

Exploring Jet Substructure in Semi-visible jets

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In this work, several jet substructure observables have been examined to compare semi-visible jets and light quark/gluon jets. These comparisons were performed using different dark hadron fraction in the semi-visible jets (signal). The extreme scenarios where signal consists either of entirely dark hadrons or visible hadrons offers a chance to understand the effect of the specific dark shower model employed in these comparisons. We attempt to decouple the behaviour of jet-substructure observables due to inherent semi-visible jet properties, from model dependence owing to the existence of only one dark shower model.

Primary authors: KAR, Deepak (University of Witwatersrand); SINHA, Sukanya (University of Witwatersrand)

Presenter: KAR, Deepak (University of Witwatersrand)

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