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Recent Developments in ATLAS Flavor Tagging: Algorithm and Calibration

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The ability to identify jets containing b-hadrons (b-jets) is of essential importance for the scientific program of the ATLAS experiment. Cutting-edge machine learning techniques underpin the design of the algorithms used to identify b-jets. Their performance is measured thoroughly in data, for each jet flavour, and used to correct the simulation. The scope of the algorithm and calibration is also expanding to cover more energetic and boosted regimes. In this talk, a summary on the recent developments is given. It presents the state-of-art ATLAS flavour tagging algorithm design and performance, which will be part of the ATLAS Run 3 baseline b-tagger. In addition, new calibration results are shown including the light jet mis-tag rate calibration using Z + jets events and the b-tagging efficiency calibration using multijet events.

In-person participation

Yes

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Session Classification: Operation, Performance and Upgrade (Incl. HL-LHC) of Present Detectors

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