List Of 2012 Reports

ID#	Title, First Author, and Category	Status
297	**Title:** Solid State NMR Structural Characterization of MAX8 Peptide Nanofibers **First Author:** Leonard, S.R., Florida State University, Chemical and Biomedical Engineering, srl04@fsu.edu **PI:** Paravastu, A.K., Florida State University, Chemical and Biomedical Engineering, aparavastu@fsu.edu **Category:** Engineering Materials **Facility:** NMR Facility **UCGP:** Yes **VSP:** No **Publication Status:** Manuscript in preparation **Sign. Achievement:** No **Director's Recommendation:** Yes, definitely **Director's Comments:** None	Edited
105	**Title:** Rhenium Additions on Aging Behavior of Haynes 242 **First Author:** Han, K., NHMFL, han@magnet.fsu.edu **PI:** Han, K., NHMFL, han@magnet.fsu.edu **Category:** Engineering Materials **Facility:** MS & T **UCGP:** Yes **VSP:** No **Published in** Journal of Materials Science and Engneering **Sign. Achievement:** No **Director's Recommendation:** Yes **Director's Comments:** Nb3Sn cable-in-conduit magnets require a conduit material that retains its high-strength after reaction of the Nb3Sn wire at ~650 C. Stainless steel 316LN is now typically used and Incoloy 908 is used occasionally. 316 LN has a much larger thermal contraction than does Nb3Sn which results in Nb3Sn with a large compressive strain and ~50% the critical current it has in an unstrained configuration. Incoloy has nearly the same thermal strain as Nb3Sn but is very sensitive to O2 during the reaction phase which makes it difficult to use, or impractical. Haynes 242 has similar thermal contraction as Nb3Sn without the sensitivity to O2. This Haynes alloy w/ Re doping shows great promise for being used in the next generation of large SC magnets, primarily the superconducting outsert for a 50-60 T hybrid magnet.	Edited
131	**Title:** Carbon Nanotube Functionalized Spider Silk for Strain and Humidity Sensing **First Author:** Steven, E., National High Magnetic Field Laboratory, Physics, esteven@magnet.fsu.edu **PI:** Brooks, J.S., National High Magnetic Field Laboratory, Physics, brooks@magnet.fsu.edu **Category:** Engineering Materials **Facility:** CMT/E **UCGP:** No **VSP:** No **Submitted to** Nature Communications **Sign. Achievement:** Yes **Director's Recommendation:** Yes **Director's Comments:** None	Edited
132	**Title:** Actuating Properties of Carbon Nanotube Functionalized Spider Silk Fibers **First Author:** Steven, E., National High Magnetic Field Laboratory, Physics, esteven@magnet.fsu.edu **PI:** Brooks, J.S., National High Magnetic Field Laboratory, Physics, brooks@magnet.fsu.edu **Category:** Engineering Materials **Facility:** CMT/E **UCGP:** No **VSP:** No **Submitted to** Nature Communications **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
148	**Title:** Selected Ni Alloy Considerations for Superconducting Magnets **First Author:** Toplosky, V.J., NHMFL-FSU, toplosky@magnet.fsu.edu **PI:** Han, K., NHMFL-FSU, han@magnet.fsu.edu **Category:** Engineering Materials **Facility:** MS & T **UCGP:** No **VSP:** No **Accepted by** IEEE Trans. Appl. Supercond. **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
	Title: Effect of 31.2T High Magnetic Field on Annealing of an Ag-45.8wt%Ni Alloy **First Author:** Zhang, L, Northeast University, China, **PI:** Han, Ke, NHMFL, han@magnet.fsu.edu **Category:** Engineering Materials	

156	**Facility:** DC Field Facility **UCGP:** No **VSP:** No **Accepted by** JOURNAL OF IRON AND STEEL RESEARCH INTERNATIONAL, 19 Supplement 1063-1067 **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
231	**Title:** In-Situ ^{7}Li Solid-State NMR Study of Li-Ion Capacitor **First Author:** Shellikeri, A., FAMU-FSU, COE, Electrical, ahs07e@my.fsu.edu **PI:** Zheng, J.P., FAMU-FSU, COE, Electrical, zheng@eng.fsu.edu **Category:** Engineering Materials **Facility:** NMR Facility **UCGP:** No **VSP:** No **Publication Status:** Not at this time **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
266	**Title:** Magnetic and Near Infrared Fluorescent Quantum Dots for Bioimaging **First Author:** Saha, AS, University of Florida, Particle Engineering Research Center, Materials Science and Engineering, ajoysaha@gmail.com **PI:** Walter, GAW, University of Florida, Physiology and Functional Genomics, glennw@ufl.edu **Category:** Engineering Materials **Facility:** MBI-UF AMRIS **UCGP:** No **VSP:** No **Publication Status:** Manuscript in preparation **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
110	**Title:** Molecular Calcium and Magnesium Species in Hydrating Cementitious Materials **First Author:** Smith, B.J., University of California, Santa Barbara, Chemical Engineering, benjaminsmith@umail.ucsb.edu **PI:** Chmelka, B.F., University of California, Santa Barbara, Chemical Engineering, bradc@engineering.ucsb.edu **Category:** Engineering Materials **Facility:** NMR Facility **UCGP:** No **VSP:** No **Publication Status:** Manuscript in preparation **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
298	**Title:** Solid State NMR Structural Characterization of RADA16-I Designer Peptide Nanofibers **First Author:** Cormier, A.R., Florida State University, Chemical and Biomedical Engineering, cormier.ashley@gmail.com **PI:** Paravastu, A.K., Florida State University, Chemical and Biomedical Engineering, aparavastu@fsu.edu **Category:** Engineering Materials **Facility:** NMR Facility **UCGP:** **Yes** **VSP:** No **Submitted to** J. Am. Chem. Soc. **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
398	**Title:** Materials and Component Testing in Support of the All-Superconducting 32T Magnet **First Author:** Walsh, R.P., NHMFL, MS&T, walsh@magnet.fsu.edu **PI:** Walsh, R.P., NHMFL, MS&T, walsh@magnet.fsu.edu **Category:** Engineering Materials **Facility:** MS & T **UCGP:** No **VSP:** No **Publication Status:** Manuscript in preparation **Sign. Achievement:** No **Director's Recommendation: No** **Director's Comments:** None	Edited
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