Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Doping Induced Itinerant Ferromagnetism in CoAs CHIH-WEI CHEN, EMILIA MOROSAN, Rice University — The magnetism in α-CoAs is dominated by strong spin fluctuations. In this study, we explore the effects of Phosphorus doping in α-CoAs. Phosphorus is isovalent with Arsenic, and the resulting doping introduces disorder and chemical pressure. In $CoAs_{1-x}P_{x,}$ a cross-over from the spin fluctuation-dominated regime to an itinerant ferromagnetic (IFM) state take places around $x = 0.04$. The IFM state persists up to $x \leq 0.27$. For compositions between $x = 0.28$ and 0.40, the magnetization data suggests a possible Stoner enhanced state.
We acknowledge the support from DOD PECASE.

Chih-Wei Chen
Rice University

Date submitted: 08 Nov 2012 Electronic form version 1.4