

## Deep Inelastic Scattering 2025



Contribution ID: 103

Type: not specified

# DVCS on longitudinally polarised proton with the CLAS12 experiment at JLab.

*Tuesday 25 March 2025 11:50 (25 minutes)*

Measuring Deeply Virtual Compton Scattering (DVCS) observables offers the most direct access to Generalised Parton Distributions (GPDs), which offer a 3D description of the quark and gluon distributions in position and momentum inside the nucleon. GPDs are essential to understand how the nucleon's global properties, such as its spin and mass, arise from quarks and gluons.

The extraction of GPDs requires high precision measurements of multiple observables across a broad kinematic range. Measurements in all electron and proton spin configurations is also necessary in order to disentangle contributions from polarised and unpolarised GPDs.

The CLAS12 experiment at JLab can explore a wide phase space in the valence region with high statistics thanks to the upgraded CEBAF 10.5 GeV polarised electron beam. CLAS12 has recently taken data for the first time with a longitudinally polarised nucleon target, opening the possibility to measure DVCS observables on polarised proton over a new kinematic space.

I will report on preliminary measurements of DVCS target and double spin asymmetries from the first longitudinally polarised proton target experiment at CLAS12.

**Author:** POLCHER RAFAEL, Samy (CEA Saclay - Université Paris Saclay)

**Presenter:** POLCHER RAFAEL, Samy (CEA Saclay - Université Paris Saclay)

**Session Classification:** WG5: Spin and 3D Structure

**Track Classification:** Spin and 3D Structure