

Abstract Submitted
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Cold collisions of Stark decelerated ND₃ molecules and magnetically trapped ⁸⁷Rb atoms NOAH FITCH, PAUL PARAZZOLI, DAN LOBSER, HEATHER LEWANDOWSKI, JILA and University of Colorado Physics — Stark deceleration is a proven technique for decelerating polar molecules using time-varying inhomogeneous electric fields. This technique allows for precise control over both external and internal degrees of freedom. This high level of molecular control is particularly useful for collision studies where precise tuning of the center of mass collision energy is required. Measuring collision thresholds is one particular example where this control is critically important. We use this technique to study the energy dependence of inelastic collision cross sections between decelerated deuterated ammonia (ND₃) molecules and magnetically trapped Rb atoms.

Noah Fitch
JILA and University of Colorado Physics

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