

Production and decay of a heavy boson in association with top quarks

Tuesday, April 26, 2022 9:00 AM (30 minutes)

I will report on the calculation of the NLO QCD corrections to heavy boson production and decay in association with top quark. In the calculation all resonant as well as non-resonant Feynman diagrams, interferences and off-shell effects are included both for the top quark and W gauge boson. Numerical results will be given at the integrated and differential fiducial level for various factorisation and renormalisation scale choices and different PDF sets. I will discuss the main theoretical uncertainties that are associated with neglected higher order terms in the perturbative expansion and with different parametrisations of the PDFs. Furthermore, I will talk about the size of the off-shell effects and show an explicit comparison to the calculation in the full narrow-width-approximation.

Primary author: WOREK, Malgorzata (RWTH Aachen University)

Presenter: WOREK, Malgorzata (RWTH Aachen University)

Session Classification: Plenary 1