Contribution ID: **147** Type: **Oral Presentation**

# Deeply Virtual Compton Scattering measurements with $e\gamma$ detection @ CLAS12

Generalized Parton Distributions (GPDs) are probability functions describing spatial and momentum distributions of partons in nucleon structure studies. They are crucial for understanding the correlation between the longitudinal momentum and the transverse position of partons inside the nucleon. The Deeply Virtual Compton Scattering (DVCS) is a privileged channel for GPD studies, as chiral-even GPDs can be accessed through spin-dependent asymmetries. Although detecting all final state particles is preferred for selecting DVCS events, DVCS identification only requires the detection of two final state particles, given the missing particle reconstructed from conservation laws. In this work, we present new Beam Spin Asymmetry and preliminary cross-section measurements of proton-DVCS in the topology from experimental data taken by the CLAS12 detector at Jefferson Lab. We show that Machine Learning techniques allow a suitable channel selection in the final state, boosting statistics and giving access to a larger phase space than the proton-detected topology.

**Authors:** Dr VOUTIER, Eric (CNRS/IN2P3/IJCLab); Mr ALVARADO, Juan Sebastian (Université Paris-Saclay - IJCLab); Dr HOBALLAH, Mostafa (CNRS/IN2P3/IJCLab)

**Presenter:** Mr ALVARADO, Juan Sebastian (Université Paris-Saclay - IJCLab)

**Session Classification:** Parallel session

**Track Classification:** Hadron Structure, Spectroscopy and Dynamics