

Study of kinematic observables, sensitive to the Higgs boson production channel in $pp \rightarrow Hjj$ process

Monday, 2 October 2017 15:10 (170)

After the Higgs boson discovery at the LHC, a lot of additional measurements should be performed to make sure that the observed particle is the Standard Model Higgs boson. These measurements include cross sections measurements, couplings measurements, studies of the interaction vertex structures etc. One of the most perspective things to study is the kinematics of the production jets, associated with the Higgs boson. It is demonstrated, that the kinematic correlations of such jets can be used to distinguish different production channels of Higgs boson: gluon-gluon fusion (ggF) and vector boson fusion (VBF). Such separation is important due to the fact, that possible beyond Standard Model contributions in ggF and VBF channels lead to different physics effects, which should be taken into account separately in direct BSM searches.

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Session Classification : Poster session and coffee&reception