



Contribution ID: 96

Type: not specified

Search for non-resonant di-Higgs searches in bb -gamma gamma channel in CMS experiment and diphoton modelling in Herwig

Wednesday 8 December 2021 11:05 (20 minutes)

After the discovery of Higgs boson by CMS and ATLAS experiment in 2012 the current mandate of the LHC is to search for the Higgs Boson self coupling along, which is yet to be measured. CMS and ATLAS are performing the search in different channels of non-resonant Higgs boson production using full Run-2 data taken by LHC. In this context one of the most clear channels is di-Higgs to bb -gamma-gamma final state due to less background and better calorimetric resolution. But it's difficult to estimate the di photon background spectrum along with some jets in Monte Carlo. My talk will cover the basic strategy of di Higgs to bb -gamma-gamma searches in CMS and recent work on the di photon background modelling in Herwig interface under MC-Net project.

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Session Classification: Student talks / Discussion topic