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Barkhausen noise and the random field Ising model JIAN XU, DANIEL SILEVITCH, THOMAS ROSENBAUM, Univ of Chicago, KARIN DAHMEN, University of Illinois at Urbana-Champaign — We measure Barkhausen noise in the rare-earth compound Nd2Fe14B prepared with large uniaxial anisotropy. A magnetic field applied transverse to the easy axis of magnetization introduces local random fields and tunes the pinning of domains. We compare the distribution of avalanche sizes and the spectral response with and without a transverse field to characterize the effects of disorder and to test predictions for critical exponents in the random field Ising model.

Jian Xu
Univ of Chicago

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