



Contribution ID: 166

Type: not specified

Measuring the 2HDM Scalar Potential: hH Associated Production

Tuesday 6 May 2014 15:00 (15 minutes)

We explore the possibility of probing the scalar potential of the CP-conserving Two Higgs Doublet Model through the production of a light-heavy Higgs boson pair. The hH process is complementary to hh production in providing information about the triscalar couplings. Using multivariate analysis, we determine the LHC14 discovery reach in the $b\bar{b}\gamma\gamma$ and $hh\gamma\gamma \rightarrow b\bar{b}b\bar{b}\gamma\gamma$ channels. The combination of these two channels extends the reach in M_H , with $H \rightarrow b\bar{b}$ sensitive in the low mass range and $H \rightarrow hh$ providing sensitivity for $M_H > 2M_h$.

Primary author: PETERSON, Andrea (University of Wisconsin - Madison)

Presenter: PETERSON, Andrea (University of Wisconsin - Madison)

Session Classification: BSM Higgs III