

Leading chiral correction to the Nucleon Generalized Parton Distributions.

Shung-Ichi Ando¹, Chung-Wen Kao², Juinn-Wei Chen³

1. *Department of physics, Sungkyunkwan University, Suwon, Korea.*
2. *Physics division, National Center for theoretical sciences, Hsinchu, Taiwan.*
3. *Department of Physics, National Taiwan University, Taipei, Taiwan.*

Generalized parton distributions(GPDs) are deeply related to the spin structure of the nucleon, for example, they can provide information on the quark orbital momentum through their first moments. Using Heavy Baryon Chiral Perturbation Theory (HBChPT) we study the leading chiral corrections to the complete set of nucleon GPDs. We compute the leading quark mass and momentum transfer dependence of the moments of nucleon GPDs through the nucleon off-forward twist-2 matrix elements. These results are then applied to get insight on the GPDs and their impact parameter space distributions.