

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



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Phases of quantum information on a noisy quantum processor

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Abstract: I will discuss the experimental realization of measurement-induced phases of quantum information on Google Quantum AI's superconducting processor. By using a hybrid quantum-classical order parameter, which correlates experimental data with simulation, we observe signatures of distinct entanglement structures up to 70 qubits. We further show that noise, an inevitable limitation of the hardware, can be exploited as an independent probe of the phases.

Reference: <https://arxiv.org/abs/2303.04792>

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