Session Title:	[MA1] Advanced Atomic Scale Thin Films I
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:40
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Hyeongtag Jeon (Hanyang Univ., Korea)

[MA1-1] [Invited] 13:00-13:30

Development of Material Systems and Processes for Highly-Reliable ULSI-Cu Interconnect

Yukihiro Shimogaki (The Univ. of Tokyo, Japan)

[MA1-2] [Invited] 13:30-14:00

The Advancements of Atomic Scale Interface Engineering for High Quality Dielectric Thin Films

Chunhyung Chung, Yongsuk Tak, Wonseok Yoo, Deayoung Moon, Kyoungwook Park (Samsung Electronics Co., Ltd., Korea)

[MA1-3] [Invited] 14:00-14:20

Spontaneous Surface Reactions in Atomic Layer Deposition of Platinum Using Atomic Hydrogen as a Reactant

Huong Thi Thuy Ta, Ngoc Linh Nguyen, and Hao Van Bui (Phenikaa Univ., Vietnam)

[MA1-4] [Invited] 14:20-14:40

Pt Thin Films by Atomic Layer Deposition Using Dimethyl(N,N-Dimethyl-3-Buten-1-Amine-N) Platinum and O_2 Reactant towards the Semiconductor Application

Woo-Jae Lee (Pukyong Nat'l Univ., Korea)

Session Title:	[MB1] Power Device I
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:45
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Ogyun Seok (Kumoh Nat'l Inst. of Tech., Korea)

[MB1-1] [Invited] 13:00-13:20

Low Turn-On Voltage Silicon Carbide Diode

Kevin Kyuheon Cho, Changjoon Park, Yeonjeong Kim, and Kyeongseok Park (onsemi, Korea)

[MB1-2] [Invited] 13:20-13:40

4H-SiC Epitaxial Growth Technology for Large Area Substrate

Han Seok Seo, Im Gyu Yeo, Tai Hee Eun, and Myong Chuel Chun (RIST, Korea)

[MB1-3] 13:40-14:00

Design of A 1.2 kV SiC MOSFET with Buried Oxide for Improved Gate Charge Characteristics

Hyowon Yoon, Chaeyun Kim, Yeongeun Park, Sangyeob Kim, Jinhun Kim, Sumin Park, Dusan Baek, and Ogyun Seok (Kumoh Nat'l Inst. of Tech., Korea)

[MB1-4] [Plenary] 14:00-14:45

On the Origin of Gate Oscillation of Power Devices

Hyemin Kang (KENTECH, Korea)

Session Title:	[MC1] Advanced Ceria-Abrasive Based CMP
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:40
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Tae Dong Kim (Hannam Univ., Korea)

[MC1-1] [Invited] 13:00-13:20

Polishing Mechanism on Ceria/SiO_2 Interface

Satoyuki Nomura (Resonac Corp., Japan)

[MC1-2] 13:20-13:40

Remarkable SiO_2-Film Polishing-Rate Enhancement Using Wet-Ceria-Abrasives Based Chemical-Mechanical-Planarization Slurry and Radical Oxidation

Pil-Su Kim, Min-Uk Jeon, Hyeong-Ju Jin, Ho-Jun Ahn, Ju-Yeon Kim (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[MC1-3] 13:40-14:00

Ce^{3+} Enriched Ceria Nanoparticles for Silicate Adsorption

Sungmin Kim, Ganggyu Lee, Donghwan Kim, Myungju Woo, Yeram Lee, Hongjun Park, Bobae Lee, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[MC1-4] 14:00-14:20

Nano Cerium Oxide Slurry for Scratch Free with High Selectivity in Various Film

Jeong Ho Lee and Seok Joo Kim (Soulbrain, Korea)

[MC1-5] 14:20-14:40

Super-Fine CeO_2 Abrasives Having 4-nm in Diameter Synthesized via Oxidation Reaction between Trivalent Cerium and H_2O_2

Min-Uk Jeon, Pil-Su Kim, Hyeong-Ju Jin, Ho-Jun Ahn, Ju-Yeon Kim (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

Session Title:	[MD1] Novel Etch Technology
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:30
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Prof. Gottlieb S. Oehrlein (Univ. of Maryland, USA)

[MD1-1] 13:00-13:20

Low-Energy Electron Beam Assisted Etching in Inductively Coupled Plasma

Jiwon Jung, Min-Seok Kim, Junyoung Park, and Chin Wook Chung (Hanyang Univ., Korea)

[MD1-2] 13:20-13:40

Reactive Proton Assisted Etching for Cu and Ni Alloy Dry Etching

MunPyo Hong, Minyoung Kim, Donghoon Kim (Korea Univ., Korea), Sangheon Lee, JongHwa Lee, JinNyoung Jang, Chiwoo Kim (APS Research Corp., Korea), and Sang-Gab Kim (Samsung Display Co., Ltd., Korea)

[MD1-3] 13:40-14:00

Characteristics of Segmented-Dielectric Window Inductively Coupled Plasma

Sang-Woo Kim (Pusan Nat'l Univ., Korea), Ju-Hong Cha (Gyeongsang Nat'l Univ., Korea), and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[MD1-4] [Invited] 14:00-14:30

Cryogenic Etching Processes Applied to the Next Generation of Nanoelectronic Technologies

R. Dussart, T. Tillocher, G. Antoun, J. Nos, R. Ettouri, and P. Lefaucheux (GREMI Univ. of Orleans CNRS, France)

Session Title:	[ME1] EUV Lithography I
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:30
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Prof. Sangsul Lee (POSTECH, Korea)

[ME1-1] [Invited] 13:00-13:30

EUV R&D Activity at NewSUBARU

Takeo Watanabe, Tetsuo Harada, and Shinji Yamakawa (Univ. of Hyogo, Japan)

[ME1-2] [Invited] 13:30-14:00

Synchrotron Based Actinic EUV Metrology and Inspection Technologies

Sangsul Lee, Jiho Kim, Geonhwa Kim, Nam Hyeon Kim, Gwiyoung Shin, Dong Gun Lee, Byung Gook Kim, Jang-Hui Han, Sojeong Lee, Juho Hong, Jun Ho Ko, Ji Yeon Kim, Minwoo Kim, Beom Jun Kim, Sangbong Lee, Se-Jin Kwon, and Docheon Ahn (POSTECH, Korea)

[ME1-3] [Invited] 14:00-14:30

Development of High-Efficiency EUV Zoneplate for Advanced EUV Lithography Equipment

Jebum Yoon, Taegon Park, Yoonseo Lee, Jihye Kim, and Donggun Lee (ESOL Inc, Korea)

Session Title:	[MF1] Frontier Metrology and Modeling I
Session Date:	November 20 (Mon.), 2023
Session Time:	13:00-14:45
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Tae-Hun Shim (Hanyang Univ., Korea)

[MF1-1] [Plenary] 13:00-13:45

Patterning and Metrology Challenges in EUV Lithography

Victor M. Blanco Carballo (imec, Belgium)

[MF1-2] 13:45-14:15

Advancing Semiconductor Research with AFM: High-Resolution Imaging, Precise Measurements, and Failure Analysis

Seong Oh Kim, Yun Kyung Lee, Seung Yun Seong, and Dong Chun Lee (Park Systems, Korea)

[MF1-3] [Invited] 14:15-14:45

Adaptive Optics for Optical Metrology & Inspection

Jun Ho Lee, Ji Won Park, Jun Sung Lee, Ji Yong Joo (Kongju Nat'l Univ., Korea), and Oh-Hyung Kwon (NEXTIN, Korea)

Session Title:	[MA2] Advanced Atomic Scale Thin Films II
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:40
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woo Hee Kim (Hanyang Univ., Korea)

[MA2-1] [Plenary] 14:55-15:40

Elevating Atomic Layer Deposition to the Angstrom Era

W.M.M. (Erwin) Kessels (Eindhoven Univ. of Tech., The Netherlands)

[MA2-2] [Invited] 15:40-16:00

Hybrid Multilayer EUV Photoresist for 1.5 Technology Node

Myung Mo Sung (Hanyang Univ., Korea)

[MA2-3] [Invited] 16:00-16:20

Atomic Layer Deposition for Nanoscale Oxide Semiconductor Field Effect Transistors: Four Values and Outlook

Dong-Gyu Kim, Yoon Seo Kim, Hye Mi Kim, and Jin-Seong Park (Hanyang Univ., Korea)

[MA2-4] 16:20-16:40

High Throughput SiO_2 Thin Films Using Novel Si Precursors

Jinsik Kim, Byung Kwan Kim, Da Som Yu, Seunggyun Hong, In Jae Lee, Hyun Kyu Ryu, and Wonyong Koh (UP Chemical, Korea)

Session Title:	[MB2] Power Device II
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:35
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Hojun Lee (Pusan Nat'l Univ., Korea)

[MB2-1] [Invited] 14:55-15:15

GaN Power Devices for High Temperature and High Voltage Applications

Hyung-Seok Lee, Donghan Kim, Sooyoung Moon, Dong-Young Kim, Zin-Sig Kim, Eun-Soo Nam, and Sung-Bum Bae (ETRI, Korea)

[MB2-2] 15:15-15:35

A Study on 4H-SiC Single Crystal Growth Using Recycled Powders

Im Gyu Yeo, Jae Yoon Lee, Han Seok Seo, Myoung Chul Chun, and Tai Hee Eun (RIST, Korea)

[MB2-3] 15:35-15:55

3D-Printed Micro-Intersection of Thin/Thick Films for Ultrafast Charge Transport

Myeong-Hun Jo and Hyo-Jin Ahn (Seoul Nat'l Univ. Science and Tech., Korea)

[MB2-4] 15:55-16:15

Design Optimization of 1.2 kV SiC Trench MOSFETs

Yeongeun Park, Hyowon Yoon, Chaeyun Kim, Sangyeob Kim, Gyuhyeok Kang, Gukhwa Jeon, Jinhun Kim, Sumin Park, Kanghee Shin, Dusan Baek (Kumoh Nat'l Inst. of Tech., Korea), Jaejin Song, Jeongyun Lee, Soontak Kwon (KEC, Korea), and Ogyun Seok (Kumoh Nat'l Inst. of Tech., Korea)

[MB2-5] 16:15-16:35

Enhancement of Low Specific On-Resistance and Reduced Switching Loss in 4H-SiC Single-Channel MOSFET with Extend P-Layer

Jee-hun Jeong, Min-Seok Jang, Dahui Yoo, Jung-Bok Lee, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

Session Title:	[MC2] CMP Challenges for the Next Generation Devices
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:35
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Jihoon Seo (Clarkson Univ., USA)

[MC2-1] [Invited] 14:55-15:25

CMP Challenges and Opportunities for the Next Generation Devices

Hoyoung Kim (Samsung Electronics Co., Ltd., Korea)

[MC2-2] 15:25-15:45

Effect of Organic Amine on Ceria Contamination for Nitride Surface During STI CMP

Muskan Dogra, Young-Jung Kim, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

[MC2-3] 15:45-16:05

Effect of Pad Topography with Engineered Surfaces on Removal Rate in CMP

Youngwook Park, Hokyoung Jung, Taekyoung Lee, Hyoungjae Kim (KITECH, Korea), and Haedo Jeong (Pusan Nat'l Univ., Korea)

[MC2-4] [Invited] 16:05-16:35

Surface Modified Nanoparticle Abrasives for Efficient CMP Process

Tae-Dong Kim (Hannam Univ., Korea)

Session Title:	[MD2] Plasma-Surface Interaction
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:40
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair	Prof. Remi Dussart (GREMI Univ. of Orleans CNRS, France)

[MD2-1] 14:55-15:15

Improvement of Mass Transfer Characteristics in Si_3N_4 Etching in H_3PO_4 Solution for 3D NAND Manufacturing

Taegun Park, Jongwon Han, and Sangwoo Lim (Yonsei Univ., Korea)

[MD2-2] 15:15-15:35

Plasma Process Switching from Deposition to Etching in Ar/C4F8 Plasma by N2 Addition

Woojin Park, Jonggu Han, and Se Youn Moon (Jeonbuk Nat'l Univ., Korea)

[MD2-3] 15:35-15:55

Cryogenic Aspect Ratio Etching of SiO_2 at $CF_4/H_2/Ar$ Plasma

Hee Tae Kwon, In Young Bang, Jae Hyeon Kim, Hyeon Jo Kim, Seong Yong Lim, Seo Yeon Kim, Seong Hee Jo, Ji Hwan Kim, Woo Jae Kim, Gi Won Shin, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[MD2-4] [Plenary] 15:55-16:40

Low Temperature Plasma-Materials Interactions for Plasma Etching

Gottlieb S. Oehrlein (Univ. of Maryland, USA)

Session Title:	[ME2] EUV Lithography II
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:15
Session Room:	Room E (Sidney Room, 2F)
Session Chair	Dr. Changhyun Cho (ex. SK hynix, Samsung Electronics Co., Ltd., Korea)

[ME2-1] [Invited] 14:55-15:25

High NA EUV: Eco Systems & Requirements

Changmin Park, Heeyoung Koh, Taehoi Park, Ilhwan Kim, Kyoungwan Yoo, and Jinsung Lee (Samsung Elecgtronics Co., Ltd., Korea)

[ME2-2] [Invited] 15:25-15:55

EUV Application for Memory Devices

Changhyun Cho (ex. SK hynix, Samsung Electronics Co., Ltd., Korea)

[ME2-3] 15:55-16:15

Cleaning of Contaminated EUV Optics Using 172 nm Radiation

Jaeyeong Kim, Sanghun Ok, Haekweon Jung, Artem Rykov, and Donggun Lee (ESOL Inc, Korea)

Session Title:	[MF2] Frontier Metrology and Modeling II
Session Date:	November 20 (Mon.), 2023
Session Time:	14:55-16:25
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Jun Ho Lee (Kongju Nat'l Univ., Korea)

[MF2-1] [Invited] 14:55-15:25

3D Gray Level Index for Pattern Depth Monitoring Using SEM Image

Hyeon Bo Shim, Jaehyung Ahn, Inseok Park, Souk Kim, and Younghoon Sohn (Samsung Electronics Co., Ltd., Korea)

[MF2-2] [Invited] 15:25-15:55

MI's Direction for Next Journey

Byoungho Lee (Hitachi High-tech Corp., Japan)

[MF2-3] [Invited] 15:55-16:25

Local Probe Microscopy: A Potential Tool for Material Characterization at Nanoscale

Mohit Kumar (Ajou Univ., Korea)

Session Title:	[TA1] Advanced Atomic Scale Thin Films Ⅲ
Session Date:	November 21 (Tue.), 2023
Session Time:	08:30-10:10
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Woo Hee Kim (Hanyang Univ., Korea)

[TA1-1] [Invited] 08:30-08:50

Effect of Surface Pre-Treatment on the Initial Growth Stages of ALD-Ir Thin Films

Myung Jin Jung and Se Hun Kwon (Pusan Nat'l Univ., Korea)

[TA1-2] [Invited] 08:50-09:10

Spatial Atomic Layer Deposition of Functional Thin Films

Viet Huong Nguyen (Phenikaa Univ., Vietnam)

[TA1-3] 09:10-09:30

Development of Low-K Smart PECVD Equipment and Process for System LSI Devices-II

SM Lee, JY Yang, SW Lee, SH Yeo (TES Co., Ltd., Korea), TJ Choi (Sejong Univ., Korea), JK Lee (Pusan Nat'l Univ., Korea), JO Kim (KRISS, Korea), and HJ Jang (TES Co., Ltd., Korea)

Session Title:	[TB1] Heterogeneous Integration Device and Packaging
Session Date:	November 21 (Tue.), 2023
Session Time:	08:30-10:10
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Gu-Sung Kim (Kangnam Univ., Korea)

[TB1-1] [Invited] 08:30-08:50

Supply Chain Trends, Challenges, and Disruptions in Semiconductor Packaging

Kitty Pearsall (IEEE EPS, USA)

[TB1-2] [Invited] 08:50-09:10

Solving High-Performance Packaging Challenges

E. Jan Vardaman (TechSearch International, Inc., USA)

[TB1-3] [Invited] 09:10-09:40

Advanced Packaging Technology for Heterogeneous Integration

Seok-Hyun Lee (Samsung Electronics Co., Ltd., Korea)

[TB1-4] [Invited] 09:40-10:10

Challenge Again for Latest Logic Semiconductor and Packaging Device

Takao Enomoto (Rapidus Corp. Inc., Japan)

Session Title:	[TC1] Challenges and Opportunities in CMP
Session Date:	November 21 (Tue.), 2023
Session Time:	08:40-10:10
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Tae Dong Kim (Hannam Univ., Korea)

[TC1-1] 08:40-09:00

Effect of Colloidal Silica and Molybdenum Ions on PVA Brush Loading during Mo Post-CMP Cleaning

Sumit Kumar, Palwasha Jalalzai, Nayoung Kang, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

[TC1-2] 09:00-09:20

A Better Way of Removing Topography to Improve Surface Roughness of the Tungsten Film

Jongwon Lee, Hyungoo Kong, and Eui-hoon Jung (KCTech, Korea)

[TC1-3] [Invited] 09:20-09:40

Amorphous-Carbon-Layer CMP Mechanism: Dependencies of Polishing-Rate on Film Hardness, Abrasive Material and Abrasive Diameter

Jin-Hyung Park (ENF Tech. Inc., Korea), Seong-In Kim (Hanyang Univ., Korea), Min-Kyu Kim, Sang-Ho Lee (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[TC1-4] [Invited] 09:40-10:10

Challenges and Opportunities in CMP for More Than Moore Innovation

Haedo Jeong (Pusan Nat'l Univ., Korea)

Session Title:	[TD1] Plasma Characterization
Session Date:	November 21 (Tue.), 2023
Session Time:	08:50-09:50
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Prof. Hae June Lee (Pusan Nat'l Univ., Korea)

[TD1-1] 08:50-09:10

Floating Harmonic Probe Measurement Using Indium Tin Oxide (ITO) Glass for Noninvasive Plasma Diagnostics

Beomjun Seo, Sehun Ahn, and Chinwook chung (Hanyang Univ., Korea)

[TD1-2] 09:10-09:30

Employing Data-Driven Methods for the Evaluation of Plasma Resistance in Ceramics under High-Temperature Conditions

Sung Kyu Jang, Ga In Choi, JunHyeok Jeon, Hyun-Mi Kim, Sun Gil Kim, Seul-Gi Kim, Hyeongkeun Kim, and Woosung Lee (KETI, Korea)

[TD1-3] 09:30-09:50

Development of PI-VM for Monitoring Wafer Etch Uniformity in a VHF-Driven Capacitively Coupled Plasma Equipment

Hyunju Lee, Jae-min Song, Taejun Park, and Gon-Ho Kim (Seoul Nat'l Univ., Korea)

Session Title:	[TE1] DTCO and Computational Lithography
Session Date:	November 21 (Tue.), 2023
Session Time:	08:30-10:20
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Dr. Ryoung-han Kim (imec, Belgium)

[TE1-1] [Invited] 08:30-09:00

EUV OPC in High High-NA Extreme Ultraviolet Lithography

Young-Chang Kim and Germain Fenger (Siemens EDA, USA)

[TE1-2] [Invited] 09:00-09:30

Memory OPC Technology Development History and Future Strategy

Sungwoo Ko, Daejin Park, Duksun Han, Jeonkyu Lee, and Kyungeun Lee (SK hynix, Korea)

[TE1-3] [Invited] 09:30-10:00

Evolution of Photolithography and Patterning Paradigms: Navigating into the DTCO and STCO Scaling Era

Ryoung-han Kim (imec, Belgium)

[TE1-4] [Invited] 10:00-10:20

Lithography Modeling with Machine Learning Techniques

Yonghwi Kwon (Synopsys, Inc., USA)

Session Title:	[TF1] Frontier Metrology and Modeling III
Session Date:	November 21 (Tue.), 2023
Session Time:	08:30-09:50
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Mohit Kumar (Ajou Univ., Korea)

[TF1-1] [Invited] 08:30-09:00

Important Role of Nano-Scale Metrology for Next Generation Device Manufacturing

Jae-hyun Kim (SK hynix, Korea)

[TF1-2] [Invited] 09:00-09:30

Spectroscopically Resolved Electronic Band Structures of Ultrathin Oxide Layers and Interfaces for Advanced ICs and IGZO-Based TFTs

Hyungtak Seo, Kumar Mohit, and Hyunmin Dang (Ajou Univ., Korea)

[TF1-3] [Invited] 09:30-09:50

Comparative Electrical Characterization of High-K Dielectrics on Ge: Single and Stacked Structures Grown by H_2O and O_3-Based ALD

Woohui Lee, Hyungshul Shin, Joohee Oh, Jinsung Park, and Hyoungsub Kim (Sungkyunkwan Univ., Korea)

Session Title:	[TA2] Advanced Atomic Scale Thin Films Ⅳ
Session Date:	November 21 (Tue.), 2023
Session Time:	10:20-12:00
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Jin-Seong Park (Hanyang Univ., Korea)

[TA2-1] [Invited] 10:20-10:50

Challenges and Requirements of ThinFilm Technology in the Era of Moore's Law Extension and Beyond

Jinhee Park (SK hynix, Korea)

[TA2-2] [Invited] 10:50-11:20

Area-Selective Deposition on Features with Nanoscale Dimensions for Semiconductor Device Manufacturing

Annelies Delabie, Jan-Willem Clerix, Kaat van Dongen, Jyoti Sinha, Laura Nyns , Rachel Nye (imec, Belgium), Gregory N. Parsons (North Carolina State Univ., USA), Jean-François de Marneffe, and Johan Swerts (imec, Belgium)

[TA2-3] [Invited] 11:20-11:40

Combined Atomic Layer Deposition and Etching Process towards Advanced Atomic Level Patterning

Woo-Hee Kim (Hanyang Univ., Korea)

[TA2-4] [Invited] 11:40-12:00

The Improvement of Interfacial Properties of MIM Capacitors

Woongkyu Lee (Soongsil Univ., Korea)

Session Title:	[TB2] Integration and Interposer
Session Date:	November 21 (Tue.), 2023
Session Time:	10:20-12:10
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Changhwan Choi (Hanyang Univ., Korea)

[TB2-1] [Invited] 10:20-10:50

Technology Trend of the Interposer for 2.5D SiP

Minsuk Suh (SK hynix, Korea)

[TB2-2] [Invited] 10:50-11:10

2.5D Interposer Technologies for Heterogeneous Integration

Gu-Sung Kim (Kangnam Univ., Korea)

[TB2-3] [Invited] 11:10-11:30

High-Performance $TiO_2/ZrO_2/TiO_2$ Thin Film Capacitor by Plasma-Assisted Atomic Layer Annealing

Seunghyeon Lee, Geongu Han, Keun Hoi Kim (Seoul Nat'l Univ. of Science and Tech., Korea), Dohyun Go (Univ. of California San Diego, USA), and Jihwan An (POSTECH, Korea)

[TB2-4] [Invited] 11:30-11:50

Metal-Oxide Based Thermal Interface Materials for Improvement of Heat Transfer Characteristics

Sangmin Kim, Uijin Jung, Wonjun Heo, Sungmin Jung, and Jinsub Park (Hanyang Univ., Korea)

[TB2-5] 11:50-12:10

FEOL Process-Based Redistribution Layer (RDL) Formation

Sun Bum Kim, Chan Seul Lee, Gyu Lee Kim, Sangyeun Park, Doheon Koo, Yeongu Choi, Joo Young Pyun, Chang Hoon Lee, Hongyun So, Kwan Kyu Park, and Changhwan Choi (Hanyang Univ., Korea)

Session Title:	[TC2] Advanced Cu and Mo CMP
Session Date:	November 21 (Tue.), 2023
Session Time:	10:20-11:50
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Haedo Jeong (Pusan Nat'l Univ., Korea)

[TC2-1] [Invited] 10:20-10:50

Achieving Erosion-Less Depending on Pattern Density via Radical Oxidation in Copper-Film Chemical–Mechanical Planarization

Seong-In Kim, Jin-Woong Cho, Seon-Hwa Kang (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[TC2-2] 10:50-11:10

Electrochemical Galvanic Corrosion Behavior of the Cu/Ru Bimetallic System in the Chemical Mechanical Planarization

Ganggyu Lee, Sungmin Kim, Donghwan Kim, Myungju Woo, Yeram Lee, Hongjun Park, Bobae Lee, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[TC2-3] 11:10-11:30

CMP Strategy for Dishing Control of TGV Interposers

Seunghun Jeong, Yeongil Shin, Jongmin Jeong, Seonho Jeong, and Haedo Jeong (Pusan Nat'l Univ., Korea)

[TC2-4] 11:30-11:50

Investigation and Characterization of Mo Surface during Mo Post-CMP Cleaning Process

Nayoung Kang, Palwasha Jalalzai, Sumit Kumar, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

Session Title:	[TD2] Plasma/Etch Simulation
Session Date:	November 21 (Tue.), 2023
Session Time:	10:20-11:30
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Prof. Chinwook Chung (Hanyang Univ., Korea)

[TD2-1] 10:20-10:40

Dependence of Gas Mixing Ratio and Pressure on Optimal Condition for Abundant O(^{1}D) Surface Flux in O_2/Ar Inductively Coupled Plasmas

Cheongbin Cheon (Pusan Nat'l Univ., Korea), Sanghyun Jo, Ho Jun Kim (Hanyang Univ., Korea), and Hae June Lee (Pusan Nat'l Univ., Korea)

[TD2-2] 10:40-11:00

Predictable Process Simulation Platform for Next-Generation Plasma Oxide Etching Processes

Jae-Hyeong Park, Hae-Sung You, Jeon-Su Chae, Hyeong-Jun Mun (Jeonbuk Nat'l Univ., Korea), Kook-Hyun Yoon, Sung-Sik Shin, Dong-Hun Yu (Kyung Won Tech. Inc., Korea), Won-Seok Chang, Deuk-Chul Kwon, JungSik Yoon (KFE, Korea), and Yeon-Ho Im (Jeonbuk Nat'l Univ., Korea)

[TD2-3] [Invited] 11:00-11:30

Etching Mechanism of Amorphous Hydrogenated Silicon Nitride by Hydrogen Fluoride

Khabib Khumaini, Yewon Kim, Romel Hidayat, Hye-Lee Kim (Sejong Univ., Korea), Byungchul Cho, Sangjoon Park (Wonik IPS, Korea), and Won-Jun Lee (Sejong Univ., Korea)

Session Title:	[TE2] EUV Resist & Advanced Lithography for Optical Materials
Session Date:	November 21 (Tue.), 2023
Session Time:	10:30-12:10
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Prof. Myung-Gil Kim (Sungkyunkwan Univ., Korea)

[TE2-1] 10:30-10:50

Mask Shift Double Exposure in ArF Immersion Lithography

Jungchul Song, Gyu-Won Han (Nat'l NanoFab Center, Korea), Jeonghwan Kim (SK Materials Performance, Korea), and Ga-Won Lee (Chungnam Nat'l Univ., Korea)

[TE2-2] [Invited] 10:50-11:20

Recent Advances in Inorganic EUV Photoresist

Yeo Kyung Kang, Sun Jin Lee (Sungkyunkwan Univ., Korea), Chan-Cuk Hwang (Pohang Accelerator Lab., Korea), and Myung-Gil Kim (Sungkyunkwan Univ., Korea)

[TE2-3] 11:20-11:40

Electron Beam Cross-Linking Mechanism of Cyclotetrasiloxane-Based Inorganic Molecular Resists for EUV Lithography

Jiyoung Bang, Hyeok Yun, Wonchul Kee (Chonnam Nat'l Univ., Korea), Sunyoung Lee (Sungkyunkwan Univ., Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[TE2-4] [Invited] 11:40-12:10

Low-Cost and Scalable Manufacturing of Optical Metasurfaces in the Visible Using Engineered Optical Materials (PER, Low-Loss a-Si:H, and Hybrid ALD Structural Resin)

Junsuk Rho (POSTECH, Korea)

Session Title:	[TF2] Frontier Metrology and Modeling IV
Session Date:	November 21 (Tue.), 2023
Session Time:	10:20-11:50
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Dr. Byoung-Ho Lee (Hitachi Hightech, Korea)

[TF2-1] [Invited] 10:20-10:50

Methodology for Efficient Inspection of Wafer Defects in Very Low Volume Manufacturing (VLVM)

Tae Yong Lee (imec, Belgium)

[TF2-2] [Invited] 10:50-11:10

Analysis Theory and Method of Single Particle ICP-MS

Jae-Hong Park (Agilent Technologies, Korea)

[TF2-3] 11:10-11:30

Characterization of Nanoparticles in Size and Particle Concentration by Inductively Coupled Plasma-Mass Spectrometry

H. B. Lim (Ram Tech., Korea), Sukman Jang (DuPont Korea, Korea), Minseo Song (Dankook Univ., Korea), and Youngsu Jang (Ram Tech., Korea)

[TF2-4] 11:30-11:50

Uniformity Monitoring of Photoresist Etching Using Multi-Channel Optical Emission Spectroscopy

Sanghee Han, Sang Hun Lee (Sungkyunkwan Univ., Korea), Im Su Yoo (WGS Co., Ltd., Korea), and Heeyeop Chae (Sungkyunkwan Univ., Korea)

Session Title:	[TA3] Advanced Atomic Scale Thin Films V
Session Date:	November 21 (Tue.), 2023
Session Time:	14:25-16:15
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Dr. Hanwool Yeon (GIST, Korea)

[TA3-1] [Invited] 14:25-14:55

Molybdenum Precursors and Deposition Mechanisms

Seán T. Barry (Carleton Univ., Canada)

[TA3-2] [Invited] 14:55-15:15

Atomistic Modeling of Electronics and Thermodynamics of Defects on Titania Surfaces under Environmental Condition

Ngoc Linh Nguyen (Phenikaa Univ., Vietnam)

[TA3-3] [Invited] 15:15-15:35

Atomic Layer Deposition of Silicon Oxide Films Using Tris(dimethylamino)silane and Ozone

Okhyeon Kim, Yoonho Choi, Changgyu Kim, Hye-Lee Kim, and Won-Jun Lee (Sejong Univ., Korea)

[TA3-4] 15:35-15:55

Computational Fluid Dynamics Analysis of Cyclone-Type Vaporizer for Mass Delivery of Atomic Layer Deposition Precursors

Seung-Ho Seo (GO Element Co., Ltd., Korea), Donggeon Shin, Cha-Hee Kim (Sejong Univ., Korea), Yeongjong Lee, Keun-Tae Jeong, Deahyun Kim (GO Element Co. Ltd., Korea), and Won-Jun Lee (Sejong Univ., Korea)

[TA3-5] 15:55-16:15

Novel Liquid Precursors of Group IV/V Transition Metals for High Temperature ALD Process

Sunyoung Baik, Woongjin Choi, Taeyoung Lee, Shinbeom Kim, Sungjun Ji, Juhwan Jeong, Jaemin Kim, Myungil Kim, Hana Kim, Hyunju Jung, and Kyuho Cho (EGTM, Korea)

Session Title:	[TB3] Process and Equipment
Session Date:	November 21 (Tue.), 2023
Session Time:	14:25-15:55
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Jihwan An (POSTECH, Korea)

[TB3-1] [Invited] 14:25-14:55

Glass Wafer for Supporting Semiconductors

Masahiro Kobayashi, Yuici Suguro, and Tetsuya Kojima (Nippon Electric Glass Co., Ltd., Japan)

[TB3-2] [Invited] 14:55-15:15

Development of Heterogenous and Multi-Stack Flexible Packaging with Photo-Patternable Polymer Elastic Bumps

Hyunkyu Moon, Ah-Young Park, Seungman Kim, Seongheum Han, Jun-Yeob Song, and Jae Hak Lee (KIMM, Korea)

[TB3-3] [Invited] 15:15-15:35

Development Trends of Plasma System and Applications in Semiconductor Packaging and Substrate

Nam Son Park, Sung Yong Kim, Tae-Young Lee, Kyoung Min Kim (Tech Univ. of Korea, Korea), and Tae il Baek (Jesagi Hankook Co., Ltd., Korea)

[TB3-4] [Invited] 15:35-15:55

Adhesion of Plated Thick Film Metal on Epoxy Molding Compound under Thermal Cycle

Jae-Seong Jeong (KETI, Korea)

Session Title:	[TC3] CMP Innovations
Session Date:	November 21 (Tue.), 2023
Session Time:	14:25-16:00
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Sangwoo Lim (Yonsei Univ., Korea)

[TC3-1] [Invited] 14:25-14:55

Enhancing Advanced Memory Development through CMP Innovations

Hyo-Chol Koo, Hyun Min Lee, and Byoungki Lee (SK hynix, Korea)

[TC3-2] 14:55-15:15

1-Step Tungsten Chemical-Mechanical Planarization Performing Remarkable High Tungsten Film Polishing-Rate and Reverse Polishing-Rate Selectivity between Tungsten-And SiO_2-film via Radical Oxidation

Seong-In Kim, Jin-Woong Cho, Seon-Hwa Kang (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[TC3-3] [Plenary] 15:15-16:00

A Holistic Approach to Optimizing Chemical Mechanical Planarization (CMP) for Enhanced Semiconductor Manufacturing and Sustainability

Jihoon Seo (Clarkson Univ., USA)

Session Title:	[TD3] HARC Etching/Green Etch Technology
Session Date:	November 21 (Tue.), 2023
Session Time:	14:25-16:15
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Prof. Shin Jae You (Chungnam Nat'l Univ., Korea)

[TD3-1] 14:25-14:45

Study of Redeposition Effects on the High Aspect Ratio SiO2 Etching Profile Evolution

Wonnyoung Jeong, Byeongyeop Choi, Youngseok Lee, Sijun Kim, Chulhee Cho, Inho Seong, Minsu Choi, and Shinjae You (Chungnam Nat'l Univ., Korea)

[TD3-2] 14:45-15:05

A Study on the High-Aspect-Ratio Oxide Etching Characteristics Using a Hexafluoroisobutylene

Gilyoung Choi, Jinhyuk Kim, and Kwang-Ho Kwon (Korea Univ., Korea)

[TD3-3] 15:05-15:25

Innovative Cyclic Etching Process for High-Aspect-Ratio SiO_2 Features Using Low-GWP Heptafluoropropyl Methyl Ether

Sanghyun You and Chang-Koo Kim (Ajou Univ., Korea)

[TD3-4] [Invited] 15-25-15:55

Green Technologies in Advanced Etching Process

Huichan Seo (SK hynix, Korea)

[TD3-5] 15-55-16:15

The Investigation of Etching Characteristics between Isomer Gases of Low GWP Etch Gases

Jeonga Ju, Jinkoo Park (UNIST, Korea), Yeongjin Lim, Bongsuk Kim (Foosung, Korea), and Hongsik Jeong (UNIST, Korea)

Session Title:	[TE3] EUV HVM Status and Cutting-Edge Topics in Advanced Lithography
Session Date:	November 21 (Tue.), 2023
Session Time:	14:25-16:10
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Prof. Jong-Rak Park (Chosun Univ., Korea)

[TE3-1] [Plenary] 14:25-15:10

EUV Systems for High Volume Manufacturing

Stuart Young (ASML Netherlands B.V., The Netherlands)

[TE3-2] [Invited] 15:10-15:40

Deciphering Line Edge Roughness Formation in EUV Patterning: Insights from Molecular Simulations and Strategies for Minimization

Su-Mi Hur (Chonnam Nat'l Univ., Korea)

[TE3-3] [Invited] 15:40-16:10

Thermal Emission Steering and Mid-IR Complex Amplitude Modulation with Graphene-Based Active Metasurfaces

Min Seok Jang (KAIST, Korea)

Session Title:	[TF3] Frontier Metrology and Modeling V
Session Date:	November 21 (Tue.), 2023
Session Time:	14:05-16:05
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Hyungtak Seo (Ajou Univ., Korea)

[TF3-1] [Invited] 14:05-14:35

Atomistic Simulation of Semiconductor Processing Using Machine Learning Potentials

Seungwu Han (Seoul Nat'l Univ., Korea)

[TF3-2] [Invited] 14:35-15:05

The Optical System and Analysis for Thickness and Transition Zone Measurement of Epitaxial Layer

Yoonjong Park and Minyoung Lee (Semilab Korea Co., Ltd., Korea)

[TF3-3] [Invited] 15:05-15:35

Inline Convergence AFM Solutions for Advanced Packaging

Sang-Joon Cho, Seongoh Kim, Ahjin Cho, and ByungWoon Ahn (Park Systems, Korea)

[TF3-5] [Invited] 15:35-16:05

Improved Semiconductor Nanodevice Metrology with Next Generation Atom Probe

A. D. Giddings (AMETEK Korea Co. Ltd., Korea)

Session Title:	[WA1] Advanced Atomic Scale Thin Films VI
Session Date:	November 22 (Wed.), 2023
Session Time:	08:30-10:10
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Se Hun Kwon (Pusan Nat'l Univ., Korea)

[WA1-1] 08:30-08:50

Characteristics for IGZO Films Deposited with New In & Ga Precursors

J. H. Kim, S. Y. Jeon, S. D. Lee, G. S. Lee, Y. H. Kwone, Y. J. Im, and S. I. Lee (DNF Co. Ltd., Korea)

[WA1-2] 08:50-09:10

Effects of Plasma Enhanced Chemical Vapor Deposition Parameters on Silicon Oxide Thin Film Characteristics and Its Warpage

Dow Wook Lee (Hanyang Univ., Korea), Hyun Na Bae, Seon Kyu Kim (Samsung Electronics Co., Ltd., Korea), and Hyeongtag Jeon (Hanyang Univ., Korea)

[WA1-3] 09:10-09:30

Enhanced Metal/Dielectric Selectivity in Ru Atomic Layer Deposition with Alkyl-Chain Length Dependent Phosphonic Acid Self-Assembled Monolayers

Seo-Hyun Lee, Jeong-Min Lee, and Woo-Hee Kim (Hanyang Univ., Korea)

[WA1-4] 09:30-09:50

Modulating ALD Molybdenum Oxide Film Properties for DRAM Application through Controlled Oxidants and H_2 Annealing with $Mo(NMe_2)_4$ Precursor

Hae Lin Yang, Ara Yoon, Sanghoon Lee, and Jin-Seong Park (Hanyang Univ., Korea)

[WA1-5] [Invited] 09:50-10:10

Ozone Concentration Dependence of Tetragonal Phase of ZrO_2

Seokhwi Song, Eungju Kim, Kyunghoo Kim, and Hyeongtag Jeon (Hanyang Univ., Korea)

Session Title:	[WB1] Materials and Innovation
Session Date:	November 22 (Wed.), 2023
Session Time:	08:30-10:20
Session Room:	Room B (Grand Ballroom 1, 2F)
Session Chair:	Prof. Gu-Sung Kim (Kangnam Univ., Korea)

[WB1-1] [Invited] 08:30-09:00

Advanced Packaging Materials and Evaluation Platform at Resonac

Hidenori Abe, Sadaaki Katoh, Kosuke Murai, and Masashi Minami (Resonac, Japan)

[WB1-2] [Invited] 09:00-09:20

Low-CTE Epoxy Resin for the Semiconductor Packaging

Sang-yong Tak, Eun-joo Kim, and Dae-bong Yoon (Samhwa Paints Ind Co., Ltd., Korea)

[WB1-3] [Invited] 09:20-09:40

Fluidic Self-Assembly Packaging: The Future of Microchip Transfer Technologies in MicroLED Display

Daewon Lee (Myongji Univ., Korea)

[WB1-4] 09:40-10:00

Study on Finite Element Analysis for Interposer Structures

Cheong-Ha Jung and Gu-sung Kim (Kangnam Univ., Korea)

[WB1-5] 10:00-10:20

Ultra-Thin Heterogeneous Integration via Transfer Printing

Uhyeon Kim and Seok Kim (POSTECH, Korea)

Session Title:	[WC1] Functional Wet Etching Technology
Session Date:	November 22 (Wed.), 2023
Session Time:	08:30-10:10
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Jea-Gun Park (Hanyang Univ., Korea)

[WC1-1] [Invited] 08:30-09:00

Enhancing Planarity and Defect Management in Chemical Mechanical Planarization (CMP) Slurry for Advanced Middle-of-Line (MOL) Semiconductor Processes

Ungyu Paik, Taeseup Song, Ganggyu Lee, Sungmin Kim, Donghwan Kim, Myungju Woo, Yeram Lee, Hongjun Park, Bobae Lee (Hanyang Univ., Korea), Yehwan Kim, and Samjong Choi (Samsung Electronics Co., Ltd., Korea)

[WC1-2] 09:00-09:20

Novel Wet Oxidant for Highly Selective Etching of $Si_{0.7}Ge_{0.3}$- to Si-film Using Hydroxyl Radical Oxidation

Chang-Jin Lee, Ji-Eun Lee, Eun-Woo Jang, and Jea-Gun Park (Hanyang Univ., Korea)

[WC1-3] 09:20-09:40

Enhancing Etch Rate Selectivity between $Si_{0.7}Ge_{0.3}$- and Si-Film via Radical Concentration Control for Radical Oxidation-Based Wet Etchant

Ji-Eun Lee, Chang-Jin Lee, Eun-Woo Jang, and Jea-Gun Park (Hanyang Univ., Korea)

[WC1-4] [Invited] 09:40-10:10

Surface Preparation for InGaAs MOSFET Fabrication

Sangwoo Lim (Yonsei Univ., Korea)

Session Title:	[WD1] New Materials Etching
Session Date:	November 22 (Wed.), 2023
Session Time:	08:30-10:10
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Prof. Heeyeop Chae (Sungkyunkwan Univ., Korea)

[WD1-1] 08:30-08:50

Highly Selective Etching of SiGe over Si for GAAFET Fabrication

Seunghyo Lee, Wonje Lee, Kiwon Song, and Sangwoo Lim (Yonsei Univ., Korea)

[WD1-2] 08:50-09:10

Development of Copper Dry Etching Equipment via ECR Plasma Source

Jin Nyoung Jang, Jong Hwa Lee (APS Research Corp., Korea), Sangheon Lee, Kiro Jung (APS Corp., Korea), Donghoon Kim, Mun-Pyo Hong (Korea Univ., Korea), Sang-Gab Kim (Samsung Display Co., Ltd., Korea), Soo Ouk Jang (KFE, Korea), and Chiwoo Kim (APS Corp., Korea)

[WD1-3] [Invited] 09:10-09:40

Implementation of a Plasma-Based Integrated System for Synthesis, Etching, Machine-Learning of 2D TMDc

Hyeong-U Kim (KIMM, Korea)

[WD1-4] [Invited] 09:40-10:10

Extendable Etch Solutions for Sub 10-nm DRAM Device

Kukhan Yoon, Hyejin Choi, Jongkyu Kim, Chanmin Lee, Youngsik Seo, Keumjoo Lee, and Jongmyeong Lee (Samsung Electronics Co., Ltd., Korea)

Session Title:	[WE1] Advanced Lithography for Future Optical Devices I
Session Date:	November 22 (Wed.), 2023
Session Time:	08:30-10:10
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Prof. Myungki Kim (Korea Univ., Korea)

[WE1-1] [Invited] 08:30-09:00

Dielectric Metasurfaces for Optical Field Imaging Devices and Optimized Photonic Devices

Hyounghan Kwon (KIST, Korea)

[WE1-2] [Invited] 09:00-09:30

On-Chip Ultra-Low-Loss Optical Components for Mid-Infrared Photonics

Hansuek Lee, Daewon Suk, Kiyoung Ko, Soobong Park, Dohyeong Kim, Seong Cheol Lee (KAIST, Korea), Kwang-Hoon Ko (KAERI, Korea), Fabian Rotermund (KAIST, Korea), and Duk-Yong Choi (Australian Nat'l Univ., Australia)

[WE1-3] 09:30-09:50

Fabrication of Tunable Metasurface Platform for Hologram Display

Soo-Jung Kim, Doa Kim, and Sung-Hoon Hong (ETRI, Korea)

[WE1-4] 09:50-10:10

Multilayered All-Polymer Metasurfaces on Optical Fiber Apex Using Micropunching Method

Moohyuk Kim, Nu-Ri Park (Korea Univ., Korea), Minseok Jeon (KIST, Korea), and Myung-Ki Kim (Korea Univ., Korea)

Session Title:	[WF1] Frontier Metrology and Modeling VI
Session Date:	November 22 (Wed.), 2023
Session Time:	09:00-10:00
Session Room:	Room F (Sicily Room, 1F)
Session Chair:	Prof. Tae-Hun Shim (Hanyang Univ., Korea)

[WF1-1] [Invited] 09:00-09:30

Laser COOL Forming[1] TGV for Glass Substrate of Semiconductor Packaging and Laser COOL Cut[1] without Crack for Wafer(SiC, GaN, TSV, Sapphire)

Seak-Joon Lee (ITI, Korea)

[WF1-2] [Invited] 09:30-10:00

Flying-over Scanning Holography for Industrial Inspection

Seungram Lim, Kyungbeom Kim, Dong Hwan Im, Tae Woong Kim (Sejong Univ., Korea), Youseok Kim, Eungjoon Lee, Jae Ho Lee, and Taegeun Kim (Cubixel Inc., Korea)

Session Title:	[WA2] Advanced Atomic Scale Thin Films Ⅶ
Session Date:	November 22 (Wed.), 2023
Session Time:	10:20-12:00
Session Room:	Room A (Capri Room, 2F)
Session Chair:	Prof. Sean Barry (Carleton Univ., Canada)

[WA2-1] [Invited] 10:20-10:50

Advanced Process Technologies for Future Logic Devices

Honggun Kim, Chungil Hyun, Hyungi Kim, Sangwoo Lee, Youngseop Rah, Changgu Jung, Kyoungho Jang, Changwon Choi, Seongtae Oh, Seungwoo Choi, Youngwoo Park, and Jaihyung Won (Tokyo Electron Korea Ltd., Korea)

[WA2-2] [Invited] 10:50-11:20

Advanced Deposition Materials for Atomic Layer Deposition and Beyond

Changbong Yeon, Jaesun Jung, Seung Hyun Lee, Kok Chew Tan, Tai-su Park, and Young-Soo Park (Soulbrain, Korea)

[WA2-3] [Invited] 11:20-11:40

Memtransistor Devices based on 2D Layered Semiconductor for Energy-Efficient Neuromorphic Computing

Byungjin Cho (Chungbuk Nat'l Univ., Korea)

[WA2-4] [Invited] 11:40-12:00

SMART Metallization for Reliable and Power-Efficient Hetero-Integrated Systems

Hanwool Yeon (GIST, Korea)

Session Title:	[WC2] Advanced Cleaning Technology
Session Date:	November 22 (Wed.), 2023
Session Time:	10:20-11:30
Session Room:	Room C (Grand Ballroom 2, 2F)
Session Chair:	Prof. Jinsub Park (Hanyang Univ., Korea)

[WC2-1] [Invited] 10:20-10:50

New Cleaning and Etch Solution Approaches for Advanced sub 5nm Technology Nodes

Andreas Klipp, Haci Osman Guevenc, and Francisco Javier Lopez Villanueva (BASF SE, Germany)

[WC2-2] [Invited] 10:50-11:10

BOE-Based High Selective SiO_2 Etching Technology Applicable to Next-Generation Semiconductor Manufacturing Process

Myung Ho Lee, Bun Sung Jung, Hak Soo Kim, and Myung Geun Song (ENF Tech. Co., Ltd., Korea)

[WC2-3] 11:10-11:30

Fenton Reaction for Enhancing Ag-Film Polishing-Rate in Chemical-Mechanical-Planarization

Man-Hyup Han (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jae-Gun Park (Hanyang Univ., Korea)

Session Title:	[WD2] Atomic Layer Etching/Damage-Free Etching
Session Date:	November 22 (Wed.), 2023
Session Time:	10:20-11:30
Session Room:	Room D (Grand Ballroom 3, 2F)
Session Chair:	Dr. Hyeong-U Kim (KIMM, Korea)

[WD2-1] 10:20-10:40

Layer-By-Layer Etching of 2 Dimensional Palladium Diselenide

Ji Eun Kang, Seung Yup Choi, Ye Ji Shin, Hye Won Han, Ji Min Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[WD2-2] 10:40-11:00

Ultra-Low Electron Temperature (ULET) Plasma for Damage-Free Plasma Processing

Min-Seok Kim, Junyoung Park, Jiwon Jung, and Chin Wook Chung (Hanyang Univ., Korea)

[WD2-3] [Invited] 11:00-11:30

Plasma-Enhanced Atomic Layer Etching for Metals and Dielectric Materials

Heeyeop Chae (Sungkyunkwan Univ., Korea)

Session Title:	[WE2] Advanced Lithography for Future Optical Devices II
Session Date:	November 22 (Wed.), 2023
Session Time:	10:20-11:50
Session Room:	Room E (Sidney Room, 2F)
Session Chair:	Prof. Hansuek Lee (KAIST, Korea)

[WE2-1] [Invited] 10:20-10:50

Advanced On-Demand Micro-Transfer Printing Techniques for Seamless Integration of Nanophotonic and Metasurface Devices

Moohyuk Kim, Byoung Jun Park, and Myung-Ki Kim (Korea Univ., Korea)

[WE2-2] 10:50-11:10

Double-Layered Disordered Metasurface Spectrometer

Gookho Song, Dong-gu Lee, Chunghyeong Lee, Chanseok Lee, and Mooseok Jang (KAIST, Korea)

[WE2-3] 11:10-11:30

Unconventional Approach for Fabricating Diffractive Optical Elements via Holographic Inscription

Yongjun Lim, Seung Jae Hong, Joona Bang, and Seungwoo Lee (Korea Univ., Korea)

[WE2-4] 11:30-11:50

Self-Assembly-Based Molecular Addressing on Chemically Modified Gold Surface

Sung Hun Park, Chae-Eon Kim, Yongjun Lim, and Seungwoo Lee (Korea Univ., Korea)

Session Title:	[P1] Poster Session I
Session Date:	November 20 (Mon.), 2023
Session Time:	16:50-17:40
Session Room:	Grand Ballroom 4, 2F

[P1-001]

Why and How to Increase EUV-Induced Material Alteration Degree in EUV Inorganic Resists? : The Effect of Electron Beam Irradiation on Dibenzyltin Diacetate Thin Film Using Local Analysis and Quantum Chemical Calculations

Hyeok Yun and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-002]

Microimprinting Lithography for Solar Energy Applications

Beom-Su Kim, Jea-Hyun Kim, and Sun-Kyung Kim (Kyung Hee Univ., Korea)

[P1-003]

High-Sensitivity Observation of Nano Ice with Plasmonic Lithography

Nu-Ri Park, Yedam Lee, Sang Yup Lee, Han-Na Kim, Dong June Ahn, and Myung-Ki Kim (Korea Univ., Korea)

[P1-004]

PMMA Bottlebrush Polymer for Electron Beam Lithography

Kwangjin Kim, Chaeeon Kim, Seung Jae Hong, Joona Bang, and Seungwoo Lee (Korea Univ., Korea)

[P1-005]

Vertically Stacked Heterogeneous Three-Dimensional Integrated Circuits Via Transfer Printed Semiconductor Sheets

Seong Woo Hong and Yei Hwan Jung (Hanyang Univ., Korea)

[P1-006]

Metal Alloy Degradation in Fluidic Self-Assembly Transfer Technology under Diverse Conditions for MicroLED Displays

Yunki Min, Jimin Park, Kyeongmin Ryu, Garam Kim, Sang Jeen Hong, and Daewon Lee (Myongji Univ, Korea)

[P1-007]

Analyzing Variations in Fluidic Self-Assembly Efficiency based on Binding Site Size and Spacing

yeongho Park, Bin Yoo, Myeonghwan Hong, Daeun Cho, Tae-min Ha, Garam Kim, Sang Jeen Hong, and Daewon Lee (Myongji Univ., Korea)

[P1-008]

Arranging Heterogeneous Microchips of Different Sizes at Desired Positions Using Fluidic Self-Assembly

Chanyong Park, Insik Nam, Soeun Park, Samuel Ha, Tae-min Ha, Garam Kim, Sang Jeen Hong, and Daewon Lee (Myongji Univ., Korea)

[P1-009]

Microstructure and Characteristic Analysis of High-Integrated Pillar Bump by Reflow Effect

Young-gi An and Jae-seong Jeong (KETI, Korea)

[P1-010]

Heterogeneous Monolithic 3D Integration for Hybrid Vertical Inverter Using n-Type IGTO TFT on p-Type Si FET

Chanseul Lee, Sunbum Kim, Gyuri Kim, and Changhwan Choi (Hanyang Univ., Korea)

[P1-011]

Heterogeneous Inverter Using Si FET and Oxide Semiconductor TFT

Sun Bum Kim, Chan Seul Lee, Gyu Lee Kim, Jae Seok Hur, Ho Young Lee, Jae Kyeong Jeong, and Chang Hwan Choi (Hanyang Univ., Korea)

[P1-012]

Analysis of Numerical Simulation for Optimizing the Effective Thermal Conductivity and Electromagnetic Shielding Properties of Diamond/Copper Composites

Yongbin Bang (Seoul Nat'l Univ., Korea), Tae-Han Kim(Hankuk Univ. of Foreign Studies., Korea), In-Sung Lee, Young Pyo Jeon (Seoul Nat'l Univ., Korea), Bo Wha Lee (Hankuk Univ. of Foreign Studies., Korea), Young Joon Yoo (Seoul Nat'l Univ., Korea), and Sang Yoon Park (Kyonggi Univ., Korea)

[P1-013]

Effect of Nb_2O_5 Interlayer on HZO Ferroelectric Device

Sangmin Lee, Dukhwan Kim, Yerin Jeon, and Hyungtak Seo (Ajou Univ., Korea)

[P1-014]

Al Doped $SrTiO_3$ Dielectric Layer for MIM Capacitor

Dukhwan Kim, Jisu Kim, JinChan Lee, and Hyungtak Seo (Ajou Univ., Korea)

[P1-015]

Ce Doping Effects on Electrical Characteristics of HfO_2 Thin Films

Jiyeong Park, Yerin Jeon, Beomho Won, and Hyungtak Seo (Ajou Univ., Korea)

[P1-016]

Analysis of the TiO_2 Channel Based Redox-Thin Film Transistor by Controlling the Electrical Pulse

Hayoung Park, Jisu Kim, Suwan Lee, Junmo Kim, Kumar Mohit, and Hyungtak Seo (Ajou Univ., Korea)

[P1-017]

Charge Trap Engineering and Synaptic Behavior of Transition Metal Dichalcogenides Transistor, via Molecular Dynamics

MiJi Kwon, Yeonjin Je, Chang Hwan Oh (Gyeongsang Nat'l Univ., Korea), Sunkook Kim (Sungkyunkwan Univ., Korea), and Jun Hong Park (Gyeongsang Nat'l Univ., Korea)

[P1-018]

Van Der Waals Interface Engineering for Enhancement of Semiconductor Device Performance

Su-yeon Cho, Do-Hyeon Lee, and Jun Hong Park (Gyeongsang Nat'l Univ., Korea)

[P1-019]

Global Mapping Phase Error Compensation of Dynamic Spectroscopic Imaging Ellipsometer

Gukhyeon Hwang, Sukhyun Choi, Saeid Kheiryzadehkhanghah, Inho Choi (Jeonbuk Nat'l Univ., Korea), Sungtae Kim, Sangjun Kim (AUROS Tech., Korea), and Daesuk Kim (Jeonbuk Nat'l Univ., Korea)

[P1-021]

Low-Temperature Growth of Ga_2O_3 Thin Films on Si Substrates by MOCVD and Their Electrical Characteristics

Jung-Bok Lee, Jee-Hun Jeong, Min-Seok Jang, Da-Hui Yoo, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-022]

Low-Dropout Regulator with Buffer Impedance Attenuation

Dongsoo Lee and Jeongjin Roh (Hanyang univ., Korea)

[P1-023]

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Sangyeob Kim, Sumin Park, Hyowon Yoon, Jinhun Kim, Chaeyun Kim, Yeongeun Park, Gyuhyeok Kang, Gukhwa Jeon, Kanghee Shin, Dusan Baek, and Ogyun Seok (Kumoh Nat'l Inst. of Tech., Korea)

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Experiments of TID Effects with Gamma-Ray on SiC MOSFETs

Chaeyun Kim, Gukhwa Jeon, Hyowon Yoon, Yeongeun Park, Sangyeop Kim (Kumoh Nat'l Inst. of Tech., Korea), Dong-Seok Kim (KAERI, Korea), and Ogyun Seok (Kumoh Nat'l Inst. of Tech., Korea)

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DaHui Yoo and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

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Min-Seok Jang, Jee-Hun Jeong, DaHui Yoo, Jungbok Lee, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

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Ikhyeon Jo, Myung-Hwan Jang, and Sang-Wook Kim (Hanyang Univ., Korea)

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Jae-Min Sim, Beomsu Kim, Jiho Song, Hakyeong Kim, and Yun-Heub Song (Hanyang Univ., Korea)

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Silicon Nanocrystal Embedded Charge Trap Layer to Improve Program Charateristic in 3D NAND Flash

Hakyeong Kim, Beomsu Kim, Jae-Min Sim, Jiho Song, and Yunheub Song (Hanyang Univ., Korea)

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$Cs_2AgBiBr_6$ - Based Flexible Photodetector with Transferable TiO_2 Nanorods

Seongmin Jeong, Yeongje Choi, Dongkun Ahn, Daekyeong Kang, and Jinsub Park (Hanyang Univ., Korea)

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Performance Enhancement in $BaTiO_3$ – Fe_3O_4 Core-Shell Based Piezoelectric Nanogenerators through Magnetic-Alignment

Wonjun Heo, Soohoon Lee, Dohee Kim, Myeonghyeon Shim, Yerim Lee, and Jinsub Park (Hanyang Univ., Korea)

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Impact of Synaptic Characteristics of IGZO Memristor on Neuromorphic Computing

Kyoungjin Min, Seojin Choi, Yubeen Hwang, and Jonghwan Lee (Sangmyung Univ., Korea)

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An XAI Model for Semiconductor Manufacturing Processes based on Confidence Interval Visualization for the Impact of Process Parameters

Sangmyeong Lee, Sunghyun Hwang, Eunjung Choi, Xueyi Zhou, and Dong-Kyu Chae (Hanyang Univ., Korea)

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An XAI Model for Semiconductor Manufacturing Processes with Exploring Process Parameter Interactions based on Uncertainty

Sunghyun Hwang, Sangmyeong Lee, Eunjung Choi, Jongsoo Lee, and Dong-Kyu Chae (Hanyang Univ., Korea)

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Hydrogenation-Induced Enhancement of Ce^{3+} Concentration in CeO_2 Nanoparticles for Efficient Silicate Adsorption

Myungju Woo, Ganggyu Lee, Sungmin Kim, Donghwan Kim, Yeram Lee, Hongjun Park, Bobae Lee, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

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Memristor Modeling based on Physics-Informed Neural Network

Younghyun Lee, Kyeongmin Kim, and Jonghwan Lee (Sangmyung Univ., Korea)

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Enhancing Molybdenum CMP Process via Catalytic Oxidation with Iron: A Density Functional Theory Study

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Jeong-Hyeon Baek, Jong-Whi Park, Woong-Kyoo Yoo, and Hak-Sung Kim (Hanyang Univ., Korea)

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Jaeman Lim and Yei Hwan Jung (Hanyang Univ., Korea)

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Youngmin Oh and Jaeduk Han (Hanyang Univ., Korea)

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Enhancing Performance of IGZO/Quantum Dot-Based Phototransistor Using Ga_2O_3 Passivation Layer

Yongjun Jeong and JaeKyeong Jeong (Hanyang Univ., Korea)

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High Performance of Delta Conductance Characteristics Using Heterojunction Structure for Multi-Values Logic Application

Jun-Ho Lee and Jae-Kyeong Jeong (Hanyang Univ., Korea)

[P1-055]

Silver Nanowire Bottom Gate Electrodes Fabricated by Intense Pulsed Light Welding and Mechanical Roll-Pressing for Thin Film Transistor Fabrication

Young-Min Ju, Jong-Whi Park, and Hak-Sung Kim (Hanyang Univ., Korea)

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Logic Inverter by Junction Field-Effect Transistors with WSe_2/n^+-Si and MoS_2/p^+-Si Structures

Yoonsok Kim, Taeyoung Kim, Wonchae Jeong, Deogkyu Choi, and Eun Kyu Kim (Hanyang Univ., Korea)

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Optimization for Enhanced Electrical Properties of ZrO_2/HfO_2 Laminated Structure for Metal-Insulator-Metal Capacitors

Yoonchul Shin, Seung Won Lee, and Ji-Hoon Ahn (Hanyang Univ., Korea)

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Quantized PyNET QxQ for On-Sensor Deep Learning Application

Dong-Eon Won and Jungwook Choi (Hanyang Univ., Korea)

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Jiwoong Park and Jungwook Choi (Hanyang Univ., Korea)

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Min-Ji Ha, Na-Gyeong Kang, and Ji-Hoon Ahn (Hanyang Univ., Korea)

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Optimized Learning Process for Compensation of the Non-Ideal Conductance Characteristics of the Synaptic Devices in Ex-Situ Training

Jun Seop An, Seong Yeon Ryu, and Tae Whan Kim (Hanyang Univ., Korea)

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Heesoo Kim (UNIST, Korea), Beomjun Kim (Sogang Univ., Korea), Hyerin Jo (Soongsil Univ., Korea), Hyobin Yoo (Sogang Univ., Korea), Hongseok Oh (Soongsil Univ., Korea), Aziz Ahmed (Seoul Nat'l Univ., Korea), and Kunook Chung (UNIST, Korea)

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Enhancing Semiconductor Yield through Two-Step Defect Detection and Classification Technique

Tae kyeong Park, Sang Hyuk Moon, and Je Hyeong Hong (Hanyang Univ., Korea)

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Daeman Seo, Byungchul Choi, Seungjae Baek (Samsung Electronics, Korea), and Inho Lee (Hankyong Nat'l Univ., Korea)

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Investigation of Surface Chemistry of 4H-SiC during RCA Cleaning Processes

Juyeol Lee, Yoonji Ra, Sumit Kumar, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Koera)

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A Study on the Characteristics of IGZO/ITO and ITO/IGZO TFT Using Thin ITO Channel Layer

Youngsoo Noh, Hyoungbeen Ju, Jiyoung Bang, Hyeonjeong Sun, Sangduk Kim, Yeonghun Lee, Seungmin Choi, and Seung-Beck Lee (Hanyang Univ., Korea)

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Enhanced Field Effect Mobility of a-IGZO TFTs by Varying Thickness of Ta Capping Layer

Seungmin Choi, Hyoungbeen Ju, Jiyoung Bang, Hyeonjeong Sun, Sangduk Kim, Yeonghun Lee, Youngsoo Noh, and Seung-Beck Lee (Hanyang Univ., Korea)

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The Reaction Mechanism Changes with Oxygen and Argon in the Carbonyl Fluoride Dissociation

Seyun Jo and Sang Jeen Hong (Myongji Univ., Korea)

[P1-069]

Deposition of Porous Europium-Doped Titanium Dioxide (TiO_2-Eu) Thin Films for Potential UV Screening and Light Conversion

Kamila Zhumanova and Timur Sh. Atabaev (Nazarbayev Univ., Kazakhstan)

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Incorporation of Fluorescent Carbon Dots (CDs) Into Post-Deposited PMMA Layer for Efficiency Enhancement of Perovskite Solar Cells

Darya Goponenko and Timur Sh. Atabaev (Nazarbayev Univ., Kazakhstan)

[P1-071]

Porosity-Dependent Photoelectrochemical Activity of Double-Layered TiO_2 Thin Films Deposited by Spin-Coating Method

Kuralay Rustembekkyzy and Timur Sh. Atabaev (Nazarbayev Univ., Kazakhstan)

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Zero-Reference Low-Light Image Enhancement with Neural ODEs

Donggoo Jung, Daehyun Kim, and Tae Hyun Kim (Hanyang Univ., Korea)

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Hierarchical Joint Graph Learning and Multivariate Time Series Forecasting

Seungwon Yu, Ung Hwang, and Kijung Yoon (Hanyang Univ., Korea)

[P1-074]

Ozone Based ALD SiO_2 Deposition and Post-Annealing Process Compatibility for IGZO Channel Field Effect Transistor

Jae-Hyeok Kwag, Su-Hwan Choi, Dong-Gyu Kim, and Jin-Seong Park (Hanyang Univ., Korea)

[P1-075]

Finding Appropriate Distribution by Normalizing Flow for Anomaly Detection and Localization

Daehyun Kim, Sungyong Baik, and Tae Hyun Kim (Hanyang Univ., Korea)

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Reliable PVDF-TrFE Ferroelectric Polymer-Based InGaZnO Synaptic Transistors with Buried-Gate Structure

Minjeong Kim and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

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Stable Halide Perovskite Thin Films and Solar Cells via 2D/3D Stacking Structure

Won-Gyu Choi and Jae-Seong Jeong (KETI, Korea)

[P1-078]

Enhanced Reliability and Stability in α-COxNy Based Random-Access Memory Device

Woo Jong Kim, Sun Hwa Min, Da Seul Hyeon, Gabiel Jang, Jisoo Choi, and Jin Pyo Hong (Hanyang Univ., Korea)

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In-Situ Spectroscopic Analysis of Surface Doping on 2D MoS_2 for Channel Materials

Jae-Woo Seo, Joon-Seok Lee, and Seon-Jin Choi (Hanyang Univ., Korea)

[P1-080]

Improvement of Degradation in Amorphous In-Ga-Zn-O High Voltage Thin Film Transistors by Adjusting Partial Pressure of Oxygen during Channel Deposition

Hyowon Kim, Hyoungbeen Ju, Jiyoung Bang, Hyeonjeong Sun, Sangduk Kim, Yeonghun Lee, Seungmin Choi, Youngsoo Noh, and Seung-Beck Lee (Hanyang Univ., Korea)

[P1-081]

Radiation-Hardened Analog Amplifier Using Enclosed-Layout Transistors

Taeyeong Kim, Jongho Lee, WeonHyeog Lee, and Ickhyun Song (Hanyang Univ., Korea)

[P1-082]

Low-Temperature Soldering with ZrO2 Nano-Composite Sn/Bi Plating and Its Application to SAC305 Hybrid Solder Bump and 1608 Capacitor

Ye Jin Jang, Hee Ju Kim, Seong Min Seo, and Jae Pil Jung (Univ. of Seoul, Korea)

[P1-083]

Effect of Thermal Crystallization in the Resistive Switching Behaviors for Memristors based on Molybdenum Oxide (MoO_x) Thin Film Layer

Young Pyo Jeon (Seoul Nat'l Univ., Korea), Min Ji Lee (Kyounggi Univ., Korea), Eun Jeong Lee, Yeon Soo Kim, Young Joon Yoo (Seoul Nat'l Univ., Korea), and Sang Yoon Park (Kyounggi Univ., Korea)

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Effect of Surface Pretreatment to Reduce The Incubation Period of Iridium Thin Film Grown by ALD on The Oxide Surface

Myung-Jin Jung and Se-Hun Kwon (Pusan Nat'l Univ., Korea)

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Dominant Effects of Epitaxial Strain on the Phase Control of $(In_xGa_{1-x})_2O_3$ Alloys

Han Uk Lee (Ajou Univ., Korea), Hyeon Woo Kim, Giulio Fatti, Hyunseok Ko (KICET, Korea), Min Sung Kang, Dong Won Jeon, Woong Chan Kim, Ji Hoon Hong, and Sung Beom Cho (Ajou Univ., Korea)

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The Effect of Aegis for BCDU & LWR Improvement

Yonghoon Seo and Hyeongtag Jeon (Hanyang Univ., Kor)

[P2-004]

Plasma Enhanced Atomic Layer Deposition of TiO_2 Using TDMAT and O_2 Plasma

Hee Jun Yoon, Jin Young Woo, Dow Wook Lee, and Hyeongtag Jeon (Hanyang Univ., Korea)

[P2-005]

Atomic Layer Deposition of SnS_2 Film on Precursor Pre-Treated Substrate

Jungtae Kim, Dowwook Lee, Jangho Bae, Yoonseo Lee, and Hyeongtag Jeon (Hanyang Univ., Korea)

[P2-006]

Remote Plasma Chemical Vapor Deposition of SiOC Thin Film with Styrene-Contained Precursor and In-Situ O_2 Plasma Treatment

Eungju Kim, Juni Bak, Dowwook Lee, and Hyeongtag Jeon (Hanyang Univ., Korea)

[P2-007]

Characterization of Yttrium Oxide Films Deposited via Thermal and Plasma-Enhanced Atomic Layer Deposition: Investigating Properties for Plasma Resistance

Jun-Hyeok Jeon, Hye-Young Kim, Sung Kyu Jang, Hyun-Mi Kim, Seul-Gi Kim (KETI, Korea), Chang-sub Park, Yong Soo Lee (KoMiCo Ltd., Korea), Hyeongkeun Kim (KETI, Kroea), and Jae-Boong Choi (Sungkyunkwan Univ., Korea)

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TiN-ALD Surface Reaction Simulation based on Surface Reaction Data

Jiwon Jang, Ju Eun Kang, and Sang Jeen Hong (Myongji Univ., Korea)

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Investigating the Effectiveness of MgO Thin Film as Oxygen Diffusion Barrier for Preventing Interfacial Layer Formation in ZrO2-Based Capacitor with TiN Electrode

Seungwoo Lee, Hyeon Ho Seol, Min Kyeong Nam (Kyung Hee Univ., Korea), Daeyeong Kim, Hansol Oh, Hanbyul Kim, Yongjoo Park (SK Trichem Co. Ltd., Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

[P2-010]

Crystallization Control of Molybdenum Disulfide Thin Film by Atomic Layer Deposition with Mo Precursor Surface Adsorption Control

Soo Min Yoo and Woojin Jeon (Kyung Hee Univ., Korea)

[P2-011]

Suppression of Monoclinic Phase in Vanadium Oxides for Enhanced Temperature Coefficient of Resistance by Atomic Layer Deposition Process Using TEMAV and Ozone

Hyeon ho Seol, Seung woo Lee, and Woojin Jeon (Kyung Hee Univ., Korea)

[P2-012]

Introducing a Y_2O_3 Inserting Layer to Enhance the Electrical Characteristics of ZrO_2-TiSiN Based MIM Capacitor

Jonghwan Jeong, Seungwoo Lee, and Woojin Jeon (Kyung Hee Univ., Korea)

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Local Concentrating Effect on Mo-$Hf_{0.5}Zr_{0.5}O_2$-Mo Metal-Ferroelectric-Metal Capacitor through N_2+H_2 Gas Pre-treatment

Seung Yeon Kim, Dong Hee Han, and Woojin Jeon (Kyung Hee Univ., Korea)

[P2-014]

Molybdenum Thin Film Formation from Molybdenum Nitride Deposited by Plasma-Enhanced Atomic Layer Deposition with Hydrogen-Permeable Mechanical Capping Layer

Jeong Hyeon Park, YeWon Kim (Kyung Hee Univ., Korea), Myeong Ho Kim, Jin-Sik Kim (UP Chemical Co., Ltd., Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

[P2-015]

Achieving High Dielectric Constant of ZrO_2 Thin Films through High-Temperature Atomic Layer Deposition with Thermal Stability Enhanced Zirconium Precursor

Yoona Choi, Aejin Lee (Kyung Hee Univ., Korea), Hansol Oh, Yongjoo Park (SK Trichem Co. Ltd., Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

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Innovative Transparent Conductive Oxides by Hybrid Superlattices with Ultra-Gas-Proof Properties

Jaeyoung Park and Myung Mo Sung (Hanyang Univ., Korea)

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Layer by Layer Deposition of Two Dimensional Tellurium Nanolayer

Giang Hoang Pham and Myung Mo Sung (Hanyang Univ., Korea)

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High Performance MoS_2 Transistor based on Atomically Thin 2D NbS_2 Metal Gate

Hyun Young Seo and Byungjin Cho (Chungbuk Nat'l Univ., Korea)

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An Organic-Inorganic Superlattice with Phase-Composite Nanolayers for Ultrahigh Thermoelectric Performance

Thi Duyen Nguyen and Myung Mo Sung (Hanyang Univ., Korea)

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The Study on Tuning Tin Contents in Zinc-Tin-Oxide for TFT Application Grown by Atomic Layer Deposition

Dong-Hyun Lim, Ae-Rim Choi, Yi-Ji Jeong (Ajou Univ., Korea), Young-Bae Ahn, Seung-Wook Ryu, Do-Hee Kim (SK Hynix Inc., Korea), and Il-Kwon Oh (Ajou Univ., Korea)

[P2-021]

Area Selective Atomic Layer Deposition of Nb_2O_5 for Improved Interface Quality between ZrO_2 Dielectric and Bottom TiN Electrode

Yong ju Kwon, Woo hyuk Kim, and Woo-Hee Kim (Hanyang Univ., Korea)

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Area-Selective Atomic Layer Deposition of Ru Thin Films Using Aldehyde-Based Inhibitors on Nitride Surfaces

Jinseon Lee and Woo-Hee Kim (Hanyang Univ., Korea)

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Thermal Sensor Design on a Flow Tube for Liquid Mass Flow of ALD Precursor

Jae-Seong Jeong, Young-Gi An (KETI, Korea), and Hee-Sung Kang (MKP Co., Ltd., Korea)

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Uniform Pt Film Deposition on Amorphous Carbon Powder for HighPerformance Pt/C Catalytic Electrodes Using Metal ALD

Jiwon Chung, Hyun-Mi Kim, Sung Kyu Jang, Su-Min Lee, Min-Joo Koo, Seul-Gi Kim, and Hyeongkeun Kim (KETI, Korea)

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Synthesis and Structural Analysis of Novel Molybdenum-N-Alkoxy Carbothioamide Complexes

Sung Kwang Lee (KRICT, Korea), Seung Uk Son (Sungkyunkwan Univ., Korea), and Taek-Mo Chung (KRICT, Korea)

[P2-026]

Enhancing Surface Smoothness in Ultra-Thin Metal Films with the Combined Atomic Layer Deposition and Etching Process

Jung-Tae Kim, Jeongbin Lee, and Woo-Hee Kim (Hanyang Univ., Korea)

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Growth Retardation of Atomic Layer Deposited HfO_2 Thin Films Using a Surface Protector

Donghyeon Im, YongJu Kwon, Jinseon Lee, and Woo-Hee Kim (Hanyang Univ., Korea)

[P2-028]

Low-Temperature SiN_x Plasma-Enhanced Atomic Layer Deposition with Bis(t-butylamino)silane and NH_3 Plasma

Hyeonjin Choi, Jinmyeong Kim, Youngju Ko, Jaehee Kim, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P2-029]

Design of Gas Flow Field for a Micro-Gap ALD Processing Chamber

Kyung-Hoon Yoo (KITECH, Korea), Geun-Soo Song (KUMYOUNG ENG Inc., Korea), Chun-Sik Kim (TNG Co., Korea), Jun-Hyung Hwang, Sang-Ho Lee (KITECH, Korea), and Kun-Hyung Lee (Samsung Display Co., Ltd., Korea)

[P2-030]

Heteroleptic Titanium Complexes with Amidoxime Ligands as Precursors for TiN Thin Films ALD

Ga Yeon Lee, Taeyong Eom, and Taek-Mo Chung (KRICT, Korea)

[P2-031]

Development of Ternary Pure Nitride Thin Films Deposited by Plasma Enhanced Chemical Vapor Deposition

Ji Woon Choi (KRICT, Korea), Byungha Shin (KAIST, Korea), and Taek-Mo Chung (KRICT, Korea)

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Synthesis of Novel Ru Precursors for Atomic Layer Deposition

Young Eun Song and Taek-Mo Chung (KRICT, Korea)

[P2-033]

Enhancement of Interface Properties in the Metal-Insulator-Metal Capacitor by Introducing Nb_2O_5 Doping

YoungUk Ryu (Kyung Hee Univ., Korea), Sung Woo Ahn, Jin-Sik Kim, Hyun-Kyu Ryu (UP Chemical Co., Ltd., Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

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Area-Selective Atomic Layer Deposition of Silicon Nitride Using an Aromatic Ring as an Inhibitor

Min-Jeong Rhee, Young-Jin Lim, and Il-Kwon Oh (Ajou Univ., Korea)

[P2-035]

A Heteroleptic Precursor for Atomic Layer Deposition: An Example of $CpZr(N(CH_3)_2)_3$ for ZrO_2 Dielectric

Ae Rim Choi and Il-Kwon Oh (Ajou Univ., Korea)

[P2-036]

Enhanced Deposition Selectivity of High-k Dielectric by Vapor-Dosed Phosphonic Acid Inhibitors Combined with Selective Lift-Off

Jeong-Min Lee and Woo-Hee Kim (Hanyang Univ., Korea)

[P2-037]

Area-Selective Atomic Layer Deposition for Metal/Dielectric Selectivity by Using Small Molecule Inhibitors

Jieun Oh, Jeong-Min Lee, and Woo-Hee Kim (Hanyang Univ., Korea)

[P2-038]

Difference of Growth Behaviors for Plasma Enhanced ALD In_2O_3 Layer Using Novel Indium Precursors based on Alkyl and Amine Ligand

Gyeong Min Jeong, Yoon-Seo Kim, Hae Lin Yang, Su-Hwan Choi (Hanyang Univ., Korea), Myoungwoon Kim, Sangick Lee, Yonghee Kwone, Sangyong Jeon, Youngjae Im (DNF, Korea), and Jin-Seong Park (Hanyang Univ., Korea)

[P2-039]

Optimizing In_2O_3 Thin Film Transistor Performance on Polyimide Substrate via Atmospheric Pressure Spatial ALD

Kwang Su Yoo, Chi-Hoon Lee, Dong-Gyu Kim, Won-Bum Lee, Tae-Woong Cho, and Jin-Seong Park (Hanyang Univ., Korea)

[P2-040]

Multi-Stack Ferroelectric Capacitor based on Fluorite Structure Materials for Neuromorphic Computing

Hyo-Bae Kim and ji-Hoon Ahn (Hanyang Univ., Korea)

[P2-041]

Two-Dimensional Tin Sulfide Compounds Deposited by Atomic Layer Deposition Using a Novel Precursor

Dong Geun Kim, Ji-Min Lee, Kang Choi, and Ji-Hoon Ahn (Hanyang Univ., Korea)

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A Study on The Defects Caused by Chemical Nozzle Movement in Single Type for Improving Wafer Uniformity

Jinwoo Oh and Taesung Kim (Sungkyunkwan Univ., Korea)

[P2-043]

Characterization of Alkaline Cu/Ti Slurry for TSV Chemical Mechanical Planarization

Yoonji Ra, Seonwoo Go, Muskan, Tae-Gon Kim (Hanyang Univ., Korea), Jum-Yong Park (Samsung Electronics Co., Ltd., Korea), and Jin-Goo Park (Hanyang Univ., Korea)

[P2-044]

A Novel Method to Evaluate the Contact Area of PVA Brushes during Post-CMP Cleaning

Geu-Rim Ha, Mir Jalal Khan, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

[P2-045]

Surface Removal Polishing of Silicon Carbide Wafer by a Laser Processing

Youngkuk Kim (KITECH, Korea), Jaegi Kim (Univ. of Ulsan, Korea), Shin Kim, and Jihoon Jeong (KITECH, Korea)

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Newly Developed Ceria Nanoparticles Linked with Polishing Accelerator for CMP Process

Minjeong Kim, Yoon Kim (Hannam Univ., Korea), Min-Uk Jeon, Jea-Gun Park (Hanyang Univ., Korea), and Tae Dong Kim (Hannam Univ., Korea)

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The Chemical-Mechanical-Planarization Mechanism of Amorphous Carbon Film : Chemical-Mechanical Property Aspect

Seon-Hwa Kang, Seong-In Kim, Jin-Woong Cho (Hanyang Univ., Korea), Jin-Hyung Park (ENF Tech. Inc., Korea), and Jea-Gun Park (Hanyang Univ., Korea)

[P2-048]

A Study on the Dispersion Stability of One-Componet CMP Slurry

Hyelin Kim, Sooyeon Choi, Sohee Hwang (Hannam Univ., Korea), Seyeong An, Yanghun Ji (Ms materials, Korea), Tae-Dong Kim, and Woonjung Kim (Hannam Univ., Korea)

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Stability Study according to TEA Content of One-Component CMP Ceria Slurry Containing Zwitterionic Dispersant

Jeongwon Yang, Sooyeon Choi, Sohee Hwang (Hannam Univ., Korea), Seyeong An, Yanghun Ji (Ms materials, Korea), Tae-Dong Kim, and Woonjung Kim (Hannam Univ., Korea)

[P2-050]

Characterization and Preparation of Core/Shell Nanoparticle Abrasives for Accerlerating CMP Process

Suho Lee, Yoon Kim, and Tae-Dong Kim (Hannam Univ., Korea)

[P2-051]

Comparison of Etch Characteristics of c-C4F8 and Low GWP Etch Gases, i-C4F8, 1336mzz, HFIB and 1234ze

Jinkoo Park (Foosung Inc, Korea), Jeonga Ju (UNIST, Korea), Yeongjin Lim, Bongsuk Kim (Foosung Inc, Korea), and Hongsik Jeon (UNIST, Korea)

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Inductively Coupled Plasma Reactive Ion Etching of Cobalt Thin Films Using Halogen Gas

Kyung-Ho Oh, Geum-Bin Baek, Seon-Jae Kim, and Chee-Won Chung (Inha Univ., Korea)

[P2-054]

High Density Plasma Reactive Ion Etching of Cobalt Thin Films Using CH_3COCH_3/Ar Plasma

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SiO_2 Reactive Ion Etching of NF_3 Plasma by Substrate Temperature

Seo-Yeon Kim, Sun-Hee Lee, Hee-Tae Kwon, Ji-Hwan Kim, In-Young Bang, Jae-Hyun Kim, Hyeon-Jo Kim, Seong-Yong Leem, Seong-Hee Cho, and Gi-Chung Kwon (KwangWoon Univ., Korea)

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Measurement of Temperature of Ceramic Heater Using Heat Transfer Characteristics of Heat Transfer Control Structures

Seonghee Cho, Heetae Kwon, Jihwan Kim, Inyoung Bang, Jaehyeon Kim, HyeonJo Kim, Seongyong Leem, Seoyeon Kim, and Gicheong Kwon (Kwangwoon Univ., Korea)

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The Effect of a Blocking Capacitor on Ion Energy Distribution Function in Multi-Electrode Dual Frequency Capacitively Coupled Ar Plasmas

Geon U Baek, Seo I Choi, Ji Hyun Shin, Sun Jeong Hwang, Hwanho Kim, Cheol Woong Kim, and Hae June Lee (Pusan Nat'l Univ., Korea)

[P2-058]

Effect of Mask Thickness on Redeposition in Etch Profile of Cu Dry Etching

Yoon Jae Cho, Su Myung Ha, and Chee Won Chung (Inha Univ., Korea)

[P2-059]

Characteristics of Inductively Coupled Plasma Using Ar/H2 Mixture Gas Including Heat Transfer Model

Sang-Woo Kim (Pusan Nat'l Univ., Korea), Ju-Hong Cha (Gyeongsang Nat'l Univ., Korea), and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

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Analyzing The Plasma Dynamics of An ICP Plasma Device with Applied Bias Voltage in terms of Particle Trajectories Using A 2D PIC Simulation

Heesung Park and Hae June Lee (Pusan Nat'l Univ., Korea)

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Prediction of Atomic Level for MoS_2 based on Machine Learning via RIE

Seunghwan Lee (Sungkyunkwan Univ., Korea), Changmin Kim, Minji Kang, Muyoung Kim (KIMM, Korea), Taesung Kim (Sungkyunkwan Univ., Korea), and Hyeong-U Kim (KIMM, Korea)

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Green Alternatives in SiC Etching to Reduce GWP Impact

Sanghyun You and Chang-Koo Kim (Ajou Univ., Korea)

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Comparison between Ion Beam ALE and ICP ALE for Ruthenium Etching

Yun Jong Jang, Doo San Kim, Hae In Kwon, Gyoung Chan Kim, Hong Seong Gil, Dae Whan Kim, Ju Young Kim, Ji Yeon Lee, Do Seong Pyun, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

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A Study on Etch Characteristics of Magnetic Tunnel Junction (MTJ) Materials Using RF-Biased Reactive Ion Beam Etching

Gyoung Chan Kim, Doo San Kim, Yun Jong Jang, Hong Seong Gil, Hae In Kwon, Ju Young Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

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Effect of Each Plasma Parameter on the High Aspect Ratio Oxide Etching Process at Low-Frequency Bias Power Using an Inductively Coupled Plasma System

Hye Jun Son (Korea Univ., Korea), Alexander Efremov (State Univ. of Chemistry & Tech., Russia), Gilyoung Choi, and Kwang-Ho Kwon (Korea Univ., Korea)

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A Study on the Atomic Layer Etching Process Using Liquid Fluorocarbon Gas

Sejun Son, Junyeob Lee, Suyoung Jang, Eunchong Kang, Jeongwoon Bae, and Kyongnam Kim (Daejeon Univ., Korea)

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Sensor-On-Wafer Sensor for Monitoring The Substrate Temperature

Junyeob Lee, Eunchong Kang, Sejun Son, Jonghyeon Kim, Jeongwoon Bae, and Kyongnam Kim (Daejeon Univ., Korea)

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Mechanism of An Atomic Layer Etching Process Using Alternative Gas Radicals

Eunchong Kang, Sejun Son, Jonghyeon Kim, Junyeob Lee, Jeongwoon Bae, and Kyongnam Kim (Daejeon Univ., Korea)

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The Study on the Methods to Improve Uniformity of Electric Field in Large Area Capacitively Coupled Plasma

Byeong Chun Lee, Jin Ung Son, Min Seok Kim, and Chin Wook Chung (Hanyang Univ., Korea)

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Computational Etching Profile Study on the Influence of SiON Etch Rate in Ar Plasma Etching of Patterned SiON-ACL-SiO_2 Stacked Structures

Byeong-Yeop Choi, Si-Jun Kim, Won-Nyoung Jeong, Young-Seok Lee, In-Ho Seong, Chul-Hee Cho, MinSu Choi, You-Bin Seol, and Shin-Jae You (Chungnam Nat'l Univ., Korea)

[P2-071]

Characteristics of SiO_2 Atomic Layer Etching Adopting A Low Global Warming Potential Fluorocarbon Precursor with Fluorocarbon Plasmas

In-Ho Seong, Young-Seok Lee, Si-Jun Kim, Chul-Hee Cho, Won-Nyoung Jeong, Min-Su Choi, Byeong-Yeop Choi, You-Bin Seol, and Shin-Jae You (Chungnam Nat'l Univ., Korea)

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Universal Surface Reaction Model for Plasma Oxide Etching Process

Hae-Sung You, Jae-Hyeong Park, Jeon-Su Chae, Hyeong-Jun Mun (Jeonbuk Nat'l Univ., Korea), Kook-Hyun Yoon, Sung-Sik Shin, Dong-Hun Yu (Kyung Won Tech. Inc., Korea), and Yeon-Ho Im (Jeonbuk Nat'l Univ., Korea)

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Etch Characteristics of Indium-Based Oxide Material and Its Chamber Cleaning

Jong Woo Hong, Dong Woo Kim (Sungkyunkwan Univ., Korea), Yu Gwang Jeong, Hyun Min Cho, Da Woon Jung, Yun Jong Yeo (Samsung Display Co., Ltd., Korea), and GeunYoung Yeom (Sungkyunkwan Univ., Korea)

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Effect of Oxygen on High Aspect Ratio Contact Etching Using Carbon-Rich Hydrofluorocarbon Gases

Hyun Woo Tak, Chan Hyuk Choi, Seong Bae Kim, Seul Ki Ki, Dong Woo Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

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Tilting Improvement according to Electrode Design in HARC Chamber

Sung-Kwang Kim and Chin-Wook Chung (Hanyang Univ., Korea)

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Bow CD Reduction during HARC Hole Etch

Dong-Hyun Lee and Chung Chin-Wook (Hanyang Univ., Korea)

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Edge Pattern Distortion Control with HARC Etch

Ki-Sung Hong and Chin-Wook Chung (Hanyang Univ., Korea)

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Plasma Information-Based Virtual Metrology(PI-VM) of Fluorocarbon Plasma Etching Profile

Gwanjoong Kim, Ji-Won Kwon, Ingyu Lee, Hwiwon Seo, and Gon-Ho Kim (Seoul Nat'l Univ., Korea)