

# Service de Physique Nucléaire



## Séminaire

le vendredi 25 avril 2014 à 11h00

CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

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### Deeply Virtual Compton Scattering on Longitudinally Polarized Protons at CLAS

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Deeply Virtual Compton Scattering (DVCS), where a high energy electron scatters off an individual parton in a nucleon which emits a high-energy photon as a result, is the simplest process to access Generalized Parton Distributions (GPDs) of the nucleon. The DVCS process interferes at the amplitude level with the Bethe-Heitler (BH) process, where the real photon is emitted either by the incoming or the scattered electron. The resulting DVCS-BH interference terms are connected to linear combinations of GPDs and are accessible through polarization observables including spin asymmetry measurements. The sensitivity to the four leading-order twist-2 GPDs depends on the polarization observable extracted, making different polarization observable measurements complementary in the effort of GPD extraction.

This talk focuses on the work and results obtained at Jefferson Lab using a 6 GeV polarized electron beam, longitudinally polarized (via Dynamic Nuclear Polarization) proton target and the CEBAF Large Acceptance Spectrometer equipped with an additional inner calorimeter for enhanced low angle photon coverage. The high statistics collected allow for detailed studies of the  $Q^2$ ,  $x_B$  and  $t$  dependencies of 3 spin-asymmetries (beam-spin, target-spin, and double-spin) over a wide range of kinematics. Preliminary results for the 3 spin-asymmetries will be shown.

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*Le café sera servi 10 minutes avant*

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