

## Dynamical grooming beyond the leading-log approximation

*Tuesday, August 3, 2021 4:00 PM (15 minutes)*

Dynamically grooming a jet (1) amounts to isolate the hardest splitting in the branching story. The properties of the branching tagged by dynamical grooming can be computed using resummation techniques. In this talk, based on (2), I will present the resummation structure of dynamically groomed observables, some of them infra-red and collinear safe and others Sudakov safe only, up to next-to next-to-double logarithm accuracy. I will highlight some interesting features of this jet substructure observable, such as the absence of clustering logarithms. After a leading order in  $\alpha_s$  matching, and after including non-perturbative corrections, determined through Monte-Carlo, this theoretical calculation provides a very good description of the preliminary ALICE data (3,4).

(1): [arXiv/hep-ph/1911.00375](https://arxiv.org/abs/1911.00375)

(2): [arXiv/hep-ph/2103.06566](https://arxiv.org/abs/2103.06566)

(3): [arXiv/nucl-ex/2009.07172](https://arxiv.org/abs/2009.07172)

(4): [arXiv/nucl-ex//2009.12247](https://arxiv.org/abs/2009.12247)

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