Ⅳ. Plenary Speakers

● Plenary Session 1

Prof. Hao-Chung Kuo
(Nat'l Yang Ming Chiao Tung Univ., Taiwan)

Date & Time	October 14 (Mon.) / 09:20-10:00
Location	Room A (Monterosso, B1F)
Session Chair	Prof. In-Hwan Lee (Korea Univ., Korea)
Title	GaN Micro-LED Array for Chip-to-Chip Interconnection

Biography

Education
Ph.D., UNIVERSITY OF ILLINOIS AT CHAMPAIGN-URBANA
Department of Electrical and Computer Engineering, Dec. 1998, GPA: 4.0/4.0
M.S., RUTGERS UNIVERSITY AT NEW BRUNSWICK
Department of Electrical Engineering (Electronics), May 1995, GPA:4.0/4.0
B.S., NATIONAL TAIWAN UNIVERSITY, TAIPEI
Department of Physics, May 1990, GPA: 3.5/4.0

Experience
05/2021- now, Director(所長), Semiconductor Research Center, Hon Hai Research Institute.
08/2013- now, Distinguished Professor, National Chiao-Tung University, Hsin-Tsu, Taiwan
(終身特聘教授)
08/2013- 08/2016, Associate Vice President, office of International Affair; NCTU
08/2009-01/2010 Chairman & Director(所長), Institute of Electro-optical Engineering, National Chiao-Tung University,
08/2007-08/2012 Professor, National Chiao-Tung University, Hsin-Tsu, Taiwan
08/2010-08/2012 TSMC techninal director for GaN on Si SiC LED and HEMT (on leave from University)

經歷
國立陽明交通大學光電工程學系 講座教授
台積固態照明股份有限公司 處長
美國華星光通科技股份有限公司雷射 部門經理
美國安捷倫科技光纖通訊部門 研發工程師
美國貝爾實驗室異質接面半導體部 研究助理

● Plenary Session 2

Prof. Jun Suda
(Nagoya Univ., Japan)

Date & Time	October 14 (Mon.) / 10:00-10:40
Location	Room A (Monterosso, B1F)
Session Chair	Prof. In-Hwan Lee (Korea Univ., Korea)
Title	Vertical GaN Power Devices on GaN Substrates

Biography

Dr. Jun Suda is a Professor of Electronics at Nagoya University from 2017. He was born in 1969 in Japan. He received the B.E. (1992), M.E. (1994) and Ph. D. (1997) degrees from Kyoto University. From 1992 to 1997, he worked on molecular-beam epitaxy (MBE) and structural and optical characterization of ZnMgSSe strained quantum well structures for short-wavelength optoelectronics. In 1997, he began research on group-III nitride semiconductors (III-N) and SiC as a Research Associate at Kyoto University. His research interests include optical/electrical/structural characterization of III-N and SiC materials, heteroepitaxial growth of III-N by MBE, functional integration of III-N and SiC materials, design and fabrication of SiC and GaN-based power devices as well as high-frequency devices. He is a Director of Transformative Energy Electronics Facilities (C-TEFs) at Nagoya University, which is a semiconductor clean room designed for nitride semiconductors. He has authored or co-authored over 250 publications in peer-reviewed journals and international conferences, Dr. Suda is a Fellow of the Japan Society of Applied Physics.

● Plenary Session 3

Prof. Bo Shen
(Peking Univ., China)

Date & Time	October 15 (Tue.) / 09:00-09:40
Location	Room A (Monterosso, B1F)
Session Chair	Prof. Young Joon Hong (Sungkyunkwan Univ., Korea)
Title	Recent Progress on the Large Lattice Mis-Matched Epitaxial Growth and Defect Control of III-Nitride Semiconductors

Biography

Prof. Bo SHEN, the Cheung Kong Professor in Peking University, China, was born in 1963. He received his Ph.D in Tohoku University in Japan in 1995, and took his postdoctoral research in the University of Tokyo between 1998-2000. He obtained the Outstanding Youth Foundation of NSF of China in 2003. His main research field is III-nitride wide band-gap semiconductor physics, materials and devices. He used to be the chief scientist of the National 973 program and the leader of the overall expert group of the National 863 program "The Third Generation Semiconductor" in China. So far, he has published more than 400 contributed papers, compiled 4 Chinese/English academic monographs, and owned more than 80 invention patents in this field.

● Plenary Session 4

Prof. Debdeep Jena
(Cornell Univ., USA)

Date & Time	October 17 (Thu.) / 10:50-11:30
Location	Room A (Monterosso, B1F)
Session Chair	Prof. Wan Sik Hwang (Korea Aerospace Univ., Korea)
Title	Ultrawide Bandgap Semiconductors for Power Electronics: Aluminum Nitride, Gallium Oxide, Diamond

Biography

Debdeep Jena is the David E. Burr Professor of Engineering at Cornell University. His teaching and research are in the quantum physics of semiconductors and electronic and photonic devices based on quantized semiconductor structures (e.g. Nitrides, Oxides, 2D Materials), and their heterostructures with superconductors, ferroelectrics and magnets, with device applications in energy-efficient transistors, light-emitting diodes and RF and power electronics and quantum computation and communications.

The research from his group has been published in more than 300 journal papers including in Science, Nature, Physical Review Letters, Applied Physics Letters and Electron Device Letters and garnered several patents. He is a fellow of the American Physical Society and is the winner of teaching awards and research awards such as the ISCS young scientist award in 2012, MBE young scientist award in 2014, the IBM faculty award in 2012, and the Intel Outstanding Research award in 2020. He is the author of the new textbook "Quantum Physics of Semiconductor Materials and Devices"

● Plenary Session 5

CTO Samuel Cho
(RFHIC, Korea)

Date & Time	October 17 (Thu.) / 11:30-12:10
Location	Room A (Monterosso, B1F)
Session Chair	Prof. Wan Sik Hwang (Korea Aerospace Univ., Korea)
Title	GaN Device-Based Radio Frequency and Microwave Technology

Biography

Dr. Samuel Cho is the co-founder and chief technology officer of RFHIC Corporation, responsible for leading RFHIC's R&D department for wireless infrastructure, defense & aerospace, and RF energy applications.

Founded Radio Frequency Hybrid Integrated Circuits (RFHIC) in August 1999, starting with an incurable need for cost-effective GaAs components for satellite applications within South Korea. As Co-Founder and CTO he led RFHIC's pioneering movement towards gallium nitride (GaN) on silicon carbide (SiC) technology for commercial telecommunication, defense & aerospace, and ISM applications.

Cho has over 40 years of RF & Microwave expertise in gallium nitride (GaN) technology. As Co-founder and Chief Technology Officer of RFHIC, Dr. Cho focuses on pioneering breakthrough semiconductor technology for next-generation commercial RF & Microwave applications.

He holds a bachelor's degree in electrical engineering from Kwangwoon University, a master's degree, and Ph.D degree in electrical engineering from Yonsei University.

● Oral Sessions

[MA1] Symposium GL: III-N Materials and Lighting Devices (1/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	11:00-12:25
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Young Joon Hong (Sungkyunkwan University, Korea) Prof. Bin Liu (Nanjing University, China)

[MA1-1] *Keynote 11:00-11:35

High-Power InGaN-Based Red Micro-LEDs and Their Potential to Lasers
Kazuhiro Ohkawa and Daisuke Iida
King Abdullah University of Science and Technology (KAUST), Saudi Arabia

[MA1-2] *Invited 11:35-12:00

Ultrasmall Blue, Green, and Red InGaN Micro-LEDs
Lai Wang, Luming Yu, Zhibiao Hao, and Yi Luo
Tsinghua University, China

[MA1-3] *Invited 12:00-12:25

Latest Advances in Green and Red InGaN LEDs
Hee Jin Kim
Lumileds LLC, USA

[MB1] Symposium GE: III-N Materials and Electronic Devices (1/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	11:00-12:30
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. Manabu Arai (Nagoya University, Japan) Prof. Ho-Young Cha (Hongik University, Korea)

[MB1-1] *Keynote 11:00-11:35

Controlling Interface States in GaN Power Transistors

Tamotsu Hashizume

Nagoya University, Japan

[MB1-2] *Invited 11:35-12:00

Gate Dielectric Deposition for GaN-Based MIS Devices Using Mist-CVD

Zenji Yatabe[1], Hadirah Radzuan[1], Masaya Fukumitsu[1], Keigo Bito[1], Ryota Ochi[2], Yusui Nakamura[1], and Taketomo Sato[2]

[1]Kumamoto University, Japan, [2]Hokkaido University, Japan

[MB1-3] 12:00-12:15

Low Noise and High Linearity Millimeter-Wave GaN-Based MIS-HEMTs Fabricated with MOCVD-SiNx as Gate Insulator

Jing Yuan[1,2], Xiaojuan Chen[1,2], Ke Wei[1,2], Guanjun Jing[1,2], Jianchao Wang[1,2], Liu Wang[1,2], Yichuan Zhang[1], Yankui Li[1], Yixu Yao[1], and Sen Huang[1,2]

[1]Institute of Microelectronics of Chinese Academy of Sciences, China, [2]University of Chinese Academy of Sciences, China

[MB1-4] 12:15-12:30

Demonstration of AlGaN/GaN Planar Channel-Fully-Controlled MIS-HEMT on Si Substrate for Low-Voltage RF Applications

Xinkun Zhang[1,2], Quan Dai[2], Yu Zhou[1,2], Qian Li[1,2], Xiaoning Zhan[1,2], Haoran Qie[2], Jianxun Liu[1,2], Qian Sun[1,2], and Hui Yang[1,2]

[1]University of Science and Technology of China, China, [2]Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, China

[MC1] Symposium SiC: SiC Materials and Devices (1/4)

Session Date	Oct. 14(Mon.), 2024
Session Time	11:00-12:25
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Noboru Ohtani (Kwansei Gakuin University, Japan) Dr. Seong-Min Jeong (KICET, Korea)

[MC1-1] *Keynote 11:00-11:35

Review of Resonac SiC Epitaxial Wafers for Power Devices

H. Kanazawa

Resonac Corporation, Japan

[MC1-2] *Invited 11:35-12:00

Recent Research Progress in 200 mm SiC Substrate and Epi Material

Chunjun Liu, Yanfang Lou, Yu Guo, and Jian Yang

TanKeBlue Semiconductor Co., Ltd., China

[MC1-3] *Invited 12:00-12:25

Silicon Carbide Innovation and Insights from 200mm Pilot Line at IME, Singapore

N. Singh, U. Chand, S. Kumar, X. S. Nguyen, A.Y. Hannan, V.Q.G. Roth, Y.-C. Chien, P. Vudumula, G. Tang, A. Ranjan, A. Sundaram, L. K. Bera, and S. Chung

*Institute of Microelectronics, Agency for Science, Technology, and Research (A*STAR), Singapore*

[MA2] Symposium GL: III-N Materials and Lighting Devices (2/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	13:45-15:40
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Dong-Seon Lee (GIST, Korea) Prof. Yong-Ho Ra (Jeonbuk National University, Korea)

[MA2-1] *Invited 13:45-14:10

Characterizing and Understanding the Performance of Micro-Sized Light-Emitting Diodes

Dong-Soo Shin[1], Hyundon Jung[2], and Jong-In Shim[1]

[1]Hanyang University, Korea, [2]EtaMax Co., Ltd., Korea

[MA2-2] 14:10-14:25

Thermal Influence on the Electro-Optical Characteristics of the InGaN-Based Blue & Green Micro-Light-Emitting Diode

Shyam Mohan, Joocheol Jeong, Jooyong Park, Joonhyuk Lee, Jaejin Heo, and Okhyun Nam

Tech University of Korea, Korea

[MA2-3] 14:25-14:40

Studies of Deep State Defects Introduced by RIE in the Sidewalls of GaN/InGaN Nano and MicroLEDs and the Effects of Different Treatments in Mitigating the Adverse Impact of Such Defects

Alexander Y. Polyakov[1], In-Hwan Lee[2], Yeong-Hoon Cho[2], Luiza A. Alexanyan[1], Mikhail L. Skorikov[3], Anton A. Vasilev[1], Andrei A. Romanov[1], Nikolai R. Matros[1], Anastasiia I. Kochkova[2], and Stephen J. Pearton[4]

[1]National University of Science and Technology MISiS, Russia, [2]Korea University, Korea, [3]Russian Academy of Science, Russia, [4]University of Florida, USA

[MA2-4] 14:40-14:55

Size-Dependent Degradation via Sidewall Defects and Recombination Processes in InGaN-Based Micro LEDs

Jeonghyeon Park, Won Seok Cho, Jawon Kim, and Jong Kyu Kim

Pohang University of Science and Technology, Korea

[MA2-5] 14:55-15:10

Insight into Gain and Transient Response of High Gain AlGaN/GaN UV Photodetectors: A Case Study on the Role of Incident UV Light Intensity

Wenxin Li[1], Guangyang Gu[1], Fangfang Ren[1,2], Dong Zhou[1], Feng Zhou[1], Weizhong Xu[1,2], Rong Zhang[1,2], Youdou Zheng[1], and Hai Lu[1,2]

[1]Nanjing University, China, [2]Hefei National Laboratory, China

[MA2-6] 15:10-15:25

Analysis of GaN-Based Topological Photonic Crystal Resonator in the Visible Light Region

Takuto Honda and Akihiko Kikuchi

Sophia University, Japan

[MA2-7] 15:25-15:40

Characterization of Efficient Micro-LEDs Using Confocal Raman Spectrometer

Chuhan Deng, Zhizhong Chen, Boyan Dong, Zuojian Pan, Haodong Zhang, Ling Hu, Weihua Chen, Fei Jiao, Xiangning Kang, Qi Wang, Guoyi Zhang, and Bo Shen

Peking University, China

[MB2] Symposium GE: III-N Materials and Electronic Devices (2/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	13:45-16:00
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. David Zhou (Pinghu Laboratory, China) Prof. Hyun-Seop Kim (Kunsan National University, Korea)

[MB2-1] *Keynote 13:45-14:20

Wide/Ultrawide Bandgap Next Generation RF and Power Devices

Martin Kuball

University of Bristol, UK

[MB2-2] *Invited 14:20-14:45

Extending GaN Power Devices for Higher Voltages and Higher Frequencies

Jin Wei[1], Junjie Yang[1], Jiawei Cui[1], Maojun Wang[1], Xuelin Yang[1], Meng Zhang[2], and Bo Shen[1]

[1]Peking University, China, [2]Beijing University of Technology, China

[MB2-3] 14:45-15:00

Recess-Free Enhancement-Mode AlGaN/GaN RF HEMTs on Si Substrate

Tiantian Luan[1,2], Sen Huang[1,2], Guanjun Jing[1,2], Wenwei Zhi[1,2], Haibo Yin[1,2], Xinguo Gao[1,2], Ke Wei[1,2], Yankui Li[1,2], Qimeng Jiang[1,2], Xinhua Wang[1,2], Liwen Sang[3], and Xinyu Liu[1,2]

[1]Institute of Microelectronics of Chinese Academy of Sciences, China, [2]University of Chinese Academy of Sciences, China, [3]Fudan University, China

[MB2-4] 15:00-15:15

Low RF Loss GaN HEMTs Fabrication on AlGaN/GaN Heterostructure Grown on a Cost-Effective SAB-Bonded SiC-SiC Substrate

Guanjun Jing[1], Xinhua Wang[1], Fengwen Mu[2], Sen Huang[1], Qimeng Jiang[1], Ke Wei [1], and Xinyu Liu[1]

[1]Chinese Academy of Sciences, China, [2]Innovative Semiconductor Substrate Technology Co., Ltd., China

[MB2-5] 15:15-15:30

Suppression of High Gate Leakage Current in Ohmic p-GaN Gate HEMTs

Gokhan Atmaca[1], Min-Gi Jeong[2], and Ho-Young Cha[1,2]

[1]ChipsK Corporation, Korea, [2]Hongik University, Korea

[MB2-6] 15:30-15:45

1.48 dB-Noise Figure E-Mode Recessed-Gate GaN MOSHEMT by Neutralized Ion Beam Etching for LNA Applications

Wenbo Ye, Junmin Zhou, Haowen Guo, Han Gao, and Xinbo Zou

ShanghaiTech University, China

[MB2-7] 15:45-16:00

Single Crystal GaN Film Grown on Ceramics-AlN Substrates by MOCVD with Graphene Inter-Layer

Junkang Wu, Xuelin Yang, Zhenghao Chen, Hongcai Yang, Xingyu Fu, Faquan Wu, Haojie Wang, and Bo Shen

Peking University, China

[MC2] Symposium SiC: SiC Materials and Devices (2/4)	
Session Date	Oct. 14(Mon.), 2024
Session Time	13:45-15:50
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Dr. Chunjun Liu (TanKeBlue Semiconductor Co., Ltd., China) Dr. Hyoung-Woo Kim (KERI, Korea)

[MC2-1] *Invited 13:45-14:10

Packaging Approaches for Wide Bandgap Power Semiconductors: Challenges and Efforts

Sang Won Yoon

Seoul National University, Korea

[MC2-2] *Invited 14:10-14:35

Technologies to Suppress Stacking Fault Expansion in SiC Devices: Stacking Fault Knockdown by High Energy Ion Implantation (SF-KHII) Method

Masashi Kato[1], Shunta Harada[2], and Hitoshi Sakane[3]

[1]Nagoya Institute of Technology, Japan, [2]Nagoya University, Japan, [3]SHI-ATEX Co., Ltd., Japan

[MC2-3] 14:35-14:50

Relationship between Luminescence and Threshold Voltage Shift in SiC MOSFETs under Gate AC Stress

R. Shingo, Y. Enjoji, N. Iwaruro, and H. Yano

University of Tsukuba, Japan

[MC2-4] 14:50-15:05

Optimizing Electrical Parameters of 650V JBS Structures Using Machine Learning-Enhanced Simulation Techniques

Yan-Yu Wen, Kung-Yen Lee, Chun-Ju Chen, Pei-Chun Liao, and Xue-Fen Hu

National Taiwan University, Taiwan

[MC2-5] 15:05-15:20

Investigations on Mechanism and Suppression of Gate Voltage Oscillation for SiC Power MOSFET Switching

Zhaoxiang Wei, Guozhi Zhen, Zhaokuan Liu, Jiaxing Wei, Siyang Liu, and Weifeng Sun
Southeast University, China

[MC2-6] 15:20-15:35

A Straightforward Method for Implementing the Static Characteristics of SiC MOSFETs in Spice Modeling

Y. Lee[1], S. Song[1], D. Son[2], S. Han[2], J. Lee[2], and H. Kang[1]
[1]Korea Institute of Energy Technology, Korea, [2]Powermaster Semiconductor, Korea

[MC2-7] 15:35-15:50

Fabrication of Step Ring Assisted Junction Termination Extension for Edge Termination of 3.3 kV SiC PiN Diode

Sangyeob Kim[1], Hyowon Yoon[2], Gyuhyeok Kang[1], Sumin Park[2], Jinhun Kim[1], Dusan Baek[2], and Ogyun Seok[2]
[1]Kumoh National Institute of Technology, Korea, [2]Pusan National University, Korea

[MA3] Symposium GL: III-N Materials and Lighting Devices (3/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	16:15-18:30
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Dr. Hee Jin Kim (Lumileds LLC, USA) Prof. Dong-Soo Shin (Hanyang University, Korea)

[MA3-1] *Keynote 16:15-16:50

III-Nitrides for MicroLED and Laser Devices for Display, Communication and Quantum Computing

Steven DenBaars

University of California, Santa Barbara, USA

[MA3-2] *Invited 16:50-17:15

Recent Progress of Three-Dimensional Structure-Controlled InGaN Light Emitters for Tailored Visible Spectral Control

Mitsuru Funato, Yoshinobu Matsuda, and Yoichi Kawakami

Kyoto University, Japan

[MA3-3] 17:15-17:30

Direct One-by-One Nanoscale Correlation of Real Structure and Optical Properties of a UVC/UVB-LED

Frank Bertram[1], Gordon Schmidt[1], Peter Veit[1], Jürgen Christen[1], Tai Li[2], Wei Luo[3], and Xinqiang Wang[2]

[1]Otto-von-Guericke-University Magdeburg, Germany, [2]Peking University, China, [3]Songshan Lake Materials Laboratory, China

[MA3-4] 17:30-17:45

Fabrication of High-Performance UVB LEDs and Dual-Wavelength UV LEDs

Tai Li[1,2], Zhaoying Chen[1], Tao Wang[1], Ye Yuan[2], Wei Luo[2], Bo Shen[1], and Xinqiang Wang[1,2]

[1]Peking University, China, [2]Songshan Lake Materials Laboratory, China

[MA3-5] 17:45-18:00

Size Dependent Characteristics of DUV Micro-LEDs for High-Speed Optical Wireless Communication

Chenglong Xu, Mingyue Lou, Jichun Ye, and Wei Guo

Chinese Academy of Sciences, Ningbo, China

[MA3-6] 18:00-18:15

Inverse p-GaN Layer in Blue/Green Tandem Structure for Vertically-Stacked Full-Color Micro-LEDs

Jung-Hong Min, Sung Hoon Jung, Shang Hern Lee, Sungoh Cho, Hwa Sub Oh, and TaeHoon Chung
Korea Photonics Technology Institute, Korea

[MA3-7] 18:15-18:30

Development of MicroLED/Neural Electrode Hybrid Device

G. Shinohara[1], A. Okui[1], A. Nishikawa[2], A. Loesing[2], T. Kayama[3], N. Kuga[3], T. Sasaki[3], and H. Sekiguchi[1]
[1]Toyohashi University of Technology, Japan, [2]ALLOS Semiconductors GmbH, Germany, [3]Tohoku University, Japan

[MB3] Symposium GE: III-N Materials and Electronic Devices (3/7)	
Session Date	Oct. 14(Mon.), 2024
Session Time	16:15-18:30
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Dr. Feng Zhou (Nanjing University, China) Dr. Hyungseok Lee (ETRI, Korea)

[MB3-1] *Keynote 16:15-16:50

Thin-Film Diamond Integration for Enhanced Thermal Management in Electronics

Srabanti Chowdhury

Stanford University, USA

[MB3-2] *Invited 16:50-17:15

High Performance Normally-Off GaN-Based HEMTs Achieved with Recessed and Regrown Channel Structures

Joel T. Asubar[1], Shogo Maeda[1], Ali Baratov[1], Suguru Terai[1], Takahiro Igarashi[1], Kishi Sekiyama[1], Masaaki Kuzuhara[2], and Akio Yamamoto[1]

[1]University of Fukui, Japan, [2]Kwansei Gakuin University, Japan

[MB3-3] 17:15-17:30

Single Crystalline AlN Heteroepitaxial Growth on Diamond (111) Substrates by Ammonia-Free High-Temperature MOCVD (AFHT-MOCVD)

X. Q. Shen, H. Kato, Y. Kato, T. Makino, and K. Kojima

National Institute of Advanced Industrial Science and Technology, Japan

[MB3-4] 17:30-17:45

Thermal Management of GaN-on-Diamond HEMTs through Electro-Thermal Modeling

Changhwan Song[1], Hyeonjin Nam[1], Jisu Kim[1], Sukwon Choi[2], and Jungwan Cho[1]

[1]Sungkyunkwan University, Korea, [2]The Pennsylvania State University, USA

[MB3-5] 17:45-18:00

Toward Ultra-Thin GaN Channel on AlGaN/GaN/AlN DH-HEMTs on AlN Substrates by Hot-Wall MOCVD

Minho. Kim[1], Alexis Papamichail[1], Dat Q. Tran[1], Plamen Paskov[1], and Vanya Darakchieva[1,2]
[1]Linköping University, Sweden, [2]Lund University, Sweden

[MB3-6] 18:00-18:15

High Power-Performance Multiscale Vertical Scaling-down GaN-Based Heterostructure for 5G/B5G mmWave Applications

Hao Lu, Ling Yang, Bin Hou, Xiaohua Ma, and Yue Hao
Xidian University, China

[MB3-7] 18:15-18:30

AlN/GaN/AlN Quantum-Well HEMTs on Single-Crystal AlN Substrates with Silicon Delta Doping

Eungkyun Kim, Yu-Hsin Chen, Jimy Encomendero, Debdeep Jena, and Grace Xing
Cornell University, USA

[MC3] Symposium SiC: SiC Materials and Devices (3/4)	
Session Date	Oct. 14(Mon.), 2024
Session Time	16:15-18:05
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Dr. Takeshi Mitani (National Institute of Advanced Industrial Science and Technology, Japan) Dr. Youngjae Park (POSTECH, Korea)

[MC3-1] *Invited 16:15-16:40

Main Production Methods of Silicon Carbide

William Wu
ACME Inc., Taiwan

[MC3-2] *Invited 16:40-17:05

Minority Carrier Lifetime Mapping of Stacking Faults on Photoluminescence Maps from 4H-SiC Epitaxial Wafer by Time-Resolved Photoluminescence

Moonkyong Na[1], Chanhyoun Oh[2], Donghyun Jang[2], Hyundon Jung[2], Hyoung Woo Kim[1], Wook Bahng[1], and Soon-Ku Hong[3]
[1]Korea Electrotechnology Research Institute, Korea, [2]EtaMax Co., Ltd., Korea, [3]Chungnam National University, Korea

[MC3-3] 17:05-17:20

Structures and Electronic States of Nitrogen Incorporated 4H-SiC/SiO_2 Interfaces: a First-Principles Study

Toru Akiyama[1], Hiroyuki Kageshima[2], and Kenji Shiraishi[3]
[1]Mie University, Japan, [2]Shimane University, Japan, [3]Nagoya University, Japan

[MC3-4] 17:20-17:35

Evaluation on the Power Performance of SiC PiN Betavoltaic Cell by Using E-Beam Irradiation

Jeongtae Kim[1,2], Sangyeob Kim[1], Sumin Park[1], Gyuhyeok Kang[1], Ogyun Seok[3], and Dong-Seok Kim[2]
[1]Kumoh National Institute of Technology, Korea, [2]Korea Atomic Energy Research Insititute, Korea, [3]Pusan National University, Korea

[MC3-5] 17:35-17:50

Superior Switching Characteristics of 1.2 kV MOSFETs by Using Integration SBDs Adjacent Surface of JFET Region

Gyuhyeok Kang[1], Jinhun Kim[1], Yeongeun Park[1], Hyowon Yoon[2], Sangyeob Kim[1], Sumin Park[2], Dusan Baek[2], Jeongtae Kim[1], Kanghee Shin[1], and Ogyun Seok[2]

[1]Kumoh National Institute of Technology, Korea, [2]Pusan National University, Korea

[MC3-6] 17:50-18:05

Design of a 1200 V 4H-SiC P-Shield MOSFET with the Enhanced Avalanche Ruggedness under the UIS Test

Ruei-Ci Wu and Kung-Yen Lee

National Taiwan University, Taiwan

[TA1] Special Session: BN Materials and Devices (1/3)	
Session Date	Oct. 15(Tue.), 2024
Session Time	10:00-12:15
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Young Duck Kim (Kyung Hee University, Korea) Prof. Soo Min Kim (Sookmyung Women's University, Korea)

[TA1-1] *Keynote 10:00-10:35

The Optical Properties of Various Polytypes of sp^2-Bonded Boron Nitride

Bernard Gil

CNRS-Université de Montpellier, France

[TA1-2] *Invited 10:35-11:00

Recent Progress on Wafer-Scaled Monolayer Hexagonal Boron Nitride Synthesis

Ki Kang Kim

Sungkyunkwan University, Korea

[TA1-3] *Invited 11:00-11:25

Probing Deep-Ultraviolet Optoelectronic Processes in Hexagonal Boron Nitride

Jonghwan Kim[1,2]

[1]Pohang University of Science and Technology, Korea, [2]Institute for Basic Science, Korea

[TA1-4] *Invited 11:25-11:50

Current Status and Challenges in hBN Growth by Chemical Vapor Deposition

Hyeon Suk Shin

Sungkyunkwan University, Korea

[TA1-5] *Invited 11:50-12:15

Wafer-Scale AA-Stacked Hexagonal Boron Nitride Grown on GaN Substrate

Seokho Moon[1], Francis Ngome Okello Odongo[1], Adrien Rousseau[2], Youngjae Kim[3], Yunjae Park[4], Jiye Kim[1], Jaewon Kim[5], Pierre Valvin[2], Jaehee Cho[6], Kenji Watanabe[7], Takashi Taniguchi[7], Giorgia Fugallo[8], Wilfried Desrat[2], Feng Ding[4,9], Jaedong Lee[3], Bernard Gil[2], Guillaume Cassabois[2,10], Si-Young Choi[1], and Jong Kyu Kim[1]

[1]Pohang University of Science and Technology, Korea, [2]CNRS-University of Montpellier, France, [3]Daegu Gyeongbuk Institute of Science and Technology, Korea, [4]Ulsan National Institute of Science and Technology, Korea, [5]Samsung Advanced Institute of Technology, Korea, [6]Jeonbuk National University, Korea, [7]National Institute for Materials Science, Japan, [8]University of Nantes, France, [9]Chinese Academy of Sciences, China, [10]Institut Universitaire de France, France

[TB1] Symposium GE: III-N Materials and Electronic Devices (4/7)	
Session Date	Oct. 15(Tue.), 2024
Session Time	10:00-12:15
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Dr. Chih-Fang Huang (National Tsing Hua University, Taiwan) Dr. Yumin Koh (KANC, Korea)

[TB1-1] *Keynote 10:00-10:35

The Development and Progress of Monolithic GaN-Based Complementary Metal-Oxide-Semiconductor High-Electron Mobility Transistors

Ching-Ting Lee and Hsin-Ying Lee

National Cheng Kung University, Taiwan

[TB1-2] *Invited 10:35-11:00

GaN-Based p-channel Devices on High-Electron-Mobility Transistors (HEMT) Platform

Junting Chen[1], David Zhou[2], Zuoheng Jiang[1], Haohao Chen[1], Jinjin Tang[1], and Mengyuan Hua[1]

[1]Southern University of Science and Technology, China, [2]Shenzhen Pinghu Laboratory, China

[TB1-3] 11:00-11:15

The Influence of Inadequate Mg Activation on Threshold Voltage Instability in p-GaN Gate HEMTs

X. Liu, C. Feng, J. Wu, D. Mao, R. Du, Z. Cai, X. Zhang, N. Gong, Y. Shi, K. Wu, C. Li, X. Wang, H. Hu, W. Zeng, D. Zhou, and Y. Wan

Shenzhen Pinghu Laboratory, China

[TB1-4] 11:15-11:30

Electrical Characteristics of p-GaN MIS Capacitors Fabricated in situ

Ren Obata, Manato Deki, Hirotaka Watanabe, Yoshio Honda, and Hiroshi Amano

Nagoya University, Japan

[TB1-5] 11:30-11:45

Advanced Nano-Characterization of Heavily Doped Pulsed Sputtered Grown GaN:Si

Gordon Schmidt[1], Frank Bertram[1], Jürgen Christen[1], Kohei Ueno[2], and Hiroshi Fujioka[2]

[1]Otto-von-Guericke-University, Germany, [2]The University of Tokyo, Japan

[TB1-6] 11:45-12:00

Degradation and Recovery of I-V Characteristics of n-GaN Schottky Barrier Diode due to High-Temperature Annealing and Surface Etching Process

Woong Kwon, Yuta Itoh, Seiya Kawasaki, Atsushi Tanaka, Hirotaka Watanabe, Yoshio Honda, and Hiroshi Amano

Nagoya University, Japan

[TB1-7] 12:00-12:15

Observation of Local Vibrational Modes of Mg_{Ga}-V_N in Mg-Doped GaN

Yingming Song[1], ZiDong Cai[2], Shixiong Zhang[3], Han Yang[1], Xingyu Fu[1], Xuan Liu[1], Xuelin Yang[1], and Bo Shen[1]

[1]Peking University, China, [2]Shenzhen Pinghu Laboratory, China, [3]Hubei Normal University, China

[TC1] Symposium SiC: SiC Materials and Devices (4/4)	
Session Date	Oct. 15(Tue.), 2024
Session Time	10:00-11:35
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Kung-Yen Lee (National Taiwan University, Taiwan) Prof. Ogyun Seok (Pusan National University, Korea)

[TC1-1] *Invited 10:00-10:25

New Investigations of Carrot Defects and Prismatic Stacking Faults in 4H-SiC Epitaxial Layers

Soon-Ku Hong[1], Moonkyong Na[2], Young Heon Kim[1], Chanhyoung Oh[3], Jucheol Park[4], Donghyun Jang[3], Sung Beom Cho[5], Hyundon Jung[3], and Wook Bahng[2]

[1]Chungnam National University, Korea, [2]Korea Electrotechnology Research Institute, Korea, [3]EtaMax Co., Ltd., Korea, [4]Gumi Electronics & Information Technology Research Institute, Korea, [5]Ajou University, Korea

[TC1-2] *Invited 10:25-10:50

Defect Characterization of Power Device Semiconductor Wafers by Novel Birefringence Method

Shunta Harada[1] and Kenta Murayama[2]

[1]Nagoya University, Japan, [2]Mipox Corporation, Japan

[TC1-3] 10:50-11:05

Experimental Study on the Influence of Induction Heating Frequency on Top-Seeded Solution Growth of 4H-SiC

Takeshi Mitani, Shigeyuki Kuboya, Kazuma Eto, and Tomohisa Kato

National Institute of Advanced Industrial Science and Technology, Japan

[TC1-4] 11:05-11:20

Hybridly Packaged White LED Composed of Fluorescent SiC and Nitride-Based near-Ultraviolet LED

T. Mizuno[1], S. Akiyoshi[1], N. Takahashi[1], T. Ban[1], M. Iwaya[1], T. Takeuchi[1], S. Kamiyama[1], A. Suzuki[2], E. Akazawa[2], Y.Ou[3], J. Wang[3], and H. Ou[3]

[1]Meijo University, Japan, [2]E&E Japan Co., Ltd., Japan, [3]Technical University of Denmark, Denmark

[TC1-5] 11:20-11:35

High-Performance 4H-SiC Position Sensitive Detector for Ultraviolet Measurements

Yifu Wang[1], Weizong Xu[1,2], Dong Zhou[1], Fangfang Ren[1,2], Dunjun Chen[1], Rong Zhang[1,2], Youdou Zheng[1], and Hai Lu[1,2]

[1]Nanjing University, China, [2]Hefei National Laboratory, China

[TA2] Special Session: BN Materials and Devices (2/3)	
Session Date	Oct. 15(Tue.), 2024
Session Time	13:35-15:10
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Dr. Hyowon Moon (KIST, Korea) Prof. Hyeon Suk Shin (Sungkyunkwan University, Korea)

[TA2-1] *Invited 13:35-14:00

Manipulation of Carbon Color Centers in Hexagonal Boron Nitride for Efficient Deep Ultraviolet Light Emission

Young Duck Kim

Kyung Hee University, Korea

[TA2-2] *Invited 14:00-14:25

Revolutionizing Wafer-Scale Performance based on h-BN

Soo Min Kim

Sookmyung Women's University, Korea

[TA2-3] 14:25-14:40

Carbon-Related Quantum Emitters Engineering in Hexagonal Boron Nitride

Sofiya Karankova[1,2], Yeunjeong Lee[1,3], Young Gie Lee[1,4], Chaun Jang[1], Young Duck Kim[4], Yong-Won Song[1,2], and Hyowon Moon[1,2]

[1]Korea Institute of Science and Technology, Korea, [2]University of Science and Technology, Korea, [3]Korea University, Korea, [4]Kyung Hee University, Korea

[TA2-4] 14:40-14:55

Optically Active Spin Defects in Epitaxial Hexagonal Boron Nitride

K. Ludwiczak, J. Binder, A. K. Dąbrowska, P. Tatarczak, and A. Wysmołek

University of Warsaw, Poland

[TA2-5] 14:55-15:10

Analog Switching Memristor based on Hexagonal Boron Nitride Grown on Gallium Nitride Substrate

Jaesub Song, Seokho Moon, Jinho Byun, Jiye Kim, Inyong Hwang, Changwook Ji, Seonghyeon Pak, and Jongkyu Kim

Pohang University of Science and Technology, Korea

[TB2] Symposium GE: III-N Materials and Electronic Devices (5/7)

Session Date	Oct. 15(Tue.), 2024
Session Time	13:35-15:10
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. Joel Asubar (University of Fukui, Japan) Prof. Hyungtak Kim (Hongik University, Korea)

[TB2-1] *Invited 13:35-14:00

Advanced Fabrication Technique and Novel Device Structure for High-Performance Enhancement-Mode GaN p-MISFET

Qi Zhou, Kuangli Chen, Liyang Zhu, Jinggui Zhou, Shuting Huang, and Bo Zhang

University of Electronic Science and Technology of China, China

[TB2-2] *Invited 14:00-14:25

Dynamic R_{on} and Buffer Trapping Mechanisms in AlGaN/GaN HEMTs

Hyun-Seop Kim[1,2], Michael J. Uren[2], and Martin Kuball[2]

[1]Kunsan National University, Korea, [2]University of Bristol, UK

[TB2-3] 14:25-14:40

The Impact of Carbon Impurity Ionization on the On-Resistance of GaN HEMTs

Jinwei Zhang, Zhuoran Luo, Qianshu Wu, Miao Zhang, and Yang Liu

Sun Yat-sen University, China

[TB2-4] 14:40-14:55

Unraveling the Physical Mechanism of Current Collapse and Threshold Voltage Instability in Heterostructure-Based GaN Power Devices

Kexin Deng[1,2], Sen Huang[1,2], Xinhua Wang[1,2], Qimeng Jiang[1,2], and Xinyu Liu[1,2]

[1]Institute of Microelectronics of Chinese Academy of Sciences, China, [2]University of Chinese Academy of Sciences, China

[TB2-5] 14:55-15:10

Tuning Composition in Channel of AlGaN HEMT Grown on AlN / SiC by MOCVD

Joon-Hyuk Lee, Joocheol Jeong, Shyam Mohan, Jooyong Park, Jaejin Heo, and Okhyun Nam

Tech University of Korea, Korea

[TC2] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (1/6)	
Session Date	Oct. 15(Tue.), 2024
Session Time	13:35-15:15
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Byung Kyu Chung (Kyungpook National University, Korea) Prof. Kentaro Kaneko (Ritsumeikan University, Japan)

[TC2-1] *Keynote 13:35-14:10

Ultra-Wide Bandgap β-Ga_2O_3 and β-$(Al_xGa_{1-x})_2O_3$ Single Crystals and Their Physical Properties
Zbigniew Galazka
Leibniz Institute of Crystal Growth, Germany

[TC2-2] *Invited 14:10-14:35

Heteroepitaxial Growth of β-Ga_2O_3 Thin Films on Sapphire Substrates by MOCVD
Ji-Hyeon Park, Hyeong-Yun Kim, and Dae-Woo Jeon
Korea Institute of Ceramic Engineering and Technology, Korea

[TC2-3] *Invited 14:35-15:00

Unwanted Ga_2O_3 Phases in Thin Epitaxial Films and How to Prevent Them
Celesta S. Chang
Seoul National University, Korea

[TC2-4] 15:00-15:15

Phase Transition Study of Hetero-Epitaxial Ga_2O_3 Films on c-Plane Sapphire
Hyeong-Yun Kim, Ji-Hyeon Park, and Dae-Woo Jeon
Korea Institute of Ceramic Engineering and Technology, Korea

[TD1] Wide-Bandgap Semiconductor Quantum Devices 1

Session Date	Oct. 15(Tue.), 2024
Session Time	13:35-15:15
Session Room	Room D (Forum 2, 3F)
Session Chair(s)	Prof. Hosung Seo (Sungkyunkwan University, Korea) Prof. Sang-Yun Lee (GIST, Korea)

[TD1-1] *Invited 13:35-14:00

Diamond Vacancies: Engineering, Quantum Control and Applications
Ya Wang
University of Science and Technology of China, China

[TD1-2] *Invited 14:00-14:25

Enhancing Magnetic Field Sensitivity in a Solid-State Quantum Sensor
Sangwon Oh
Ajou University, Korea

[TD1-3] *Invited 14:25:14:50

Electrically Detected Photocarrier Dynamics of NV Quantum Sensor
Hiroki Morishita
Tohoku University, Japan

[TD1-4] *Invited 14:50-15:15

Spin-Photon Hybrid Quantum System based on Nitrogen Vacancy Venter in Diamond
Dongyeon. D. Kang, Yong-su Lee, Ye-eun Choi, Chan-gu Kang, Eunsang Lee, Min-suk Jeon, Junghyun P. Lee, Chulk Kim, Seung-woo Jeon, and Sang-wook Han
Korea Institute for Science and Technology, Korea

[TA3] Special Session: BN Materials and Devices (3/3)	
Session Date	Oct. 15(Tue.), 2024
Session Time	15:30-16:40
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Jonghwan Kim (POSTECH, Korea) Prof. Ki Kang Kim (Sungkyunkwan University, Korea)

[TA3-1] *Invited 15:30-15:55

Defect Engineering for Quantum Emissions in Hexagonal Boron Nitride

Hyowon Moon[1,2]

[1]Korea Institute of Science and Technology, Korea, [2]University of Science and Technology, Korea

[TA3-2] 15:55-16:10

Uniform Growth of Hexagonal Boron Nitride on 150 mm Silicon

Muzafar Rather[1], Shao-Shiang Hsue[1], Chih-Chieh Lin[1], Yen-Huang Tien[1], Chien-Ting Wu[2], Kun-Lin Lin[2], Kun-Yu Lai[1], and Jen-Inn Chyi[1]

[1]National Central University, Taiwan, [2]Taiwan Instrument Research Institute, National Applied Research Laboratories, Taiwan

[TA3-3] 16:10-16:25

Deep Ultraviolet Resonance Raman Spectroscopy of Hexagonal Boron Nitride

Lei Fu[1], Ning Tang[1], Yuqing Hu[2], Huaiyuan Yang[1], Xionghui Jia[1], Guoping Li[1], Junxi Duan[2], Weikun Ge[1], and Bo Shen[1]

[1]Peking University, China, [2]Beijing Institute of Technology, China

[TA3-4] 16:25-16:40

Deterministic Creation of Tip-Induced Nanostructures in Layered Materials

Yeunjeong Lee[1,2], Sofiya Karankova[1,3], Yong Won Song[1,3], Su-Hyun Gong[2], and Hyowon Moon[1,3]

[1]Korea Institute of Science and Technology, Korea, [2]Korea University, Korea, [3]University of Science and Technology, Korea

[TB3] Symposium GE: III-N Materials and Electronic Devices (6/7)

Session Date	Oct. 15(Tue.), 2024
Session Time	15:30-17:00
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. Sen Huang (Institute of Microelectronics of Chinese Academy of Sciences, China) Prof. Zenji Yatabe (Kumamoto University, Japan)

[TB3-1] *Keynote 15:30-16:05

Advanced GaN HEMTs Epitaxy, Terahertz Characterization and Applications

Vanya Darakchieva[1,2], Alexis Papamichail[2], Minho Kim[2], Hengfang Zhang[2], Vallery Stanishev[2], Nerijus Armakavicius[2], Viktor Rindert[1], Mathias Schubert[1], Dat Q. Tran[2], Plamen Paskov[2], Ragnar Ferrand Drake del Castillo[3], Mattias Thorsell[3,4], and Niklas Rorsman[3]

[1]Lund University, Sweden, [2]Linköping University, Sweden, [3]Chalmers University of Technology, Sweden, [4]SAAB AB, Sweden

[TB3-2] *Invited 16:05-16:30

Irradiation Effect and Hardened Design on Gallium Nitride Power Devices

Feng Zhou, Can Zou, Junfan Qian, Rong Zhang, Youdou Zheng, and Hai Lu

Nanjing University, China

[TB3-3] 16:30-16:45

Heavy-Ion Irradiation-Induced Single Event Burnout Characteristic and Trap Behavior in AlGaN/GaN MIS-HEMTs

Can Zou, Feng Zhou, Weizong Xu, Fangfang Ren, Dong Zhou, Dunjun Chen, Rong Zhang, Youdou Zheng, and Hai Lu

Nanjing University, China

[TB3-4] 16:45-17:00

Terahertz Optical Hall Effect in AlScN/GaN and AlYN/GaN HEMT Structures

V. Stanishev[1], I. Streicher[2], A. Papamichail[1], S. Leone[2], and V.Darakchieva[1,3]

[1]Linköping University, Sweden, [2]Fraunhofer Institute for Applied Solid State Physics IAF, Germany, [3]Lund University, Sweden

[TC3] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (2/6)	
Session Date	Oct. 15(Tue.), 2024
Session Time	15:30-16:50
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Dr. JiHyeon Park (KICET, Korea) Dr. Zbigniew Galazka (Leibniz Institute for Crystal Growth, Germany)

[TC3-1] *Invited 15:30-15:55

Self-Assembling of Multilayered Polymorphs in Ga_2O_3

Andrej Kuznetsov
University of Oslo, Norway

[TC3-2] *Invited 15:55-16:20

Gallium Oxide Growth Study for Optoelectronic Device Applications

Gyun Seo Kim[1], Kyung-Ho Kim[2], Si-Young Bae[4], Tae-Yong Park[3], Boon S. Ooi[3], and Jungwook Min[1,3]
[1]Kumoh National Institute of Technology, Korea, [2]Korea Institute of Ceramic Engineering and Technology, Korea, [3]King Abdullah University of Science and Technology, Saudi Arabia, [4]Pukyong National University, Korea

[TC3-3] 16:20-16:35

Thermal Conductivity Measurements of MOCVD-Grown Ga_2O_3 Heterostructures

Taeyeon Kim[1], Hyeonyun Kim[2], Hongju Mun[1], Jihyeon Park[2], Jihyeon Kim[1], Daewoo Jeon[2], and Jungwan Cho[1]
[1]Sungkyunkwan University, Korea, [2]Korea Institute of Ceramic Engineering and Technology, Korea

[TC3-4] 16:35-16:50

Point and Extended Defects, and Their Pathway to Phase Transformation of Gallium Oxide

Chris Chae, Hsien-lien Huang, and Jinwoo Hwang
The Ohio State University, USA

[TD2] Wide-Bandgap Semiconductor Quantum Devices 2	
Session Date	Oct. 15(Tue.), 2024
Session Time	15:30-16:35
Session Room	Room D (Forum 2, 3F)
Session Chair(s)	Prof. Sang-Yun Lee (GIST, Korea) Prof. Sangwon Oh (Ajou University, Korea)

[TD2-1] *Invited 15:30-15:55

Quantum Sensing based on Silicon Vacancy in SiC toward Diagnosis Tool for SiC Power Devices

Takeshi Ohshima[1,2], Tomoaki Tanaka[1], and Yuichi Yamazaki[1]
[1]National Institutes for Quantum Science and Technology, Japan, [2]Tohoku University, Japan

[TD2-2] *Invited 15:55-16:20

The Impact of Paramagnetic Defects on the Performance of Quantum Devices in Diamond

Hosung Seo
Sungkyunkwan University, Korea

[TD2-3] 16:20-16:35

High-Q SiC Photonic Nanocavities near Optical Transition of Color Centers

Heungjoon Kim[1], Bong-Shik Song[2], Takashi Asano[1], and Susumu Noda[1]
[1]Kyoto University, Japan, [2]Sungkyunkwan University, Korea

[TA4] Symposium GL: III-N Materials and Lighting Devices (4/7)	
Session Date	Oct. 15(Tue.), 2024
Session Time	17:00-18:10
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Young Joon Hong (Sungkyunkwan University, Korea) Prof. Lai Wang (Tsinghua University, China)

[TA4-1] *Invited 17:00-17:25

Progress and Challenges in GaN Based High Efficiency RGB Micro-LEDs for Comprehensive Applications

Bin Liu[1], Feifan Xu[1], Yimeng Sang[1], Tao Tao[1], Zhe Zhuang[1], Jinchai Li[2], Kai Huang[2], and Rong Zhang[2]

[1]Nanjing University, China, [2]Xiamen University, China

[TA4-2] 17:25-17:40

Vertical-Emitting InGaN Tunnel-Junction Nanorod Photonic Crystal Lasing Device

Sung-Un Kim, Min-Seok Lee, Dae-Young Um, Jeong-Kyun Oh, Vignesh Veeramuthu, and Yong-Ho Ra

Jeonbuk National University, Korea

[TA4-3] 17:40-17:55

Enhancement of Single-Photon Emission Brightness of Position-Controlled GaN Defects in Telecom Range Using Patterned Sapphire Substrates

Hyemin Kim[1,2], Yong-Ho Song[1], Young-Ho Ko[2], and Yong-Hoon Cho[1]

[1]Korea Advanced Institute of Science and Technology, Korea, [2]Electronics and Telecommunications Research Institute, Korea

[TA4-4] 17:55-18:10

Study on AlN Surface Oxidation for Polarity-Inverted Stacking Structures

Tomohiro Tamano[1], Kanako Shojiki[1,2], Ryota Akaike[1], Hiroki Yasunaga[1], Takao Nakamura[1], Masahiro Uemukai[3], Tomoyuki Tanikawa[3], Ryuji Katayama[3], and Hideto Miyake[1]

[1]Mie University, Japan, [2]Kyoto University, Japan, [3]Osaka University, Japan

[TB4] Symposium GE: III-N Materials and Electronic Devices (7/7)

Session Date	Oct. 15(Tue.), 2024
Session Time	17:00-18:35
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Dr. Gokhan Atmaca (ChipsK Corporation, Korea) Prof. Jeong-Gil Kim (Dong-A University, Korea)

[TB4-1] *Invited 17:00-17:25

GaN and Wide-Bandgap Semiconductor Devices for Power Electronics Applications

J.Buckley[1], P.Godignon[1], C.Le Royer[1], E.Nowak[1], R.Escoffier[1], M.El Amrani[1,4], V. Ackermann[1], M.Charles[1], H.El Rammouz[1], B.Mohamad[1], T.Labau[1,2], C.Masante[1], C. Piotrowicz[1,3], J.Zgheib[1], M.Kumar[1], M.Fayolle[1], J.Biscarrat[1], S.Bécu[1], T.Kaltsounis[1,6], Z. M Qaddem[1], D.Plaza Arguello[1], S.Torrengo[1], M.Gorisse[1], V.Maurya[1,4], C.Gillot[1], and Y.Lamy[1]

[1]Grenoble Alpes University, France, [2]Delphea, France, [3]University of Bordeaux, France, [4]University of Tours, France, [5]Côte d'Azur University, France

[TB4-2] *Invited 17:25-17:50

Recent Progress of GaN Power Intergation and Modeling Technology

Sheng Li, Siyang Liu, Yanfeng Ma, Mingfei Li, Weihao Lu, and Weifeng Sun

Southeast University, China

[TB4-3] 17:50-18:05

Ion Beam Etching Enabled Recessed-Gate E-mode GaN MOS-HEMT with FOM of 701 MW·cm^{-2} and Monolithic Integrated Digital Circuit

Han Gao, Yitian Gu, Yitai Zhu, Wenbo Ye, and Xinbo Zou

ShanghaiTech University, China

[TB4-4] 18:05-18:20

X-Ray Irradiation-Induced Threshold Voltage Instability in Schottky-Gate P-GaN HEMTs

Yu Rong, Feng Zhou, Weizong Xu, Fangfang Ren, Dong Zhou, Dunjun Chen, Rong Zhang, Youdou Zheng, and Hai Lu

Nanjing University, China

[TB4-5] 18:20-18:35

Surface Morphologies and Electrical Properties of N-type GaN Films Deposited by Two Different Sputtering Methods

S. Yamada, K. Tanaka, M. Arai, T. Kachi, and J. Suda
Nagoya University, Japan

[TC4] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (3/6)

Session Date	Oct. 15(Tue.), 2024
Session Time	17:00-17:50
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Dr. Dae-Woo Jeon (KICET, Korea) Prof. Andrej Kuznetsov (University of Oslo, Norway)

[TC4-1] *Invited 17:00-17:25

Machine-Learning Dynamic Model of Complex Ga_2O_3 Polymorphs for Next-Generation Extreme Environment Electronics

Junlei Zhao[1], Mengyuan Hua[1], Jesper Byggmästar[2], Jiahui Zhang[2], Kai Nordlund[2], Flyura Djurabekova[2], Javier García-Fernández[3], Alexander Azarov[3], and Andrej Kuznetsov[3]

[1]Southern University of Science and Technology, China, [2]University of Helsinki, Finland, [3]University of Oslo, Norway

[TC4-2] *Invited 17:25-17:50

Potential of Germanium Dioxide (GeO_2) for Power Devices

Kentaro Kaneko

Ritsumeikan University, Japan

[TD3] Novel Devices	
Session Date	Oct. 15(Tue.), 2024
Session Time	17:00-17:45
Session Room	Room D (Forum 2, 3F)
Session Chair(s)	Prof. Dong-Seon Lee (GIST, Korea) Prof. Dong-Soo Shin (Hanyang University, Korea)

[TD3-1] 17:00-17:15

Analysis of Emission Properties of Metal–Semiconductor Micro-Stripe Structures with Respect to the Materials

Daiki Yoshikawa[1], Bojin Lin[1], Hnin Lai Lai Aye[1], Kohei Ueno[2], Hiroshi Fujioka[2], Hideto Miyake[3], and Yoshihiro Ishitani[1]

[1]Chiba University, Japan, [2]The University of Tokyo, Japan, [3]Mie University, Japan

[TD3-2] 17:15-17:30

Thermal Conductivity Measurements of BeO Thin Films Grown by Plasma Enhanced Atomic Layer Deposition

Jihyun Kim[1], Jonghyun Bae[2], Dongyun Seo[1], Dohwan Jung[2], Jungwoo Oh[2], and Jungwan Cho[1]

[1]Sungkyunkwan University, Korea, [2]Yonsei University, Korea

[TD3-3] 17:30-17:45

PEC Water Splitting based on III-Nitride Nanorods for Enhancing Hydrogen Production

Jeong-Kyun Oh, Dae-Young Um, Bagavath Chandran, Sang-Wook Lee, Sung-Un Kim, Cheul-Ro Lee, and Yong-Ho Ra

Jeonbuk National University, Korea

[WA1] Symposium GL: III-N Materials and Lighting Devices (5/7)

Session Date	Oct. 16(Wed.), 2024
Session Time	09:00-10:50
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Takao Oto (Yamagata University, Japan) Prof. Hideto Miyake (Mie University, Japan)

[WA1-1] *Invited 09:00-09:25

Controlling the Growth Mode of Graphene Assisted Growth via Graphene Defects

Jeongwoon Kim[1], Hyeon Woo Kim[2,3], Jongil Kim[4], Je-Sung Lee[1], Hoe-Min Kwak[5], Jaeyoung Baik[1], Soo-Young Choi[1], Jinsoo Kim[1], Si-Young Bae[8], Sung Beom Cho[6], Sangho Oh[4], Young-Joon Hong[7], and Dong-Seon Lee[1]
[1]Gwangju Institute of Science and Technology, Korea, [2]Hanyang University, Korea, [3]Korea Institute of Ceramic Engineering and Technology, Korea, [4]Korea Institute of Energy Technology, Korea, [5]Electronics and Telecommunications Research Institute, Korea, [6]Ajou University, Korea, [7]Sungkyunkwan University, Korea, [8]Pukyong National University, Korea

[WA1-2] *Invited 09:25-09:50

Atomic Evolution Mechanism and Suppression of Edge Threading Dislocations in Remote Epitaxy

Chen Qi and Liu zhiqiang
Chinese Academy of Sciences, China

[WA1-3] 09:50-10:05

Van der Waals Epitaxial High-Quality Wide Bandgap Nitride Thin Film Materials and High-Performance Devices

Haidi Wu, Jing Ning, Jincheng Zhang, and Yue Hao
Xidian University, China

[WA1-4] 10:05-10:20

Remote Homoepitaxy of Gr/N-polar GaN for Exfoliation and Deformable Device

Joonghoon Choi and Young Joon Hong
Sungkyunkwan University, Korea

[WA1-5] 10:20-10:35

Quasi-Van Der Waals Epitaxial Growth of InGaN Quantum Wells on Transferred and As-Grown H-BN via Metal Organic Vapor Phase Epitaxy

Peilong Yang[1], Seokho Moon[2], Zhibiao Hao[1], Yi Luo[1], Changzheng Sun[1], Bing Xiong[1], Yanjun Han[1], Jian Wang[1], Hongtao Li[1], Lin Gan[1], Jong Kyu Kim[2], and Lai Wang[1]

[1]Tsinghua University, China, [2]Pohang University of Science and Technology, Korea

[WA1-6] 10:35-10:50

AlN with Carbon Buffer for Epitaxial Lift-off of III-Nitride Devices

Hae-Gon Oh, Young-Jun Choi, and Hae-Yong Lee

LumiGNtech Co., Ltd., Korea

[WB1] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (4/6)

Session Date	Oct. 16(Wed.), 2024
Session Time	09:00-10:40
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. Youseung Lim (Sejong University, Korea) Prof. Flyura Djurabekova (University of Helsinki, Finland)

[WB1-1] *Keynote 09:00-09:35

Demand and Technology Development Trends for Vehicle Power Semiconductors

Youngkyun Jung

Hyundai Motor Company, Korea

[WB1-2] *Invited 09:35-10:00

Recent Efforts for Commercial Applications of Ga_2O_3 Devices

Shizuo Fujita

Kyoto University, Japan

[WB1-3] *Invited 10:00-10:25

Beta-Gallium Oxide Nanowire-Based Electronic Devices

Minglei Tang[1,2], Siyuan Xu[1,3], Guangming Qu[1,2], Lining Liu[1,3], Guodong Wang[2], Young Jin Lee[4], Dae-Woo Jeon[4], Ji-Hyeon Park[4], Yiyun Zhang[1,3], Xiaoyan Yi[1,3], Junxi Wang[1,3], and Jinmin Li[1,2]

[1]Chinese Academy of Sciences, China, [2]Henan Polytechnic University, China, [3]University of Chinese Academy of Sciences, China, [4]Korea Institute of Ceramic Engineering and Technology, Korea

[WB1-4] 10:25-10:40

pn Heterojunction Made of Ga_2O_3 and NiO Using RF-Sputtering

Heejoong Ryou[1], Sunjae Kim[1], Minje Kim[1], Dong-Bin Kim[2], Jongsu Baek[2], Byung Jin Cho[2], and Wan Sik Hwang[1]

[1]Korea Aerospace University, Korea, [2]Korea Advanced Institute of Science and Technology, Korea

[WC1] Special Session: Diamond Materials and Devices (1/3)	
Session Date	Oct. 16(Wed.), 2024
Session Time	09:00-10:40
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Okhyun Nam (Tech University of Korea, Korea) Dr. Tokuyuki Teraji (National Institute for Materials Science, Japan)

[WC1-1] *Keynote 09:00-09:35

Diamond RF Planar and Power Vertical p-FET Using 2D Hole Gas

H. Kawarada[1], K. Ota[1,2], K. Kudara[1], N. Oi[1,2], and T. Fujishima[2]

[1]Waseda Univeristy, Japan, [2]Power Diamond Systems, Inc., Japan

[WC1-2] *Invited 09:35-10:00

Two-Inch High Quality Diamond Heteroepitaxial Growth on Sapphire Substrate

Seong-Woo Kim

Orbray Co., Ltd., Japan

[WC1-3] *Invited 10:00-10:25

Diamond Growth on the Heteroepitaxial Diamond Substrate for Future Power and Quantum Device Applications

Taemyung Kwak[1], Geunho Yoo[1], Uiho Choi[1], Seong-Woo Kim[2], and Okhyun Nam[1]

[1]Tech University of Korea, Korea, [2]Orbray Co., Ltd., Japan

[WC1-4] 10:25-10:40

Coupling X-Ray Beam Induced Current and X-Ray Diffraction Imaging to Characterize Diamond Plates Used as Semiconductor-Based Detectors

F. Lafont[1], M.L. Gallin-Martel[2], D. Dauvergne[2], P. Everaere[1,2], R. Molle[2], J. Baruchel[1], and T.N. Tran Caliste[1]

[1]The European Synchrotron Radiation Facility, France, [2]Laboratoire de Physique Subatomique & Cosmologie, France

[WA2] Symposium GL: III-N Materials and Lighting Devices (6/7)

Session Date	Oct. 16(Wed.), 2024
Session Time	11:00-11:55
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Dr. Julien Brault (Cote Azur University - CNRS - CRHEA, France) Prof. Zhiqiang Liu (Chinese Academy of Sciences, China)

[WA2-1] *Invited 11:00-11:25

Efficiency Increase in 220-230 nm Far-UVC LEDs and 200 mW Class 230 nm Power LED Module Grown on c-Sapphire

Hideki Hirayama[1], M. Ajmal Khan[1], Mitsuhiro Muta[2], Yukio Kashima[1], Eriko Matsuura[1], and Yasushi Iwaisako[2]

[1]RIKEN, Japan, [2]Nippon Tungsten Co., Ltd., Japan

[WA2-2] 11:25-11:40

Development of Vertical AlGaN-Based UV-B Laser Diode Using Substrate Exfoliation Technology by Heated-Pressurized Water

Motoaki Iwaya[1], Yusuke Sasaki[1], Yoshinori Imoto[1], Ryoya Yamada[1], Takumu Saito[1], Rintaro Miyake[1], Shundai Maruyama[1], Shogo Karino[1], Sho Iwayama[1], Satoshi Kamiyama[1], Tetsuya Takeuchi[1], and Hideto Miyake[2]

[1]Meijo University, Japan, [2]Mie University, Japan

[WA2-3] 11:40-11:55

Study of Strain-Induced Quantum Wells Shallowing in 230 nm UVC LEDs and Their Influence on Hole Overflow

Ping-Jie Zhuang and Yuh-Renn Wu

National Taiwan University, Taiwan

[WB2] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (5/6)	
Session Date	Oct. 16(Wed.), 2024
Session Time	11:00-12:20
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Dr. Sin Su Kyoung (PowerCubeSemi Co., Ltd., Korea) Prof. Shizuo Fujita (Kyoto University, Japan)

[WB2-1] *Invited 11:00-11:25

Atom-Level Mechanisms of Exceptional Radiation Tolerance of Gallium Oxide

Ru He[1], Huan He[1,2], Junlei Zhao[3], Huan Liu[1], Ilja Makkonen[1], and Flyura Djurabekova[1]

[1]University of Helsinki, Finland, [2]Xi'an Jiaotong University, China, [3]Southern University of Science and Technology, China

[WB2-2] *Invited 11:25-11:50

Putting the Pieces Together for Gallium Oxide Power Devices

M. H. Wong, W. Zhou, Z. Wen, J. Yang, S. Huang, H. Zhou, and Z. Li

Hong Kong University of Science and Technology, Hong Kong S.A.R

[WB2-3] 11:50-12:05

High-Performance Self-Powered UV Photodetector based on p-$CuAlO_2$/β-Ga_2O_3 Heterojunction

Chowdam Venkata Prasad and You Seung Rim

Sejong University, Korea

[WB2-4] 12:05-12:20

Deep Traps and Electrical Properties of NiO-Ga_2O_3 Heterojunction Diodes Versus Ni Schottky Diodes and Effects of Proton Irradiation

Anastasiia I. Kochkova[1], Alexander Y. Polyakov[1], Eugene B. Yakimov[1,2], Danila S. Saranin[1], Alexey V. Chernykh[1], Anton A. Vasilev[1], Pavel A. Gostishchev[1], Luiza A. Alexanyan[1], Nikolai R. Matros[1], Ivan V. Shchemerov[1], Petr B. Lagov[1,3], and Stephen J. Pearton[4]

[1]The National University of Science and Technology MISiS, Russia, [2]Institute of Microelectronics Technology and High Purity Materials, Russia, [3]Laboratory of Radiation Technology, Russia, [4]University of Florida, USA

[WC2] Special Session: Diamond Materials and Devices (2/3)

Session Date	Oct. 16(Wed.), 2024
Session Time	11:00-12:20
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Hiroshi Kawarada (Waseda University, Japan) Dr. Seong-Woo Kim (Orbray Co., Ltd., Japan)

[WC2-1] *Invited 11:00-11:25

Recent Progress in Diamond Semiconductors

Hong-Xing Wang

Xi'an Jiaotong University, China

[WC2-2] *Invited 11:25-11:50

Recent Advances in Diamond MOSFET Technologies

Norio Tokuda[1], Tsubasa Matsumoto[1], Xufang Zhang[1], Kai Sato[1], Kazuki Kobayashi[1], Kimiyoshi Ichikawa[1], Kan Hayashi[1], Takao Inokuma[1], Satoshi Yamasaki[1], Christoph E. Nebel[1,2], Hiromitsu Kato[3], Masahiko Ogura[3], Toshiharu Makino[3], and Daisuke Takeuchi[3]

[1]Kanazawa University, Japan, [2]Diamond and Carbon Applications, Germany, [3]National Institute of Advanced Industrial Science and Technology, Japan

[WC2-3] 11:50-12:05

Experimental Measurement of Carrier Velocity in Surface-Transfer-Doped Diamond PFETs

Wesley Turner and Patrick Fay

University of Notre Dame, USA

[WC2-4] 12:05-12:20

Hydrogen-Terminated Diamond MOSFET Fabricated on Heteroepitaxial Grown Diamond

Taemyung Kwak, Yeonghwa Kwon, Seolyoung Oh, Yoonseok Nam, Geunho Yoo, and Okhyun Nam

Tech University of Korea, Korea

[WA3] Symposium GL: III-N Materials and Lighting Devices (7/7)	
Session Date	Oct. 16(Wed.), 2024
Session Time	13:40-17:00
Session Room	Room A (Monterosso, B1F)
Session Chair(s)	Prof. Young Joon Hong (Sungkyunkwan University, Korea) Dr. Jung-Hong Min (KOPTI, Korea) Dr. Jong Hyeob Baek (KOPTI, Korea)

[WA3-1] *Keynote 13:40-14:15

ZOGAN LED: Breakthrough for MicroLED Displays

Y. R. Ryu[1,2], Sung K. Hong[1], Moon W. Bang[1], Sung-Ran Jeon[2], Ja Yeon Kim[2], Jong-Hyeop Baek[2], Dong-Min Jeon[3], Dong-Soo Shin[3], and Jong-In Shim[3]

[1]ZOGAN SEMI, Korea, [2]Korea Photonics Technology Institute, Korea, [3]Hanyang University, Korea

[WA3-2] *Invited 14:15-14:40

Investigation of AlGaN Heterostructures Grown on h-BN by Molecular Beam Epitaxy for the Fabrication of Deep UV LEDs

J. Brault[1], S. Mitra[1], S. Shetty[1], S. Chenot[1], M. Nemoz[1], A. Zaiter[1], M. Al Khalfioui[1], P. Vuong[2], V. Ottapilakkal[2], S. Sundaram[2], A. Ibanez[3], P. Valvin[3], G. Cassabois[3], B. Gil[3], and A. Ougazzaden[2,4]

[1]CNRS-CRHEA-Cote Azur University, France, [2]Georgia Tech Europe, France, [3]University of Montpellier, France, [4]Georgia Institute of Technology, USA

[WA3-3] 14:40-14:55

Low Temperature Growth of GaN Films with Ion Beam Assisted Magnetron Sputtering

Yongjun Park, Changmin Yun, Seung Yup Baek, Gyulim Kim, Yosep Choi, and In-Hwan Lee

Korea University, Korea

[WA3-4] *Invited 15:00-15:25

Deep-UV LEDs Fabricated on Face-to-Face Annealed Sputter-Deposited AlN Templates

Hideto Miyake, Ryota Akaike, Hiroki Yasunaga, and Takao Nakamura

Mie University, Japan

[WA3-5] *Invited 15:25-15:50

Improvement of Emission Efficiency and Optical Functionality for Visible Light Region by Designing InGaN-Based Periodic Nanostructures

Takao Oto[1], Koichi Okamoto[2], Rie Togashi[3], Akihiko Kikuchi[3], and Katsumi Kishino[3]
[1]Yamagata University, Japan, [2]Osaka Metropolitan University, Japan, [3]Sophia University, Japan

[WA3-6] 15:50-16:05

Reduction of Forward Voltage in 230 nm AlGaN far-UVC LED Using Polarization Assisted AlGaN Hole Injection Layer

Fujimoto Kohei[1,2], Mitsuhiro Muta[3], M. Ajmal Khan[1], Sachie Fujikawa[1,2], Hiroyuki Yaguchi[2], Yasushi Iwaisako[3], and Hideki Hirayama[1]
[1]RIKEN, Japan, [2]Saitama University, Japan, [3]Nippon Tungsten Co., Ltd., Japan

[WA3-7] *Invited 16:10-16:35

Development of UVC LEDs Ranging from 230nm to 275nm

Myeong Seok Oh, Hae Jin Park, Tae Wan Kwon, and Seung Kyu Oh
PhotonWave Co., Ltd., Korea

[WA3-8] 16:35-17:00

Highly Conductive Al-rich n-AlGaN for Deep-Ultraviolet Light Emitters

Jiaming Wang, Fujun Xu, Lisheng Zhang, Jing Lang, Chen Ji, Chengzhi Ji, Xiangning Kang, Zhixin Qin, Weikun Ge, and Bo Shen
Peking University, China

[WB3] Symposium GaO: Ga_2O_3 Materials and Electronic Devices (6/6)	
Session Date	Oct. 16(Wed.), 2024
Session Time	13:40-15:05
Session Room	Room B (Vernazza, 3F)
Session Chair(s)	Prof. Wan Sik Hwang (Korea Aerospace University, Korea)

[WB3-1] *Invited 13:40-14:05

Temperature-Controlled Growth of β-Ga_2O_3 Single Crystals by Edge-Defined Film-Fed Growth Method

Si-Young Bae[1], Woon-Hyeon Jeong[2], A-Ran Shin[2,3], Tae-Hun Gu[2,3], Yun-Ji Shin[2], and Seong-Min Jeong[3]

[1]Pukyong National University, Korea, [2]Korea Institute of Ceramic Engineering and Technology, Korea, [3]Pusan National University, Korea

[WB3-2] 14:05-14:20

Observation of Temperature-Dependent Capture Cross-Section for Main Deep-Levels in β-Ga_2O_3

Anton A. Vasilev[1], Anastasiia I. Kochkova[1], Alexander Y. Polyakov[1], Andrei A. Romanov[1], Nikolai R. Matros[1], Luiza A. Alexanyan[1], Ivan V. Shchemerov[1], and Stephen J. Pearton[2]

[1]National University of Science and Technology MISIS, Russia, [2]University of Florida, USA

[WB3-3] 14:20-14:35

Temperature-Dependent Electrical and Trap Properties of β-Ga_2O_3 Schottky Barrier Diodes w/o Homoepitaxial Layer

Jiaxiang Chen[1,2], Haolan Qu[2], Haitao Du[2], Xing Lu[3], Yuxi Wan[1], Daohua Zhang[1], and Xinbo Zou[2]

[1]Shenzhen Pinghu Laboratory, China, [2]ShanghaiTech University, China, [3]Sun Yat-sen University, China

[WB3-4] 14:35-14:50

Normally-off β-Ga_2O_3 DUV Phototransistor Grown by MOCVD

Sunjae Kim[1,2], Dae-Woo Jeon[1], Wan Sik Hwang[2], and Ji-Hyeon Park[1]

[1]Korea Institute of Ceramic Engineering and Technology, Korea, [2]Korea Aerospace University, Korea

[WB3-5] 14:50-15:05

Investigation The Characteristics of α-Ga_2O_3 Photodetector upon Soft X-Ray Irradiation

Huong T. T. Vo[1], Sunjae Kim[1,2], Minje Kim[1], Hyeon Gu Cho[3], Se Hoon Gihm[3], Ji-Hyeon Park[2], Dae-Woo Jeon[2], and Wan Sik Hwang[1]

[1]Korea Aerospace University, Korea, [2]Korea Institute of Ceramic Engineering and Technology, Korea, [3]AweXome Ray Inc., Korea

[WC3] Special Session: Diamond Materials and Devices (3/3)

Session Date	Oct. 16(Wed.), 2024
Session Time	13:40-15:00
Session Room	Room C (Forum 1, 3F)
Session Chair(s)	Prof. Hong-Xing Wang (Xi'an Jiaotong University, China) Prof. Geunho Yoo (Tech University of Korea, Korea)

[WC3-1] *Invited 13:40-14:05

Diamond Growth by Chemical Vapor Deposition for Quantum Device Applications

Tokuyuki Teraji

National Institute for Materials Science, Japan

[WC3-2] *Invited 14:05-14:30

Status of CVD Diamond Growth and Engineering for High-End Applications

Jocelyn Achard[1], Alexandre Tallaire[1,2], Ovidiu Brinza[1], Riadh Issaoui[1], Lahcene Mehmel[1], Vianney Mille[1], and Fabien Bénédic[1]

[1]University Sorbonne Paris Nord, France, [2]PSL Research University, France

[WC3-3] 14:30-14:45

Thermal Conductivity Modeling of Sub-1 μm Polycrystalline Diamond Thin Films

Jongwon Baek[1], Junyoung Bae[1], Takuma Hori[2], and Jungwan Cho[1]

[1]Sungkyunkwan University, Korea, [2]Tokyo University of Agriculture and Technology, Japan

[WC3-4] 14:45-15:00

Imaging the Stress Tensor near Dislocation in Diamond Using Solid State Quantum Sensor

Takeyuki Tsuji and Tokuyuki Teraji

National Institute for Materials Science, Japan