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Tagging boosted decays using large-radius jets with ATLAS

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The ATLAS experiment has extensively explored tagging boosted hadronic objects, especially W/Z bosons and top quarks, using featured-based techniques and machine-learning combinations of features. A variety of tagging algorithms for large-radius jets, reconstructed from unified-flow-objects (UFOs), are presented to identify jets containing the hadronic decay of W/Z bosons and top quarks, including both cut-based taggers and machine learning discriminants. The performance of new UFO jet-based taggers will be compared to the taggers deployed in ATLAS during Run-2 for jets reconstructed sole from calorimeter deposits. The performance of these new taggers is quantified, and where possible compared to existing techniques. The new final state targets enable exciting new sensitivity to final states beyond the traditional boosted object tagging.

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