

## **b-jet calibration in ATLAS**

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The precise measurement of the jet energy and mass scales are a crucial input to many physics measurements that use the proton-proton collision data recorded by the ATLAS detector at the LHC. The energy determination of quark jets, which originate from bottom quarks, is challenging as, for example, these types of jets can contain leptonic heavy-flavour decays into a charged lepton and an unobservable neutrino. This document reports on a novel calibration technique for b-quark jets using the transformer architecture to estimate the true energy of the b-quark jets. Separate algorithms have been developed to estimate the b-quark momentum of jets clustered with a single b-hadron and the energy and mass of jets that contain two b-quarks. This poster also includes a discussion on how to estimate the jet energy resolution in data.

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