2024 Meeting on Lattice Parton Physics from Large Momentum Effective Theory (LaMET2024)



Contribution ID: 11

Type: not specified

Progress in Lattice calculations for the Boer-Mulders function of the pion

Tuesday 13 August 2024 08:30 (25 minutes)

We focus on the Boer-Mulders function of the pion and use the CLS ensembles X650 (a = 0.098 fm), H102 (a = 0.085 fm) and N203 (a = 0.064 fm) to study this quantity and later allow for a controlled continuum extrapolation. The pion masses of these ensembles are approximately equal, as they range between 338 and 354 MeV. Here, preliminary results of the ongoing work are shown, including extractions of the bare matrix elements, determination of the short distance renormalization factors Z_O , and matching to the light-cone. A main goal of the current work is to determine the largest momentum P^z at which we still see a sufficient signal.

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