

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Tunable domain pinning in a Random-Field Ising Ferromagnet**

D. M. SILEVITCH, James Franck Institute/University of Chicago, G. AEPPLI, London Centre for Nanotechnology and Department of Physics and Astronomy, UCL, London, T.F. ROSENBAUM, James Frank Institute/University of Chicago — The diluted magnetic salt  $\text{Li}(\text{Ho}, \text{Y})\text{F}_4$  was shown recently [Nature **448** 567-570 (2007)] to be the first ferromagnetic realization of the random-field Ising model, where the strength of the random fields can be tuned by an external magnetic field. These random-field effects can be used to continuously and reversibly vary the pinning potential of the magnetic domains, allowing us to tune the hysteretic behavior. Magnetization measurements reveal enhanced pinning in the random-field regime as well as a temperature-dependent crossover into a regime dominated by quantum fluctuations.

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Date submitted: 21 Nov 2008

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