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## Production and decay of the Higgs boson in association with top quarks

*Friday, June 10, 2022 9:00 AM (30 minutes)*

We report on the calculation of the Higgs production and decay in association with top quarks in the dileptonic channel at NLO QCD. All resonant, non-resonant Feynman diagrams and off-shell effects are included for the top quark and  $W$  boson. We examine the size of these off-shell effects by a comparison to the narrow-width approximation. Higgs boson decays are included in the narrow-width approximation. Numerical results are given at the integrated and differential level for various factorisation and renormalisation scales and different PDF sets to assess the main theoretical uncertainties. The impact of bottom quarks in the initial state is investigated.

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