

Pion generalized parton distributions: what theory, lattice QCD and experiment can tell us?

Abstract

We discuss how the knowledge of the pion valence-quark distribution function (either obtained from theory, lattice QCD or experiment) can be extended to off-forward kinematics to construct the corresponding generalized parton distribution (GPD). The discussion is based upon the hypothesis of the existence of an energy scale at which the hadron can be completely understood in terms of (fully dressed) valence degrees of freedom, the so called hadronic scale, and an all orders evolution scheme. In addition to being compatible with empirical and lattice results, the obtained GPDs fulfill all the prescriptions from QCD and exhibit agreement with contemporary predictions from continuum Schwinger methods.

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