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Reaction Microscope for Ion-Atom and Ion-Molecule Interactions at Auburn University D. STROHSCHEIN, J. THOMPSON, F. HESS, L. MCCULLOUGH, E.J. CLOTHIAUX, A.L. LANDERS, Auburn University — We have designed and built a new end station at the Auburn University accelerator to perform COLTRIMS style measurements of the interactions between fast ions and atomic or molecular targets. The newly completed apparatus incorporates large multi-hit position sensitive detectors, a supersonic atomic/molecular beam and uniform electric and magnetic fields for performing momentum imaging spectroscopy. Planned collision investigations include measurement of fundamental processes such as ionization, capture and transfer ionization of both atomic and molecular targets. Preliminary results for orientation effects on the double ionization of molecular hydrogen will be presented.

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