Abstract Submission ISMD2018

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Session: Hadronic Final States in High PT Interactions
Title : Harnessing the global correlations of the QCD power spectrum for high energy physics

Abstract:

The high-luminosity LHC will experience intense pileup, which motivates a more global, correlation-based approach to collider phenomenology. We introduce a new framework to encode information in the QCD power spectrum on an event-by-event basis from which jets and their substructure can be extracted. Our new "power jets" scheme requires no jet radius parameter, and allows pileup to be extracted in situ. The result is an accurate kinematic reconstruction of underlying hard physics which is robust to extremely high pileup.