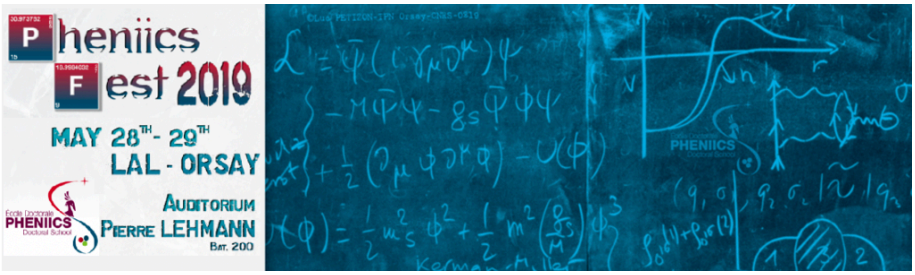

Contribution ID: **23** Type: **Talk**

Generalized Parton Distributions

Wednesday 29 May 2019 11:50 (20 minutes)

Generalized Parton Distributions (GPDs) describe the correlations between the longitudinal momentum and the transverse position of the partons inside the nucleon. They give access to the contribution of the orbital momentum of the quarks to the nucleon spin. They are nowadays the subject of an intense effort of research, in the perspective of understanding nucleon structure. GPDs have been studied in several experiments worldwide mainly using Deeply Virtual Compton Scattering (DVCS, ep → e'p'γ).
This talk will be composed of two parts. In the first part, the Central Neutron Detector will be presented. This scintillator time-of-flight detector has been built at IPN and installed in CLAS12 at Jlab in the Fall 2017. The CND will allow to perform DVCS measurements on neutron (en → e'n'γ). In the second part, the measurement, using CLAS12 data, of the time-reversal conjugate process of DVCS, Timelike Compton Sattering (TCS) will be discussed. TCS (γp → γ*p'→e + e - p') is the photoproduction of a virtual timelike photon off the proton, which then decays into a lepton pair. Experimental studies of DVCS and TCS are complementary.

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