

Abstract Submitted
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Inelastic collisions of excited lithium molecules MARK ROSEN-
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University — Energy transfer and reactions during molecular collisions are funda-
mental processes in astronomy and chemistry. The $H_2 + H$ system has been well
studied, and theoretical calculations are now becoming feasible for an excited lithium
dimer colliding with a ground state lithium atom, increasing interest in correspond-
ing experimental measurements. Our laboratory observes laser-induced fluorescence
spectra from lithium vapor in a heat pipe oven. Our recent switch from a modest
diode laser to a pulsed dye laser gives us new access to a variety of highly excited
molecular states. Here we report our progress in measuring absolute level-to-level
rate constants and collision-induced dissociation for molecular states of this system.

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