

Boosted object identification and their usage in searches for new physics in ATLAS

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Many searches for physics beyond the Standard Model make use of large radius jets to reconstruct hadronically decaying electroweak bosons or top quarks with high transverse momenta. Algorithms have been developed in ATLAS that take advantage of the different radiation pattern within the large radius jet depending on the initiating particle to efficiently reject quark- or gluon-initiated jets from background processes. The performance of these algorithms, their calibration in data, and their usage in analysis will be presented. The sensitivity enhancement in searches for new physics resulting from the usage of these algorithms will be demonstrated based on recent analyses searching for new resonances whose decays contain hadronically-decaying massive particles.

I read the instructions

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