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Magnetization Measurements of Mn_{12}-acetate Thin Films[1]
T. WELLINGTON, Texas A&M University, A. YAMAGUCHI, K. SUZUKI, H. ISHIMOTO, Institute of Solid State Physics, University of Tokyo, J. MEANS, W. TEIZER, Texas A&M University — We are reporting magnetization measurements obtained for thin films of the molecular magnet Mn_{12}-acetate,$[Mn_{12}O_{12}(CH_3COO)_{16}(H_2O)_4]\cdot 2CH_3COOH\cdot 4H_2O$. This molecular magnet behaves like a single S = 10 system with very high anisotropy. It exhibits macroscopic quantum tunnelling of the magnetization. At temperatures below 3K, there is an observable magnetic bistability with hysteresis, as well as splitting of zero field and field cooled magnetization. The thin film samples were prepared using the Laser Ablation and the Dip and Dry Technique. Measurements were taken using a magnetometer at magnetic fields up to 6T and temperatures of up to 300K.

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