

# NNLO Photon Production with Realistic Photon Isolation

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Up to now, NNLO QCD calculations of photon production cross sections applied an idealised photon isolation procedure, which differs from the isolation used in experiments. We present first numerical results for NNLO QCD predictions of isolated photon cross sections at the LHC with a realistic cone-based isolation. Photon fragmentation processes are included for the first time at NNLO, by extending the antenna subtraction method to handle infrared-singular parton-photon configurations while retaining the information on the photonic energy inside the collinear parton-photon cluster. We describe how these singularities are subtracted in antenna subtraction using new fragmentation antenna functions and outline their integration.

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