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## Triple Higgs boson production at a 100 TeV proton-proton collider

*Sunday 16 July 2023 11:30 (30 minutes)*

We consider triple Higgs boson production at a future 100 TeV proton-proton collider.

We perform a survey of viable final states and compare and contrast triple production to Higgs boson pair production.

Focussing on the  $hhh \rightarrow (bb)(bb)(\gamma,\gamma)$  final state we construct a baseline analysis for the Standard Model scenario and simple deformations demonstrating that the process merits investigation in the high-luminosity phase of the future collider as a new probe of the self-coupling sector of the Higgs boson.

**Presenter:** SAKURAI, Kazuki (University of Warsaw)

**Session Classification:** Closing session