

# Pulling Out All the Stops: A Jet Substructure Search for Light Stops Decaying via Baryonic RPV

*Thursday, 15 August 2013 16:00 (20 minutes)*

If the lighter stop eigenstate decays directly to two jets via baryonic R-parity violation, it could have escaped existing LHC and Tevatron searches, even for masses as small as 100-GeV. The traditional approach to such a direct RPV stop pair search is to identify a bump in the joint spectrum of dijet pairs in four-jet events. However, this style of search seems to be in a losing race. As luminosity rises, so too do multijet trigger thresholds, and the mass ranges of searches are being forced to slide upwards before exclusion-level sensitivity can be achieved. In order to recapture sensitivity to light RPV stops in the face of increasingly harsh trigger requirements, we propose a search for stop pairs in the highly-boosted regime, using the well-tested approaches of jet substructure.

## APS member ID

60050876

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**Session Classification:** Physics Beyond the Standard Model

**Track Classification:** Physics Beyond the Standard Model