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## Dynamical quantum phase transitions of the Schwinger model: real-time dynamics on IBM Quantum

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A striking quest for quantum computing applications in available platforms is spanning across a wide range of topics. The framework of lattice gauge theories in the Hamiltonian formulation is tested through a simple quantum system. Limitations in the simulation capabilities are imposed by noise affecting the gates elaboration of quantum states, combined in the decomposition of Trotter evolution according to single and double qubit gates to implement real-time dynamics. Experimental results collected on IBM Quantum are compared with noise models to identify most characterizing parameters, in the absence of any error correction or mitigation. Proposed simulations of the Schwinger model quenched dynamics represent a paradigmatic use case scenario, based on input states preparation, evolution and measurement in a noisy environment, well suited to test quantum hardware capabilities.

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