

**The 28th Japan Symposium on Thermophysical Properties**  
**Final Program**

(All the papers in this program are opened to the public on October 10, 2007)

**DAY 1 October 24, Wednesday**

**ROOM A**

**GS1-1 Thermal / Transport properties of liquids – 1 9:00 – 10:00**

**Chairperson: H. Miyamoto (Toyama Prefec. Univ.)**

**A111** Mutual diffusion coefficients for ketones in poly(n-propyl methacrylate)

◇Masayoshi Ohki (Yamaguchi Univ.), Shigetoshi Kobuchi, Yoshihiro Terada (Sekisui Eng.)

**A112** Measurement of the Gaseous Diffusion Coefficient of Diethyl Ether into Air by the Stefan Method  
-- (2nd Report) --

○Naoki MATSUNAGA (Takushoku University), Morio HORI

**A113** CO<sub>2</sub> solubility and diffusivity in polycarbonate under high-pressures

○Yoshiyuki Sato (Tohoku Univ.), Taisuke Minagawa, Taiga Ishiyama, Kohtatsu Hirose, Hiroshi Inomata

**GS1-2 Thermal / Transport properties of liquids – 2 10:30 – 12:00**

**Chairperson: Y. Sato (Tohoku Univ.)**

**A121** Development of an Experimental Apparatus for Measuring Solubility of Nitride Semiconductor

Chiaki YOKOYAMA (Institute of Multidi), Kiyoshi KURODA, Naruhiro HOSHINO (Tohoku University),  
Yutaka MIKAWA (Institute of Multidi), ○Daisuke TOMIDA

**A122** The electrical conductivity of eutectic fused salt system LiNO<sub>3</sub>-KNO<sub>3</sub> and the mystery of its  
phase diagram

○Yohei Nakui (Hokkaido Univ.), Toshio Itami

**A123** Physicochemical properties and searching of liquid alloys with extremely low melting point

Naoya Kishimoto (Hokkaido Univ.), Yuuji Sato, Yumi Adachi, ○Toshio Itami

**A124** Noncontact modulated laser calorimetry for liquid stainless steel with suppressed convections in a  
static magnetic field

◇Kakeru Takahashi (Institute of Multidi), Syozi Sakashita, Hidekazu Kobatake, Hiroyuki Fukuyama, Takao  
Tsukada (Osaka Prefe. Univ.), Satoshi Awazi (Institute for Materi)

**GS1-3 Thermal / Transport properties of liquids – 3 13:30 – 15:00**

**Chairperson: H. Baba (ex- Kitami Inst. Tech.)**

**A131** Measurement of Vapor Pressure for NH<sub>4</sub>Cl+NH<sub>3</sub> Solution with a Static Method

○Daisuke TOMIDA (Institute Multidisci), Kousuke SUZUKI, Yuuichi KATOU, Chiaki YOKOYAMA

**A132** Measurements of  $P\rho T$  Properties and Excess Molar Volumes for Hydrocarbon Mixtures at Pressures to 200MPa

○Hiroyuki MIYAMOTO (Toyama Prefec. Univ.), Tomomichi KOSHI (Keio Univ.), Masahiko UEMATSU

**A133** A study on behavior of specific heat capacity for HFCs and HCs refrigerants in the gaseous phase

◇Mitsuru MUKOUBAYASHI (Keio Univ.), Satoshi YAMAMOTO, Haruki SATO

**A134** Measurements of the Critical Properties for Ammonia-Water System

◇Akinori SAKABE (Keio University), Dai ARAI, Masahiko UEMATSU

#### **GS1-4 Thermal / Transport properties of liquids – 4 15:30 – 17:10**

**Chairperson: N. Haruki (Okayama Univ.)**

**A141** Development for measurement of infinite dilution activity coefficients of alkane in alkane within wide temperature range

○Kenji FUKUCHI (Ube National College of Tech.), Takaya SAKANE, Yoshimori MIYANO (Kurashiki Univ. of Science and Art), Akihiro MUROTOMI (Ube Industries), Morihisa YOKOTA

**A142** The heat transport estimation of the saccharide aqueous solution

Shin-ichi MORITA (Yonago N.C.T.), ◇Yuki KATO, Yasutaka HAYAMIZU, Hideo INABA (Okayama Univ.)

**A143** Viscosity Measurement of Diesel Fuels Using a Rotation Viscometer

○Hisashi Nobayashi (Fukuoka Univ.), Tomohiro Honda, Shigeaki Moriyama

**A144** Separation of Hydrofluoric Acid from Mixed Acid Waste using the Salt Effect on Vapor-Liquid Equilibrium

Hideki Yamamoto (Kansai Univ.), ◇Masato Hirano, Tomohiro Ono, Yuzo Hamada, Yuji Yoneda

## **ROOM B**

#### **GS3-1 Radiation properties - 1 9:00 – 10:00**

**Chairperson: K. Miyazaki (Kyushu Inst. of Tech.)**

**B111** Thermal Radiation Phenomena of Real Surfaces of Transition Metals at High Temperature Environment

○Hidenobu Wakabayashi (Kyoto Univ.), Toshiro Makino

**B112** Development of Measuring Apparatus for Spectral Reflectance and Transmittance at High Temperature

○Masatake ONODERA (NICHIAS Corp.), Takahiro OHMURA, Yutaka KAGAWA (The University of Tokyo)

**B113** Effects of alloying elements on colours of Cu and its density of states

○Rie ENDO (Tokyo Inst. of Tech.), Masanori SAKAGUCHI, Masahiro SUSA

#### **GS3-2 Radiation properties - 2 10:30 – 12:00**

**Chairperson: H. Wakabayashi (Kyoto Univ.)**

**B121** Study on optimized design of solar reflection mirror for smart radiation device

◇Ai Ueno (Tokyo University of Science), Sumitaka Tachikawa (ISAS/JAXA), Akira Ohnisi, Tomohiko Saito (Tokyo University of Science)

**B122** Effect of Water Content on Radiative Characteristics of Human Skin

Jun YAMADA (Shibaura Inst. Tech.), ○Yuichi ARITA, Akihiro AN, Kumiko KIKUCHI (Shiseido Co., Ltd., Sadaki TAKATA

**B123** Infrared Emission Property of Close-Packed Structure of Silica Microspheres

○Masahiro Kihara (Kyushu Inst. of Tech.), Ryosuke Sameshima, Koji Miyazaki, Hiroshi Tsukamoto

**B124** Estimation of Global Spectral Irradiance Using Normalized Global Spectral Irradiance.

○Hiromu Baba (Formerly Kitami Inst. Tech.)

### **GS11-1 Standard substances/ Standardization / Databases – 1 13:30 – 15:00**

**Chairperson: S. Momoki (Nagasaki Univ.)**

**B131** Development of thermophysical properties reference material with ceramics for two-layer materials

○Mitsue OGAWA (Japan Fine Ceramics), Syusui OGAWA, Megumi AKOSHIMA (AIST), Mineo MIZUNO (Japan Fine Ceramics), Tetsuya BABA (AIST)

**B132** Development of thermophysical properties reference material using plasma spraying for two-layer materials

○Mitsue OGAWA (Japan Fine Ceramics), Megumi AKOSHIMA (AIST), Mineo MIZUNO (Japan Fine Ceramics), Tetsuya BABA (AIST)

**B133** Development of a Network Database System for Thermophysical Property Data (7)

○Yuichiro Yamashita (AIST), Tetsuya Baba

**B134** Development of Reference Material for Thermal Expansion Measurements at Cryogenic Temperature — Single Crystal of Silicon (NMIJ RM 1103) —

○Naofumi YAMADA (NMIJ/AIST), Hideyuki Kato, Tetsuya BABA

### **GS11-2 Standard substances/ Standardization / Databases – 2 15:30 – 17:10**

**Chairperson: M. Akoshima (AIST)**

**B141** Development of thermophysical property database by Japan society of thermophysical properties (2)  
— Data access service of thermophysical property data via the Internet —

○Tetsuya Baba (AIST), Haruhito Akashi (Daifuku Software), Yohei Kayukawa (AIST), Haruki Sato (Keio Univ.), Yuzuru Sato (Tohoku Univ.), Yibin xu (NIMS), Yukihiro Higashi (Iwaki Meisei Univ.), Satoru Momoki (Nagasaki Univ.), Junko Morikawa (Tokyo Inst. of Tech.), Tomohiko Yamaguchi (Nagasaki Univ.), Yuichiro Yamashita (AIST), Tsugio Wakamatsu (Daifuku Software)

**B142** Development of a Dual-Sinker Magnetic Levitation Densimeter for the PVT property standard

○Yohei Kayukawa (NMIJ/AIST), Kenichi Fujii, Yuya Kano (Keio Univ.), Haruki Sato

**B143** An Improved Guarded Hot Plate System for Characterization of Insulating Materials at Low and High Temperatures

○Juergen BLUMM (NETZSCH), Thomas DENNER, Yoshio Shinoda (BRUKER AXS K.K.)

## ROOM C

### GS9-1 New measurement technology – 1 9:00 – 10:00

**Chairperson: Y. Kayukawa (AIST)**

**C111** Effects of Static Magnetic Field and Sample Rotation on Surface Tension Measurement for molten Si using Oscillating Droplet Method

◇Noriaki Takenaga (Tokyo Metropolitan Univ.), Shumpei Ozawa, Hidekazu Kobatake (Tohoku Univ.), Takuro Koda (Tokyo Metropolitan Univ.), Masayoshi Adachi (Gakushuin Univ.), Hiroyuki Fukuyama (Tohoku Univ.), Taketoshi Hibiya (Tokyo Metropolitan Univ.), Masahito Watanabe (Gakushuin Univ.), Satoshi Awaji (Tohoku Univ.)

**C112** Thermophysical properties measurements of Ti-Zr alloy using an Electrostatic Levitation Furnace

○Yuki WATANABE (AES), Hiroshi TOMIOKA, Yoshio HAYASHI, Noriyuki KOIKE (CIT), Takehiko ISHIKAWA (JAXA), Paul-Francois PARADIS

**C113** Multi-Thermophysical Property Measurement with Electrical-Optical Hybrid Pulse-Heating

Method (2) – Enhancement of Measurable Temperature Range and Measurement Efficiency –  
○Hiromichi Watanabe (AIST), Yuichiro Yamashita, Tetsuya Baba

### GS9-2 New measurement technology – 2 10:30 – 12:00

**Chairperson: A. Komiya (Tohoku Univ.)**

**C121** Simple Viscosity Measurement of Liquid by Natural Convection

– Evaluation of low viscosity silicone-oil by reconsidering the temperature dependency of density –  
Hiroshi Tanaka (Fukuoka Institute of Technology), ◇Shintarou Baba, Toshio Tomimura (Inst. for Materials Chem. and Engng., Kyushu Univ.)

**C122** Measuring method for thermophysical properties of liquids by a a thermophysical handy tester using a small amount of sample

◇Kousuke Sugai (Yamagata University), Ichiro Takahashi, Ichiro Kano

**C123** Detecting technique for deterioration of molded polymer resins by a thermophysical handy tester

◇Toshihiro Shibata (Yamagata University), Kousuke Sugai, Ichiro Takahashi

**C124** Principal Thermophysical Properties Measurement of Two Dimensional Anisotropic Material using Integrated Multi-Temperature Probe Method

○Eiji NEMOTO (Ibaraki N.C.T.), Asuka TAKAHASHI (Advanced Course of Ibaraki N.C.T.), Naoyuki SUZUKI (Nagaoka Univ. of Tech.)

### GS5-1 Surface/Interface/Thin films – 1 13:30 – 15:00

**Chairperson: H. Kawai (Hokkaido Inst. of Tech.)**

**C131** The microstructure of amorphous carbon films and thermal conductivity

○Seiichi Miyai (Univ. of Tokyo), Tomohiro Kobayashi (RIKEN), Takayuki Terai (Univ. of Tokyo)

**C132** Thermal Diffusivity Measurement of Insulator Oxide Films Using Thermoreflectance Method

◇Ryo ARISWA (Aoyama Gakuin Univ.), Takashi YAGI (AIST), Naoyuki TAKETOSHI, Tetsuya BABA, Amica MIYAMURA (Aoyama Gakuin Univ.), Yasushi SATO, Yuzo SHIGESATO

**C133** Reactive Sputter Deposition of AlN Thin Films with High Thermal Conductivity

◇Takashi OKABE (Aoyama Gakuin Univ.), Tetsuro OHTSUKA, Takashi YAGI (AIST), Naoyuki TAKETOSHI, Tetsuya BABA, Amica MIYAMURA (Aoyama Gakuin Univ.), Yasushi SATO, Yuzo SHIGESATO

**C134** Quality control technique of thin metal film using a Thermal Microscope

○Hatori Kimihito (Bethel), Ohta Hiromichi (Ibaraki univ.)

## **GS5-2 Surface/Interface/Thin films – 2 15:30 – 17:10**

**Chairperson: S. Miyai (The Univ. of Tokyo)**

**C141** Temperature Profile Measuring Method of Principal Thermophysical Properties of Ti-Y-Ba-Cu-O Compound System Using Infrared Camera

◇Asuka TAKAHASHI (Advanced Course of Ibaraki N.C.T.), Eiji NEMOTO (Ibaraki N.C.T.)

**C142** Measurement of Boundary Thermal Resistance Between Different Metal Films by the Picosecond Thermoreflectance Method

◇Hanako AOYAMA (Aoyama Gakuin Univ.), Takashi YAGI (AIST), Naoyuki TAKETOSHI, Tetsuya BABA, Amica MIYAMURA (Aoyama Gakuin Univ.), Yasushi SATO, Yuzo SHIGESATO

**C143** Diagnostic Technique for Degradation Inspection of Metallic Materials through the in-situ Measurement by a Thermophysical Handy Tester

◇Kazunori Kato (Yamagata Univ.), Ichiro Takahashi

**C144** Surface Tension of Sodium Dispersing Nano Particles

◇Kouichi Nakamura (Hokkaido Univ.), Zhang Zhi-gang, Masahiko Yamada, Ken-ichiro Sugiyama

**C145** Linear Thermal Expansion Coefficient for Thin Films on Si Wafer

○Takayuki Hirano (Toray Research Center), Atsushi Sakamoto, Tsuneyuki Yamane, Kazuhiko Ishikiriyama

## **ROOM D**

### **GS4-1 Mixture / Working fluids – 1 10:30 – 12:00**

**Chairperson: I. Tokura (Muroran Inst. of Tech.)**

**D111** Selection method of the mixture as working fluid for thermodynamic cycles

○Tomohiko YAMAGUCHI (Nagasaki Univ.), Kuniyasu KANEMARU, Satoru MOMOKI, Toru SHIGECHI

**D112** Study on Fluidity of Liquid-Solid Mixtures — Measurements of Effective Viscosity —

○Akemi Tanaka (Japan Women's University), Hidetoshi Ohkubo (Tamagawa University), Makoto Takahashi

**D113** Study on Effective Viscosity of Emulsion

◇Makoto Takahashi (Tamagawa University), Michiko Inoue, Hidetoshi Ohkubo

**D114** Review Study for Searching a New Refrigerant of Air-Conditioning from the Thermophysical Properties and the Expecting Performance

◇Takashi TAKENOBU (Keio University), Takuya SUZUKI, Haruki SATO

## **Organized Session: OS1**

**"Micro / Nano Scale Thermophysical Properties and System Design"**

**Organizers: K. Miyazaki (Kyushu Inst. of Tech.) and Y. Nagasaka (Keio Univ.)**

### **OS1-1 13:30 – 15:00**

**Chairperson: T. Yagi (AIST)**

**D121** NEMS Technology for Thermal Property Measurement of Nano Materials

○Koji Takahashi (Kyushu University), Yohei Ito, Tatsuya Ikuta, Kunihiro Nagayama, Motoo Fujii (AIST), Xing Zhang

**D122** Development of Nanoscale Temperature Measurement Technique Using Near-Field Fluorescence Lifetime

◇Taira JIGAMI (Keio Univ.), Yoshihiro TAGUCHI (Keio Univ.), Toshiharu SAIKI, Yuji NAGASAKA

**D123** Thermal conductivity of nano-porous silicon

○Koji Miyazaki (Kyushu Inst. of Tech.), Naohiro Otani, Daisuke Nagai, Masahiro Kihara, Hiroshi Tsukamoto

**D124** Numerical Design of Fiber Probe for Measuring Evanescent Wave

○Daisuke Hirashima (Tokyo Inst. of Tech.), Katsunori Hanamura

### **OS1-2 15:30 – 17:10**

**Chairperson: Y. Taguchi (Keio Univ.)**

**D131** Development of high speed laser flash system using sub-nanosecond thermoreflectance technique (3)

— Development of thin film reference materials for thermal diffusivity —

○Takashi Yagi (NMIJ/AIST), Naoyuki Taketoshi (NMIJ/AIST), Hideyuki Kato, Tetsuya Baba

**D132** Development of Measurement Technique for Mass Diffusion Coefficient in Polymer Electrolyte Membrane for Fuel Cell by Soret Forced Rayleigh Scattering Method

— Measurement of Methanol/Water Solution by Dual Synchronized AOM System —

Osamu KAMITA (Keio Univ.), ◇Ryohei TANAKA, Yuji NAGASAKA

**D133** Development of distribution measurement instrument of thermal property in local area using thermal probe and application to thermoelectric materials in  $(\text{Bi}_{1-x}\text{Sb}_x)_2\text{Te}_3$  ( $0 < x < 1$ ) compositionally graded hot-pressed sample

○Satoaki Ikeuchi (Ulvac-Riko Inc.), Tooru Sugawara, Kenji Shimada, Youichi Takasaki, Yoshikazu Ishii, Atsushi Yamamoto (AIST), Teruo Noguchi, Yasuko Katou

**D134** Thermal effusivity measurement technique of SiC using a Thermal Microscope

○Hatori Kimihito (Bethel), Matsui Genzo, Yamada Ikuko (AIST), Kume Shoichi, Watari Koji, Ohta Hiromichi (Ibaraki univ.)

**D135** Micro-scale thermal conductivity and effusivity measurement of SiC using Thermal Microscope

○Ikuko Yamada (AIST), Shoichi Kume, Koji Watari, Kimihito Hatori (Bethel), Genzo Matsui

## **DAY 2 October 25, Thursday**

### **ROOM A**

**GS1-5 Thermal / Transport properties of liquids – 5 9:00 – 10:00**

**Chairperson: D. Tomida (Tohoku Univ.)**

**A211** Viscosity of molten Co-W-C alloy in Co rich region

◇Yosuke HOSHINO (Tohoku Univ.), Keiichi YANAGASE, Osamu TAKEDA, Yuzuru SATO

**A212** Measurement of the Viscosity of molten Ti-Al Alloy

◇Yoneda Hiroshi (Tohoku Univ.), Hoshino Yosuke, Takeda Osamu, Sato Yuzuru

**A213** Study on Chapman-Enskog equation to estimate hydrogen gas viscosity in the limit of zero density

○Elin YUSIBANI (AIST), Peter L.WOODFIELD, Kanei SHINZATO, Yasuyuki TAKATA (Kyusu University), Motoo FUJII (AIST)

**GS1-6 Thermal / Transport properties of liquids – 6 10:30 – 11:30**

**Chairperson: N. Matsunaga (Takushoku Univ.)**

**A221** Viscosity Characteristics of Propylene Glycol Solution with Flow Drag Reduction Surfactant

Naoto Haruki (Okayama Univ.), Hideo Inaba, Akihiko Horibe, ◇Kazuma Yamagata

**A222** Behavior of the electrical conductivity at the extremely low temperature around the eutectic point

○Keita Hirai (Hokkaido Univ.), Toshio Itami

**A223** Numerical Simulation of Natural Convection in a Transient-Short-Hot-Wire Thermal Conductivity Cell

○Peter L. Woodfield (AIST), Jun Fukai (Kyushu University), Motoo Fujii (AIST), Yasuyuki Takata (Kyushu University), Kanei Shinzato (AIST)

### **Organized Session: OS3**

**"Thermophysical Properties in Low-Temperature Environment and Engineering"**

**Organizers: H. Ohkubo (Tamagawa Univ.) and M. Yamada (Hokkaido Univ.)**

**OS3-1 13:00 – 14:30**

**Chairperson: A. Horibe (Okayama Univ.)**

**A231** Study on apparent density of frost layer

○Koji Yamashita (Mitsubishi Electric), Mamoru Hamada, Hideotoshi Ohkubo (Tamagawa University),  
Masayuki Ueno

**A232** Study on Latent Heat Storage Materials Using Natural Substances

◇Satoshi Watanabe (Tamagawa University), Hidetoshi Ohkubo, Michiko Inoue

**A233** Study on Fluid Latent Heat Storage Materials Using Natural Substances

◇Kiyonori Ashizawa (Tamagawa University), Hidetoshi Ohkubo

**A234** Study on Thermophysical Properties of Frost Layer

○Ueno Masayuki (Tamagawa Univ.), Ohkubo Hidetoshi

**A235** Data of phase diagrams and Raman spectra of  $\text{H}_2\text{O}-\text{CH}_3\text{SO}_3\text{M}$

◇Toshimitsu Sakurai (Hokkaido Univ. Envi.), Hiroshi Ohno (Hokkaido Univ. ILTS), Shinichirou Horikawa,  
Yoshinori Iizuka, Tsutomu Uchida (Hokkaido Univ. Eng.), Takeo Hondoh (Hokkaido Univ. ILTS)

**ROOM B**

**GS2-1 Thermal / Transport properties of solids – 1 9:00 – 10:00**

**Chairperson: H. Nagano (ISAS/JAXA)**

**B211** Investigation on the measurement accuracy of the specific heat capacity using DSC

— In the case of pure copper and synthetic rutile disks —

○Junichi FUJINO (Fukuoka Univ.), Tomohiro HONDA

**B212** Thermal Diffusivity Measurement of Carbon Coat by the Pulse Heating Method

○Kazuya HOSONO (JUTMRI)

**B213** Effect of Hollow Microsphere Addition on Thermophysical Properties of Dental Filling Materials

◇Natsuro Takama (Hokkaido Univ.), Masahiko Yamada, Yasutaka Yawaka, Masayuki Kaga, Masahiro  
Ikegawa, Daichi Matsumoto

**GS2-2 Thermal / Transport properties of solids – 2 10:30 – 11:30**

**Chairperson: J. Fujino (Fukuoka Univ.)**

**B221** Propose of Measurement Method of Thermal Conductivity for Thin Plate

— Propose of Universal Calibration Curve —

Kaneko TAKAHASHI (Akita Univ.), ○Etsuro YAMADA

**B222** Simple Measurement Method of Thermoelectric Properties with Film Thermocouple

○Shunsuke Miyawaki (Keio Univ.), Hosei Nagano (ISAS/JAXA), Akira Ohnishi, Yuji Nagasaka (Keio  
Univ.)

**B223** Effect of volume to surface ratio on density comparison measurement by the pressure-of-flotation method

○Atsushi Waseda (AIST), Kenichi Fujii

**GS9-3 New measurement technology – 3 13:00 – 14:30**

**Chairperson: T. Tomimura (Kyushu Univ.)**

**B231** Determination of Mass Diffusion Coefficient Taken into Account of Concentration Dependency by Using Conjugate Gradient Method

○Atsuki Komiya (IFS Tohoku Univ.), Junnosuke Okajima (Tohoku Univ.), Shigenao Maruyama (IFS Tohoku Univ.)

**B232** Calibration method for measurement instruments of thermal effusivity in local area□

○Genzou MATSUI (Bethel Co. Ltd), Takashi YAGI (AIST), Hideyuki KATO

**B233** Principle of method to measure thermal diffusivity by induction heating of low frequency

○Eiji Matsushima (Osaka Inst. of Tech.)

**B234** A Feasibility Study for Broadband Refractometry by Optical Comb

○Yohei KAYUKAWA (NMIJ/AIST)

## ROOM C

**GS7-1 Combined materials / Construction materials – 1 9:00 – 10:00**

**Chairperson: M. Okuyama (Yamagata Univ.)**

**C211** A Study on Moisture Properties of “Tsuchikabe” that is a Speciality of Hyoko Prefecture (Part3)

○Shuuzou Yokobayashi (Himeji Industrial school of Hyogo), Manami Sato (Osaka Inst. of Tech.)

**C212** Development of Non-destructive Sensing Technique for Remaining Fluorocarbon in Insulations by Photothermal Radiometry (3rd Report)

Hiroto ANDO (Keio Univ.), ◇So GO, Yuji NAGASAKA

**C213** Development of a New Indoor Wall Unit of High Thermal Conductivity and High Hygroscopicity

◇Masaki Hata (Kyoto Univ.), Masato Fujiki, Hidenobu Wakabayashi, Toshiro Makino

**GS7-2 Combined materials / Construction materials – 2 10:30 – 11:30**

**Chairperson: M. Sato (Osaka Inst. Tech.)**

**C221** Thermal Conducting Characteristics of Humidity Conditioning Building Materials

○Norihiko MIYANO (Nihon Univ.), Akihiko MIYANO (Nagoya Inst. Tech.)

**C222** Thermal Conductivity of Rubber Added with Carbon Nanofiber

○Masaaki Okuyama (Yamagata University), Toshio Tomimura (Kyushu University), Tomoyuki Kanaya (Miyasaka Polymer)

**C223** A New Measurement Method of Permeability of Fiber Assembly Using a Twelve-Fold Beam Infrared Hygrometer — Water-vapor concentration dependency of apparent diffusion coefficient —  
Hiroshi TANAKA (Fukuoka Inst. of Tech.), ◇Shintarou Sakai, Shinji Fujioka

**GS6-1 New materials and technology -1 13:00 – 14:30**

**Chairperson: K. Hosono (Japan Ultra-high Temp. Materials Res. Inst.)**

**C231** Thermal diffusivity measurements of single-walled carbon nanotube solid and sheet using laser flash method

○Megumi AKOSHIMA (AIST), Kenji HATA, Takeshi SAITO, Kohei MIZUNO, Tetsuya BABA, Motoo YUMURA

**C232** Measurement of Seebeck Coefficient of the FeSi<sub>2</sub> Thermoelectric Conversion Module

○Katsuyuki TANAKA (Iwaki Meisei Univ.), Takuya YASUNO, Yukihiro HIGASHI

**C233** The latest topics of the measurement of thermal properties by Xe flash analyser

○Yoshio Shinoda (BRUKER AXS K.K.), Juergen BLUMM (NETZSCH), Thomas DENNER

**DAY 3 October 26, Friday**

**ROOM A**

**GS8-1 Agriculture / Fisheries / Biology / Biomass - 1 9:00 – 10:00**

**Chairperson: J. Morikawa (Tokyo Inst. of Tech.)**

**A311** Activation energy measurement using a adiabatic test device on biomass fuel

○Osamu Goto (Electric Power Development Co., Ltd.), Hisao Tsuboya, Yasuhumi Akasaka

**A312** Change in Diameter of Air Micro-Bubbles in Water

○Jun Suzuki (Muroran Inst. of Tech.), Koki Kishinami, Ikuo Tokura, Satoshi Minowa (Toshiba Plant Systems & Services Corp.)

**A313** Fluidity of Used Cooking Biodiesel Fuels

Mitsuo HIGANO (Akita Pref. Univ.), ○Yoshihiro SATO, Nobuhiro KANAZAWA

**GS8-2 Agriculture / Fisheries / Biology / Biomass - 2 10:30 – 11:30**

**Chairperson: M. Higano (Akita Prefec. Univ.)**

**A321** Heat generation and transfer during the mixing process of bread dough (2nd report)

○Seiji YAMADA(SHIKISHIMA BAKING Co), Masakazu KOMATSU, Shinya MIZUGUCHI, Yukihiro SONODA, Takayoshi TAKANO(Toyota Inst. of Tech.)

**A322** Thermal diffusivity in the freezing process of cryoprotective solvent and cells

○Junko Morikawa (Tokyo Inst. of Tech.), Toshimasa Hashimoto

### **A323** On Thawing of Frozen Meat Using Joule Heating Method

○Akihiro Naganawa (Akita Univ.), Masayuki Orihara, Yoshinobu Akiyama (ARIF), Toru Takahashi, Masanori Kumagai, Etsuro Yamada (Akita Univ.)

**13:30 - 15:00**

### **Workshop "Needs and Seeds of Thermophysical Properties from the view point of Power for the Competition in technology"**

**Coordinators: K. Sugiyama (Hokkaido Univ.) and T. Itami (Hokkaido Univ.)**

**WS001** Demands and responsible measurements for systematic analysis of the viscosity in the precise control of the process using high temperature melts

SATO Yuzuru (Dept. Metallurgy, Tohoku University)

**WS002** Research on Thermophysical Property by National Institute of Advanced Industrial Science and Technology — Thermophysical property as technical infrastructure and for innovation —

Tetsuya Baba (AIST)

**WS003** Non-destructive Thermometry using Neutron Resonance Absorption Spectroscopy

Takashi Kamiyama (Graduate School of Engineering, Hokkaido University)

## **ROOM B**

### **Organized Session: OS2**

#### **"Thermophysical Properties of Building Exterior and System Design"**

**Organizers: T. Fujimoto (Japan Testing Center for Construction Materials)**

**and A. Yoshida (Osaka Prefec. Univ.)**

**OS2-1 9:00 – 10:00**

**Chairperson: T. Fujimoto (Japan Testing Center for Construction Materials)**

**B311** Thermal conductivity measurement of recycled composite of plastic waste and fly ash using GHP method — Result for two types of sample with different proportions —

○Junichi FUJINO (Fukuoka Univ.), Tomohiro HONDA

**B312** Study on On-site Measurement of Radiative Properties of Construction Surface

— Application to Cool Surfaces Covered with Painted Layer and Waterproof Sheet —

○Atsumasa YOSHIDA (Osaka Prefec. Univ.), Shin-ichi KINOSHITA

**B313** Practical Examination of Thermal Insulating Nanoporous Composites

○Takahiro OHMURA (NICHIAS Corp.), Yasuo ITO, Isami ABE, Junichi NYUMURA, Makio NAITO (JWRI Osaka Univ.), Hiroya ABE

**OS2-2 10:30 – 11:30**

**Chairperson: A. Yoshida (Osaka Prefec. Univ.)**

**B321** A device to decrease the heat transfer through windows of existing house

○TAKEUCHI Masaaki (Toin Univ.of Yokoham)

**B322** On the testing method on optical properties of energy efficient windows

○Masato Tazawa (AIST), Hiroshi Kakiuchida, Ping Jin

**B323** The optical performance and effect of various films for glazings

○Tasaka taichi (Japan testing center for construction materials), Fujimoto tetsuo