Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Heating of a BEC by mechanical perturbation TOD WRIGHT, ROB BALLAGH, CRISPIN GARDINER, Jack Dodd and Dan Walls Centre for Photonics and Ultra-Cold Atoms, ASHTON BRADLEY, ARC Centre of Excellence for Quantum Atom Optics, BLAIR BLAKIE, Jack Dodd and Dan Walls Centre for Photonics and Ultra-Cold Atoms — We present a model of condensate stirring within the truncated Wigner formalism. A condensate initially at $T = 0$ is perturbed by a rotating elliptical trapping potential, simulated using a novel numerical algorithm which perfectly conserves condensate band population and (rotating-frame) energy. We discuss the thermalisation of the condensate band and the relation to vortex nucleation, and contrast the results and their interpretation with those of earlier classical field treatments of the stirred-condensate system.

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Date submitted: 01 Feb 2007 Electronic form version 1.4