

- J.C. Idrobo and S.T. Pantelides, "Origin of Bulk-like Optical Response in Noble-metal Ag and Au Nanoparticles," *Physical Review B* **82**[8] 085420-1-7 (2010).
- P. Zhang, M. Chi, S. Sharma, and E. McFarland, "Silica Encapsulated Heterostructure Catalyst of Pt Nanoclusters on Hematite Nanocubes: Synthesis and Reactivity," *Journal of Materials Chemistry* **20**[10] 2013-2017 (2010).
- K. Sasaki, J.X. Wang, H. Naohara, N. Marinkovic, K.L. More, H. Inada, and R.R. Adzic, "Recent Advances in Platinum Monolayer Electrocatalysts for Oxygen Reduction Reaction: Scale-up Synthesis, Structure, and Activity of Pt Shells on Pd Cores," *Electrochimica Acta* **55**[8] 2645-2652 (2010).
- L. Xiong, K.L. More, and T. He, "Syntheses, Characterization, and Catalytic Oxygen Electroreduction Activities of Carbon-supported PtW Nanoparticle Catalysts," *Journal of Power Sources* **195**[9] 2570-2578 (2010).
- A.Y. Borisevich, H.J. Chang, M. Huijben, M.P. Oxley, S. Okamoto, M.K. Niranjana, J.D. Burton, E.Y. Tsymbal, Y.H. Chu, P. Yu, R. Ramesh, S.V. Kalinin, and S.J. Pennycook, "Suppression of Octahedral Tilts and Associated Changes in Electronic Properties at Epitaxial Oxide Heterostructure Interfaces," *Physical Review Letters* **105**[8] 087204-1-4 (2010).
- Y. Garsany, A. Epshteyn, A.P. Purdy, K.L. More, and K.E. Swider-Lyons, "High-activity, Durable Oxygen Reduction Electrocatalyst: Nanoscale Composite of Platinum-Tantalum Oxyphosphate on Vulcan Carbon," *The Journal of Physical Chemistry Letters* **1**[13] (2010).
- Z.Y. Liu, J.L. Zhang, P.R. Yu, J.X. Zhang, R. Makharia, K.L. More, and E. Stach, "Transmission Electron Microscopy Observation of Corrosion Behaviors of Platinized Carbon Blacks under Thermal and Electrochemical Conditions," *Journal of the Electrochemical Society* **157**[6] B906-B913 (2010).
- C.M. Parish and M.K. Miller, "Multivariate Statistical Analysis of Atom Probe Tomography Data," *Ultramicroscopy* **110**[11] 1362-1373 (2010).
- J. Xie, F. Xu, D.L. Wood III, K.L. More, T.A. Zawodzinski, and W.H. Smith, "Influence of Ionomer Content on the Structure and Performance of PEFC Membrane Electrode Assemblies," *Electrochimica Acta* **55**[24] 7404-7412 (2010).
- K.A. Unocic, M.J. Mills, and G.S. Daehn, "Effect of Gallium Focused Ion Beam Milling on Preparation of Aluminum Thin Foils," *Journal of Microscopy* **240**[8] 227-238 (2010).
- T. Aytug, M. Paranthaman, E.D. Specht, Y. Zhang, K. Kim, Y.L. Zuev, C. Cantoni, A. Goyal, D.K. Christen, V.A. Maroni, Y. Chen, and V. Selvamanickam, "Enhanced Flux Pinning in MOCVD-YBCO Films through Zr Additions: Systematic Feasibility Studies," *Superconductor Science and Technology* **23**[1] 1-7 (2010).

A. Gali, H. Bei, and E.P. George, "Effects of Boron on the Microstructure and Thermal Stability of Directionally Solidified NiAl-Mo Eutectic," *Acta Materialia* **58**[2] 421-428 (2010).

S.V. Kalinin, B.J. Rodriguez, A.Y. Borisevich, A.P. Baddorf, N. Balke, H.J. Chang, L-Q. Chen, S. Choudhury, S. Jesse, P. Maksymovych, M.P. Nikiforov, and S.J. Pennycook, "Defect-Mediated Polarization Switching in Ferroelectrics and Related Materials: From Mesoscopic Mechanisms to Atomistic Control," *Advanced Materials* **22**[3] 314-322 (2010).

H. Bei, Y. Yamamoto, M.P. Brady, and M.L. Santella, "Aging Effects on the Mechanical Properties of Alumina-forming Austenitic Stainless Steels," *Materials Science and Engineering A* **527**[7-8] 2079-2086 (2010).

O. Polat, T. Aytug, M.P. Paranthaman, K.J. Leonard, A.R. Lupini, S.J. Pennycook, H.M. Meyer, K. Kim, X. Qiu, S. Cook, J.R. Thompson, D.K. Christen, A. Goyal, X. Xiong, and V. Selvamanickam, "An Evaluation of Phase Separated, Self-assembled LaMnO₃-MgO Nanocomposite Films Directly on IBAD-MgO as Buffer Layers for Flux Pinning Enhancements in YBa₂Cu₃O_{7-δ} Coated Conductors," *Journal of Materials Research Society* **25**[3] 437-443 (2010).

M.P. Paranthaman, S. Sathyamurthy, X. Li, E.D. Specht, S.H. Wee, C. Cantoni, A. Goyal, and M.W. Rupich, "Modified Lanthanum Zirconium Oxide Buffer Layers for Low-cost, High Performance YBCO Coated Conductors," *Physica C* **470**[5-6] 352-356 (2010).

C-S. Man, X. Gao, S. Godefroy, and E.A. Kenik, "Estimating Geometric Dislocation Densities in Polycrystalline Materials from Orientation Imaging Microscopy," *International Journal of Plasticity* **26**[4] 423-440 (2010).

S.H. Wee, A. Goyal, E.D. Specht, C. Cantoni, Y L. Zuev, V. Selvamanickam, and S. Cook, "Enhanced Flux Pinning and Critical Current Density via Incorporation of Self-assembled Rare-earth Barium Tantalate Nanocolumns within YBa₂Cu₃O_{7-δ} Films," *Physical Review B* **81**[14] 140503-1-4 (2010).

G. Polizos, E. Tuncer, I. Sauers, and K.L. More, "Properties of a Nanodielectric Cryogenic Resin," *Applied Physics Letters* **96**[15] 152903-1-3 (2010).

L.L. Snead, Y. Katoh, and S. Kondo, "Effects of Fast Neutron Irradiation on Zirconium Carbide," *Journal of Nuclear Materials* **399**[2-3] 200-207 (2010).

W. Woo, T. Ungar, Z. Feng, E.A. Kenik, and B. Clausen, "X-Ray and Neutron Diffraction Measurements of Dislocation Density and Subgrain Size in a Friction-Stir-Welded Aluminum Alloy," *Metallurgical and Materials Transactions A* **41**[5] 1210-1216 (2010).

- J.P. Shingledecker and N.D. Evans, "Creep-rupture Performance of 0.07C-23Cr-45Ni-6W-Ti,Nb Austenitic Alloy (HR6W) Tubes," *International Journal of Pressure Vessels and Piping* **87**[6] 345-350 (2010).
- H. Yin, Z. Ma, M. Chi, and S. Dai, "Activation of Dodecanethiol-Capped Gold Catalysts for CO Oxidation by Treatment with KMnO_4 or K_2MnO_4 ," *Catalysis Letters* **136**[3-4] 209-221 (2010).
- X. Wang, P.F. Fulvio, G.A. Baker, G.M. Veith, R.R. Unocic, S.M. Mahurin, M. Chi, and S. Dai, "Direct Exfoliation of Natural Graphite into Micrometre Size Few Layers Graphene Sheets Using Ionic Liquids," *Chemical Communications* **46**[26] 4487-4489 (2010).
- T-H. Kim, X.G. Zhang, D.M. Nicholson, B.M. Evans, N.S. Kulkarni, B. Radhakrishnan, E.A. Kenik, and A-P. Li, "Large Discrete Resistance Jump at Grain Boundary in Copper Nanowire," *Nano Letters* **10** 3096-3100 (2010).
- M.P. Brady, P.F. Tortorelli, K.L. More, and L.R. Walker, "Sulfidation-Oxidation Behavior of FeCrAl and TiCrAl and the Third-Element Effect," *Oxidation of Metals* **74**[1-2] 1-9 (2010).
- M.P. Brady, H. Wang, J.A. Turner, H.M. Meyer III, K.L. More, P.F. Tortorelli, and B.D. McCarthy, "Pre-oxidized and Nitrided Stainless Steel Alloy Foil for Proton Exchange Membrane Fuel Cell Bipolar Plates: Part 1. Corrosion, Interfacial Contact Resistance, and Surface Structure," *Journal of Power Sources* **195**[17] 5610-5618 (2010).
- W. Wang, J.Y. Howe, Y. Li, X. Qiu, D.C. Joy, M.P. Paranthaman, M.J. Doktycz, and B. Gu, "A Surfactant and Template-free Route for Synthesizing Ceria Nanocrystals with Tunable Morphologies," *Journal of Materials Chemistry* **20**[36] 7776-7781 (2010).
- Z. Wu, M. Li, J. Howe, H.M. Meyer III, and S.H. Overbury, "Probing Defect Sites on CeO_2 Nanocrystals with Well-Defined Surface Planes by Raman Spectroscopy and O_2 Adsorption," *Langmuir* **26**[21] 16595-16606 (2010).
- A. Shyam and E. Lara-Curzio, "A Model for the Formation of Fatigue Striations and its Relationship with Small Fatigue Crack Growth in an Aluminum Alloy," *International Journal of Fatigue* **32**[11] 1843-1852 (2010).
- Z.W. Pan, J. Tao, Y.M. Zhu, J.F. Huang, and M.P. Paranthaman, "Spontaneous Growth of ZnCO_3 Nanowires on ZnO Nanostructures in Normal Ambient Environment: Unstable ZnO Nanostructures," *Chemistry of Materials* **22**[1] 149-154 (2010).
- A. Egbebi, V. Schwartz, S.H. Overbury, and J.J. Spivey, "Effect of Li-promoter on Titania-supported Rh catalyst for Ethanol Formation from CO Hydrogenation," *Catalysis Today* **149**[1-2] 91-97 (2010).

- C. Shu, J. Zhang, J. Ge, J.H. Sim, B.G. Burke, K.A. Williams, N.M. Rylander, T. Campbell, A. Poretzky, C. Rouleau, D.B. Geohegan, K.L. More, A.R. Esker, H.W. Gibson, and H.C. Dorn, "A Facile High-speed Vibration Milling Method to Water-disperse Single-walled Carbon Nanohorns," *Chemistry of Materials* **22**[2] 347-351 (2010).
- Z. Gu, F. Liu, X. Li, J. Howe, J. Xu, Y. Zhao, and Z. Pan, "Red, Green and Blue Luminescence from ZnGa₂O₄ Nanowire Arrays," *The Journal of Physical Chemistry Letters* **1**[1] 354-357 (2010).
- L. Du, J.H. Edgar, E.A. Kenik, and H. Meyer III, "Sublimation Growth of Titanium Nitride Crystals," *Journal of Materials Science* **21**[1] 78-87 (2010).
- A. Uzun, V. Ortalan, N.D. Browning, and B.C. Gates, "A Site-isolated Mononuclear Iridium Complex Catalyst Supported on MgO: Characterization by Spectroscopy and Aberration-corrected Scanning Transmission Electron Microscopy," *Journal of Catalysis* **269**[2] 318-328 (2010).
- A. Mottura, N. Warnken, M.K. Miller, M.W. Finnis, and R.C. Reed, "Atom Probe Tomography Analysis of the Distribution of Rhenium in Nickel Alloys," *Acta Materialia* **58**[3] 931-942 (2010).
- M. Gich, J. Gazquez, A. Roig, A. Crespi, J. Fontcuberta, J. D. Idrobo, S. J. Pennycook, V. Skumryev, and M. Varela, "Epitaxial Stabilization of ϵ -Fe₂O₃ (001) Thin Films on SrTiO₃ (111)," *Applied Physics Letters* **96**[11] 112508-1-3 (2010).
- J.P. Quast and C.J. Boehlert, "The Out-of-phase Thermomechanical Fatigue Behavior of Ultra SCS-6/Ti-24Al-17Nb-xMo (at.%) Metal Matrix Composites," *International Journal of Fatigue* **32**[3] 610-620 (2010).
- W. Chen, C.J. Boehlert, E.A. Payzant, and J.Y. Howe, "The Effect of Processing on the 455°C Tensile and Fatigue Behavior of Boron-modified Ti-6Al-4V," *International Journal of Fatigue* **32**[3] 627-638 (2010).
- C-J. Cheng, A.Y. Borisevich, D. Kan, I. Takeuchi, and N. Valanoor, "Nanoscale Structural and Chemical Properties of Antipolar Clusters in Sm-Doped BiFeO₃ Ferroelectric Epitaxial Thin Films," *Chemistry of Materials* **22**[8] 2588-2596 (2010).
- R.D. Evans, G.L. Doll, C.H. Hager, and J.Y. Howe, "Influence of Steel Type on the Propensity for Tribochemical Wear in Boundary Lubrication with a Wind Turbine Gear Oil," *Tribology Letters* **38**[1] 25-32 (2010).
- F.G. Caballero, M.K. Miller, and C. Garcia-Mateo, "Carbon Supersaturation of Ferrite in a Nanocrystalline Bainitic Steel," *Acta Materialia* **58**[7] 2338-2343 (2010).

- E. Garlea, B. Clausen, E.A. Kenik, D. Ciurchea, S.C. Vogel, J. Pang, and H. Choo, "Intergranular Strain Evolution in a Zircaloy-4 Alloy with Basketweave Morphology," *Metallurgical and Materials Transactions A* **41**[5] 1255-1260 (2010).
- E.M. Sabio, M. Chi, N.D. Browning, and F.E. Osterloh, "Charge Separation in a Niobate Nanosheet Photocatalyst Studied with Photochemical Labeling," *Langmuir* **26**[10] 7254-7261 (2010).
- W. Chen and C.J. Boehlert, "The 455°C Tensile and Fatigue Behavior of Boron-modified Ti-6Al-2Sn-4Zr-2Mo-0.1Si(wt.%)," *International Journal of Fatigue* **32**[5] 799-807 (2010).
- P. Strasser, S. Koh, T. Anniyev, J. Greeley, K.L. More, C. Yu, Z. Liu, S. Kaya, D. Nordlund, H. Ogasawara, M.F. Toney, and A. Nilsson, "Lattice-strain Control of the Activity in Dealloyed Core-shell Fuel Cell Catalysts," *Nature Chemistry* **2** 454-460 (2010).
- X. Bai, K.L. More, C.M. Rouleau, and A. Rabiei, "Functionally Graded Hydroxyapatite Coatings Doped with Antibacterial Components," *Acta Biomaterialia* **6**[6] 2264-2273 (2010).
- V. Mazumder, M. Chi, K.L. More, and S. Sun, "Core/Shell Pd/FePt Nanoparticles as an Active and Durable Catalyst for the Oxygen Reduction Reaction," *Journal of American Chemical Society* **132**[23] 7848-7849 (2010).
- M. Yu, J.Y. Howe, K. Jeong, I. Shim, W. Kim, C. Kim, J. Ahn, J. Lee, and M. Urban, "Structural and Morphological Features of Concentric Iron Oxide/Carbon Nanotubes Obtained from Phospholipids," *Journal of Materials Chemistry* **20**[27] 5748-5755 (2010).
- K.K. Sahu, N.A. Mauro, L. Longstreth-Spoor, D. Saha, Z. Nussinov, M.K. Miller, and K.F. Kelton, "Phase Separation Mediated Devitrification of Al₈₈Y₇Fe₅ Glasses," *Acta Materialia* **58**[12] 4199-4206 (2010).
- M.J. Dukes, D.B. Peckys, and N. de Jonge, "Correlative Fluorescence Microscopy and Scanning Transmission Electron Microscopy of Quantum-Dot-Labeled Proteins in Whole Cells in Liquid," *ACS Nano* **4**[7] 4110-4116 (2010).
- V. Ortalan, A. Uzun, B.C. Gates, and N.D. Browning, "Direct Imaging of Single Metal Atoms and Clusters in the Pores of Dealuminated HY Zeolite," *Nature Nanotechnology* **5**[7] 506-510 (2010).
- Z.K. Teng, M.K. Miller, G. Ghosh, C.T. Liu, S. Huang, K.F. Russell, M.E. Fine, and P.K. Liaw, "Characterization of Nanoscale NiAl-type Precipitates in a Ferritic Steel by Electron Microscopy and Atom Probe Tomography," *Scripta Materialia* **63**[1] 61-64 (2010).

- W. Walkosz, R.F. Klie, S. Ögüt, B. Mikijelj, S.J. Pennycook, S.T. Pantelides, and J.C. Idrobo, "Crystal-induced Effects at Crystal/Amorphous Interfaces: The case of $\text{Si}_3\text{N}_4/\text{SiO}_2$," *Physical Review B* **82**[8] 081412-1 – 081412-4 (2010).
- N. de Jonge, N. Poirier-Demers, H. Demers, D.B. Peckys, and D. Drouin, "Nanometer-resolution Electron Microscopy through Micrometers-thick Water Layers," *Ultramicroscopy* **110**[9] 1114-1119 (2010).
- F.G. Caballero, M.K. Miller, A.J. Clarke, and C. Garcia-Mateo, "Examination of Carbon Partitioning into Austenite During Tempering of Bainite," *Scripta Materialia* **63**[4] 442-445 (2010).
- F.G. Caballero, M.K. Miller, and C. Garcia-Mateo, "Tracking Solute Atoms During Bainite Reaction in a Nanocrystalline Steel," *Materials Science and Technology* **26**[8] 889-898 (2010).
- J. Zhang, J. Ge, M.D. Shultz, E. Chung, G. Singh, C. Shu, P.P. Fatouros, S.C. Henderson, F.D. Corwin, D.B. Geohegan, A.A. Puretzky, C.M. Rouleau, K.L. More, C. Rylander, M.N. Rylander, H.W. Gibson, and H.C. Dorn, "In Vitro and in Vivo Studies of Single-walled Carbon Nanohorns with Encapsulated Metallofullerenes and Exohedrally Functionalized Quantum Dots," *Nano Letters* **10**[8] 2843-2848 (2010).
- Y. Zhang, S.S. Babu, and G.S. Daehn, "Interfacial Ultrafine-grained Structures on Aluminum Alloy 6061 Joint and Copper Alloy 110 Joint Fabricated by Magnetic Pulse Welding," *Journal of Materials Science* **45**[17] 4645-4651 (2010).
- P. Sun, G. Siddiqi, M. Chi, and A.T. Bell, "Synthesis and Characterization of a New Catalyst Pt/Mg(Ga)(Al)O for Alkane Dehydrogenation," *Journal of Catalysis* **274**[2] 192-199 (2010).
- H. Yin, Z. Ma, H. Zhu, M. Chi, and S. Dai, "Evidence for and Mitigation of the Encapsulation of Gold Nanoparticles within Silica Supports upon High-temperature Treatment of Au/SiO₂ Catalysts: Implication to Catalyst Deactivation," *Applied Catalysis A: General* **386**[1] 147-156 (2010).
- E.A. Ring and N. de Jonge, "Microfluidic System for Transmission Electron Microscopy," *Microscopy and Microanalysis* **16**[5] 622-629 (2010).
- E.A. Marquis, N.A. Yahya, D.J. Larson, M.K. Miller, and R.I. Todd, "Probing the Improbable: Imaging C Atoms in Alumina," *Materials Today* **13**[10] 34-36 (2010).
- C. Capdevila, M.K. Miller, I. Toda, and J. Chao, "Influence of the α - α' Phase Separation on the Tensile Properties of Fe-base ODS PM 2000 Alloy," *Materials Science and Engineering A* **527**[29-30] 7931-7938 (2010).

- R. Liu, S.M. Mahurin, C. Li, R.R. Unocic, J.C. Idrobo, H. Gao, S.J. Pennycook, and S. Dai, "Dopamine as a Carbon Source: The Controlled Synthesis of Hollow Carbon Spheres and Yolk-Structured Carbon Nanocomposites," *Angewandte Chemie International Edition* **50**[30] 6799-6802 (2011).
- C.R. Fell, K.J. Carroll, M. Chi, and Y.S. Meng, "Synthesis-Structure-Property Relations in Layered, "Li-excess" Oxides Electrode Materials $\text{Li}[\text{Li}_{1/3-2x/3}\text{Ni}_x\text{Mn}_{2/3-x/3}]\text{O}_2$ ($x = 1/3, 1/4, \text{ and } 1/5$)," *Journal of the Electrochemical Society* **157**[11] A1202-A1211 (2010).
- E. Garlea, H. Choo, G.Y. Wang, P.K. Liaw, B. Clausen, D.W. Brown, J. Park, P.D. Rack, and E.A. Kenik, "Hydride-Phase Formation and its Influence on Fatigue Crack Propagation Behavior in a Zircaloy-4 Alloy," *Metallurgical and Materials Transactions A* **41**[11] 2816-2828 (2010).
- L.O. Nyakiti, J. Chaudhuri, Z. Gu, and J.H. Edgar, "Transmission Electron Microscopy Study of Defects in AlN Crystals with Rough and Smooth Surface Grains," *Journal of Crystal Growth* **312**[23] 3479-3484 (2010).
- E.J. Crumlin, E. Mutoro, S-J. Ahn, G.J. la O, D.N. Leonard, A. Borisevich, M.D. Biegalski, H.M. Christen, and Y. Shao-Horn, "Oxygen Reduction Kinetics Enhancement on a Heterostructured Oxide Surface for Solid Oxide Fuel Cells," *Journal of Physical Chemistry Letters* **1**[21] 3149-3155 (2010).
- A.K. Kercher, J.O. Kiggans, and N.J. Dudney, "Carbon Fiber Paper Cathodes for Lithium Ion Batteries," *Journal of the Electrochemical Society* **157**[12] A1323-A1327 (2010).
- A.G. Certain, K.G. Field, T.R. Allen, M.K. Miller, J. Bentley, and J.T. Busby, "Response of Nanoclusters in a 9Cr ODS Steel to 1dpa, 525 °C Proton Irradiation," *Journal of Nuclear Materials* **407**[1] 2-9 (2010).
- H. Demers, N. Poirier-Demers, D. Drouin, and N. de Jonge, "Simulating STEM Imaging of Nanoparticles in Micrometers-Thick Substrates," *Microscopy and Microanalysis* **16**[6] 795-804 (2010).
- O.M. Barabash, M. Santella, R.I. Barabash, G.E. Ice, and J. Tischler, "Measuring Depth-dependent Dislocation Densities and Elastic Strains in an Indented Ni-based Superalloy," *Advanced Materials Analysis* **62**[12] 29-34 (2010).
- R.K. Rajgarhia, A. Saxena, D.E. Spearot, K.T. Hartwig, K.L. More, E.A. Kenik, and H.M. Meyer, "Microstructural Stability of Copper with Antimony Dopants at Grain Boundaries: Experiments and Molecular Dynamics Simulations," *Journal of Materials Science* **45**[24] 6707-6718 (2010).
- J.J. Jackson, A.A. Puretzky, K.L. More, C.M. Rouleau, G. Eres, and D.B. Geohegan, "Pulsed Growth of Vertically Aligned Nanotube Arrays with Variable Density," *ACS Nano* **4**[12] 7573-7581 (2010).

V. Mazumder, M. Chi, K.L. More, and S. Sun, "Synthesis and Characterization of Multimetallic Pd/Au and Pd/Au/FePt Core/Shell Nanoparticles," *Angewandte Chemie International Edition* **49**[49] 9368-9372 (2010).

A. Kulkarni, M. Chi, V. Ortolan, N.D. Browning, and B.C. Gates, "Atomic Resolution of the Structure of a Metal-Support Interface: Triosmium Clusters on MgO(110)," *Angewandte Chemie International Edition* **49**[52] 10089-10092 (2010).

V. Ortolan, A. Uzun, B.C. Gates, and N.D. Browning, "Towards Full-structure Determination of Bimetallic Nanoparticles with an Aberration-corrected Electron Microscope," *Nature Nanotechnology* **5**[12] 843-847 (2010).