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Precise predictions for the production of jets in deep inelastic scattering

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The production of hadronic jets in deep-inelastic lepton-proton scattering (DIS) is sensitive both to the strong and electroweak sectors of the Standard Model and constitutes one of the most precise probes to study the inner structure of the proton. It further provides crucial constraints on the flavour composition of the proton and thus in the extraction of parton distribution functions.

I will present precise QCD predictions to the jet-production process in DIS at $O(\alpha_s^3)$ both for the neutral- and the charged-current process. These results pave the way for precision phenomenology using jet observables at future lepton-proton colliders.

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