

Abstract Submitted
for the GEC13 Meeting of
The American Physical Society

Fully Differential Cross Sections for Electron-Impact ionization of aligned molecules¹ ESAM ALI, DON MADISON, Missouri University of Science & Technology, JULIAN LOWER, Institute für Kernphysik, Goethe Universität, ERICH WEIGOLD, AMPL, Research School of Physics and Engineering, SUSAN BELLM, ARC CoE for Antimatter - Matter Studies, Flinders University, ALLISON HARRIS, Henderson State University, CHUANGANG NING, Tsinghua University — Most experiments measuring electron-impact ionization of molecules do not determine the orientation of the molecule at the time of ionization. One way to determine the orientation is to simultaneously ionize the molecule and excite the residual ion to a state that will dissociate. The orientation of the molecule can then be determined by detecting one of the dissociation fragments since the fragments will leave in the direction of orientation. We will present Fully differential cross sections for 176 eV electron-impact dissociative excitation-ionization of oriented H₂. These results show a strong dependence of the dissociative ionization-excitation process on the alignment of the internuclear axis with respect to the projectile momentum and emission directions of the scattered and ejected electrons.

¹Work supported by NSF and the NSF TeraGrid computer system.

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Date submitted: 14 Jun 2013

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