Contribution ID: 2

Towards three loop amplitudes for V/H+jet production

Tuesday 16 April 2024 18:00 (30 minutes)

I will present recent developments in the computation of N3LO corrections to vector boson + Jet production and Higgs + Jet production in QCD.

N3LO corrections to these processes are needed to reach the desirable sub-percent theoretical accuracy. Among all the ingredients to be computed are the corresponding three loop scattering amplitudes and lower loop amplitudes up to the needed power in the dimensional regulator. While the latter has been recently obtained, the three loop amplitude is known only in leading color approximation for the vector boson production. The computation of three loop Feynman integrals is one of the outstanding tasks to be addressed: while all the relevant planar topologies have been recently computed, only a few of the non-planar topologies are already known. Recent developments in the computation of the remaining non-planar topologies will be covered in the talk.

Primary author: MELLA, cesare carlo (TUM)Presenter: MELLA, cesare carlo (TUM)Session Classification: Parallel 4