

List Of 2015 Reports

ID#	Title, First Author, and Category	Status
383	<p>Title: Field-Induced Lattice Anisotropy in fcc UO₂ from Magnetostriction to 90T First Author: Jaime, M., LANL, CMMS, mjaime@lanl.gov PI: Gofryk, K., Idaho National Laboratory, krzysztof.gofryk@inl.gov Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 90 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: Yes, definitely Director's Comments: This work demonstrates that UO₂ is piezomagnetic, a rare state of matter in which the magnetostriction changes sign when the field changes sign, and requires particular low magnetic symmetry. The existence of piezomagnetism rules out two out of three of the competing theories for magnetic ordering in UO₂ and selects one. The magnetic structure of UO₂ remains a puzzle to this day. It combines complex non-collinear ordering with a multiply degenerate Jahn-Teller distortion that freezes and contributes to the ordering. The magnetic effects, particularly the dynamic Jahn-Teller distortions are intimately tied to the high-temperature thermal conductivity of this system, which is important for applications.</p>	Approved
396	<p>Title: High Field Studies to Search for Topological Surface States First Author: Hartstein, M.H., University of Cambridge, Physics, mh773@cam.ac.uk PI: Sebastian, S.E., University of Cambridge, Physics, ses59@cam.ac.uk Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 45 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: Yes Director's Comments: While the report itself is somewhat sparse the publication that resulted from the work has greatly stimulated discussion in the community.</p>	Approved
397	<p>Title: High Magnetic Field Measurements of Correlated Topological Insulators First Author: Ciomaga Hatnean, M., University of Warwick, Physics, m.ciomaga-hatnean@warwick.ac.uk PI: Balakrishnan, G., University of Warwick, Physics, g.balakrishnan@warwick.ac.uk Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 18 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: Yes Director's Comments: None</p>	Approved
309	<p>Title: Reduction of the Low-Temperature Bulk Gap in Topological Kondo Insulator Samarium Hexaboride Under High Magnetic Fields First Author: Wolgast, S., University of Michigan, Physics Department, swolgast@umich.edu PI: Kurdak, C., University of Michigan, Physics Department, kurdak@umich.edu Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 90 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: Yes Director's Comments: None</p>	Approved
34	<p>Title: Dependence of Magnetoresistance on Electron/Hole Doping in URu₂Si₂: (Si → P/Ga) First Author: Baumbach, R.E., National High Magnetic Field Laboratory, CMS, baumbach@magnet.fsu.edu PI: Baumbach, R.E., National High Magnetic Field Laboratory, CMS, baumbach@magnet.fsu.edu Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 35 T UCGP: Yes VSP: No Submitted to Nature Comm. Sign. Achievement: Yes Director's Recommendation: Yes Director's Comments: None</p>	Approved
178	<p>Title: Kondo Insulators under High Hydrostatic Pressure First Author: Goddard, P.A., University of Warwick, Physics, p.goddard@warwick.ac.uk PI: Goddard, P.A., University of Warwick, Physics, p.goddard@warwick.ac.uk Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 65 T UCGP: No VSP: No Publication Status: Manuscript in preparation</p>	Approved

	<p>Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	
210	<p>Title: Kondo Effect in Decagonal Quasicrystal Al-Cu-Co First Author: Shulyatev, D.A., National University of Science and Technology MISiS, Moscow, Russia, shulyatev@mail.ru PI: Shulyatev, D.A., National University of Science and Technology MISiS, Moscow, Russia, shulyatev@mail.ru Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 18 T UCGP: No VSP: No Submitted to The Physics of Metals and Metallography The Physics of Metals and Metallography Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
253	<p>Title: Field-Induced Lifshitz Transition in the Intermediate Valence State of alpha-YbAlB4 First Author: Shimura, Y.S., The Institute for Solid State Physics, simu@issp.u-tokyo.ac.jp PI: Nakatsuji, S.N., The Institute for Solid State Physics, satoru@issp.u-tokyo.ac.jp Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 45 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
255	<p>Title: Quantum Criticality and its Anisotropy in the Quadrupole Ordered System PrV2Al2O First Author: Shimura, Y.S., The Institute for Solid State Physics, simu@issp.u-tokyo.ac.jp PI: Nakatsuji, S.N., The Institute for Solid State Physics, satoru@issp.u-tokyo.ac.jp Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 18 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
257	<p>Title: Enhancement of the Quadrupolar Quantum Critical Fluctuations by Pressure First Author: Shimura, Y.S., The Institute for Solid State Physics, simu@issp.u-tokyo.ac.jp PI: Nakatsuji, S.N., The Institute for Solid State Physics, satoru@issp.u-tokyo.ac.jp Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 31 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
259	<p>Title: Unraveling the Metallic and Magnetic Configuration of CeCu2Ge2 as a Function of Pressure First Author: Coniglio, W.A., National High Magnetic Field Laboratory, coniglio@magnet.fsu.edu PI: Tozer, S.W., National High Magnetic Field Laboratory, tozer@magnet.fsu.edu Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 65 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
263	<p>Title: Quantum Limit in the Heavy Fermion Metal alpha-YbAlB4 First Author: Shimura, Y.S., The Institute for Solid State Physics, simu@issp.u-tokyo.ac.jp PI: Nakatsuji, S.N., The Institute for Solid State Physics, satoru@issp.u-tokyo.ac.jp Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 31 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
	<p>Title: High Field Magnetoresistance Measurements of the Surface States of Topological Kondo Insulator SmB6: Cornering the Parameter Space for Carrier Density and Mobility First Author: Eo, Y.S., University of Michigan, Physics Department, eohyung@umich.edu</p>	

307	<p>PI: Kurdak, C., University of Michigan, Physics Department, kurdak@umich.edu Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 35 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
355	<p>Title: High Magnetic Field Studies of Hidden Order and Magnetism in URu2Si2: (Si → P) First Author: Wartenbe, M., National High Magnetic Field Laboratory, mrw03h@fsu.edu PI: Baumbach, R.E., National High Magnetic Field Laboratory, baumbach@magnet.fsu.edu Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 65 T UCGP: Yes VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
356	<p>Title: High Field Magnetic Properties of Ce2Rh3Ge5 First Author: Wartenbe, M., National High Magnetic Field Laboratory, mrw03h@fsu.edu PI: Baumbach, R.E., National High Magnetic Field Laboratory, baumbach@magnet.fsu.edu Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 65 T UCGP: Yes VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
366	<p>Title: Pulsed Field Magnetoresistance of Fe1.13Te First Author: Frampton, M.K., UC Davis, Physics, mkframpton@ucdavis.edu PI: Zieve, R.J., UC Davis, Physics, zieve@physics.ucdavis.edu Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 60 T UCGP: No VSP: No Publication Status: Not at this time Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
367	<p>Title: Angle Dependence of Shubnikov-de Haas Effect of Filled Skutterudite Compounds CeOs4Sb12 and NdOs4Sb12 First Author: Ho, P.-C., California State University, Fresno, Physics, pcho@csufresno.edu PI: Ho, P.-C., California State University, Fresno, Physics, pcho@csufresno.edu Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 65 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
380	<p>Title: Magnetostrain in UPt2Si2 First Author: Süllow, S., TU Braunschweig, Physics, s.suellow@tu-bs.de PI: Süllow, S., TU Braunschweig, Physics, s.suellow@tu-bs.de Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 65 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
382	<p>Title: Low Temperature Magneto-Thermal Conductivity in UO2 First Author: Jaime, M., LANL, MPA-CMMS, mjaime@lanl.gov PI: Gofryk, K., Idaho National Laboratory, krzysztof.gofryk@inl.gov Category: Kondo/Heavy Fermion Systems Facility: Pulsed Field Facility at LANL Highest Measured Field: 15 T UCGP: No VSP: No Publication Status: Not at this time Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved

411	<p>Title: EMR Study of a Possible Topological Kondo Insulator SmB6 First Author: Lai, Y., NHMFL, yl12d@my.fsu.edu PI: Li, Z., NHMFL, zli@magnet.fsu.edu Category: Kondo/Heavy Fermion Systems Facility: EMR Facility Highest Measured Field: 12 T UCGP: Yes VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
444	<p>Title: Reconstruction of the Fermi Surface in Nd-Substituted CeCoIn5 First Author: Green, E.L., Helmholtz-Zentrum Dresden-Rossendorf, e.green@hzdr.de PI: Green, E.L., Helmholtz-Zentrum Dresden-Rossendorf, e.green@hzdr.de Category: Kondo/Heavy Fermion Systems Facility: DC Field Facility Highest Measured Field: 35 T UCGP: No VSP: No Publication Status: Manuscript in preparation Sign. Achievement: No Director's Recommendation: No Director's Comments: None</p>	Approved
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