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Measuring the b-tagging Efficiency in ATLAS

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The identification of jets containing b hadrons is essential for many different searches and measurements on ATLAS. A calibration of the b-jet identification efficiency is presented for several different algorithms, using data collected by the ATLAS detector in 2016 corresponding to an integrated luminosity of 11.6 fb of proton-proton collisions at a center-of-mass energy of 13 TeV. The calibration technique relies on a sample of jets containing a muon with the jet cone, where the component of the muon momentum perpendicular to the jet axis provides an effective discriminant on a statistical basis for distinguishing jets originating from bottom quarks from jets originating from charm quarks, light flavor quarks or gluons.

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