

Abstract Submitted  
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**Magneto-optical Kerr Effect Studies of Artificial Frustrated Magnets** K.K. KOHLI, A.L. BALK, J. LI, S. ZHANG, P. LAMMERT, V.H. CRESPI, P. SCHIFFER, N. SAMARTH, Pennsylvania State University — We use the magneto-optical Kerr effect (MOKE) to study the collective magnetic behavior of geometrically frustrated arrays of single-domain ferromagnetic islands. By varying the island spacing, lattice geometry and the orientation relative to the magnetic field, we probe the properties of the arrays via MOKE measurements of the net moment of the arrays. We study the influence of local geometry and frustration on the collective magnetization reversal process, using the switching field as a measure. Further, angle-resolved MOKE measurements probe the influence of individual island shape anisotropy on the collective anisotropy of interacting arrays. Finally, we present preliminary measurements in an oscillating magnetic field. The results are compared to the results of micromagnetic simulation. We thank M. Ericson and C. Leighton for sample preparation. This research was supported by the US Dept. of Energy.

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