

## COINCIDENCE MEASUREMENTS OF STRONG FIELD MOLECULAR DOUBLE IONIZATION

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Double ionization has been well studied in atoms and diatomic molecules. However, polyatomic molecules, with more complicated electronic structure, have not been studied as extensively.

We use few cycle intense ultrafast laser pulses and coincidence velocity map imaging to investigate strong field double ionization in molecules such as  $\text{CH}_2\text{IBr}$  and 1,3-Cyclohexadiene. By using a time stamping camera to make vector momentum measurements of electrons and ions, we are able to distinguish between multiple double ionization channels. Different double ionization channels which result in different fragment ion pairs show different electron correlation patterns, indicating that the double ionization dynamics are influenced by the orbitals from which the electrons are removed.