

Heat transfer bibliography – Japanese works 2004

K. Suzuki ^{a,*}, S. Nishio ^b, H. Yoshida ^c, K. Takeishi ^d, T. Kunugi ^c, Z. Kawara ^c,
H. Iwai ^c, M. Saito ^c, Y. Oda ^d

^a Department of Machinery and Control Systems, Shibaura Institute of Technology, 307 Fukasaku, Saitama 337 8570, Japan

^b Institute of Industrial Science, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153 8505, Japan

^c Graduate School of Engineering, Kyoto University, Kyoto 606 8501, Japan

^d Graduate School of Engineering, Osaka University, Osaka 565 0871, Japan

Available online 21 June 2006

1. Thermal properties

- H. Inaba, K. Matsuo, A. Horibe, Heat storage characteristics of phase change material microcapsule slurry in a rectangular cavity with a heating vertical wall, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 209–216.
- M. Monde, Y. Mitsutake, Measurement of thermal diffusivity and conductivity for metal-hydrogen, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3264–3270.
- A. Sano, Y. Nagasaka, Evaluation of the thermophysical properties of functionally graded materials at high temperatures by the photothermal radiometry, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1849–1855.
- M. Sugawara, Y. Yoshiki, High anisotropy of the effective thermal conductivity for a weavless aluminum fiber layer, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2105–2109.
- Y. Taguchi, Y. Horiguchi, M. Kobayashi, T. Saiki, Y. Nagasaka, Development of nanoscale thermal properties measurement technique by using near-field optics, *JSME International Journal B* 47 (3) (2004) 483–489 (in English).
- K. Tanaka, M. Uematsu, Development of an apparatus for simultaneous measurements of isobaric specific heat capacity and density for fluids at high temperatures and pressures, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2992–2999.
- H. Xie, M. Fujii, X. Zhang, Model for effective thermal conductivity of suspensions containing spherical, *Netsu*

Bussei (Japan Journal of Thermophysical Properties) 18 (3) (2004) 55–62.

2. Heat conduction

- M.Q. Al-Odat, Numerical study of superconducting-tape thermal stability under the effect of a two-dimensional hyperbolic heat conduction model, *JSME International Journal B* 47 (1) (2004) 138–147 (in English).
- K. Fukuyo, Application of the precise time integration method to unsteady heat conduction problems (study of accuracy and practicality of the precise time integration method), *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1533–1540.
- J. Hammad, M. Monde, Y. Mitsutake, Characteristics of heat transfer and wetting front during quenching by jet impingement, *Thermal Science and Engineering* 12 (1) (2004) 19–26 (in English).
- S. Moriya, Prediction methods of metal surface temperature fluctuation for evaluation of high-cycle thermal fatigue, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1547–1554.
- T. Nakanishi, K. Okamoto, H. Kotera, K. Koyamada, Development of compact and precise design approach for multiple heated materials with thermal design parameter optimization, *Thermal Science and Engineering* 12 (5) (2004) 21–30 (in English).
- T. Tomimura, Experimental study of filler insertion effect on mean thermal contact conductance, *JSME International Journal B* 47 (3) (2004) 447–452 (in English).

3. Radiation

- Y. Itaya, Y. Saito, S. Hatano, N. Kobayashi, J. Kobayashi, S. Mori, Thermal radiation characteristics of coal

* Corresponding author. Tel.: +81 48 687 5115; fax: +81 48 687 5197.
E-mail address: ksuzuki@sic.shibaura-it.ac.jp (K. Suzuki).

char/ash particles dispersed in a gasification furnace, *Journal of Chemical Engineering Japan* 37 (11) (2004) 1367–1372 (in English).

- A. Koizuka, M. Miyamoto, H. Himeno, S. Oga, Heat transfer from plastic film heated by thermal radiant, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 744–750.
- K. Kudo, H. Li, B.X. Li, J. Saito, A. Yamaguchi, T. Takata, Development method to estimate the complex index of refraction of dielectric aerosols, *JSME International Journal B* 47 (3) (2004) 631–636 (in English).
- T. Takamasa, T. Hazuku, K. Mishima, K. Okamoto, Y. Imai, M. Furuya, Effect of surface wettability caused by radiation induced surface activation on Leidenfrost condition, *Thermal Science and Engineering* 12 (1) (2004) 35–36 (in English).
- T. Takamasa, T. Hazuku, K. Mishima, K. Okamoto, Y. Imai, Surface wettability caused by radiation induced surface activation, *Thermal Science and Engineering* 12 (2) (2004) 39–44 (in English).

4. Natural convection

- K. Abe, K. Momose, H. Kimoto, Optimization of natural convection field using adjoint numerical analysis, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 729–736.
- T. Adachi, Stability of natural convection in a cubic cavity by spectral element method, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 482–487.
- Y. Inaba, Y. Zhang, T. Takeda, Y. Shiina, Study on natural convection heat transfer of high temperature gas in a vertical annular space of a double coaxial cylinder, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1518–1525.
- T. Inagaki, T. Kaneko, M. Hatori, Y. Shiina, Heat transfer phenomenon of natural convection in an open vessel and its infrared sensing, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2959–2966.
- F. Kimura, S. Ishihara, K. Kitamura, Flow and heat transfer of natural convection around upward-facing horizontal plate with a vertical plate at the edge, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 474–481.
- F. Kimura, T. Tachibana, K. Kitamura, T. Hosokawa, Fluid flow and heat transfer of natural convection around heated vertical cylinders (effect of cylinder diameter), *JSME International Journal B* 47 (2) (2004) 156–161 (in English).
- Y. Kitamura, M. Ishizuka, Study on chimney effect in natural air cooled electronic equipment casings under inclination (the proposal of a thermal design correlation with inclination), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2097–2104.
- Y. Kondo, K. Tanimoto, T. Shiraishi, S. Suzuki, K. Ogura, K. Shiina, T. Fukuda, N. Chigusa, S. Moriya, Study on thermal stratification by cavity flow in a branch pipe with a closed end (concept of Lsh evaluation method), *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 184–191.
- K. Nagata, T. Sato, S. Komori, Effect of molecular diffusivities on countergradient scalar transfer in a strongly stably stratified flow (study on the linear and nonlinear processes using RDT), *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2598–2603.
- K. Nakagawa, I. Ishihara, Flow characteristics in a single phase closed thermosyphon, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2349–2354.
- A. Nakano, T. Shigechi, S. Momoki, Numerical analysis of natural convection from a heated plate facing downwards, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1797–1803.
- K. Noto, K. Fujimoto, Three-dimensional numerical analysis of fluid flow and heat transfer in wake with positive buoyancy (2nd report, 3D structure of isothermal wake), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1300–1307.
- K. Noto, K. Fujimoto, Three-dimensional numerical analysis of fluid flow and heat transfer in wake with positive buoyancy (3rd report, Positive buoyancy effect on 3D structure), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1308–1315.
- K. Noto, S. Kondoh, Three-dimensional analysis of flow and heat transfer in thermal plume in stably stratified ambient (temperature field), *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2967–2975.
- K. Noto, S. Sugimura, A cooled vortex street generated by cooling a circular cylinder in low Reynolds number wake (1st report, Change of flow pattern), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1316–1324.
- K. Noto, S. Sugimura, A cooled vortex street generated by cooling a circular cylinder in low Reynolds number wake (2nd report, Vorticity structure in cooled wake and generation mechanism of cooled vortex street), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1325–1333.
- T. Shiozawa, N. Tsuda, T. Kobayashi, M. Ohishi, M. Yoneyama, K. Sakakibara, S. Goto, Analysis of mixed convection inside an automotive headlamp (3rd report, Prediction of the condensation on the surface of the parts), *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2559–2566.
- K. Tanimoto, T. Shiraishi, S. Suzuki, K. Ogura, K. Shiina, T. Fukuda, Y. Minami, S. Moriya, Study on thermal stratification by cavity flow in a branch pipe with a closed end (concept of L₁ evaluation method), *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 176–183.

- H. Tanigawa, T. Masuoka, Intelligent thermal insulation layers with a shape memory screen, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1526–1532.
- C.J. Pouresfandiary, S. Hinata, N. Himeno, K. Kamakura, N. Kushitani, Double diffusive natural convection in a horizontal concentric annulus containing a stratified solution under constant heat flux rate from inside, *Thermal Science and Engineering* 12 (2) (2004) 25–38 (in English).
- ### 5. Forced-convection
- Y. Asako, Heat transfer characteristics of gaseous flow in a micro-tube, *Thermal Science and Engineering* 12 (5) (2004) 31–37 (in English).
- S.W. Chang, Y.J. Jan, L.M. Su, Heat transfer in an axially rotating tube fitted with twin twisted tapes, *JSME International Journal B* 47 (3) (2004) 637–646 (in English).
- H. Hattori, H. Sato, Y. Nagano, Direct numerical simulation of turbulent heat transfer in plane impinging jet (effects of impingement distance on heat transfer in confined space), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 1919–1926.
- K. Hayashi, S. Aso, A study on reduction of aerodynamic heating by opposing jet in supersonic flow, *Journal of the Japan Society for Aeronautical and Space Sciences* 52 (600) (2004) 38–44.
- M. Igarashi, H. Kamide, M. Tanaka, N. Kimura, Study on temperature fluctuation characteristics for high cycle thermal fatigue in a mixing Tee, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3150–3157.
- K. Kawaguchi, K. Okui, T. Kashi, The heat transfer characteristics of the finned tube banks in forced convection (comparison of the heat transfer characteristics between spiral fin and serrated fin), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1258–1265.
- T. Kawamura, K. Shiina, M. Ohtsuka, T. Mizuno, M. Kurosakik, K. Ogura, K. Tanimoto, T. Fukuda, Y. Minami, S. Moriya, H. Madarame, Thermal striping tests in mixing tees with same pipe diameters (2nd report, Characteristics of heat transfer of temperature fluctuations), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2083–2088.
- K. Koizumi, M. Ishizuka, Thermal modeling and experimental verification of high-frequency inductors, *Thermal Science and Engineering* 12 (3) (2004) 19–26 (in English).
- P. Lee, H. Choi, S. Lee, The effect of nozzle height on cooling heat transfer from a hot steel plate by an impinging liquid jet, *ISIJ International* 44 (4) (2004) 704–709 (in English).
- T. Muramatsu, H. Hibara, S. Murakami, K. Sudo, Flows in T-junction piping system (2nd report, Numerical analysis of vortex street formed by branch pipe flow), *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2551–2558.
- Y. Nagano, H. Hattori, S. Yasui, T. Houra, Direct numerical simulations of turbulent velocity and thermal fields in a channel with transverse-rib roughness, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 229–236.
- Y. Nagano, H. Hattori, J. Miyazawa, K. Inagaki, A new low-Reynolds-number two-equation turbulence model with hybrid time-scales of mean flow and turbulence for complex wall flows, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 1911–1918.
- K. Nagata, J.C.R. Hunt, Mean flow generation near a flat surface by direct impingement of an anisotropic turbulence and blocking effect, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2776–2784.
- H. Nakamura, T. Igarashi, Heat transfer in separated flow behind a circular cylinder for Reynolds numbers from 120 to 30000 (2nd report, Unsteady and three-dimensional characteristics), *JSME International Journal B* 47 (3) (2004) 622–630 (in English).
- H. Nakayama, M. Hirota, H. Fujita, T. Okuda, Y. Ono, Local heat (mass) transfer and flow characteristics in serpentine channels with an inclined partition wall, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1820–1827.
- Y. Ohno, G. Tanaka, M. Hishida, Enhanced heat transfer during oscillatory flow in annular channels, *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2612–2619.
- K. Oyakawa, K. Hanashiro, S. Matsuda, M. Yaga, M. Hiwada, Study on flow and heat transfer of multiple impingement jets, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1790–1796.
- K. Oyakawa, Y. Kouroggi, M. Yaga, Y. Miyafuji, Heat transfer enhancement in duct with blunt body inserted close to its wall, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 459–465.
- K. Sakuraba, K. Fukazawa, M. Sano, Control of turbulent channel flow over a backward-facing step by suction or injection, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 466–473.
- Y. Seki, H. Abe, H. Kawamura, Comparison of scalar turbulence quantities through DNS of turbulent heat transfer in a channel flow with different thermal boundary conditions, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2089–2096.
- M. Senda, D. Toyoda, S. Sato, K. Inaoka, Heat transfer and fluid flow characteristics in a swirling impinging jet, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1828–1833.
- T. Shudo, T. Kuninaga, T. Hasegawa, Reduction of cooling loss in hydrogen combustion by direct injection stratified charge, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 796–802.

- K. Suga, Modelling pressure-diffusion process in the Reynolds stress transport equation, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2386–2393.
- K. Suga, Turbulent heat transfer computations around a square obstacle mounted on a channel wall by an improved second moment closure, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2394–2401.
- K. Sugawara, E. Kaihara, H. Yoshikawa, T. Ota, Numerical simulation of two-dimensional unsteady separated flow and heat transfer around an inclined downward step, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1812–1819.
- H. Sugiyama, T. Uno, D. Hitomi, Numerical analysis of turbulent heat transfer in a square duct with different rib shapes, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3182–3189.
- S. Tamano, Y. Morinishi, Numerical analysis of compressible turbulent channel flow with wall-temperature difference, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 847–854.
- T. Tsutsui, M. Kawahara, Heat transfer around a cylindrical protuberance mounted in a plane turbulent boundary layer, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1266–1272.
- K. Yoshida, M. Tasaka, Convective heat transfer from a rotating drum with fin array for the permanent magnet type eddy current retarder, *Thermal Science and Engineering* 12 (6) (2004) 45–52 (in English).
- H. Yoshikawa, T. Waku, M. Nakajima, T. Ota, Numerical simulation of separated flow and heat transfer around a pair of rectangular blocks on flat surface, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1804–1811.
- K. Yuki, Y. Tajima, S. Toda, H. Hashizume, T. Muramatsu, Effect of curvature ratio on thermal mixing characteristics in a T-junction area which has a 90-degree bend in the upstream area, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3142–3149.
- ## 6. Mixed-convection
- N. Furuichi, M. Yoshida, M. Kumada, Unsteady flow structure on a heated rotating disk under mixed convection conditions, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2402–2407.
- J. Hemrle, S. Mochizuki, A. Murata, Experimental investigation of Knudsen number effects on forced and mixed convection from cylinder in cross-flow, *Thermal Science and Engineering* 12 (1) (2004) 11–18 (in English).
- K. Ichimiya, Y. Yamada, Mixed convection in a horizontal square duct with local inner heating, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 990–996.
- K. Ichimiya, Y. Matsushima, Performance evaluation of mixed convection in an inclined square channel with uniform temperature walls, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1293–1299.
- K. Kitamura, M. Yamamoto, F. Kimura, Fluid flow and heat transfer of opposing mixed convection adjacent to vertical heated plates, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2943–2950.
- N. Ohmura, M.N. Noui-Mehidi, K. Sasaki, K. Kitajima, K. Kataoka, Mixing characteristics in a conical Taylor–Couette flow system at low Reynolds numbers, *Journal of Chemical Engineering Japan* 37 (4) (2004) 546–550 (in English).
- N. Ohmura, T. Aoki, H. Okamoto, K. Kataoka, Time-dependent flow properties in doubly periodic and weakly turbulent wavy vortex flows in a Taylor–Couette flow system, *Journal of Chemical Engineering Japan* 37 (4) (2004) 572–576 (in English).
- K. Toriyama, K. Ichimiya, Reverse flow on three-dimensional mixed convection in a horizontal square duct (in case of three heated and cooled walls of the duct), *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2976–2983.
- ## 7. Evaporation and boiling
- Y. Bando, S. Yamaguchi, K. Doi, M. Nakamura, K. Yasuda, A. Oda, Y. Kawase, The effect of operational condition on the contribution of evaporation in ultrasonic atomization, *Journal of Chemical Engineering Japan* 37 (10) (2004) 1286–1289 (in English).
- K. Hata, H. Komori, M. Shiotsu, N. Noda, Critical heat fluxes of subcooled water flow boiling against inlet subcooling in short vertical tube, *JSME International Journal B* 47 (2) (2004) 306–315 (in English).
- H. Honda, Y. Wang, Theoretical study of evaporation heat transfer in horizontal microfin tubes (stratified flow model), *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 168–175.
- H. Honda, Z. Zhang, N. Takata, Experimental study on natural circulation evaporative cooling system for electronic components, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1777–1783.
- T. Kadota, H. Tokumura, D. Segawa, H. Yamasaki, Effects of fuel properties on the evaporation of a binary miscible fuel droplet on a heated wall, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2449–2454.
- D. Kawano, J. Senda, Y. Wada, H. Fujimoto, H. Ishii, H. Suzuki, Y. Goto, M. Odaka, Modeling of evaporation process of multicomponent fuel spray, *Transactions of*

- the Japan Society of Mechanical Engineers B 70 (696) (2004) 2213–2219.
- K. Kimoto, K. Namba, T. Ochi, Microexplosion Phenomena of residual oils-in-water mixtures (temperature change of droplets and chemiluminescence behavior of OH and CH), Transactions of the Japan Society of Mechanical Engineers B 70 (690) (2004) 538–545.
- M. Koike, T. Suzuoki, Y. Nomura, T. Tomoda, H. Hokutou, Influences of fuel vaporization on mixture preparation of a direct injection gasoline engine, Transactions of the Japan Society of Mechanical Engineers B 70 (689) (2004) 266–271.
- K. Kuwahara, S. Koyama, K. Kazari, Experimental study on flow boiling heat transfer and pressure drop characteristics of HFC134a in a multi-port extruded tube, Thermal Science and Engineering 12 (6) (2004) 13–22 (in English).
- W. Liu, M. Kureta, H. Akimoto, Critical power in 7-rod tight lattice bundle, JSME International Journal B 47 (2) (2004) 299–305 (in English).
- T. Mitsutake, F. Kano, T. Oosato, A. Sayano, M. Akiba, S. Morooka, Boiling heat transfer characteristics with highly wettable heated surface under forced convection conditions, JSME International Journal B 47 (2) (2004) 168–172 (in English).
- M. Monde, J.A. Hammad, Y. Mitutake, Characteristics of quenching high temperature cylindrical surface with an impinging jet (relationship between flow aspect and heat transfer), Transactions of the Japan Society of Mechanical Engineers B 70 (694) (2004) 1510–1517.
- S. Mori, A. Tominaga, T. Fukano, On the occurrence of burnout downstream of a flow obstacle in boiling two-phase upward flow within a vertical annular channel, Transactions of the Japan Society of Mechanical Engineers B 70 (689) (2004) 159–167.
- A. Nakano, T. Shigechi, S. Momoki, Numerical analysis of saturated film boiling from a heated plate facing downwards (the case of constant vapor film thickness specified at the edge as a boundary condition), Transactions of the Japan Society of Mechanical Engineers B 70 (697) (2004) 2408–2415.
- Y. Nakatake, H. Tanaka, Performance analysis of small distiller using wind energy, Transactions of the Japan Society of Mechanical Engineers B 70 (699) (2004) 3000–3007.
- S. Nishio, H. Tanaka, H. Asou, Bubble structures in high-heat-flux subcooled pool-boiling, Thermal Science and Engineering 12 (3) (2004) 1–8.
- H. Ohkubo, Y. Serizawa, T. Tadani, S. Nishio, Heat transfer characteristics in high temperature region of mist cooling without formation of liquid film, Transactions of the Japan Society of Mechanical Engineers B 70 (690) (2004) 419–424.
- H. Ohtake, Y. Koizumi, Study on ex-vessel cooling of reactor pressure vessel (model analysis of critical heat flux on inclined plate and hemisphere facing downward), JSME International Journal B 47 (2) (2004) 351–357 (in English).
- A. Ono, H. Sakashita, Liquid–vapor structure near heating surface at high heat flux in subcooled pool boiling, Transactions of the Japan Society of Mechanical Engineers B 70 (699) (2004) 2951–2958.
- R. Shimada, M. Izumi, S. Kumagai, T. Adachi, Boiling heat transfer in a narrow space controlled by punched interference plate, Transactions of the Japan Society of Mechanical Engineers B 70 (690) (2004) 432–437.
- S. Shuchi, H. Yamaguchi, K. Sakatani, Flow boiling heat transfer characteristics of a binary mixed magnetic fluid, Transactions of the Japan Society of Mechanical Engineers B 70 (693) (2004) 1186–1191.
- M.H. Subki, M. Aritomi, N. Watanabe, M.K. Chung, H. Kikura, Multi parameters effect on thermohydraulic instability in natural circulation boiling water reactor during startup, JSME International Journal B 47 (2) (2004) 277–286 (in English).
- T. Sugiyama, T. Fuketa, Effect of cladding surface pre-oxidation on rod coolability under reactivity initiated accident conditions, Journal of Nuclear Science and Technology 41 (11) (2004) 1083–1090 (in English).
- T. Takashima, H. Shiota, Study on evaporation of an emulsion droplet of oil-in-water type on a hot surface, Transactions of the Japan Society of Mechanical Engineers B 70 (700) (2004) 3190–3195.
- F. Tanaka, M. Juarsa, K. Mishima, M. Murase, T. Nagase, Experimental study on transient boiling heat transfer in an annulus with a narrow gap, Journal of Nuclear Science and Technology 41 (3) (2004) 279–284 (in English).
- H. Tanaka, S. Teraji, H. Yamasaki, D. Segawa, T. Kadota, Statistical analysis of micro-explosion of an emulsion droplet evaporating and burning on a hot surface, Transactions of the Japan Society of Mechanical Engineers B 70 (694) (2004) 1577–1582.
- M. Tange, M. Yuasa, S. Takagi, M. Shoji, Microbubble emission boiling in a microchannel and minichannel, Thermal Science and Engineering 12 (6) (2004) 23–30 (in English).
- Y. Tasaki, Y. Utaka, Effect of surface properties on boiling heat transfer characteristics in micro-channel vapor generator, Transactions of the Japan Society of Mechanical Engineers B 70 (691) (2004) 737–743.
- T. Yajima, A. Yabe, H. Maki, Theoretical model of electric field effects on the enhancement of critical heat flux, Transactions of the Japan Society of Mechanical Engineers B 70 (693) (2004) 1250–1257.
- T. Yamada, T. Shigechi, S. Momoki, K. Kanemaru, T. Yamaguchi, Film boiling heat transfer around a vertical finite-length cylinder, Transactions of the Japan Society of Mechanical Engineers B 70 (695) (2004) 1762–1768.

8. Condensation

- M. Bottoni, Molecular approach to sodium vapour condensation, rewetting and vaporization in LMFBR bundle under hypothetical accident conditions, *Journal of Nuclear Science and Technology* 41 (5) (2004) 579–593 (in English).
- M. Katayama, H. Inaba, A. Horibe, N. Haruki, T. Manabe, Latent heat release characteristics of solid–liquid phase change heat storage microcapsule slurry by condensation heat of vapor under a vacuum condition, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 444–451.
- Y. Utaka, T. Negami, H. Sonoda, Observation of steam condensation on thin vertical tubes, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 438–443.
- S. Wang, Y. Utaka, Effect of non-condensable gas mass fraction on condensation heat transfer for water–ethanol vapor mixture, *JSME International Journal B* 47 (2) (2004) 162–167 (in English).

9. Melting and solidification

- A. Ayasoufi, T.G. Keith, Application of the conservation element and solution element method in numerical modeling of axisymmetric heat conduction with melting and/or freezing, *JSME International Journal B* 47 (1) (2004) 115–125 (in English).
- K. Hirose, T. Yoshii, H. Watanabe, Combined convection heat transfer with melting of phase change material in horizontal tubes immersed in water: in the case of two serial cylindrical tubes, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (2) (2004) 139–146.
- H. Inaba, C. Dai, A. Horibe, The convective instability in a microemulsion phase-change-material slurry layer, *JSME International Journal B* 47 (1) (2004) 126–137 (in English).
- Y. Nakao, G. Tanaka, M. Hishida, Solidification characteristics of rising immiscible oil droplets in refrigerant solution, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 758–766.
- Y. Nakao, G. Tanaka, M. Hishida, Solidification mass fraction of the group of oil particles ascending in refrigerant, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1354–1360.
- A. Ohira, Dynamic-type ice thermal storage systems, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (4) (2004) 285–297.
- T. Yabe, K. Takizawa, F. Xiao, T. Aoki, T. Himeno, T. Takahashi, A. Kunimatsu, A new paradigm of computer graphics by universal solver for solid, liquid and gas, *JSME International Journal B* 47 (4) (2004) 656–663 (in English).

10. Multiphase flow

- M. Akiba, T. Takamasa, S. Morooka, Prediction method of critical power by film flow rate measurement and subchannel analysis, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1769–1776.
- U. Archakositt, S. Nilsuwankosit, T. Sumitra, Effect of volumetric ratio and injection pressure on water–liquid nitrogen interaction, *Journal of Nuclear Science and Technology* 41 (4) (2004) 432–439 (in English).
- H. Asano, N. Takenaka, T. Fujii, N. Maeda, A study of the flow characteristics of gas–liquid two-phase flow in a plate heat exchanger (visualization and void fraction measurement in a single channel), *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3136–3141.
- Deendarlianto, A. Ousaka, A. Kariyasaki, T. Fukano, M. Konishi, The effects of surface tension on the flow pattern and counter-current flow limitation (CCFL) in gas–liquid two-phase flow in an inclined pipe, *Japanese Journal of Multiphase Flow* 18 (4) (2004) 337–350 (in English).
- T. Fujii, M. Wada, K. Narita, H. Asano, K. Sugimoto, S. Toyama, H. Kawasaki, A comparison between analytical and experimental results in the thermal control system utilizing latent heat, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2928–2934.
- H. Fujita, M. Hirota, T. Fujihata, H. Maeda, Gas–Liquid flow in narrow flat channels (influence of spacer insertion), *Japanese Journal of Multiphase Flow* 18 (1) (2004) 50–56.
- E.Y. Gatapova, I.V. Marchuk, O.A. Kabov, Heat transfer and two-dimensional deformations in locally heated liquid film with co-current gas flow, *Thermal Science and Engineering* 12 (1) (2004) 27–34 (in English).
- H. Hamada, A. Kurihara, Heat transfer characteristics of high-temperature liquid metal two-phase jet accompanied by reaction heating, *Transactions of Atomic Energy Society of Japan* 3 (1) (2004) 44–50.
- H. Hamada, M. Takahashi, A. Inoue, M. Aritomi, Two-phase flow characteristics of hot water discharged from a thin nozzle (2nd report, Flow characteristics of self-evaporating two-phase free jet), *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 332–339.
- C.D. Ho, J.W. Tu, Multiple-pass flow mass transfer in a parallel-plate channel by inserting permeable barriers for improved device performance, *Journal of Chemical Engineering Japan* 37 (1) (2004) 45–58 (in English).
- S. Hosokawa, A. Tomiyama, Effects of relative velocity between phase turbulence modification in dilute gas–solid two-phase upflows in a vertical pipe, *Japanese Journal of Multiphase Flow* 18 (3) (2004) 255–262.
- N. Inoue, H. Yabuuchi, M. Goto, S. Koyama, Heat and mass transfer of ammonia gas absorption into falling liquid film on a horizontal tube, *Transactions of the*

- Japan Society of Refrigerating and Air Conditioning Engineers 21 (4) (2004) 299–308.
- K. Ishiguro, M. Iguchi, Y. Mizuno, Y. Terauchi, Separation of gas from downward gas–liquid two-phase flow using a Y-junction of poor wettability, *JSME International Journal B* 47 (4) (2004) 795–803 (in English).
- J. Ishimoto, K. Kamijo, Numerical study of two-phase flow of liquid helium in a vertical converging–diverging nozzle, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2134–2141.
- K. Ito, M. Inoue, M. Ozawa, M. Shoji, A simplified model of gas–liquid two-phase flow pattern transition, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 151–158.
- S. Kaseno, T. Miyahara, Bubble splitting by liquid flow through hydrophilic or hydrophobic particle packed bed, *Japanese Journal of Multiphase Flow* 18 (3) (2004) 246–254.
- J. Liu, S. Koshizuka, Y. Oka, The role of fragmentation mechanism in large-scale vapor explosions, *JSME International Journal B* 47 (2) (2004) 268–276 (in English).
- S.M. Masutani, E.E. Adams, Liquid droplet contaminant plumes in the deep ocean, *Japanese Journal of Multiphase Flow* 18 (2) (2004) 135–152 (in English).
- Y. Nakahara, A. Tomiyama, S. Hosokawa, Shapes and rising velocities of single bubbles in square ducts, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 356–362.
- H. Nakamura, T. Shakouchi, A new surface fusing, globular forming method of fine particle, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2935–2942.
- Y. Nishi, I. Kinoshita, S. Nishimura, Experimental study on the gas lift pump in lead–bismuth eutectic, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 715–722.
- K. Ogata, H. Kawanami, K. Funatsu, Y. Tomita, Effect of particle properties on falling velocity of powder jet, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 1965–1971.
- J. Ohta, M. Montani, N. Kurose, Y. Murai, F. Yamamoto, A study on blast cleaning of a u-shaped heat transfer tube (1st report, visualization of plastic particle flows and cleaning distribution), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1201–1207.
- H. Oiwa, Y. Murai, F. Yamamoto, Measurement of effective viscosity in bubbly liquid by falling sphere method, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2286–2293.
- H. Okumura, Y. Okamoto, Liquid–Gas phase transitions studied by multibaric–multithermal Monte Carlo simulations, *Journal of Physical Society of Japan* 73 (12) (2004) 3304–3311 (in English).
- T. Sanada, M. Watanabe, T. Yuda, T. Fukano, Bouncing and coalescence of a bubble approaching to free surface, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 863–870.
- T. Sanada, M. Watanabe, A. Sato, T. Fukano, Viscosity effects on coalescence condition of a pair of bubbles, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3128–3135.
- T. Sasaki, M. Ishikawa, Y. Murai, F. Yamamoto, Visualization and image measurement of buoyant bubbly flow through circular cylinders arranged in a narrow channel, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 60–68.
- M. Sadatomi, A. Kawahara, K. Kano, S. Tanoue, Flow distribution and Taylor bubble velocity for hydraulically equilibrium two-phase flow in a vertical 2x3 rod channel, *Japanese Journal of Multiphase Flow* 18 (2) (2004) 153–160.
- K. Sato, K. Hachino, Y. Saito, Inception and dynamics of traveling-bubble-type cavitation in a venturi, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 69–76.
- T. Seta, K. Kono, Thermal lattice Boltzmann method for liquid–gas two-phase flows in two dimension, *JSME International Journal B* 47 (3) (2004) 572–583 (in English).
- A. Sou, K. Hayashi, A. Tomiyama, A volume tracking method for multi-phase flow simulation (improvement of an interface reconstruction method), *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2538–2544.
- K. Sugiyama, S. Takagi, Y. Matsumoto, Effect of the history force on the translational motion of bubbles and particles in cellular flow, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2738–2747.
- A. Suzuki, Improvement of reliability of two-phase flow characterization by point correlation dimension analysis and verification using submerged nozzle pressure fluctuation time series, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 896–903.
- N. Takada, A. Tomiyama, Numerical simulation of motion of drops in a shear flow using a statistical-thermodynamic interface model, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2712–2720.
- K. Takase, H. Yoshida, Y. Ose, H. Tamai, Numerical analysis of a water–vapor two-phase film flow in a narrow coolant channel with a three-dimensional rectangular rib, *JSME International Journal B* 47 (2) (2004) 323–331 (in English).
- F. Takemura, Migration velocity of a spherical particle near a wall in low Reynolds number regime, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 54–59.
- M. Tange, M. Shoji, Bubbling from submerged twin-orifices and a simplified model, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 348–355.

- H. Tamai, M. Kureta, H. Yoshida, H. Akimoto, Pressure drop characteristics in tight-lattice bundles for reduced-moderation water reactors, *JSME International Journal B* 47 (2) (2004) 293–298 (in English).
- H. Tamai, A. Tomiyama, Three-dimensional one-way bubble tracking method for the prediction of developing bubble-slug flows in a vertical pipe (1st report, Models and demonstration), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 880–887.
- H. Tamai, A. Tomiyama, Three-dimensional one-way bubble tracking method for the prediction of developing bubble-slug flows in a vertical pipe (2nd report, Comparisons between experiments and calculations), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 888–895.
- A. Tominaga, T. Fukano, Y. Kawakami, Effects of the inner diameter of a ring-type obstacle on liquid film thickness in upward gas–liquid two-phase flow in a vertical tube, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 77–84.
- A. Tominaga, T. Fukano, Y. Kawakami, Effects of the opening area ratio of a ring-type obstacle on liquid film thickness in upward gas–liquid two-phase flow in a vertical tube, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 871–879.
- T. Uchiyama, A. Fukase, Three-dimensional vortex method for gas-particle two-phase compound round jet, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 1957–1964.
- H. Watanabe, M. Otaka, J. Inumaru, Development of numerical simulation technique for coal gasification on entrained flow coal gasifier (modeling of coal gasification reaction and prediction of gasifier performance), *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1856–1863.
- H. Yamaguchi, S. Shuchi, K. Sakatani, M. Enomoto, Research on driving force characteristics of low boiling point solution mixture of temperature sensitive magnetic fluid, *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2591–2597.
- H. Yamaguchi, T. Kuwahara, Y. Ueno, Micro-bubbly flows in rotating pipe sections with abrupt expansion and contraction, *JSME International Journal B* 47 (3) (2004) 564–571 (in English).
- Y. Yamamoto, K. Hiraiwa, S. Morooka, N. Abe, Critical power performance of tight lattice bundle, *JSME International Journal B* 47 (2) (2004) 344–350 (in English).
- Y. Yamamoto, T. Kunugi, S. Satake, A. Serizawa, Numerical investigation of the water surface-waves characteristics in fully-developed wind-driven turbulent flow, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 452–458.
- Y. Yamamoto, T. Kunugi, S. Satake, A. Serizawa, Turbulent structures and heat transfer across the air–liquid interface in the wind-driven turbulent flow, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1006–1012.
- K. Yoneda, F. Inada, Flow characteristics of centrifugal gas–liquid separator (investigation with air–water two-phase flow experiment), *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 363–370.

11. Mass transfer

- B. Deng, C.N. Kim, A new CFD model for VOC emission based on the general adsorption isotherm, *JSME International Journal B* 47 (2) (2004) 396–402 (in English).
- M. Fumizawa, G. Tanaka, H. Zhao, M. Hishida, Y. Shiina, Helium–air counter flow in rectangular channels, *Transactions of Atomic Energy Society of Japan* 3 (4) (2004) 313–322.
- S. Hirahara, H. Minamitani, Inkjet characteristics affected by cohesion on pigmented ink surface, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1725–1731.
- S. Hirahara, H. Minamitani, Analysis of cohesion on pigmented ink surface (a spec consideration for inkjet ink), *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1732–1737.
- Y. Imai, K. Toyota, Y. Moriyoshi, 2-D quantitative measurement of fuel jet concentration using laser-beam-scanning method, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1626–1631.
- O. Imamura, Y. Kubo, J. Osaka, J. Sato, M. Tsue, M. Kono, Sooting of single droplets combustion in DC electric fields under microgravity, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 811–816.
- H. Inoue, H. Daiguji, E. Hihara, The structure of catalyst layers and cell performance in proton exchange membrane fuel cells, *JSME International Journal B* 47 (2) (2004) 228–234 (in English).
- Y. Ito, S. Komori, Effects of trip wires and a round-rod grid on the reactive-diffusive mechanism in a liquid plane mixing layer with a chemical reaction, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 921–928.
- H. Katou, R. Miyake, K. Kambara, K. Kawase, H. Uchida, A non-contact mixing method for liquids in micro-space (development of a non-contact mixing device by creating a wave on a free surface), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1208–1216.
- H. Katou, R. Miyake, K. Kambara, K. Kawase, H. Uchida, Evaluation of a non-contact mixing device by visualisation of mixing serum and reagent, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1217–1222.

- M. Kiyota, I. Morioka, D. Matsuura, Steam absorption process of water/LiBr system inside vertical small bore pipes, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1279–1284.
- N. Kurimoto, Y. Suzuki, N. Kasagi, Active control of coaxial jet mixing with arrayed micro actuators, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1417–1424.
- I. Mahmoud, K. Ishida, M. Monde, Analysis of ammonia vapor absorption into ammonia water mixtures – rate of absorption reaction, *Thermal Science and Engineering* 12 (1) (2004) 1–10 (in English).
- N. Matsunaga, M. Hori, Reactive absorption of NO₂ by water in the NO_x measurement system, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1064–1071.
- S. Matsuno, H. Saitoh, F. Akamatsu, M. Katsuki, Spray measurements and numerical analysis on an impinging jet injector, *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1711–1716.
- B.C. Meikap, G. Kundu, M.N. Biswas, Mass transfer characteristics of a counter current multi-stage bubble column scrubber, *Journal of Chemical Engineering Japan* 37 (10) (2004) 1185–1193 (in English).
- H. Miyagawa, M. Koike, Y. Ohteru, S. Kojima, The effects of equivalence ratio on knock in SI engine, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1100–1105.
- A. Miyajima, Y. Okamoto, Y. Kadomukai, M. Kashiwaya, H. Kubo, H. Fujii, Experimental characterization of flat-spray injector for gasoline direct-injection engines, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2433–2440.
- K.J. Myong, M. Arai, T. Tanaka, J. Senda, H. Fujimoto, An experimental investigation and numerical analysis of multi-component fuel spray, *JSME International Journal B* 47 (2) (2004) 200–206 (in English).
- O. Nakabeppu, K. Deno, Gas absorption of slug flow in microchannel (1st report, Experimental study with CO₂/water system), *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1285–1292.
- S. Nakaya, M. Kasahara, S. Shiba, J. Osaka, Sensitivity analysis of diurnal cycle of NO_x, HO_x and O_x chemistry in stratosphere, *Journal of the Japan Society for Aeronautical and Space Sciences* 52 (609) (2004) 435–441.
- A. Nishiyama, E. Tomita, N. Kawahara, S. Yoshiyama, Y. Hamamoto, Effects of swirl turbulent flow field and stratified concentration field on combustion of fuel–air mixture in a constant volume vessel (2nd report, Effects of concentration field and turbulence flow field on combustion characteristics), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1092–1099.
- K.J. Riu, J. Kim, I.S. Choi, Experimental investigation on dust separation characteristics of a vortex tube, *JSME International Journal B* 47 (1) (2004) 29–36 (in English).
- K. Sugiyama, S. Takagi, Y. Matsumoto, Mass transfer in the wake region of a spherical bubble at high Péclet number, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2294–2302.
- T. Suzuki, Y. Tani, A. Okamoto, H. Inagaki, Hollow-cone like spray formation by using plate type multi-hole nozzle, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2160–2166.
- K. Tanno, S. Komori, Effects of swell on turbulence structure and mass transfer across the wind-driven air–water interface, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 644–649.
- T. Uchiyama, K. Murakami, N. Otsuki, Numerical simulation for diffusion of matter in plane mixing layer by particle method, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 839–846.
- H. Yata, H. Kasuga, Study of Marangoni force on meniscus of silicon substrate (effect of Marangoni force for particle removal and adhesion on substrate), *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1651–1656.
- C.L. Yeh, Numerical investigation of liquid jet emanating from plain-orifice atomizers with chamfered or rounded orifice inlets, *JSME International Journal B* 47 (1) (2004) 37–47 (in English).

12. Molecular dynamics

- S. Furukawa, K. Goda, Y. Zhang, T. Nitta, Molecular simulation study on adsorption and diffusion behavior of ethanol/water molecules in NaA zeolite crystal, *Journal of Chemical Engineering Japan* 37 (1) (2004) 67–74 (in English).
- T. Iwasaki, Application of molecular-dynamics simulation to interface stabilization in thin-film devices, *JSME International Journal B* 47 (3) (2004) 470–476 (in English).
- M. Ohno, K. Iwasaki, Y. Hagiwara, Effects of alanine dipeptide on the growth of an ice nucleus in water, *JSME International Journal B* 47 (3) (2004) 508–515 (in English).
- M. Shibahara, T. Kunugi, M. Katsuki, Molecular dynamics study on effects of surface structures in nanometer scale on energy transfer from fluid to surface, *Transactions of the Japan Society of Mechanical Engineers B* 70 (693) (2004) 1273–1278.
- K. Tanaka, T. Kato, Y. Matsumoto, Flow structure of polymer film confined between walls (1st report, Shear velocity dependence of flow structure and orientation of molecule), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 831–838.
- K. Yamamoto, H. Takeuchi, T. Hyakutake, Characteristics of reflected gas molecules at wall surfaces analyzed by molecular dynamics method (1st report, Case of a flow problem), *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 602–609.

K. Yamamoto, H. Takeuchi, T. Hyakutake, Characteristics of reflected gas molecules at wall surfaces analyzed by molecular dynamics method (2nd report, Case of a thermal problem), *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2272–2279.

13. Measurements

T. Aizawa, H. Kosaka, Y. Matsui, Measurements of excitation-emission matrix of PAHs in a flame using a multi-wavelength laser source, *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 496–502.

M. Funatsu, Y. Watanabe, H. Shirai, T. Itoh, K. Ishida, Temperature measurements of high-enthalpy arc-jet wind tunnel flows by N_2^+ first negative and CN violet bands, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1489–1495.

H. Inoue, M. Mori, K. Hishida, M. Maeda, Development of ultrasonic velocity-profiler system combining pulse-Doppler and cross correlation techniques, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3196–3203.

T. Kadota, A. Suzuki, D. Segawa, Measurement of OH and soot concentration distributions in a droplet flame by using LIF and LLS technique, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3218–3223.

T.H. Kim, T. Obara, S. Ohyagi, M. Yoshikawa, Experimental study on performance of shock tube driven by detonation wave, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 707–714.

T. Morihara, S. Murata, Development of three-dimensional PTV with a self-organizing map, *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2584–2590.

K. Ogawa, Y. Kawasoe, T. Haishi, S. Utsuzawa, Development of MRI-monitoring method to obtain the map of gas-storage ratio in gas-hydrate mash and MRI observation of time-evolution maps of gas-storage ratio in hydrate formation process, *Transactions of the Japan Society of Mechanical Engineers B* 70 (700) (2004) 3204–3211.

T. Okamoto, N. Nakajima, T. Shimazaki, Y. Ohara, T. Takagi, Examination of the phenomena concerning optical particle measurements using the direct finite-difference solution of Maxwell's equation (influence of multiple scattering and three-dimensionality of scatterer on diffraction), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1078–1085.

H. Sakanashi, Y. Inada, N. Choi, M. Yamauchi, A. Tezaki, Laser-induced fluorescence measurements of formaldehyde in homogeneous charge compression ignition (HCCI) of dimethyl ether, *Transactions of*

the Japan Society of Mechanical Engineers B 70 (690) (2004) 503–510.

K. Sakurai, K. Okamoto, H. Madarame, Visualization study on forced convection heat transfer of super critical carbon dioxide, *Transactions of Atomic Energy Society of Japan* 3 (1) (2004) 34–43.

K. Satoh, K. Hayashida, K. Amagai, M. Arai, Laser measurement of polycyclic aromatic hydrocarbons in the flame (1st report, Separation of laser-induced fluorescence and incandescence by time-resolved measurement), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1051–1057.

K. Satoh, K. Hayashida, T. Miyakawa, K. Amagai, M. Arai, Laser measurement of polycyclic aromatic hydrocarbons (PAHs) in a flame (2nd report, Presumption of PAHs by laser-induced fluorescence spectrum), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2183–2190.

H. Tasaka, G. Ohara, S. Tomomatsu, Y. Nagase, Examination of LDV using laser diode and measurement example of in-cylinder flow of an engine, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1086–1091.

E. Tomita, N. Kawahara, M. Shigenaga, A. Nishiyama, In situ measurement of fuel concentration of hydrocarbon near spark plug in an engine cylinder by 3.392 μm infrared laser absorption method (discussion of applicability with homogeneous methane–air mixture), *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 511–517.

E. Tomita, N. Kawahara, A. Nishiyama, M. Shigenaga, In situ measurement of fuel concentration of hydrocarbon near spark plug in an engine cylinder by 3.392 μm infrared laser absorption method (application to actual engine), *Transactions of the Japan Society of Mechanical Engineers B* 70 (690) (2004) 518–524.

14. Microgravity

Y. Abe, About self-rewetting fluids – possibility as a new working fluid, *Thermal Science and Engineering* 12 (3) (2004) 9–18 (in English).

T. Hibiki, T. Takamasa, M. Ishii, Development of drift-flux model at microgravity conditions, *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2043–2050.

K. Nishizawa, O. Fujita, K. Ito, M. Kikuchi, S.L. Olson, T. Kashiwagi, Combustion behaviour over ETFE insulated wire in slow external flow under microgravity, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1043–1050.

S. Tanaka, I. Ueno, H. Kawamura, Particle accumulation structures in thermocapillary convection of liquid bridge, *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 997–1005.

15. Micromechanical systems

- T. Yamamoto, S. Devasenathipathy, Y. Sato, K. Hishida, Separation technique of sub-micron particles using electrokinetically driven flow, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2378–2385.
- T. Yoshino, Y. Suzuki, N. Kasagi, S. Kamiunten, Optimal thermal design of micro hot-film wall shear stress sensor, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 38–45.

16. Heat exchangers, evaporators and condensers

- X. Ding, K. Yamazaki, A study of cooling system based on branching network in nature, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 3016–3023.
- K. Hamaguchi, Y. Magara, I. Yamashita, Effects of stacking method on pressure loss and heat transfer characteristics in stacked wire gauze, *Transactions of the Japan Society of Mechanical Engineers B* 70 (697) (2004) 2425–2432.
- Y. Hamamoto, S. Murase, J. Okajima, F. Matsuoka, A. Akisawa, T. Kashiwagi, Analysis of heat and mass transfer in a desiccant rotor, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (4) (2004) 63–75.
- M. Kudoh, S. Sasaki, T. Hatada, M. Morimoto, A simple method for predicting the performance of heat exchangers mounted in air conditioners (2nd report, System verification), *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1541–1546.
- K. Morimoto, Y. Suzuki, N. Kasagi, Heat transfer and fluid flow characteristics of recuperators with oblique wavy walls, *Transactions of the Japan Society of Mechanical Engineers B* 70 (698) (2004) 2604–2611.
- Y. Ohira, H. Takahashi, M. Takahashi, K. Ando, Wall heat transfer in a double-tube coal-slurry bubble column, *Kagaku Kogaku Ronbunshu (Transactions of Chemical Engineering Japan)* 30 (3) (2004) 360–367.
- N. Sasaki, S. Kakiyama, N. Sanuki, Performance characteristics of cross-fin-tube-type heat exchanger for air conditioner (1st report: Effects of enhanced heat transfer spirally grooved tube with ability to control the heat transfer disturbance by mechanical tube expanding), *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (2) (2004) 129–138.
- H. Takizawa, D. Kitahama, N. Kagawa, A. Matsuguchi, S. Tsuruno, Development of new matrix material for stirling engine regenerator, *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 823–828.

17. Heat transport devices

- S. Gima, T. Nagata, X. Zhang, M. Fujii, An experimental study on cooling of CPU using a two phase closed thermosyphon loop, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1504–1509.
- K. Kawaguchi, T. Terao, K. Kobayashi, Cooling unit for computer chip by using boiling heat transfer, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (4) (2004) 309–317.
- M. Kuramae, Mechanism and features of the Marangoni effect in two-component heat pipes, *Kagaku Kogaku Ronbunshu (Transactions of Chemical Engineering Japan)* 30 (4) (2004) 501–508.
- H. Nagano, A. Ohnishi, Y. Nagasaka, A. Nagashima, Study on a reversible thermal panel for spacecraft (evaluation of efficiency and reliability of new autonomous thermal control device), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2117–2125.
- O. Suzuki, An experimental study of heat-transport characteristics of oscillatory flow in a minichannel, *Thermal Science and Engineering* 12 (6) (2004) 31–36 (in English).

18. Heat sinks

- H. Chiba, T. Ogushi, H. Nakajima, T. Ikeda, Heat transfer capacity of lotus-type porous copper heat sink, *JSME International Journal B* 47 (3) (2004) 516–521 (in English).

19. Air conditioning and refrigeration

- S. Fujimoto, Y. Hiratsuka, H. Morishita, T. Nagaishi, Development of a low-noise, single-stage pulse-tube cryocooler, *Cryogenic Engineering Journal of the Cryogenic Society of Japan* 39 (7) (2004) 322–327.
- Y. Hiratsuka, H. Morishita, T. Nomura, Development of numerical analysis for stirling type pulse-tube cryocooler performance, *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 201–208.
- M. Katsuta, M. Kinpara, S. Yagi, H. Mukaiyama, The effect of oil contamination on evaporator heat transfer characteristics of CO₂ refrigeration cycle, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers* 21 (3) (2004) 275–283.
- T. Koseki, H. Takeda, K. Iijima, M. Murai, H. Matsufuji, O. Kawaguchi, Development of heat storage system using metal hydride (3rd report, Experiment of performance by the actual loading condition), *Transactions of the Japan Society of Mechanical Engineers B* 70 (696) (2004) 2126–2133.
- H. Matsushima, T. Fujii, T. Komatsu, K. Sekiguchi, A dynamic simulation program with object-oriented formulation for absorption chillers (simulation method

- and modeling), Transactions of the Japan Society of Mechanical Engineers B 70 (691) (2004) 751–757.
- H. Matsushima, T. Fujii, T. Komatsu, K. Sekiguchi, A dynamic simulation program with object-oriented formulation for absorption chillers (simulation of pseudo-fault conditions in a solution-circulation line), Transactions of the Japan Society of Mechanical Engineers B 70 (695) (2004) 1784–1789.
- M. Ozawa, A. Kawamoto, Stack temperature distribution in an acoustic-resonance tube, Thermal Science and Engineering 12 (2) (2004) 1–16 (in English).
- N. Sasaki, Y. Mizuta, N. Sanuki, Prediction of heat transfer performance of air-cooled condenser for air conditioner (1st report, Comparison with typical experimental data), Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers 21 (2) (2004) 147–156.
- K. Takeshita, Y. Amano, T. Hahizume, T. Takei, M. Tomizawa, Influence of refrigerant mass fraction in the performance of an ammonia absorption refrigerator, JSME International Journal B 47 (2) (2004) 242–248 (in English).
- 20. Packed or fluidized beds and porous media**
- S. Furui, H. Umekawa, M. Tsuzuki, M. Ozawa, N. Takenaka, Characteristics of bed-material behavior and heat transfer around vertical tube banks in a fluidized bed, Thermal Science and Engineering 12 (5) (2004) 9–20 (in English).
- K. Hashizume, A. Shirai, Heat transfer on tube bundles embedded horizontally in a liquid-fluidized bed, Transactions of the Japan Society of Mechanical Engineers B 70 (696) (2004) 2110–2116.
- J.F. Li, F. Watanabe, M. Kubota, N. Kobayashi, M. Hasatani, Heat and mass transfer characteristics of an active carbon/ammonia adsorption heat pump with a packed bed type adsorber, Journal of Chemical Engineering Japan 37 (3) (2004) 383–390 (in English).
- Y. Suzuki, T. Nojima, A. Kakuta, H. Moritomi, Pressurized fluidized bed combustion of sewage sludge (energy recovering from sewage sludge by power generation system), JSME International Journal B 47 (2) (2004) 186–192 (in English).
- Y. Usami, M. Yamada, M. Ikegawa, S. Fukusako, Heat and mass transfer in a reforming catalyst bed (analytical optimization of the effective thermal conductivity), Transactions of the Japan Society of Mechanical Engineers B 70 (695) (2004) 1864–1871.
- 21. Energy and environmental systems**
- R. Echigo, K. Kurabayashi, An analysis on transient behavior of permafrost formation-break and geothermal effect, Transactions of the Japan Society of Mechanical Engineers B 70 (700) (2004) 3212–3217.
- T. Fujii, M. Wada, H. Asano, K. Sugimoto, S. Toyama, H. Kawasaki, A study of dynamic characteristics of the thermal control systems utilizing latent heat, Transactions of the Japan Society of Mechanical Engineers B 70 (690) (2004) 425–431.
- H. Fujishima, T. Kuroki, M. Okubo, T. Yamamoto, Simultaneous NO_x, SO_x and diesel particulate removal using single-stage wet-type plasma and chemical hybrid process, Transactions of the Japan Society of Mechanical Engineers B 70 (691) (2004) 817–822.
- M. Hatazawa, H. Sugita, T. Ogawa, Y. Seo, Performance of a thermoacoustic sound wave generator driven with waste heat of automobile gasoline engine, Transactions of the Japan Society of Mechanical Engineers B 70 (689) (2004) 292–299.
- Y. Hishinuma, T. Chikahisa, F. Kagami, T. Ogawa, The design and performance of a PEFC at a temperature below freezing, JSME International Journal B 47 (2) (2004) 235–241 (in English).
- H. Ichikawa, H. Kumakura, M. Sasaki, Development of low-emission combustor for a 100 kW automotive ceramic gas turbine (2nd report, Emissions of a pre-vaporization pre-mixing lean combustor), Transactions of the Japan Society of Mechanical Engineers B 70 (692) (2004) 1036–1042.
- J.H. Jung, G.J. Yoo, Analysis of unsteady turbulent triple jet flow with temperature difference, Journal of Nuclear Science and Technology 41 (9) (2004) 931–942 (in English).
- Y. Kobayashi, M. Hirata, Harnessing wind resources in all over the world (1st report, Estimation of wind resources in all over the world), Transactions of the Japan Society of Mechanical Engineers B 70 (698) (2004) 2627–2634.
- K. Mukai, S. Ishizawa, A study on adsorber substrate to reduce exhaust HC from a gasoline engine (adsorption and desorption characteristics with composition and preparation of zeolite), Transactions of the Japan Society of Mechanical Engineers B 70 (689) (2004) 252–258.
- K. Nishida, T. Takagi, S. Kinoshita, Process analysis and evaluation of exergy loss in solid oxide fuel cell, JSME International Journal B 47 (4) (2004) 786–794 (in English).
- T. Yamamoto, K. Mitachi, Transient core characteristics of small molten salt reactor coupling problem between heat transfer/flow and nuclear fission reaction, Transactions of the Japan Society of Mechanical Engineers B 70 (699) (2004) 2984–2991.
- Y. Yamashita, Y. Hirata, Y. Iwata, K. Yamazaki, Y. Ito, Performance and heat transfer characteristics of a latent heat storage unit with finned tubes: experimental study on liquefaction of LNG boil-off gas by melting n-pentane as a phase-change material, Kagaku Kogaku Ronbunshu (Transactions of Chemical Engineering Japan) 30 (4) (2004) 399–406.

22. Manufacturing and materials processings

- N. Gupta, S. Chandra, Temperature prediction model for controlling casting superheat temperature, *ISIJ International* 44 (9) (2004) 1517–1526 (in English).
- M. Kohno, Y. Matsuoka, Microfabrication and drilling using diffraction-free pulsed laser beam generated with axicon lens, *JSME International Journal B* 47 (3) (2004) 497–500 (in English).
- S. Kundu, A. Mukhopadhyay, S. Chatterjee, S. Chandra, Modelling of microstructure and heat transfer during controlled cooling of low carbon wire rod, *ISIJ International* 44 (7) (2004) 1217–1223 (in English).
- T. Kuroki, N. Saeki, M. Okubo, T. Yamamoto, Decomposition of CF_4 exhaust gas from semiconductor manufacturing equipments using low pressure inductively coupled plasma (optimization of operating conditions and byproduct analysis), *Transactions of the Japan Society of Mechanical Engineers B* 70 (692) (2004) 1058–1063.
- T. Ohmi, Manufacturing process of flat display, *JSME International Journal B* 47 (3) (2004) 422–428 (in English).
- M. Okuyama, T. Tomimura, R. Echigo, T. Satake, S. Kikuchi, Synthesis of carbon nanomaterials using methane/air premixed flames, *Thermal Science and Engineering* 12 (6) (2004) 37–44 (in English).
- K. Onishi, S. Nozu, T. Kato, Study of rubber curing process (relation between unsteady state temperature field and cure state), *Transactions of the Japan Society of Mechanical Engineers B* 70 (695) (2004) 1872–1877.
- S. Qiu, H. Liu, S. Peng, Y. Gan, Numerical analysis of thermal-driven buoyancy flow in the steady macro-solidification process of a continuous slab caster, *ISIJ International* 44 (8) (2004) 1376–1383 (in English).
- O. Yamazaki, S. Takagi, K. Iyanagi, K. Kinoshita, K. Mase, K. Yahiro, K. Nanbu, Monte Carlo simulation of ionization sputtering (1st report, Reproduction of shape of buried Cu films), *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 9–16.
- O. Yamazaki, S. Takagi, K. Kinoshita, K. Mase, K. Yahiro, K. Nanbu, Monte Carlo simulation of ionization sputtering (2nd report, Consideration of behavior of Cu atoms and ions on a substrate surface), *Transactions of the Japan Society of Mechanical Engineers B* 70 (689) (2004) 17–24.
- L. Zhong, Q. Liu, W. Wang, Computer simulation of heat transfer in regenerative chambers of self-preheating hot blast stoves, *ISIJ International* 44 (5) (2004) 795–800 (in English).

23. Biological technology and food processing

- S.H. Lan, M.M. Farid, Experimental analysis of cryogenic freezing of food, *Journal of Chemical Engineering Japan* 37 (2) (2004) 304–309 (in English).
- N. Sakai, C. Wang, S. Toba, M. Watanabe, An analysis of temperature distributions in microwave heating of foods with non-uniform dielectric properties, *Journal of Chemical Engineering Japan* 37 (7) (2004) 858–862 (in English).
- Y. Sugii, S. Nishio, K. Okamoto, A. Nakano, M. Minamiyama, H. Niimi, Blood flow velocity measurement in the microcirculation using highly accurate iterative PIV (2nd report, Analysis of ensemble averaged velocity in rat mesenteric arterioles), *Transactions of the Japan Society of Mechanical Engineers B* 70 (691) (2004) 701–706.
- T. Tadano, I. Suzuki, X. Zhang, Effective thermal conductivity measurement and analytical heat transfer model on white bread, *Netsu Bussei (Japan Journal of Thermophysical Properties)* 18 (1) (2004) 7–13.
- T. Takano, N. Tanaka, T. Masuzawa, Micro-simulation of blood flow, *Transactions of the Japan Society of Mechanical Engineers B* 70 (699) (2004) 2705–2711.
- K. Ueoka, Y. Matsushita, T. Yamamoto, H. Aoki, T. Miura, Experimental investigation of biomass pyrolysis mechanism using cellulose as a model compound, *Transactions of the Japan Society of Mechanical Engineers B* 70 (694) (2004) 1598–1603.
- S. Yamada, T. Hiraiwa, T. Takano, A study of effective thermal conductivity of bread crust during the process of baking, *Netsu Bussei (Japan Journal of Thermophysical Properties)* 18 (4) (2004) 130–135.