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Large R jet reconstruction and calibration algorithms (ATLAS)

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Large-R jets are used by many ATLAS analyses working in boosted regimes. ATLAS Large-R jets are reconstructed from locally calibrated calorimeter topoclusters with the Anti- $k_{\{t\}}$ algorithm with radius parameter $R=1.0$, and then groomed to remove pile-up with the trimming algorithm with $f_{\{cut\}} 0.05$ and subjet radius $R=0.2$. Monte Carlo based energy and mass calibrations correct the reconstructed jet energy and mass to truth, followed by in-situ calibrations using a number of different techniques. Large-R jets can also be reconstructed using small-R jets as constituents, instead of topoclusters, a technique called jet reclustering, or from track calo clusters (TCCs), which are constituents constructed using both tracking and calorimeter information. An overview of large-R jet reconstruction will be presented here, along with selected results from the jet mass calibrations, both Monte Carlo based and in-situ, from jet reclustering, and from track calo clusters.

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