Generalized Parton Distributions:

a general unifying tool for exploring the internal structure of hadrons

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The Generalized Parton Distributions (GPDs) allow to characterize the dynamics of partons inside the nucleon in a unique way. They are 2-parton correlation functions which, for instance, describe the longitudinal momentum dependence of the partons as a function of their transverse position, thus correlating the parton distribution function information accessed in deep inelastic scattering with the form factor information accessed in lepton nucleon elastic scattering. Among other features, they allow to access the (unknown) angular momentum contribution of the quarks to the nucleon spin.

GPDs are accessed experimentally through hard exclusive leptoproduction reactions on the nucleon, in particular Deep Virtual Compton Scattering (DVCS). We will present the worldwide DVCS experimental program and all the recent data issued from the Jefferson Lab and DESY facilities. We will show the results of some first global fitter codes which begin to extract from these data some new insights on nucleon structure. Future directions in this active field will be discussed.