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SIFTing for dark shower signals

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I present ongoing work seeking to identify the presence of dark shower phenomena in otherwise ordinary-seeming jets using jet substructure techniques with a particular focus on the recently-proposed SIFT algorithm. The aim is to explicitly identify the mass scale signature of the dark shower products which then promptly decay back into SM quarks, giving effectively normal-looking SM jets. This is the most challenging case for detecting dark shower activity; if we can differentiate this from QCD the same tools should be useful to sharpen semi-visible or emerging jet searches as well.

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