Contribution ID: **197** Type: **not specified**

Multi-emission kernels for parton branching algorithms

Wednesday 28 September 2022 14:15 (15 minutes)

We will discuss a novel framework for addressing QCD factorization in the emission of multiple soft or collinear partons. The purpose of this discussion is to allow for a more precise description of hadron collider data and to better handle theoretical uncertainties from parton showers.
We have developed a power counting algorithm in emission amplitudes with the goal of parameterizing the accuracy of different types of parton showers. An example are inaccuracies introduced by iterating single emission amplitudes vs. the use of a multi-emission kernel. Eventually, this approach should pave to way for higher orders in QCD in parton showers.

Summary

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Session Classification: Parallel Session Wednesday

Track Classification: Particle Phenomenology