

Abstract Submitted
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Fermionic molecule formation by ramps across Fano-Feshbach resonance CHEN ZHANG, CHRIS GREENE, JILA, Physics dept, University of Colorado at Boulder — This project is a theoretical investigation of the properties of a gas of fermionic diatomic molecules, including the formation of these molecules from bosonic ^{87}Rb and fermionic ^{40}K gases through magnetic field ramps across a Fano-Feshbach resonance. We have approached the problem mainly from a few-body viewpoint. This includes a numerical calculation of the magnetic field-dependent energy spectrum, time evolution of the few body system, analysis within and beyond the standard Landau-Zener model, and also an analytical calculation of the scattering process by applying frame transformation ideas for various quasi-2D geometries. Preliminary results will be shown at the meeting including comparison with experimental results. We acknowledge funding from NSF.

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