

# Phenomenology 2021 Symposium



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Type: **Higgs**

## Merging and Matching in Herwig 7 using HJets

*Wednesday 26 May 2021 18:15 (15 minutes)*

In this talk I will present results of the simulation of electroweak Higgs boson production at the CERN LHC using the Herwig 7 general purpose event generator using one-loop matrix elements via the interface to HJets. The main result will be the simulation of next-to-leading order merging of Higgs boson plus 2 and 3 jets with a dipole parton shower. Additionally, I will comment on non-factorizable radiative corrections to this important Higgs boson production process. I will, also, provide a comparison of the full calculation with the well known t-channel approximation (a.k.a VBF) provided by the parton-level Monte Carlo program, VBFNLO.

### Summary

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**Session Classification:** Higgs IV