

# Update on PionLT DEMP Factorizability studies.

*Sunday, 16 February 2025 12:00 (15 minutes)*

Generalized Parton Distributions (GPDs) are a huge advancement in our understanding of hadronic structure and non-perturbative QCD. To study GPDs, one may use the Deep Exclusive Meson Production (DEMP) reaction, but first one must find the  $Q^2$  regime where DEMP is factorizable. The factorization regime is where the cross-section can be divided into two parts, a hard part calculated with pQCD, and a soft part parameterized by the GPDs. Theory predicts factorization will occur at “sufficiently high”  $Q^2$ . This presentation will discuss the current status of the PionLT experiment at Jefferson Lab to determine the onset of factorizability for the exclusive pion electro-production reaction. To determine factorizability we must perform a LT separation on the data, which divides the cross-section into components based on the virtual-photon polarization. The PionLT experiment uses the Rosenbluth technique to perform LT separations. If factorization is confirmed, one can extract GPD information from this same separated data, with implications also for other similar experiments.

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