

Abstract Submitted
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Study of collisional dynamics in highly excited Li_2 MARK ROSEN-
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University — Energy transfer during molecular collisions is a fundamental process
in astronomy and chemistry. As Li_2 is a relatively simple molecule, it has been
possible to model collisions of its low-lying excited state with ground state atoms
for some years. We now intend to experimentally measure collisions involving much
higher energy levels: studying the vibrational inelastic collisions and dissociation for
molecules starting in the A ($1\ ^1\Sigma_u^+, \nu' > 45$) states, and working towards studies of
V-R coupling in the “shelf” region of the E ($3\ ^1\Sigma_g^+$) state. To carry out these exper-
iments, we are using a dual pulsed dye laser system. We have recently demonstrated
that we can measure equivalent rate constants using either pulsed or cw excitation.

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