

First CLAS12 results in SIDIS measurements

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In January 2018, the CLAS12 spectrometer has started taking data using the 10.6 GeV, highly polarized, electron beam on a liquid hydrogen unpolarized target, at a luminosity as high as $10^{35} \text{ cm}^{-2} \text{ s}^{-1}$, about one order of magnitude higher than during the 6 GeV era with the CLAS spectrometer.

The high beam quality combined with the large acceptance of CLAS12 will allow for the first time to look at the 3-dimensional structure of the nucleon in a large kinematical domain with an unprecedented statistical precision.

A large part of the CLAS12 experimental program is devoted to the study of the transverse momentum dependent partonic distribution and fragmentation functions through experiments of Semi-Inclusive Deep Inelastic Scattering

electroproduction of mesons (pions and kaons).

The main observables in these measurements are the Single Spin Asymmetries and the hadron multiplicities.

In this talk, the performances of the CLAS12 spectrometer in SIDIS measurements will be shown and the first preliminary results will be presented.

Primary author: MIRAZITA, Marco (LNF)

Presenter: MIRAZITA, Marco (LNF)

Session Classification: 3D Structure of the Nucleon: TMDs

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