

Abstract Submitted  
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**Jet Finding Efficiencies for Single and Multiple Matched Partons<sup>1</sup>**

CAYLA STIFLER, Providence College, CMS COLLABORATION — One of the primary goals of the second Run of the LHC is to search for supersymmetric (SUSY) particles. One particular SUSY model is where supersymmetric tops, stops, are produced by violating the symmetry of R-parity. SUSY searches with a final state of jets are promising search channels for stop searches, and for heavy stops can decay to a final state of partons that become merged into a single jet with some substructure. The merged jet can be studied by making smaller subjets corresponding to smaller parton showers. I looked at the optimal jet cone size for different jet algorithms with different generators to simulate the fragmentation of the partons. This technique provides an alternative to using substructure variables to discriminate merged jets from those that come from a single parton. A potential advantage of such a technique is the reduction of pile up included in the jet.

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