

Abstract Submitted
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Antiferromagnetic order and dynamics in lattice-trapped ^{87}Rb
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SCHLOSSER, WILLIAM PHILLIPS, TREY PORTO, NIST/JQI — Optical lat-
tices present an almost ideal environment in which to realize model condensed-
matter systems and study strongly-correlated many-body behavior. Using an initial
system (^{87}Rb) deep in the Mott-insulating regime, we create antiferromagnetic order
in an double-well optical lattice using a effective magnetic field technique that allows
spectral resolution of individual sublattices. With the use of a “staggered field”, we
study spin dynamics in the lattice as the tunnel coupling in the system is increased
and the staggered field is varied.

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