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## Proposing a new LHC search for light compressed stop squarks

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The LHC searches for light compressed stop squarks have resulted in considerable bounds in the case where the stop decays to a neutralino and a charm quark. However, in the case where the stop decays to a neutralino, a bottom quark and two fermions via an off-shell  $W$ -boson, there is currently a significant unconstrained region in the stop-neutralino mass plane, still allowing for stop masses in the range 90–140 GeV. In this talk I will propose a new monojet-like search for light stops, optimized for the four-body decay mode, in which at least one  $b$ -tagged jet is required. I will show that, already by using the existing 8 TeV LHC data set, such a search would cover the entire unconstrained region.

### additional information

The talk will be based on the paper “Monojet-like searches for top squarks with a  $b$ -tag”, done in collaboration with Roberto Franceschini, Riccardo Torre and Gabriele Ferretti, and published in Physical Review Letters (PRL 114, 201801),  
<http://journals.aps.org/prl/pdf/10.1103/PhysRevLett.114.201801>

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