

Variable-flavour-number scheme in the analysis of heavy-quark electro-production data

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We perform QCD fit of parton distribution functions (PDFs) based on the existing inclusive DIS data supplemented by the Drell-Yan ones. The DIS heavy-quark contribution is calculated in the variable-flavour-number (VFN) scheme with the heavy-quark PDFs generated from ones of the fixed-flavour-number (FFN) scheme using the matching conditions by Buza-Matiounine-Smith-van Neerven. Comparison to the variant of analysis within the FFN scheme is performed. Prediction of the two variants of fit are compared to the heavy-quark electro-production data by the HERA experiments. Applications for the LHC phenomenology are considered.

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