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Boosted multi-Higgs with jets measurements in CMS

Monday, 31 July 2023 18:00 (1 minute)

Characterising double-Higgs production has been a major part of the LHC physics program in Run 2 and beyond. We discuss new techniques and results in boosted, hadronic final states in CMS, with a focus on wide-radius jet taggers and data-driven multi-jet background estimation, as well as measurements of gluon-gluon- and vector-boson-fusion HH production in the 4 beauty quark final state in 138fb^{-1} of data at \sqrt{s} = 13 TeV, which observed (expected) a cross section of 9.9 (5.1) relative to the SM prediction and excluded the quartic VVHH coupling \kappa_{2V} = 0 for the first time. Finally, we look ahead to possible new final states and improvements to triggers and techniques in Run 3.

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