

Abstract Submitted
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The structural and electronic properties of binary FeAs under pressure J.R. JEFFRIES, Lawrence Livermore National Laboratory, N.P. BUTCH, S.R. SAHA, K. KIRSHENBAUM, J. PAGLIONE, Univ. of Maryland, S.T. WEIR, Lawrence Livermore National Laboratory — The binary FeAs system crystallizes in the MnP-type orthorhombic (Pnam) crystal structure, and is not uncommon as an impurity phase in the growth of some ferropnictide superconductors. A transition occurs near 77 K, below which temperature FeAs displays magnetic ordering. The electronic and structural properties of FeAs are important to understanding the general phenomena associated with ferropnictide compounds, as well as interpreting the results of compounds that may contain impurities of this binary compound. We present electrical transport and structural parameters, from x-ray diffraction, of FeAs as a function of pressure up to 60 GPa using designer and conventional diamond anvil cells. Lawrence Livermore National Laboratory is operated by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy, National Nuclear Security Administration under Contract DE-AC52-07NA27344.

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