Effects of interactions on interference pattern formed after release and expansion of two identical Bose-Einstein condensates\textsuperscript{1} 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.

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