

Dihedral Angle Observable for Measuring CP Property of Top-Higgs Interaction

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We propose a new dihedral angle observable to measure the CP property of the interaction of top quark and Higgs boson in the $t\bar{t}H$ production at the 14 TeV LHC. We consider two decay modes of the Higgs boson, $H \rightarrow b\bar{b}$ and $H \rightarrow \gamma\gamma$, and show that the dihedral angle distribution is able to distinguish the CP-even and the CP-odd hypothesis at 95% confidence level with an integrated luminosity of $\sim 180 \text{ fb}^{-1}$.

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