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# Exploring jet substructure in semi-visible jets

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Semi-visible jets arise in strongly interacting dark sectors, where parton evolution includes dark sector emissions, resulting in jets overlapping with missing transverse momentum. The implementation of semi-visible jets is done using the Pythia Hidden valley module to duplicate the dark sector showering. 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. Looking at the different dark hadron fractions additionally, allows to check whether the substructure is created by the interspersing of visible hadrons with dark hadrons, or from certain model dependencies.

## Preferred track

Jets & QCD at High Scales

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