Contribution ID: **29** Type: **Poster contribution**

Study of the production modes of the Higgs boson and EFT interpretations in the H -> ZZ* -> 4l decay channel at 13 TeV center of mass energy with the ATLAS detector at LHC.

Friday, 21 April 2017 17:00 (1 hour)

Studies have been performed in order to pose limits on BSM couplings related to additional EFT contributions to the SM Lagrangian. In this picture, the VBF and VH production mechanisms shows a good sensitivity to BSM contributions to the HZZ vertex. Measurements are therefore performed in reduced phase spaces enriched in each production mode, obtained by categorizing the events in fiducial volumes. In each category, multivariate discriminants are built to separate the different production modes contribution and to investigate possible deviations with respect to the SM predictions. The proposed approach allows also to minimize the model dependence. Results are shown in the H -> ZZ* -> 4l decay channel with the 13 TeV data recorded by ATLAS at LHC.

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