Contribution ID: **104** Type: **Parallel session talk**

NNLO+PS predictions for Higgs production via bottom fusion

Thursday 18 July 2024 09:48 (17 minutes)

MiNNLOPS is a method which uses different jet-multiplicities in order to perform QCD simulations at next-to-next-to-leading order (NNLO) accuracy which are naturally combined with Parton Showers (PS) for a realistic description of LHC events. In this talk I summarise the method and our recent implementation for the Higgs production via bottom annihilation (bbH). Although the bbH signal is extremely challenging at the LHC, it is relevant in BSM theories with an enhanced bottom-Yukawa coupling and in the background studies for Higgs-pair production.
Different schemes can be adopted for the calculation since the bottom quark can be considered both a massless (in the five flavour scheme, 5FS) or a massive quark (with four massless flavours, 4FS). I present our NNLO+PS results in 5FS against fixed order predictions as well as resummed calculations. I also show our recent studies in the 4FS setup in order to capture the massive effects at NNLO+PS accuracy for the first time.

Alternate track

I read the instructions above

Yes

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