

Abstract Submitted
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Atom-molecule oscillations in a Bose-Fermi mixture. M.L. OLSEN, J.D. PERREAULT, T.D. CUMBY, D.S. JIN, JILA, National Institute of Standards and Technology and Department of Physics, University of Colorado — We will discuss experiments in which we create a coherent superposition of atom and molecule states in an ultracold gas mixture of ^{87}Rb and ^{40}K atoms. Using rapid magnetic-field pulses near an interspecies Feshbach resonance, we couple atoms and heteronuclear molecules. Rabi- and Ramsey-type experiments yield atom-molecule oscillations with relatively large contrast and coherence times up to several hundred microseconds.

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