

Abstract Submitted
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Collective Excitations of Bose-Einstein Condensates In Isotropic and Slightly Anisotropic Traps¹ ANDREW BARENTINE, DAN LOBSER, HEATHER LEWANDOWSKI, ERIC CORNELL, JILA, National Institute of Standards and Technology and Department of Physics, University of Colorado, Boulder — Boltzmann proved that the monopole mode of a thermal gas in an isotropic, harmonic and 3D trap is undamped. Bose-Einstein Condensates (BECs) are not classical gases and their weakly interacting nature causes damping at finite temperature in a 3D monopole mode. The large parameter space of the TOP (Time-averaged Orbiting Potential) trap allows for precise control of the trap geometry. Exciting a monopole mode in a BEC as well as its canonical thermal cloud in the hydrodynamic regime will allow us to investigate damping effects in isotropic and slightly anisotropic traps.

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