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Laser Assisted Ultracold Few-body Collisions JOSE P. D'INCAO, CHRIS H. GREENE, JILA, Department of Physics, University of Colorado at Boulder — Two- and three-body ultracold collisional properties are studied in the presence of a laser field. Our goal is to explore the possibility of controlling atomic and molecular losses at the more complex few-body level. We also study different association schemes that can enhance our current understanding of Efimov states. A combination of the hyperspherical adiabatic representation and the Floquet formalism are utilized to study bound and scattering properties, providing further insight into the controllability of few-body systems. We hope such studies can suggest ways to develop the coherent control of ultracold few-body processes that fundamentally affect both the stability and the lifetime of condensates. This work was supported by NSF.

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