

QCD analysis of $xF_3(x, Q^2)$ structure function up to NNLO

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We present the results of non-singlet QCD analysis of $xF_3(x, Q^2)$ structure function in NLO and NNLO which are performed based on charged current (CC) neutrino-nucleon deep inelastic scattering (DIS). In this analysis we extract the valence quark parton distributions $xu_v(x, Q^2)$ and $xdv(x, Q^2)$ in a wide range of x and Q^2 , and determine their parameterization in two different scenarios with the correlated errors using xFitter package. We determine the strong coupling of Undefined control sequence α_s up to NNLO and perform a comparison with other determinations of Undefined control sequence α_s in deeply inelastic scattering. Our results for valence quark distributions and the strong coupling constant at NLO and NNLO are compatible with the available theoretical models.

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