

International Workshop on Nano-Micro Thermal Radiation

Date : 22 - 25 May, 2012
Place : Hotel Matsushima Taikanso

22 May, 2012

18:00 - 20:00	Reception
20:00 - 22:00	Free Discussion

23 May, 2012

OpeningChair : Dr. Atsushi Sakurai			
08:50 - 09:00	Prof. Shigenao Maruyama	Tohoku Univ.	Welcome speech
Plenary Lecture 1Chair : Prof. Shigenao Maruyama			
09:00 - 10:00	Prof. M. Pinar Menguc	Ozyegin Univ.	Near-Field Radiation Transfer for Diagnostics, Patterning and Energy Harvesting at
Plenary Lecture 2Chair : Prof. Zhuomin Zhang			
10:00 - 11:00	Prof. Shanhui Fan	Stanford Univ.	Nanophotonics for the Control of Thermal Electromagnetic Fields
11:00 - 11:20	Break		
Session 1Chair : Prof. Agustín Pérez-Madrid			
11:20 - 11:40	Prof. Xiulin Ruan	Purdue Univ.	Prediction of Thermal Radiative Properties of Semiconductors from First Principles
11:40 - 12:00	Prof. Arvind Narayanaswamy	Columbia Univ.	A Generalized Landauer Formalism of Nanoscale Thermal Radiative Transfer
12:00 - 12:20	Dr. Thomas Prevenslik	QED Radiations	Radiation at the Nanoscale by Quantum Mechanics
12:20 - 13:50	Lunch & Poster Session		
Session 2Chair : Prof. Linhua Liu			
13:50 - 14:10	Prof. Zhuomin Zhang	Georgia Institute of Tech.	Effect of Magnetic Polaritons on the Radiative Properties of Inclined Plates
14:10 - 14:30	Dr. Jiayu Li	Nanjing Univ. of Aero. & Astro.	Investigations of Optical Resonance Transmission or Absorption in Ag/SiO ₂ /Ag System with Periodic Slit Arrays
14:30 - 14:50	Ms. Jiao Yan	Harbin Institute of Tech.	Control Technology of Grating Spectral Properties by Injecting Filling Solution
14:50 - 15:10	Dr. Wei An	Tongji Univ.	A Numerical Investigation for Radiative Properties and Surface Plasmon Resonance of Silver Nanorod Dimer on the Substrate
15:40 - 18:00	Cruising		
19:00 - 22:00	Free Discussion		

24 May, 2012

Plenary Lecture 3 Chair : Prof. Hiroo Yugami			
09:00 - 10:00	Prof. Masayoshi Esashi	Tohoku Univ.	Practically Applicable Microsystems by Heterogeneous Integration
10:00-10:20	Break		
Session 3 Chair : Prof. Jon P Longtin			
10:20 - 10:40	Prof. Sheng Shen	Carnegie Mellon Univ.	Probing Radiative Heat Transfer at the Nanoscale by Atomic Force Microscopes
10:40 - 11:00	Prof. Katsunori Hanamura	Tokyo Institute of Tech.	Measurement of Near-Field Radiation by making use of Silica Glass Fiber Probe
11:00 - 11:20	Mr. Masaki Yoshida	Univ. of Electro-Communications	Fluorescence Diffuse Optical Tomography of Small Animals
11:20 - 11:40	Prof. Koji Miyazaki	Kyushu Institute of Tech.	Reflectance of Photonic Crystals of Self-assembled Silica Particles
11:40 - 12:00	Dr. Jiayu Li	Nanjing Univ. of Sci. & Tech.	Analysis of Influence Factors in Negative Refractive Particulate Composite
12:00 - 13:30	Lunch & Poster Session		
Session 4 Chair : Prof. Katsunori Hanamura			
13:30 - 13:50	Dr. Stanislav I. Maslovski	Coimbra Univ.	Equivalent Circuit Theory of Radiative Heat Transfer on Micro- and Nanoscale
13:50 - 14:10	Prof. Agustin Perez-Madrid	Universitat de Barcelona	Phonon-photon Coupling Contribution to Energy Transfer Through Micron-size Gaps Separating Neighboring Nanostructures. Thermokinetic Description
14:10 - 14:30	Mr. Richard S. Ottens	Univ. of Florida	The Study of Evanescent-Wave Heat Transfer in a Parallel Plane Geometry and Its Applications in LIGO
14:30 - 14:50	Prof. Arvind Narayanaswamy	Columbia Univ.	Surface-Phonon Polariton Mediated Radiative Transfer Between Two Dielectric Spheres
14:50 - 15:10	Prof. Arvind Narayanaswamy	Columbia Univ.	Measuring Near-Field Radiation Between a Microsphere and a Plane with Improved Optical Beam Deflection Technique
15:10 - 15:30	Break		
Session 5 Chair : Dr. Rodolphe Vaillon			
15:30 - 15:50	Prof. Yong Shuai	Harbin Institute of Tech.	Spectral Properties Analysis of Photonic Crystal Devices for Thermophotovoltaic System
15:50 - 16:10	Mr. Jun Yoshida	Tokyo Institute of Tech.	Thermophotovoltaic Generation of Electricity by GaSb Schottky Cell using Evanescent Effect
16:10 - 16:30	Dr. Igor Nefedov	Aalto Univ.	Giant Thermal Radiative Heat Transfer through Gaps Filled with Hyperbolic Media
16:30 - 16:50	Ms. Ai Ueno	Univ. of Tokyo	Near-field-effect-enhanced Micro Radiator Array for Active Control of Thermal Radiation
16:50 - 17:10	Break		
Session 6 Chair : Prof. Pei-feng Hsu			
17:10 - 17:30	Prof. Haochun Zhang	Harbin Institute of Tech.	Attenuation of Energy Transfer for a Thermal Function Material Integrated with PCs Considering Microscale Effect
17:30 - 17:50	Mr. Weijie Wang	Peking University	Thermal Radiative Properties of a Microstructure
17:50 - 18:10	Prof. Yu-Bin Chen	National Cheng Kung Univ.	Directional and Hemispherical Mid-Infrared Transmittance through Microscale Slit Arrays on a Semi-Transparent Substrate
18:10 - 18:30	Dr. Junfei Fang	Nanjing Univ. of Sci. & Tech.	Surface Radiative Properties of Thermochromic Material with Grating
19:00 - 21:00	Banquet at SHIOSAI		
21:00 - 22:00	Free Discussion		

25 May, 2012

Session 7 Chair : Prof. Qunzhi Zhu			
09:00 - 09:20	Prof. Hiroo Yugami	Tohoku Univ.	Promotion of Methane Reforming using Spectrally Controlled Thermal Radiation
09:20 - 09:40	Mr. Makoto Shimizu	Tohoku Univ.	Application Technologies of Spectrally Controlled Thermal Radiation Using Microstructures for Energy Systems
09:40 - 10:00	Prof. Pei-feng Hsu	Florida Institute of Tech.	Infrared Radiative Properties of Two-dimensional Square Optical Black Holes with Materials of Insulators and Semiconductors
10:00 - 10:20	Prof. Pei-feng Hsu	Florida Institute of Tech.	Radiative Properties of Coated Rough Surfaces- Hybrid Partial Coherence and Geometric Optics Method and Finite-Difference Time-Domain Method
10:20 - 10:40	Mr. Hiroki Gonome	Tohoku Univ.	Temperature Analysis of Spectral Selective Coatings Pigmented with Cool Black CuO Submicron Particles
10:40 - 11:00 Break			
Session 8 Chair : Prof. Koji Miyazaki			
11:00 - 11:20	Dr. Qunzhi Zhu	Shanghai Univ. of Electric Power	Radiative Properties of Silica-Water Nanofluids Made by the One-Step Method within the Solar Spectrum
11:20 - 11:40	Dr. Atsushi Sakurai	Niigata Univ.	Radiative Properties of Multi-layer Cermet Solar Selective Absorber
11:40 - 12:00	Dr. Qiang Cheng	Huazhong Univ. of Sci. and	Improving Silicon Surface Absorption Using Concave Complex Grating Structure
Closing Chair : Prof. Qunzhi Zhu			
12:00 - 12:10	Prof. Zhuomin Zhang	Georgia Institute of Tech.	

Poster session			
	Prof. Arvind Narayanaswamy	Columbia Univ.	Lifshitz-van der Waals Pressure in Planar Multilayered Media with Dissipative Properties
	Mr. Adil Al Mahdouri	Tohoku Univ.	Spectral Radiative Properties of Greenhouse Plastic Films Using Inverse Method
	Mr. Hiroki Osawa	Kyushu Institute of Tech.	Spectral Absorptance of Micro-structures of Self-assembled Silica Particles
	Ms. Nor Afifah Yahaya	Nagaoka University of Tech.	Effect of Silicon Nanohole Array Structure for Thin Film Solar Cell
	Mr. Toshikazu Ijiri	Nagaoka University of Tech.	Inverse Design of Solar Concentrator for Nano-Micro Photovoltaic Systems
	Dr. Igor Nefedov	Aalto Univ.	Saturation of Radiation Heat Transfer through Hyperbolic Media, caused by Non-local
	Prof. Jon P Longtin	Stony Brook Univ.	Radiation Sky Cooling for Improved Residential Appliance Efficiency: Concepts, Challenges and Implementation
	Prof. Tamio Ida	Kinki Univ.	Biocoke Activity under 1800K High Temperature Radiation for Smelting Process
	Dr. Rodolphe Vaillon	INSA-Lyon	Nanoscale-gap Thermophotovoltaic Energy Conversion Devices
	Dr. Atsushi Sakurai	Niigata Univ.	Radiative Properties of Nonspherical Particles by Finite Difference Time Domain Method