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## Probing QCD with Photons and Jets produced in proton-proton collisions with the ATLAS Detector

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The production of jets and prompt isolated photons at hadron colliders provides a stringent test of perturbative QCD at the highest energies. These processes can also be used to constrain the proton structure.

Recent measurements obtained using data collected by the ATLAS detector at a center-of-mass energy of 8 TeV and 13 TeV will be presented. These include the measurements of the inclusive jet and multi-jet production cross-section as well as measurements of the cross-section of inclusive prompt photon and di-photon production. The study of the dynamics of isolated photon plus jet production in proton-proton collisions will also be discussed.

All results are compared with state-of-the-art theory predictions at NLO in pQCD, interfaced with different parton distribution functions.

Finally, a determination of the strong coupling constant based on the measurement of the transverse energy-energy correlation function and its associated azimuthal asymmetry in events with high transverse momentum jets will be presented.

### Summary

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