



Mathematics > Probability

# Random Hysteresis Loops

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Dynamical hysteresis is a phenomenon which arises in ferromagnetic systems below the critical temperature as a response to adiabatic variations of the external magnetic field. We study the problem in the context of the mean-field Ising model with Glauber dynamics, proving that for frequencies of the magnetic field oscillations of order  $N^{2/3}$ , with  $N$  the size of the system, the "critical" hysteresis loop becomes random.

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