

Abstract Submitted  
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**Low energy (e, 2e) study for N<sub>2</sub> in coplanar and non-coplanar geometries for symmetric and asymmetric angles and final state electron energies**<sup>1</sup> SADEK AMAMI, Missouri University of ST, Rolla, Mo 65409, AHMAD SAKAAMINI, MATTHEW HARVEY, ANDREW MURRAY, Photon Science Institute, School of Physics Astronomy, University of Manchester, Manchester M13 9PL, UK, DON MADISON, Missouri University of ST, Rolla, Mo 65409 — Triple differential cross sections (TDCS) have been calculated and compared with experimental data for electron impact ionization of the neutral molecule N<sub>2</sub> over a range of geometries from coplanar to the perpendicular plane. Experiment and theory will be compared for incident electron energies of 10eV and 20eV above the ionization potential of the 3σ<sub>g</sub>, 1π<sub>u</sub> and 2σ<sub>g</sub> states, using both equal and non-equal outgoing electron energies. Also, we have measured and calculated TDCS for equal outgoing electron energies of 10eV and 20eV for ionization of the N<sub>2</sub> 3σ<sub>g</sub>, and 1π<sub>u</sub> states for one of the electrons having a fixed scattering angle of 45°, 90°, and 125°. Calculations have been done for experimental data taken with the incident electron beam in the scattering plane, at 45° to this plane and orthogonal to the scattering plane. Experimental data will be compared to three different theoretical approximations - the three body distorted wave (3DW) approximation, the Distorted wave Born approximation (DWBA), and the Ward-Macek approximation.

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