Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

From enhanced paramagnetism to ferromagnetism: the physical properties of $Sr_{1-x}La_xCo_2As_2$ single crystals[1] JIE XING, NI NI, Department of Physics and Astronomy and California NanoSystems Institute, University of California, Los Angeles, CA 90095, USA — We have successfully synthesized $Sr_{1-x}La_xCo_2As_2$ single crystals and characterized them through transport and thermodynamic measurements. The enhanced paramagnet $SrCo_2As_2$, which has stripe antiferromagnetic fluctuations, shows a metamagnetic phase transition at a critical magnetic field of 2 T at 2 K. When La is doped into the system, the critical field is suppressed to lower field and itinerant ferromagnetism starts building up at x=0.4, rising to a TM of ˜200 K at x=1. The competition between the stripe spin fluctuations and the itinerant ferromagnetism makes $Sr_{1-x}La_xCo_2As_2$ compounds a particularly interesting system for the study of itinerant magnetism.

[1]Work at UCLA was supported by the U.S. Department of Energy (DOE), Office of Science, Office of Basic Energy Sciences (BES) under Award Number DE-SC0011978.

Department of Physics and Astronomy and California NanoSystems Institute, University of California, Los Ang

Date submitted: 11 Nov 2016 Electronic form version 1.4