

Abstract Submitted
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Feshbach resonance enhanced photoassociation (FREPA) spectroscopy of Rb_2 JAMES DIZIKES, THOMAS AKIN, SEAN KRZYZEWSKI, MICHAEL MORRISON, ERIC ABRAHAM, University of Oklahoma — Ultracold photoassociation spectroscopy has been used to measure binding energies of near-dissociation, excited alkali dimers, which increases the precision with which atomic and molecular information is known. It is also an indispensable tool in the study of Feshbach resonances and in their use in producing ultracold molecules. We will discuss calculations and simulations for using Feshbach resonances to enhance photoassociation into previously unattainable excited molecular states and the possibility of improving our knowledge of the interatomic interaction. Initial work will focus on the 0_g^- state of Rb_2 that connects asymptotically to the $5^2S_{1/2} + 5^2P_{1/2}$ separated atom limit. Progress toward the experimental realization of FREPA will be presented.

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