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Statistics of the work done in a quantum quench, fidelity susceptibilities and universality

In this talk, I will discuss a few complementary characterizations of the response of a strongly correlated quantum system to a sudden quench of one of its control parameters. After exploring various intriguing connections between quantum quenches, X-ray edge singularities, and boundary statistical mechanics, I will focus on quantum critical systems and describe in detail how universality is encoded in the fidelity susceptibility, in the statistics of the work done in a quench at low energies and in the asymptotics of correlators out of equilibrium.

27. September 2011, 11:00 Uhr

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