

SMARTHEP network: Studies on online vs. offline jet energy corrections at CMS

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SMARTHEP is an Innovative Training Network, bringing together researchers from all major four LHC collaborations and partners from industry, all working on real-time analysis. In this contribution, I will present work on intertwining the online and offline calibration of jets at CMS. We investigate the transverse momentum response between high level trigger (HLT) and several types of offline jets. We conduct our analysis in the coffea framework, a columnar analysis tool.

While the online reconstruction is simplified compared to the offline reconstruction, an increasing amount of analyses exploit the extended phase space accessible with scouting data also for complex analyses. Performing statistics-limited parts of the jet calibration with online jets and merging it with high-precision offline reconstructed jets promises improved calibrations for both online and offline analyses.

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