

Abstract Submitted
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Signatures of Mott and Anderson transitions in the quench dynamics of disordered fermions W. MORONG, B. DEMARCO, University of Illinois at Urbana-Champaign — We report disorder-induced transitions in the relaxation time of a system of strongly-interacting lattice fermions. The population of double occupancies is monitored following an interaction quench, and the re-equilibration time is found to vary strongly and non-monotonically as disorder is added. The resulting relaxation regimes are shown to correspond to predicted Mott insulator–correlated metal–Anderson-Mott insulator transitions for the ground state at half-filling. This allows for qualitative understanding of the quench dynamics, and shows the ability of relaxation measurements to sensitively probe changes in the density of states.

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