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Type: Parallel session talk

Impact of SeaQuest data on sea-quark PDFs at large x

Tuesday 22 August 2023 16:35 (15 minutes)

We investigate the impact of the recently released FNAL-E906 (SeaQuest) data concerning the ratio of protondeuteron and proton-proton DY production cross-sections on the sea quark PDFs. We find that they have constraining power on the light-quark sea isospin asymmetry (dbar-ubar)(x) and on the (dbar/ubar)(x) ratio at large longitudinal momentum fraction x values, that they are particularly relevant in the interval 0.25 < x < 0.45, and that their constraints turn out to be compatible with those from DY data in collider experiments (Tevatron and Large Hadron Collider) and in old fixed-target experiments by the FNAL-E605 and FNAL-E866 collaborations. We study the impact of nuclear corrections due to the deuteron target, finding them within 1%in most of the kinematic region covered by SeaQuest. We perform a new proton PDF fit, including SeaQuest data, using the ABMP16 methodology and we compare to other PDF fits, including these data or not yet.

On the basis of S. Alekhin et al. [arXiv:2306.01918]

Collaboration / Activity

Theory

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