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## Quark mass dependence of higher-twist in nucleon structure functions

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Higher-twist effects reflect the physics of quark-quark and quark-gluon correlations that provide unique insights into the dynamics inside hadrons that goes beyond the parton model. These effects are sub-leading (suppressed by powers of  $1/Q^2$ ) but crucial for quantitative analyses and precision tests of QCD. By their nature higher-twist contributions are non-perturbative. In this contribution, we report on QCDSF Collaboration's calculations of the Compton amplitude on 2+1-flavour ensembles with varying quark masses corresponding to  $m_\pi = [410, 360, 300, 265]$  MeV, at a fixed volume of  $V = 48^3 \times 96$  and coupling  $\beta = 5.65$  ( $a = 0.068(3)$  fm). By extracting the lowest even isovector moment of the nucleon  $F_2$  structure function, we quantify the quark mass dependence of the higher-twist effects. Our preliminary results indicate a significant quark mass dependence towards the low- $Q^2$  ( $\sim 1 \text{ GeV}^2$ ) region.

### Parallel Session (for talks only)

Structure of hadrons and nuclei

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