Contribution ID: **30** Type: **not specified**

Parton-pseudo distribution functions from Lattice QCD

Thursday, 31 January 2019 08:30 (30 minutes)

The light-cone definition of Parton Distribution Functions (PDFs) does not allow for a direct ab initio determination employing methods of Lattice QCD simulations that naturally take place in Euclidean spacetime. In this presentation we focus on pseudo-PDFs where the starting point is the equal time hadronic matrix element with the quark and anti-quark fields separated by a finite distance. We focus on Ioffe-time distributions, which are functions of the Ioffe-time ν, and can be understood as the Fourier transforms of parton distribution functions with respect to the momentum fraction variable x. We present lattice results for the case of the nucleon and we also perform a comparison with the pertinent phenomenological determinations.

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