



Contribution ID: 268

Type: Oral presentation

Valence structure of pion: physical mass, chiral quarks

Wednesday, 28 July 2021 14:15 (15 minutes)

We study pion valence structure from lattice QCD using three mixed action ensembles including a physical pion mass with fine lattice spacings of $a = 0.04, 0.06$ and 0.076 fm. Our analysis use ratio-based scheme and hybrid scheme to renormalize the equal-time bilocal quark-bilinear matrix elements. We extract first few moments and reconstruct the x -dependent PDF using NNLO leading-twist perturbative matching formula, and investigate the mass dependence as well as approaching continuum limit. Two Domain-Wall ensembles are used to cross check our estimate.

Primary authors: GAO, Xiang (Tsinghua University); MUKHERJEE, Swagato (Brookhaven National Laboratory); KARTHIK, Nikhil (Thomas Jefferson National Accelerator Facility); Dr ZHAO, Yong (Argonne National Laboratory); PETRECZKY, Peter (BNL); SYRITSYN, Sergey (Stony Brook University)

Presenter: GAO, Xiang (Tsinghua University)

Session Classification: Hadron Structure

Track Classification: Hadron Structure