

Abstract Submitted
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Velocity-Dependent Cross Sections of Rovibrationally Inelastic Processes from Doppler Lineshapes PAULA MATEI, STEVEN COPPAGE, BRIAN STEWART, Wesleyan University — Spectroscopic techniques are employed in the studies of rovibrationally inelastic processes in the $\text{Li}_2^*(A)$ – noble gas system. We present new results of Velocity Selected by Doppler Shift (VSDS) experiments. Our goals are to look for experimental evidence of a novel vibrational transfer mechanism that involves impacts with the side of the molecule, and to investigate and compare different combinations of rotational and vibrational energy transfer. The experimental results will be compared with cross sections calculated from *ab initio* potential surfaces.

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