

## Light RPV stops hiding in the LHC data

*Tuesday 21 May 2013 14:00 (25 minutes)*

I will discuss the 8 TeV LHC reach on pair produced heavy flavored di-jet resonances. Motivated by theories of R-parity violation in supersymmetry I will concentrate on a final state with two b-jets and two light jets. I will exploit b-tagging to reject the background and discuss its importance at the trigger level to probe light stops. I will also present kinematical selections that can be used to isolate the signal as a bump in the mass distribution of the candidate resonances. As a result I will show that stops with R-parity violating couplings giving rise to fully hadronic final states can be found in the present LHC dataset. Remarkably, the LHC can probe stop masses well within the range predicted by naturalness.

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**Session Classification:** Parallel Session on LHC