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Precise predictions for photon pair production

Wednesday 8 September 2021 15:20 (20 minutes)

In this talk I will present a new NNLO calculation for the photon pair production process at the LHC where the 0-jettiness resolution variable is resummed to NNLL' accuracy. This higher-order resummation is based on a factorisation formula derived within Soft-Collinear Effective in the small 0-jettiness region. Then I will discuss the implementation of this process within the Geneva Monte Carlo framework by focusing on the photon isolation algorithm to remove final-state QED singularities. The partonic events are then showered and hadronised using Pythia8 while retaining the NNLO QCD accuracy for observables which are inclusive over the additional radiation. I will finally show comparisons of our predictions to LHC data at 7 TeV.

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