Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Incommensurate antiferromagnetism in GdSi YEJUN FENG, Argonne National Lab, JIYANG WANG, Univ. of Chicago, J.-W. KIM, Argonne National Lab, J.-Q. YAN, Univ. Tennessee & ORNL, NAYOON WOO, D.M. SILEVITCH, T.F. ROSENBAUM, Univ. of Chicago — Rare earth magnets are interesting model systems to study correlated spin, orbital and lattice degrees of freedom. Here we present a study of the antiferromagnetism in single crystal GdSi, using high-resolution, x-ray magnetic diffraction techniques. Our results clearly show an incommensurate magnetic structure at 6.5 K, with a lattice distortion from orthorhombic to monoclinic accompanying the magnetic phase transition in a second order fashion. We discuss implication to the anisotropic susceptibility in lights of the detailed magnetic structure.

Yejun Feng
Argonne National Lab

Date submitted: 16 Nov 2011 Electronic form version 1.4