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# Atoms & molecules under the reaction microscope

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To investigate the complicated dynamics in atoms and molecules, the measurement of all particles (at least the contributing) ones is favored. With the COLTRIMS reaction microscope technique, we have a complex and powerful tool to measure all charged fragments (electrons and ions) in coincidence. This allows to measure processes of tiny fractions, which are buried underneath 5-6 order of magnitude likelier, competing processes. The technique has developed tremendously and has proven the capability of measuring 5 ions in coincidence (to determine the absolute configuration of a chiral molecule), directly measure high energetic electrons with >500 eV and even in coincidence with a low energetic second electron (<10 eV). We will highlight a few examples and discuss these experiments in the context of our future experimental needs.

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