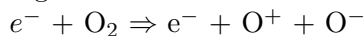


Abstract Submitted  
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**Ion/Anion Pair Production from Electron Impact**<sup>1</sup> J. SARTOR, M. KEILING, M. FOGLE, Auburn University, T.J. GAY, University of Nebraska, A.L. LANDERS, Auburn University — One of the least studied dissociation pathways of a neutral molecule is the decay to an ion/anion pair, yet these reactions can provide new insight into fundamental molecular dynamics. We initiate these reactions with the pulsed field from a fast electron, where in principle all ion/anion pair-production modes are accessible and not limited by photo-absorption selection rules. We accomplish this by intersecting a bunched electron beam with a jet of gas over a wide range of energies, and use a fast-switched electric field to guide the ion products towards two position sensitive detectors. Using the positions and flight times of the ions, we completely determine the final state momenta. This not only allows for the discrimination of this channel from dominant contaminant reactions (particularly the electron producing ionization channels), but also yields the kinetic energy release and product angular distribution. Preliminary results for the reaction



will be presented along with additional measurements currently underway, including the fundamental case of hydrogen.

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James Sartor  
Auburn University

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