

Abstract Submitted
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Precision Spectroscopy of Feshbach and Efimov Resonances of ^{39}K ¹ ROMAN CHAPURIN, XIN XIE, MICHAEL VAN DE GRAAFF, CARLOS LOPEZ-ABADIA, JARED POPOWSKI, JUN YE, ERIC CORNELL, JILA, National Institute of Standards and Technology and University of Colorado — We measure the precise locations of Feshbach and Efimov resonances in ^{39}K . We measure molecular binding energies down to a few-kilohertz level using dimer-dissociation spectroscopy. The stability of our magnetic field and the absence of monomers in our molecular gas enables us to determine the location of the Feshbach resonance with an uncertainty less than 10^{-4} of its width. The position of the first Efimov state is determined by measuring three-body loss rates, taking into account finite density and temperature effects.

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