

XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



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First Glance at Nucleon Polarized Gluon and Strange Parton Distribution Functions on the Lattice

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We present the first attempt to access the x -dependence of the gluon polarized and strange parton distribution functions (PDFs) from lattice calculations, using large-momentum effective theory (LaMET). LaMET methods have been applied to a wide variety of isovector nucleon distributions and valence pion distributions. However, the polarized gluon and strange-quark distributions have not yet been studied. This work carried out the first such lattice calculation with pion masses of 340 and 678 MeV with 3 lattice spacings. We compare the lattice results with the Fourier transform of selected global fits in coordinate space and discuss future prospects.

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