

MS-14. Energy-related materials

8 September, 17:00 - 19:00 / 9 September, 16:30 - 18:30

MS-14-P-1435

Synthesis and Characterization of CdS_{0.9}Se_{0.1} Nanoparticles Prepared by Chemical Method for Used as Thermoelectric Materials.

Presenting author: **Autthawong T.**

Authors: Autthawong T., Sarakonsri T., Thanachayanont C.

MS-14-P-1436

Effect of Sn precursor concentration and solution viscosity on Sn particle sizes supported on Graphene; anodes for lithium-ion batteries

Presenting author: **Jarulertwathana B.**

Authors: Jarulertwathana B., Sarakonsri T.

MS-14-P-1440

Electron Microscopy Investigation of Sb_{2-x}Bi_xTe₃ hexagonal crystal structure growth prepared from sol-gel method

Presenting author: **Sarakonsri T.**

Authors: Sarakonsri T., Tongpeng S., Thanachayanont C., Mitsutaka H., Hiroki K.

MS-14-P-1462

Optical Microscopy and Wavelet-Based Image Analysis of Experimental Metallurgical Coke

Presenting author: **Gornostayev S.**

Authors: Gornostayev S., Heino J., Kokkonen T., Makkonen H., Huttunen S., Fabritius T.

MS-14-P-1496

FESEM in the investigations of interaction of molten iron with metallurgical coke

Presenting author: **Gornostayev S.**

Authors: Gornostayev S., Heino J., Fabritius T.

MS-14-P-1504

Micrograms to Megatonnes: Using Microscopy to Solve Oil Sands Processing Problems

Presenting author: **Mikula R. J.**

Authors: Mikula R. J., Munoz V. A.

MS-14-P-1609

Degradation analysis of LiCoO₂ in an all-solid-state Li-ion battery

Presenting author: **Shimoyamada A.**

Authors: Shimoyamada A., Yamamoto K., Yoshida R., Iriyama Y., Hirayama T.

MS-14-P-1724

Characterization of by-products from the combustion of solid fuels with SEM/EDS and micro-Raman spectroscopy.

Presenting author: **Viani A.**

Authors: Šašek P., Viani A., Máčová P., Pérez Estébanez M., Černá M.

MS-14-P-1800

Elucidation of Formation Mechanism of Micro/nano-structures through Competitive Reactions during Initial Hydrogenation in Mg/Cu Super-laminate Composites

Presenting author: **Tanaka K.**

Authors: Tanaka K., Shibata K., Ikeuchi S., Kikuchi S., Kondo R., Takeshita H. T.

MS-14-P-1808

In situ TEM observation of Pt/C in reactant gases of the polymer electrolyte fuel cell

Presenting author: **Shimizu T.**

Authors: Shimizu T., Imamura D., Yaguchi T., Kamino T.,

MS-14-P-1988

HRTEM and STEM-EELS study of thin films Pt-CeO_x nanocatalysts for on-chip fuel cell technology

Presenting author: **Lavkova J.**

Authors: Potin V., Simon P., Lavkova J., Matolinova I., Matolin V.

MS-14-P-2011

In situ study of Pt-Pd nanoalloys in liquid

Presenting author: **Giorgio S.**

Authors: De Clercq A., Dachraoui W., Margeat O., Pelzer K., Henry C. R., Giorgio S.

MS-14-P-2041

HR-STEM and EELS analyses of structural defects in Cu(In,Ga)Se₂

Presenting author: **Simsek E.**

Authors: Simsek E., Ramasse Q. M., Abou-Ras D., Mainz R., Weber A., Kleebe H. J., van Aken P. A.

MS-14-P-2074

Cerium reduction at the interface between ceria and yttria-stabilised zirconia and implications for interfacial oxygen non-stoichiometry

Presenting author: **Van Aken P. A.**

Authors: Song K., Schmid H., Srot v., Gilardi E., Gregori D., Du K., Maier J., van Aken P. A.

MS-14-P-2117

Determination of group III atoms gradient throughout CuIn_{1-x}Ga_xSe₂ thin films by plasmon excitation in electron energy loss spectroscopy

Presenting author: **Gautron E.**

Authors: Gautron E., Arzel B., Brohan L., Barreau N.

MS-14-P-2189

Microstructural evolution of the interaction zone between U–9 wt.% Mo fuel and Zr–1 wt.% Nb cladding alloys

Presenting author: **Neogy S.**

Authors: Neogy S., Laik A., Saify M. T., Srivastava D., Jha S. K., Dey G. K.

MS-14-P-2199

Impact of the nanostructure on the electrochemical performance of Li-rich cathode materials

Presenting author: **Riekehr L.**

Authors: Riekehr L., Liu J. L., Schwarz B., Schmitt L. A., Xia Y., Ehrenberg H.

MS-14-P-2300

Development of Ultra-thin Supercapacitors for Energy Storage

Presenting author: **Canavan M.**

Authors: Canavan M., Coelho J., Mendoza-Sanchez B., Pettersson H., Long E., Nicolosi V.,

MS-14-P-2304

High resolution analysis of silicon nano-particle surfaces for lithium-ion batteries

Presenting author: **Moreau P.**

Authors: Delpuech N., Turner S., Lajaunie L., Bridel J. S., Lestriez B., Moreau P., Van Tandeloo S., Guyomard D.

MS-14-P-2398

Investigating the structure of iron disulfide (pyrite) using high-angle annular dark-field and annular bright-field scanning transmission electron microscopy and electron energy loss spectroscopy for energy applications

Presenting author: **Wen C. Y.**

Authors: Wen C. Y., Liou S. C.

MS-14-P-2406

EFFECTS OF HYDROGEN AND RADIATION DAMAGE OF Zr-1% Nb and Zr-2.5% Nb

Presenting author: **Versaci R. A.**

Authors: Vazquez C., Fortis A. M., Bozzano P. B., Versaci R. A.

MS-14-P-2433

The Nanoscale Mechanisms of Zircaloy Corrosion in Simulated Nuclear Reactor Conditions

Presenting author: **Annand K. J.**

Authors: Annand K. J., MacLaren I., Gass M.

MS-14-P-2519

Electrochemical investigation and microstructural characterization of $\text{Li}_{1.07}\text{Mn}_{1.93}\text{O}_{4-\delta}$ cathode materials

Presenting author: **Wang J.**

Authors: Xu Z., Zheng H., Gui J., Wang J.

MS-14-P-2541

Liquid cell electron microscopy of novel two-dimensional energy nanomaterials

Presenting author: **Long E. A.**

Authors: Long E. A., Doherty E., Downing C., Nicolosi V.,

MS-14-P-2600

Single-crystallization of $\text{LiMn}_{0.4}\text{Fe}_{0.6}\text{PO}_4$ nanowires via oriented attachments

Presenting author: **Kikkawa J.**

Authors: Kikkawa J., Hosono E., Okubo M., Kagesawa K., Zhou H., Nagai T., Kimoto K.

MS-14-P-2758

The effect of low temperature synthesis (LTS) and Na doping on the structural properties of PbTe thermoelectric materials

Presenting author: **Delimitis A.**

Authors: Delimitis A., Papageorgiou C., Kyratsi T.

MS-14-P-2814

Microstructural Analysis of HIPped Steel for Hardfacing Applications in the Nuclear Industry

Presenting author: **Tsivoulas D.**

Authors: Tsivoulas D., Bowden D., Stewart D., Preuss M., Burke M. G.

MS-14-P-2817

Atomic-resolution STEM study of Cu₃Pt nanoparticles used as highly active PEM fuel-cells catalyst

Presenting author: **Drazic G.**

Authors: Drazic G., Bele M., Pavlisic A., Jovanovic P., Zorko M., Hodnik N., Jozinovic B., Gaberscek M.

MS-14-P-2875

Degradation Mechanisms of Platinum Nanoparticle Catalysts in Proton Exchange Membrane Fuel Cells: The Role of Particle Size

Presenting author: **Yu K.**

Authors: Yu K., Groom D. J., Wang X., Yang Z., Gummalla M., Ball S. C., Myers D. J., Ferreira P. J.

MS-14-P-2911

Li K-Edge mapping study for surface modified LiCoO₂ using STEM-EELS measurement

Presenting author: **Taguchi N.**

Authors: Taguchi N., Akita T., Sakaebe H., Kuniaki T., Ogumi Z.

MS-14-P-2919

Exploring the connection between thermal displacements and chemistry in Bi₂Te_{3-x}Sex

Presenting author: **Dycus J. H.**

Authors: Dycus J. H., Oni A., Sang X., Chan T., Koch C., LeBeau J. M.

MS-14-P-2978

Microstructural study of diffusion in a CeFe₄Sb₁₂/Cu thermoelectric couple

Presenting author: **Boulat L.**

Authors: Boulat L., Fréty N., Ravot D., Viennois R., Dadras M.

MS-14-P-2982

In-situ TEM Observation on Hydrogen Storage Materials

Presenting author: **Matsuda J.**

Authors: Matsuda J., Yoshida K., Uchiyama N., Akiba E.,

MS-14-P-2992

In situ Raman microscopic study of lithium metal surface

Presenting author: **Hyono A.**

Authors: Hyono A., Shibuya S., Ueda M., Ohtsuka T.

MS-14-P-3002

Microstructural changes of the Sanicro25 steel for coal fired power plants caused by thermal exposure and fire-side corrosion

Presenting author: **Rutkowski B.**

Authors: Rutkowski B., Lipińska-Chwałek M., Cempura G., Gil A., Cieszyński K., Czyrska-Filemonowicz A.

MS-14-P-3111

TEM Study of Li-ion battery cells

Presenting author: **Persson J. M.**

Authors: Persson J. M., Mayer J.,

MS-14-P-3122

New Insights into SCC Initiation in Alloy 600 using Advanced Analytical Electron Microscopy

Presenting author: **Bertali G.**

Authors: Bertali G., Burke M. G., Scenini F., Zhong X. L.

MS-14-P-3130

EELS-Compositional analysis of SiNWs anodes for Lithium microbatteries

Presenting author: **Florea I.**

Authors: FLOREA I., LEVEAU L., GOHIER A., LAIK B., MOREAU P., COJOCARU C. S.

MS-14-P-3190

Local Imaging and Measuring of Distortions in the Oxygen Sub-Lattice of Complex Mixed Oxides

Presenting author: **Lunkenbein T.**

Authors: Lunkenbein T., Girgsdies F., Noack J., Trunschke A., Schlögl R., Willinger M. G.

MS-14-P-3194

Probing the microscopic grading mechanism of sodium-containing layered lithium rich cathode materials in lithium ion batteries by aberration-corrected STEM

Presenting author: **Huang W.**

Authors: Huang W., Wu C. Y., Wang G. Q., Xie J., Zeng Y. W., Jin C. H., Zhang Z.

MS-14-P-3196

TEM investigation of He bubbles in 9%Cr ferritic steel after neutron irradiation

Presenting author: **Klimenkov M.**

Authors: Klimenkov M., Materna-Morris E., Möslang A.

MS-14-P-3224

Influence of cooling speed on crystallization and final electrochemical properties of cathode material

Presenting author: **Kazda T.**

Authors: Kazda T., Čudek P., Vondrák J., Sedlaříková M.

MS-14-P-3334

Understanding the Surface Structure of LiNi_{0.45}Mn_{1.55}O₄ Spinel Cathodes with Aberration-Corrected HAADF STEM

Presenting author: **Amos C. D.**

Authors: Amos C. D., Song J., Goodenough J. B., Ferreira P. J.

MS-14-P-3348

Imaging and Spectroscopy of Filler-Matrix Interaction in a Ceramic Nanocomposite: First Evidence

Presenting author: **Gulgun M. A.**

Authors: GULGUN M. A., SHAWUTI S., CEH M., STURM S.

MS-14-P-3351

Electron microscopy study of 2-dimensional lithium cobalt oxide

Presenting author: **McGuire E. K.**

Authors: McGuire E. K., Mendoza-Sánchez B., Coehlo J., Downing C., Nicolosi V.

MS-14-P-3377

TEM characterization of In-free transparent conductive oxides: the case of Al:ZnSnO

Presenting author: **Hessler-Wyser A.**

Authors: Hessler-Wyser A., Jeangros Q., Morales Masis M., Dauxou F., Ding L., Nicolay S., Ballif C.

MS-14-P-3391

Intermetallic phase formation in SmartWires: novel concept of interconnection technology for solar cells

Presenting author: **Hessler-Wyser A.**

Authors: Hessler-Wyser A., Faes A., Cattin J., Baumgartner Y., Levrat J., Escarré J., Champliand J., Despeisse M., Gattaneo G., Ufheil J., Papet P., Yao Y., Söderström T., Ballif C.

MS-14-P-3395

Study of structure and defects in Li-rich layered oxide material for Li-ion batteries.

Presenting author: **Shukla A. K.**

Authors: Shukla A. K., Ramasse Q., Darbal A., Das P., Mendoza J., Estrade S., Ophus C., Duncan H., Chen G.

MS-14-P-3439

Electron Microscopy Characterization of the Nanostructure of ZnO-based hybrid solar cells

Presenting author: **Wisnivesky Rocca Rivarola F.**

Authors: Wisnivesky Rocca Rivarola F., Divitini G., Saberi-Moghaddam R., Friend R. H., Ducati C.

MS-14-P-3454

Initial Observations of the Lithiation of Tin Nanoneedles

Presenting author: **Janish M. T.**

Authors: Janish M. T., Mackay D. T., Jungjohann K. L., Liu Y., Carter C. B., Norton M. G.

MS-14-P-3527

TEM visualisation of Sodium-Vacancy Ordering in olivine Na_xFePO_4 ($x \approx 0.7$)

Presenting author: **Roddatis V. V.**

Authors: Roddatis V. V., Arenal R., Galceran M., Acebedo B., Peral I., Rojo T., Casas-Cabanas M.

MS-14-P-5708

TEM analysis of irradiated and non irradiated MgH_2 thin films

Presenting author: **Sturm S.**

Authors: Raskovic – Lovre Z., Kurko S., Ivanovic N., Fernández J. F., Fernández J. R., Sturm S., Mogstad T., Novakovic J. G., Novakovic N.

MS-14-P-5718

TEM study of the nanosized Li_2MnO_3

Presenting author: **Burlaka L.**

Authors: Burlaka L., Grinblat J., Markovsky B., Kovacheva D., Aurbach D.

MS-14-P-5858

Microstructural characterization of $\text{Na}_{0.44}\text{MnO}_2$ nanorods as a cathode material for Na-ion batteries

Presenting author: **Kaya P.**

Authors: KAYA P., DEMIREL S., OZ E., ALTIN E., ALTIN S., BAYRI A., AVCI S., TURAN S.

MS-14-P-5860

The enhancement of capacity by B substituted LiMn_2O_4 cathode materials and their cycling performance

Presenting author: **Demirel S.**

Authors: Demirel S., Oz E., Altin E., Altin S., Ozdemir M., Oner Y., Boyraz C., Avci S.

MS-14-P-5873

Battery Performance and Structural Properties of Boron Substituted Li-ion Batteries

Presenting author: **Oz E.**

Authors: Oz E., Demirel S., Altin E., Altin S., Ozdemir M., Oner Y., Boyraz C., Avci S.

MS-14-P-5900

NanoSIMS and TEM analysis of deuterated ZIRLO and Zr-1%Nb nuclear fuel cladding alloys

Presenting author: **Aarholt T. M.**

Authors: Aarholt T. M., Moore K. L., Frankel P., Preuss M., Lozano-Perez S., Grovenor C. R.

MS-14-P-6035

Focused Ion Beam serial sectioning tomography of Li-ion battery electrodes

Presenting author: **Sui T.**

Authors: Song B., Ying S., Sui T., Liu L., Kim T. H., Lu L., Korsunsky A. M.

MS-14-P-6046

Formation of desert rose structures in vacuum plasma sprayed electrodes for alkaline electrolysis

Presenting author: **Bentzen J. J.**

Authors: Bentzen J. J., Zhang W., Jørgensen P. S., Bowen J. R.