

Abstract Submitted
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Simulating one-dimensional Josephson junction arrays in the presence of dissipation MICHAEL ZWOLAK, GUIFRE VIDAL¹, California Institute of Technology — Recently, we have presented an algorithm to study mixed state dynamics in one-dimensional quantum many-body systems. This algorithm can be used to construct thermal states and to simulate real time evolution as given by a generic master equation. We use this algorithm to study the superconductor-insulator transition in Josephson junction arrays driven by dissipation. We present a formulation of the problem in terms of a master equation with local dissipation. We show results for correlation functions and resistance for different strengths of dissipation and Josephson coupling.

¹Institute for Quantum Information

Michael Zwolak
California Institute of Technology

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