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## Measurements of $t\bar{t}+X$ using the ATLAS detector

*Saturday, 8 July 2017 09:00 (15 minutes)*

The large centre-of-mass energy available at the proton-proton collider LHC allows for the copious production of top quark pairs in association with other final state particles at high transverse momenta. The ATLAS experiment has measured several final state observables that are sensitive to additional radiation in top anti-top quark final states. Results on the top production in association with W and Z bosons are presented as well as top pair production with a photon or with b quarks. Analyses probing the top pair production with additional QCD radiation include the multiplicity of jets for various transverse momentum thresholds in the 13 TeV data. These measurements are compared to modern Monte Carlo generators based on NLO QCD matrix element or LO multi-leg matrix elements.

### Experimental Collaboration

ATLAS

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