

RESONANT TWO PHOTON MPI SPECTROSCOPY OF Ca_2Cl_3

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The electronic spectra of Ca_2Cl_3 and its isotopomers formed by laser ablation were observed by R2MPI at 650 nm. This salt cluster can have several possible structures, including a $\text{CaCl}\cdot\text{CaCl}_2$ adduct and a degenerate D_{3h} structure exhibiting both Jahn-Teller and pseudo-Jahn-Teller distortions. Irregularities in the spectra suggest the presence of extensive nonadiabatic vibronic coupling. Results will be compared to predictions based on ab initio and pseudo-potential calculations.