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Study of jet modifications in heavy-ion collisions by investigating intra-jet properties and dijet asymmetry using JEWEL

Besides the measurements of inclusive jet yield and its modification in heavy-ion collisions compared to that in proton-proton (jet RAA), there is considerable interest in the measurements of intra-jet properties like jet shape, fragmentation function (FF) etc. These observables are seen to be sensitive to the microscopic details of jet-medium interactions and provide insights on the redistribution of lost-energy in and out of the jet-cone. In this presentation, we will show the modification of radial momentum distributions of the jet-constituents in central Pb-Pb collisions at 2.76 TeV and 5.02 TeV, using JEWEL (Jet Evolution With Energy Loss) for inclusive jets. To further investigate the medium influence on the jet energy loss, we repeat the study for leading and sub-leading jets in unbalanced dijet pairs by splitting our data sample into different ranges of dijet asymmetry parameter (AJ). Additionally, the background subtraction effect on such observables will also be presented.

Summary

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