

## DOUBLE RESONANCE OVERTONE SPECTROSCOPY OF HYDRAZOIC ACID

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We present double resonance overtone photofragment spectra of hydrazoic acid ( $\text{HN}_3$ ) for several vibrational bands near the lowest energy spin-allowed product channel ( $\text{HN}_3 \rightarrow \text{N}_2 + \text{NH}(a^1\Delta)$ ). Double resonance overtone photofragment spectroscopy is a three-laser technique which combines IR-visible double resonance excitation of a vibrational level above the dissociation energy with LIF detection of the photofragments. We have obtained results for the fifth overtone of the NH stretch ( $6\nu_1$ ), as well as for several close-lying combination bands. With these spectra we can establish more precise limits on the dissociation threshold for the lowest spin-allowed product channel than were previously available. In addition, comparison of the underlying structure in individual rotational lines from different vibrational bands shows dramatic variations.