

Flavour Tagging with Jet Substructure

Jets are collimated bunches of hadrons ubiquitous in the detectors at the LHC. Studying the internal structure of these objects is essential to identify the original objects that originate the jet and to understand the underlying physical process. An important category of Jet Substructure (JSS) observables are *Jet Angularities* which have been recently calculated in resummed perturbation theory [1, 2] and measured in the Z+Jet and dijet processes at the LHC.

In this talk I will discuss how Jet Angularities can be exploited to define an infrared and collinear safe jet flavour tagger considering a recently proposed [3] application in the context of the Z+Jet process. In particular, by tagging the final state jet as quark-initiated we have been able to enhance the initial-state gluon contribution. I discuss new resummed theoretical predictions for the transverse momentum distributions of events selected by the tagger which would be potentially interesting to probe the gluonic degrees of freedom of the colliding protons.

References

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