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Threshold and jet radius joint resummation for single-inclusive jet production

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We present the first threshold and jet radius jointly resummed cross section for single-inclusive hadronic jet production. We work at next-to-leading logarithmic accuracy and our framework allows for a systematic extension beyond the currently achieved precision. Longstanding numerical issues are overcome by performing the resummation directly in momentum space within Soft Collinear Effective Theory (SCET). We present numerical results for the LHC with and without the joint resummation for different choices of jet radii and observe that the resummation leads to crucial improvements in the description of the data.

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