

NLO corrections to tri-boson production in the WZjj channel

Thursday, 12 September 2024 11:25 (25 minutes)

Tri-boson production, together with vector-boson scattering and Higgs-strahlung, is a privileged channel to study the EW structure of the Standard Model. Upcoming LHC running stages will soon allow to measure them at unprecedented accuracy and for all possible final states, which requires to push theory predictions to still unexplored frontiers.

In this talk I will present the first calculation for the process $pp \rightarrow \mu^+\mu^-e^+e^-jj$ at the LHC in a tri-boson phase space. All LO contributions have been accounted for, namely the $O(\alpha^6)$, which contains the genuine tri-boson signature, and the $O(\alpha_s \alpha^5)$ and $O(\alpha_s^2 \alpha^4)$, together with the two $O(\alpha^7)$ and $O(\alpha_s \alpha^6)$ NLO corrections. After having discussed some technical aspects of the computation, I will show some phenomenologically relevant results for the integrated and differential cross-sections.

Primary author: LOMBARDI, Daniele (Universität Würzburg)

Presenter: LOMBARDI, Daniele (Universität Würzburg)

Session Classification: Electroweak and Higgs Physics, EFT and BSM

Track Classification: Electroweak and Higgs Physics, EFT and BSM