

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Low-energy magnetic excitations in the parent superconducting phases Fe_{1+x}Te for $x = 0.07 - 0.18$ CHRIS STOCK, EFRAIN RODRIGUEZ, MARK GREEN, NIST Center for Neutron Research — We present inelastic neutron scattering measurements of the phases Fe_{1+x}Te for varying amounts of interstitial iron in the lattice. The x in Fe_{1+x}Te corresponds to interstitial iron located between the two-dimensional FeTe sheets, and the amount of x greatly affects the nature of the crystallographic transition and the magnetic ordering at lower temperatures in this system. The low energy spectrum of the magnetic excitations from 0.5 meV to 10 meV using the Multi-Axis Crystal Spectrometer (MACS) will be presented for both the incommensurate and commensurate phases. Neutron polarized diffraction experiments that detail the nature of the magnetic ordering will also be presented.

Chris Stock
NIST Center for Neutron Research

Date submitted: 19 Nov 2010

Electronic form version 1.4