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Phenomenology of Higgs Bosons in QCD at the LHC

Friday, 2 December 2022 11:00 (15 minutes)

We present a study of Higgs interference effects for the ttbar decay mode at NLO QCD in the 1-Higgs-singlet extension of the Standard Model. Results for stable tops are presented. The interference effects have been studied for different benchmark points with heavy Higgs masses in the range 700–3000 GeV. For this purpose a new Monte Carlo framework has been developed. This has made it possible to study the interference effect between tree-level and loop-induced processes at NLO, and can easily be generalised to work for any loop-induced process.

In addition, I will present H1jet, a fast and easy-to-use program that computes the differential distribution in the transverse momentum of a colour singlet. H1jet can be used by theorists to quickly assess deviations of selected new physics models from the Standard Model behaviour, and quickly obtain distributions of relevance for Standard Model phenomenology.

Declaration

I certify that I have checked that I am authorised to submit the abstract with the listed co-authors with their current affiliations

Change of Speaker

I understand that change of speaker is allowed provided that no participant gives more than one talk. Otherwise, we will ask the speaker to choose between one or the other abstract to be presented.

Primary authors: LIND, Alexander; Dr BANFI, Andrea (University of Sussex); LINDERT, Jonas (University of Sussex); KAUER, Nikolas (Royal Holloway, University of London); WOOD, Ryan

Presenter: LIND, Alexander

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