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DVCS measurements at HERMES

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Deeply Virtual Compton Scattering is currently one of the most promising processes that provides information about the structure of the nucleon in the framework of Generalized Parton Distributions. During its last years the Deeply Virtual Compton Scattering process was extensively studied at HERMES experiment through measurement of cross section asymmetries. To the virtue of unique experimental conditions, HERMES had collected a wealth of data on scattering a longitudinally polarized lepton (electron/positron) beam off unpolarized, longitudinally and transversely polarized hydrogen targets, as well as off unpolarized and longitudinally polarized deuterium targets. During the past two years of HERA operation a recoil detector around the target area allowed for the full kinematic reconstruction of the exclusive DVCS event, leading to a clean measurement of the beam-helicity asymmetry with background well below the 1% level. The recoil detector also allowed for first measurement of the related process of associated DVCS, in which the proton is excited to a Delta resonance, giving access to transition GPDs. In this talk these recent results using the recoil detector will be presented.

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