

Abstract Submitted
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Dynamic Stimulation of Phase Coherence in Lattice Bosons¹ ANDREW ROBERTSON, VICTOR GALITSKI, University of Maryland, GIL REFAEL, California Institute of Technology — The existence of superfluidity depends on the energy distribution of excitations in a system. However, the distribution at thermal equilibrium is rarely optimal for the manifestation of long-range phase coherence. We show that by pushing a system of lattice bosons out of equilibrium with periodic driving, it is possible to increase or decrease the phase coherent region in the phase diagram of the Bose-Hubbard model. We demonstrate this by calculating the non-equilibrium spatial correlation function using a synthesis of Keldysh and Floquet theories. This work is supported by DARPA-MTO.

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