NLO QCD Corrections to Inclusive Jet and Hadron Production in DIS

We analyze the order a2s corrections to the single inclusive jet and hadron cross sections in lepton-nucleon deep inelastic scattering. The full calculations are done analytically, obtaining finite NLO partonic level cross sections for these processes. We show that in both cases the dominant partonic mechanism starts at order a2s, being effectively a lowest order estimate, with the consequent large factorization scale uncertainty, and the

likelihood of non-negligible corrections at the subsequent order in perturbation theory.

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