

# SEARCHING QUANTUM LEVEL INTERFERENCE EFFECTS ON THE IONIZATION OF H<sub>2</sub> BY ELECTRON IMPACT

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Electron-Hydrogen molecule collisions have been studied for a long time, while cross sections have been reported in a wide variety of publications. In order to update a selection of the existing interference effects in the cross section results, we have measured the triple differential cross section (TDCS) of H<sub>2</sub> molecule by electron impact at various scattering angles. We have used (e, 2e) technique to measure TDCS for the electron impact ionization of H<sub>2</sub> at 250 eV incident electron energy in this work. The TDCSs of H<sub>2</sub> are measured at 50 eV ejected electron energy and for three different scattering angles of 7, 15 and 30<sup>0</sup>.

The present procedure has an advantage of being one of the first studied measurements over the scattering angle changes to see the effect of interference in the TDCS spectra of H<sub>2</sub> molecule itself. To stimulate more experimental work on interference argument in literature, current measurements are taken for single ionization of H<sub>2</sub> molecule at different kinematics. The results of our measurements will be discussed in details at the Conference.

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