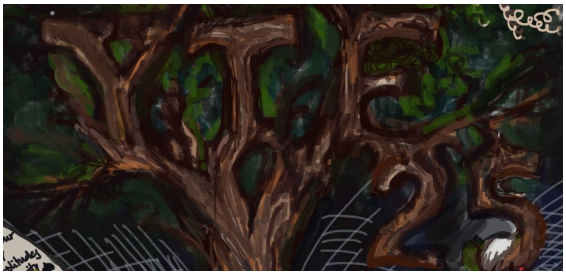

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Rapidity Dependent Beam Functions

Wednesday 17 December 2025 17:00 (30 minutes)

Jet vetoes are important tools that can be used to separate hard processes. A commonly used variable in which jets are identified and vetoed is the transverse-momentum of a jet. Experimentally, reconstructing small transverse momentum jets at forward rapidities is challenging, which motivates introducing a cut on a jets rapidity to reduce sensitivity to this region. Existing SCET leading-jet transverse-momentum beam functions have been used to produce partial N3LL resummed predictions for many processes but they do not include any rapidity cut.
Motivated in part by tension in the theory and experimental 0-jet WZ cross section, where the theoretical prediction does not include the rapidity cut in the jet definition used in the experimental result; we aim to compute an addition to the SCET NNLO leading jet transverse momentum beam functions to include the effects of such a cut. Here we present the progress and overview the method of this ongoing calculation.

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