

## Searching for resonances in the Higgs cascade decay

*Thursday, 15 February 2018 13:50 (20 minutes)*

We investigate the Higgs cascade decay in the extended Higgs sector. We considered the process  $pp \rightarrow H^0 \rightarrow H^\pm W^\mp \rightarrow btw$  where  $H^0$  is heavy Higgs boson,  $H^\pm$  is charged Higgs boson. The final state is same as  $t\bar{t}$  process but the kinematic properties are different. We develop the technique using difference of kinematic properties and multivariable analysis. Our analysis technique improve the sensitivity and may give the possibility to discover the additional Higgs at the LHC or HL-LHC.

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**Session Classification:** Short Talks