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## One-loop soft anomalous dimension matrices for $t\bar{t}j$ hadroproduction

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We calculate the one-loop corrections to the soft anomalous dimension matrices for the production of a top-antitop quark pair in association with a jet at hadron colliders. This is a step forward towards implementing a procedure for the resummation of soft-gluon emission logarithms for the  $t\bar{t}j + X$  hadroproduction process, that will enable the improvement of the accuracy of the  $t\bar{t}j + X$  cross-sections, beyond the current degree of knowledge. The latter, so far, has reached the next-to-leading order (NLO) level, complemented by the accuracy of the Shower Monte Carlo approaches used in matching the NLO computations to parton showers (PS) and by merging with samples with a different number of light jets.

### Summary

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