

Abstract Submitted
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Pion Structure from Lattice QCD JOSEPH KARPIE, Columbia University, KOSTAS ORGINOS, William Mary, SAVVAS ZAFEIROPOULOS, Aix Marseille Univ., RAZA SUFIAN, COLIN EGERER, William Mary, DAVID RICHARDS, JIAN-WEI QIU, Jefferson Lab, HADSTRUC COLLABORATION — The partonic structure of the pion is of particular theoretical interest due to its role as the lightest bound state and a Nambu Goldstone boson. Few experimental results, compared to the nucleon, are available for determining the shape of the valence quark parton distribution and the shape of the large x behavior differs between different analyses. New approaches in Lattice QCD provide additional data for determining the shape of the quark parton distribution. We will present recent calculations of two observables, the parton pseudo-distribution function and the Lattice Cross Section, which factorize into the parton distribution function (PDF), just as experimental cross sections do. The resulting PDFs are both consistent with each other and with phenomenological analyses. A study of the systematic errors with in the calculation are presented.

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