

D-3 Functional Thin Films

Representative Organizer

Yasushi INOUE (Chiba Institute of Technology)

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Takashi KIMURA (Nagoya Institute of Technology)

Takeo NAKANO (Seikei University)

Poster Session March 27 (Fri.) 16:45 ~ 18:00

- 16:45 D3-P-01 **Effects of Sputtering Mode on the Microstructure and Ionic Conductivity of Yttria-Stabilized Zirconia Films**
Tsung-Her Yeh, ²Ruei-De Lin, ²Bo-Ruei Cherng, ^{1,2}Jyh-Shiarn Cherng
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2 DEPARTMENT OF MATERIALS ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY
- 16:45 D3-P-02 **Behavior of SiO:CH Microparticles Synthesized by CCP-CVD Process**
Haruka Koike, ¹Kouki Kosuge, ¹Naoki Goto, ¹Yasushi Inoue, ²Osamu Takai
1 DEPARTMENT OF MECHANICAL SCIENCE AND ENGINEERING, CHIBA INSTITUTE OF TECHNOLOGY
2 MATERIAL AND SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-03 **Formation of Hybrid Hafnium Oxide Using Silicon Source**
Chiung-Wei Lin, Bo-Sheng Zheng, Jing-Wei Huang
DEPARTMENT OF ELECTRICAL ENGINEERING, TATUNG UNIVERSITY
- 16:45 D3-P-04 **Low-Temperature Growth of Zincblende-Type Crystal Phase of Tin-Nitride Films by Glancing-Angle Reactive Sputtering**
Yasushi Inoue, ¹Fuminori Watanabe, ²Osamu Takai
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2 MATERIAL AND SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-05 **Pressure Sensitivity of Amorphous Carbon Nitride Films in Gas Flow Measurement**
Naoyuki Tamura, Masami Aono, Tomo Harata, Nobuaki Kitazawa, Yoshihisa Watanabe
DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, NATIONAL DEFENSE ACADEMY
- 16:45 D3-P-06 **Low Resistivity Copper Doped p-Type Cobalt Oxide Thin Films by Reactive Ion Beam Sputter Deposition**
Jun-Ron Li, Liang-Chiun Chao
DEPARTMENT OF ELECTRONIC AND COMPUTER ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY
- 16:45 D3-P-07 **A Simple Simulation for Fabrication of Isolated-Nanocolumnar Structures in Glancing-Angle Reactive Evaporation Process**
Akihiro Nakao, ¹Takashige Masukawa, ¹Yasushi Inoue, ²Osamu Takai
1 DEPARTMENT OF MECHANICAL SCIENCE AND ENGINEERING, CHIBA INSTITUTE OF TECHNOLOGY
2 MATERIAL AND SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-08 **Separation of the Semi- and Metal- Single Wall Carbon Nanotube by Surfactant and DNA with Electrophoresis Method**
Hsi-Chao Chen, ²Chih-Feng Yen, ¹Hsin-Ta Lee, ¹Guan-Jhen Chen, ²Tzu-Ti Hsiaod, ¹Wan-Ting Yang
1 DEPARTMENT OF ELECTRONIC ENGINEERING, NATIONAL YUNLIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
2 DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, LINKOU CHUNG GUNG MEMORIAL HOSPITAL

- 16:45 D3-P-09 **Preparation and Characterization of Aldehyde and Epoxide Functionalized Surface by Plasma Polymerization**
¹Su-Yeong Kim, ¹Yeong-Mu Ko, ¹Byung-Hoon Kim, ²Min-Suk Kook
1 DEPARTMENT OF DENTAL MATERIALS, MRC, CHOSUN UNIVERSITY
2 DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY, SCHOOL OF DENTISTRY, CHONNAM NATIONAL UNIVERSITY
- 16:45 D3-P-10 **Adsorption-Induced Electrochromic Properties of Microvillus-Structured InN Films in Nonaqueous Solutions**
¹Takashige Masukawa, ¹Yasushi Inoue, ²Osamu Takai
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2 MATERIAL AND SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-11 **Optical, Electrochemical and Opto-Electrochemical Properties of Tunable TaOxNy Thin Films**
^{1,2}Jang-Hsing Hsieh, ^{1,2}Yi-Chih Lin, ^{1,2}Yi-Hua Lai
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2 CENTER FOR THIN FILMS TECHNOLOGIES AND APPLICATIONS, MING CHI UNIVERSITY OF TECHNOLOGY
- 16:45 D3-P-12 **Preparation of Ti and TiN Flms Using Bipolar-Type Plasma Based Ion Implantation Combined with Sputtering**
¹Setsuo Nakao, ¹Tsutomu Sonoda, ¹Takeshi Kusumori, ¹Kimihiko Ozaki, ²Kingo Azuma, ³Takashi Kimura
1 GREIMM, AIST-CHUBU
2 HYOGO UNIVERSITY OF TECHNOLOGY
3 NAGOYA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-13 **Effect of Hydrogen-Containing Amorphous Carbon Films-Coated Titanium on Osteoblast and Osteoclast Differentiation *in vitro***
¹Tatsuyuki Nakatani, ²Yuichi Mine, ²Kentaro Takagi, ³Shintarou Hara, ³Keishi Okamoto, ²Sumiyo Mimura, ³Hiroki Nikawa
1 RESEARCH INSTITUTE OF TECHNOLOGY, OKAYAMA UNIVERSITY OF SCIENCE
2 DEPARTMENT OF ORAL BIOLOGY & ENGINEERING, INTEGRATED HEALTH SCIENCES, INSTITUTE OF BIOMEDICAL AND HEALTH SCIENCES, HIROSHIMA UNIVERSITY
2 TOYO ADVANCED TECHNOLOGIES CO., LTD.
- 16:45 D3-P-14 **Dependence of Out-of-Plane Insulator-Metal Transition Characteristics of VO₂ Films on Bottom Electrode in Layered Structure Device**
Md.Suruz Mian, Kunio Okimura
GRADUATE SCHOOL OF SCIENCE AND TECHNOLOGY, TOKAI UNIVERSITY
- 16:45 D3-P-15 **Deposition of Super-Hard Titanium Carbide Thin Films by Cathodic Vacuum Arc Plasma**
¹Shintarou Hara, ¹Keishi Okamoto, ²Tatsuyuki Nakatani
1 TOYO ADVANCED TECHNOLOGIES CO.,LTD.
2 RESEARCH INSTITUTE OF TECHNOLOGY, OKAYAMA UNIVERSITY OF SCIENCE
- 16:45 D3-P-16 **Preparation of DLC Films by High Power Pulsed Magnetron Sputtering with Bipolar Pulsed Voltage Source**
¹Taku Suyama, ^{1,2}Takashi Kimura, ³Setsuo Nakao, ³Tsutomu Sonoda, ³Takeshi Kusumori, ³Kimihiko Ozaki, ⁴Kingo Azuma
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2 DEPARTMENT OF ENGINEERING PHYSICS, NAGOYA INSTITUTE OF TECHNOLOGY
3 NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY, CHUBU-CENTER
4 DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, UNIVERSITY OF HYOGO
- 16:45 D3-P-17 **Preparation of DLC Films by High Power Pulsed Magnetron Sputtering with Facing Targets**
¹Toshihiko Mishima, ^{1,2}Takashi Kimura, ³Kingo Azuma, ⁴Setsuo Nakao
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2 DEPARTMENT OF ENGINEERING PHYSICS, NAGOYA INSTITUTE OF TECHNOLOGY
3 DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, UNIVERSITY OF HYOGO
4 NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY, CHUBU-CENTER

- 16:45 D3-P-19 **Deposition of Hydrogen-Containing Tetrahedral Amorphous Carbon Films by Cathodic Vacuum Arc Method**
¹Koutarou Shiraishi, ²Tatsuyuki Nakatani, ³Shinsuke Kunitsugu
1 DEPARTMENT OF MECHANICAL SYSTEMS ENGINEERING, OKAYAMA UNIVERSITY OF SCIENCE
2 RESEARCH INSTITUTE OF TECHNOLOGY, OKAYAMA UNIVERSITY OF SCIENCE
3 INDUSTRIAL TECHNOLOGY CENTER OF OKAYAMA PREFECTURE
- 16:45 D3-P-20 **Vacuum Deposition of Sodium Chloride for Using as a Sacrifice Layer**
¹Yu Miyamoto, ¹Yuma Fujii, ¹Yoshiyuki Suda, ¹Hirofumi Takikawa, ²Hideto Tanoue, ³Mamiko Nishiuchi, ³Hironao Sasaki, ³Kiminori Kondo
1 DEPT. OF ELECTRICAL & ELECTRONIC INFORMATION ENGINEERING, TOYOHASHI UNIVERSITY OF TECHNOLOGY
2 DEPT. OF ELECTRICAL & ELECTRONIC ENGINEERING, KITAKYUSHU NATIONAL COLLEGE OF TECHNOLOGY
3 JAPAN ATOMIC ENERGY AGENCY
- 16:45 D3-P-21 **Enhancing the Current Efficiency and Color Stability of White Phosphorescent Organic Light-Emitting Diodes Using a Charge Control Layer**
 Bi-Yu Huang, Shui-Hsiang Su, Yu-Cheng Lin, Meiso Yokoyama
DEPARTMENT OF ELECTRONIC ENGINEERING I-SHOU UNIVERSITY
- 16:45 D3-P-22 **Deposition of Zinc Oxide Films with Atmospheric-Pressure Plasma-Assisted Mist CVD**
 Kosuke Takenaka, Giichiro Uchida, Yuichi Setsuhara
JOINING AND WELDING RESEARCH INSTITUTE, OSAKA UNIVERSITY
- 16:45 D3-P-23 **Low Temperature Synthesis of Carbon Nitride Using Microwave Plasma CVD**
¹Ippei Tanaka, ²Yukihiro Sakamoto
1 GRADUATE SCHOOL, CHIBA INSTITUTE OF TECHNOLOGY
2 CHIBA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-24 **Simultaneous Determination of N-acetyl-*p*-aminophenol and *p*-aminophenol with Poly(2,2'-(1,4-phenylenedivinylene) bis-8-hydroxyquinoline) Modified Glassy Carbon Electrode**
 Hayati Filik, Sevda Aydar, Asiye Aslihan Avan
ISTANBUL UNIVERSITY, FACULTY OF ENGINEERING, DEPARTMENT OF CHEMISTRY
- 16:45 D3-P-25 **The Effect of CO₂ Gas for Calcereous Deposit Films Formation and Their Structure in Seawater**
 Jae-Wook Kang, Jun-Mu Park, Jun Kang, Yong-Sup Yun, Myeong-Hoon Lee
DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-26 **Corrosion Behaviour of Al-Mg Coated Steel Sheet with Different Mg Content Prepared by PVD Method**
 Jae-Wook Kang, Jun-Mu Park, Yong-Sup Yun, Jun Kang, Myeong-Hoon Lee
DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-27 **Effect of Heat Treatment on Corrosion Resistance of Magnesium Alloy Coatings on Electroalvanized Steel**
 Jae-Wook Kang, Yeon Won Kim, Jun-Mu Park, Sung Hwa-Hwang, Jun Kang, Myeong-Hoon Lee
DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-28 **Effects of H₂O Plasma Treatment for Copper Electroplating on B-Doped Diamond Substrates.**
¹Shuji Tamamura, ²Yukihiro Sakamoto
1 GRADUATE SCHOOL, CHIBA INSTITUTE OF TECHNOLOGY
2 CHIBA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-29 **Effect of Thermal Treatments and pH Values on Electrical and Physical Properties of NdAlO₃ Dielectric Thin Films Using Sol-Gel Method**
 Ching-Fang Tseng, Po-An Lin, Tzu-Chun Wei
DEPARTMENT OF ELECTRONIC ENGINEERING, NATIONAL UNITED UNIVERSITY

- 16:45 D3-P-30 **Preparation of Three-Dimensional Structure CVD Diamond by Control of the Nucleation Site by Using Silicon Oxide Film**
¹Takahiro Hattori, ²Yukihiro Sakamoto
1 GRADUATE SCHOOL, CHIBA INSTITUTE OF TECHNOLOGY
2 FACULTY OF ENGINEERING, CHIBA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-31 **Electrical Properties of Mg_xZn_{1-x} O Thin Films Deposited by RF Co-Sputtering**
¹Li Li Yue, ¹Hong Seung Kim, ²Nak Won Jang
1 DEPARTMENT OF NANO SEMICONDUCTOR ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
2 DIVISION OF ELECTRICAL AND ELECTRONICS ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-32 **Enhancing the Photocurrent of Organic Phototransistor by Using Sol-Gel Dielectric Layers**
Jin-Yi Huang, Shui-Hsiang Su, Shang-Hsuan Li, Yu-Jun Lin, Meiso Yokoyama
DEPARTMENT OF ELECTRONIC ENGINEERING I-SHOU UNIVERSITY
- 16:45 D3-P-33 **Titanium Nitride Deposition by High Power Pulsed Sputtering Penning Discharge under the Argin/Nitrogen Mixture Gases**
Kingo Azuma, Yuhma Kusuhashi, Kazuma Edagawa, Shinichi Honda
DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, UNIVERSITY OF HYOGO
- 16:45 D3-P-34 **Effect of Mg Contents on the Corrosion Properties of the Zn-Mg Coatings**
Joung Hyun La, Ki Tae Bae, Sang Yul Lee
CENTER FOR SURFACE TECHNOLOGY AND APPLICATIONS, DEPARTMENT OF MATERIALS ENGINEERING, KOREA AEROSPACE UNIVERSITY
- 16:45 D3-P-35 **Vacuum Ultraviolet Light Induced Chemical Modification of Cyclo-Olefin Polymer Surface Dependent of the Irradiation Atmosphere**
¹Young-Jong Kim, ²Hiroyuki Sugimura, ³Jun Kang, ³Myeong-Hoon Lee
1 PRODUCTION ENGINEERING RESEARCH INSTITUTE, LG ELECTRONICS
2 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, KYOTO UNIVERSITY
3 DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-36 **Photochemical Activation of Cyclo-Olefin Polymer Surfaces for Improved Adhesion**
¹Young-Jong Kim, ²Hiroyuki Sugimura, ³Jun Kang, ³Myeong-Hoon Lee
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2 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, KYOTO UNIVERSITY
3 DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-37 **Organosilane Multilayers Formation by Photochemical Surface Modification**
¹Young-Jong Kim, ²Hiroyuki Sugimura, ³Jun Kang, ³Myeong-Hoon Lee
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2 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, KYOTO UNIVERSITY
3 DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-38 **Development of Ni-W Alloy Plating as a Substitution of Hard Chromium**
^{1,2}Sojiro Kirihara, ²Yasushi Umeda, ²Katsuhiko Tashiro, ²Hideo Honma, ^{1,2}Osamu Takai
1 DEPARTMENT OF INDUSTRIAL CHEMISTRY, GRADUATE SCHOOL OF ENGINEERING, KANTO GAKUIN UNIVERSITY
2 MATERIALS & SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-39 **Study on Crystallite Formed on Copper Foil in Aqueous Ammonia**
Akio Mochida, Kazunori Matsui
DEPARTMENT OF MATERIAL AND LIFE SCIENCE, GRADUATE SCHOOL OF ENGINEERING, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-40 **Formation of Alq₃ Film on Aluminum Surface Anodized and Treated in Boiling Water with the Reaction of 8-Hydroxyquinoline**
Shohei Yamaguchi, Kazunori Matsui
GRADUATE SCHOOL OF ENGINEERING, KANTO GAKUIN UNIVERSITY

- 16:45 D3-P-41 **Fine Metal Pattern Formation on Transparency Resins by Wet Processing**
^{1,2}[Yoshio Horiuchi](#), ²Christopher E.J.Cordonier, ²Joo-Hyong Noh, ²Hideo Honma, ^{1,2}Osam Takai
1 DEPARTMENT OF INDUSTRIAL CHEMISTRY, GRADUATE SCHOOL OF ENGINEERING, KANTO GAKUIN UNIVERSITY
2 MATERIALS & SURFACE ENGINEERING RESEARCH INSTITUTE, KANTO GAKUIN UNIVERSITY
- 16:45 D3-P-42 **Atomic Layer Layer Deposition of TiN Based Coatings for Bipolar Plates**
Eun Young Yun, [Se Hun Kwon](#)
SCHOOL OF MATERIALS SCIENCE AND ENGINEERING, PUSAN NATIONAL UNIVERSITY
- 16:45 D3-P-43 **The Properties of TiAlVN Coating Synthesized by Magnetron Sputtering Process with Single Composite Target**
^{1,2}[H.C.Lee](#), ¹J.H.Pyun, ²P.K.Shin, ¹K.I.Moon
1 KOREA INSTITUTE OF INDUSTRIAL TECHNOLOGY, HEAT & SURFACE TECHNOLOGY SERVICE CENTER
2 SCHOOLS OF ELECTRICAL ENGINEERING, INHA UNIVERSITY
- 16:45 D3-P-44 **A Study on the Ternary Elements Si Addition on the Mo-Cu Coating Deposited by Magnetron Sputtering Process with Single Alloying Target**
^{1,2}[H.C.Lee](#), ¹J.H.Pyun, ²P.K.Shin, ¹K.I.Moon
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2 SCHOOLS OF ELECTRICAL ENGINEERING, INHA UNIVERSITY
- 16:45 D3-P-45 **Effect of Substrate Temperature on Properties of CaLa₄(Zr_{0.05}Ti_{0.95})₄O₁₅ Thin Films by RF Magnetron Sputtering**
¹[Cheng-Hsing Hsu](#), ²Chun-Hung Lai, ¹Chia-Hsien Chang
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2 DEPARTMENT OF ELECTRONIC ENGINEERING, NATIONAL UNITED UNIVERSITY
- 16:45 D3-P-46 **Effects of Nitrocarburizing Processing Times after Radical Nitriding for Surface Hardening of SKH51**
¹[Yusuke Kikuchi](#), ²Yukihiro Sakamoto
1 GRADUATE SCHOOL, CHIBA INSTITUTE OF TECHNOLOGY
2 FACULTY OF ENGINEERING, CHIBA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-47 **Electrical Properties of Mg_xZn_{1-x}O Thin Films Deposited by RF Co-Sputtering**
¹[Li Li Yue](#), ¹Hong Seung Kim, ²Nak Won Jang
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2 DIVISION OF ELECTRICAL AND ELECTRONICS ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY
- 16:45 D3-P-48 **Effects of the Sputtering Pressure on the Preparation of Titanium Iodized Films by Reactive Magnetron Sputtering**
¹[Kaori Fujimaki](#), ²Yukihiro Sakamoto
1 GRADUATE SCHOOL, CHIBA INSTITUTE OF TECHNOLOGY
2 CHIBA INSTITUTE OF TECHNOLOGY
- 16:45 D3-P-49L **Reactive Sputter Deposition of Titanium Nitride on Silicon via a Magnetized Sheet Plasma Source**
[Janella Salamina](#), Matthew Villanueva, Marcedon Fernandez, Henry Ramos
PLASMA PHYSICS LABORATORY, NATIONAL INSTITUTE OF PHYSICS, UNIVERSITY OF THE PHILIPPINES