

Abstract Submitted
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Response of a homogeneous Bose-Einstein condensate to an oscillating spatially-uniform force NIR NAVON, ALEXANDER GAUNT, ROBERT SMITH, ZORAN HADZIBABIC, University of Cambridge — The recent production of quasi-uniform Bose gases has offered new exciting possibilities to study out-of-equilibrium phenomena in nearly textbook systems. We explore the response of a homogeneous Bose-Einstein condensate to a time-oscillating constant-gradient potential. By tuning the amplitude and frequency of the modulation, as well as the atom number, we study the response of the BEC, from excitationless superflow to the turbulent regime. We probe the steady state of the driven system by measuring the momentum distribution using two-photon Bragg spectroscopy.

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