

Abstract Submitted
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Electrical resistivity of CeFeAsO and CeFePO under pressure¹

D.A. ZOCCO, R.E. BAUMBACH, J.J. HAMLIN, M. JANOSCHEK, I.K. LUM, M.B. MAPLE, Department of Physics, University of California, San Diego, M.A. MCGUIRE, A.S. SEFAT, B.C. SALES, R. JIN, D. MANDRUS, Materials Science & Technology Division, Oak Ridge National Laboratory, J.R. JEFFRIES, S.T. WEIR, Lawrence Livermore National Laboratory, Y.K. VOHRA, Department of Physics, University of Alabama at Birmingham — The strongly correlated electronic properties of CeFeAsO and CeFePO iron pnictide compounds were studied via electrical transport measurements under high-pressure, using piston-cylinder, Bridgman-anvil and designer-diamond-anvil cell techniques. The temperature-pressure phase diagram of CeFeAsO polycrystals revealed that after an initial decrease of the ordering temperature of the Fe magnetic moments and an increase of the antiferromagnetic ordering (Néel) temperature of the Ce magnetic moments, the magnetic phases involving the Fe and Ce ions coexist up to 15 GPa, with no signs of pressure-induced superconductivity up to 50 GPa. For the CeFePO single crystals, pressure seemed to further stabilize the Kondo screening of the Ce $4f$ -electron magnetic moments.

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