

Nonlinear dynamics of atoms and photons and quantum chaos

Semiclassical theory of Hamiltonian chaos in the interaction of hot Rydberg atoms with a microwave field in a cavity

Semiclassical theory of dissipative chaos in the interaction of cold atoms with a standing-wave laser field: synchronization, bifurcations, strange attractors in the internal and translational degrees of freedom

Quantum chaos in cavity quantum electrodynamics

Atomic dynamical fractals, Levy flights and anomalous transport in optical lattices

Quantum chaos with matter waves of cold atoms in optical lattices

Theoretical principles of quantum computing with cold atoms in an optical lattice

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