

OpenQMBP2023: New perspectives in the out-of-equilibrium dynamics of open many-body quantum systems



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Hidden strong symmetries and quasi-local charges in a local Lindblad system

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We consider an open spin chain with external driving in the bulk, described by the Lindblad equation. We show that in certain cases the system can have hidden strong symmetries, in the form of quasi-local operators. These lead to conserved charges, and the existence of multiple NESS: The system will keep memory of the initial state, even though the obvious symmetries of the Hamiltonian are broken.

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