Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Probing the magnetic structure of $Co_2Fe_xMn_{1-x}Si$ thin films ADAM HAUSER, KA MING LAW, SMRITI RANJIT, MICHAEL BARTZ, JOSHUA PHILLIPS, University of Alabama, MIHIR PENDHARKAR, SAHILL PATEL, CHRIS PALMSTROM, University of California, Santa Barbara — We have analyzed the magnetic configuration for highly ordered epitaxial thin films across the $Co_2Fe_xMn_{1-x}Si$ compositional series (x = 0, 0.3, 0.7, 1) by x-ray circular magnetic dichroism (XMCD) and x-ray absorption spectroscopy (XAS). These measurements give the element-specific electronic structure of each film, as well as the spin and orbital moments. We will combine these results with conventional magnetometry and microscopy to explain variations from expected Slater-Pauling-like behavior that we see in material and device properties as a function of stoichiometry.

Adam Hauser
University of Alabama

Date submitted: 11 Nov 2016 Electronic form version 1.4