

**Rare events and nonperturbative phenomena in the hysteresis behavior of
the random-field Ising model**

by
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Although already extensively studied as one of the paradigmatic models for avalanches and hysteresis, the behavior of the out-of-equilibrium random-field Ising model at zero temperature is still far from understood. Among the open questions are the nature of the “spinodal” associated with the macroscopic avalanche in the small-disorder regime and the relation between the hysteresis critical behavior and the equilibrium one. These problems involve rare or singular events that are hard to access by standard theoretical or numerical tools and I will discuss recent progress made in their resolution.