

<b>Session Title:</b>	<b>[P1] Poster Session I</b>
<b>Session Date:</b>	<b>November 14 (Mon.), 2022</b>
<b>Session Time:</b>	<b>17:10~18:00</b>
<b>Session Room:</b>	<b>Grand Ballroom 4, 2F</b>

**[P1-001]**

**Effects of Y Doping on Ferroelectric and Electrical Properties of As-Deposited  $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$  Thin Films via Atomic Layer Deposition**

**Youkyoung Oh, Hyo-Bae Kim (Hanyang Univ., Korea), Sangjun Park (Micron Technology, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)**

**[P1-002]**

**Potential Failure of LMFC Module for Semiconductor Deposition Using Fault Design Platform**

**Young-Gi An and Jae-Seong Jeong (KETI, Korea)**

**[P1-003]**

**ALD Halo Metallic Tungsten by  $\text{H}_2$  Reduction with Non-Fluorinated Precursors**

**Jungho Lee (Hanyang Univ., Korea), Hyeong Seop Shin (LAM Research Korea, Korea), and Hyeongtag Jeon (Hanyang Univ., Korea)**

**[P1-004]**

**Rutile- $\text{TiO}_2$  Thin Films Deposited by Atomic Layer Deposition Using Thin  $\text{SnO}_2$  Seed Layer and Sn Doping for DRAM Capacitor**

**Min Ji Jeong, Seung Won Lee (Hanyang Univ., Korea), Hyuncho Cho (LAM Research, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)**

**[P1-005]**

**High Conductivity ZnO Films Fabricated by Spin-Spray Method**

**Younghwa Yoon, Jeongsoo Hong, Kyunghwan Kim (Gachon Univ., Korea), Nobuhiro Matsushita (Tokyo Inst. of Tech., Japan), and Jeongsoo Hong (Gachon Univ., Korea)**

**[P1-006]**

**Diagnostics of Time-Varying Harmonics for SiOF Thin Film HDP CVD System**

**Yonggyun Park, Pengzhan Liu, Seunghwan Lee, Sihoon Son, and Taesung Kim (Sungkyunkwan Univ., Korea)**

[P1-007]

Few-Layer MoS<sub>2</sub> Thin Film Used as a Transparent Conductive Electrode for Ge Based Photodetector

Zumuukhorol Munkhsaikhan, Boldbaatar Sosorburam, and Chel Jong Choi (Jeonbuk Nat'l Univ., Korea)

[P1-008]

Effect of Purge Step of Atomic Layer Deposition on TiN Thin Film Properties

Ju Eun Kang, Su Rin An, and Sang Jeen Hong (Myongji Univ., Korea)

[P1-009]

Heterostructure of 2D WS<sub>2</sub>-ZnO Composite for NO<sub>2</sub> Sensor at Room Temperature

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

[P1-010]

Properties of CVD Graphene Selectively Oxidized with KMnO<sub>4</sub>/ H<sub>2</sub>SO<sub>4</sub>

Yejin Choi, Seungmun Baek, and Sungjin An (Kumoh Nat'l Inst. of Tech., Korea)

[P1-011]

Charge Trap Memory According to the Thickness of the Trapping Layer for Synaptic Transistor

Eunseo Jo and You Seung Rim (Sejong Univ., Korea)

[P1-012]

Conduction Mechanism of ZrO<sub>2</sub>-Based Nano-Laminates Structure for Suppressing the Leakage Current

Seung Won Lee, Min Ji Jeong (Hanyang Univ., Korea), Gisung Yoon (Micron Technology, USA), and Ji-Hoon Ahn (Hanyang Univ., Korea)

[P1-013]

Plasma Atomic Layer Etching of Dielectric Films Using  $\beta$ -Diketonate Reagents

Jeongbin Lee (Hanyang Univ., Korea), Seunggi Seo (Stanford Univ., USA), and Woo-Hee Kim (Hanyang Univ., Korea)

[P1-014]

Effects of Electrical Characteristics on Undoped and Li-Doped NiO<sub>x</sub> Interlayers on  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Schottky Barrier Diodes

Ji Young Min and You Seung Rim (Sejong Univ., Korea)

[P1-015]

Selectively Growing of MoO<sub>x</sub> Thin Films for the Next-Generation DRAM Capacitor Applications

Yewon Kim, Jeong Hyeon Park, Ae Jin Lee (Kyung Hee Univ., Korea), Songyi Moon, Taewon Youn, Minyung Lee (SK hynix, Korea), and Woojin Jeon (Kyung Hee Univ., Korea)

[P1-016]

Study on the Reduction of Leakage Currents for Atomic Layer Deposition HfO<sub>2</sub> Thin Films

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

[P1-017]

High-Mobility p-Channel Tin Monoxide Transistors with Negligible Hysteresis

Taikyu Kim, Se Eun Kim, and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P1-018]

A Study on the Control of Space CD and Sidewall Oxidation Thickness Using ALD Process in the Narrow Space Poly Cut Etch

Kwiseok Ha, Chinwook Chung, and Hyeongtag Jeon (Hanyang Univ., Korea)

**[P1-019]**

**Effect of the Structures of Atomic Layer Deposition (ALD) Films on Dark-Current and Quantum Efficient in Metal-Semiconductor-Metal (MSM) Photodetector**

**Kyeong-Keun Choi, Sung-Kyu Kim (POSTECH, Korea), HongGyun Kim, Vijay D. Chvan, Deok-Ke Kim (Sejong Univ., Korea), and Jae-Sung Lee (Uiduk Univ., Korea)**

**[P1-020]**

**Characteristics of Silicon Nitride Deposited by Very High Frequency (162 MHz)-Plasma Enhanced Atomic Layer Deposition Using Di(isopropylamino)silane and N<sub>2</sub> Plasma**

**You Jin Ji, Hae In Kim, Ki Hyun Kim, Ji Eun Kang (Sungkyunkwan Univ., Korea), Albert Rogers Ellingboe (Dublin City Univ., Ireland), and Geun Young Yeom (Sungkyunkwan Univ., Korea)**

**[P1-021]**

**Fabrication of Vertical Field-Effect Transistor through Optimization of Dry Etching**

**Yeonghun Lee, Hyoungbeen Ju, Jiyoung Bang, Minjin Kwon, Hyeonjeong Sun, Sangduk Kim, Onejae Sul, and Seung-Beck Lee (Hanyang Univ., Korea)**

**[P1-022]**

**The Epitaxially Grown Ferroelectric Hf<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub> Thin Film Using Pulsed Laser Deposition Method**

**Woohyeon Ryu, Chansoo Yoon, and Bae Ho Park (Konkuk Univ., Korea)**

**[P1-023]**

**Amorphous Carbon Deposited TeO<sub>2</sub> Nanowires for Nitrogen Dioxide (NO<sub>2</sub>) Gas Detection at Room Temperature**

**Eun Bi Kim, Ka Yoon Shin, Wansik Oum, Dong Jae Yu, Suk Woo Kang, Hyeong Min Kim, S.P. Bharath, and Hyoun Woo Kim (Hanyang Univ., Korea)**

**[P1-024]**

**Full-Color Electroluminescence based on Doped ZnGa<sub>2</sub>O<sub>4</sub> Oxide in MOS Structure**

**Mohammad M. Afandi, Jehong Park, Hyunjee Jung, Jingi Gim, Gyeongdo Baek, Sanghyeon Lim, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)**

[P1-025]

Progressive and Stable Synaptic Plasticity with Attojoule Energy Consumption by the Interface Engineering of a Metal/Ferroelectric

Sohwi Kim, Chansoo Yoon, Gwangtaek Oh, Minjeong Shin, Eun Hee Kee, Bae Ho Park (Konkuk Univ., Korea), Ji Hye Lee (Seoul Nat'l Univ., Korea), Sanghyun Park, Bo Soo Kang (Hanyang Univ., Korea), and Young Heon Kim (Chungnam Nat'l Univ., Korea)

[P1-026]

UV Electroluminescence from Ce<sup>3+</sup>-Doped CaSiO<sub>3</sub> in Metal-Oxide-Semiconductor through Sputtering

Hyunjee Jung, Jingi Gi, Sanghyeon Lim, Gyeongdo Baek, Mohammad M. Afandi, Chunghyun Lee, Busic Kang, Jehong Park, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-027]

193 nm-Ultraviolet Electroluminescence from YPO<sub>4</sub>:Nd<sup>3+</sup> Emitting Layer in MOS Structure

Gyeongdo Baek, Jehong Park, Hyunjee Jung, Jingi Gim, Mohammad M. Afandi, Sanghyeon Lim, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-028]

Surface-Acoustic-Wave Based Ultraviolet Sensor with Green Electroluminescence from Zn<sub>2</sub>SiO<sub>4</sub>:Mn<sup>2+</sup> Active Layer on LiNbO<sub>3</sub> Piezoelectric Substrate with Electroluminescence

Jingi Gim, Sanghyeon Lim, Hyunjee Jung, Mohammad M. Afandi, Gyeongdo Baek, Jehong Park, Jugyeong Lee, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-029]

260 nm UVC-Emitting Y<sub>2</sub>SiO<sub>5</sub>:Pr<sup>3+</sup> Film in Xenon Excimer Lamp

Sanghyeon Lim, Hyunjee Jung, Gyeongdo Baek, Jingi Gim, Mohammad M. Afandi, Jugyeong Lee, Jehong Park, and Jongsu Kim (Pukyong Nat'l Univ., Korea)

[P1-030]

Charge Trapping Memory Device based on MoS<sub>2</sub> FET with CrPS<sub>4</sub> Interlayer

Minjeong Shin, Mi Jung Lee, Chansoo Yoon (Konkuk Univ., Korea), Je-Geun Park, Sungmin Lee (Seoul Nat'l Univ., Korea), and Bae Ho Park (Konkuk Univ., Korea)

[P1-031]

High-Performance Au-Nanopillar Electrodes for MoS<sub>2</sub>-Based Optoelectronic Devices

Jungeun Song, Soyeong Kwon, Hyunjeong Jeong, Anh Thi Nguyen, Ha Kyung Park, William Jo, Sang Wook Lee, and Dong-Wook Kim (Ewha Womans Univ., Korea)

[P1-032]

Electrical Characterization of Hexagonal Boron Nitride Films Prepared by Chemical Vapor Deposition with Two Growth Modes

Sung Kyu Jang, Seul-Gi Kim, and Hyeongkeun Kim (KETI, Korea)

[P1-033]

Evaluation of Thermal Stability under Vacuum Environment of Tetrakis(ethylmethylamino)hafnium (TEMAHf) for Atomic Layer Deposition

Hayeong Kim, Jiwon Park, Jaeuk Lim, SeonJeong Maeng, and Ju-Young Yun (KRISS, Korea)

[P1-034]

Development of Atomic Layer Deposited InGaZnO Process for Next-Generation Semiconductor Channel Materials

Du-Ho Kim, Seung-Hyun Lee, Duck-Ho Kim, and Chang-Kyun Park (Jusung Engineering Co., Ltd., Korea)

[P1-035]

AZO/Ag/AZO Transparent Electrode with Improved Moisture Permeability for Flexible Heaters

Sung Kyu Jang, Hyeyoung Kim, Seul-Gi Kim, Hyun-Mi Kim, and Hyeongkeun Kim (KETI, Korea)

[P1-036]

Control of the Radiation Temperature in Low-Pressure Nitrogen Plasma

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

[P1-037]

Study of Silicon Oxynitride Thin Films by Plasma-Enhanced Atomic Layer Deposition Using a Tetrakisocyanatesilane (TICS) and N<sub>2</sub> Plasma

Hae Lin Yang, Tae-Yeon Kim, GeonHo Baek, and Jin-Seong Park (Hanyang Univ., Korea)

[P1-038]

Fabrication of Organic/Inorganic Hybrid 2D Tincone Film via Molecular Layer Deposition

GeonHo Baek, Seunghwan Lee, Hye-Mi Kim, Su Hwan Choi, and Jin-Seong Park (Hanyang Univ., Korea)

[P1-039]

Novel Precursors of  $ZrO_2$  and  $HfO_2$  for High- $\kappa$  Metal Oxide Thin Films

Ga Yeon Lee, Seungmin Yeo, Taeyong Eom (KRICT, Korea), Jeong Hwan Kim (Hanbat Nat'l Univ., Korea), and Taek-Mo Chung (KRICT, Korea)

[P1-040]

Thermally Stable  $HfN_x$  Based Bidirectional Diode and Its Integration in the Crossbar Array Enabled by Atomic Layer Deposition

Ha Young Lee, Jae Hee Go, Seok Choi, and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-041]

Thermal Analysis of Ovonic Threshold Switch Devices based on Various Chalcogenide Films

Ju Hwan Park, Myeong Jun Jung (Seoul Nat'l Univ. of Science and Tech., Korea), Gun Hwan Kim (KRICT, Korea), Min Kyu Yang (Sahmyook Univ., Korea), and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-042]

Molybdenum Thin Film Formation from Molybdenum Nitride Deposited by Plasma-Enhanced Atomic Layer Deposition with Modulated Plasma Conditions

Jeong Hyeon Park, Yewon Kim and Woojin Jeon (Kyung Hee Univ., Korea)

[P1-043]

The Effect of Gas Composition on the Properties of Silicon Oxynitride Thin Film Prepared Using Nitridation of Silicon Oxide Substrates in Low-Pressure Inductively Coupled Plasma

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

[P1-044]

Development of New Germanium Precursors for ALD

Heenang Choi, Taeyong Eom, and Taek-Mo Chung (KRICT, Korea)

[P1-045]

Comparison of Self-Rectifying Behavior of Oxide Based Monolayer and Bilayer Device

Jae Hee Go, Min Gyoo Cho, and Byung Joon Choi (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-046]

Effect of La Doping on the Ferroelectricity of HfO<sub>2</sub> Films Deposited by Atomic Layer Deposition

Juyoung Jeong, Yoogeun Han, Jaeyeon Kim, and Hyunchul Sohn (Yonsei Univ., Korea)

[P1-047]

Fabrication of Hf-Zr-O Based Ferroelectric Field Effect Transistor Using In-Ga Sn-O Channel Layer by Atomic Layer Deposition

Hyeonhui Jo, Jina Kim, Pil Ju Youn, Hee Won Jang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-048]

Low-Resistivity Molybdenum Carbide and Nitride Thin Films Grown by Modified Atomic Layer Deposition

Wang Kang and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-049]

Hollow Cathode Plasma Atomic Layer Deposition of NbN Film Using Novel Nb Precursor

Wonho Jo, Wangu Kang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-050]

Growth and Characterization of Atomic Layer Deposited In<sub>2</sub>O<sub>3</sub> Thin Film Using Novel Liquid in Precursor

Hee Won Jang, Sang Hyeon Jo (Seoul Nat'l Univ. of Science and Tech., Korea), Ji-Seoung Jeong, Ji Yeon Ryu (KRICT, Korea), and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)



[P1-051]

Work Function Tunable Molybdenum Carbonitride Thin Films by Plasma Enhanced Atomic Layer Deposition for Metal Gate Application

Ji Sang Ahn and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-052]

Low-Power and High-Performance P-Channel SnO Thin Film Transistor Using Hafnia-Based Gate Oxide

Jina Kim, Myeong Gil Chae, Hee Won Jang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-053]

Growth and Film Characteristics of Ruthenium Thin Films by Thermal Atomic Layer Deposition

Jae Yeon Kim, Eun Chong Ko, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-054]

RF Magnetron Sputtering of Molybdenum Dioxide for Next-Generation DRAM Electrode

Jae Hyeon Lee, Wangu Kang, and Jeong Hwan Han (Seoul Nat'l Univ. of Science and Tech., Korea)

[P1-055]

Study of Pad Surface Asperity by Various of Diamond Arrangement in Ceria CMP Process

Dong-Hoon Lee (Sungkyunkwan Univ., Korea), Y.H Hong (Saesol Diamond Ind. Co., Ltd., Korea), and Tae-Sung Kim (Sungkyunkwan Univ., Korea)

[P1-056]

Chemisorption of Fluorinated Species on the 3D-NAND Dielectric Deposition Chamber Wall in Chamber Cleaning Step

Young Min You, Min Ho Kim, and Sang Jeen Hong (Myongji Univ., Korea)

[P1-057]

Effect of Scrubbing Parameters on Mechanical Properties and Wafer Cleaning during Post-CMP PVA Brush Cleaning

Kwang-Min Han, Suprakash Samanta, Jerome Peter, and Jin-Goo Park (Hanyang Univ., Korea)

[P1-058]

Control Galvanic Corrosion of Cu/Ru in Chemical Mechanical Planarization

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

[P1-059]

Size Dependent Surface Chemistry of CeO<sub>2</sub> Nanoparticles for Silicate Adsorption

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

[P1-060]

Polymer Link Breakage of Polyimide-Film-Surface Using Hydrolysis Reaction Accelerator for Enhancing Chemical-Mechanical-Planarization Polishing-Rate

Man-Hyup Han, Eun-Seong Kim, Hyeong-Ju Jin, Kyung-Sik Lee, and Jea-Gun Park (Hanyang Univ., Korea)

[P1-061]

Fenton Reaction for Enhancing Polishing Rate and Protonated Amine Functional Group Polymer for Inhibiting Corrosion in Ge<sub>1</sub>Sb<sub>4</sub>Te<sub>5</sub> Film Surface Chemical-Mechanical-Planarization

Seong-Wan Hong, Man-Hyup Han, and Jea-Gun Park (Hanyang Univ., Korea)

[P1-062]

Sustainable Dry Etching Process with High Performance Using Low GWP Gas

Jeonga Ju, Jinkoo Park, Joonki Suh, and Hongsik Jeong (UNIST, Korea)

[P1-063]

Design of Non-Flammable Mixed Refrigerant Joule-Thomson Refrigerator for Cryogenic Etching Process

Cheonkyu Lee, Hak-Jun Lee, Jung-Gil Lee, and Jin Man Kim (KITECH, Korea)

[P1-064]

Understanding of Cryogenic Etch with Fluorine and Silicon Surface Reaction

Myeong Seok Seo and Sang Jeon Hong (Myongji Univ., Korea)

[P1-065]

A Study on the Generation of the Ultra-Low Electron Temperature Plasma

Min-Seok Kim, Deok Hwan Kim, and Chin-Wook Chung (Hanyang Univ., Korea)

[P1-066]

Etch Characteristics of Magnetic Tunnel Junction Materials Using Reactive Ion Beam Etching without a Neutralizer

Hae In Kwon, Ye Eun Kim, Doo San Kim, Yun Jong Jang, Hong Seong Gil, Jong Woo Hong, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-067]

Cyclic Isotropic Etching of PdSe<sub>2</sub>

Ji Eun Kang, Seong Jae Yu, Ki Hyun Kim, You Jin Ji, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-068]

Plasma Etching of High Aspect Ratio Trench Pattern under Ion Tilting

Min Young Yoon, Hee Jung Yeom, Jung-Hyung Kim (KRISS, Korea), Jong-Ryul Jeong (Chungnam Nat'l Univ., Korea), and Hyo-Chang Lee (KRISS, Korea)

[P1-069]

High Aspect Ratio Contact Etching Using C<sub>x</sub>H<sub>2</sub>F<sub>6</sub>

Seong Bae Kim, Hyun Woo Tak, Hye Joo Lee, Seul Ki Kim, Byung Jin Kang, Geesu Park, Jiyeon Kim, Dong Woo Kim, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-070]

Electron-Assisted PR Etching in an Inductively Coupled Oxygen Plasma via Low Energy Electron Beam

Jiwon Jung and Chin-Wook Chung (Hanyang Univ., Korea)

[P1-071]

Plasma Ashing of Low-k Dielectric Films by Using the Ferrite-Core Technologies

Suk Woo Kang, Ka Yoon Shin, Wansik Oum, Dong Jae Yu, Eun Bi Kim, Hyeong Min Kim, S.P. Bharath, and Hyeon Woo Kim (Hanyang Univ., Korea)

[P1-072]

Impedance Measurement of SiC Using Multi-Frequency Analysis for Real-Time Control of the Focus Ring in Plasma Processing

Beom-Jun Seo, Se-Hun Ahn, and Chin-wook Chung (Hanyang Univ., Korea)

[P1-073]

A Study on MoS<sub>2</sub> Etching Using Ultra-Low Electron Temperature Plasma

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

[P1-074]

Control of Temperature Distribution of Microwave Heater for Etching by Slot Antenna

Sung-Hyeon Jung, Min-Sang Park, Jong-Hoon Oh, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-075]

A Particle-In-Cell Simulation for the Two-Dimensional Structural Effect of Pulse-Driven Capacitively Coupled Ar Plasmas

Seo I Choi, Ji Hyun Shin, Hwan Ho Kim, and Hae June Lee (Pusan Nat'l Univ., Korea)

[P1-076]

Study of Plasma and Sensor Data for Plasma Process Equipment Intelligence

Jongsik Kim, Yonghyun Kim, Jongbae Park, Jonghyun Shin, Daechul Kim, Youngwoo Kim, Jungho Song, Kihwan Cho, and Jungsik Yoon (KFE, Korea)

[P1-077]

The Magnetized Inductively Coupled Ar/O<sub>2</sub> Plasma

Sang-Woo Kim, Jee-Hun Jeong, Min-Seok Jang, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-078]

Analysis of Inductively Coupled Plasma Characteristics Using Ar/CF<sub>4</sub>/O<sub>2</sub> Mixed Gas

Tae-Hui Wang, Mijin Kim, Da-Hui Yoo, and Ho-Jun Lee (Pusan Nat'l Univ., Korea)

[P1-079]

High Aspect Ratio Oxide Etching Process Using  $CF_4/C_6F_{12}O$  Plasma in ICP Etching System with a Low Frequency Bias Power

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

[P1-080]

Improved Aspect Ratio Dependent Etching of Nanoscale Si Trench by Using Asynchronously Pulsed Plasma

Hee Ju Kim, Soo Namgong, and Geun Young Yeom (Sungkyunkwan Univ., Korea)

[P1-084]

A Study on High Uniformity Windows in Atomic-Scale Etching via the Purgeless Atomic Layer Etching Approach

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

[P1-085]

Self-Consistent Spatially Averaged Global Model of  $HBr/Cl_2$  Inductively Coupled Plasma Discharge

Sang-Young Chung, Yeong Geun Yook, Won-Seok Chang, Heechol Choi (KFE, Korea), Yeon Ho Im (Jeonbuk Nat'l Univ., Korea), and Deuk-Chul Kwon (KFE, Korea)

[P1-086]

Study for 3D Feature Profile Simulation of Polysilicon Etching under the Various  $HBr/Cl_2$  Mixture Plasma Conditions

Yeong-Geun Yook, Sang-Young Jung (KFE, Korea), Jae-Hyung Park (Jeonbuk Nat'l Univ., Korea), Deuk-Chul Kwon (KFE, Korea), Dong-Hun Yu (Kyung Won Tech. Inc., Korea), Won-Seok Chang (KFE, Korea), and Yeon-ho Im (Jeonbuk Nat'l Univ., Korea)

[P1-087]

Atomic Layer Etching Process with Radical Selective Adsorption and Ion Energy Control

Junho Jeong, Yunseok Lee, Eunhong Kang, and Kyongnam Kim (Daejeon Univ., Korea)

[P1-088]

Research on HBP-ALE (High Boiling Point Atomic Layer Etching) Source Technology and Surface Reaction Mechanism Using Fluorocarbon-Based Alternative Gas

Eunchong Kang, Junho Jeong, Yunseok Lee, and Kyongnam Kim (Daejeon Univ., Korea)

[P1-089]

High-Speed Impedance Matching with Gradient Descent Algorithm for Advanced RF Plasma Etch System

Dongwon Shin and Sang Jeon Hong (Myongji Univ., Korea)

[P1-090]

A Study on High Aspect Ratio (HAR) Oxide Etching Process through Independent Control at Low Frequency Bias Using ICP System

ByungJun Woo, Gilyoung Choi, and Kwang-Ho Kwon (Korea Univ., Korea)

[P1-091]

Dry Etching of Copper Thin Films Using Acetylacetonate/O<sub>2</sub>/Ar Plasma

Seon Jae Kim, Sung Young Park, Seung Hyun Kim, Su Hyun Song, and Chee Won Chung (Inha Univ., Korea)

[P1-092]

Layer-by-Layer Etching of Copper Thin Films Using Organic Chelator/O<sub>2</sub> Gas and Ar Plasma

Seung Hyun Kim, Sung Young Park, Seon Jae Kim, Su Hyun Song, and Chee Won Chung (Inha Univ., Korea)

[P1-093]

Newly Synthesized Cluster Photoresist for Extreme Ultraviolet (EUV) Nanolithography

Hyeok Yun, Jiyoung Bang (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-094]

Preparation and Characterization of Hydrogen Silsesquioxane/Tin Oxo Cluster Blend Films for EUV Photoresist

Jiyoung Bang, Hyeok Yun, Wonchul Kee (Chonnam Nat'l Univ., Korea), Siwoo Noh, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-095]

Application of a Tin Oxo Cluster Photoresist under E-Beam and EUV Exposure

Minyeop Kim, Hyeok Yun, Jiyoung Bang (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-096]

Effect of SiN<sub>x</sub> Passivation Layer on the Radiation Efficiency of EUV Pellicle

Won Jin Kim, Seong Ju Wi, Haneul Kim, Youngwoo Kang, Jungyeon Kim, and Jinho Ahn (Hanyang Univ., Korea)

[P1-097]

A Quantitative Evaluation System for EUV Material Damage Caused by Hydrogen Plasma

Eun-Seok Choe (KRISS, Korea), Seungwook Choi, Ansoon Kim (Univ. of Science and Tech., Korea), Kwan-Yong Kim, H. J. Yeom, Min Young Yoon, Seongwan Hong, Jung-Hyung Kim (KRISS, Korea), Dong-Wook Kim (Chungnam Nat'l Univ., Korea), and Hyo-Chang Lee (KRISS, Korea)

[P1-098]

Tin Oxo Clusters of No Tin-Carbon Bond for Extreme Ultraviolet Photoresist

Wonchul Kee (Chonnam Nat'l Univ., Korea), Siwoo Noh, Geonhwa Kim, Ki-Jeong Kim (POSTECH, Korea), and Hyun-Dam Jeong (Chonnam Nat'l Univ., Korea)

[P1-099]

High-Speed Parallel Processing Sobel Filter Hardware Design

Su-Bin Park and Sunhee Kim (Sangmyung Univ., Korea)