

Abstract Submitted  
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**Non-Equilibrium Enhancement of Superfluidity in a Bose-Hubbard Model**<sup>1</sup> ANDREW ROBERTSON, VICTOR GALITSKI, University of Maryland — 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 production of a superfluid state. It has been shown that simultaneously pushing a system out of equilibrium while balancing the induced heat through dissipation can be an effective way to enhance the system's superfluid properties. To that end, we consider how exciting a nonequilibrium site-density distribution in the Bose-Hubbard model can increase the superfluid region in the finite-temperature phase diagram. This work is supported by DARPA.

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