Contribution ID: **1166**   Type: **Parallel session talk**

Searching for H→hh→bbττ in the 2HDM Type-I at the LHC

Saturday, 20 July 2024 17:53 (17 minutes)

In the framework of the two Higgs doublet Model (2HDM) type-1, we investigate the scope of the LHC in accessing the process $gg \to H \to hh \to b\bar{b}\tau\tau$ by performing a Monte Carlo (MC) analysis aimed at extracting this signal from the SM backgrounds, in the presence of a dedicated trigger choice and kinematical selection. We prove that some sensitivity to such a channel exists already at Run 3 of the LHC while the High-Luminosity LHC (HL-LHC) will be able to either confirm or disprove this theoretical scenario over sizable regions of its parameter space.

Alternate track

1. Beyond the Standard Model

I read the instructions above

Yes

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