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Type: Talk

Higgs self-coupling measurements in the HL-LHC era: new approaches for the HH->4b final state.

Wednesday 25 August 2021 13:00 (30 minutes)

Searches for pairs of Higgs bosons will be, in all likelihood, the best tools to precisely measure the Higgs boson self-coupling λ_{hhh} in future colliders. We study various strategies for the $hh \rightarrow b\bar{b}b\bar{b}$ search in the HL-LHC era with focus on constraining λ_{hhh} . We implement a machine-learning-based approach to separate signal and background and apply recent advances in machine learning interpretability, compare the traditional 4 *b*-jet reconstruction to final states with 1 or 2 large-radius jets, and test scenarios with different top-quark Yukawa couplings, among other factors.

Based on arXiv:2004.04240.

Is this abstract from experiment?

No

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

Dr. Santiago Paredes Saenz, Université Libre de Bruxelles

Internet talk

No

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Session Classification: Mini-workshop on Machine Learning for Particle Physics