

AEPSE 2023

13th Asian-European International Conference on Plasma Surface Engineering

Poster Presentations

Put-up Time	From 8am, November 6 (Monday)	
Presentation Time	Poster Session 1	16:20-18:00, November 6 (Monday)
	Poster Session 2	16:00-17:40, November 7 (Tuesday)
Take-down Time	By 16:30pm, November 8 (Wednesday)	

All presenters are required to be present at their poster panels during the designated presentation time for discussions with participants. Please note that absence during the session may result in exclusion from the Student Award evaluation for Student Award applicants.

Poster Session 1	
Date & Time	16:20-18:00, November 6 (Monday)
Place	Lobby (5F), BPEX

P-002

Fluctuation Characteristics in the Discharge Region of Multiphase AC arc

Ritsu Sogo¹, Aoi Ichini¹ Manabu Tanaka¹, Takayuki Watanebe¹, Takafumi Okuma^{1,2}, Hisao Nagai³, and Hiroki Maruyama³

¹Kyushu University, Japan, ²Panasonic Industry Corporation, Japan, ³Panasonic Holdings Corporation, Japan

P-003

Discussion on Number Densities of Excited States and Gas Temperature in Inductively Coupled Nitrogen Plasma

Kenta Ishi*, Kazuma Yoneda, Yuya Yamashita, Atsushi Nezu, and Hiroshi Akatsuka

Tokyo Institute of Technology, Japan

P-004

Understanding the Formation of Nitrous and Nitric acids in Plasma-treated Water using Surface DBD

Jin Hee Bae, Seong-Cheol Huh, and Sanghoo Park*

Korea Advanced Institute of Science and Technology (KAIST), Korea

P-005

Mapping N_e and T_e in Low Temperature Plasmas with CT-OES Advancements

Ji Won Choi and Sanghoo Park*

Korea Advanced Institute of Science and Technology (KAIST), Korea

P-006

Characteristics of VOx Thin Films Fabricated by Unbalanced Magnetron Sputtering Method for Thermochromic Application

Bomin Kim and Yong Seob Park*

Chosun College of Science and Technology, Korea

P-007

Structural, Surface, and Physical Properties of V Doped TiO₂ Thin Films Deposited by Spray Coating Method for Photovoltaic Application

Min-Seok Gwak and Yong Seob Park*

Chosun College of Science and Technology, Korea

P-008

Effect of Ti Doping on the Optical and Mechanical Properties of Tetrahedral Amorphous Carbon Coatings

KyoungRok Oh¹, JiWon Park¹, SangYul Lee^{1*}, JongKuk Kim², and Jung-Wan Kim^{1,3}

¹Korea Aerospace University, Korea, ²Korea Institute of Materials Science (KIMS), Korea, ³University of Incheon, Korea

P-009

Surface Characteristics of MoS₂ Doped TiO₂ Coating on Ti-6Al-4V by Plasma Electrolytic Oxidation

S. Arun, Sidra Sadaf Nisar, and Han-Cheol Choe*

¹Chosun University, Korea

P-011

Phase Transition and Resistive Switching Properties of Cu_xO Films Deposited by RF Magnetron Sputtering

Juwon Seo, Taeyoung Kim, Yoonsok Kim, and Eun Kyu Kim*

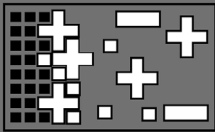
Hanyang University, Korea

P-012

Highly Thermostable and Reproducible Semi-transparent Heaters Composed of Tungsten Thin Films

Doocho Choi*

Dong-Eui University, Korea



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P-013

An Investigation of the Microstructure and Physical Properties of Thermal Spray Coating of High Entropy Alloy AlCoCrFeNiSi

Ming-Sheng Leu*, Tai-Sheng Chen, Wu-Han Liu, and Wei-Tien Hsiao
Industrial Technology Research Institute, Taiwan

P-014

Deposition Process of He-added Acetylene Plasma, Investigated with Infrared Spectroscopy

Atsuya Kuwada¹, Tatsuo Nakai¹, Yuto Ooishi¹, Masanori Shinohara^{1*}, Takashi Matsumoto², and Satoshi Tanaka²
¹*Fukuoka University, Japan*, ²*Tokyo Electron Technology Solutions Limited, Japan*

P-015

Infrared Spectroscopic Study on Plasma Deposition with Dimethyl-adamantane as a Source, and Its Substrate Bias Effects

Atsuya Kuwada¹, Tatsuo Nakai¹, Yuto Ooishi¹, Masanori Shinohara^{1*}, Takashi Matsumoto², and Satoshi Tanaka²
¹*Fukuoka University, Japan*, ²*Tokyo Electron Technology Solutions Limited, Japan*

P-016

Infrared Spectroscopic Study on Amorphous carbon Deposition Process during Acetylene Plasma

Atsuya Kuwada¹, Tatsuo Nakai¹, Yuto Ooishi¹, Masanori Shinohara^{1*}, Takashi Matsumoto², and Satoshi Tanaka²
¹*Fukuoka University, Japan*, ²*Tokyo Electron Technology Solutions Limited, Japan*

P-017

Time-resolved Optical Emission Spectroscopy Study on HiPIMS Discharge of Carbon in Ar Atmosphere

Tomonori Kato^{1*}, Ryo Sakamoto¹, Kanta Mori¹, Yuuki Tokuta², Satoru Habuka³, Ming Yang¹, and Tetsuhide Shimizu¹

¹*Tokyo Metropolitan University, Japan*, ²*Tokyo Metropolitan Industrial Technology Research Institute, Japan*,
³*Dowa Thermotech Co., Ltd., Japan*

P-018

Low Frictional Properties of Mo Contained Hydrocarbon Films by the PECVD Using (Cyclopentadienyl) Molybdenum (Dicarbonyl)(Nitrosyl) and Acetylene Gas

Yong Ki Cho*, Yuri Choi, and Hae Won Yoon
Korea Institute of Industrial Technology, Korea

P-019

Analysis of the Structure and Composition of Novel Titanium-Based PVD Coatings

Celia Rojo-Blanco^{1*}, Jiahui Qi¹, John Nutter¹, Liuquan Yang², Guizhi Wu², and Adrian Leyland¹
¹*The University of Sheffield, UK*, ²*University of Leeds, UK*

P-020

Effect of Modulation Period and Thickness Ratio on the Growth and Mechanical Properties of Heteroepitaxial c-Ti_{0.4}Al_{0.6}N/h-Cr₂N Multilayer Films

Hairui Ma^{1,2*}, Qiang Miao^{1,*}, Wenping Liang¹, Per O. Å. Persson², Justinas Palisaitis², Xiguang Gao³, Yindong Song³, Per Eklund², and Arnaud le Febvrier^{2*}

¹Department of Material Science and Engineering, Nanjing University of Aeronautics and Astronautics, China,

²Thin Film Physics Division, Department of Physics, Chemistry and Biology (IFM), Linköping University, Sweden,

³Key Laboratory of Aero-engine Thermal Environment and Structure, Ministry of Industry and Information Technology, Jiangsu Province Key Laboratory of Aerospace Power System, Nanjing University of Aeronautics and Astronautics, China

P-021

Single-process Coating of Polypyrrole Film on Micro-sized Patterned Electrode Using In-solution Plasma Process

Hyojun Jang, Jae Young Kim, and Heung-Sik Tae*

Kyungpook National University, Korea

P-022

Influence of the Bias to Equiaxed Grain Growth of CrN_x Films Prepared on the Zr Alloy Clad in the Cathodic Arc Ion Plating

Hae Won Yoon, Yuri Choi, and Yong Ki Cho*

Korea Institute of Industrial Technology, Korea

P-023

Improved Durability and Stability of Ceramic and Metal Substrates via Carbon-based Plasma Coating Methods

Byeong-Seok Lim¹, Jae-Un Kim¹, Young-Shin Yun¹, Byung-Woo Ahn¹, and Han-Cheol Choe^{2*}

¹JNLTECH CO., Ltd., Korea, ²Chosun University, Korea

P-024

Formation of Lithium Films with a Protective Coating Prepared by Magnetron Sputtering

Gennady Remnev*, Mikhail Zhuravlev, Natalya Antoni, Yury Cherepennikov, Stepan Linnik, Vyacheslav Ryzhkov, and Sergey Zenkin

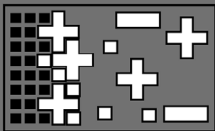
Tomsk Polytechnic University, Russia

P-025

Study on Improvement of External Structure and Performance of GdBa₂Cu₃O_{7-x} Thin-Film-type Superconducting Wire Using Plasma Surface Treatment and Sputtering Method

Sung-Chae Yang¹, Ho-Ik Du^{1*}, Hyeon-Gi Jeong¹, and Seung-Gyu Doo²

¹Jeonbuk National University, Korea, ²Korea Atomic Energy Research Institute, Korea



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P-026

HA Coatings Containing Functional Material on the PEO-treated Ti-6Al-4V Alloy

Seung-Pyo Kim¹, Hyeong-Do Jeong¹, Ha-Rim Song¹, Woo-Chang Kim¹, Ho-Yeon Kim¹, and Han-Cheol Choe^{2*}
¹KJ Meditech Co., Ltd., Korea, ²Chosun University, Korea

P-027

Preparation of ZnO Thin Film by Ar + O₂ + Zn Powder Mixture Gas at Low-Pressure High-Frequency Plasma Chemical Vapor Deposition System

Wittawat Poonthong¹, Toshifumi Yuji², Nat Kasayapanand¹, and Narong Mungkung^{1*}
¹King Mongkut's University of Technology Thonburi, Thailand, ²University of Miyazaki, Japan

P-028

A Study on Surface Pretreatment for Enhancing Initial Nucleation Efficiency of ALD-Grown Iridium Thin Films on Oxide Surface

Myung-Jin Jung and Se-Hun Kwon*
Pusan National University, Korea

P-029

Thermal Atomic Layer Deposition Process Optimization and Characterization of Y₂O₃ Thin Films

Seong Lee and Se-Hun Kwon*
Pusan National University, Korea

P-030

Improve of Photoelectrochemical Performance of Defective Amorphous TiO_x Thin Films Through Atomic Layer Deposition

Min-Ji Kim, Myung-Jin Jung, Hasmad Khan, and Se-Hun Kwon*
Pusan National University, Korea

P-031

The Effect of N₂O on Plasma-Assisted Nitrogen Fixation in Water

Shuyan Guo, Yuan Wang, and Hao Zhao*
Peking University, China

P-032

Decomposition Mechanism of Hydrocarbon by Long DC Arc Plasma for Hydrogen Production

Koichiro Fujii, Hirokazu Akamatsu, Manabu Tanaka, and Takayuki Watanabe*
Kyushu University, Japan

P-033

Experimental Modeling of Near-Wall Processes in Fusion Reactors

Aigerim Tazhen*, Abdulla Kholmiraev, Merlan Dosbolayev, and Tlekkabul Ramazanov
Al-Farabi Kazakh National University, IETP, Kazakhstan

P-034

Effect of Electrochemical Treatment by Boron Doped Diamond Electrode

Mi-Young You and Pung-Keun Song*
Pusan National University, Korea

P-035

On the Combination of a Nanosecond-pulsed DBD with an Electrolytic Cell for CO₂ and N₂ Reduction

Holger Kersten^{1*}, Leander Marxen¹, Luka Hansen¹, Gustav Sievers², and Volker Brueser²
¹*U Kiel, IEAP, PlasmaTechnology, Germany, ²INP Greifswald, Germany*

P-036

Bonding Interface Characteristics According To Annealing Temperature Of III-V/II-Si Solar Cells Manufactured By Plasma Activation Wafer Bonding

Gwang Yeol Park, Chang Gyu Yang, and Hyo Jin Kim*
Korea Photonics Technology Institute (KOPTI), Korea

P-037

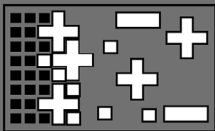
Pt-Y Alloy for Oxygen Reduction Reaction Using Solution Plasma

Ziwei Liu¹, Jiangqi Niu¹, Yifu Ke¹, Pengfei Wang¹, Yuanyuan Liu¹, and Nagahiro Saito^{1,2,3,4*}
¹*Nagoya University, Japan, ²Japan Science and Technology Corporation (JST), Strategic International Collaborative Research Program (SICORP), Japan, ³Conjoint Research Laboratory in Nagoya University, Shinshu University, Japan, ⁴Japan Science and Technology Corporation (JST), Open Innovation Platform with Enterprises, Research Institute and Academia (OPERA), Japan*

P-069

Design of a New Type of Large-area ECR Plasma Source

Soo Ouk Jang, Taihyeop Lho, Hyun Jae Park, and Jinha Shin
KFE, Korea



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P-070

Low-pressure Inductively Coupled Plasmas in Hydrogen: Simulations and Experiments on the Production of Reactive Species

Gregory J. Smith¹, Ryan Magee¹, Max Kellermann-Stunt¹, Kari Niemi¹, Erik Wagenaars¹, Paola Diomedea², Andrew R. Gibson³, Scott J. Doyle⁴, Mark J. Kushner⁴, Vasco Guerra⁵, Timo Gans^{1,6}, and James P. Dedrick¹
¹University of York, UK, ²Maastricht University, Netherlands, ³Ruhr-University Bochum, Germany, ⁴University of Michigan, USA, ⁵Universidade de Lisboa, Portugal, ⁶Dublin City University, Ireland

P-071

Plasma Fabrication of Piezoelectric ZnO Self-powered Sensors and Nanogenerators on Paper

Xabier García-Casas¹, Francisco J. Aparicio^{1,2}, Jorge Budagosky^{1,2}, Ali Ghaffarinejad¹, Noel Orozco-Corrales¹, Kostya (Ken) Ostrikov³, Juan R. Sánchez-Valencia¹, Ángel Barranco¹, Ana Borrás¹
¹Materials Science Institute of Seville (CSIC-US), Spain, ²Universidad de Sevilla, Spain, ³Queensland University of Technology (QUT), Australia

P-072

Remote Plasma-Induced Synthesis of Carbon Nanowall based Transition Metal Dichalcogenide Nanocomposites and Their Application as High-Performance Active Materials for Supercapacitors

Jin-Ha Shin, Yong-Sup Choi, and Hyun-Jae Park*
Institute of Plasma Technology, KFE, Korea

P-073

Exploring Atmospheric Pressure Methane Plasma: The Influence of N₂ on Plasma Chemistry and Gas Conversion

Seongchan Kang¹, Byeong Jun Ko¹, Daehyun Choi², Yong Sup Choi², and Se Youn Moon^{1*}
¹Jeonbuk National University, Korea, ²Institute of Plasma Technology, Korea Institute of Fusion Energy, Korea

P-074

Carbon Nanowalls Synthesis Using Upgraded ReSLAN Plasma Source for Roll-to-Roll System

Hyunjae Park
Korea Institute of Fusion Energy, Korea

P-075

Characteristics of Gas Sensors with Various Porous Nanostructures for HCHO Gas Detection

Dawoon Jung^{1,2}, Sehoon Hwang¹, Seong Ho Son¹, Jae-Hee Han², and Ho-Nyun Lee^{1*}
¹Korea Institute of Industrial Technology, Korea, ²Gachon University, Korea

P-076

Effects of Different Types of Seed Layers and Pretreatment on the Adhesion Properties on Polyimide Surface

Sehoon Hwang^{1,3}, Dawoon Jung^{1,2}, Jaemyeong Shin¹, Suk-Hwan Park¹, Hyeonwoo Pyo¹, and Ho-Nyun Lee^{1*}

¹*Korea Institute of Industrial Technology (KITECH), Korea*, ²*Gacheon University, Korea*, ³*Korea University, Korea*

P-077

Techniques for Achieving Metallic Textured Colors through Alloy Sputtering

Sehoon Hwang^{1,3}, Dawoon Jung^{1,2}, Jae-Myeong Shin¹, Hyun-Jong Kim¹, and Ho-Nyun Lee^{1*}

¹*Korea Institute of Industrial Technology (KITECH), Korea*, ²*Gacheon University, Korea*, ³*Korea University, Korea*

P-078

Electrical and Optical Properties of Electro Chemical Luminescence Device with Quasi Solid Electrolyte and ZnO/TiO₂ Electrode

Young-ho Son¹, Jung-Woo Ok², and Youl-Moon Sung^{1*}

¹*Kyungsoong University, Korea*, ²*Korea Basic Science Institute, Korea*

P-079

Electrochromic Device based on Bi-layer WO₃-TiO₂ Electrode Prepared by RF Magnetron Sputtering

Pattarapon Pooyodying¹, Young-Ho Son², and Youl-Moon Sung^{2*}

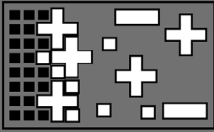
¹*Rajamangala University of Technology Rattanakosin, Thailand*, ²*Kyungsoong University, Korea*

P-080

Determination of the Optimal Operating Modes of a Solid- Propellant Pulse Plasma Thrusters

A.K. Khamzayev*, Zh.B. Igibayev, M.K. Dosbolayev, and T.S. Ramazanov

Al-Farabi Kazakh National University, Kazakhstan



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Poster Session 2

Date & Time 16:00-17:40, November 7 (Tuesday)

Place Lobby (5F), BPEX

P-001

A Novel Electromagnetic Device for Low Voltage Ionic Wind Generation

Himchan Lee, Towoo Lim, and Youngmin Kim*

Hongik University, Korea

P-038

Analysis of Short-term Treatment Effects of Dielectric Barrier Discharge Plasma to Improve Germination Characteristics of Wheat Seeds

Sushma Jangra, Ritesh Mishra, Abhijit Mishra, Shikha Pandey, and Ram Prakash*

Indian Institute of Technology Jodhpur, India

P-039

Inactivation of *E. Coli* Suspension by Pin-to-water Plasma: The Key Reactive Species in the Bactericidal Process and the Effect of Gap Distance on Bacterial Inactivation

Junghyun Lim, Yong- Seong Byeon, Eun Jeong Hong, Sangheum Eom, Seong Bong Kim, and Seungmin Ryu*

Institute of Fusion Energy, Korea

P-040

The Effect of Atmospheric Pressure Plasma Pre-treatment on the Onion

Eun Jeong Hong, GeumRan Ahn, Sangheum Eom, Junghyun Lim, Seong Bong Kim, and Seungmin Ryu*

Korea Institute of Fusion Energy, Korea

P-041

Comparison of Chemical Probe Reaction and Biological Effect of Atmospheric Pressure Plasma Jet Under Radical Production Promotion Condition

H. Matsuura*, T. Nakano, L. Guan, and R. Asada

Osaka Metropolitan University, Japan

P-042

Degradation Products of Lignin Irradiated with Ambient-air-glow Discharge

Ryuichi Ohashi¹, Naoyuki Iwata², Hiroyuki Kato¹, Yasuhiro Nishikawa¹, Motoyuki Shimizu¹, Masashi Kato¹, Masaru Hori², and Masafumi Ito¹

¹Meijo University, Japan, ²Nagoya University, Japan

P-043

Plasma-generated Nitric Oxide Radical Diffuses through Liquid Phase and Penetrates Fibroblasts

Yasumasa Mori^{1*}, Kazane Oguri¹, Tomiyasu Murata¹, Masaru Hori², and Masafumi Ito^{1*}

¹Meijo University, Japan, ²Center for Low-temperature Plasma Science, Japan

P-044

Identification of Bactericidal Species in Water Irradiated Using Electrically-Neutral Oxygen Radical Generator

Hiromi Alwi Yamamoto^{1*}, Naoyuki Iwata², Masaru Hori³, and Masafumi Ito^{1*}

¹Meijo University, Japan, ²Nagoya University, Japan

P-045

Irradiation-distance Dependence on the Generation of Active Species in Gas and Liquid Phases Using a High-density Atmospheric Pressure-plasma Generator

Kyosuke Sugie^{1*}, Jun-Seok Oh², Hiromasa Tanaka³, Masaru Hori³, and Masafumi Ito¹

¹Meijo University, Japan, ²Osaka Metropolitan University, Japan, ³Nagoya University, Japan

P-046

Development of Plasma Technology for Crops Storage of Post-Harvest

Hyeongwon Jeon*, Jung Woo Yoon, and Seungmin Ryu

Korea Institute of Fusion Energy (KFE), Korea

P-047

Sterilization Properties of Polyimide Film Surface by Low-pressure High-frequency Water Plasma Irradiation

Kirara Yamanaka and Nobuya Hayashi

Kyushu University, Japan

P-048

Macrophage Activation Characteristics by Irradiation with Atmospheric Oxygen Plasma

Saori Kodaka¹, Nobuya Hayashi¹, Reona Aijima², and Yoshio Yamashita²

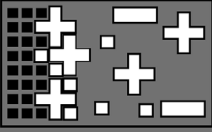
¹Kyushu University, Japan, ²Saga University, Japan

P-049

Evaluation of Material Compatibility of Atmospheric Pressure Plasma Irradiation on Agricultural Products

Daisuke Nakayama and Nobuya Hayashi

Kyushu University, Japan



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P-050

Investigating Cytokine Release Characteristics of EL-4 T-cells Irradiated with Atmospheric Oxygen Plasma

Daiki Takeshita¹, Nobuya Hayashi¹, Reona Aijima², and Yoshio Yamashita²

¹Kyushu University, Japan, ²Saga University, Japan

P-051

Inactivation Effect of Atmospheric Pressure Plasma Multiple Times Irradiation on Oral Cancer Cells

Yasuyuki Kochi¹, Nobuya Hayashi¹, Reona Aijima², and Yoshio Yama²

¹Kyushu University, Japan, ²Saga University, Japan

P-052

Enhancement of Sprout Growth and Vitamin-C Content of Mung Bean by Oxygen Plasma Application on Seed at Different Pressure

Shameem Ahmed* and Nobuya Hayashi

Kyushu University, Japan

P-054

Surface Modification of PET Non-woven by O₂ Plasma Treatment and UV Grafting PEG-based Hydrogels to Improve of Adsorption Vitamin K2 for Biomaterial Application

Yun Lin Lyu and Shu Chuan Liao*

Da-Yeh University, Taiwan

P-055

Effects of Laser Shock Peening on the Passive Behavior of Titanium and Ti-6Al-4V Alloys in pH 2 Buffer Solution

Juhee Lee and HeeJin Jang*

Chosun University, Korea

P-056

Mechanical Alloyed Surface on the PEO-coated Ti-6Al-4V Alloy by Using Hydroxyapatite Powder for Dental Implant Use

Sidra Sadaf Nisar, S. Arun, and Han-Cheol Choe*

Chosun University, Korea

P-058

Deposition of Graphene on Si with HPPS Plasma, Using Di-isopropyl-ether as Carbon Source

Yuto Ooishi¹, Atsuya Kuwada¹, Fumihiko Maeda², Masanori Shinohara^{1*}, Takashi Matsumoto³, and Satoshi Tanaka³

¹Fukuoka University, Japan, ²Fukuoka Institute of Technology, Japan, ³Tokyo Electron Technology Solutions Limited, Japan

P-059

Comparison of Graphene on Si(110) with Styrene Plasma Generated by High-Power Pulsed Sputtering Plasma, with that on Si(100)

Yuto Ooishi¹, Atsuya Kuwada¹, Fumihiko Maeda², Masanori Shinohara^{1*}, Takashi Matsumoto², and Satoshi Tanaka²

¹Fukuoka University, Japan, ²Fukuoka Institute of Technology, Japan, ³Tokyo Electron Technology Solutions Limited, Japan

P-060

Morphological and Chemical Properties of Polythiophene Nanostructure Films Synthesized by an Atmospheric Pressure Plasma Reactor with Cross-shaped Electrode

Jae Young Kim*, Hyo Jun Jang, Eun Young Jung, and Heung-Sik Tae

Kyungpook National University, Korea

P-061

Comparison of Pin-Liquid Discharge and Pin-Liquid Barrier Discharge for Reactive Species Production and Phosphorus Compound Decomposition

Ye Rin Lee¹, Gyu Tae Bae¹, Jae Young Kim¹, Do Yeob Kim², Hyung-Kun Lee², Joo Young Park³, Sunghoon Jung³, and Heung-Sik Tae^{1*}

¹Kyungpook National University, Korea, ²Electronics and Telecommunications Research Institute (ETRI), Korea, ³Korea Institute of Materials Science (KIMS), Korea

P-062

Dyeing Properties of Atmospheric-pressure Non-equilibrium Discharge Plasma Jet Treated Wool with Sappanwood-dye

Toshifumi Yuji¹, Shinichi Tashiro², Yoshifumi Suzuki³, and Youl-Moon Sung^{4*}

¹University of Miyazaki, Japan, ²Osaka University, Japan, ³Kagawa University, Japan, ⁴Kyungsoong University, Korea

P-063

Design on Large Area PECVD System for Plasma Property Assessment of Plasma Processing Material & Component

Hyunyeong Lee*, Kangil Lee, Daechul Kim, Jongsik Kim, Miyoung Song, and Yongsup Choi

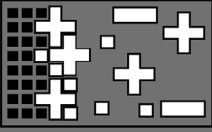
Korea Institute of Fusion Energy, Korea

P-064

Surface Morphology of HA and OCP Coatings on the Plasma Electrolytic Oxidized Ti-6Al-4V Alloys for Implant Use

Kyeong-Tae Kim, Jong Kook Lee, and Han-Cheol Choe*

Chosun University, Korea



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P-065

Surface Characteristics of Wollastonite Coated Ti-6Al-4V Using Sol-gel Method after Plasma Electrolytic Oxidation

So-Yun Joo, Jong Kook Lee, and Han-Cheol Choe*

Chosun University, Korea

P-066

Multicomponent Nanoparticles Decorated on TiO₂ by Solution Plasma for CO₂ Reduction Reaction

Chadapat Hussakan¹, Jiangqi Niu¹, Chayanaphat Chokradjaroen², and Nagahiro Saito^{1,2,3,4*}

¹*Department of Chemical Systems Engineering, Nagoya University, Japan,* ²*Department of International Collaborative Program in Sustainable Materials and Technology for Industries between Nagoya University and Chulalongkorn University, Japan,* ³*Conjoint Research Laboratory in Nagoya University, Shinshu University, Japan,* ⁴*Japan Science and Technology Corporation (JST), Open Innovation Platform with Enterprises, Research Institute and Academia (OPERA), Japan*

P-067

Development of Coating Process Technology to Improve the Performance of Compression Spring Molding Machine Parts Using Advanced Surface Analysis Equipment

Seong-jun Kim, Jung-woo Ok, Jin-yong Park, Jong-ki Hong, Tae-kyu Lee, and Jang-hee Yoon*

Korea Basic Science Institute, Korea

P-068

EPICS Control System for Analysis Equipment

Seong-jun Kim, Jung-woo Ok, Jin-yong Park, Jong-ki Hong, Tae-kyu Lee, and Jang-hee Yoon*

Korea Basic Science Institute, Korea