

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Magnetic Monopole Dynamics in Artificial Kagome Ice STEPHEN DAUNHEIMER, YI QI, JOHN CUMINGS, University of Maryland — Using Lorentz-force TEM, we have directly observed the existence of magnetic monopoles in artificial kagome ice, as have been recently seen in the rare-earth titanate spin ices [1]. Monopoles arise in this system from the unique geometrical interactions that result from nanoscale patterning of a NiFe thin film. The monopoles act as independent magnetic charges, free to move through the kagome lattice. We will present empirical guidelines for the monopole dynamics and make connections with relevant theories.

[1] C. Castelnovo, R. Moessner, and S. L. Sondhi, *Nature* **451**, 42 (2008).

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Date submitted: 14 Dec 2009

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