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Schrodinger Leopards in Bose-Einstein Condensates[1] LINCOLN D. CARR, Department of Physics, Colorado School of Mines, DIMITRI R. DOUNAS-FRAZER, Department of Physics, University of California, Berkeley — We present the complex quantum dynamics of vortices in Bose-Einstein condensates in a double well via exact diagonalization of a discretized Hamiltonian. When the barrier is high, vortices evolve into macroscopic superposition (NOON) states of a vortex in either well – a Schrodinger cat with spots. Such *Schrodinger leopard* states are more robust than previously proposed NOON states, which only use two single particle modes of the double well potential.

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Lincoln Carr
Colorado School of Mines

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