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Search for Supersymmetry with Vector Boson Fusion-like Topology via Dedicated VBF Trigger

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A search for supersymmetry (SUSY) using vector-boson fusion (VBF) tagged jets is presented using 19.5 fb^{-1} of data from proton-proton collisions at center of mass energy of 8 TeV, collected by the CMS detector in 2012. Final states containing at least two leptons are expected in pair production of charginos and neutralinos. The LHC has started its operation at 13 TeV in June 2015, where we repeat the same analysis, but by using a newly implemented VBF Trigger. This will improve search sensitivity for compressed-mass spectra in SUSY even in a high-luminosity environment. We show the performance of the new trigger and some studies based on detector performance.

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