

Abstract Submitted
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Hamiltonian Monodromy: Unexpected behavior of atoms in traps¹ CHEN CHEN, JOHN DELOS, MEGAN IVORY, SETH AUBIN, Department of Physics, College of William & Mary, Williamsburg, VA 23187, USA — A system exhibits monodromy if we take the system around a closed loop in its parameter space, and we find that the system does not come back to its original state. Hamiltonian dynamical monodromy occurs when an ensemble of trajectories forming a loop of initial conditions evolves continuously in time into a topologically different loop with the same total energy and angular momentum as the original ensemble. We will report a theoretical investigation of monodromy for atoms in optical traps. The calculations show how this phenomenon should become visible in experiments.

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