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CP-violation in stop cascade decays at the LHC

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We study the potential to observe CP-violating effects in top squark cascade decay chains at the LHC. Asymmetries composed by triple products of momenta of the final state particles are sensitive to CP-violating effects. Due to large boosts that dilute the asymmetries, these can be difficult to observe. If all particle masses in a cascade decay are known, it may be possible to reconstruct the decay chains on an event-by-event basis even when we have missing momentum due to the LSP. After the reconstruction, the CP violating signal gets significantly enhanced and an observation may become feasible. The most important background and experimental effects have been included.

Primary author: Mr ROLBIECKI, Krzysztof (IPPP Durham)

Presenter: Mr ROLBIECKI, Krzysztof (IPPP Durham)

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