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# Soft Gluon Resummation for the Associated Single Top and Higgs Production at the LHC

*Monday, 26 July 2021 16:00 (15 minutes)*

Processes involving the Higgs boson and the top quark are of high interest in searches for BSM physics because they allow to directly measure the top Yukawa coupling. Although it has a relatively small cross section, the single top and Higgs production process  $pp \rightarrow Htj$  is particularly sensitive to new physics, calling for precise theoretical predictions. For many processes at the LHC, a reduction of theoretical uncertainties can be achieved by means of resummation techniques, accounting for large logarithmic corrections, which originate from soft gluon emissions. In this talk, we discuss extending the precision with which theoretical predictions for the s-channel  $tHj$  production are known from NLO (next-to-leading order) to NLO+NLL (next-to-leading logarithmic matched to NLO) accuracy.

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## Collaboration / Activity

Theory (Phenomenology)

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