Contribution ID: **15** Type: **Offline - Flash talk contributions**

Higgs branching ratios with radiative corrections in various extended Higgs models

We have studied on radiative corrections to observables for the discovered Higgs boson and published the computation program, H-COUP. Current version of H-COUP evaluates the branching ratios with NLO EW corrections and NNLO QCD corrections in various extended Higgs models, i.e., the Higgs singlet model, 4 types of two Higgs doublet models and the inert doublet model. Using the program, we analyzed deviations for the branching ratios from the SM in each extended Higgs model. I will discuss how above models can be separated wth the precise measurement of the branching ratios in the ILC. This talk is based on [S. Kanemura, M. Kikuchi, K. Sakurai, K. Yagyu; Nucl Phys, Nucl. Phys. B949 (2019) 114791; arXiv:1910.12769].

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Session Classification: EF01+02+03+04+07

Track Classification: Session EF01+02+03+04+07: Higgs, EWK, BSM Higgs