

Abstract Submitted
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Study of Local Magnetization during Avalanches in Single Crystals of Mn₁₂-acetate¹ YOKO SUZUKI, S. MCHUGH, R. GONZALEZ-RUBIO, D. GRAYBILL, M.P. SARACHIK, City College of New York, N. AVRAHAM, Y. MYASOEDOV, H. SHTRIKMAN, E. ZELDOV, The Weizmann Institute of Science, E.M. RUMBERGER, D.N. HENDRICKSON, University of California at San Diego, N.E. CHAKOV, G. CHRISTOU, University of Florida at Gainesville — The temporal and spatial evolution of the local magnetization has been measured during and following magnetic avalanches that occur in Mn₁₂-acetate during magnetic field sweeps at low temperatures. Single crystals of various sizes and shapes were mounted on an array of micro-Hall detectors, and signals from several Hall sensors were amplified and recorded simultaneously by a data acquisition card. The local magnetization was investigated at different temperatures above 0.3 K for length scales of the order of 10 to 50 microns. We will report the approximate position where the avalanches are triggered, and the estimated speed (or set a lower limit) for propagation of the magnetization avalanches through the crystal.

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