[P2] Poster Session II	
Session Date	November 13 (Thu.), 2025
Session Time	15:55-16:45
Session Room	Grand Ballroom 4, 2F

[P2-1]

Tungsten CMP Using Fe-Substituted Silica

Jun Lee, Seungmin Yang, Sihyun Moon, Seoyeong Choi, and Kangchun Lee (Kwangwoon Univ., Korea)

[P2-2]

Engineering Molybdenum Oxidation States via Catalytic-Oxidation

Ilhwa Hong, Donggeun Park, Dongwon Kim, Young min Kim, Sung min Ji, Soo young Lee (Kwangwoon Univ., Korea), Ganghyeok Kim, Minseo Kim (Kyonggi Univ., Korea), and Kangchun Lee (Kwangwoon Univ., Korea)

[P2-3]

Suppression of PAA-Si_3N_4 Electrostatic Interaction under Low-pH Conditions for Defect Mitigation in Consecutive Gate Poly Open CMP

Donggeun Park, Ilhwa Hong, Dongwon Kim, Youngmin Kim, Sungmin Ji, Sooyoung Lee (Kwangwoon Univ., Korea), Ganghyeok Kim, Minseo Kim (Kyonggi Univ. Korea), and Kangchun Lee (Kwangwoon Univ., Korea)

[P2-4]

Coordination Chemistry Approaches for Copper Corrosion Control in CMP Process

Ganghyeok Kim (Kyonggi Univ., Korea), Donggeun Park, Ilhwa Hong, Dongwon Kim, Youngmin Kim, Sungmin Ji, Sooyoung Lee (Kwangwoon Univ., Korea), Minseo Kim (Kyonggi Univ., Korea), and Kangchun Lee (Kwangwoon Univ., Korea)

[P2-5]

Ce^{3+}-Enriched CeO_2 Nanoparticles via Hydrogen Reduction for Enhanced Silicate Adsorption

Giha Lee, Ganggyu Lee, Sumin Hong, Suntae Kim, Taeseup Song, and Ungyu Paik (Hanyang Univ., Korea)

[P2-6]

Surface Modification of Ceria Nanoparticles by Hydrogen Reduction for High-Efficiency CMP

Gimok Lee, Minhee Han, Seongmin Cho, Sangjun Chun, and Kangchun Lee (Kwangwoon Univ., Korea)

[P2-7]

Enhanced Polishing Performance Using Amine-Functionalized Silica Nanoparticles in CMP Slurry

Hyun-Ji Hwang (Hannam Univ., Korea), Min-Uk Jeon, Jea-Gun Park (Hanyang Univ., Korea), and Tae-Dong Kim (Hannam Univ., Korea)

[P2-8]

Development of High-Purity SiO_2 Nanoparticles via EDTA Chelation for Advanced CMP Applications

Ji-Soo Jung, Su-Ho Lee (Hannam Univ., Korea), Min-Uk Jeon, Jea-Gun Park (Hanyang Univ., Korea), and Tae-Dong Kim (Hannam Univ., Korea)

[P2-9]

Design of Highly Dispersed Colloidal Silica via Lattice Dissolution-Reprecipitation Replacement for Tungsten CMP

Yeongun Ju, Byeongjin Seo, Seungwon Ryu, and Seho Sun (Yeungnam Univ., Korea)

[P2-10]

Design of Copper with Ruthenium Barrier Film CMP Slurry by Difference of π-Backbonding Strength for Inhibition of Galvanic Corrosion

Byeongjin Seo, Yeongun Ju, Seungwon Ryu, and Seho Sun (Yeungnam Univ., Korea)

[P2-11]

Plasma Resistance Behavior of Y_2O_3–Al_2O_3–SiO_2 (YAS) Glass According to Sintering Conditions

Hwan-Yoon Jang and Hyun-Kwuon Lee (Kumoh Nat'l Inst. of Tech., Korea)

[P2-12]

Flexible Single-Crystalline Si TFTs with Anisotropic Etching

Ji-Woong Cho and Yei-Hwan Jung (Hanyang Univ., Korea)

[P2-13]

Integrative Analysis of Residual Stress in Multiple Si/SiGe Heteroepitaxial Layers Grown by RPCVD

Gustavo Panama, Sang-Hoon Kim, Subin Heo, Jeong Woo Park, and Dongwoo Suh (ETRI, Korea)

[P2-14]

Atomistic Insights into CF_x Radical Adsorption and Early-Stage Fluorocarbon Film Growth on Amorphous Si_3N_4 Surfaces

Mihyeon Jo and Sangheon Lee (Ewha Womans Univ., Korea)

[P2-15]

Etching Characteristics of Silicon Nitride Film Using NF_3/NH_3 Plasma in a Cryogenic Reactive Ion Etching System

In-Young Bang, Ga-Eun Hwang, Hyo-Jong Shin, Yoon-Joo Jeong, Gwang-Ho Lee, Chang-Hee Lee, In-Hyeok Kho, Yu-Jin Heo, Hee-Sam Cheon, Jae-Hyeon Kim, Ji-Hwan Kim, Ye-Jun Cheon, Tae In Ha, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[P2-16]

Two-Dimensional Channel Type Control via Plasma-Induced Edge Chemistry

Seokjin Ko and Jihyun Kim (Seoul Nat'l Univ., Korea)

[P2-17]

CMOS-Compatible TiN Edge Contacts to 2D TMD FETs via Atomic Layer Deposition

Seongyun Yang, Gyeonghwan Kim, and Jihyun Kim (Seoul Nat'l Univ., Korea)

[P2-18]

Characteristics of Low-Temperature Etching at $CF_4/CH_2F_2/Ar$ Plasma in Reactive Ion Etching System

Ye-Jun Cheon, Ji-Hwan Kim, In-Young Bang, Jae-Hyeon Kim, Gwang-Ho Lee, Chang-Hee Lee, Yoon-Joo Jeong, Hyo-Jong Shin, In-Hyeok Kho, Yu-Jin Heo, Hee-sam Cheon, Ga-Eun Hwang, Tae-In Ha, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[P2-19]

Visualization of Dissolution Mechanism for Ti and Si_3N_4 by Quantum Simulation

Youngsu Jang, Jeongjun Park, and Heung Bin Lim (RAM Technology Co., Ltd., Korea)

[P2-20]

Thermal Atomic Layer Etching of Mo for Next-Generation Interconnect Applications

Giyeong Shin and Taewook Nam (Sejong Univ., Korea)

[P2-21]

Investigation of Neutral Gas Heating Effects in an Inductively Coupled Ar/C4F8 Plasma

Seong-Jin Park, Su-Gi An, and Ju-Hong Cha (Gyeongsang Nat'l Univ., Korea)

[P2-22]

Investigation of Environmentally Friendly Gas Alternatives for High-Selectivity SiNx Etching with SiOx Masks

Hyun Bong Jang, Jong Woo Hong, Sung Hyun Kim, Hyung Jun Uh, Chan Ho Kim, Jun Won Jung, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P2-23]

High Selectivity Isotropic Dry Etching of SiGe Using NF_3 Gas in a Remote Plasma

Eun Seok Yoon, Hong Seong Gil, Woo Chang Park, and Geun Yeong Yeom (Sungkyunkwan Univ., Korea)

[P2-24]

High Aspect Ratio Etching of SiO_2 with Low Global Warming C4F8 Isomers

Minha Ku, Daeun Hong, Minsung Jeon, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P2-25]

Electron Density Prediction with Equivalent Circuit Model Using VI-Probe in Inductively Coupled Plasma Reactor

Eunchong Park, Jaehyeon Kim, Sanghee Han, Minseong Kim, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P2-26]

Low Temperature Atomic Layer Etching of SiO_2 Using CH_2F_2/Ar Plasma in an Inductively Coupled Plasma System

In-Hyeok Kho, Ji-Hwan Kim, In-Young Bang, Jae-Hyeon Kim, Gwang-Ho Lee, Chang-Hee Lee, Hyo-Jong Shin, Yoon-Joo Jeong, Yu-Jin Heo, Hee-Sam Cheon, Ye-Jun Cheon, Ga-Eun Hwang, Tae In Ha, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[P2-27]

Progress and Performance of 6×12 EUV Photomask in RSP612 Carrier

Asheesh Nautiyal, Elson Tu, and Chiaho Chuang (Gudeng Precision Industry Co., Ltd., Taiwan)

[P2-28]

Controlled Stacking of Discrete Polymeric Line Patterns toward 3D Nanostructure Formation

Yu Na Kim (Pukyong Nat'l Univ., Korea), Eun Bin Kang (UNIST, Korea), Yu Jin Kang, Hee Rak Choi (Pukyong Nat'l Univ., Korea), and Woon Ik Park (Pukyong Nat'l Univ. and RanoM Co., Ltd., Korea)

[P2-29]

Lithography-Free Interdigitated Electrodes by Trench-Filling Patterning on Polymer Substrate for Alzheimer's Disease Detection

Junsoo Moon, Heewoo Jeon, Wonho Lee, and Joonsub Shim (Kwangwoon Univ., Korea)

[P2-30]

Lithography-Friendly Metasurfaces Design for Both Polarization and Wavelength Selective Filtering

Yu Geun Ki and Soo Jin Kim (Korea Univ., Korea)

[P2-31]

Large-Scale Inverse Design of Volumetric Freeform Metasurfaces via Automatic Differentiation for Angle-Robust Nanophotonic Color Routing

Jaehyun Jeon, Chanhyung Park, Doyoung Heo (KAIST, Korea), Haejun Chung (Hanyang Univ., Korea), and Min Seok Jang (KAIST, Korea)

[P2-32]

$Ti_3C_2T_x$ MXene Plasmonic Resonators for Nonlocal-Effect-Enhanced SWIR Photodetection

Hyeju Kim, Jisung Kwon, and Myung-Ki Ki (Korea Univ., Korea)

[P2-33]

Energy Level Alignment of Colloidal Quantum Dots for Hole Injection in Comparison with Organic Materials

Subeen Kim, Kyung-Geun Lim, Jun Hyung Kim (KRISS and Univ. of Science and Tech., Korea), In-Hye Lee (KRISS, Korea), Mahnmin Choi, Daekwon Shin, Sohee Jeong (Sungkyunkwan Univ., Korea), and Jeong Won Kim (KRISS and Univ. of Science and Tech., Korea)

[P2-34]

Study on CVD and ALD Processes for Al_2O_3 Coatings of Plasma Process Equipment Parts

Inseok Jeong (KRISS and Univ. of Science and Tech., Korea), Jaeuk Lim (KRISS and Hanyang Univ., Korea), Chanjung Kim (KRISS and Univ. of Science and Tech., Korea), Seonjeong Maeng (KRISS, Korea), and Ju-Young Yun (KRISS and Univ. of Science and Tech., Korea)

[P2-35]

Plasmonic Nanoparticles Effect on Polaronic Signal Enhancement for P3HT Based Organic Photovoltaic Device: A Comparative Study on Fullerene and Non-Fullerene Acceptors

Farris Hilmyafif Elli (KRISS and Univ. of Science and Tech., Korea), Taekyung Yu (Kyung Hee Univ., Korea), and JeongWon Kim (KRISS and Univ. of Science and Tech., Korea)

[P2-36]

Enhanced In-Plane Charge Transport in Dion–Jacobson Phase 2D Perovskites via Crystal Orientation Control

Doyoung Park (Yonsei Univ. and KRISS, Korea), Subeen Kim (KRISS and Univ. of Science and Tech., Korea), Kyung-Geun Lim (Yonsei Univ., KRISS, and Univ. of Science and Tech., Korea), Hyeonsam Goh (Yonsei Univ. and KRISS, Korea), Farris Hilmyafif Elli (KRISS and Univ. of Science and Tech., Korea), ChaeHo Shin (KRISS, Korea), Yeonjin Yi (Yonsei Univ., Korea), and Jeong Won Kim (Yonsei Univ., KRISS, and Univ. of Science and Tech., Korea)

[P2-37]

Improving the Accuracy of Subsurface CD Measurement in Scaled DRAM via AI-Based Inverse Modeling

Sanghee Han (Sungkyunkwan Univ. and SAIT, Korea) and Byoungdeog Choi (Sungkyunkwan Univ., Korea)

[P2-38]

Correlative Analysis of Oxygen Vacancies at the TiN/ZrO_2 Interface for MIM Capacitor Optimization

Yujeong Ahn, Seungwook Choi, and Ansoon Kim (KRISS and Univ. of Science & Tech., Korea)

[P2-39]

Robust Anomaly Detection Method for Advanced Packaging via Integration of PatchCore and DBSCAN

JiSeok Han (KITECH, Korea), Taell Kim, and WooYoung Jang (Dankook Univ., Korea)

[P2-40]

Metrology-Centric Elucidation of Ga_2O_3 Interlayer Band-Offset Engineering Enabling Low-Voltage Multilevel Storage in HZO FeCAPs

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

[P2-41]

Fault Detection and Anomaly Monitoring System for PID-Based Flow Controllers in Semiconductor Manufacturing Equipment

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

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Giant Ferroelectric Response of $Hf_{0.5}Zr_{0.5}O_2$ (HZO) Capacitors by Robust Interface Engineering by MoN Electrodes Relative to W Electrodes

Minje Lee, Guno Kim, Minwoo Kim, Amir Sohail Khan, and Hyungtak Seo (Ajou Univ., Korea)

[P2-43]

Real-Time Temperature Monitoring of Wafer Chuck and Focus Ring at Ar Plasma

Ga-Eun Hwang, Jae-Hyeon Kim, Ji-Hwan Kim, In-Young Bang, Gwang-Ho Lee, Chang-Hee Lee, Hyo-Jong Shin, In-Hyeok Kho, Yoon-Joo Jeong, Yu-Jin Heo, Hee-Sam Cheon, Ye-Jun Cheon, Tae In Ha, and Gi-Chung Kwon (Kwangwoon Univ., Korea)

[P2-44]

Gas Ratio-Driven Passivation Film Deposition and Structural Evolution on Si and HfO_2 Substrates in Inductively Coupled C_4F_8/CH_4 Plasma

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

[P2-45]

3D Atomic Force Microscopy (AFM) for High-Precision 3D Metrology of Semiconductor and Display Devices

Hye Hyun Yu, Gyuho Han, Ji Hyun Kim, and Seung Yeon Sung (Park Systems Corp., Korea)

[P2-46]

In-Line AFM-Based Wafer Bonding Edge Profiling and Metrology

Seki Park, Jiwon Kim, Sooyeon Kim, and Seung Yeon Sung (Park Systems Corp., Korea)

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Quantification of the Carbon-Containing Diatomic Radicals in Carbon-Based Inductively Coupled Plasma via Optical Absorption Spectroscopy

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

[P2-48]

Effects of UV/Ozone and Forming Gas Annealing Surface Treatments on the Minority Carrier Lifetime of Boron-Doped Silicon Wafers

Doyun Kim and Byoungdeog Choi (Sungkyunkwan Univ., Korea)

[P2-49]

Accurate Surface Oxide Vacancy Characterization in ALD HfO_2, ZrO_2, and HZO Films by XPS: Effect of Sputtering Method

Seungwook Choi, Yujeong Ahn, and Ansoon Kim (KRISS and Univ. of Science & Tech., Korea)

[P2-50]

Predictive Indices for Rational Selection of CMP Pads Considering Scratch and Removal Rates

Hyeongmin Je, Hyun Jun Ryu (KAIST, Korea), Haesung A. Lee (Samsung Electronics Co., Ltd., Korea), and Sanha Kim (KAIST, Korea)

[P2-51]

Improvement of Bending Failure through Optimized Support Structure in 15nm DRAM Capacitors

Minhyung Kim (Sungkyunkwan Univ., and Samsung Electronics Co., Ltd., Korea), and Yunseok Kim (Sungkyunkwan Univ., Korea)

[P2-52]

Temporary Bonding Wafer TTV(Total Thickness Variation) Measurement for Each Bonding Layer Using FSH(Flying-Over Scanning Holography)

Cheon-Ya Seong and Hyung-Uk Kim (Cubixel Co., Ltd., Korea)

[P2-53]

Experimental Study of Particle Extraction Driven by Photon Momentum under Semiconductor Processing Conditions

Jun-Hyung Park and Hyo-Chang Lee (Korea Aerospace Univ., Korea)

[P2-55]

A Study on CF_4 Decomposition and Removal Efficiency for Plasma-Wet Scrubber Systems

Jinwoo Oh, Kwiyoung Cho, Jingi Hong, Hyeonbin Kim, and Bumsuk Jung (Myongji Univ., Korea)

[P2-56]

Evaluation of Adsorption/Desorption Behavior and Its Correlation with Neutralization Efficiency in Precursor Vent Pipelines

Suyeon Kim, Seeun Kim, Hyeonbin Kim (Myongji Univ., Korea), Sunghoon Baek, Taehee Yeom, Sookyoung Hong (Samsung Electronics Co., Ltd., Korea), and Bumsuk Jung (Myongji Univ., Korea)

[P2-57]

DFT Simulation of Reaction Catalyst Process for Carbonyl Fluoride Synthesis

Han dock Song (RIST, Korea), Dea Hee Kim (SA LAB, Korea), Joon woo Kim, and Suk young Jung (RIST, Korea)

[P2-58]

RealGraphGPU^{Web}: A Convenient and Efficient GPU-Based Graph Analysis Platform on the Web

Jeong-Min Park, Myung-Hwan Jang, and Sang-Wook Kim (Hanyang Univ., Korea)

[P2-59]

Polarity-Dependent Threshold Switching in Toxic-Element-Free Binary Chalcogenide Selector-Only Memory Devices

Minju Kim, Saegyoung Song, Byeongchan Sim, Jeongwoo Seo, Dong Il Kim, Hui Gu Lee, Hyunwee Cho, and Jin Pyo Hong (Hanyang Univ., Korea)

[P2-60]

a-IGO (Indium-Gallium Oxide) GAA (Gate-All-Around) FETs for Future Stretchable Display

Tae Bong Kim, Seong Min Park, and Jae Kyeong Jeong (Hanyang Univ., Korea)

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High Performance Top-Gate α-IGZTO Thin-Film Transistor with SiO_2/Al_2O_3 Gate Insulator Stacks

Yena Kim and Jae Kyeong Jeong (Hanyang Univ., Korea)

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A Single-Ended PAM-4 Transmitter Front-End with ZQ-Based FFE

Geunyoung You, Yonghwa Kwon, and Jaeduk Han (Hanyang Univ., Korea)

[P2-63]

Switching Speed Enhancement of ECRAM via Electrolyte Engineering

Min-Jong Han, Jae-Kyeong Kim, Gwang-Ho Park, and Jinsub Park (Hanyang Univ., Korea)

[P2-64]

On the Optimization of the Electron Beam for Electron-Assisted Processing

Jae-Hwi Kim and Chin-Wook Chung (Hanyang Univ., Korea)

[P2-65]

Enhanced Electron Density in an Ultra-Low Electron Temperature Plasma via a Parallel Resonant Capacitor in an Inductively Coupled Plasma

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

[P2-66]

Impact of Tungsten-Induced Stress on Silicon Substrate Mobility in V-NAND Structures

Beomsu Kim and Yun-Heub Song (Hanyang Univ., Korea)

[P2-67]

Materials and Coating Technology Trends for Next-Generation Semiconductor Etch Processes

Kang-Bin Bae, Ji-Hwan Yun, Sang-Young Jo, Dong-Ho Shin, Jae-Wook Choi, Min-Seob Jung, Min-Ju Jun, Seung-Young Oh, and Eun-Young Choi (Wonik QnC Corp., Korea)

[P2-68]

Etching Characteristics of SiO_2 Using PF_5 + X(C_4F_6 & C_4F_8) Plasma Chemistries with ACL Mask

Ho June Chang, Byeongho Song, HyunJun Kim, Jeongwoon Bae, and Kyongnam Kim (Deajeon Univ., Korea)

[P2-69]

Advanced Etch Technology Using Ultra-Low Electron Temperature Plasma

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

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Ultra-Low Electron Temperature Plasma for Atomic-Scale Semiconductor Processing

Min-seok Kim, Junyoung Park, and Chin wook Chung (Hanyang Univ., Korea)

[P2-71]

Structural Transition-Induced Resistance Switching in Lead-Free $Cs_{3-x}MA_xSb_2I_9$ Perovskite for Storage Class Memory Applications

Taehyeong Kim, Seongho Jo, Myung Hoe Kim, Suyeon Kang, Sangmin Lee, Youngjoon Yoo, and Youngpyo Jeon (Seoul Nat'l Univ., Korea)