Parton Showers, Event Generators and Resummation 2018



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Joint resummation of two angularities at NNLL

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As a first step towards precise and differential predictions, we calculate the cross section for $e+e- \rightarrow 2$ jets differential in the angularities $e\alpha$ and $e\beta$. The logarithms of $e\alpha$ and $e\beta$ are jointly resummed to NNLL logarithmic accuracy, using the SCET+ framework we developed, and are matched with the NLO fixed-order prediction. We calculate the necessary ingredients, discuss scales and uncertainties, and obtain numerical predictions that we compare to Pythia. Predictions for the cross section differential in the ratio $e\alpha/e\beta$ are also obtained. Furthermore, our results are validated at order α s2 by comparing to Event2.

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