

# Novel approach to measure quark/gluon jets at the LHC

*Tuesday 25 April 2023 09:30 (20 minutes)*

In this talk, we present a new proposal on how to measure quark/gluon jet properties at the Large Hadron Collider (LHC). Our measurement strategy takes advantage of the fact that the LHC has collected data at different energies and focuses on measuring jet angularities. By studying these angularities, we aim to enrich statistically the given data sample by quark or gluon jets based on derived quark and gluon angularities.

The measurement of quark/gluon jet properties is important in understanding the underlying physics of high-energy collisions. The proposed measurement strategy has the potential to improve the separation ability of the background of these measurements and provide a deeper understanding of the properties of quark/gluon jets.

We will discuss the details of the measurement strategy, including the theoretical basis for jet angularities and the experimental techniques for measuring them. We will also present preliminary results from our phenomenological analysis of samples generated by Herwing and Pythia event generators using this approach.

Overall, our proposed measurement strategy provides a promising new avenue for studying quark/gluon jet properties at the LHC, and has the potential to deepen our understanding of the fundamental building blocks of matter.

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**Session Classification:** Student and Postdoc talks