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Soft gluon resummation for the production of four top quarks at the LHC

Tuesday 29 November 2022 15:00 (15 minutes)

In this talk we present results for soft gluon threshold resummation applied to the production of four top quarks. Current theoretical predictions include next-to-leading (NLO) strong and electroweak corrections, yielding a relatively large associated systematic error. By considering the matching of the next-to-leading logarithmic (NLL) result to the available NLO result, we achieve NLO+NLL′ precision for the total cross section, which in addition to logarithmic terms also takes into account $\mathcal{O}(\alpha_s)$ non-logarithmic terms that do not vanish at threshold. The threshold-resummed result shows an improved scale dependence when compared to the fixed-order calculation.

Declaration

I certify that I have checked that I am authorised to submit the abstract with the listed co-authors with their current affiliations

Change of Speaker

I understand that change of speaker is allowed provided that no participant gives more than one talk. Otherwise, we will ask the speaker to choose between one or the other abstract to be presented.

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