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Jet substructure measurements in Pb-Pb collisions at 5.02 TeV with ALICE

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We report new jet substructure measurements in Pb-Pb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV with the ALICE detector. For the first time, fully corrected measurements of the groomed jet momentum fraction, z_g , the groomed jet radius, $\theta_g \equiv R_g/R$, and the number of Soft Drop splittings, n_{SD} , will be shown in Pb-Pb collisions, along with their ratio to those in pp collisions. We present results with the Soft Drop grooming method for multiple grooming settings, as well as with the Dynamical grooming method. By using stronger grooming conditions and improved background subtraction techniques, these results are fully corrected and can be directly compared to theoretical models of jet quenching - avoiding the large background contamination present in previously reported observables. Additional jet substructure measurements will be shown and compared to recent theoretical predictions, featuring the Lund plane map of radiation phase space and its projections onto distributions of the splitting scale k_T , and the angular distribution between the groomed and ungroomed jet axis.

Collaboration (if applicable)

ALICE

Track

Jets and High Momentum Hadrons

Contribution type

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