

Energy Storage Materials (ES)

Oral Presentation

Nov. 7, 2011 (Mon.)

ES 1 (Energy Storage Materials 1)

Ballroom 3

Chairs: Dr. Yuping Wu (Fudan University, China)

15:00-16:10

Dr. Hae-Won Cheong (Agency for Defense Development, Korea)

ES151

Structure Investigations of Layered Oxides for PHEV Applications

15:00-15:30

D.P. Abraham¹, M. Balasubramanian¹, J. Bareño¹, J.G. Wen¹, S.V. Pol¹, S.-H. Ka¹, I. Petrov²

Invited Speech

¹Argonne National Laboratory, USA, ²University of Illinois at Urbana-Champaign, USA

ES164

Thermal Stability and Structure Change of Charged LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂ Cathode for Li-ion Batteries Studied by Time-resolved X-ray Diffraction

15:30-15:50

Donghyuk Jang¹, Yong-Hun Cho², Won-Sub Yoon¹, Kyung-Wan Nam³, Xiao-Qing Yang³, Woo-Seong Kim⁴

¹Sungkyunkwan University, Korea, ²Kookmin University, Korea, ³Brookhaven National Laboratory, USA, ⁴Daejung EM Co. LTD, Korea

ES223

Porous LiFePO₄/C Microspheres as High Power Cathode Materials for Lithium Ion Batteries

15:50-16:10

Bing Sun, Guoxiu Wang

University of Technology, Sydney, Australia

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ES 2 (Energy Storage Materials 2)

Ballroom 3

Chairs: Dr. Daniel Abraham (Argonne National Laboratory, USA)

16:30-18:00

Dr. Hyun-Soo Kim (Korea Electrotechnology Research Institute, Korea)

ES152

Super Fast Aqueous Rechargeable Lithium Batteries

16:30-17:00

W. Tang^{1,2}, S. Tian¹, L.L. Liu¹, Y.S. Zhu¹, Y.P. Wu¹, K. Zhu²

Invited Speech

¹Fudan University, China, ²Shanghai Academy of Spaceflight Technology, China

ES1021

Surface Modified Ceramic Fiber Separators for Thermal Batteries

17:00-17:20

Hae-Won Cheong¹, Sang-Hyeon Ha¹, Yu-Song Choi², Yong-Sik Chung²

¹Agency for Defense Development, Korea, ²Chonbuk National University, Korea

ES1512

Application of Electrodeposited Sn-Zn Alloy Anodes in Lithium-ion Batteries

17:20-17:40

Yalan Xing, Shichao Zhang, Yuan Fang

Beihang University, China

ES1484

Carbon Nanotube-MnO₂ Layered Structures for Supercapacitor Applications

17:40-18:00

Rahul R. Salunkhe, Sung-won Lee, Ki-hun Jang, Heejoon Ahn

Hanyang University, Korea

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ES 3 (Energy Storage Materials 3)

Ballroom 3

Chairs: Prof. Guoxiu Wang (University of Technology, Sydney, Australia)

09:10-10:20

Dr. Young-Jun Kim (Korea Electronics Technology Institute, Korea)

ESIS3 Atom by Atom Imaging of Defects in LiFePO_4 with Olivine Structure

09:10-09:40 Xiang Yang Kong¹, Rong Huang², Rongrong Chen¹

Invited Speech ¹Shanghai Jiao Tong University, China, ²East China Normal University, China,

ES1331 Studies on Electrochemical Properties of Alkaline Titanate Nanotubes Synthesized via Hydrothermal Method

09:40-10:00

Minyong Eom, Junghoon Kim, Yongsu Yoon, Dongwook Shin

Hanyang University, Korea

ES1118 A New Method in Producing Microporous Carbon for Higher Rating Supercapacitor Application

10:00-10:20

Zulkarnain A. Noorden, T. Hirabayashi, M. Fujisaki, S. Matsumoto

Shibaura Institute of Technology, Japan

Nov. 8, 2011 (Tue.)

ES 4 (Energy Storage Materials 4)

Ballroom 3

Chairs: Dr. Xiangyang Kong (Shanghai Jiaotong University, China)

10:40-12:10

Prof. Won-Sub Yoon (Sungkyunkwan University, Korea)

ESIS4 Structural Changes of Layered Cathode Materials during Thermal Decomposition Studied by Synchrotron based X-rays and TEM Techniques

10:40-11:10

Invited Speech Kyung-Wan Nam¹, Lijun Wu¹, Yimei Zhu¹, Seongmin Bak^{2,3}, Kyung-Yoon Chung², Xiao-Qing Yang¹

¹Brookhaven National Laboratory, USA, ²Korea Institute of Science and Technology (KIST), Korea, ³Yonsei University, Korea

ES1442 Amorphous and Anatase TiO_2 Nanotube Array based Anodes for Li-ion Battery - A Comparative Study

11:10-11:30

Sovan Kumar Panda, Hyunjun Yoo, Hyunchul Kim, Myungjun Kim, Yunjung Yang, Sunhee Lee, Hyunjung Shin

Kookmin University, Korea

ES322 Investigation on Electrical Properties of LaAlO_3 and Co Doped LaAlO_3 Derived from Metal Complex Decomposition Method

11:30-11:50

Arunee Lakkham¹, Worawat Wattanathana¹, Chatchai Veranitisagul², Enrico Traversa³, Apirat Pisankittichot¹, Nattamon Koonsaeng¹

¹Kasetsart University, Thailand, ²Rajamangala University of Technology Thanyaburi, Thailand, ³National Institute for Materials Science (NIMS), Japan

ES283 **One-dimensional Magnetite Fe₃O₄ Nanowires as Electrode Material for Lithium-ion Batteries with Improved Electrochemical Performance**

11:50-12:10

Dawei Su, Guoxiu Wang
University of Technology Sydney, Australia

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ES 5 (Energy Storage Materials 5)

Ballroom 3

Chairs: Dr. Hong Li (Chinese Academy of Sciences, China)

15:30-16:40

Dr. Kyung-Wan Nam (Brookhaven National Laboratory, USA)

ESIS5 **Mesoporous Electrode Materials for High Power Lithium-ion Batteries**

15:30-16:00

Guoxiu Wang¹, Hao Liu¹, Bing Sun¹, Hyunsoo Kim²

Invited Speech ¹*University of Technology Sydney (UTS), Australia*, ²*Korea Electrotechnology Research Institute, Korea*

ES304 **Bi-functional Oxygen Electrode using Perovskite-type Oxides for Rechargeable Metal-air Batteries**

16:00-16:20

Masayoshi Yuasa, Masatoshi Nishida, Tetsuya Kida, Noboru Yamazoe, Kengo Shimanoie
Kyushu University, Japan

ES1232 **New Hierarchical Hollow Mesoporous Carbon with Ultra-high Li Storage Capacity as an Efficient Anode Material in Li Ion Battery**

16:20-16:40

Min-Sik Kim, Jung Ho Kim, Min Young Song, Daesoo Yang, Yun Kyung Kim, Sun Young Kwon, Jong-Sung Yu
Korea University, Korea

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ES 6 (Energy Storage Materials 6)

Ballroom 3

Chairs: Dr. Masayoshi Yuasa (Kyushu University, Japan)

17:00-18:10

Prof. Chang Woo Lee (Kyung Hee University, Korea)

ESIS6 **Structure Evolution of High Capacity Anode Materials for Li-ion Batteries**

17:00-17:30

Yu He, Rui Wang, Yanhong Wang, Xiqian Yu, Hong Li, Xuejie Huang

Invited Speech *Chinese Academy of Sciences, China*

ES170 **Electrochemical Properties of the Sulfur Electrode with TiO₂ Coating Layer for Lithium Battery**

17:30-17:50

Ho Suk Ryu, Jin-Woo Park, Hyo-Jun Ahn, Ki-Won Kim, Jou-Hyeon Ahn
Gyeongsang National University, Korea

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ES892 Investigation on High Performance Electrodes Active Materials for Advanced Lithium-ion Rechargeable Batteries

17:50-18:10

T. Subburaj¹, Yong Nam Jo¹, C. Ahmed Basha¹, Hyun-Soo Kim², Chang Woo Lee¹
¹Kyung Hee University, Korea, ²Korea Electrotechnology Research Institute, Korea

Poster Presentation

Nov. 7, 2011 (Mon.)

ESP 1 (Energy Storage Materials) Poster Presentation 1

Lobby 2F

Chair: Dr. Hyun-Soo Kim (Korea Electrotechnology Research Institute, Korea)

13:30-15:00

ES1652 Investigation of Lattice Structure and Ionic Conductivity of $\text{Li}_{3x}\text{La}_{2/3-x}\text{TiO}_3$ ($0.03 \leq x \leq 0.167$) Solid Electrolytes Sintered Under Different Atmosphere

Kyoungmin Kim, Junghoon Kim, Minyong Eom, Dongwook Shin
Hanyang University, Korea

ES1550 Synthesis and Electrochemical Properties of $\text{Zn}_{0.91}\text{In}_{0.025}\text{Ni}_{0.075}\text{O}$ Anode Materials by Sol-gel Method

Min-Ji Hwang, Ju-Seok Kim, Sang-Ho Bae, Min-Yeong Heo, Chil-Hoon Doh
Korea Electrotechnology Research Institute, Korea

ES1536 Hydrothermal Synthesis of NiO/TiO_2 Nanotube Arrays as Anode Material for Lithium Ion Batteries

Lili Wang, Shichao Zhang, Xiaomeng Wu
Beihang University, China

ES1534 Hydrogen Storage Properties of $\text{LaNi}_{4.7-x}\text{Al}_{0.3}\text{Bi}_x$ ($x=0.1, 0.2, 0.3$) Alloy

Fikret Yilmaz¹, Soon-Jik Hong², M. Fatih Kilicaslan³, O. Malik Atanur⁴, Orhan Uzun¹
¹Gaziosmanpa University, Turkey, ²Kongju National University, Korea, ³Kastamonu University, Turkey, ⁴UNIDO-ICHET, Turkey

ES1519 $\text{Mn}_3\text{O}_4/\text{CNT}$ Layered Thin Films for Supercapacitor Applications

Sung-won Lee, Rahul R. Salunkhe, Heejoon Ahn
Hanyang University, Korea

ES1514 Modified Silicon Thin Film Anode Based on Cu-Ni Nanopillar-arrays for Lithium-ion Batteries

Libin Kang, Shichao Zhang, Ruoxu Lin, Zhijia Du
Beijing University of Aeronautics and Astronautics, China

ES1506 Preparation of Composites based on Silicon Nanoparticles Embedded in Porous Carbon

Kyung Yup Song, Tae Young Kim, Kwang S. Suh
Korea University, Korea

- ES1412** **A Light-weight Flexible Current Collector based on Copper Nanowires for Silicon Anodes of Lithium-ion Batteries**
Ruoxu Lin, Shichao Zhang, Guanrao Liu, Zhijia Du
Beijing University, China
- ES1390** **Synthesis and Hydrogenation Properties of Hollow Carbon Sphere by a Glucose Hydrothermal Method**
Jin-Ho Kim¹, Myeong-Seop Byeon¹, Young-Soo Park^{1,2}, Kwang-Taek Hwang¹, Woo-Seok Jo¹, Jae-Hwan Pee¹
¹*Korea Institute of Ceramic Engineering & Technology, Korea, ²Inha University, Korea*
- ES1321** **Electrochemical Performance of Hollow α -Fe₂O₃ Spheres as Anode Material for Lithium-ion Battery**
Zhijia Du, Shichao Zhang
Beihang University, China
- ES1312** **Nano Meter Sized Lithium Iron/Manganese/Nickel/Cobalt Phosphate as High-voltage Cathode Material for Lithium Rechargeable Battery**
Kyu-Ho Song¹, Sei-Ung Park¹, Wan-Jae Myeong¹, Chol-Woo Lee¹, Soo-Yeong Han¹, Sun-Woo Lee¹, Sook-Hyeon Im², Young-Sik Shin², Jung-Shik Oh², Hoon-Hoe Cha², Kyoo-Seung Han^{1,2}
¹*Hanwha Chemical, Korea, ²Chungnam National University, Korea*
- ES1311** **Nano Meter Sized Lithium Iron Phosphate for Lithium Rechargeable Battery Prepared by Supercritical Hydrothermal Synthesis**
Kyu-Ho Song¹, Sei-Ung Park¹, Wan-Jae Myeong¹, Chol-Woo Lee¹, Soo-Yeong Han¹, Sun-Woo Lee¹, Sook-Hyeon Im², Young-Sik Shin², Jung-Shik Oh², Hoon-Hoe Cha², Kyoo-Seung Han^{1,2}
¹*Hanwha Chemical, Korea, ²Chungnam National University, Korea*
- ES1071** **The Application of Graphene as a Cathode Material of Rechargeable Metal-air Batteries**
Eun-Ji Moon¹, Seung-Wook Eom², Sang Yong Nam³, Jee-Hoon Kim³
¹*University of Science & Technology (UST), Korea, ²Korea Electrotechnology Research Institution (KERI), Korea, ³Gyeongsang National University, Korea*
- ES1054** **PZT Ceramics with Pillar Structure for the Energy Harvester**
Kyoung Soo Lee, Jung-Hyuk Koh
Kwangwoon University, Korea
- ES1036** **Characteristics of Spinel LiMn₂O₄ Powder Synthesized by Solid-State Method**
Se Ryen Park, Ko Woon Lee, Chan Hyoung Kang
Korea Polytechnic University, Korea
- ES1012** **Enhanced Salt Coating on FeS₂ Surface with the Addition of Li₂O**
Hae-Won Cheong, Seung-Ho Kang, Jong-Myong Kim, Sung-Baek Cho
Agency for Defense Development, Korea

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- ES1010 The Effect of Ni on the Microstructures and Electrochemical Properties of Si-Ti Base Alloys for Lithium Secondary Batteries**
Deuk Kyu Ahn¹, Jong Jin Song¹, Hyo-Jun Ahn², Won-Wook Park¹, Keun Yong Sohn¹
¹Inje University, Korea, ²Gyeongsang National University, Korea
- ES1004 Microstructures and Electrochemical Properties of Si-Ni-X Alloys for Anode Materials**
Jong Jin Song¹, Hye Jin Kwon¹, Deuk Kyu Ahn¹, Jong Soo Cho², Jeong Tak Moon², Won-Wook Park¹, Keun Yong Sohn¹
¹Inje University, Korea, ²MK Electron Co., Korea
- ES925 Microstructures of Silicon Mono-oxide Nanoparticles and Amorphous Carbon as an Anode for Li-ion Battery**
Min-kyung Kim, Bo-Yun Jang, Jin-Seok Lee, Joon-soo Kim
Korea Institute of Energy Research, Korea
- ES893 Electrochemical and Morphological Properties of Separator Induced by Different Stretching Ratio**
Yong Nam Jo¹, T. Subburaj¹, Hyun Il Kim², Chang Woo Lee¹
¹Kyung Hee University, Korea, ²CS Tech Co., Ltd, Korea
- ES891 Electrochemical Properties of Sn-Substituted LiMn₂O₄ Electrodes for All-solid-state Thin Film Batteries Application**
Woo Yeon Kong^{1,2}, Haena Yim¹, Young Soo Yoon³, Seok-Jin Yoon¹, Sahn Nahm², Ji-Won Choi¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Yonsei University, Korea
- ES890 Study of Structural and Electrochemical Properties in LiCoO₂ Thin Films Prepared by DC Magnetron Sputtering on Different Substrates**
K. T. Jung, J. P. Noh, G. B. Cho, S. H. Lee, K. W. Kim, T. H. Nam
Gyeongsang National University, Korea
- ES885 Analysis of Thermal Aging and Structural Changes of Li[Li_x(Ni_{0.3}Co_{0.1}Mn_{0.6})_{1-x}]O₂ (x=0.11) Cathode Material for Rechargeable Li-ion Batteries**
Kumaran VEDIAPPAN¹, Yong Nam Jo¹, Suk Joon Park², Hyun-Soo Kim³, Chang Woo Lee¹
¹Kyung Hee University, Korea, ²Ecopro, Korea, ³Korea Electrotechnology Research Institute, Korea
- ES882 Electrochemical Properties of Ni(OH)₂/Polypyrrole Composite Electrode Prepared by Electrodeposition for Pseudo-capacitor**
Sung-Jin Kim, Moon-Ki Hong, Jun-Ki Chung, Sang-Yeup Park
Gangneung-Wonju National University, Korea
- ES874 The Synthesis and Electrochemical Properties of Li_{1.5}Al_{0.5}Ge_{1.5}(PO₄)₃ Glass Ceramic Solid Electrolyte**
Eun-Ah Cho, Bong-soo Jin, Hyun-soo Kim
Korea Electrotechnology Research Institute, Korea

- ES853** **Microstructures and Electrochemical Properties of Si-xTiNi Alloys for Lithium Secondary Batteries**
 Hye Jin Kwon¹, Jong Jin Song¹, Deuk Kyu Ahn¹, Jong Soo Cho², Jeong Tak Moon², Won-Wook Park¹, Keun Yong Sohn¹
¹Inje University, Korea, ²MK Electron Co., Korea
- ES850** **Investigation of Si/Matrix Particles for the Lithium Ion Battery and Its Failure Mechanism**
 Kyung jae Lee, Seung-Ho Yu, Dae-Hyeok Lee, Yung-Eun Sung
 Seoul National University, Korea
- ES838** **Thermal Stability Enhancement of Polyethylene Separators by Gamma-Ray Irradiation for Lithium Ion Batteries**
 Ki Jae Kim¹, Min-Sin Park¹, Hansu Kim², Young-Jun Kim¹
¹Korea Electronics Technology Institute, Korea, ²Hanyang University, Korea,
- ES822** **Morphological Modification of α -MnO₂ Catalyst for Use in Li/air Batteries**
 Min-Sik Park, Jae-Hun Kim, Ki-Jae Kim, Young-Jun Kim
 Korea Electronics Technology Institute, Korea
- ES817** **Effect of Surface Modifications on Disordered Carbon Materials as Anodes for Li-ion Batteries**
 Jae-Hun Kim, Min-Sik Park, Ji-Sang Yu, Kyoung Seok Kang, Young-Jun Kim
 Korea Electronics Technology Institute, Korea
- ES815** **Influence of Ag doping on the Electrochemical Performance of the High Voltage Cathode LiMn_{1.5}Ni_{0.5}O₄**
 Jun-Soo Park^{1,2}, Byoung-Ho Noh^{1,3}, Jae-Won Lee⁴, Sun-Min Park¹, Kwang Chul Roh¹
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Hanyang University, Korea, ³Chungnam National University, Korea, ⁴Dankook University, Korea
- ES757** **Electrochemical Properties of Sn based Anode Material Synthesized by Sol-Gel Method for Lithium Secondary Batteries**
 Sang-Ho Bae, Ju-Seok Kim, Min-Ji Hwang, Min-Yeong Heo, Bong-Soo Jin, Hyun-Soo Kim, Chil-Hoon Doh
 Korea Electrotechnology Research Institute, Korea
- ES679** **Self Assembled Formation of Hollow V₂O₅ Microspheres-based Nanocomposites and Application in Lithium-Ion Batteries**
 Kyung-Ho Kim, Mang-Jong Lee
 Konkuk University, Korea
- ES662** **Synthesis and Electrochemical Characterization of LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Coated with Conducting Polymer for Lithium Secondary Batteries**
 Dong-Hyun Kim^{1,2}, Kwang-Bum Kim², Byung-Won Cho¹, Kyung Yoon Chung¹
¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

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ES507 Electrochemical Studies of Molybdate Doped LiFePO₄ as a Cathode Material in Li-ion Batteries

Ketack Kim¹, Daewoong Kam², Yeonjoo Kim², Sinwoong Kim², Hyun-Soo Kim²
¹Sangmyung University, Korea, ²Korea Electrotechnology Research Institute, Korea

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ESP 2 (Energy Storage Materials) Poster Presentation 2

Lobby 2F

Chair: Prof. Guoxiu Wang (University of Technology, Sydney, Australia)

14:00-15:30

ES659 Pt-MnO₂/carbon Composites as a Cathode Material for Rechargeable Li-Air Batteries

Minseo Kim, Jinyong Shim, Yongsug Tak
Inha University, Korea

ES658 Synthesis and Electrochemical Properties of Li₂MnO₃ -based Cathode Materials for Lithium- Ion Batteries

Ju Hee Kang, Duck Rye Chang, Tae Won Kim, Ho-Sung Kim
Korea Institute of Industrial Technology, Korea

ES655 Gas and Electrochemical Analysis of Electrolyte Additives' Effect on Overlithiated Layered Metal Oxide for Lithium Ion Batteries

Jung-Joon Kim, Seung-Ho Yu, Sang Jin Park, Tae Ho Yoon, Seung Mo Oh, Yung-Eun Sung
Seoul National University, Korea

ES648 Synthesis and Electrochemical Properties of Li₂MnO₃ based Cathode Material for Lithium Ion Battery

Seong-hee Park¹, Kyeong-wan Kim¹, Ju Hee Kang¹, Ho-sung Kim¹, Jong-ho Lee¹, Chan-jin Park²
¹Korea Institute of industrial Technology, Korea, ²Chonnam National University, Korea

ES643 Modified Lithium-rich Manganese Oxides for High Power Application

Dieky Susanto^{1,2}, Won-Bin Im¹, Won-Young Chang¹, Kyung-Yoon Chung^{1,2}
¹Korea Institute of Science and Technology, Korea, ²University of Science and Technology, Korea

ES642 Improvement of Electrochemical Performance of Li₂MnSiO₄ Synthesized by Microwave Assisted Sol-Gel Process with Surface Modification

Jeon-Jin Choi^{1,2}, Won-Bin Im¹, Won-Young Chang¹, Byung-Won Cho¹, Jong-Hak Kim², Kyung Yoon Chung¹
¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

ES633 Electrochemical Characteristics of Surfaced Modified Silicon Powder as the Anode Material for Lithium Ion Batteries

Kyu Young Cho^{1,2}, JongChoo Lim², Joong Kee Lee¹
¹Korea Institute of Science and Technology, Korea, ²Dongguk University, Korea

- ES627** **Synthesis of High Performance Natural Graphite Anodes by Granulation Methods**
Yong Nam Jo, Young-Jun Kim
Korea Electronics Technology Institute, Korea
- ES609** **Manufacturing Zinc-air Battery Anode and Electrochemical Properties of Zinc**
Yeon-Joo Kim¹, Sang-Min Lee¹, Seung-Wook Eom¹, Ki-Won Kim², Hyun-Soo Kim¹
¹*Korea Electrotechnology Research Institute, Korea*, ²*Gyeongsang National University, Korea*
- ES587** **Effect of Etching Morphology on Electrochemical Characteristics of Modified Silicon Thick Film Anode for Lithium Secondary Batteries**
Jung Sub Kim^{1,2}, Dongjin Byun², Joong Kee Lee¹
¹*Korea Institute of Science and Technology, Korea*, ²*Korea University, Korea*
- ES586** **SiO-C Composite as Anode Material for Lithium Ion Batteries**
Min-seon Shin, Sung-man Lee
Kangwon National University, Korea
- ES584** **Morphology and Surface Modified Spherical Natural Graphite as Anode Material for Lithium Ion Batteries**
Taek-Soo Lee, Sung-Man Lee
Kangwon National University, Korea
- ES539** **Effect of Manganese Vanadate Formed on the Surface of Spinel Lithium Manganese Oxide on High Temperature Cycle Life Performance**
Jun-Il Kim^{1,2}, Sun-Min Park¹, Kwang Chul Roh¹, Jae-won Lee³
¹*Korea Institute of Ceramic Engineering & Technology, Korea*, ²*Hanyang University, Korea*, ³*Dankook University, Korea*
- ES533** **Electrochemical Characteristics of Nickel Hydroxide / Activated Carbon Nano Composite for Supercapacitors**
Mok-Hwa Kim¹, Jae-Won Lee², Sun-Min Park¹, Kwang Chul Roh¹
¹*Korea Institute of Ceramic Engineering & Technology, Korea*, ²*Vinatech, Korea*
- ES529** **The Oxygen Functional Groups Reduction Effect of Activated Carbon for Supercapacitor Electrode**
Yong Tek Ju¹, Min-Young Cho¹, Mok-Hwa Kim¹, Jo-Ah Han¹, Ji-Su Chae¹, Jae-Won Lee², Sun-Min Park¹, Byung-Hyun Choi¹, Kwang Chul Roh¹
¹*Korea Institute of Ceramic Engineering & Technology, Korea*, ²*Dankook University, Korea*
- ES526** **Electrochemical Capacitance of Plasma Carbon Soot**
Sang-Ok Kim¹, Sung Bin Park^{1,2}, Joong Kee Lee¹
¹*Korea Institute of Science and Technology, Korea*, ²*Kwangwoon University, Korea*

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ES521 The Synthesis and Electrochemical Characterization of Mesoporous Carbon based on MF Resin and MnO₂ Composite

Min-Young Cho^{1,2}, Sun-Min Park¹, Byung-Hyun Choi¹, Jae-Won Lee³, Kwang Chul Roh¹
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Yonsei Univ., Korea, ³Dankook University, Korea

ES400 The Effect of Oxide Coating on LiNi_{0.6}Co_{0.2}Mn_{0.2}O₂ to Improve Its Thermal Stability for Lithium-ion Batteries

Jin-Hwa Kim^{1,2}, Woo-Suk Cho¹, Jun-Ho Song¹, Dong-Jin Byun², Young-Jun Kim¹, Jeom-Soo Kim¹
¹Korea Electronics Technology Institute, Korea, ²Korea University, Korea

ES376 Synthesis and Electrochemical Characterization of Nano-sized LiMn_{1.5}Ni_{0.5}O₄ Cathode Materials for Lithium-Ion Batteries

Seo Hee Ju, Dong-Won Kim
Hanyang University, Korea

ES363 Hybrid Composite Membranes based on Polyolefin Separator and Ion-containing Ceramic Nanoparticles for Lithium-Ion Batteries

Won-Kyung Shin, Yoon-Sung Lee, Dong-Won Kim
Hanyang University, Korea

ES361 Surface Modification of Carbon Anodes by Core-shell Structured Nanoparticles for Improving Lithium-ion Cell Performance

Young-Nam Park¹, Seung Sik Hwang², Jae-Man Choi², Dong-Won Kim¹
¹Hanyang University, Korea, ²Samsung Advanced Institute of Technology, Korea

ES343 Electrochemical Properties of LiMnBO₃ as a Potential Cathode Material for Lithium Batteries

Yong-Suk Lee, Hyukjae Lee
Andong National University, Korea

ES331 Influence of Electrolytes (TEABF₄ and TEMABF₄) on Electrochemical Performance of Graphite Oxide Derived from Needle Coke

Sunhye Yang, Ick-Jun Kim, In-Sik Choi, Mi-Kyeong Bae, Hyun-Soo Kim
Korea Electrotechnology Research Institute, Korea

ES315 Structures and Electrochemical Properties of Reduced Graphite Oxide prepared from Graphite

Mi-Kyoung Bae¹, Ick-Jun Kim¹, Sunhye Yang¹, In-Sik Choi¹, Won-chun Oh²
¹Korea Electrotechnology Research Institute(KERI), Korea, ²Hanseo University, Korea

ES251 Enhanced Electrochemical Performance of Li[Mn_{1/3}Co_{1/3}V_{1/3}]PO₄ Cathode Materials using Adipic Acid as Carbon Source

S.M.G. Yang, J.W. Lee, A.R. Jo, C.G. Son, J.Y. An, J.N. Son, Y.S. Lee
Chonnam National University, Korea

ES250 Preparation and Characterization of Layered Li_2MnO_3 . $\text{Li}[\text{Mn}_{0.3}\text{Ni}_{0.5}\text{Co}_{0.2}]\text{O}_2$ Cathode Materials for Lithium Battery

J.W. Lee, C.G. Son, A.R. Jo, S.M.G. Yang, J.Y. An, J.N. Son, Y.S. Lee
Chonnam National University, Korea

ES249 Synthesis and Electrochemical Performance of $0.3\text{Li}_2\text{MnO}_3$ - 0.7LiMO_2 (M=Mn, Co, Ni, etc.) Cathode Materials for Li Ion Battery

Seong-Hyeon Ryu¹, Bong-Soo Jin¹, Jik-Soo Kim², Suk-Joon Park², Hyun-Soo Kim¹
¹Korea Electrotechnology Research Institute, Korea, ²ECOPRO Ltd, Korea

ES246 Improved Structural and Electrochemical Properties of Lithium Vanadium Phosphate using Solid State Method for Lithium Ion Batteries

A.R. Jo¹, J.W. Lee¹, C.G. Son¹, S.M.G. Yang¹, W.S. Yoon², K.S. Kang³, Y.S. Lee¹
¹Chonnam National University, Korea, ²Kookmin University, Korea, ³Seoul National University, Korea

ES245 Synthesis and Electrochemical Performance of $\text{Li}[\text{Ni}_{0.7}\text{Co}_{0.1}\text{Mn}_{0.2}]\text{O}_2/\text{C}$ Cathode Materials

Jeong-Min Kim¹, Bong-Soo Jin¹, Hoe-Jin Koo², Jae-man Choi³, Hyun-Soo Kim¹
¹Korea Electrotechnology Research Institute, Korea, ²Battery R&D Association of Korea, Korea, ³Samsung Advanced Institute of Technology, Korea

ES242 Synthesis and Electrochemical Characterization of $\text{LiMn}_{0.6}\text{Fe}_{0.4}\text{PO}_4/\text{C}$ Cathode Material for Lithium Secondary Battery

Hyun-Ju Kim¹, Bong-Soo Jin¹, Woo-Sung Kim², Seong-Bae Kim², Dong-Sik Bae³, Hyun-Soo Kim¹
¹Korea Electrotechnology Research Institute, Korea, ²Daejung Energy Materials Co., LTD., Korea, ³Changwon National University, Korea

ES237 Electrochemical Properties of Carbon-coated TiO_2 Nanotube as an Anode Material of Lithium Rechargeable Batteries

Kun-Young Kang, Min Gyu Choi, Young-Gi Lee, Kwang Man Kim
Electronics and Telecommunications Research Institute (ETRI), Korea

ES185 Structural Studies of Cation Substituted LiMnPO_4 for Li-ion Batteries

Hyunchul Kim¹, Jaeyoon Kim², Donghyuk Jang², Jeongbae Yoon², Won-Sub Yoon², Young-Min Choi³, Kyu-Sung Park³
¹Kookmin University, Korea, ²Sungkyunkwan University, Korea, ³Samsung Advanced Institute of Technology, Korea

ES181 Structural Characteristics and Electrochemical Properties of $\text{Li}_{1-x}\text{M}_{1-x}\text{O}_2$ [M=Mn, Co, Ni] Cathode Materials

Sol Choi¹, Sangwoo Lee¹, Won-Sub Yoon¹, Yun-Sung Lee², Do-Hoon Kim³
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Energy Storage Materials

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- ES61 Electrochemical Properties of $\text{Li}/\text{Ni}_3\text{S}_2$ Polymer Cells Using Star-shaped Siloxane Acrylate Cross-linker**
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