Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

The structural and magnetic phase transitions in a "parent" Fe pnictide compound NI NI, Department of Physics and Astronomy, University of California, Los Angeles, JARED ALLRED, Materials Science Division, Argonne National Laboratory, HUIBO CAO, WEI TIAN, Quantum Condensed Matter Division, Oak Ridge National Laboratory, LIAN LIU, Department of Physics, Columbia University, KYUIL CHO, Ames laboratory and Department of Physics and Astronomy, Iowa State University, MATTHEW KROGSTAD, Materials Science Division, Argonne National Laboratory, JIE MA, Quantum Condensed Matter Division, Oak Ridge National Laboratory, KEITH TADDEI, Materials Science Division, Argonne National Laboratory, MAKARIY TANATAR, RUSLAN PROZOROV, Ames laboratory and Department of Physics and Astronomy, Iowa State University, MASAAKI MATSUDA, Quantum Condensed Matter Division, Oak Ridge National Laboratory, STEPHAN ROSENKRANZ, Materials Science Division, Argonne National Laboratory, YASUTOMO UEMURA, Department of Physics, Columbia University, SHAN JIANG, Department of Physics and Astronomy, University of California, Los Angeles — We will present transport, thermodynamic, synchrotron X-ray, neutron diffraction, μSR, ARPES and polarized optical image measurements on the "parent" compound of the 112 high Tc superconducting Fe pnictide family. Structural and magnetic phase transitions are revealed. Detailed magnetic structure was solved by single crystal neutron diffraction. We will discuss the similarity and difference of these transitions comparing to the parent compounds of other Fe pnictide superconductors.

Ni Ni
Department of Physics and Astronomy, University of California,
Los Angeles, CA 90095, USA

Date submitted: 14 Nov 2014 Electronic form version 1.4