

Abstract Submitted
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Magneto-association of atoms near an atom-dimer resonance¹ JASON H.V. NGUYEN, DE LUO, RANDALL G. HULET, Rice University — Ultracold atomic gases provide an environment to study few body physics in a regime where universal properties, such as the scaling laws of Efimov trimers, can be explored. In our work, Efimov trimers and Feshbach dimers are created in a condensate of ^7Li atoms by RF-field modulation. The molecular binding energies are tunable using the broad Feshbach resonance for atoms in the $|1, 1\rangle$ state. We find that the rate of dimer formation is sharply peaked at the atom-dimer resonance, where the trimer merges with the dimer plus free-atom continuum. The origins of this enhancement are unclear, but may be related to our previous observation of enhanced three-body loss at the atom-dimer resonance.²

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²S.E. Pollack, D. Dries, & R.G. Hulet, *Science*, 326, 1683 (2009).

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