. Nakabeppu, P. E. Phelan and K. Torikoshi, Heat and electron transport at point contact, *Thermal Sci. Engng* (English) **2**(1), 104 (1994).
- T. Inoue and H. Ozoe, Crystalline structures of thin films under the thermal energy control, *Thermal Sci. Engng* (English) **2**(1), 179 (1994).
- S. Kato, T. Fujimoto and T. Niimi, Experiment of gas-surface interaction and its energy transport characteristics, *Thermal Sci. Engng* (English) **2**(1), 35 (1994).
- Y. Kobayashi, S. Toyokawa and T. Araki, Heat and mass transfer from thin liquid film in the vicinity of the interline of meniscus, *Thermal Sci. Engng* (English) **2**(1), 45 (1994).
- S. Kotake, Future aspects of molecular heat and mass transfer studies, *Thermal Sci. Engng* (English) **2**(1), 12 (1994).
- L. Lin, K. S. Udell and A. P. Pisano, Liquid-vapor phase transition and bubble formation in micro structures, *Thermal Sci. Engng* (English) **2**(1), 52 (1994).
- A. Majumdar, J. Lai, K. Fushinobu and M. Chandrachood, Thermal imaging and modeling of hot electron semiconductor devices, *Thermal Sci. Engng* (English) **2**(1), 116 (1994).
- S. Maruyama, S. Matsumoto and A. Ogita, Surface phenomena of molecular clusters by molecular dynamics method, *Thermal Sci. Engng* (English) **2**(1), 77 (1994).
- J. Matsui and Y. Matsumoto, Numerical analysis of an atomic molecule interaction on surface, *Thermal Sci. Engng* (English) **2**(1), 28 (1994).
- Y. Matsumoto and T. Tokumasu, Cluster formation of diatomic molecules, *Thermal Sci. Engng* (English) **2**(1), 138 (1994).
- M. Matsumoto, K. Yasuoka and Y. Kataoka, Microscopic features of evaporation and condensation at liquid surfaces: molecular dynamics simulation, *Thermal Sci. Engng* (English) **2**(1), 64 (1994).
- V. Narayanamurti, From physics to function: semiconductor quantum structures and the information age, *Thermal Sci. Engng* (English) **2**(1), 145 (1994).
- T. Ohara and T. Aihara, Molecular dynamics study on cluster structure of water (dependence of cluster size and its probability distribution on temperature and density), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 496 (1994).
- T. Ohara and T. Aihara, Molecular dynamics study on structure of near-critical water, *Thermal Sci. Engng* (English) **2**(1), 132 (1994).
- T. Ohara, T. Aihara and S. Kotake, Molecular dynamics study of water in trans-critical region (analysis of microscopic structure), *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1658 (1993).
- K. Ohta, Y. Yamashita and Y. Yamada, Theoretical and experimental study of photon migration in biological tissues, *Thermal Sci. Engng* **1**(4), 1 (1993).
- P. Phelan, Transport phenomena in metallic point contacts, *Thermal Sci. Engng* (English) **2**(1), 108 (1994).
- C. L. Tien, T. Q. Qiu and P. M. Norris, Microscale thermal phenomena in contemporary technology, *Thermal Sci. Engng* (English) **2**(1), (1994).

MEASUREMENT

- Y. Hirofuji, Y. Sasaki and Y. Nagase, Sensitivity in local concentration fluctuation measurement with micro-electric cell, *Kagaku Kogaku Ronbunshu* (*Trans. Chem. Engng Japan*) **19**(6), 971 (1993).
- H. Kawai, Y. Hasegawa, K. Tsuji, K. Yoshikawa and S. Shioda, Determination of the relation between total absorption of second resonance doublets and number density of alkali metals by the hook method, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1175 (1993).
- T. Matsumoto, A. Ono, H. Sakate, A. Nakano and H. Tahara, A measurement of surface temperature distribution on the metal halide lamp bulb using a thermograph, *Bull. NRLM* (*Natn. Res. Lab. Metrol. AIST*) **42**(3), 313 (1993).
- S. Murata, F. Tanaka and T. Matsuoaka, Measurement of freezing point depression of selected food solutions, *Trans. JAR* **10**(2), 265 (1993).
- Y. Nawata, Measurement of the temperature distribution in pure water by an ultrasonic CT method, *Yatsushiro Natn. Coll. Technol.* No. 15, 1 (1993).
- U. Ogawa, Measurement of coefficient of thermal expansion of tuna fish, *Trans. JAR* **10**(1), 29 (1993).
- Y. Okamoto, T. Inagaki and M. Sekiya, Surface temperature measurement using infrared radiometer (1st report. radiosity coefficient and radiation temperature), *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3932 (1993).
- M. Ozawa, I. Kimura and K. Uchide, Unsteady temperature measurement using a thermo-sensitive liquid-crystal sheet with color image processing, *Trans. JAR* **10**(1), 49 (1993).
- T. Satoh and I. Fukumoto, Basic studies of laser thermal calorimeter (computer simulations of skin heating effect by low output lasers), *Bull. Nagaoka Univ. Technol.* **15**, 65 (1993).

THERMOPHYSICAL PROPERTIES

- H. Fujishiro, M. Ikebe, T. Naito, M. Matsukawa and K. Noro, Thermal diffusivity and conductivity measurements of Bi-2223 oxide superconductor under an identical experimental setup, *Cryogenic Engng* **28**(10), 582 (1993).
- H. Fujishiro, T. Naito, M. Ikebe and K. Noto, Low temperature thermal diffusivity and conductivity measurements under an identical experimental setup, *Cryogenic Engng* **28**(9), 533 (1993).
- M. Fukushima, Measurements of vapor pressure, vapor-liquid coexistence curve and critical parameters of HFC-143a, *Trans. JAR* **10**(1), 87 (1993).
- M. Fukushima and N. Watanabe, Thermodynamic properties of HCFC-124, *Trans. JAR* **10**(1), 75 (1993).
- K. Gesi, Pressure-temperature phase diagram of $\text{Ca}_2\text{Ba}(\text{C}_2\text{D}_3\text{COO})_6(\text{DDBP})$, *J. Phys. Soc. Japan* (English) **62**(12), 4511 (1993).
- Y. Gu, X. Tang, Y. Xu and I. Hatta, Ingenious method for eliminating effects of heat loss in measurements of thermal diffusivity by ac calorimetric method, *Japan J. Appl. Phys.* (English) **32** (part 2, 9B), 1365 (1993).
- H. Haga, A. Onodera, M. Tokunaga and Y. Shiozuka, Critical behaviour of specific heat in ferroelectric K_2ZnCl_4 and $(\text{NH}_4)_2\text{BeF}_4$ at normal-incommensurate phase transition, *J. Phys. Soc. Japan* (English) **62**(5), 1597 (1994).
- E. Hihara, S. Kominami, M. Yamazaki and T. Saito, Prediction of surface tension of aqueous solutions of lithium bromide, *Trans. JAR* **10**(2), 257 (1993).
- H. Inaba and S. Morita, Viscosity evaluation of O/W emul-

- sion as a low temperature heat storage material, *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(4), 239 (1993).
- M. Kato, Vapor-liquid equilibria for binary systems made of N,N-dimethylformamide with acrylonitrile or trichloroethylene, *Japan J. Thermophys. Properties (Netsu Bussei)* (English) **7**(3), 152 (1993).
- M. Kato and H. Ueda, Vapor-liquid equilibria for acetone-methanol-1-propanol-water system at atmospheric pressure, *Japan J. Thermophys. Properties (Netsu Bussei)* (English), **8**(1), 4 (1994).
- S. Kimura, Effects of natural convection on thermal conductivity measurement of fluid-saturated porous material (1st report, theoretical study on thermal conductivity measurement by needle probe method), *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(4), 234 (1993).
- M. Kyo, T. Katoh, Y. Kamata and T. Kashiwagi, Effective thermal conductivity of composite foam, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 574 (1994).
- A. Makabe, S. Araki, M. Kimura and Y. Aida, Glass transition temperature of copolymers used as printer toner, *Japan J. Appl. Phys.* (English) **33**(part 2, 1B), 122 (1994).
- M. Makinae, H. Aoki, S. Tanno and T. Miura, Measurement of thermophysical properties of water-absorbent polymer, *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(4), 221 (1993).
- H. Masuda, A. Ebata, K. Teramae and N. Hishinuma, Alteration of thermal conductivity and viscosity of liquid by dispersing ultra-fine particles (dispersion of Al_2O_3 , SiO_2 and TiO_2 ultrafine particles), *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(4), 227 (1993).
- N. Matsunaga, M. Hori and A. Nagashima, Measurements of the mutual diffusion coefficients of gases by the Taylor method (4th report, measurements on the CFC12-air, HFC134a-air, CFC113-air, CFC114-air and CFC115-air systems), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 504 (1994).
- Y. Matsuo and Y. Nagasaka, Simultaneous measurement of surface tension and kinematic viscosity using thermal fluctuations (1st report, examination of the surface laser-light scattering method), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1187 (1993).
- E. Matsushima, K. Sawa and A. Nagashima, Thermal diffusivity and porosity of solid materials by the electromagnetic ultrasonic technique (1st report, the principle of measurement), *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1704 (1993).
- H. Miyamoto, Y. Tonoshita and A. Nagashima, Anisotropic behavior of the thermal diffusivity of polymer materials (3rd report, transient characteristics of molten polymer in unsteady flow), *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3195 (1993).
- Z. Y. Qian, A. Nishimura, H. Sato and K. Watanabe, Compressibility factors and virial coefficients of difluoromethane (HFC-32) determined by Burnett method, *J.S.M.E. Int. J. Series B* (English) **36**(4), 665 (1993).
- A. Saito, S. Okawa and C. B. Liou, Research on a method to measure thermal fluid characteristics of textile fabrics (1st report: investigation of test method for air permeability), *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(4), 245 (1993).
- S. Sasaki, H. Masuda, M. Higano and H. Sasaki, Simultaneous measurement of specific heat and total hemispherical emissivity of metals by the transient calorimetric technique (2nd report, experimental verification with cylindrical compound specimens), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 523 (1993).
- T. Sugiyama, R. Echigo, H. Yoshida and S. Tada, Inversion mechanism of Joule-Thomson effect, *Thermal Sci. Engng* (English) **2**(1), 125 (1994).
- Y. Takaishi, H. Nakagawa and K. Oguchi, Measurements of the vapor pressure for the solutions of HFC-134a and ester based oil, *Trans. JAR* **10**(1), 67 (1993).
- E. Takegoshi, Y. Hirasawa, T. Shimazaki, K. Okui and R. Inoshiri, Thermal constants of binary oxides of Pr_2O_3 and Nd_2O_3 -CuO, *Japan J. Thermophys. Properties (Netsu Bussei)* **7**(2), 82 (1993).
- H. Toratani, Determination of glass transition temperatures by differential scanning calorimetry, *Technol. Rep. Kyushu Univ.* **66**(6), 571 (1993).
- H. Wada, N. Shimamura and M. Shiga, Thermal and transport properties of $Sc_{1-x}Ti_xFe_3$, *J. Phys. Soc. Japan* (English) **63**(1), 283 (1994).
- N. Yada and K. Watanabe, Correlation of dew- and bubble-point curves for binary refrigerant mixtures, *J.S.M.E. Int. J. Series B* (English) **37**(1), 132 (1994).

HEAT EXCHANGER

- R. Ishiguro, H. Sakashita, K. Sugiyama and Y. Takamura, Microscopic study of $CaCO_3$ scaling on heat transfer surfaces, *J.S.M.E. Int. J. Series B* (English) **36**(4), 644 (1993).
- S. Jitsuohara, Y. Ikegami, T. Nakaoka, T. Misago, H. Isogai and H. Uehara, Performance analysis of a shell and plate type evaporator for OTEC, *Trans. JAR* **10**(3), 393 (1993).
- K. Murata, K. Yamamoto and H. Kameyama, A study of a tube-wall reactor with heat exchanger function, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(5), 849 (1993).
- H. Shidara, M. Kikuchi and R. Watanabe, Fouling on plate type heat exchangers used for heat sterilization of foods, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **20**(1), 1 (1994).
- T. Ueno, A. Tsuge, K. Kawanishi, T. Ochi and E. Kadokami, Advanced boron soaking procedure for steam generators, *J.S.M.E. Int. J. Series B* (English) **36**(3), 449 (1993).
- H. Umekawa, M. Ozawa, A. Kawamoto, T. Takifuji and M. Kataoka, Heat transfer in a fin-tube type heat exchanger with multiple inlet ports (numerical simulation and thermal flow visualization under cooling condition), *Trans. JAR* **10**(3), 401 (1993).
- A. Yabe, K. Takahashi, H. Aono and H. Maki, Experimental study of EHD heat exchanger for nonazeotropic mixtures, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3959 (1993).
- K. Yamamoto, Y. Eguchi, K. Tanimoto, K. Kimura, T. Suzuki and M. Nishimura, Gas entrainment in the IHX vessel of top-entry loop-type LMFBR, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2721 (1993).
- H. Yoshida, R. Echigo, K. Chujo and S. Nakano, Heat-transfer mechanism of a fine-tube heat exchanger woven with threads, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1311 (1993).

HEAT PIPE AND THERMOSYPHON

- F. M. Gerner, B. Badran, H. T. Henderson and P. Ramadas, Silicon-water micro heat pipes, *Thermal Sci. Engng* (English) **2**(1), 90 (1994).
- M. Hirashima, K. Kimura, Y. Utsumi, K. Kimura and K. Negishi, Experimental study of top heat mode thermosyphon (on the lifting mechanism of working fluid effects on the extension of stable working range), *Trans. JAR* **10**(2), 247 (1993).
- K. Kadoguchi, T. Fukano and Y. Emi, Heat transfer characteristics in the heating section of a closed two-phase thermosyphon working with a binary mixture, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 603 (1994).
- T. Masuoka, H. Tanigawa, T. Tsuruta and H. Izaki, Advanced thermal insulation layers with a row of heat pipes (1st report, analysis), *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3967 (1993).
- M. Monde, S. Mihara and T. Inoue, An analytical study of critical heat flux of a two-phase thermosyphon, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1258 (1993).
- Y. Murashige and K. Yoshioka, An analysis of Darcy flow

in a web of an artery type heat pipe, *Rep. Fac. Engng Oita Univ.* No. 29, 7 (1994).

- J. Nishioka, H. Sugiyama and T. Arai, Heat transfer characteristics of an earth probe model for a ground-source heat pump (experiments on forced convection boiling heat transfer in a vertical double tube: the case of small flow rate), *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1279 (1993).

THERMAL STORAGE

- T. Asaeda, V. T. Ca and A. Wake, Heat storage of pavement and the effect on the lower atmosphere, *Res. Rep. Dep. Civ. Envir. Engng Saitama Univ.* (English) **23**, 69 (1993).
- H. Inaba, S. Morita and S. Nozu, Fundamental study of cold latent heat storage system of O/W-type emulsion having cold latent heat dispersion material (1st report, estimation of thermophysical properties), *Trans. Japan Soc. Mech. Engrs* **B59**(565), 282 (1993).
- M. Ishikawa, T. Hirata, H. Tamaki and K. Kohara, Phase change phenomena in thermal energy storage capsules located in fluid flow (capsules in alignment with fluid flow), *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3951 (1993).
- K. Kaino, Thermal characteristics for solidification process of latent heat storage unit (a prediction method for the relationship between similarity function and heat release fraction using a similarity curve), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 634 (1994).
- T. Nakahara, T. Imaiida, M. Fujiwara, H. Taniguchi and K. Kudo, Study on the practical design method of the chain-like connected closed-type thermal storage tanks considering operating experience, *Trans. JAR* **10**(2), 239 (1993).
- H. Ogura, M. Kanamori, H. Matsuda and M. Hasatani, Generation of low-temperature heat by use of CaO/H₂O/Ca(OH)₂ reaction, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(6), 941 (1993).
- H. Umemiya and S. Gunji, Aquifer thermal energy storage method (an investigation of aquifer biofilter), *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3945 (1993).
- K. Yamamoto, T. Sano, K. Murata, H. Kameyama and K. Hongo, Influence of supercooling of heat support hydrogel on the efficiency of ice storage by evacuation and a method for braking the supercooling, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(6), 1023 (1993).
- T. Yokoyama, Y. Satoh and S. Isida, Development of a rapid code for ATES, *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2294 (1993).
- T. Yokoyama, S. Yamazaki, T. Hashida and I. Kobayashi, Development of simulation codes for ATES (1st report, full-scale code), *Trans. Japan Soc. Mech. Engrs* **B59**(563), 2300 (1993).

VARIOUS APPLICATIONS

- M. Akai, N. Nomura and I. Yamashita, Assessment of effectiveness of renewable energy systems in mitigating global warming based on net energy analysis, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2681 (1993).
- N. Egashira, S. Mochizuki and Y. Morimoto, Dye transfer mechanisms in full color thermal printer, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1236 (1993).
- M. Furukawa, N. Sasaki, T. Kaneko and T. Nositani, Enhanced heat transfer tubes for absorber of absorption chiller/heater, *Trans. JAR* **10**(2), 219 (1993).
- Y. Furuto, I. Inoue, K. Miyoshi, K. Matsumoto and Y. Tanaka, Analysis of the temperature rise in large-capacity superconductor coils with quenches occurred, *Cryogenic Engng* **28**(8), 460 (1993).
- J. L. Gao and Y. Matsubara, An experimental investigation of 4K pulse tube refrigerator, *Cryogenic Engng* **28**(9), 504 (1993).
- S. Harada, H. Nishida, H. Ueda, Y. Shikano, K. Matsumoto and K. Okamoto, Development of a variable nozzle area radial turbine for 10-kW class helium refrigerator, *Cryogenic Engng* **29**(1), 19 (1994).
- T. Hashimoto, M. Yabuki, T. Eda, T. Kuriyama and H. Nakagome, Investigation of the high efficient GM refrigerator with the high entropy magnetic regenerator materials in the He temperature range, *Cryogenic Engng* **29**(2), 51 (1994).
- M. Hayashi, T. Hasegawa, N. Oiwa and S. Yamaguchi, Numerical simulation of glass-blowing process, *Trans. Japan Soc. Mech. Engrs* **B59**(567), 3624 (1993).
- E. Hihara, S. Shimotori and T. Saito, Available energy evaluation of a binary mixture operated heat pump, *Trans. Japan Soc. Mech. Engrs* **B59**(562), 2072 (1993).
- Y. Hirao, N. Nakamori, O. Ukai, K. Kawanishi, A. Tsuge, T. Ueno and T. Kusakabe, Development of thermal-hydraulic computer code for steam generator, *J.S.M.E. Int. J. Series B (English)* **36**(3), 456 (1993).
- Y. Hori, T. Ito and Y. Kuzuma, The analysis of thermoelectric generating characteristic influenced by the module shape using the simulation method, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep. No. W92021*(6), 1 (1993).
- A. Inaba, T. Shimatani, S. Tabata, S. Kawamura, H. Shibuya, Y. Iwase, K. Kato, T. Kakumoto, T. Kojima, K. Yamada and H. Komiyama, Energy evaluation of solar photovoltaic energy systems, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(5), 809 (1993).
- T. Iwaki, K. Koizumi and M. Sasaki, Temperature and thermal stress in a liquid-encapsulated Czochralski-grown single crystal (effects of radius and temperature of crucible), *Thermal Sci. Engng* **1**(3), 1 (1993).
- S. Jitsuvara, Y. Ikegami and H. Uehara, Optimization of design conditions for OTEC (in the case of annual operation performance), *Trans. Japan Soc. Mech. Engrs* **B60**(570), 641 (1994).
- T. Kanda, G. Masuya, Y. Wakamatsu, A. Kanmuri, N. Chinzei and M. Niino, Effect of regenerative cooling on rocket engine specific impulse, *Tech. Rep. Natn. Aerospace Lab.* TR1199T (1993).
- H. Kawai, Y. Hasegawa, K. Morita, K. Yoshikawa and S. Shioda, Reduced absorption coefficients of the 4p-4s line of K and the 6p-6s line of Cs under the conditions of closed-cycle MHD working gases, *Trans. Japan Soc. Mech. Engrs* **B59**(568), 3864 (1993).
- K. Kikuchi and A. Yabe, Study on the performance evaluation of heat pump cycles (simulation analysis and experiments of two stage condensation system), *Trans. JAR* **10**(2), 175 (1993).
- T. Kitami, A new concentration system for solar energy, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep. No. U93016*, 1 (1993).
- T. Kiyoshi, K. Inoue, K. Itoh, T. Takeuchi, H. Wada, H. Maeda, K. Kuroishi, T. Takizawa, F. Suzuki and H. Mori, Development of 20 T large bore superconducting magnet (II) (design for cooling system), *Cryogenic Engng* **28**(5), 260 (1993).
- K. Kobayashi, Global warming and CO₂ injection into deep ocean, *Bull. Kumamoto Inst. Technol.* **18**(1), 197 (1993).
- T. Mamiya and I. Nikai, Heat transfer analysis on tube plate adsorption heat pump (heat and mass transfer in tube plate adsorption reactor), *Trans. Japan Soc. Mech. Engrs* **B59**(564), 2516 (1993).
- T. Mamiya and I. Nikai, Analytical characteristics of tube plate adsorption heat pump (thermal design of an adsorption reactor), *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2696 (1993).
- H. Matsushima, T. Yanagida and W. Nakayama, Pressure drop characteristics of circuit board with arrays of LSI packages, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1244 (1993).
- T. Mitsutake, S. Morooka, Y. Yamamoto and J. Kimura,

- Critical power experimental analysis using subchannel analysis code (unknown parameter estimation in spacer model), *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2715 (1993).
- T. Miyanaga and T. Ohnuma, Study on radiant cooling and heating systems (part 1) (measurement of thermal environment in experimental room), *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. T92088, 1 (1993).
- S. Nakanishi, Y. Kawashima and K. Murai, Thermodynamic analyses of performance of heat pumps and refrigerators (part 1, exergy analysis of COP ratio as a performance index), *Trans. JAR* **10**(1), 1 (1993).
- T. Nakano and T. Hashimoto, New type Peltier refrigerator for low temperatures using a high-T_c superconductor, *Cryogenic Engng* **29**(1), 12 (1994).
- S. Namie, K. Shiozaki, M. Nomura, Y. Kawagoe and T. Kumakura, Combined cycle of solid oxide fuel cell and turbines with the aim of separating CO₂ gas, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2702 (1993).
- A. Ohnuki, H. Akimoto and Y. Murao, Applicability of core thermal-hydraulic models in REFLA code to 17 × 17 type fuel assembly of PWR, *J. Nucl. Sci. Technol.* (English) **30**(3), 187 (1993).
- K. Onda, Prediction of light scattering effect by ash polydispersion on spectral emission from coal-fired MHD combustion gas, *Trans. Japan Soc. Mech. Engrs* **B59**(565), 2647 (1993).
- M. Oshima and R. J. Thome, Transient analysis of quench propagation in superconducting coils. *J.S.M.E. Int. J. Series B* (English) **36**(4), 657 (1993).
- K. Sada and T. Kanzaki, Development of advanced wind tunnel experiment methods incorporating topographic and thermal effect (first report, analysis method based on a convective velocity), *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. T93008, 1 (1994).
- Y. Saito, Regeneration characteristics of an adsorbent in the solar desiccant/regenerator (effects on regeneration characteristics), *Trans. Japan Soc. Mech. Engrs* **B59**(566), 3230 (1993).
- J. Sakuraba, Y. Yamada, F. Hata, C. K. Chong, T. Hasebe, M. Ishihara and K. Watanabe, Cryocooler cooled superconducting magnet—4 T class (Nb, Ti)₃Sn superconducting magnet system with room temperature bore of 38 mm, *Cryogenic Engng* **28**(9), 519 (1993).
- M. Shimizu, Heat transfer performance in boiler furnace by dimensionless numbers, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1344 (1993).
- K. Shimobatake, S. Yokoyama, T. Inaguchi, S. Fujita, S. Nakamura, S. Miyashita, H. Higuma, T. Umemura, K. Egawa and F. Uchikawa, Field operation and cooling test of bismuth-based pancake coil, *Cryogenic Engng* **29**(2), 65 (1994).
- K. Suzuki and T. Aihara, Thermal insulation characteristics and transient cooling performance of a long slender cryoprobe, *Cryogenic Engng* **28**(9), 511 (1993).
- S. Tanzawa, S. Kobayashi and T. Fujishiro, Fuel behavior in simulated RIA under high pressure and temperature coolant condition, *Nucl. Sci. Technol.* (English) **30**(4), 281 (1993).
- A. Tomita, M. Susa and K. Nagata, Distribution of surface temperature of molten titanium by thermal plasma, *Tetsu to Hagane (J. Iron Steel Inst. Japan)* **79**(12), 1329 (1993).
- T. Tsukada, M. Hozawa and N. Imaishi, Global analysis of heat transfer in CZ crystal growth of oxide, *J. Chem. Engng Japan* (English) **27**(1), 25 (1994).
- T. Ueno, Y. Hirao, A. Tsuge and K. Kawanish, Study of thermal hydraulic behavior in tube support plate crevices within a steam generator, *Kagaku Kogaku Ronbunshu (Trans. Chem. Engng Japan)* **19**(4), 565 (1993).
- S. Ushijima, Numerical prediction method for fast reactor thermal-hydraulics with non-orthogonal curvilinear coordinates, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. U93002, 1 (1993).
- H. Yamakawa and M. Wataru, Development of heat transfer and thermal analysis code CRISCAT for radioactive material packages, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. U93006(6), 1 (1993).
- I. Yamamoto, S. Hatta and A. Kanagawa, Effects of flow circulation on hot-wire temperature at top and bottom of thermal diffusion column for isotope separation, *Nucl. Sci. Technol.* (English) **30**(11), 1160 (1993).
- H. Yamazaki, T. Sakamoto and Y. Uwano, Experimental study on flow and heat transfer characteristics for transformer windings composed of conductors wound with thread spacers (1st report, comparison with baffle plate windings), *Trans. Japan Soc. Mech. Engrs* **B59**(561), 1685 (1993).

MISCELLANEOUS

- T. Aya, K. Yamane and N. Yamada, Stability of clathrate-hydrate of carbon dioxide in highly pressurized water, *Trans. Japan Soc. Mech. Engrs* **B59**(560), 1210 (1993).
- Y. Fujii, S. Tokaji, Y. Miyata, R. Yanagihara and T. Yoshinuma, The thermal environment of large underground power plants, *Thermal Sci. Engng* **1**(3), 11 (1993).
- T. Fujino, T. Asaeda and V. T. Ca, Characteristics of suburban heat island with an example of northern part of Tokyo, *Res. Rep. Dep. Civ. Envir. Engng Saitama Univ.* (English) **23**, 127 (1993).
- T. Kanzaki, K. Sada and Y. Ichikawa, An experimental study of the heat transfer mechanism in the urban boundary layer(1) (simultaneous measuring technique of instantaneous velocities and temperature in thermally stratified flow), *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. T93010, 1 (1993).
- T. Koga, Development of thermohydraulic analysis code using higher order approximation method (phase 2 numerical modification and sample calculation), *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. U93020, 1 (1994).
- S. Matsumoto, P. Sobotka and H. Yoshino, The analysis of basement heat loss: a comparison of measurement with two-dimensional FEM program and mitalas method, *Archit. Rep. Tohoku Univ.* (English) No. 33, 105 (1994).
- M. Mizutori and M. Kadoya, Thermal environment in Nagoya City and its suburbs, *CRIEPI (Cent. Res. Inst. Elect. Power Ind.) Rep.* No. U93016, 1 (1993).
- M. Nakagawa and T. Takenaka, Modeling and analysis of a water hammer in collapse of a cooling cavity including heat transfer, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 357 (1994).
- K. Okazaki, A. Mizuno and S. Yasuda, Highly-non-equilibrium plasma chemistry at atmospheric pressure and temperature in the control of material conversion processes, *Thermal Sci. Engng* (English) **2**(1), 21 (1994).
- T. S. Saitoh, M. Nakamura and T. Gomi, Proposal of super time-saving method: time-space method, *Trans. Japan Soc. Mech. Engrs* **B60**(570), 515 (1994).
- H. Yoshino, S. Matumoto, M. Nose and N. Furuki, Long-term thermal performance measurement of semi-underground test house with green house, *Archit. Rep. Tohoku Univ.* No. 33, 119 (1994).