Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Momentum Imaging of Dissociative Electron Attachment to Molecules ALI MORADMAND, JOSHUA WILLIAMS, ALLEN LANDERS, MIKE FOGLE, Auburn University — Dissociative electron attachment (DEA) to diatomic and polyatomic molecules, including O_2, C_2H_2, and CO_2, is studied using a COLTRIMS apparatus which is capable of imaging 3D dissociation dynamics upon impact from a low energy ($\sim$10eV) electron. A pulsed electric field is used to extract and distinguish ion fragments in a time-of-flight mass spectrometer, from which a complete picture of the reaction dynamics may be constructed. Through the axial recoil approximation, dependence of the attachment probability on a molecule's orientation with respect to the incoming electron's momentum is revealed.

Ali Moradmand
Auburn University

Date submitted: 26 Jan 2012 Electronic form version 1.4