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## Four top final states with NLO accuracy in perturbative QCD: 4 lepton decay channel

*Tuesday, 17 October 2023 12:00 (30)*

In this talk, I will present NLO QCD results for the process  $pp \rightarrow t\bar{t}\ell\bar{\ell}$ , focusing on the 4-lepton channel at the LHC with  $\sqrt{s} = 13.6$  TeV. In our calculation, the top quark and the W boson are treated in the Narrow Width Approximation (NWA). We are analyzing our findings in two distinct situations: a full one where we have incorporated QCD corrections during both the production and decay processes of the top quarks, and another where we have only considered QCD corrections at the production stage, assuming that all unstable particles decay with LO accuracy.

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