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ATLAS standard Model Measurements using Jet grooming and substructure

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Boosted topologies allow to explore Standard Model processes in kinematical regimes never tested before. In such LHC challenging environments, standard reconstruction techniques quickly hit the wall. Targeting hadronic final states means to properly reconstruct energy and multiplicity of the jets in the event. In order to be able to identify the decay product of boosted objects, i.e. W bosons, $t\bar{t}$ pairs or Higgs produced in association with $t\bar{t}$ pairs, the ATLAS experiment is currently exploiting several algorithms using jet grooming and jet substructure. This contribution will cover the following ATLAS measurements: the production of W plus high transverse momentum jets, $t\bar{t}$ differential cross section production and the search for $t\bar{t}H$ production with boosted top quarks final states. Standard Model measurements offer the perfect field to test the performances of new jet tagging techniques which will become even more important in the search for new physics in highly boosted topologies.

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