Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Magnetic and structural behaviors in $(Sr_{1-x}La_x)_2IrO_4$ XIANG CHEN, TOM HOGAN, CHETAN DHITAL, ZHENSONG REN, MANI POKHAREL, MENGLIANG YAO, CYRIL OPEIL, STEPHEN WILSON, Boston College — There has been a considerable amount of interest recently in exploring the compound Sr_2IrO_4 due to its similarity to the high-T_c superconducting parent compound La_2CuO_4 and the possible realization of a parallel unconventional superconducting state by electron-doping. There has since been renewed effort attempting to doped electrons into prototypical spin-orbit driven Mott phases such as Sr_2IrO_4 (Sr-214), where La-substitution within $(Sr_{1-x}La_x)_2IrO_4$ remains one of the more promising avenues. Here we present a combined transport, magnetization, and diffraction study revisiting the mechanism and effect of doping in this compound. We will focus on how the evolution of known structural and electronic order parameters in the parent Sr_2IrO_4 evolve upon La-substitution.

Xiang Chen
Boston College

Date submitted: 15 Nov 2013 Electronic form version 1.4