Title:
Fluctuation-dissipation theorem in isolated quantum systems out of equilibrium

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Abstract:
We examine the validity of fluctuation-dissipation relations in isolated quantum systems taken out of equilibrium by a sudden quench. We focus on the dynamics of trapped hard-core bosons in one-dimensional lattices with dipolar interactions whose strength is changed during the quench. We find that fluctuation-dissipation relations hold if the system is nonintegrable after the quench. They also hold if the system is integrable after the quench if the initial state is an equilibrium state of a nonintegrable Hamiltonian. However, they fail if the system is integrable both before and after quenching.

References to your relevant published papers:

E. Khatami, G. Pupillo, M. Srednicki, and M. Rigol
"Fluctuation-dissipation theorem in an isolated system of quantum dipolar bosons after a quench"
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