

Abstract Submitted  
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**Experimental and theoretical investigation of the triple-differential cross sections for electron impact excitation-ionization of aligned H<sub>2</sub> for different orientations of the molecule<sup>1</sup>** ESAM ALI, DON MADISON, Missouri S and T, ALLISON HARRIS, Henderson State University, JULIAN LOWER, Institut für Kernphysik, ERICH WEIGOLD, Australia National 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. Experimental and theoretical TDCS (triple differential cross sections) results will be presented for excitation-ionization of three excited states of H<sub>2</sub> for three different orientations of the molecule at an incident electron energy of 176 eV.

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