

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Inelastic neutron scattering study of the itinerant skyrmion host MnSi XIANG CHEN, Boston Coll, MATTHEW STONE, ALEXANDER KOLESNIKOV, Oak Ridge National Laboratory, DMITRY REZNIK, University of Colorado, Boulder, STEPHEN WILSON, University of California, Santa Barbara — The helimagnet MnSi has been the subject of considerable focus since the discovery of a magnetic skyrmion lattice within its phase diagram at finite temperature and magnetic field. Prior to this discovery, MnSi was also established as a prototypical weak itinerant magnet and stood as a rare, clear example of conventional spin wave excitations damping into the Stoner continuum predicted for magnetic metals. Previous inelastic neutron scattering experiments however were unable to fully explore magnetic excitations in this continuum to high energies, where novel phenomena such as a magnetic Higgs-analog amplitude mode are predicted. Here we report our recent inelastic neutron scattering measurements targeted at exploring the high energy spin dynamics in this compound. Particular focus will be given to the dispersion of excitations within the previously established continuum as well as the evolution of the local spin susceptibility at high frequencies.

Xiang Chen
Boston Coll

Date submitted: 10 Nov 2016

Electronic form version 1.4