RESONANT TWO PHOTON MPI SPECTROSCOPY OF Ca$_2$Cl$_3$

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The electronic spectra of Ca$_2$Cl$_3$ and its isotopomers formed by laser ablation were observed by R2MPI at 650 nm. This salt cluster can have several possible structures, including a CaCl-CaCl$_2$ adduct and a degenerate $D_{2h}$ 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.