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【355】Extracting the jet energy resolution from pileup collisions

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Pileup, or the presence of multiple independent proton-proton collisions within the same bunch-crossing, is critical to the production of enormous datasets at the LHC. However, the typical LHC physics analysis only considers a single collision in each bunch crossing; the pileup collisions are viewed as an annoyance to be rejected. By reconstructing these pileup collisions, it is possible to access an enormous dataset of hadronic physics processes.

In this contribution, we demonstrate the extraction of a physical quantity, the jet energy resolution, using data recorded by the ATLAS Detector during Run 2 of the LHC. Comparisons of results using pileup collisions with those from the traditional dataset are presented.

Primary authors: PIRTTIKOSKI, Antti (Universite de Geneve (CH)); MORENO MARTINEZ, Carlos (Universite de Geneve (CH)); ALVES CARDOSO, Mario (Universite de Geneve (CH)); SCHRAMM, Steven (Universite de Geneve (CH)); ČEPAITIS, Vilius (Université de Genève (CH))

Presenter: PIRTTIKOSKI, Antti (Universite de Geneve (CH))

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