Local energy minima of the three-dimensional Edwards-Anderson spin-glass model

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Abstract

Spin glasses like the three-dimensional Edwards-Anderson model show a proverbial 'glassy' behavior with very slow equilibration as the result of their rough energy landscape. I.e., an energy-function that contains a multitude of local minima or metastable states separated by energy barriers. We use a newly developed dynamical greedy algorithm [1] in combination with flat-histogram methods in order to sample the distribution of these minima and compare with theoretical predictions [2].

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