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Tagging b-jets in ATLAS

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Please give a brief summary of your poster

The ability to identify jets containing b-hadrons is important for the high-pT physics program of a general-purpose experiment at the LHC such as ATLAS. This is in particular useful to select very pure top samples, to search and/or study Standard Model or supersymmetric Higgs bosons which couple preferably to heavy objects or are produced in association with heavy quarks, to veto the large dominant ttbar background for several physics channels and finally to search for new physics: SUSY decay chains, heavy gauge bosons, etc. After a review of the algorithms used to identify b-jets, their anticipated performance is discussed as well as the impact of various critical ingredients such as the residual misalignments in the tracker. The prospects to measure the b-tagging performance in the first few hundreds pb-1 of data with di-jet events and ttbar events are then discussed. Finally three different use cases are discussed: the top mass measurement, the search for a low-mass Higgs boson produced in association with a top quark pair and decaying to bbbar, and the specific challenges of tagging very high-pT (TeV) jets for exotics search

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