

Abstract Submitted
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Frequency spectra of magnetization noise in Pt/Co/Pt trilayers near the spin reorientation transition ANDREW BALK, National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, IAN GILBERT, JOHN UNGURIS, Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD, SCOTT CROOKER, National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM — We use scanning optical Kerr magnetometry to measure the stochastic magnetization noise of ferromagnetic Pt/Co/Pt trilayers near an out-of-plane to in-plane spin reorientation transition. We find the magnetization noise spectra extend to MHz frequencies. As the spin reorientation transition is crossed from the out-of-plane to in-plane side, the frequency spectra exhibit a crossover from power law to broad spectrum behavior. On the out-of-plane side, the power law exponent is robust to changes in temperature, magnetic anisotropy, and applied magnetic fields. Measurements of the noise as a function of both in-plane and out-of-plane applied fields show symmetry consistent with a magnetic easy axis canted from the surface normal. The canting direction is strongly dependent on position, an observation which is consistent with the cone state that arises near the spin reorientation transition in similar materials.

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