Abstract Submitted
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Pion Valence Quark Distribution from Hadronic Lattice Cross Sections[1] RAZA SUFIAN, Jefferson Lab, COLIN EGERER TEAM, JOSEPH KARPIE TEAM, KOSTAS ORGINOS TEAM, JIAN-WEI QIU TEAM, DAVID G. RICHARDS TEAM — It has been shown that a class of matrix elements of two spatially-separated currents, which are computable directly in Lattice QCD, can be factorized into parton distribution functions with calculable hard coefficients [Phys. Rev. Lett. 120 (2018) no. 2, 022003]; in the same manner as the parton distribution functions are extracted from the hadronic cross sections measured in an experiment. In this presentation, we present the progress towards solving the large-x behavior of pion valence quark distribution using Lattice QCD calculation from spatially separated current-current correlations in the coordinate space. Results are presented on several lattice ensembles, thereby addressing finite-volume, discretization and quark mass effects in the extracted distributions.

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