

Abstract Submitted  
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**p-wave Feshbach Molecules**<sup>1</sup> JOHN GAEBLER, JOHN STEWART,  
JOHN BOHN, DEBORAH JIN, JILA-University of Colorado — We present evi-  
dence for the production and detection of molecules using a p-wave Feshbach reso-  
nance between  $^{40}\text{K}$  atoms. We have measured the binding energies and lifetimes for  
these molecules. We find that the binding energies scale linearly with magnetic field  
near the resonance. At magnetic fields above the resonance we detect quasi-bound  
molecules with lifetimes set by the tunneling rate through the centrifugal barrier.  
We discuss the possibility of using a p-wave Feshbach resonance to study BCS-BEC  
crossover physics with finite angular momentum pairing.

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