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Absence of an Almeida-Thouless line in Ising spin glasses HELMUT G. KATZGRABER, Theoretische Physik ETH Zurich, A. PETER YOUNG, University of California Santa Cruz — We present results of Monte Carlo simulations on Ising spin glasses in the presence of a (random) field. A finite-size scaling analysis of the correlation length shows no indication of a transition in three dimensions, in contrast to the zero-field case. This suggests that there is no Almeida-Thouless line for short-range Ising spin glasses. We also present results on the behavior in a field of the one-dimensional Ising chain with long-range power-law interactions.

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