

# NLO corrections for DIS structure functions in the dipole factorization

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In the regime of low Bjorken  $x$ , Deep Inelastic Scattering (DIS) is better described within the dipole factorization formalism, which allows to take into account the nonlinear effects of gluon saturation as well as the resummation of the high-energy leading logarithms (LL).

So far, phenomenological studies have been performed successfully at LO in the dipole factorization, with high-energy LL resummation, in the context of DIS at HERA and pp, pA and AA collisions at the LHC and RHIC. However, in order to reach a decent precision for the theory, NLO corrections should be included, as well as high-energy NLL resummations. This is important not only to fully benefit from the precision of HERA and LHC data, but also in prevision of a future electron-ion collider.

In this talk, I will present a full calculation of the (fixed order) NLO corrections to DIS structure functions on a dense target in the dipole factorization picture. By contrast to earlier studies, both the quark-antiquark-gluon and quark-antiquark Fock state contributions to the NLO corrections are explicitly calculated.

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