POSTER Session 1

Time : November 20, 18:00-19:30
Place : 3F Lobby, ICC jeju

Symposium A : Advanced Steels and Properties

P-A0011 Research and development of S22053+12MnNiVR stainless steel rolling clad plate by Ansteel

Xin Ouyang, Anshan Iron and Steel Group Steel Research Institute, China

P-A0012 Microstructure and precipitated phase changes of a Cu-Nanophase Precipitation Strengthening Steel under welding thermal cycle

Guo Peng, AnShan Iron and Steel Group Corporation, China

P-A0014 Effect of alloying elements Al and Si on high temperature oxidation behavior of 1000MPa ultra-high strength steel

Liangliang Zhang, Shougang Group Co., Ltd, China

P-A0048 Corrosion Behavior of Q500qENH Weathering Bridge Steel in a Simulated Rural Atmosphere

PENG GAO, State Key Laboratory of Metal Material for Marine Equipment and Application, China

P-A0051 Study on Corrosion Behavior of Q690qENH and 09CuPCRNi in Marine Industrial Atmospheric Environment

Lin Li, State Key Laboratory of Metal Material For Marine Equipment And Application, China

P-A0054 Corrosion Behavior of Typical Ship Plate Steels in Simulated Marine Atmospheric Environment

Xiandong Su, Ansteel Group Corporation, China

P-A0069 Microstructure control and stenghtening-toughening mechanism of 68.4GPa·% grade cold rolled steel

Fuyue Wang, Ansteel Iron & Steel Research Intitute, China

P-A0097 Effects of Stress Triaxiality Distribution on Tensile Fracture of Notched TWIP Steel Plate

Kyung-tae Park, Hanbat National University, Korea

P-A0732 Integrated decarburization and oxidation model for high carbon-chromium containing steel

Niladri Naskar, Seoul National University, Korea

P-A0971 Hydrogen embrittlement of 300-series stainless steels under cryogenic conditions

Yoonmoon Chung, Hanyang University, Korea

P-A0973 Designing lightweight Co-free maraging steels

Chae Young Kim, Hanyang University, Korea

P-A0980 The relationship between thickness depth and hydrogen embrittlement in pipeline steel

Hyun Wook Lee, Hanyang University, Korea

P-A1003 **Comparison of Microstructural and Mechanical properties of Weld Joints in 9% Ni steel Prepared with Ni-based and Fe-based Filler Materials**

Kwangsu Choi, Korea Institute of Industrial Technology , Korea

Symposium B : Advanced Processing of Materials

P-B0145 **A Study for effect of the void shape to material properties of plastic material with representative volume element**

YOUNGHYUN KIM, Korea Institute of Industrial Technology, Korea

P-B0223 **Microstructure and Mechanical Properties of Zinc Alloy Sheets Severely Deformed by ARB**

Ryuto Morinaga, Kumamoto University, Japan

P-B0277 **Systematic simulations of semi-solid deformation using multi-phase-field lattice Boltzmann method**

Namito Yamanaka, Kyoto Institute of Technology, Japan

P-B0283 **Solid-state diffusion bonding between CoCrNi-based high entropy alloys system and 316 stainless steel by spark plasma sintering**

HAOTIAN SUN, Hokkaido University, Japan

P-B0339 **Effect of impurity Zr contamination on properties of Ru-Mo-W alloys grown by the dewetting micro-pulling-down method**

Kotaro Yonemura, Tohoku University, Japan

P-B0371 **Effects of Heat Treatment in Hydrogen Environment on Hydrogen Permeability of Pd-40mass%Cu Alloy Membrane**

Hiroshi Yukawa, Nagoya University, Japan

P-B0705 **Interfacial analysis using Smoothed Particle Hydrodynamics (SPH) and Molecular Dynamics (MD) during Al-Fe High-Speed Vaporising Foil Actuator Welding (VFAW)**

DEEPAK KUMAR, INCHEON NATIONAL UNIVERSITY, INCHEON, REPUBLIC OF KOREA, Korea

P-B730 **Characterization of AlSi10 Alloy Powder for the DED Process**

SUNGJAE JO, Kongju National University, Korea

Symposium C :Structural Materials for High Temperature

P-C0257 **High temperature fatigue behaviour of β-phase containing TiAl alloys fabricated by metal 3D printing**

Koki Tanaka, Osaka University, Japan

P-C0684 A Study on the Effects of Milling Media Variations on Mechanical Alloying Behaviour in High-Energy Milling of Nb Powder

Deokhyun Han, Institute for Advanced Engineering, Korea

P-C0722 Enhanced fracture toughness of Mo-Si-B-La2O3 alloys for high-temperature structural materials

Wonjune Choi, Arizona State University, USA

P-C0744 Microsutructural evolution of Mo-Si-B alloy using Mo powder with homogeneously dispersed oxide nanoparticles synthesized by ultrasonic spray pyrolysis

Woocheol Kim, Seoul National University of Science & Technology, Korea

P-C0806 Syntesis of Nb-Based MAX Phase Using Intermetallic Compounds of Nb-Al

Siyeon Kim, Seoul National University of Science And Technology, Korea

Symposium D : Light Metals and Alloys

P-D0026 Effect of La on Mechanical Properties and Precipitated Phase Stability of 2195 Al-Li Alloy at Elevated Temperature

Fuyue Wang, Ansteel Iron & Steel Research Institute, China

P-D0293 Effect of microstructure on fatigue properties of Mg-Zn-Y and AZ31B

Takahiro Matsuda, Kumamoto University, Japan

P-D0304 Torque Characteristics and Cyclic Deformation Behaviour of Ti-Ni Superelastic Alloy Spiral Spring

Eito Ishii, National Institute of Technology, Kagoshima College, Japan

P-D0305 Hydrogen embrittlement behavior of 7xxx aluminum alloys processed by sliding friction treatment and subsequent aging

Kento Okimoto, National Institute of Technology(KOSEN), Niihama College, Japan

P-D0312 Effects of nitrogen content on microstructural stability and mechanical properties of fine-grained Ti-N alloy

Tomoki Katayama, Kyoto University, Japan

P-D0386 Characteristics of Phosphate Film Formed on Cavitation-Treated AZ31 Magnesium Alloy Surface in Water

Masataka Ijiri, Tokyo Metropolitan University, Japan

P-D0552 Microstructure observation of Mg-Zn-Al alloy aged at 423K

Shungo Takehata, Toyama University, Japan

P-D0560 Optimizing the microstructures and enhancing the mechanical properties of AZ81 alloy by adding TC4 particles

Hong Yang, Chongqing University, China

P-D0667 Effect of cold rolling and annealing conditions on stretcher strain marks in new high Mg-added Al-Mg alloys

JABIR ALI SIDDIQUE, Korea University of Science And Technology, Korea

P-D0680 Influence of Al content change on microstructure and mechanical properties of Mg-Li alloy

Byeong Kwon Lee, Korea Institute of Industrial Technology, Korea

P-D0687 Study on properties and precipitation behavior of Al-Mg-Si alloys with trace In content

Zhirou Zhang, Korea Institute of Materials Science, Korea

P-D0773 Cryogenic Temperature Toughness of binary Al-Mg Alloys using Charpy impact tests

Ji-woon Lee, Kongju National University, Korea

P-D0786 Effects of rare earth addition on microstructure, mechanical properties, and electrical conductivity of Al-Mn-Cu-Fe-Si-Zn based alloy

HyoSang Yoo, Korea Institute of Industrial Technology, Korea

P-D0847 Effects of Superheating Treatment and T6 heat treatment on the tensile properties and thermal conductivity of Fe-bearing Al-10Si-Mg casting alloy

Jin Hyeok Jang, Inha University, Korea

P-D0874 Applications of non-flammable and corrosion resistant Mg-Al-Zn-Mn-Ca-Y alloys

Young Min Kim, Korea Institute of Materials Science, Korea

Symposium E : Additive Manufacturing

P-E0083 Shear deformation behavior of additively manufactured 316L stainless steel lattice structures

Gitaek Lee, Pohang University of Science and Technology, Korea

P-E0276 Multi-phase-field modeling to compute material microstructure evolutions affected by liquid flows during powder bed fusion

Konosuke Ikeda, Kyoto Institute of Technology, Japan

P-E0298 Effect of Excess Vacancies Induced by Laser-Beam Irradiation for Additive Manufacturing on Growth of Antiphase Domains in Fe3Al Phase

Tsubasa Sato, Osaka University, Japan

P-E0406 Effect of process parameters on the mechanical properties of maraging steel(18Ni-300) manufactured by powder bed fusion

Hyo-Kyu Kim, Korea Institute of Industrial Technology, Korea

P-E0590 Effects on trace element and carbon on microstructure, mechanical properties and

thermal conductivity of the 3D-printed Fe-Cu based alloy using by LPBF process

Hyeon-Taek Son, Korea Institute of Industrial Technology, Korea

P-E0597 **Effect of Property Differences between Virgin and Used**

Joseph Jo, Korea University School, Korea

P-E0614 **Cubic and Epsilon Cobalt Phases in Direct Energy Deposition Additively Manufactured Co-Cr-W Alloy**

Jinsung JANG, Korea Atomic Energy Research Institute, Korea

P-E0649 **Study of tensile properties and microstructure according to process parameters of Fe-2.7Mn-6.0Al-0.4C lightweight steel manufactured using DED**

Kwang Kyu Ko, Gyeongsang National University, Korea

P-E0659 **Microstructure-Based Post-Heat Treatment Design of Inconel 939W fabricated by Laser-Powder Bed Fusion for Creep Enhancement**

CheolHyeok Yang, Changwon National University, Korea

P-E0697 **Understanding the superior mechanical properties of hollow-strut metal lattice materials**

Tingting Song, RMIT University, Australia

P-E0868 **Ultrastrong yet ductile additively manufactured steel via tailoring austenite stability**

Jinhua Wang, Tsinghua University, China

Symposium F : Thin Films and Surface Engineering

P-F0155 **Comparison of grain growth of poly-Si films deposited with PECVD, LPCVD and sputtering for 3D DRAM application**

Sung Jun Kim, Hanyang University, Korea

P-F0157 **Modification of electrical and structural properties at interface between Ru and SiGe with annealing**

Jun Hyeong Park, Hanyang University, Korea

P-F0202 **Thermally-induced crystallization of amorphous HfO2 and ZrO2 laminate films**

Kazuma Nagai, Kyushu Institute of Technology, Japan

P-F0208 **Distribution and morphology of artificial pinning centers in YBa2Cu3O7-x thin films**

Haruna Nogami, Kyushu Institute of Technology, Japan

P-F0248 **Molecular dynamics study of residual stress in diamond-like carbon films during formation process: Impact of substrate material properties**

Noritsugu Kametani, Kyoto Institute of Technology, Japan

Symposium G : Materials for Energy Storage and

Generation

P-G0025 Development of Technology for Manufacturing Simulated Test Rods and Shields Using High-performance Neutron Absorbing Materials

Seung Youb Han, Korea Atomic Energy Research Institute, Korea

P-G0028 Effect of ash content on charge-discharge properties of needle coke based artificial graphite

Yuan Gao, Ansteel Beijing Research Institute Co.LTD, China

P-G0045 High-Energy Long-life Lithium-Sulfur Batteries via Redox-Active Interlayer Strategy

Jong-Sung Yu, Daegu Gyeongbuk Institute of Science & Technology (DGIS), Korea

P-G0065 Bimetallic Ni-Fe-S nanoparticles directly grown on porous MXene substrate as bifunctional electrocatalyst for water electrolysis

Kyeongseok Min, Inha University, Korea

P-G0068 Self-templating construction of Fe, F dual-doped CoS2 hollow nanospheres for highly efficient oxygen evolution reaction

Hyejin Kim, Inha University, Korea

P-G0076 Co, N co-doped Ni2P on Ni foam as a bifunctional electrocatalyst for oxygen evolution reaction and urea oxidation reaction

HAE MIN SEONG, Inha University, Korea

P-G0096 Interface engineering strategy to optimize the electronic structure of CoFe LDH via hybridization with oxygen vacancy-enrich Co3O4 for efficient oxygen evolution reaction

Junseong Kim, Inha University, Korea

P-G0121 Highly Breathable, Water-Resistant, and Self-Healing Fibrous Triboelectric Nanogenerators for Enhanced Performance in Wearable Electronics

Duc Khanh Tran, Sungkyunkwan University, Korea

P-G0424 Radiation induced hardening of Fe-Mn-Ni alloys under irradiation

Hideo Watanabe, Kyushu University, Japan

P-G0473 Improvement of electrical power generation from lead zirconate titanate piezoelectric ceramics

Itsuki Shimazu, Okayama University, Japan

P-G0537 The Role of Transition Metal Doping in Enhancing Hydrogen Storage Capacity in Porous Carbon Materials

Xue Gao, South China University of Technology, China

P-G0545 Effect of Rhenium Addition on Microstructure and Mechanical Properties of Ni-16Mo ODS Alloys for Next Generation Energy Applications

Sanghoon Noh, Pukyong National University, Korea

Symposium H : Electronic and Magnetic Materials

P-H0365 **Enhancement of Hard Magnetic Properties by Substitution on Fe2+ sites of W-type Hexaferrites**

Min-Kyung Seong, Sookmyung Women's University, Korea

P-H0366 **Cooling Rate Influence on Microstructure and Magnetic Properties in FeCo-2V Electrical Steels**

Jihye Park, Sookmyung Women's University, Korea

P-H0388 **Study on Structural Characteristics and Magnetic Properties of Ultra-thin Pure Iron Ribbons with Various Annealing Temperatures**

Xiaotong Ma, Tohoku University, Japan

P-H0416 **Effect of the parameters in heat treatment on the structural and magnetic properties of Nd-Fe-B particles recycled from magnet sludge by reduction-diffusion process.**

Vitalii Galkin, Korea Institute of Materials Science, Korea

P-H0570 **Phase selection in Mn-Bi-Sb ternary system by in-magnetic-field annealing**

Ryota Kobayashi, Kagoshima University, Japan

P-H0575 **First-principles study of surface anomalous Hall effect in van der Waals antiferromagnets**

Yume Morishima, Kanazawa University, Japan

P-H0622 **Effects of Fine Nb Addition and Heat Treatment on Soft Magnetic Properties**

Hyunkyung Lee, Sookmyung Women’s University, Korea

P-H0647 **Reinforcement of Soft Magnetic Properties by Heat Treatment in Melt-spun Fe-based Ribbons**

Jiyoon Lim, Sookmyung Women’s University, Korea

P-H0959 **Tailoring the magnetic properties of Sm-Co nanocomposites through morphological evolution via HCl washing**

Kavita Kumari, Changwon National University, Korea

P-H0987 **Approach to improve the MHz performance of Fe-Si based soft magnetic composites**

Xiaowei Jin, Lanzhou University, China

P-H1181 **Characterization of Fe-6.5% Si steel sheet produced 3D Printing**

Semin Park, Pukyung National University, Korea

P-H1183 **Study on Moisture Trigger Self-Healing Effect of Ti3C2Tx MXene Electrode with Application**

Jun Sang Choi, Sungkyunkwan University, Korea

Symposium I : Biomaterials and Soft Materials and their

Application

P-I0102 Functional and Hierarchical 3D Printed Scaffolds for Bone Tissue Engineering using 3Y-TZP/HAp Composites

Tejas Mahesh Koushik, James Cook University, Australia

P-I0294 Effect of Ni and Fe content on microstructure and mechanical properties of biomedical Co-Cr-Fe-Ni-Mo alloy

Kai Hiyama, Tohoku University, Japan

P-I0401 Flexible and transparent thermochromic device for energy-efficient smart windows using cellulose nanostructures

Jae Gyu Ahn, Kongju National University, Korea

P-I0402 Hierarchical nanostructure with high uniformity in pore size derived from balsa wood for electrochemical capacitors

Taeyoung Park, Kongju National University, Korea

P-I0408 Excellent CO2/CH4/N2 Adsorption Capacity and Selectivity for 3D Graphene Nanostructure derived from Cellulosic Biomass

BeomJin Ko, Kongju National University, Korea

P-I0455 Self-expandable Electrode based on Chemically polished Nickel-titanium alloy wire for Treating Endoluminal Tumors using Bipolar Irreversible Electroporation

Song Hee Kim, University of Ulsan College of Medicine, Korea

P-I0573 Endothelial cell behavior on pulsed-anodized NiTi alloys using different electrolytes

Yuya Matsui, Kitami Institute of Technology, Japan

P-I0609 Self-assembled bioactive inorganic core/chitosan shell nanounits doped biocomposite structure for applying therapeutic tissue engineering

YoungEun Choe, Dankook University, Korea

P-I0725 Optimized Manufacturing Processes for Low-cost High-performance Titanium Alloys: Controlling Beta Stability with Mo and Ferrochrome Contents

Suhyun Oh, Korea Institute of Materials Science, Korea

P-I0778 Effects of RBM, SLA, and PEO coating methods on the Fatigue Characteristics of the Dental Implant.

Dr. Sidra Sadaf Nisar, Chosun University, Korea

P-I0779 Comparing the Mechanical, Bio-corrosion, and Bio-compatibility of the surface-modified novel Ti-29Nb-5Zr and Conventionally Manufactured Ti-6Al-4V for dental implant applications

ARUN S, Chosun University, Korea

P-I0870 Design of Immune Suppressive Chitosan Hydrogel with Bioactive Molecule

Conjugation

Gyeongwoo Lee, University of Tsukuba, Japan

P-I0886 Defining roles of the cathodic phase on the binary Mg alloys for the generation behavior of reactive oxygen species

Minjung Chae, Korea Institute of Science And Technology, Korea

P-I0894 Evaluation of bone fusion capability of interface free HA PEEK cage

Minseong Chae, University of Ulsan, Korea

P-I0953 Magnesium coated nerve conduit as a promising biomaterial for enhancing peripheral nerve regeneration

Hyewon Kim, Korea Institute of Science And Technology, Korea

P-I0961 Nanoparticle Based Platform for Rapid and Ultrasensitive Nucleic Acid Detection

Sunyeoung Na, Hanyang University, Korea

P-I0965 Ring-type, wearable blood pressure monitoring device capable of cuff-based measurement

Minjoo Lee, Kwangwoon University, Korea

P-I0966 Endotoxin-Free High Concentration M13 Bacteriophage for Biomaterial Applications

JiHyae Choo, Hanyang University, Korea

P-I0976 Plasma polymerized bio-interface directs fibronectin adsorptionto enhance "epithelial barrier structure" formation via FN-ITG β1-FAK-Mtor signaling cascade for the advancement of transepithelial metal impalnt

Zhuofan Chen, Sun Yat-sen University, China

P-I0992 Potential of M13 Bacteriophage as a Bio-Supercapacitor

Yujin Lee, Hanyang University, Korea

P-I0997 Battery-free wireless skin hydration sensor with breathable and low irritation

Hyejun Kim, Kwangwoon University, Korea

P-I1025 Customization of supramolecular hydrogels through one-step photopolymerization and its mechanism

Ruifen Tang, Beijing University of Chemical Technology, China

Symposium J : Materials Characterization and in situ/3D/4D Analysis

P-J0457 Hardness and wear properties of sintered Cu-Sn-Ni-Bi alloys

Junhyub Jeon, Jeonbuk National University, Korea

P-J0484 Micro probe system for in-situ x-ray scattering

Soyeon Kim, Nextron Corporation, Korea

P-J0534 **Superplastic and ultra-high strength Si nanoparticles with oxide shell**

Wei Xu, Xi'an Jiao Tong University, China

P-J0572 **Room-temperature sintering-like agglomeration of diamond nanoparticles via ion irradiation**

Shaochuan Zheng, XI'AN JIAOTONG University, China

P-J0625 **Microstructural characterization of cost-effective Inconel 738LC while reducing expensive Co compositions**

Saurabh Tiwari, Gyeongsang National University, Korea

P-J0650 **Improved cryogenic tensile properties of additive manufacturing processed STS316L steel by the reusable powder**

Chohyeon Lee, Gyeongsang National University, Korea

Symposium K : High-Entropy Materials and Amorphous Materials

P-K0615 **Synthesis of Single-Crystal High-Entropy Carbide-Nanocrystals with developed {100} and {111} planes and evaluation of water splitting properties**

Junmo Jeong, Chungnam National University, Korea

P-K0690 **Evaluation of Phase Stability of High-Entropy Alloys by First-Principles Calculations**

Kazuma Ogushi, Osaka University, Japan

P-K0776 **Radiation Induced Steady State Grain Boundary Structures and Their Dynamics**

Ian Chesser, Los Alamos National Laboratory, USA

P-K0832 **Effects of Oxidation and Crystallization on Formability of a Zr-based Metallic glass in Thermal Nanoimprint Lithography**

Sangtae Woo, Pusan National University, Korea

P-K0958 **Microstructural Evolution and Tensile Property Enhancement of Low-cost Fe-24Mn-22Ni-12Cr Medium-entropy Alloy by Cryogenic Caliber Rolling**

Jae-Ho Lee, Korean Institute of Materials Science(KIMS), Korea

P-K1122 **A feasibility study on microstructure and corrosion behaviour of Fe-based HVOF metallic glass coating layer**

Junhee Han, Korea Institute of Industrial Technology, Korea

Symposium L : Composite, Coating and Hetero-Materials

P-L0184 **Photocatalytic Characterization of Zn-TiO2/Phosphor composite Synthesized by Hydrothermal and Coprecipitation Methods**

Hye Rin Jeong, University Of Seoul, Korea

P-L0349 Molecular dynamics study on viscous behaviour of water molecules on fatty acid-coated calcite nanosurface

Shumpei Mori, Okayama University, Japan

P-L0535 Functionally graded materials with high dimensional stability and near-zero thermal expansion around room temperature

Xiaokang Zhong, Hefei Institute of Physical Science, Chinese Academy Science, China

P-L0949 Effect of heat treatment on high temperature wear behavior of TiC/FC250 composites

Yu Jin Im, Dong-Eui University Korea

P-L1052 Synergy of strength-ductility in heterostructured alloys fabricated by laser-cladding

Hyo Jeong Ha, POSTECH, Korea

Symposium M : Nano Materials and Nano Severe Plastic Deformation

P-M0094 Enhanced Stability in Strain Sensors with Pore-Free Encapsulation and Deep Learning-Based Human Motion Recognition

HyunSik Shin, Sungkyunkwan University, Korea

P-M0120 Self-Healing Wearable Flexible Heaters Based on MXene/Polycaprolactone Composites and Silver Nanowire Electrodes

Su Bin Choi, Sungkyunkwan University, Korea

P-M0634 Formation of metastable phase in Si1-xGex crystals by severe plastic deformation under high pressure

Marina Takaira, Kyushu University, Japan

P-M0918 Influence of deformation degree by High-Pressure Torsion on Ti-25at%Nb alloys synthesized from elemental powders.

Kathy Gonzalez, Instituto Tecnológico De Costa Rica, Costa Rica

P-M0998 Enhancement of coercivity for microfabricated Sm(Fe-Co) dot arrays with Sm seed layer

Shintaro Hatanaka, Tohoku Gakuin University, Japan

P-M1067 Nanomechanical behavior of ultrafine-grained structural alloys processed by high-pressure torsion technique

In-Chul Choi, Kumoh National Institute of Technology, Korea

Symposium N : Computational Materials and Artificial Intelligence

P-N0043 **Prediction of Flaw Detection Results and Evaluation of crucial Process Factors for Continuous Casting billet of Pipeline Steel Based on the Decision Tree Algorithm**

Fuyue Wang, Ansteel Iron & Steel Research Intitute, China

P-N0136 **Modelling of Hydrogen Diffusion Influenced Screw Dislocation Motion in BCC Iron**

JIAQIN XU, OSAKA UNIVERSITY, Japan

P-N0213 **Large-scale phase-field computation for predicting material microstructures from shape forming to sintering**

Aoi Nakazawa, Kyoto Institute of Technology, Japan

P-N0234 **Temperature dependent elastic properties of Mo-Ti BCC solid solutions by first principles calculation**

Junfeng Du, Tohoku University, Japan

P-N0278 **Investigation of a system to predict 3D microstructures from 2D cross-sectional images through machine learning and phase-field simulations**

Sota Fujikawa, Kyoto Institute of Technology, Japan

P-N0528 **Cluster Formation Behavior by Monte Carlo Simulation in Al-Mg-Si Alloys**

JiWook Park, Korea Institute of Industrial Technology, Korea

P-N0723 **Balancing Tensile Strength and Elongation in Co-reduced Martensitic Steels: A Machine Learning Approach**

SooBeen KIM, Kookmin University, Korea

P-N0733 **Advanced Precipitate and Dislocation Segmentation in STEM Images using U-net Architecture and Focused Region Training**

JUNYU CHOI, Kookmin University, Korea

P-N0834 **Prediction and mechanism explain of martensite start temperature of alloy steel via explainable artificial intelligence**

Seungbae Son, Jeonbuk National University, Korea

P-N0925 **XAI-aided carbon diffusivity prediction and mechanism analysis in austenite**

Seok-Jae Lee, Jeonbuk National University, Korea

Symposium O : Materials for Sustainability (Green Steel, Recycling, and Corrosion)

P-O0329 **Deoxidation of Ti-6Al-4V alloy melt using hydrogen plasma arc melting**

Yuya Matsuzaki, Tohoku University, Japan

P-O0604 **Improvement of Lithium-Ion Battery Anode Performance Using Mg Base Alloy Electrode**

Chaeyeon Yeom, Chungnam National University, Korea

P-O0731 Influence of Annealing Conditions on the Microstructure and Magnetic Properties of Nd-Fe-B Sintered Magnets

Gian Song, Kongju National University, Korea

P-O0741 Extraction behavior of rare earths elements in hydrogen treated permanent magnets

Sangmin Park, Korea Institute of Industrial Technology, Korea

POSTER Session 2

Time : November 22, 18:00-19:30
Place : 3F Lobby, ICC jeju

Symposium A : Advanced Steels and Properties

P-A0042 **Effect of austenite phase volume fraction on mechanical properties of hydrogen**

charged weld metals

Toya Hada, National Institute of Technology (KOSEN), Korea

P-A0070 Microstructure control and stenghtening-toughening mechanism of 68.4Gpa·% grade cold rolled steel

Zhezui Zhang, Ansteel Iron & Steel Research Intitute, China

P-A0082 Effect of carbide coarsening behaviour on tensile properties of Cr alloying medium-Mn steel

Shengrui Su, University of Science and Technology Beijing, China

P-A0084 Heterogeneous ultrafine/fine-grained austenitic stainless steel: high strength and ductility

Shuyi Quan, University of Science and Technology Beijing, China

P-A0098 Corrosion Behaviors of U75vh , R350lht Heavy rail in Simulated atmosphere

Hongyu San, State Key Laboratory of Metal Material for Marine Equipment And Application, China

P-A0147 Effect of copper addition on the low-cycle fatigue behavior of ferritic heat- resistant steel at 630℃

Jin-young Kim, Hanyang University, Korea

P-A0203 Effect of Microstructure on Mechanical Anisotropy of API X70 Linepipe Steels for Electrical Resistance Welding

Dong-Kyu Oh, Seoul National University of Science and Technology, Korea

P-A0205 Effect of Nb, Ti, and V additions on Hydrogen Embrittlement of Tempered Martensitic Low Alloy Steels

Hee-Chang Shin, Seoul National University of Science and Technology, Korea

P-A0231 Development of 800MPa Grade Hot-Rolled High Strength Ferrite Steel with Excellent Ductility and Low Yield Ratio

Yajun Hui, Technology Institute of Shougang Group Co., Ltd., China

P-A0295 Effect of center segregation on low temperature impact toughness of welding heat-affected zone of pipeline steel

Fujian Guo, Yangjiang Advanced Alloys Laboratory, China

P-A0313 Improvement of Impact Properties at Low Temperatures for 0.13C Cast Steel

Yusuke Ochi, Hiroshima University, Japan

P-A0325 A Study on the Improvement of Low Temperature Impact Toughness and Microstructure Changes of ERW X70 Steel Pipe

CHANHEE LEE, Changwon National University, Korea

P-A0703 Analysis of Phosphating Defects for Hot-dip Zn-Al-Mg coated Steels

Ning Cai, Shougang Group Research Institute of Technology, China

P-A1070 Effect of core-shell type second phase formed by interrupted-quenching and

intercritical-annealing on mechanical property in a medium manganese steel

Toshihiro Tsuchiyama, Kyushu University, Japan

P-A1071 Gradient metastability yields strong yet cryogenically tough additively manufactured steel

Weiting Li, Tsinghua University, China

Symposium B : Advanced Processing of Materials

P-B0056 Application of Green Manufacturing Technology in ASP1700 Hot Rolling Production Line

Wei Xiudong, Chaoyang iron & Steel Co., Ltd., of Ansteel Group Corporation, China

P-B0139 Influence of Cooling Parameters on Precipitation of Grain Boundary Cementite of 0.92%C Steel Wire Rods

Hang Gao, Ansteel Group Corporation, China

P-B0158 Shape optimization of large metallic hydrogen permeable membranes and development of forming technology

Nobuki Yukawa, Nagoya University, Japan

P-B0167 Data assimilation integrating phase-field simulations and X-ray imaging for highly accurate prediction of columnar dendritic growth

Ayano Yamamura, Kyoto Institute of Technology, Japan

P-B0372 Effects of Heat Treatment in Hydrogen Environment on Hydrogen Permeability of Pd-40mass%Cu Alloy Membrane

Hiroshi Yukawa, Nagoya University, Japan

P-B0569 Crystal growth of long Ru-Mo-W alloy single crystal wires by the dewetting micro-pulling-down method equipped with a continuous feeding system

Rikito Murakami, Tohoku University, Japan

P-B0923 Synthesis of high purity titanium nanopowders by high-energy ball milling of titanium hydride

Ji Young Kim, Seoul National University of Science and Technology, Korea

P-B926 Macroporous structures tailored via various sublimable vehicles in freeze-casting process

Eui Seon Lee, Seoul National University of Science and Technology, Korea

P-B0970 Improved toughness of warm-rolled medium-Mn steels through nano-sandwich microstructure

Mun Sik Jeong, Hanyang University, Korea

P-B0982 Comparative Study of Self-Piercing Riveting and Spot Impact Welding for Dissimilar

Al/Steel materials

Park Honggeun, Incheon National University, Korea

P-B1170 Optimization process on the acoustic wave for reducing the fine particles in the industrial air conditioning system.

TAEHOON PARK, Korea Institute of Industrial Technology, Korea

Symposium C :Structural Materials for High Temperature

P-C0109 Liquation cracking temperature range of repair weld heat-affected zone for long-term aged 247LC superalloy evaluated by Varestraint test

Hye Eun Jeong, Pukyong National University, Korea

P-C0215 Quantitative analysis and formation mechanism of inclusions in a vacuum induction melted Ni-Co based superalloy

Haijing Zhou, Central Iron & Steel Research Institute, China

P-C0317 Influence of cellular structure on mechanical properties of Ni-based superalloy fabricated by metal 3D printing

Kippei YAMASHITA, Osaka University, Japan

P-C0334 Characterization of microstructure of tantalum/steel interfaces prepared by explosive welding and its thermal cyclic characteristics

Si Yeon Kim, Changwon National University, Korea

P-C0587 Formation mechanism of special grain boundary and the effect on properties of a Fe-Ni-base superalloy under hot deformation

Chong Wang, Northeastern University, USA

P-C0653 Numerical Simulation and Experimental Study of Electroslag Remelting Process (ESR) for Φ1100mm Ni-Based Superalloy Ingot

Zhongmin Shen, Central Iron & Steel Research Institute, China

P-C0855 Stress rupture properties and deformation mechanisms of a Re-low second-generation Ni-based single crystal superalloy

Liu Lirong, Shenyang University Of Technology, China

P-C0920 Synthesis and characterization of W-Ni-Cu alloys using metal oxide powders

Youn Ji Heo, Seoul National University of Science And Technology, Korea

P-C0930 Effect of thermal compression temperature and deformation on abnormal grain growth of solution treated GH4096 alloy

Lingchao Meng, Central Iron & Steel Research Institute, China

P-C0933 Fabrication of W-Cu composite powders by ball milling and hydrogen reduction of WO3-CuO powder mixtures

Ji Won Choi, Seoul National University of Science And Technology, Korea

Symposium D : Light Metals and Alloys

P-D0221 **Effects of zinc addition on deformation behavior of magnesium single crystals**

Takahiro Shioyama, Kumamoto University, Japan

P-D0222 **Fatigue fracture behavior of aluminum foils**

Chiho Fujita, Kumamoto University, Japan

P-D0224 **Effect of yttrium addition on bending deformation behavior of magnesium single crystal**

Takaya Fujihara , Kumamoto University, Japan

P-D0263 **Control of Ears on Aluminum Cup with Clad Sheet**

Yasunori Harada , University of Hyogo, Japan

P-D0461 **Effect of Mn and Mo addition and solution heat treatment on microstructure and hardness of Al-7Si-0.5Cu-0.5Mg alloy**

Namhyuk Seo, Jeonbuk National University / KITECH, Korea

P-D0529 **Effect of Cu addition on the kinetics of cluster formation in Al-Mg-Si alloys**

MiYoung Lee, Korea Institute of Industrial Technology, Korea

P-D0530 **Effection of Sn addition of Age-hardening behavior in Al-Mg-Si alloys**

YoTak Choi, Korea Institute of Industrial Technology, Korea

P-D0553 **Effect of cold-rolling on aging behaviour of Al-Cu-Mg alloy at different aging temperatures**

Kenta Koshiishi, Toyama University, Japan

P-D0554 **Microstructure observation of Al-1.0mass%Mg2Si alloy**

Kazunobu Fujimoto, Toyama University, Japan

P-D0588 **Effects of homogenization and Mn addition on the mechanical properties of Fe-containing Al-Mg-Si alloys**

DaeHan Kim, Korea Institute of Industrial Technology, Korea

P-D0591 **Static recrystallization behavior of laser shock peened AZ31 Mg rolled sheet**

Jiwoo KIM, Korea Institute of Industrial Technology, Korea

P-D0646 **Effect of Mechanical Properties by Addition of Rear Earth Elements in Al-SI-Mg Alloy using Machine-Learning Models**

Seongtak Kim, Korea Institute of Industrial Technology, Korea

P-D0648 **Evaluation of microstructure and mechanical properties of ultralight Mg-Li alloys**

Yong-Ho Kim, Korea Institute of Industrial Technology, Korea

P-D0654 **Effect of aging conditions on hydrogen release behavior in fractured Al-Cu alloy in**

humid and dry environments

Yuki Ishii, Ibaraki University, Japan

P-D0877 **Recrystallization behaviour and stretch formability of Mg-Al-Zn-Ca-Y alloy sheet**

Young Min Kim, Korea Institute of Materials Science, Korea

P-D0905 **Effect of aging temperature on the precipitation behavior and mechanical properties of Al-Zn-Mg-Cu alloy**

Sang-Hwa Lee, Jeonbuk National University, Korea

P-D0943 **Effects of mechanical milling and post heat treatment on on the microstructure and mechanical properties of Al-Zn-Mg-Cu-Si alloys with and without Zr manufactured by spark plasma sintering**

Junho Lee, Jeonbuk National University, Korea

P-D1061 **A Comprehensive Investigation into the Microstructural and Mechanical Response of Ti Alloys after Electrochemical Hydrogen Charging**

Hyojoo Lee, Hanbat National University, Korea

Symposium E : Additive Manufacturing

P-E0267 **A multi-phase-field framework for predicting material microstructures formed by different scanning patterns in powder bed fusion**

Yuki Takahashi, Kyoto Institute of Technology, Japan

P-E0367 **Melting and Solidification of Stainless Steels Induced by Laser-Beam Irradiation for Powder Bed Fusion Process**

Kishin Fukushima, Osaka University, Japan

P-E0681 **Study on the Microstructure, Mechanical Properties and Electrical Conductivity of Al-Si-Mg Powder by PBF process according to Si and Mg Content Change and Heat Treatment Conditions**

Ko Eun Chan, Chonnam National University, Korea

P-E0701 **The Gibson-Ashby model for additively manufactured metal lattice materials: Its theoretical basis, limitations and new insights from remedies**

Tingting Song, RMIT University, Australia

P-E0743 **Characterization of flowability in gas-atomized Inconel 625 powder for additive manufacturing applications**

Hyun Joong Kim, Kongju National University, Korea

P-E0774 **Geometric characteristics in polycaprolactone (PCL) scaffolds produced by materials extrusion-based additive manufacturing**

Ji-woon Lee, Kongju National University, Korea

P-E0783 **Wire-fed Additive Manufacturing of Cu and Cu-based Alloys for Application in the Spent Nuclear Fuel Canister**

Yangil Jung, Korea Atomic Energy Research Institute, Korea

P-E0884 **Carbon Nitride (C3N4) as a Filler of Epoxy-Acrylate based Resin for the Digital Light Processing (DLP) 3D Printing Process**

YoonSeong JOO, Korea Institute of Industrial Technology, Korea

P-E0889 **Lignin Reinforced Photo-curable Resin for Digital Light Processing**

YoonSeong JOO, Korea Institute of Industrial Technology, Korea

P-E0890 **The New Approach for Developing ZrO2 Feedstock for Materials Extrusion 3D Printing**

Hee Sung Han, Korea Institute of Industrial Technology, Korea

P-E0951 **Mechanical responses of 304L stainless steel additively manufactured by laser powder bed fusion at 4.2K**

Seungmin Jeon, Korea Institute of Materials Science, Korea

P-E0994 **Microstructure and magnetic properties of Fe-Ni alloy fabricated by Laser powder bed fusion process**

Nuri Sim, Korea Institute of Industrial Technology, Korea

P-E1116 **Cryogenic tensile behavior of carbon-doped CoCrFeMnNi high-entropy alloys additively manufactured by laser powder bed fusion**

Haeum Park, Korea Institute of Materials Science (KIMS), Korea

P-E1118 **Effect of Substrate Pre-heating on Microstructure and Magnetic Properties of Nd-Fe-B Permanent Magnet Manufactured by L-PBF**

Yeon Woo Kim, Korea Institute of Materials Science, Korea

P-E1154 **Numerical Simulation and Analytical Modeling of Temperature and Morphology of Meltpool in Electron Beam Powder Bed Fusion of Copper Components**

Elmira Sharabian, RMIT University, Australia

Symposium F : Thin Films and Surface Engineering

P-F0328 **Protective coating of precious metal films on high-melting-temperature metals by chemical vapor deposition**

Hiroki Sato, Tohoku University, Korea

P-F0385 **Environment-Friendly Surface Modification Technology to Strengthen the Steel Surface**

Masataka Ijiri, Tokyo Metropolitan University, Korea

P-F0471 **Improvement of Oxidation Resistance in Reduction Sinter-bonding Focusing on**

Morphology Control of Cuprous Oxide

Shio Okubo, Osaka University, Japan

P-F0616 Enhanced Accuracy in Hydrogen Sensing by Oxygen Selective Polymer Membrane Support

Hirotaka Kimura, Suzuki Shokan Co., Ltd., Japan

P-F0640 Refinement of orientation of Sm(Fe, Co)-B thin films by introduction of Sm seed layer

Soga Nakatsuka, Tohokugakuin University, Japan

P-F0665 Comparison of Fe-Ni Alloy Films Fabricated by DC, Two-Step and Pulse Electrodeposition

Na Young Kang, Hongik University, Korea

P-F0820 Preliminarily exploring the electrical insulation performance of APPJ SiO2 coating on 304 stainless steel pipes

Wanyu Ding, Dalian Jiaotong University, China

P-F0821 Investigate the heat conduction between film and substrate during sputtering process by multi-layer structure NiCr/NiSi film thermocouples

Wanyu Ding, Dalian Jiaotong University, China

P-F0979 Microstructure characterization of Zn-15Al-6Mg-0.2Si alloy galvanized coating

Yoonje Sung, Jeonbuk National University, Korea

P-F1056 Regeneration of single-walled carbon nanotube membranes for optical applications in the extreme ultraviolet range

Dmitry Krasnikov, Skolkovo Institute of Science Technology, Japan

P-F1165 Surface and Interface Engineering of Oxide Hard Coating for High-performance Cutting Tool

Joonbong Lee, Sejong University, Korea

Symposium G : Materials for Energy Storage and Generation

P-G0152 Competition between charge collection and recombination dynamics in polymer/polymer solar cells

Jihun Jeon, Kyoto University, Japan

P-G0311 Effect of lattice defects on hydrogenation behavior in HfNbTiZr medium entropy alloy

Tatsuya Ueda, Kyoto University, Japan

P-G0314 **Helium and hydrogen effect of cavity formation and irradiation hardening on CrFeNiMn high entropy alloy and 316 stainless steel**

MENGKE NIU, Hokkaido University, Japan

P-G0635 **Fabrication and Characteristic of Oxide Dispersion Strengthened Ferritic Steels Containing Gadolinium Oxide for Neutron Absorbing Structural Components**

Sanghoon Noh, Pukyong National University, Korea

P-G0850 **Cu-promoted non-noble catalysts for the efficient hydrolysis of ammonia borane**

Junrui Zhang, Lishui University, Taiwan

P-G0851 **Cu-promoted non-noble catalysts for the efficient**

Junrui Zhang, Lishui University, Taiwan

P-G0938 **Betavoltaic-powered electrochemical cells based on TiO2 Nanotubes modified with ZrO2 and SWCNTs**

Bing Zhou, Ningxia University, China

P-G0944 **Development of hot rolling on La-Fe-Co-Si magneto-caloric composites**

SEON YOUNG YANG, Korea Institute of Materials Science, Korea

P-G0950 **Forming Technology of Anisotropic Gadolinium wire and Componentization of Active Magnetic Regenerator**

Min-Jik Kim, Korea Institute of Materials Science, Korea

P-G0963 **Fe1-xS modulated by sulfur sources for high-performance anodes in Li-ion batteries**

Xiaoyang Zhang, Dalian Jiaotong University, China

P-G1045 **Elevated temperature design of Type 316L stainless steel components and piping in a thermal energy storage system**

Hyeong-Yeon Lee, Korea Atomic Energy Research Institute, Korea

P-G1128 **Multifunctional Composite Platforms Based on Binder-free Graphene Oxide Dough**

Seoyeon Park, Korea University, Korea

Symposium H : Electronic and Magnetic Materials

P-H0103 **Prediction of Supercooled Liquid Region of soft magnetic bulk metallic glasses by Deep Learning**

Chunghee Nam, Hannam University, Korea

P-H0284 **Static and High-frequency Magnetic Properties of Toroidal Cores Composed of Electrolytic Iron Particles with Different Shapes**

Yudai Kodama, Tohoku University, Japan

P-H0586 **Copper/graphite metal matrix composite for heat management application**

JONGTAE KIM, DGIST, Korea

P-H0620 Quasi first-order magnetic transition of Mn0.9Fe0.1Sb0.9Sn0.1 probed using Mössbauer spectroscopy

Masahira Onoue, Kagoshima University, Japan

P-H0641 Effect of additive elements on the crystal structure and magnetic properties for L10 Mn-Ga thin films

Yuto Miura, Tohoku Gakuin University, Japan

P-H0876 Effect of High Efficiency Heat Treatment System on Magnetic Properties of Co27 Alloy

Yan Dongchao, Advanced Technology & Materials Co.,Ltd., China

P-H0897 A study on the magnetic properties and magnetocaloric effect of Tm1-xErxCuAl (x=0, 0.2, 0.4, 0.5, 0.6, 0.8, 1) polycrystalline compounds

Sun Hao, University of Science And Technology Of China, China

Symposium J : Materials Characterization and in situ/3D/4D Analysis

P-J0287 Evaluation of irradiation induced hardness and microstructure of Zry-2 under applied stress

Luwei Xue, Kyushu University, Japan

P-J0700 Material Characterization of SiON films Deposited by PECVD for Thin Film Encapsulation of OLEDs

Seokyoon Shin, Advanced Institute of Convergence Technology, Korea

P-J0826 Correlation study of nonlinear ultrasonic parameters to steels weld microstructure

Hyunmyung Kim, FAINDUS Co., Korea

P-J0878 Microstructural effect on the resistance to fatigue crack growth of high-entropy alloys

Wonhui Jo, Gyeongsang National University, Korea

P-J1048 In-situ studies on microstructures and mechanical properties in metallic materials using pulsed neutron diffraction at TAKUMI

Wu Gong, Japan Atomic Energy Agency, Japan

P-J1068 Characterizing interfacial mechanical properties of post-heat treated Ti/Al clad materials

In-Chul Choi, Kumoh National Institute of Technology, Korea

Symposium K : High-Entropy Materials and Amorphous

Materials

P-K0052 **The effect of initial microstructure on the cryogenic tensile behavior of a ferrous medium-entropy alloy**

Jiyeong Lee, Pohang University of Science And Technology, Korea

P-K0306 **Effect of Sintering Temperature on Microstructure**

Shunsuke Kawasaki, National Institute of Technology, Kagoshima College, Japan

P-K0379 **Local structural changes during glass formation in Zr80Pt20 alloys**

Siyuan Zha, Waseda University, Japan

P-K0396 **Molecular dynamics study on the effects of multiple elements on grain boundary migration in high-entropy alloys**

Kohei Shiotani, Kanazawa University, Japan

P-K0399 **Local atomic structures and quasicrystal formation in Zr70Cu29Pt1 metallic glasses**

Kudo Shinya, Waseda University, Japan

P-K0502 **Crystallization Kinetics and Thermoplastic Forming Condition of TiCu-based bulk metallic glass**

Ki Buem Kim, Sejong Univercity, Korea

P-K1173 **Enhanced mechanical properties of Nb-Ta-V-Ti high entropy alloy with in-situ TiC particles**

Hyeok Jae Choi, Kongju National University, Korea

P-K1176 **Novel Zr-Ti-Ni-Cu metallic glass brazing fillers for joining Ti-6Al-4V alloy**

Jin Kyu Lee, Kongju National University, Korea

Symposium L : Composite, Coating and Hetero-Materials

P-L0828 **Study on corrosion resistance of carbon-based anti-corrosion coating in hot molten salt**

Wenjie Hou, Baowu Carbon Technology Co., Ltd, China

P-L0843 **Bonding Properties of Metal Matrix Composites through Brazing: Optimizing Parameters and Filler Material Composition**

Taeho Lee, Korea Institute of Material Science, Korea

P-L0864 **A study on the improvement of neutron absorption and thermal conductivity of aluminum matrix composites**

MINWOO KANG, Korea Institute of Materials Science, Korea

P-L0898 **Effect of improving mechanical properties according to the content of in-situ gamma prime phase in Ni-TiC-Ti2AlC MAX-phase MMC**

Minsu Kim, Korea Institute of Materials science, Korea

P-L1069 **Design and Toughening of High-performance Alloy Coatings and Heat-resistant Aluminum Alloys based on Theoretical Calculations**

Cai Jianming, Xi'an Jiaotong University, China

Symposium N : Computational Materials and Artificial Intelligence

P-N0144 **A study on estimation of changes in mechanical material properties according to changes in pore shape using Representative Volume Element method**

Eulyong Ha, Korea Institute of Industrial Technology, Korea

P-N0260 **A deep learning based surrogate model in design optimization of aluminium frames for large-scale photovoltaic module**

Dongwoon Han, Korea Institute of Industrial Technology, Korea

P-N0282 **Systematic evaluation of segregation band formation using the MPF-LB simulation of semi-solid simple shear deformation**

Shinmei Hayase, Kyoto Institute of Technology, Japan

P-N0448 **Many-body effects on glass formation in molecular dynamics simulation**

Koki Takahashi, Waseda University, Japan

P-N0688 **Molecular dynamics simulation of solidification microstructure formation under large temperature gradient**

Shusuke Osuga, The University of Tokyo, Japan

P-N0689 **High-precision prediction of physical properties of molecular dynamic simulation using graph neural networks**

Kota Noda, The University of Tokyo, Japan

P-N0928 **Exploring austenite grain growth mechanisms in alloy steel during reheating using XAI**

Seunghyeok Choi, Jeonbuk National University, Korea

P-N0935 **Prediction of cementite precipitation in austenite of low-alloy steels using XAI**

Seonghyun Park, Jeonbuk National University, Korea

P-N0948 **Tempered martensite hardness prediction and feature analysis using XAI in low-alloy steels**

Woocheol Shin, Jeonbuk National University, Korea

P-N1008 **Enhancement of the growth of a helium bubble through the strain field generated by itself**

Zhangcan Yang, Huazhong University of Science And Technology, China

Symposium O : Materials for Sustainability (Green Steel, Recycling, and Corrosion)

P-O0017 **Upgrade of instrument control system of Lean Oil Sealed Gasholder**

Quan Wang, Energy and Environment Management Center Of Angang Steel Co., Ltd., China

P-O0481 **Preparation of High-Purity Nickel by Floating Zone Refining under Hydrogen Atmosphere**

YuBo Wang, Kunming University of Science And Technology, China

P-O0504 **Color Transition Behavior of Cu-5Al-5Zn-1Sn Alloy with Low Stacking Fault Energy by Tailoring Grain Boundary**

Ki Buem Kim, Sejong Univercity, Korea

P-O0589 **Electrorefining of Ti in LiCl-KCl-NaCl-TiCl2 molten salt with oxygen concentration in CuTi feedstock**

KyuSeok Lim, Chungnam National University, Korea

P-O0594 **Inert anode-based eco-friendly electroreduction of magnetite**

Wooseok Choi, Chungnam National University, Korea

P-O0606 **Investigation of Inert Anode Materials for Carbon-free electroreduction of CaO**

WanBae Kim, Chungnam National University, Korea

P-O0612 **Improvement of Anode Charge/Discharge Performance through Ag and Li Alloying**

Seungho Lee, Chungnam National University, Korea

P-O0624 **Development of eco-friendly electroreduction method for producing Nd-Fe alloy from Nd2O3**

Donghee Lee, Chungnam National University, Korea

P-O0772 **Molten salt electrolysis of secondary resources and vacuum distillation for producing high-purity magnesium metal**

Hyeong-Jun Jeoung, Seoul National University, Korea

P-O0957 **Researching the feasibility of the binder remove and solvent recycle process through the use of green solvents for direct recycling of used batteries**

Cheol Kang, Korea Battery Industry Association, Korea

P-O01019 **Optimization of the discharge process of spent Li-ion batteries from electric vehicles for direct recycling**

Hyunseok Lee, Korea Battery Industry Association, Korea

P-O01020 **Causes of Capacity Fade in Lithium-Ion Batteries and Research on Direct Recycling**

Min-Ho Kim, Korea Battery Industry Association, Korea