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Hadro-production of massive b-jets and associated dead-cone effects at the LHC

Jet sub-structure observables are known to be sensitive to the effects due to mass of partons produced via hard scattering QCD interactions. For example, QCD predicts the suppression of collinear emission around a massive quark called dead-cone effect and it was recently observed by the ALICE collaboration at the LHC.

In this talk, we discuss how the quark mass affect the theoretical computations of an event shape observable such as energy-energy correlation functions. In particular, we consider and resum the large logarithms involving the quark mass up to next-to-leading logarithmic approximation and study the differences between parton shower approaches to QCD radiation by massive quarks as implemented into Pythia and Herwig Monte Carlo event generators.

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