TWO-PHOTON SPECTROSCOPY OF THE ACETALDEHYDE-AR COMPLEX

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In this contribution, we present new results on the (n,3s) Rydberg transition in the acetaldehyde-Ar complex. To our knowledge this is the first complex involving a polyatomic molecule detected through (2+1) REMPI. The spectra show several progressions in the intermolecular stretch and bending vibrations. On the other hand, the observed vibronic bands give no indication of partially resolved rotational structure. These results are consistent with the dominance of a zeroth rank spherical tensor component responsible for the two-photon transition in the monomer. In order to establish unambiguously the correlation with vibronic bands of the monomer, we are currently extending the experiments towards the two color (2+1') REMPI, and complexes involving Ne as well as deuterated acetaldehyde.