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Towards Precision Proton Tomography

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Generalized Parton Distributions (GPDs) contain a wealth of information about hadron structure. Mapping the GPDs will allow one, for the first time, to construct “tomographic” images of the nucleon’s charge and quark helicity distributions in transverse impact parameter space. GPDs can be accessed through lepton scattering processes such as Deeply Virtual Compton Scattering (DVCS) and Deeply Virtual Meson Production (DVMP). Different facilities world –wide including HERMES at HERA, CLAS and Hall-A at JLab and COMPASS at CERN have measurements of hard exclusive processes as one of their main focuses of research. In this talk we present an overview of the latest developments in the study of GPDs and newly released results will be also presented. The talk will conclude with prospects of the GPD program at existing and planned machines.