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Jet SIFT-ing for New Physics in a Hidden Valley

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We consider a Hidden Valley model which generates showering from strong dynamics within the dark sector followed by decays back into Standard Model states. Our interest is the limit of smaller dark pion masses, which create a high multiplicity of final states. The reconstruction of dark sector masses in such a setting is obscured by a thick combinatoric background. We apply the new SIFT (Scale-Invariant Filtered Tree) jet clustering algorithm to the reconstruction of simulated events of this type. By cutting an ordered slice through possible recombinations, the SIFT algorithm may help lift backgrounds of the described variety.

Mini Symposia (Invited Talks Only)

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