

Activated processes in rough energy landscapes

Daniel A. Stariolo

Relaxation of disordered systems at low temperatures is supposed to be dominated by activation over barriers. But very little direct evidence of this scenario is available, both on theoretical and numerical approaches. Trap models represent extremely simplified realizations of activated dynamics which can be solved exactly. Their properties are characterized by the distribution of trapping energies and the transition rates between traps, which lead to particular predictions for the distribution of trapping times and ageing phenomenology of correlation functions. To which extent the trap phenomenology is representative of more complex disordered systems is still an open question. I will address this issue in the context of the classical Ising p -spin model, a prototype model for the glass transition, in which activated events are supposed to rule the low temperature relaxation.