



Contribution ID: 63

Type: **not specified**

Zero-jettiness resummation for top-quark pair production at the LHC

Friday 19 November 2021 14:40 (20 minutes)

The N-jettiness is a useful resolution variable to distinguish between events with a different number of jets in the final state. It has been successfully employed in slicing calculations for colour singlet processes at NNLO and its resummation forms the basis for the Geneva approach to matching NNLO calculations to parton showers. I will discuss the extension of the zero-jettiness resummation for colour-singlet production to include the production of heavy coloured particles at the LHC. Having derived a factorisation theorem for the observable in this process, we have resummed large logarithms up to approximate NNLL' accuracy. I will describe the resummation framework we have developed and outline future applications to slicing calculations and NNLO+PS event generation.

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Session Classification: pp processes