

# Phenomenology 2020 Symposium



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## JHU generator framework: new features for Higgs boson studies

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The JHU generator framework includes an event generator of anomalous HVV and Hff interactions of the Higgs boson in production and decay and a MELA library for matrix element analysis. This framework allows constraints on dimension-six operators of an effective field theory from a joint analysis of on-shell and off-shell production of the Higgs boson and of triple and quartic gauge boson interactions. Gluon fusion, vector boson fusion, and associated production with a vector boson are considered. Potential contributions from new states are included. Associated production with one or two top quarks and gluon fusion process allow access to the CP structure of Yukawa interactions. Practical applications to the EFT analysis of the current and future LHC datasets are discussed.

### Summary

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