
Contribution ID: **13** Type: **not specified**

# CALCULATIONS OF TRIPLE DIFFERENTIAL CROSS SECTIONS FOR ELECTRON IMPACT IONIZATION OF Mg IN COPLANAR SYMMETRIC GEOMETRY FROM LOW TO INTERMEDIATE ENERGIES

*Thursday, 20 November 2025 11:30 (15 minutes)*

The study of electron impact ionization of atomic targets is very important because of the wide range of kinematical situations available in the three body final state. Extensive research has been done on this area using different method such DWBA, CCC and ECS but there is a generally lack of agreement between the theoretical and experimental results at low electron impact energies. In this report we present results for TDCS of Mg in coplanar symmetric geometry using the DWBA with the static potential and polarization potential in the angle range between $0^0$ and $180^0$. The energy range of the incident electron is between 13.65eV to 67.65eV. The present results were compared with existing experimental and theoretical results in the literature. The results obtained are in good agreement with experimental at the lowest energy (13.65eV) and slightly differ in terms of position and size of peaks and dip on the other energies. The present results differ with both the experimental and theoretical results at large angles We also note that agreement between the results and the experimental results increase with increase in energy of the incident electron. The present results show that there is a need for a proper treatment of higher order effects in the calculation of polarization potential

**Primary author:** ALII TUI, Nyae (Kenyatta)

**Co-authors:** Dr ERIC, JOBUNGA (TECHNICAL UNIVERSITY OF MOMBASA); Dr PETER, KARIUKI (KENYATTA UNIVERSITY)

**Presenter:** ALII TUI, Nyae (Kenyatta)

**Session Classification:** Thursday Morning II

**Track Classification:** AfPS