



Contribution ID: 463

Type: Oral presentation

Pion Distribution Amplitudes in the Continuum Limit

Thursday 29 July 2021 22:00 (15 minutes)

We present a lattice-QCD calculation of the pion distribution amplitudes using large-momentum effective theory (LaMET). Our calculation is carried out using three ensembles with 2+1+1 flavors of highly improved staggered quarks (HISQ), generated by MILC collaboration, at 310 MeV pion mass with 0.06, 0.09, 0.12 and 0.15 fm lattice spacings. We use clover fermion action for the valence quarks and tune the quark mass to match the lightest light and strange masses in the sea. The resulting lattice matrix elements are nonperturbatively renormalized in regularization-independent momentum-subtraction (RI/MOM) scheme and extrapolated to the continuum. We compare different approaches to extract the x -dependence of the pion distribution amplitudes.

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Session Classification: Hadron Structure

Track Classification: Hadron Structure