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Random Field effects in perpendicular-anisotropy multilayer films JIAN XU, University of Chicago, DANIEL SILEVITCH, THOMAS ROSENBAUM, California Institute of Technology — With the application of a magnetic field transverse to the magnetic easy axis, randomly-distributed 3D collections of dipole-coupled Ising spins form a realization of the Random-Field Ising Model. Tuning the strength of the site-specific random field, and hence the disorder, via the applied transverse field regulates the domain reversal energetics and hence the macroscopic hysteresis loop. We extend this approach to two dimensions, using sputtered Perpendicular Magnetic Anisotropy (PMA) Co/Pt multilayer thin films. We characterize the coercive fields and hysteresis loops at a series of temperatures and transverse fields.

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