

Program

December 9th (Fri)

9:30 **Opening Ceremony**

H. Sakurai, Preceding

Welcome Address: Hiroshi Hiratsuka (President of Gunma University)

Takashi Izumi (Vice-president of Gunma University; GUMI 2016 Chairman)

Session 1: Invited Lectures (Sky Hall B)

9:40 **IL01 (Invited)**

Chair: S. Takeda

“Structure of a Pentameric Fiber Reveals the Mechanism of Orsay Virus Attachment to Host Cells”

Yanlin Fan, Yusong R. Guo, Wang Yuan, Weiwei Zhong, Yizhi J. Tao (Rice University, USA)

10:10 **IL02 (Invited)**

Chair: H. Sakurai

“Dual-Energy CT for Range Prediction in Ion Therapy”

Steffen Greulich, Christian Möhler, Patrick Wohlfahrt, Oliver Jäkel, Christian Richter (German Cancer Research Center (DKFZ), Heidelberg Institute for Radiation Oncology (HIRO), University Hospital Carl Gustav Carus, Institute of Radiooncology, German Cancer Consortium (DKTK), Heidelberg Ion-Beam Therapy Center, Germany)

10:40 **Coffee Break**

10:55 **Poster Session Preview (odd number) (Sky Hall B)**

Chair: Y. Takahashi

11:55–12:40 **Poster Session (odd number) (Sky Hall A)**

12:40–13:30 **Lunch**

13:30 **Poster Session Preview (even number) (Sky Hall B)**

Chair: K. Miura

14:30–15:15 **Poster Session (even number) (Sky Hall A)**

Session 2: Invited Lecture (Sky Hall B)

15:20 **IL03 (Invited)**

Chair: T. Kamiya

“Single-Particle Diamond-Membrane Detection Systems for Radiobiological Applications”

Michal T. Pomorski, Philippe Barberet, Guillaume Berthet, Gerard Claverie, Guillaume Deves, Christine Mer-Calfati, Giovanna Muggioli, Samuel Saada, Herve Seznec and Marina Simon (Centre Etudes Nucleaires de Saclay (CEA—Saclay) , Universite de Bordeaux, CNRS, CEA-LIST, France)

15:50 **Coffee Break**

Session 3: Gunma University Medical Innovation (Sky Hall B)

Chair: S. Tobita, S. Takeda

16:05 **L01**

“Breast Cancer Imaging by CD SWI Elastography”

Yoshiki Yamakoshi, Takahito Nakajima, Jun Horiguchi, Ayako Sato, Hiromi Hirasawa and Mayuko Yamazaki (Gunma University, Japan)

16:20 **L02**

“A New Type of Spacer for Abdominal Heavy-Iron Radiation Therapy”

Takayuki Asao, Kyoichi Kaira, Ryo Takahashi and Naoya Ohta (Gunma University, Japan)

16:35 **L03**

“pH-Activatable Photosensitizing Drug for Photodynamic Therapy of Cancer”

Hiroaki Horiuchi, Atsuki Hirabara, Masataka Isogai, Seiji Torii and Tetsuo Okutsu (Gunma University, Japan)

16:50 **L04**

“Two Dimensional Intracellular and *in vivo* Oxygen Sensing by Using a Gated ICCD Camera”

Toshitada Yoshihara, Hideo Akiyama, Hideru Obinata, Susumu Rokudai and Seiji Tobita (Gunma University, Japan)

17:05 **L05**

“Electron Density Estimation by Using X-ray Absorption Coefficient Obtained at Several Photon Energies”

Akie Nagao, Naoki Sunaguchi, Zhang Kun, Tamako Hayashi, Tatsuaki Kanai, Masami Torikoshi, Yoshiki Yamakoshi, Kosuke Suzuki and Hiroshi Sakurai (Gunma University, Japan)

17:20 **L06**

“Establishment of Novel Rat Models of Epilepsy for Screening Antiepileptic Drugs”

Yuchio Yanagawa and Kaori Wakamatsu (Gunma University, Japan)

17:35 **L07**

“Local Reactive Oxygen Species Generation and Lipid Peroxidation Are Involved in Ferroptosis of Cancer Cells”

Seiji Torii (Gunma University, Japan)

Session 4: Medical Science and Advanced Micro-Device Engineering

(Meeting Room 1)

Chair: O. Hanaizumi, M. Hanaya

- 16:05 **L08**
“A Central Blood-Pressure Measurement System with Wearable Pulse Volume Gauges”
Kyoji Nakajo, Yudai Komori, Shuji Takahashi, Kazuhiro Motegi, Yoichi Shiraishi and Hiroshi Miyashita (Gunma University, AZAPA Co. LTD, Jichi Medical University, Japan)
- 16:20 **L09**
“Evaluation of High-Precision Automatic Patient Positioning System in Carbon Ion Radiotherapy: Patient Study of 5 Sites”
Hayato Hayashi, Yoshiki Kubota, Satoshi Abe, Saki Souda, Ryosuke Okada, Mutsumi Tashiro, Masami Torikoshi, Tatsuaki Kanai, Tatsuya Ohno and Takashi Nakano (Gunma University, Gunma University Heavy Ion Medical Center, Gunma University Hospital, Japan)
- 16:35 **L10**
“Photoluminescence Spectroscopy of Si:SiO₂ Films Fabricated by Radio Frequency Sputtering”
Koichi Tanaka and Kanami Okamoto (Hiroshima City University, Japan)
- 16:50 **L11**
“Nano Phase-Change Memory Array”
You Yin (Gunma University, Japan)
- 17:05 **L12**
“Achievement of Over 1.4 V Photovoltage in a Dye-Sensitized Solar Cell by the Application of a Silyl-Anchor Coumarin Dye”
Minoru Hanaya, Kenji Kakiage, Hiroyuki Osada, Yohei Aoyama, Toru Yano, Keiji Oya, Shinji Iwamoto, Jun-ichi Fujisawa (Gunma University, ADEKA CORPORATION, Japan)
- 17:20 **L13**
“Straight Pipe Inspection System by Using Multiwavelength Digital Holography”
Masayuki Yokota and Kazufumi Takeda (Shimane University, Japan)
- 17:35 **L14**
“Effect of Additional Mass on the Dynamic-Force Correction Method for Force Transducers”
Akihiro Takita, Taku Iwashita and Yusaku Fujii (Gunma University, Japan)
- 18:00 **Closing Remarks (Sky Hall B)** O. Hanaizumi (AMDE2016 Chairman)
- 18:15–19:45 **Banquet**

Posters

P01

Evaluation System of the Training on Central Venous Catheterization

Mami Kikuchi, Kazumi Tanaka, Hirokazu Arakawa, Takayuki Asao and Naoya Ohta
Gunma University Hospital, Gunma University Initiative for Advance Research, Japan

P02

Behavioral Effect of GFP on a Model Mouse of Alzheimer's Disease

Kazuhiro Nakamura and Tsuyoshi Takahashi
Gunma University, Japan

P03

A Novel GPBA Partial Agonist Reduces Blood Glucose Level in Glucose Tolerance Test

Rina Enomoto, Misaki Mashiko, Aya Kurosawa, Tsukasa Kikuchi, Tadahiro Kitamura and Shigeki Takeda
Gunma University, Japan

P04

Construction of Transgenic Silkworm Expressing Human Thyroid Hormone Receptor

Shigeki Takeda, Nobuo Kuwabara, Ken-ichiro Tatematsu, Hideki Sezutsu and Noriyuki Koibuchi
Gunma University, Gunma Sericultural Technology Center, National Institute of Agrobiological Sciences, Japan

P05

Expression of the Recombinant Tumor Antigen in Transgenic Silkworm

Yoko Motokawa, Minoru Bando, Shigeki Takeda, Nobuo Kuwabara, Ken-ichiro Tatematsu, Hideki Sezutsu and Kazuaki Chikamatsu
Gunma University, National Institute of Agrobiological Sciences, Japan

P06

Identification and Characterization of a Novel Ligand for GPR173

Wataru Takano, Shigeki Takeda, Aya Kurosawa, Konno Ayumu and Hirokazu Hirai
Gunma University, Japan

P07

Development of a Vaginal Insertion Spacer That Verifies the Position and Dose Distribution in CIRT for Uterine Cervix

Yoshiki Kubota, Tatsuya Ohno, Kazutoshi Murata, Makoto Sakai, Kazutoshi Tsuda, Mutsumi Tashiro, Shin-ei Noda, Masami Torikoshi, Tatsuaki Kanai and Takashi Nakano
Gunma University Heavy Ion Medical Center, Gunma University Hospital, Japan

P08

Preparation and Crystallization of Actin Regulating Complex for Formation of Dendritic Spine

Shunya Hata, Toshio Hakoshima, Kaori Wakamatsu and Shin-ichi Terawaki
Gunma University, Nara Institute Science and Technology, Japan

P09

Development of a Microfluidic Glomerulus Model for Diagnosis and Drug Development

Kiichi Sato and Yasuko Kobayashi

Gunma University, Japan

P10

Development and Clinical Application of the Silver Nanoparticle-Containing Biomaterial for Tendon Healing

Noboru Oya, Tsuyoshi Ichinose, Atsushi Yamamoto, Haku Iizuka, Kenji Takagishi, Keiichi Yamada and Kazuo Shinozuka

Gunma University, Japan

P11

Synthesis and Biological Evaluation of N-Methylated Cyclic Pentapeptides against Malignant Breast Cancer Cell Lines

Keiichi Yamada, Susumu Rokudai, Reika Kawabata, Masahiko Nishiyama and Kazuo Shinozuka

Gunma University, Japan

P12

Plasminogen Binding Mechanism of Synthetic Peptide Antigen from *Plasmodium falciparum*: a Proof of Concept Study of Synthetic Peptide Vaccine Project

Hiroyuki Oku, Yudai Kimoto, Nana Isomoto, Suguru Niwa, Kazuo Shinozuka, Miho Oue and Tetsuya Nakamura

Gunma University, Gunma University Hospital, Japan

P13

Positive Regulation of Hepatic miRNA by HNF4 α

Megumi Akiyama, Aoi Morimoto, Mana Kannari, Yuichi Tsuchida, Tsuyoshi Matsuta, Chinatsu Saito, Shota Sasaki, Satoru Kakizaki, Frank J. Gonzalez and Yusuke Inoue

Gunma University, Japan; NCI/NIH, USA

P14

Biological Signal Measurement of Special Environment Worker Using Smart Shirt

Yusaku Amano, Yasunori Tada, Tomonobu Sato, Sigeru Saito and Masahiro Inoue

Gunma University, Japan

P15

High-Performance Capillary Electrophoresis of Cations and Anions: Search of Ion Marker from Human Saliva Samples

Masanobu Mori, Masami Murakami, Yoshihiro Arai, Fumi Ishikawara, Shou Sakamoto, Hideyuki Itabashi, Yoichi Seki, Akihiro Yoshida, Yoshifumi Shoho, Kazumi Ushiki, Larasati Martha and Yoshiki Kaneko

Gunma University, Japan

P16

Development of ICT System to Support Inhaler Technique Training

Kazuhiro Motegi, Yoichi Seki, Shin-ichi Kuroda, Yoichi Shiraishi and Kunio Dobashi
Gunma University, Japan

P17

Rehabilitation Assistance System Using a Motion Capture Device and Virtual Reality Feedback

Yasushi Yuminaka, Motoaki Fujii, Atsushi Manabe, Makoto Hasegawa and Naoki Wada
Gunma University, Gunma University Hospital, Japan

P18

Construction of a Torque-Sensorless Viscometer Using State Feedback and Observer Techniques for Food Applications

Yuqi Jiang, Seiji Hashimoto, Yoshiki Yamakoshi and Takashi Otomo
Gunma University, Japan

P19

Y-90 Bremsstrahlung Imaging with Compton Camera

Makoto Sakai, Raj Kumar Parajuli, Takayoshi Ishii, Shunsuke Kawabata and Wataru Kada
Gunma University, Japan

P20

Development of Single-Crystal CVD Diamond Detector with Embedded Living-Cell Cultivation Environment

Wataru Kada, Makoto Sakai, Michal Pomorski, Natko Skukan, Takahiro Makino, Milko Jakšić, Shinobu Onoda, Takeshi Ohshima, Tomihiro Kamiya and Osamu Hanaizumi
Gunma University, Japan; CEA-LIST, France; Ruđer Bošković Institute, Croatia; National Institutes for Quantum and Radiological Science and Technology, Japan

P21

Evaluation of Bead-Type Radio-Photoluminescence Glass Dosimeter for Microdosimetry

Shunsuke Kawabata, Wataru Kada, Yoshinori Matsubara, Takahiro Satoh, Makoto Sakai, Raj Kumar Parajuli, Naoto Yamada, Masashi Koka, Kenta Miura, Tomihiro Kamiya and Osamu Hanaizumi
Gunma University, National Institutes for Quantum and Radiological Science and Technology, Japan

P22

Development and Simple Evaluation of Radiophotoluminescence Glass Dosimeter with Copper Activator for Convenient Three Dimensional Radiation Dosimetry

Yoshinori Matsubara, Wataru Kada, Shunsuke Kawabata, Makoto Sakai, Raj Kumar Parajuli, Kenta Miura, Takahiro Satoh, Masashi Koka, Naoto Yamada, Tomihiro Kamiya and Osamu Hanaizumi
Gunma University, National Institutes for Quantum and Radiological Science and Technology, Japan

P23

A Research of Bi-Ventricular Assist Device by Using Magnetic Levitation Technology

Nobuyuki Kurita, Jun Mohara, Takeo Ishikawa and Naoki Saito

Gunma University, Japan

P24

Fabrication of N-type Silicon Nanowire Using Electron Beam Lithography for Peptide Detection

Yuya Sakurai, Tomoya Tashiro, Noriyasu Oshima, Kakeru Oshima, Sumio Hosaka, Takashi Izumi and Hayato Sone

Gunma University, Japan

P25

Evaluation of Microcirculatory Disorder in Scleroderma Patients Using an Optical Sensor with Pressurization Mechanism

Koutaro Murata, Sei-ichiro Motegi, Ryouta Sakamoto and Yoshiki Yamakoshi

Gunma University, Japan

P26

High Sensitive Bubble Cavitation Detection Method for Development of Intelligent US-DDS

Ren Koda, Hirofumi Hanaoka, Yoshiki Yamakoshi, Takahito Nakajima, Ryo Suzuki, Takumu Origasa and Toshitaka Nakajima

Gunma University, Teikyo University, Japan

P27

Stopping Power Map Reconstruction Using Wedge Range Shifter Type Heavy Ion Computed Tomography System: Residual Range Extraction Method and Reconstruction Algorithm

Naoki Sunaguchi, Sung Hyun Lee, Akie Nagao, Hiroshi Sakurai and Tatsuaki Kanai

Gunma University, Gunma University Heavy Ion Medical Center, Japan

P28

Fusion of Biology, Brain Science and Information Communication Technology

Takuya Arafune, Tomoaki Shirao, Jun Horikoshi, Kazuyuki Imamura, Nobuyoshi Ishikawa, Nobukazu Tsukiji and Haruo Kobayashi

Gunma University, NPO Wireless Brain Network, Maebashi Institute of Technology, Japan

P29

Prediction of Sit-To-Stand Movements Using Human-Motion Simulator for Physical Performance Evaluation

Toshikazu Matsui, Kunio Dobashi and Nobuaki Nakazawa

Gunma University, Japan

P30

Iridium Complex Probe, BMTPDM1, Is Useful Probe for *in vivo* Imaging of Oxygen Dynamics.

Yusuke Takatsuru, Noriyuki Koibuchi, Toshitada Yoshihara and Seiji Tobita

Gunma University, Japan

P31**Stochastic Resonance in Bioinspired Electronic Device Using Polymer Field Effect Transistors**

Yoshiharu Suzuki, Tomotaka Inoue, Naoki Wada, Kiyohiko Matsubara and Naoki Asakawa
Gunma University, KOOROGI LLC, Japan

P32**Developping of User Locating System in Hospital**

Tsuyoshi Kato, Rachele Rivero, Osamu Takaki, Kota Torikai and Yuichiro Saito
Gunma University, Japan

P33**Fabrication of ZnO Periodic Microstructures and Evaluation of Their Luminescence**

Masaki Saito, Oji Matsumoto, Daichi Yamazaki, Yoshiyuki Hirano, Katsuya Noguchi, Wataru Kada, Kenta Miura and Osamu Hanaizumi
Gunma University, Japan

P34**Development of Xeno Nucleic Acids for Molecular Targeted Therapies**

Yurika Watanabe, Masayasu Kuwahara, Yasuyo Nakajima and Masanobu Yamada
Gunma University, Japan

P35**A Novel Quantitative Evaluation Method for Medical Imaging Based on a Cooperative Human Vision Model**

Takahito Nakajima and Toshikazu Matsui
Gunma University, Japan

P36**Resting State Large Scale Network Analysis of MEG Data Using Self-Organizing Map**

Yuichi Takei, Ayaka Kosuda, Minami Tagawa, Masato Kasagi, Masato Fukuda and Yoichi Seki
Gunma University, Japan

P37**Development of Convenient Genotyping of High-Risk HPV Using Fluorescence DNA Probes**

Yusuke Irie, Kazuo Shinozuka, Takaaki Sano and Tomohisa Moriguchi
Gunma University, Japan

P38**Functional Characterization of a Novel KIT Mutant of Spontaneous Regressing Piebaldism**

Akira Shimizu, Mai Hattori, Kaori Wakamatsu, Fuminori Tokunaga and Osamu Ishikawa
Gunma University, Osaka City University, Japan

P39

Development of New Therapeutic Agents for Inflammatory Bowel Diseases Targeting the Nuclear Receptors CAR/PXR.

Satoru Kakizaki, Daisuke Uehara, Yuichi Yamazaki, Norio Horiguchi and Yusuke Inoue
Gunma University, Japan

P40

Functional Analysis of Stalled-Ribosome Rescue Factors in Mitochondria

Sho Arai, Takuro Horii, Hiroyuki Kogure, Izuhito Hatada and Nobukazu Nameki
Gunma University, Japan

P41

Study on Nurse Call System Using Voice and Gazing Signals

Nobuaki Nakazawa, Atsuko Sugimoto, Toshikazu Matsui, Takao Yamaguchi and Yusaku Fujii
Gunma University, Gunma University Hospital, Japan

P42

A Method for Automatic Extraction of Foot Process Region from Podocyte Image

Shusuke Motokawa, Tsutomu Matsuura, Toshiyuki Matsuzaki, Keiju Hiromura and Takeo Aoki
Gunma University, Japan

P43

Electron Density Estimation by Using Newly Developed Photon Counting CT System

Zhang Kun, Akie Nagao, Naoki Sunaguchi, Masami Torikoshi, Tatsuaki Kanai, Kosuke Suzuki and Sakurai Hiroshi
Gunma University, Gunma University Heavy Ion Medical Center, Japan

P44

The Development of Emotional Detection System via Camera

Isamu Isozaki, Tetsuji Muto, Yoichi Shiraishi and Kazuhiro Motegi
Gunma Kokusai Academy, Gunma University, Japan

P45

Fabrication of Regular Pyramid Textures for Antireflection Structures of Solar Cells by Alkaline Etching of Si

Takuya Fukuda, Kazuo Itoh, Naoki Uehara and Katsuya Noguchi
Gunma University, Japan

P46

Design and Control of a Large Deflection Polymer-MEMS Mirror

Fumika Ueno, Takuya Tsukamoto, Yohei Umino, Hiroshi Yamashita, Hayato Kawai, Fusao Shimokawa, Sachie Shiomi, Kou Yamada and Takaaki Suzuki
Gunma University, Kagawa University, Japan

P47

Growth of ZnSe Nanowires and Their Optical Properties

Kazuya Matsumoto and Shunji Ozaki

Gunma University, Japan

P48

X-ray Magnetic Diffraction Experiment of a Co/Pd Multilayer by Using an Area Detector

Masahito Takashima, Kohei Kato, Tokiko Osawa, Hidehumi Shimoyama, Kosuke Suzuki, Hiroshi Sakurai, Keiichi Hirano and Masahisa Ito

Gunma University, KEK, Japan

P49

Fabrication of Tungsten Nanowires Using Nickel Catalyst and Its Application to Flammable Gas Sensor

Satoshi Okada, Naoki Sakuma and Hayato Sone

Gunma University, Japan

P50

Development of Control Programs of an Area Detector PILATUS for X-ray Magnetic Diffraction Experiments

Kohei Kato, Masahito Takashima, Tokiko Osawa, Hidefumi Shimoyama, Keiichi Hirano, Yasuko Nagatani, Takashi Kosuge, Chika Kamezawa, Wolfgang Voegeli, Etsuo Arakawa, Kosuke Suzuki, Hiroshi Sakurai and Masahisa Ito

Gunma University, KEK, Tokyo Gakugei University, Japan

P51

Preparation of Zeolite Template Carbon and Its Application as Field-Effect Transistors

Akihiro Horiuchi, Takafumi Ishii and Jun-ichi Ozaki

Gunma University, Japan

P52

Synthesis and Reduction of

1,1,2,2-Tetrachloro-3,3,5,5-tetraisopropyl-4,4-dimethylcyclopentasilane

Soichiro Kyushin, Yusuke Morikawa and Akihiro Tsurusaki

Gunma University, Osaka Prefecture University, Japan

P53

Photoluminescence Properties of Eu and Ag Co-Doped Ta₂O₅ Thin Films Deposited by Co-Sputtering

Keisuke Shimada, Masahiro Kanakubo, Shin Segawa, Moe Machida, Kenta Miura, Wataru Kada, Katsuya Noguchi and Osamu Hanaizumi

Gunma University, Japan

P54

Evaluation of Annealing Dependencies of Creation Efficiency of Nitrogen-Vacancy (NV) Centers in Single-Crystalline Diamond

Yoshinori Suda, Kazumasa Tatsumi, Moriyoshi Haruyama, Shinobu Onoda, Tokuyuki Teraji, Junichi Isoya, Wataru Kada, Takeshi Ohshima and Osamu Hanaizumi

Gunma University, National Institutes for Quantum and Radiological Science and Technology, University of Tsukuba, Japan

P55

Investigation of Deep Levels in Diamond Based Radiation Detector by Transient Charge Spectroscopy with Focused Heavy Ion Microbeam

Yushi Ando, Wataru Kada, Shinobu Onoda, Takahiro Makino, Shin-ichiro Sato, Hitoshi Umezawa, Yoshiaki Mokuno, Shinichi Shikata, Osamu Hanaizumi, Tomihiro Kamiya and Takeshi Ohshima

Gunma University, National Institutes for Quantum and Radiological Science and Technology, National Institute of Advanced Industrial Science and Technology, Kwansai Gakuin University, Japan

P56

Development of Submillimeter-Scale Two Dimensional Illumination Source Using Radio-Photoluminescence Phosphate Glass Substrate

Akio Unno, Shunsuke Kawabata, Yoshinori Matsubara, Wataru Kada, Makoto Sakai, Raj Kumar Parajuli, Kenta Miura and Osamu Hanaizumi

Gunma University, Japan

P57

Synthesis and Ionic Conductivity of $\text{MAI}\text{Si}_3\text{O}_8$ (M = Li, Na, K)

Yohei Minami and Shin-ichi Furusawa

Gunma University, Japan

P58

Response of the Ionic Conduction for Extending-Deformation of AgI Thin Film

Tomosato Ida and Shin-ichi Furusawa

Gunma University, Japan

P59

Fabrication of Al:ZnO/ZnO/p-Si Thin-Film Solar Cells

Yoshihiro Hara, Oji Matsumoto, Tomoki Uchibori, Wataru Kada, Katsuya Noguchi, Kenta Miura and Osamu Hanaizumi

Gunma University, Japan

P60

Light-Emission Properties of Yb and Ag Co-Doped Ta_2O_5 Thin Films Fabricated by Sputtering

Masahiro Kanakubo, Keisuke Shimada, Shin Segawa, Moe Machida, Kenta Miura, Wataru Kada, Katsuya Noguchi and Osamu Hanaizumi

Gunma University, Japan

P61**AC Electric and Electroluminescent Properties of Pt/Ca_{0.6}Sr_{0.4}TiO₃:Pr/In₂O₃:Sn Thin Films**

Tôru Kyômen, Makoto Yamada, Minoru Hanaya and Hiroshi Takashima

Gunma University, National Institute of Advanced Industrial Science and Technology, Japan

P62**Phase-Shifting Digital Holography by Current Modulation Laser Diode**

Masatoshi Saito, Toru Nakajima and Yoshitaka Takahashi

Gunma University, Japan

P63**Improvement of Phase Difference Image in Phase-Shifting Digital Holography**

Masakazu Shingu and Yoshitaka Takahashi

Gunma University, Japan

P64**Noninvasive Observation of Shunt Using the Near Infrared Light**

Atsushi Sawada, Yuichi Miyamoto and Yoshitaka Takahashi

Gunma University, Japan

P65**Effect of Phase Error in Phase-Shifting Interferometer**

Yoshitaka Takahashi

Gunma University, Japan

P66**Evaluation of Radiation-Tolerance of α - and β -SiAlON Scintillators under Intense Proton Beam Irradiation Using Ion Beam Induced Luminescence (IBIL) Analysis**

Takahiro Sekine, Raj Kumar Parajuli, Shunsuke Kawabata, Yoshinori Matsubara, Wataru Kada, Makoto Sakai, Kenta Miura, Takahiro Satoh, Masashi Koka, Naoto Yamada, Tomohiro Kamiya and Osamu Hanaizumi

Gunma University, National Institutes for Quantum and Radiological Science and Technology, Japan

P67**Analysis of Multi-Layer Coatings Based on Temporal Variation of Intensity and Phase by Using Low Coherence Digital Holography**

Kazuki Okada and Masayuki Yokota

Shimane University, Japan

P68**Monitoring of the Drying Process for Tiny Ink Dots Having Different Glycerin Concentration Using Digital Holographic Microscopy**

Eiji Kusunoki and Masayuki Yokota

Shimane University, Japan

P69

Multi-Valued Data Transmission Using Double-Rate Tomlinson-Harashima Precoding

Yosuke Iijima and Yasushi Yuminaka

Gunma University, Oyama National College of Technology, Japan

P70

Derivation of Loop Gain and Phase from Output Impedances in DC-DC Buck Converter

Nobukazu Tsukiji, Yasunori Kobori and Haruo Kobayashi

Gunma University, Japan

P71

Automatic Design of Operational Amplifier Based on Design Information Management System

Yoshiki Sugawara, Nobukazu Takai, Haruo Kobayashi, Kento Suzuki, Satoshi Yoshizawa, Kazuto Okochi, Tsukasa Ishii, Saki Shinoda and Masafumi Fukuda

Gunma University, Japan

P72

Limit Cycle Reduction Technique Using Digital Dither in Delta Sigma DA Modulator

Jun-ya Kojima, Yukiko Arai and Haruo Kobayashi

Gunma University, Japan

P73

Low-Distortion Sine Signal Generation Algorithm Using Rectangular Waveform

Masayuki Kawabata, Koji Asami, Shohei Shibuya, Tomonori Yanagida and Haruo Kobayashi

Advantest Corporation, Gunma University, Japan

P74

Hysteretic Controlled Buck Converter with Switching Frequency Insensitive to Input/Output Voltage Ratio

Koyo Asaishi, Nobukazu Tshukiji, Yasunori Kobori, Yoshiki Sunaga, Nobukazu Takai and Haruo Kobayashi

Gunma University, Japan

P75

Comparator Circuit Automation by Combination of Game Tree Search and Partial Optimization

Satoshi Yoshizawa, Nobukazu Takai, Yoshiki Sugawara, Okochi Kazuto, Kento Suzuki and Haruo Kobayashi

Gunma University, Japan

P76

Scalable High Reliability 30-50V Dual RESURF LDMOS Transistor with Low Specific On-Resistance

Jun-ichi Matsuda, Jun-ya Kojima, Nobukazu Tsukiji, Masataka Kamiyama and Haruo Kobayashi

Gunma University, Japan

P77

Successive Approximation Time-to-Digital Converter with Full Digital Self-Calibration

Yuki Ozawa, Congbing Li, Haruo Kobayashi, Nobukazu Tsukiji, Ryoji Shiota and Kazumi Hatayama

Gunma University, Socionext Inc., Japan

P78

Fibonacci Sequence Weighted SAR ADC as Golden Section Search of Unimodal Function

Hiroataka Arai, Yutaro Kobayashi and Haruo Kobayashi

Gunma University, Japan

P79

Self-Calibration and Trigger Circuit for 2-Step SAR TDC

Takashi Ida, Yuki Ozawa, Jiang Richen, Haruo Kobayashi and Ryoji Shiota

Gunma University, Socionext Inc., Japan

P80

High-Frequency Low-Distortion Two-Tone Signal Generation Using Arbitrary Waveform Generator

Tomonori Yanagida, Shohei Shibuya, Koji Asami and Haruo Kobayashi

Gunma University, Japan

P81

Electron Mobility Modeling of AlN/GaN MIS-HEMTs with Embedded Source Field-Plate Structures

Keita Kurihara, Hitoshi Aoki, Nobukazu Tsukiji, Shohei Shibuya, Masashi Higashino, Rino Takahashi and Haruo Kobayashi

Gunma University, Japan

P82

Velocity Saturation Calculations for 90 nm MOSFET Modeling in Saturation Regions

Rino Takahashi, Hitoshi Aoki, Nobukazu Tsukiji, Masashi Higashino, Shohei Shibuya, Keita Kurihara and Haruo Kobayashi

Gunma University, Japan

P83

Study on Hot Carrier Injection Model of LDMOS for Reliability Simulation

Masashi Higashino, Hitoshi Aoki, Nobukazu Tsukiji, Masaki Kazumi, Takuya Totsuka, Shohei Shibuya, Keita Kurihara, Rino Takahashi and Haruo Kobayashi

Gunma University, Japan

P84

Electronic Structure Analysis of LiCoO₂ and LiFePO₄ as a Li Battery Cathode Material

Ryota Yamada, Kosuke Suzuki, Ayahito Suzuki, Masayoshi Ito, Yoshiharu Sakurai, Yuki Orikasa, Yoshiharu Utimoto, Bernardo Barbiellini, Hasnain Hafiz, Aran Bansil and Hiroshi Sakurai

Gunma University, JASRI/SPring-8, Ritumeikan University, Kyoto University, Japan; Northeastern University, USA

P85

Spin/Orbital Magnetic Switching Behavior of the Ta/CoFeB/MgO MTJ Interface

Akane Shibayama, Masatoshi Yamazoe, Tadashi Kato, Kousuke Suzuki, Misaki Adachi, Kazushi Hoshi, Masayoshi Itou, Yoshiharu Sakurai and Hiroshi Sakurai

Gunma University, Japan Synchrotron Radiation Research Institute, SPring-8, Japan

P86

Operand Analysis of Lithium Ion Concentration in the Positive Electrode and the Negative Electrode

Ayahito Suzuki, Kosuke Suzuki, Ryota Yamada, Taiki Ishikawa, Masayoshi Ito, Yoshiharu Sakurai, Yuki Orikasa, Yoshiharu Uchimoto and Hiroshi Sakurai

Gunma University, JASRI/SPring-8, Ritsumeikan University, Kyoto University, Japan

P87

Another Efficient Signed Digit to Residue Canonical Signed Digit Recoding Circuit on Modulo 2ⁿ-1

Yuuki Tanaka

Gunma University, Japan

P88

Characterization of Fuel Cell Catalysts Using a Chemisorption/Desorption Method

Shota Yamamori, Ryo Yamaguchi, Hirokazu Ishitobi and Nobuyoshi Nakagawa

Gunma University, Japan

P89

Power Generation Characteristics of a Direct Methanol Fuel Cell Using Noble PtRu/TCCNF Catalyst

Daiki Naito, Hirokazu Ishitobi and Nobuyoshi Nakagawa

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Development of Coupling Method of Convolution Quadrature BEM and Image-Based FEM for 2-D SH Wave Propagation

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3-D Simulation of Multiple Scattering in Heterogeneous Materials Using X-ray CT Image Based Finite Element Method

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