Contribution ID: **569** Type: **Contributed Talk**

Nucleon valence quark distribution functions from Lattice QCD

Wednesday, 14 April 2021 09:12 (18 minutes)

We present results on the nucleon valence quark distribution extracted from Lattice QCD simulations, using a gauge ensemble of $N_f = 2 + 1$ Wilson-Clover fermions with a pion mass of $m_\pi = 350$ MeV and lattice spacing of $a = 0.091$ fm. We obtain reduced Ioffe Time Distributions (rITDs) by computing appropriate matrix elements on the lattice, and elaborate on the extraction of the desired quark distributions from the rITDs following the pseudo-PDF approach. A set of techniques are considered in order to ensure ground state dominance. Theoretical and experimental implications of our calculation are discussed.

Primary author: KALLIDONIS, Christos (Jefferson Lab)

Co-authors: EDWARDS, Robert (Jefferson Lab); EGERER, Colin; ORGINOS, Kostas (College of William and Mary / JLab); RICHARDS, David (Jefferson Laboratory)

Presenter: KALLIDONIS, Christos (Jefferson Lab)

Session Classification: Structure function and parton densities

Track Classification: Structure Functions and Parton Densities