

Higher twist effects in small x neutrino DIS

The non-conservation of charmed-strange current in the neutrino deep inelastic scattering strongly affects the longitudinal structure function, F_L , at small values of Bjorken x . The corresponding correction to F_L is a higher twist effect enhanced at small- x by the rapidly growing gluon density factor. As a result, the component of F_L induced by the charmed-strange current prevails over the light-quark component and dominates $F_L = F_L^{cs} + F_L^{ud}$ at $x \lesssim 0.01$ and $Q^2 \sim m_c^2$. The color dipole BFKL analysis clarifies the physics behind the phenomenon and provides a quantitative estimate of the effect.

Primary author: ZOLLER, Vladimir (ITEP, Moscow)

Presenter: ZOLLER, Vladimir (ITEP, Moscow)

Track Classification: Diffraction in DIS