

3D Covariance Velocity-Map Ion Imaging: Techniques, Applications and Opportunities

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Fast timestamping detectors coupled to the VMI technique have enabled fully three-dimensional detection of the velocities of all ionic fragments produced in a given experiment. I will discuss how we can use covariance analysis to correlate these velocities, even at high count rates, and how these analysis methods can be applied to probe a range of processes in physical chemistry and molecular physics.