

# Measurements of jet and photon production in pp collisions with the ATLAS detector (20+10min)

*Tuesday 1 September 2015 16:30 (30 minutes)*

Cross sections for jet and isolated photon production in pp collisions have been measured by the ATLAS collaboration at 7 and 8 TeV. Double-differential cross sections for inclusive, di, and tri-jet final states are measured and compared to expectations based on next-to-leading order QCD calculations as well as to next-to-leading order Monte Carlo simulations. First LHC Run2 results will be included if available. Cross-sections for four-jet production in 8 TeV pp collisions are measured differentially in a variety of kinematic variables, and are compared to a range of leading order Monte Carlo calculations as well as to state-of-the-art next-to-leading order fixed-order calculations. The observables studied include the momenta, masses, minimum and maximum angles between two or three jets, amongst others. Inclusive prompt photon cross sections have been measured precisely over a wide range of transverse momenta at different centre of mass energies. These experimental results are compared to next-to-leading order QCD calculations with different models of the parton content of the proton.

**Primary author:** FERRARI, Arnaud (Uppsala University (SE))

**Co-author:** PADILLA ARANDA, Cristobal (IFAE-Barcelona (ES))

**Presenters:** DE LA TORRE, Hector (Universidad Autonoma de Madrid-Unknown-Unknown); DE LA TORRE PEREZ, Hector (Universidad Autonoma de Madrid (ES))

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