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Study of bottom quark fragmentation in top quark pair production with the ATLAS experiment at the LHC

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In this contribution a measurement is presented of several observables that are sensitive to the fragmentation of b-quarks. The measurement is based on an analysis of 36 fb−1 of sqrt(s)=13 TeV LHC data. Jets containing b-hadrons are obtained from a sample of dileptonic ttbar events. The associated set of charged-particle tracks is separated into those from the primary pp interaction vertex and those from the displaced b-decay secondary vertex and used to construct high-resolution observables which characterize the longitudinal and transverse momentum distributions of the b-hadron within the b-jet. The corrected results are found to agree with the predictions of modern Monte Carlo parton-shower generators. These measurements complement similar measurements from e+e− collider experiments in which the b-quarks originate from a color-singlet Z/γ⋆.

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