

Next-to-Leading Order virtual correction to Higgs-induced DIS

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We calculate the Next-to-Leading Order (NLO) virtual correction to the Higgs-induced DIS coefficient function in the infinite top-mass limit. Since we want to use this result in the framework of kt-factorization to resum small- x logarithms up to Next-to-Leading-Logarithm (NLL), we work in light-cone gauge and we keep the incoming gluon off-shell. This choice raises many challenging points like the presence of spurious singularities and a different definition for the UV-counterterms. This calculation is a necessary ingredient for the coefficient function that will be used to resum up to NLL small- x logarithms for this process.

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