

Abstract Submitted
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An open quantum system study of atomic transport through time-dependent optical lattices RONALD PEPINO, DANA ANDERSON, MURRAY HOLLAND, JILA — Atomic transport in a static optical lattice can only effectively occur between adjacent sites that are resonant. In our atomtronic schematic for a flip-flop, an immediate problem is that we require effective transport across energetic gaps. Such transport may be enhanced by modifying the lattice so that it has oscillatory coupling links between off-resonant sites. Here we discuss our results on the investigation of an optical lattice, with oscillatory coupling, connected to atomic reservoirs.

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