

Anion fragment momentum imaging

Electron attachment involves a resonant collision of a low energy (typically 0-15 eV) electron with a molecule, resulting in a metastable anion that dissociates or decays by autodetachment. Both of these processes drive a system away from its equilibrium state and the former process, dissociative electron attachment results in energetic anionic and neutral fragment molecules. The anionic fragment carries information about the neutral co-products in its momentum distribution.

We measure the anion fragment momentum using a dissociative electron attachment reaction microscope, that was recently developed and built in-house. The details of the experimental design and some experimental examples will be presented.

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