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Precision measurements using jet substructure techniques at ATLAS(20'+10')

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We present precision measurements of Z⊠ and Z+jet production utilising jet substructure techniques. They are performed at √s=13 TeV using the ATLAS detector. In the first measurement, the Z boson is reconstructed in the Z⟶b bbar decay channel, with both b-quarks contained within a large-radius high-transverse-momentum jet that is subsequently groomed to remove contributions from underlying events and additional proton-proton collisions. The Z⟶b bbar decay is identified using b-tagged track-jets. The measurement is performed twice using two grooming techniques, trimming and soft-drop. The fiducial cross-sections are measured and differential cross-sections for the b bbar invariant mass are presented. In addition, if available, a measurement of kinematic variables in events with a leptonically-decaying Z-boson and a large-radius high-transverse momentum trimmed jet are presented. Differential cross sections are measured in two phase space regions defined by the large R-jet having zero or two b-tagged track-jets.

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