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Generalized Parton Distributions in Deeply Virtual Lepton Scattering Processes

Tuesday, 31 May 2016 14:00 (30 minutes)

Spin and transverse momentum dependent Generalized Parton Distributions (GPDs) exist at the interface between the non-perturbative regime of QCD hadron structure and observable quantities. The distributions appear as linear superpositions and convolutions within helicity amplitudes for parton-nucleon scattering processes, which, in turn, occur in amplitudes for leptoproduction processes. We have developed a ”flexible model” of quark and gluon GPDs that incorporates diquark and other spectators, Regge behavior and evolution. Chiral even GPDs determine deeply virtual Compton scattering amplitudes and are compared with cross section and polarization data. The chiral odd GPDs can be generated from these via parity relations. Those chiral odd GPDs, including ”transversity”, lead to predictions for pseudoscalar leptoproduction. We will present relations between crucial quark-nucleon or gluon-nucleon GPDs and the rich array of angular distributions in Deeply Virtual Scattering processes.

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Session Classification: Talks