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Inclusive jet measurements and unfolding studies in proton-proton collisions at sqrt(s) = 2.76 TeV and 7 TeV with the ALICE experiment

Jets, collimated sprays of particles associated with hard partons, are an invaluable tool in testing QCD and probing structure and properties of hot and dense nuclear matter created in high energy heavy-ion collisions. Jets enable us to study the evolution from hard-scattering through fragmentation to hadronisation and test modification of these processes in presence of nuclear medium with respect to measurements in vacuum. The unmodified baseline can be acquired from jet measurements in proton-proton collisions.
We have analysed data from proton-proton collisions at sqrt(s) = 2.76 TeV and 7 TeV measured by the ALICE detector system at the LHC and reconstructed the inclusive spectra of charged particle jets using modern k_t and anti-k_t clustering algorithms at mid-rapidity. The measured jet spectra were corrected for detector effects using unfolding and we will present a detailed study of this procedure. In particular, we will make a comparison of the results obtained using Bayesian unfolding and unfolding utilising Singular Value Decomposition of the detector response matrix. The corrected results will be compared to fully reconstructed jets in ALICE using both charged and neutral particles as well as to other LHC experiments.

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