Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Synthesis, Structural Characterization and Magnetic Properties of $YbFe_{1-x}Mn_xO_3$ ($0.0 \leq x \leq 1.0$) Perovskites C. HERNANDEZ, E. CHAVIRA, Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, AP 70-360, 04510 México D. F., México, I. ROSALES, Facultad de Quimica, Universidad Nacional Autónoma de México, AP 70-360, 04510 México D. F., México, A. TEJADA, L. HUERTA, Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, AP 70-360, 04510 México D. F., México, E.E. MARINERO, HGST San Jose Research Center — We report on the synthesis, structural characterization and magnetic properties of $YbFe_{1-x}Mn_xO_3$ ($0.0 \leq x \leq 1.0$) perovskites. Compounds with x= **0, 0.2, 0.4, 0.6, 0.8 and 1.0** were synthesized by solid state reaction. We find that the perovskites with x=0, 0.2 exhibit an orthorombic crystalline structure, whereas those with x=0.6, and 1.0 are hexagonal. A mixture of both hexagonal and orthorhombic phases are observed for x= 0.4 and 0.8. The magnetic properties of these materials have been studied as a function of temperature (2K – 300K). In the low temperature regime (2K – 30K), we observe previously unreported magnetic transitions whose transition temperature depends on the amount of Mn incorporated in the perovskite. We will describe the possible origin of these magnetic transitions in terms of the structural properties of the materials studied.

Ernesto Marinero
HGST San Jose Research Center, San Jose, CA 95135, USA

Date submitted: 20 Nov 2012 Electronic form version 1.4