

FINAL PROGRAM
OF
EM-NANO 2021

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EM-NANO 2021 Time Table

Time	June 1 (Tue)		June 2 (Wed)		June 3 (Thu)	
	Room A	Room B	Room A	Room B	Room A	Room B
8:55	Opening Address					
9:00	Session PL1		Session PL2		Session PL3	
	PL1 Plenary Talk M. Hatano		PL2 Plenary Talk H. Kikuchi		PL3 Plenary Talk S. Zhang	
9:50	Short break		Short Break		Short break	
10:00	Session A1-1	Session B1-1	Session A2-1	Session B2-1	Session A3-1	Session B3-1
	A1-1-1 Invited Talk S. Kirihara	B1-1-1 Invited Talk A. Ando	A2-1-1 Invited Talk A. Fujii	B2-1-1 Invited Talk T. Okamoto	A3-1-1 Invited Talk K. Tajima	B3-1-1 Invited Talk Y. Yamashita
10:35	A1-1-2 K. Matsumoto	B1-1-2 H. Suematsu	A2-1-2 M. Morimoto	B2-1-2 Y. Shimamune	A3-1-2 M. Pandey	B3-1-2 G. Okada
10:55	Short break					
11:05	Session A1-2	Session B1-2	Session A2-2	Session B2-2	Session A3-2	Session B3-2
	A1-2-1 Invited Talk F. Song	B1-2-1 Invited Talk K. Takei	A2-2-1 Invited Talk M. Muruganathan	B2-2-1 Invited Talk S. Mukherjee	A3-2-1 Invited Talk I. Osaka	B3-2-1 Invited Talk T. Ujihara
11:40	A1-2-2 K. Yamagiwa	B1-2-2 M. Akabori	A2-2-2 Y. Yaakob	B2-2-2 T. Makino	A3-2-2 S. S. Pandey	B3-2-2 N. Kawaguchi
12:00	Lunch Break				A3-2-3 S. Naka	B3-2-3 T. Iwata
12:20					Closing Remarks	
12:50	Poster Session 1 (P1-01 --- P1-38)		Poster Session 2 (P2-01 --- P2-37)			
14:20	Short break					
14:30	Session A1-3 Special session 1		Session A2-3 Student oral session 1	Session B2-3 Student oral session 2		
	A1-3-1 Invited Talk T. Kondo		(12+3 min for each)	(12+3 min for each)		
15:05	A1-3-2 Invited Talk W. Liao		(A2-3-1) V. Pamarti (A2-3-2) H. Kawamoto (A2-3-3) A. A. Elyas (A2-3-4) B. Todankar (A2-3-5) Y. Namioka (A2-3-6) L. Yuan (A2-3-7) A. Toyotome	(B2-3-1) Mohit (B2-3-2) Y. Yang (B2-3-3) M. C. Ngo (B2-3-4) A. Suzumura (B2-3-5) J. Pyo (B2-3-6) M.Tanuma (B2-3-7) N. Sunthornpan		
15:40	A1-3-3 T.T.C. Huynh					
16:00	A1-3-4 H. Okada					
16:20	Short break		Short break			
16:30	Session A1-4 Special session 2		Session A2-4	Session B2-4		
	A1-4-1 Invited Talk Y. Takeoka		A2-4-1 Invited Talk C.-J. Huang	B2-4-1 Invited Talk Z. Liu		
17:05	A1-4-2 Invited Talk A. Wakamiya		A2-4-2 R. Muraguchi	B2-4-2 T. Semba		
			A2-4-3 M. Koshimizu	B2-4-3 K. Ohdaira		
17:40	A1-4-3 Invited Talk T. Matsushima		A2-4-4 N. Kawano	B2-4-4 M. Mori		
18:15						

EM-NANO 2021 Program (1)

Time	June 1 (Tue)	
	Room A	Room B
8:55	Opening Address (Tomoaki Karaki)	
9:00	Session PL1, Session chair: K. Kato	
	PL1 Plenary Talk (Mutsuko Hatano) The potential of diamond solid-state quantum sensors	
9:50	Short break	
10:00	Session A1-1, Session chair: M. Morimoto	Session B1-1, Session chair: T. Moriyasu
	A1-1-1 Invited Talk (Soshu Kirihara) Stereolithographic Additive Manufacturing of Functional Components for Functional Modulations of Energy Distributions	B1-1-1 Invited Talk (Atsushi Ando) Research Development on Thin Film Growth of Transition Metal Dichalcogenides for Electronic Device Applications
10:35	A1-1-2 (Kimihiwa Matsumoto) Preparation of undecenoic-acid-terminated Si nanocrystals from rice husks	B1-1-2 (Hisayuki Suematsu) Preparation of Iron Nanosized Powder by Pulsed Wire Discharge
10:55	Short break	
11:05	Session A1-2, Session chair: Y. Otani	Session B1-2, Session chair: T. Kaware
	A1-2-1 Invited Talk (Fengqi Song) Demonstrating the single-molecule ferroelectricity by Gd@C ₈₂ devices	B1-2-1 Invited Talk (Kuniharu Takei) Multi-Functional Flexible Sensor Sheets for IoT Applications
11:40	A1-2-2 (Kiyofumi Yamagiwa) Synthesis of carbon nanotube arrays on quartz-based fibrous materials and their morphological characterizations	B1-2-2 (Masashi Akabori) Fabrication of Josephson junctions by single line etching of Nb thin films utilizing nitrogen gas field ion source focused ion beam
12:00	Lunch Break	
12:50	Poster Session 1 (P1-01 ---> P1-38) (P1-01* ---> P1-14*: applying for presentation award) Caretakers: Y. Ohdaira, T. Hasegawa, and T. Kinoshita	
14:20	Short break	
14:30	Session A1-3, Perovskite solar cell session 1, Session chair: A. Masuda	
	A1-3-1 Invited Talk (Takashi Kondo) Lattice Constants and Bandgap Energies of Lead-Halide Perovskite-Type Semiconductor Alloy CH ₃ NH ₃ Pb(I/Br) ₃ -- Toward Bandgap Engineering of Metal-Halide Perovskites	
15:05	A1-3-2 Invited Talk (Weiqiang Liao) Molecular Ferroelectrics-Driven High-Performance Perovskite Solar Cells	
15:40	A1-3-3 (TuThiCam Huynh) Use of n-type amorphous Si films for the electron transport layer of perovskite solar cells	
16:00	A1-3-4 (Hiroyuki Okada) Perovskite Photodiodes with Ultra-thin PEIE as Electron-Injection Layer	
16:20	Short break	
16:30	Session A1-4, Perovskite solar cell session 2, Session chair: H. Okada	
	A1-4-1 Invited Talk (Yuko Takeoka) Preparation and Control of Perovskite Materials for Optical Applications	
17:05	A1-4-2 Invited Talk (Atsushi Wakamiya) Approaches of Materials Chemistry for Efficient Perovskite Solar Cells	
17:40	A1-4-3 Invited Talk (Toshinori Matsushima) Metal halide perovskites for high-performing LEDs and lasers	
18:15		

EM-NANO 2021 Program (2)

Time	June 2 (Wed)	
	Room A	Room B
9:00	Session PL2, Session chair: H. Okada	
	PL2 Plenary Talk (Hirotugu Kikuchi) Liquid Crystal/Polymer Composites for Electro-optics	
9:50	Short Break	
10:00	Session A2-1, Session chair: A. Baba	Session B2-1, Session chair: M. Akabori
	A2-1-1 Invited Talk (Akihiko Fujii) Hetero-Epitaxial Thin Film Growth of Mesogenic Organic Semiconductor by Freezing Process from Supercooled Liquid Crystal State	B2-1-1 Invited Talk (Tamotsu Okamoto) Polycrystalline CdTe Thin-Film Solar Cells and Application to Radiation Tolerant Compact Image Sensor and Dosimeter
10:35	A2-1-2 (Masahiro Morimoto) Low voltage drive effect of modified ITO using polar polymers and poling treatment	B2-1-2 (Yosuke Shimamune) CZTS Polycrystal Formation by Laser Annealing and Demonstration of Solar Cell Fabrication
10:55	Short Break	
11:05	Session A2-2, Session chair: M. Tanemura	Session B2-2, Session chair: M. T. Htay
	A2-2-1 Invited Talk (Manoharan Muruganathan) All-2D Graphene Nano-Electro-Mechanical (NEM) Switch and the Progress of High-Sensitive Electric Field Sensing for Thunder Clouds Movements	B2-2-1 Invited Talk (Shaibal Mukherjee) Oxide-based advanced memory technology for neuromorphic computation
11:40	A2-2-2 (Yazid Yaakob) Waste latex based-precursors as an economic carbon source for carbon nanotubes eco-fabrications	B2-2-2 (Takayuki Makino) Temperature-dependent optical properties and electron-phonon interaction in ϵ -Ga ₂ O ₃ epilayers
12:00	Lunch Break	
12:50	Poster Session 2 (P2-01 ---> P2-37) (P2-01* ---> P2-14*: applying for presentation award) Caretakers: S. Sunada, Y. Shimamune, and M. Sonehara	
14:20	Short break	
14:30	Session A2-3, Student oral session 1, Session chairs: S. Ito & K. Ohdaira	Session B2-3, Student oral session 2, Session chairs: N. Kuzuu & Y. Ohtera
	(12+3 min for each, *applying for presentation award) A2-3-1* (Viswanath Pamarti) Stable Polarization Writing and Reading in a Self-Assembled Ultrathin Organic Ferroelectric on Graphene Oxide A2-3-2* (Hiroki Kawamoto) Elucidation of electron and hole transfer at high temperature in Ag-doped Na and Al phosphate glasses A2-3-3* (Ashenafi Abadi Elyas) Annealing effect of absorber layer on SnS/CdS heterojunction A2-3-4* (Bhagyashri Todankar) CVD synthesis and trifunctional electrocatalytic properties of nitrogen doped graphitic carbon nanofibers A2-3-5 (Yoji Namioka) Color Centers in K-Na-Cl Crystals Induced by Puled Intense Relativistic Electron Beam Irradiation A2-3-6 (Lanying Yuan) Origin of red BGO scintillators: valence state of Bi ions A2-3-7 (Akira Toyotome) Intrinsic Defect Investigation of n-Type β -Ga ₂ O ₃ Single Crystals Treated by High-Temperature Annealing in Vacuum	(12+3 min for each, *applying for presentation award) B2-3-1 (Mohit) Preparation of ferroelectric lanthanum doped hafnium-zirconium oxide thin films by solution process B2-3-2 (Yaru Yang) Effect of Dehydration Time and Air Tightness on Pore Distribution of Potassium And Metakaolin-based Geopolymer B2-3-3 (Minh Chu Ngo) New irradiation target of β -MoO ₃ considered in neutron activation method for synthesizing ⁹⁹ Mo/ ^{99m} Tc B2-3-4* (Anri Suzumura) Heat Generation Behavior in the AC Magnetic Field of Fine MgFe ₂ O ₄ Powder Prepared by Hydrothermal Synthesis B2-3-5* (Jooung Pyo) Multi-level 2-bit/cell Operation Utilizing Hf-based MONOS Nonvolatile Memory with HFON Tunneling Layer B2-3-6* (Masakazu Tanuma) Suppression of SiO ₂ interfacial layer formation during ferroelectric nondoped HfO ₂ formation B2-3-7* (Narin Sunthornpan) In-situ observation of low-temperature crystallization process of germanium thin films by gold-induced layer exchange
16:15	Short break	
16:25	Session A2-4, Session chair: K. Shinbo	Session B2-4, Session chair: Y. Hashimoto
	A2-4-1 Invited Talk (Chun-Jen Huang) Functional Zwitterionic Silanes for Controlled Silanization and Medical Implementations	B2-4-1 Invited Talk (Zhengxin Liu) Research and industrialization of silicon heterojunction (SHJ) solar cells: from Japan to China
17:00	A2-4-2 (Ryo Muraguchi) Preparation and properties of antireflection film on plastic film using hollow silica nanoparticles	B2-4-2 (Taeko Semba) Corrosion of the Metallization on the n ⁺ Emitter Side of Bifacial Solar Cells
17:20	A2-4-3 (Masanori Koshimizu) Development of plastic scintillators loaded with perovskite quantum dots	B2-4-3 (Keisuke Ohdaira) Influence of light irradiation on the charge-accumulation-type potential-induced degradation of n-type front-emitter crystalline silicon photovoltaic
17:40	A2-4-4 (Naoki Kawano) Scintillation properties of organic-inorganic layered perovskite-type compounds with a methylphenethylamine	B2-4-4 (Masayuki Mori) Influence of Areal Ratio of InSb and GaSb Bi-layers on Growth of InGaSb Thin Films on Si(111) Substrate
18:00		

EM-NANO 2021 Program (3)

Time	June 3 (Thu)	
	Room A	RoomB
9:00	Session PL3, Session chair: T. Karaki	
	PL3 Plenary Talk (Shujun Zhang) The impact of local structure heterogeneity on electrical properties of perovskite ceramics (Video, live Q&A)	
9:50	Short break	
10:00	Session A3-1, Session chair: K. Kurihara	Session B3-1, Session chair: T. Fujii
	A3-1-1 Invited Talk (Keisuke Tajima) Fundamentals Issues at Interfaces and Applications of Organic Solar Cells	B3-1-1 Invited Talk (Yohachi Yamashita) History of Lead Perovskite Piezoelectric Single Crystals and AC Poling Method
10:35	A3-1-2 (Manish Pandey) Characteristics of Large-Area Floating Films of Oriented Polymeric Semiconductors for Flexible Electronics	B3-1-2 (Go Okada) RPL properties of samarium-doped CaSO ₄
10:55	Short Break	
11:05	Session A3-2, Session chair: E. Itoh	Session B3-2, Session chair: T. Hatakeyama
	A3-2-1 Invited Talk (Itaru Osaka) Development of π -Conjugated Polymers for High-Efficiency Organic Solar Cells	B3-2-1 Invited Talk (Toru Ujihara) Prediction system of CFD simulation in solution growth constructed by machine learning - Application for SiC top-seeded solution growth -
11:40	A3-2-2 (Shyam S. Pandey) Computational Molecular Design of NIR Dyes with Varying Anchoring Groups Aiming for Improved Efficiency & Stability	B3-2-2 (Noriaki Kawaguchi) Scintillation and Dosimetric Properties of LiF/CaF ₂ :Dy Eutectic
12:00	A3-2-3 (Shigeki Naka) Carrier mobilities in amorphous organic semiconductor films varied with film formation process	B3-2-3 (Tatsuya Iwata) Impact of The Composition and Thickness of The Oxygen Scavenging Layer on The Analog Reset Characteristics of Pt/TaO _x /TiO _y /Pt Resistive Switching Devices
12:20	Closing Remarks (Tomoaki Karaki)	

Detailed Program

June 1 (Tue), Room A

8:55 Opening Address: Tomoaki Karaki (Toyama Prefectural University)

Session PL1, Session chair: Keizo Kato (Niigata University)

9:00-9:50

PL1 <Plenary> The potential of diamond solid-state quantum sensors

9:00 [Mutsuko Hatano](#)
(Tokyo Institute of Technology)

Session A1-1, Session chair: Masahiro Morimoto (University of Toyama)

10:00-10:55

A1-1-1 <Invited> Stereolithographic Additive Manufacturing of Functional Components for Functional Modulations of Energy Distributions

10:00 [Soshu Kirihara](#)
(Osaka University)

A1-1-2 Preparation of undecenoic-acid-terminated Si nanocrystals from rice husks

10:35 [Kimihisa Matsumoto](#), Kazuhide Kamiya, So Ito, Hidehiro Yasuda*
(Toyama Prefectural University, *Osaka University)

Session A1-2, Session chair: Yohei Otani (Suwa University of Science)

11:05-12:00

A1-2-1 <Invited> Demonstrating the single-molecule ferroelectricity by $Gd@C_{82}$ devices

11:05 Kangkang Zhang, Minhao Zhang, [Fengqi Song](#)
(Nanjing University)

A1-2-2 Synthesis of carbon nanotube arrays on quartz-based fibrous materials and their morphological characterizations

11:40 [Kiyofumi Yamagiwa](#), Nobutomo Yamaguchi
(Teikyo University of Science)

Session A1-3, Perovskite solar cell special session 1, Session chair: Atsushi Masuda (Niigata University)

14:30-16:20

A1-3-1 <Invited> Lattice Constants and Bandgap Energies of Lead-Halide Perovskite-Type Semiconductor Alloy $CH_3NH_3Pb(I/Br)_3$ -- Toward Bandgap Engineering of Metal-

14:30 Halide Perovskites
[Takashi Kondo](#) (The University of Tokyo)

A1-3-2 <Invited> Molecular Ferroelectrics-Driven High-Performance Perovskite Solar Cells

15:05 [Weiqiang Liao](#), Ren-Gen Xiong, Xiao-Li Xu*, Ling-Bo Xiao*, Jie Zhao*, Gui-Fu Zou*
(Nanchang University, *Soochow University)

A1-3-3 Use of n-type amorphous Si films for the electron transport layer of perovskite solar cells

15:40 Zhancheng Song, Yuuka Sumai*, Shoko Fukaya*, [Huyh Tu Thi Cam](#), Md. Shahiduzzaman*, Tetsuya Taima*, Keisuke Ohdaira
(Japan Advanced Institute of Science and Technology, *Kanazawa University)

A1-3-4 Perovskite Photodiodes with Ultra-thin PEIE as Electron-Injection Layer

16:00 Ikuma Hirano, Kazuya Maruyama, Congcong Zhang, [Hiroyuki Okada](#)
(University of Toyama)

Session A1-4, Perovskite solar cell special session 2, Session chair: Hiroyuki Okada (University of Toyama)

16:30-18:15

A1-4-1 <Invited> Preparation and Control of Perovskite Materials for Optical Applications

16:30 [Yuko Takeoka](#)
(Sophia University)

A1-4-2 <Invited> Approaches of Materials Chemistry for Efficient Perovskite Solar Cells

17:05 [Atsushi Wakamiya](#)
(Kyoto University)

A1-4-3 <Invited> Metal halide perovskites for high-performing LEDs and lasers

17:40 [Toshinori Matsushima](#), Chihaya Adachi
(Kyushu University)

June 1 (Tue), Room B

Session B1-1, Session chair: Takeshi Moriyasu (University of Fukui)

10:00-10:55

B1-1-1 <Invited> Research Development on Thin Film Growth of Transition Metal Dichalcogenides for Electronic Device Applications

10:00 [Atsushi Ando](#)
(National Institute of Advanced Industrial Science and Technology)

B1-1-2 Preparation of Iron Nanosized Powder by Pulsed Wire Discharge

10:35 [Hisayuki Suematsu](#), Ryo Yamanaka, Thi Mai Dung Do, Tadachika Nakayama
(Nagaoka University of Technology)

Session B1-2, Session chair: Takeshi Kawae (Kanazawa University)

11:05-12:00

B1-2-1 <Invited> Multi-Functional Flexible Sensor Sheets for IoT Applications

11:05 [Kuniharu Takei](#)
(Osaka Prefecture University)

B1-2-2 Fabrication of Josephson junctions by single line etching of Nb thin films utilizing nitrogen gas field ion source focused ion beam

11:40 Shinya Sudo, [Masashi Akabori](#), Munenori Uno
(Japan Advanced Institute of Science and Technology)

	Session PL2, Session chair: Hiroyuki Okada (University of Toyama)	9:00-9:50
PL2 9:00	<Plenary> Liquid Crystal/Polymer Composites for Electro-optics Hirotsugu Kikuchi (Kyushu University)	
	Session A2-1, Session chair: Akira Baba (Niigata University)	10:00-10:55
A2-1-1 10:00	<Invited> Hetero-Epitaxial Thin Film Growth of Mesogenic Organic Semiconductor by Freezing Process from Supercooled Liquid Crystal State <u>Akihiko Fujii</u> , Masanori Ozaki (Osaka University)	
A2-1-2 10:35	Low voltage drive effect of modified ITO using polar polymers and poling treatment <u>Masahiro Morimoto</u> , Yoshiki Maegawa, Shigeki Naka (University of Toyama)	
	Session A2-2, Session chair: Masaki Tanemura (Nagoya Institute of Technology)	11:05-12:00
A2-2-1 11:05	<Invited> All-2D Graphene Nano-Electro-Mechanical (NEM) Switch and the Progress of High-Sensitive Electric Field Sensing for Thunder Clouds Movements <u>Panoharan Muruganathan</u> *, Afsal Kareekunnnan*, Tatsufumi Agari*, Huynh Van Ngoc*, Takeshi Kudo**, Takeshi Maruyama**, Hiroshi Mizuta**, ** (*Japan Advanced Institute of Science and Technology, **OTOWA ELECTRIC CO., LTD., ***Hitachi Europe Ltd.)	
A2-2-2 11:40	Waste latex based-precursors as an economic carbon source for carbon nanotubes eco-fabrications <u>Yazid Yaakob</u> ***, Mohd Adib Hazan*, Mohd Shuhazly Mamat*, Shahira Liza**, Kar Fei Chan*, Masaki Tanemura*** (*Universiti Putra Malaysia, **Universiti Teknologi Malaysia, ***Nagoya Institute of Technology)	
	Session A2-3, Student oral session 1, Session chairs: So Ito (Toyama Prefectural University) & Keisuke Ohdaira (Japan Advanced Institute of Science and Technology)	14:30-16:15
A2-3-1* 14:30	Stable Polarization Writing and Reading in a Self-Assembled Ultrathin Organic Ferroelectric on Graphene Oxide <u>Pamarti Viswanath</u> , K. Kanishka H. De Silva, Yuki Morikuni, Masamichi Yoshimura (Toyota Technological Institute)	
A2-3-2* 14:45	Elucidation of electron and hole transfer at high temperature in Ag-doped Na and Al phosphate glasses <u>Hiroki Kawamoto</u> , Ichiro Kawamura, Hajime Komiya, Masanori Koshimizu, Yutaka Fujimoto, Keisuke Asai (Tohoku University)	
A2-3-3* 15:00	Annealing effect of absorber layer on SnS/CdS heterojunction <u>Ashenafi Abadi</u> , Myo Than Htay, Yoshio Hashimoto, Kentaro Ito, Noritaka Momose* (Shinshu University, *NIT, Nagano College)	
A2-3-4* 15:15	CVD synthesis and trifunctional electrocatalytic properties of nitrogen doped graphitic carbon nanofibers <u>Bhagyashri Todankar</u> , Shuhei Nakanishi, Pradeep Desai, Ajinkya K. Ranade, Tharangattu N. Narayanan*, Masaki Tanemura, Golap Kalita (Nagoya Institute of Technology, *Tata Institute of Fundamental Research-Hyderabad)	
A2-3-5 15:30	Color Centers in K-Na-Cl Crystals Induced by Puled Intense Relativistic Electron Beam Irradiation <u>Yoji Namioka</u> , Hisayuki Suematsu, Do Thi Mai Dung, Takashi Kikuchi, Tadachika Nakayama, Gordon Thorogood* (Nagaoka University of Technology, *Autralian Nuclear Science and Technology Organisation)	
A2-3-6 15:45	Origin of red BGO scintillators: valence state of Bi ions <u>Lanving Yuan</u> **, Haihong Ni*, Junfeng Chen*, Guilan Song*, Xuejun Qi*, Xiang Li*, Tomoaki Karaki**, Dong Wang* (*Shanghai Institute of Ceramics, Chinese Academy of Sciences, **Toyama Prefectural University)	
A2-3-7 16:00	Intrinsic Defect Investigation of n-Type β -Ga ₂ O ₃ Single Crystals Treated by High-Temperature Annealing in Vacuum <u>Akira Toyotome</u> , Yoshitaka Nakano (Chubu University)	
	Session A2-4, Session chair: Kazunari Shinbo (Niigata University)	16:25-18:00
A2-4-1 16:25	<Invited> Functional Zwitterionic Silanes for Controlled Silanization and Medical Implementations <u>Chun-Jen Huang</u> (National Central University, Chung Yuan Christian University)	
A2-4-2 17:00	Preparation and properties of antireflection film on plastic film using hollow silica nanoparticles <u>Ryo Muraguchi</u> , Wataru Futagami, Yuko Hakoshima (JGC Catalysts and Chemicals Ltd.)	
A2-4-3 17:20	Development of plastic scintillators loaded with perovskite quantum dots Arisa Magi, <u>Masanori Koshimizu</u> , Atsushi Sato, Yutaka Fujimoto, Shunji Kishimoto*, Takayuki Yanagida**, Keisuke Asai (Tohoku University, *High-Energy Accelerator Research Organization, **Nara Institute of Science and Technology)	
A2-4-4 17:40	Scintillation properties of organic-inorganic layered perovskite-type compounds with a methylphenethylamine <u>Naoki Kawano</u> , Masaki Akatsuka*, Daisuke Nakauchi*, Hiroimi Kimura*, Takayuki Yanagida* (Akita University, *Nara Institute of Science and Technology)	

Session B2-1, Session chair: Masashi Akabori (Japan Advanced Institute of Science and Technology)		10:00-10:55
B2-1-1	<Invited> Polycrystalline CdTe Thin-Film Solar Cells and Application to Radiation Tolerant Compact Image Sensor and Dosimeter	
10:00	<u>Tamotsu Okamoto</u> , Yasuhiro Gotoh*, Nobuhiro Sato*, Yasuki Okuno**, Tomohiro Kobayashi***, Mitsuru Imaizumi****, Masafumi Akiyoshi****, Masayoshi Nagao*****, Tomoaki Masuzawa*****, Yoichiro Neo*****, Hidenori Mimura***** (NIT, Kisarazu College, *Kyoto University, **Tohoku University, ***RIKEN, ****Japan Aerospace Exploration Agency, *****Osaka Prefecture University, *****National Institute of Advanced Industrial Science and Technology, *****Shizuoka University)	
B2-1-2	CZTS Polycrystal Formation by Laser Annealing and Demonstration of Solar Cell Fabrication	
10:35	<u>Yosuke Shimamune</u> , Shun Inoue, Kazuo Jimbo (NIT, Nagaoka College)	
Session B2-2, Session chair: Myo Than Htay (Shinshu University)		11:05-12:00
B2-2-1	<Invited> Oxide-based advanced memory technology for neuromorphic computation	
11:05	Mangal Das, Sanjay Kumar, Myo Than Htay*, <u>Shaibal Mukherjee</u> (Indian Institute of Technology Indore, *Shinshu University)	
B2-2-2	Temperature-dependent optical properties and electron-phonon interaction in ϵ -Ga ₂ O ₃ epilayers	
11:40	<u>Takayuki Makino</u> , Daichi Oka*, Tomoteru Fukumura* (University of Fukui, *Tohoku University)	
Session B2-3, Student oral session 2, Session chairs: Nobu Kuzuu (University of Fukui) & Yasuo Ohtera (Toyama Prefectural University)		14:30-16:15
B2-3-1	Preparation of ferroelectric lanthanum doped hafnium-zirconium oxide thin films by solution process	
14:30	<u>Mohit</u> , Eisuke Tokumitsu (Japan Advanced Institute of Science and Technology)	
B2-3-2	Effect of Dehydration Time and Air Tightness on Pore Distribution of Potassium and Metakaolin-based Geopolymer	
14:45	<u>Yaru Yang*</u> , Thi-Chau-Duyen Le*, Isamu Kudo**, Thi-Mai-Dung Do*, Tadachika Nakayama*, Koichi Niihara*, Hisayuki Suematsu* (*Nagaoka University of Technology, **ADVAN ENG. Co., Ltd.)	
B2-3-3	New irradiation target of β -MoO ₃ considered in neutron activation method for synthesizing ⁹⁹ Mo/ ^{99m} Tc	
15:00	<u>Ngo Minh Chu</u> , Nguyen Duy Hieu, Thi Mai Dung Do, Tadachika Nakayama, Koichi Niihara, Hisayuki Suematsu (Nagaoka University of Technology)	
B2-3-4*	Heat Generation Behavior in the AC Magnetic Field of Fine MgFe ₂ O ₄ Powder Prepared by Hydrothermal Synthesis	
15:15	<u>A. Suzumura</u> , H. Hirazawa, H. Komoda*, M. Sakamoto, E. Uyanga**, H. Aono*** (NIT, Niigata College, *SAIJO high school, **Institute of Physics and Technology, Mongolian Academy of Sciences, ***Ehime University)	
B2-3-5*	Multi-level 2-bit/cell Operation Utilizing HF-based MONOS Nonvolatile Memory with HFON Tunneling Layer	
15:30	<u>Jooyoung Pyo</u> , Hiroki Morita, Akio Ihara, Shun-ichiro Ohmi (Tokyo Institute of Technology)	
B2-3-6*	Suppression of SiO ₂ interfacial layer formation during ferroelectric nondoped HfO ₂ formation	
15:45	<u>Masakazu Tanuma</u> , Joongwon Shin, Masaki Hayashi, Shun-ichiro Ohmi (Tokyo Institute of Technology)	
B2-3-7*	In-situ observation of low-temperature crystallization process of germanium thin films by gold-induced layer exchange	
16:00	<u>Narin Sunthornpan</u> , Nairu Tezuka, Kenjiro Kimura, Kentaro Kyuno (Shibaura Institute of Technology)	
Session B2-4, Session chair: Yoshio Hashimoto (Shinshu University)		16:25-18:00
B2-4-1	<Invited> Research and industrialization of silicon heterojunction (SHJ) solar cells: from Japan to China	
16:25	<u>Zhengxin Liu*</u> , Fanying Meng**, Liping Zhang**, Wenzhu Liu*, Jianhua Shi**, Anjun Han**, Junlin Du**, Haoxin Fu**, Shihu Lan**, Hongyuan Chen**, Jinping Li**, Haichuan Zhang**, Qiang Yuan**, Gongbing Chen**, Tanggui He**, Yi Xie** (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, **Tongwei Solar Co., Ltd.)	
B2-4-2	Corrosion of the Metallization on the n ⁺ Back Surface Field of Bifacial Solar Cells	
17:00	<u>Taeko Semba</u> , Atsushi Masuda (Niigata University)	
B2-4-3	Influence of light irradiation on the charge-accumulation-type potential-induced degradation of n-type front-emitter crystalline silicon photovoltaic modules	
17:20	Rongrong Zhao, Huynh Thi Cam Tu, Atsushi Masuda*, <u>Keisuke Ohdaira</u> (Japan Advanced Institute of Science and Technology, *Niigata University)	
B2-4-4	Influence of Areal Ratio of InSb and GaSb Bi-layers on Growth of InGaSb Thin Films on Si(111) Substrate	
17:40	<u>Masayuki Mori</u> , Jotaro Inoue, Koichi Maetzawa (University of Toyama)	

June 3 (Thu), Room A

Session PL3, Session chair: Tomoaki Karaki (Toyama Prefectural University)

9:00-9:50

- PL3 <Plenary> The impact of local structure heterogeneity on electrical properties of perovskite ceramics
9:00 Shujun Zhang, Fei Li*
(University of Wollongong, *Xi'an Jiaotong University)

Session A3-1, Session chair: Kazuyoshi Kurihara (University of Fukui)

10:00-10:55

- A3-1-1 <Invited> Fundamentals Issues at Interfaces and Applications of Organic Solar Cells
10:00 Keisuke Tajima
(RIKEN)
- A3-1-2 Characteristics of Large-Area Floating Films of Oriented Polymeric Semiconductors for Flexible Electronics
10:35 Manish Pandey, Heriyanto Syafutra, Nikita Kumari, Shyam S. Pandey*, Masakazu Nakamura
(Nara Institute of Science and Technology, *Kyushu Institute of Technology)

Session A3-2, Session chair: Eiji Itoh (Shinshu University)

11:05-12:20

- A3-2-1 <Invited> Development of π -Conjugated Polymers for High-Efficiency Organic Solar Cells
11:05 Itaru Osaka
(Hiroshima University)
- A3-2-2 Computational Molecular Design of NIR Dyes with Varying Anchoring Groups Aiming for Improved Efficiency & Stability
11:40 Shyam S. Pandey, Ajendra Kumar Vats, Shuzi Hayase*
(Kyushu Institute of Technology, *The University of Electro-Communications)
- A3-2-3 Carrier mobilities in amorphous organic semiconductor films varied with film formation process
12:00 Katsuya Miyashige, Masahiro Morimoto, Shigeki Naka
(University of Toyama)

12:20 Closing Remarks: Tomoaki Karaki (Toyama Prefectural University)

June 3 (Thu), Room B

Session B3-1, Session chair: Tadasi Fujii (Toyama Prefectural University)

10:00-10:55

- B3-1-1 <Invited> History of Lead Perovskite Piezoelectric Single Crystals and AC Poling Method
10:00 Yohachi (John) Yamashita**, Zhongkai Wang*, Yiqin Sun*, Tomoaki Karaki*
(*Toyama Prefectural University, **North Carolina State University)
- B3-1-2 RPL properties of samarium-doped CaSO₄
10:35 Go Okada, Wakako Shinozaki*, Satoshi Ueno*, Yasuhiro Koguchi*, Kazuki Hirasawa, Eiji Kusano, Francesco d'Errico**,***, Takayuki Yanagida****, Safa Kasap*****, Hidehito Nanto
(Kanazawa Institute of Technology, *Chiyoda Technol Corp., **Universita degli Studi di Pisa, ***Yale University, ****Nara Institute of Science and Technology, *****University of Saskatchewan)

Session B3-2, Session chair: Tetsuo Hatakeyama (Toyama Prefectural University)

11:05-12:20

- B3-2-1 <Invited> Prediction system of CFD simulation in solution growth constructed by machine learning - Application for SiC top-seeded solution growth -
11:05 Toru Ujihara**, Yosuke Tsunooka*, Masaki Takaishi***, Yifan Dang*, Can Zhu*, Koki Suzuki*, Wanchang Yu*, Shunta Harada*, Miho Tagawa*
(*Nagoya University, **National Institute of Advanced Industrial Science and Technology, ***Aixtal Corporation)
- B3-2-2 Scintillation and Dosimetric Properties of LiF/CaF₂:Dy Eutectic
11:40 Noriaki Kawaguchi, Hiromi Kimura, Daisuke Nakauchi, Takumi Kato, Takayuki Yanagida
(Nara Institute of Science and Technology)
- B3-2-3 Impact of the Composition and Thickness of the Oxygen Scavenging Layer on the Analog Reset Characteristics of Pt/TaO_x/TiO₂/Pt Resistive Switching Devices
12:00 Tatsuya Iwata, Kenta Yamamoto, Takefumi Yoshikawa, Kazuaki Sawada*
(Toyama Prefectural University, *Toyoashi University of Technology)

- Caretakers: Yasuo Ohdaira (Niigata University), Tomoharu Hasegawa (NIT, Fuki College), Takahiro Kinoshita (Toyama Prefectural University)
- P1-01* Evaluation of scintillation properties of organic-inorganic perovskite compounds - $(C_6H_5C_2H_4NH_3)_2Pb_{1-x}Ni_xBr_4$
Daichi Omoda, Masaki Akatsuka, Naoki Kawano*, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology, *Akita University)
- P1-02* Optical and Radioluminescence Properties of Pr-doped $BaTi_4O_9$ Single Crystals Synthesized by the Floating Zone Method
Hiroki Kimura, Masaki Akatsuka, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology)
- P1-03* Synthesis of particulate electrocatalysts derived from carbonate minerals and their glucose-oxidizing characteristics
Takuya Wakatabe, Kiyofumi Yamagiwa
 (Teikyo University of Science)
- P1-04* Effect of AC and DC poling on aging rate of $(1-x)Pb(Mg_{1/3}Nb_{2/3})O_3-xPbTiO_3$ single crystal
Zhuangkai Wang*, Yiqun Sun*, Tomoaki Karaki*, John Yamashita**, Tadashi Fujii*.
 (*Toyama Prefectural University, **North Carolina State University)
- P1-05* Dosimetric Properties of Dy-doped $LiCaPO_4$
Yuma Takebuchi, Takumi Kato, Daisuke Nakauchi, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology)
- P1-06* Analysis of attenuation behaviour of luminescence in Au-doped $CsCl-BaCl_2-ZnCl_2$ glasses by X-ray irradiation
Daiki Shiratori, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology)
- P1-07* Study on ER fluid blended piezoelectric particles under DC and AC electric fields
Xu Wang, Tomoaki Karaki, Ken'ichi Koyanagi
 (Toyama Prefectural University)
- P1-08* MnO_2 -Doped Binary $NaNbO_3$ Ceramics: Study of Phase Transition Free-Energy and Energy Storage Performance
Tao Zhang, Tomoaki Karaki, Tadashi Fujii
 (Toyama Prefectural University)
- P1-09* Bio-fuel cell with improved life by absorbing water in the fuel sheet
Koki Someya, Satomitsu Imai
 (Nihon University)
- P1-10* Fabrication of self-oriented $LaNiO_3$ thin films by chemical solution deposition method
Rintaro Ashihara, Masami Kawahara*, Takeshi Kawae
 (Kanazawa University, *Kojundo Chemical Lab. Co., Ltd.)
- P1-11* Effect of annealing temperature variation after p-n junction formation in Cu_2SnS_3 thin-film solar cells via co-evaporation
Daiki Motai, Ryota Ohashi, Hideaki Araki
 (NIT, Nagaoka College)
- P1-12* Optimization of Pt free counter electrodes for dye sensitized solar cells
Yuki Kurokawa, Ajendra Kumar Vats, Takehito Kato*, Shyam S. Pandey
 (Kyushu Institute of Technology, *NIT, Oyama Collage)
- P1-13* Controlling transfer characteristics in a wet-processed organic field-effect transistor based on the oxidation of an electrode surface
Ryuichi Sakai, Kota Takashima, Kazunari Shinbo*, Yusuke Yamanashi**, Masakazu Kondo**, Masahiro Minagawa
 (NIT, Nagaoka College, *Niigata University, **JNC Petrochemical Corp.)
- P1-14* CZTS Solar Cell Fabrication by Robust Process Using Annealing
Nanako Mori, Kazuo Jimbo, Yosuke Shimamune
 (NIT, Nagaoka College)
- P1-15 Fabrication of Thermochromic Composite Thin Films Using VO_2 (M) Nanoparticles Prepared via Hydrothermal Synthesis Method
Soon-il Kwon, Manabu Hagiwara, Sae-hoon Kim*, Shinobu Fujihara
 (Keio University, *Gangneung-Wonju National University)
- P1-16 Ce concentration dependence of optical and scintillation properties on Ce-doped $La_2Si_2O_7$ single crystal
Prom Kantuptim, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology)
- P1-17 Effects of B_2O_3 doping on dielectric and piezoelectric properties of $(K,Na,Li)NbO_3-BaZrO_3-(Bi,Na)TiO_3$ ceramics sintered at low temperature
Nan Wei, Tomoaki Karaki
 (Toyama Prefectural University)
- P1-18 Photoluminescence and scintillation properties of Ti-doped $CaZrO_3$ single crystals
Hiroyuki Fukushima, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida
 (Nara Institute of Science and Technology)
- P1-19 Evaluation by annealing temperature at pn junction of p- $CuCl_{1-x}I_x$ and n- $ZnO:Al$
Reiji Kudo, Yuhei Sato, Daisuke Honma, Takeshi Hoga, Katsuhiko Moriya
 (NIT, Tsuruoka College)
- P1-20 Selective growth and micropatterning for oxide thin films by sacrificial a-CaO layer
Iwan Dwi Antoro, Takeshi Kawae
 (Kanazawa University)

- Caretakers: Yasuo Ohdaira (Niigata University), Tomoharu Hasegawa (NIT, Fuki College), Takahiro Kinoshita (Toyama Prefectural University)
- P1-21 Photoluminescence and scintillation properties Eu-doped Ga₂O₃ single crystals grown by the floating zone method
Takayuki Yanagida, Takumi Kato, Daisuke Nakauchi, Noriaki Kawaguchi (Nara Institute of Science and Technology)
- P1-22 Defect evaluation of α -Ga₂O₃ thin film on c-plane sapphire substrate fabricated by the mist chemical vapor deposition method
Yuji Nakabayashi, Mayumi Ito, Koichi Higashimine, Satoru Yamada* (Japan Advanced Institute Science and Technology, *NIT, Ishikawa College)
- P1-23 3D-FDTD Simulation of Voltage-Variable Focusing Lens Effect Using Plasmonic Optical Phased Array
Yuji Kuwamura, Hikaru Kumai (Kanazawa University)
- P1-24 Solution-processed light-emitting diodes consisting of metal-oxide and organic-inorganic hybrid emissive thin films
Ryota Kasuga, Misato Tachibana, Naoki Ohtani (Doshisha University)
- P1-25 Preparation of CuCl_{1-x}I_x thin film and examination of composition dependence by spin coating method
Daisuke Honma, Yuhei Sato, Kunihiko Tanaka*, Nobuo Saito*, Katsuhiko Moriya (NIT, Tsuruoka College, *Nagaoka University of Technology)
- P1-26 Deposition of Cu-Sn precursors on Mo-coated substrates by fine channel mist CVD method to prepare Cu₂SnS₃ thin films
Takuya Tomono, Kazuya Okamura, Kunihiko Tanaka (Nagaoka University of Technology)
- P1-27 Investigation of Cu/IV ratio dependence of Cu_xSn_{1-y}Ge_yS₃ by photoluminescence observation
Tsukasa Abe, Kunihiko Tanaka (Nagaoka University of Technology)
- P1-28 Preparation of CuBr_{1-x}I_x/buffer layer/ ZnO nanorods transparent solar cell
Kaito Watanabe, Ryota Mori, Kunihiko Tanaka (Nagaoka University of Technology)
- P1-29 Investigation of the ferromagnetic alloy layer in CPP-GMR devices
Haruka Sato, Keiki Sugano, Katsuhiko Moriya, Takeshi Hoga (NIT, Tsuruoka College)
- P1-30 Improvement of the film surface of CTS thin film by pure water etching
Yuki Igarashi, Takuya Tomono*, Kunihiko Tanaka*, Katsuhiko Moriya (NIT, Tsuruoka College, *Nagaoka University of Technology)
- P1-31 Optical and Scintillation properties of Nd-doped LaVO₄ Single Crystals Synthesized by the Floating Zone Method
Masaki Akatsuka, Daisuke Nakauchi, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida (Nara Institute of Science and Technology)
- P1-32 Lattice relaxation around heterointerfaces in MnAs/GaAs/InAs/GaAs(111)B grown by molecular beam epitaxy
Wataru Kanetsuka, Masashi Akabori, Tongmin Chen, Yoshifumi Oshima (Japan Advanced Institute of Science and Technology)
- P1-33 Assisting Polymer Orientation Using Polymer Blend in FTM
Heriyanto Syafutra*, Manish Pandey*, Nikita Kumari**, Shyam S. Pandey**, Hiroaki Bente*, Masakazu Nakamura* (*Nara Institute of Science and Technology, **Kyushu Institute of Technology)
- P1-34 Automatic data collection of NIR spectra of the sky and its application to weather parameters prediction
Haruyasu Tanaka, Tomohisa Takaya, Yasuo Ohtera (Toyama Prefectural University)
- P1-35 Electronic properties and heterojunction formation of Ta₂NiSe₅
Masaya Fukai, Noriyuki Urakami, Yoshio Hashimoto (Shinshu University)
- P1-36 Discrimination of peripheral blood flow status utilizing snapshot-type NIR spectral imager
Airi Sato, Tomohisa Takaya, Yasuo Ohtera (Toyama Prefectural University)
- P1-37 Controlling group delay of electromagnetic waves using Brewster metafilms
Hiromu Yamamoto, Yasuhiro Tamayama (Nagaoka University of Technology)
- P1-38 Carrier transport characteristic of crystalline graphitic carbon nitride film
Kensuke Takashima, Kohei Ogihara, Hatsuki Futamura, Noriyuki Urakami, Yoshio Hashimoto (Shinshu University)

- Caretakers: Satoshi Sunada (Kanazawa University), Yosuke Shimamune (NIT, Nagaoka College), Makoto Sonehara (Shinshu University)
- P2-01* Biofuel cell that produces sugar from cellulose nanofiber to generate electricity
Ryutaro Tanaka, Satomitsu Imai (Nihon University)
- P2-02* Evaluation of dynamic characteristics of microdroplets of various specifications due to vibration
Kosuke Fujishiro, Satomitsu Imai (Nihon University)
- P2-03* Fabrication and performance evaluation of cellulose nanofiber electrodes for biofuel cell applications using PEDOT:PSS
Ryo Matsuoka, Masayoshi Hamana and Satomitsu Imai (Nihon University)
- P2-04* Thermoluminescence properties of $\text{Ca}_2\text{B}_2\text{O}_5\text{:Dy}$ ceramics for neutron measurement
Hajime Komiya, Ichiro Kawamura, Hiroki Kawamoto, Yutaka Fujimoto, Masanori Koshimizu, Go Okada*, Yusuke Koba**, Genichiro Wakabayashi***, Keisuke Asai (Tohoku University, *Kanazawa Institute of Technology, **National Institutes for Quantum and Radiological Science and Technology, ***Kindai University)
- P2-05* Fabrication of Hf-loaded PVK-based plastic scintillators via sol-gel method for high-counting rate measurement of high-energy photons
Atsushi Sato, Masanori Koshimizu, Yutaka Fujimoto, Keisuke Asai (Tohoku University)
- P2-06* Carrier transport properties of diamond (111)-(2x1) reconstructed surfaces
Satoshi Hoshida*, Hisaya Satou*, Xufang Zhang*, Tsubasa Matsumoto*, Satoshi Yamasaki**, Norio Tokuda, Takao Inokuma (*Kanazawa University, **National Institute of Advanced Industrial Science and Technology)
- P2-07* Investigation of Relationships between Thermal Condition of Synthesis and a Chiral Vector of Multi-Walled Carbon NanoTube by Thermal Chemical Vapor Deposition Method
Taiyu Fukuyama, Syota Akamatsu, Takanor Sasaki (Hachinohe Institute of Technology)
- P2-08* New soft magnetostriuctive materials design based on nanocrystalline/amorphous mixed-phase structure
Kohya Sano, Tatsuya Tomita*, Chiemi Oka, Junpei Sakurai, Seiichi Hata, Takahiro Yamazaki (Nagoya University, *Tohoku Magnet Institute Co., Ltd.)
- P2-09* A micropump for mounting on an internal microcapsule driven by a chemical reaction using agarose gel as a trigger layer
Mizuki Ikeda, Eishiro Koda, Suguru Yoshioka, Satomitsu Imai (Nihon University)
- P2-10* Narrow-Spectral Width Light-Emitting OLED Devices with MoO_3 Cavity Structure
Naoki Nishikawa, Hiroyuki Okada (University of Toyama)
- P2-11* Simpler Microstructural Estimation Using Machine Learning-assisted Magnetic Barkhausen Noise Analysis
Kanna Omae, Chiemi Oka, Junpei Sakurai, Seiichi Hata, Takahiro Yamazaki (Nagoya University)
- P2-12* Effects of Surface Temperatures of Dielectric Substrates on Tetracene Thin Films Deposited by Rapid Expansion of Supercritical Solutions Using CO_2 and the Elucidation of Deposition Mechanism
Takumi Kiyosawa, Yui Sakamoto, Hirohisa Uchida (Kanazawa University)
- P2-13* Aggregation and Optical Properties of Au on Moth-Eye Structures
Ryoto Umezū, Tatsuya Kamiyama, Yasuo Ohdaira, Akira Baba, Keizo Kato, Kazunari Shinbo (Niigata University)
- P2-14* Bifacial Dye-Sensitized Solar Cells Utilizing NIR Sensitive Novel Unsymmetrical Squaraine Dye
Surava Shaban, Pritha Roy, Ajendra Kumar Vats, Shyam S. Pandey (Kyushu Institute of Technology)
- P2-15 Millimeter-Wave Electromagnetic Simulation for Conductive Paste Bonding Using Single Fullerene Shaped Model
Nozomi Shimoishizaka**, Kousuke Hishida*, Makoto Sonehara*, Junpei Mochiduki*, Toshiro Sato* (*Shinshu University, **CONNECTEC JAPAN Corporation)
- P2-16 Fabrication of memristors based on ZnO nano pillars encapsulated in porous alumina
Tomoki Kinoshita, Myo Than Htay, Yoshio Hashimoto (Shinshu University)
- P2-17 Microplasma generation in a meta-atom fabricated on a quartz substrate
Takanosuke Sato, Yasuhiro Tamayama (Nagaoka University of Technology)
- P2-18 Fabrication and Characterization of Ph-BTBT-10 Thin Film Transistors by Rapid Expansion of Supercritical Solutions (RESS) Using CO_2
Yui Sakamoto, Wakana Kamata, Kazutoshi Shimamura, Hirohisa Uchida (Kanazawa University)
- P2-19 Production of unidirectional porous materials utilizing self-assembly of magnetic nanoparticles
Atsuki Kobayashi, Junpei Sakurai, Seiichi Hata, Chiemi Oka (Nagoya University)
- P2-20 Evaluation of Termination Structures of Single Crystal Diamond (111) Surface
Akihito Hiramitsu*, Naoki Mikoshiba*, Xufang Zhang*, Tsubasa Matsumoto*, Satoshi Yamasaki*, C.E.Nebel**, Takao Inokuma*, Norio Tokuda* (*Kanazawa University, **Diamond and Carbon Applications)

- Caretakers: Satoshi Sunada (Kanazawa University), Yosuke Shimamune (NIT, Nagaoka College), Makoto Sonehara (Shinshu University) 12:50-14:20
- P2-21 Additive Effect of Lanthanide Compounds into Perovskite Layer on Photovoltaic Properties and Microstructures
Atsushi Suzuki, Kyo Kishimoto, Takeo Oku, Masanobu Okita*, Sakiko Fukunishi*, Tomoharu Tachikawa*
 (The University of Shiga Prefecture, *Osaka Gas Chemicals Co., Ltd.)
- P2-22 Capillarity Induced Self-folding 3D Hydrogel Structures of Elastic Wrinkled Film Prepared by One-push Stretching Method
Hiroshi Endo, Hiromichi Inokuchi
 (Toyama Prefectural University)
- P2-23 Effect of H₂S annealing for Cu₂SnS₃ thin films
Yoji Akaki, Tomohiro Uchimura, Shigeyuki Nakamura*, Hideaki Araki**
 (NIT, Miyakonojo College, *NIT, Tsuyama College, **NIT, Nagaoka College)
- P2-24 Effects of thermal treatments on the electrical properties of sputter-derived HfO₂/Ge interfaces
Daichi Yamada, Yusuke Yamamoto, Hiroshi Okamoto*, Yohei Otani
 (Suwa University of Science, *Hirotsuki University)
- P2-25 Suppression Mechanism of Devitrification of Chlorine-containing Vitreous Silica Promoted by Putting on a Sodium Chloride Grain
Naohiro Horii, Nobu Kuzuu*, Hideharu Horikoshi**
 (NIT, Fukui College, *University of Fukui, **Tosoh SGM Corp.)
- P2-26 Effects of Solution Concentrations on Crystal and Electrical Characteristics of TIPS-Pentacene Thin Films Deposited by Spin-Coating Technique
Aoi Okuda, Yui Sakamoto, Hirohisa Uchida
 (Kanazawa University)
- P2-27 Multilayered polymer based inverted organic light emitting diode with solution-processed electron injection layers
Masato Katou, Shingo Takada, Reo Taguchi, Eiji Itoh
 (Shinshu University)
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