

Hard Substructure of Jets Probed in p-Pb collisions

Collisions of ultrarelativistic heavy ions provide an opportunity to investigate strongly interacting matter under extreme energy densities and temperatures. Interaction of hard scattered partons with the hot and dense medium leads to a suppression of the observed jet yields, known as jet quenching. Along with other experimental approaches, studies of the jet substructure have the prospects of providing valuable information about jet quenching mechanisms. One of the jet substructure observables is the transverse momentum distribution of hard subjects probed with the Soft Drop algorithm. This algorithm removes soft large-angle components of a jet and identifies a pair of subjects that forms a hard splitting. The momentum balance of the pair is characterized by the z_g observable defined as the fraction of the groomed jet's transverse momentum carried by the softer subject. In pp collisions the distribution of z_g is linked to the vacuum QCD splitting functions. It is interesting, therefore, to search for a possible modification of the z_g distribution in proton-nucleus collisions due to the presence of cold nuclear matter. We present the status of the jet substructure analysis with Soft Drop using the data collected by the ALICE experiment in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV.

Preferred Track

Jets and High pT Hadrons

Collaboration

ALICE

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