

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Effects of interactions on interference pattern formed after release and expansion of two identical Bose-Einstein condensates¹ CATHERINE LEE, COURTNEY LANNERT, Wellesley College — We numerically simulate the expansion and interference of two adjacent, identical Bose-Einstein condensates initially trapped by harmonic potentials. We use explicit finite-difference methods to solve the Gross-Pitaevskii equation and time-evolve the condensates. We repeat the simulation, varying the interaction strength of the condensates, and analyze how the interactions affect the time-evolution of the interference pattern.

¹This work was supported by the NSF under grant DMR-0605871.

Catherine Lee
Wellesley College

Date submitted: 18 Nov 2010

Electronic form version 1.4