

Abstract Submitted  
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**Bound-bound Spectroscopy of Ultracold K40-Rb87 Molecules**

KANG-KUEN NI, SILKE OSPELKAUS, AVI PE'ER, JOSH ZIRBEL, BRIAN NEYENHUIS, MARCIO MIRANDA, JILA, SVETLANA KOTOCHIGOVA, Temple University, PAUL JULIENNE, NIST Gaithersberg, JUN YE, DEBORAH JIN, JILA, NIST and the University of Colorado, Boulder — We have recently demonstrated coherent optical transfer of KRb Feshbach molecules to a more deeply bound vibrational state. This transfer relied on an extensive search for a suitable intermediate state of KRb\* as well as precision two-photon spectroscopy of target vibrational levels in the electronic ground-state KRb. We will present results of the KRb and KRb\* spectroscopy as well as our progress toward creation of degenerate KRb polar molecules.

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