

# Dynamics of classical isolated disordered systems

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We study the dynamics of classical disordered macroscopic models completely isolated from the environment reproducing, in a classical setting, the ‘quantum quench’ protocol. We use two classes of models, distinguished by the complexity of their energy landscape. We identify quenches after which the evolution approaches a stationary state that can be associated to equilibrium at a single temperature (related to the energy change during the quench), cases in which an ageing asymptotic dynamics persists asymptotically, and quenches in which a steady state characterised by a Generalised Gibbs Ensemble is found. In the latter case we show that all the GGE effective temperatures can be obtained from the standard fluctuation dissipation relation, in the frequency domain. The parameter dependence of the asymptotic states is rationalised in terms of dynamic phase diagrams.

[1] Leticia F. Cugliandolo, Gustavo S. Lozano, Nicolas Nessi *J. Stat. Mech.* (2017) 083301.

[2] Laura Foini, Andrea Gambassi, Robert Konik, Leticia F. Cugliandolo *Phys. Rev. E* 95, 052116 (2017)

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