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A step towards tagging of quenched jets

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Measurements of jet substructure have augmented substantially the scope of jet quenching studies by arguably giving experimental access to single splitting jet properties and possibly allowing for the identification of QGP response contributions to a jet. We show that jet substructure observables provide a path to measure how quenched a jet is without the need for comparison with other states in the event (eg, an electroweak boson). By exploring the flexibility of the Soft Drop procedure, we identify cuts (ie, Soft Drop parameters) that act as a, background insensitive, jet quenching classifier. This, so far elusive, classification allows for the robust identification of strongly quenched jets from which stringent constraints on jet quenching mechanisms can be extracted.

Summary

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