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Heteronuclear Feshbach Resonances in a Bose-Fermi Mixture of 40K and 87Rb M. L. OLSEN, J. GOLDWIN, S. INOUYE[1], J. LANG, D. S. JIN, JILA, National Institute of Standards and Technology and University of Colorado, and Department of Physics, University of Colorado, Boulder, CO 80309 — We have observed four magnetically tunable heteronuclear Feshbach resonances between fermionic 40K and bosonic 87Rb. Comparison of the measured positions of the resonances with theory identifies three as s-wave resonances and one as a p-wave resonance. We report on studies of inelastic loss of the mixture at these resonances. The observation of these resonances has allowed for a more precise determination of the background Rb-K interspecies scattering length.

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