DOUBLE RESONANCE OVERTONE SPECTROSCOPY OF HYDRAZOIC ACID

MICHAEL R. WEDLOCK, BERND KUHN and THOMAS R. RIZZO, *Laboratoire de Chimie-Physique Moléculaire, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland.*

We present double resonance overtone photofragment spectra of hydrazoic acid (HN_3) for several vibrational bands near the lowest energy spin-allowed product channel ($HN_3 \rightarrow N_2 + NH(a^1\Delta)$). 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.