Contribution ID: **21** Type: **not specified**

Testing Higgs Sectors with HiggsBounds and HiggsSignals

The experimental collaborations at the LHC have performed and will continue to perform a huge number of searches for (additional) scalars and measurements of the 125 GeV Higgs boson. The public tools HiggsBounds and HiggsSignals assemble the existing limits and measurements, respectively, from the LHC, LEP and the Tevatron to test BSM models with extended Higgs sectors against all available experimental Higgs results. We give an overview of the functionality and discuss new developments in the most recent versions of the codes. These include an improved handling of exclusion likelihoods and extensions to the effective coupling approximation for model predictions in HiggsBounds, as well as updated validations of HiggsSignals for new measurements in the STXS framework. We also comment on possible improvements to the way experimental results are presented.

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Session Classification: Higgs, Flavour and precision

Track Classification: Flavour physics and precision tests