Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Magnetic enhancement and cluster-glass behavior in $(Sc_{1-x}Er_x)_{3.1}In$[1] ETERI SVANIDZE, EMILIA MOROSAN, Rice University, MOROSAN QUANTUM MATERIALS LAB TEAM — Sc_3In is a weak itinerant ferromagnet with no magnetic constituents. In this talk, we will present DC and AC magnetization data on $Sc_{3.1}In$ doped with Er^{3+} local moment ions. As x increases in $(Sc_{1-x}Er_x)_{3.1}In$, the Weiss temperature nearly triples up to $x \leq 0.1$. The effective moment per formula unit is larger than the simple sum of the itinerant moment in pure $Sc_{3.1}In$ and the Er^{3+} local moment. Moreover, Er doping of as little as $x = 0.02$ induces a cluster-glass state. The glassy behavior persists up to $x = 0.1$, and a structural transition likely occurs for higher doping levels.

[1]This work is supported by NSF DMR 0847681

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Date submitted: 12 Feb 2013 Electronic form version 1.4