MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

Contribution ID: **166** Type: **Presentation**

Measuring the b-tagging Efficiency in ATLAS

Tuesday, 1 August 2017 14:42 (18 minutes)

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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Session Classification: Quark and Lepton Flavor

Track Classification: Quark and Lepton Flavor