Contribution ID: **8** Type: **not specified**

Resummation of Sudakov Shoulder Logarithms in Heavy Jet Mass

Wednesday, 29 March 2023 16:00 (20 minutes)

Sudakov shoulder arises from incomplete cancellations between virtual corrections and real emissions in the perturbation theory of some event shape observables, like thrust, heavy jet mass and C parameter. We present the next-to-next-to-leading logarithmic (NNLL) resummation of Sudakov shoulders in the heavy jet mass. The appearance of spurious Sudakov Landau poles is ameliorated by resumming its second derivative and setting scale in the conjugate Fourier space. The joint resummation of threshold logarithms and shoulder logarithms provides an essential ingredient in the extraction of strong coupling constant from heavy jet mass data.

Primary author: Mr ZHANG, Xiaoyuan (Harvard University)

Presenter: Mr ZHANG, Xiaoyuan (Harvard University)

Session Classification: Session 11