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Charged Current DIS at three loops

Thursday 27 September 2007 15:30 (30 minutes)

In this presentation I would like to discuss technical and computational problems on the derivation of the perturbative QCD corrections to three loops for the charged current structure functions F_2, F_L and F_3 for deep-inelastic neutrino-proton scattering in the combination “nu P - nubar P”. In leading twist approximation we calculate the first six odd-integer Mellin moments in the case of F_2 and F_L and the first five even-integer moments in the case of F_3 . As a new result we obtain the coefficient functions to O(alpha_s^3) while the corresponding anomalous dimensions agree with known results in the literature.

Based on preprint

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