Light-Cone 2024: Hadron Physics in the EIC era



Contribution ID: 33

Type: Oral

Flavor asymmetry from the non-perturbative nucleon sea

Tuesday, 26 November 2024 17:50 (20 minutes)

We demonstrate, in the context of a scalar version of the chiral effective field theory, that the multi-sea quark contribution to the nucleon is significant and highly non-trivial in sharp contrast to the prediction of perturbation theory. The non-perturbative calculation is performed in the Fock sector dependent renormalization scheme on the light front, in which the non-perturbative renormalization is incorporated. The calculation suggests that a fully non-perturbative calculation of the chiral EFT is needed to obtain a robust result to be compared with the recent experimental measurement of flavor asymmetry in the proton.

Primary authors: Dr LI, Yang; DUAN, Yihan (University of Science and Technology of China)
Co-authors: VARY, James P.; CHENG, Shan; XU, Siqi; ZHAO, Xingbo
Presenter: DUAN, Yihan (University of Science and Technology of China)
Session Classification: Parallel-1