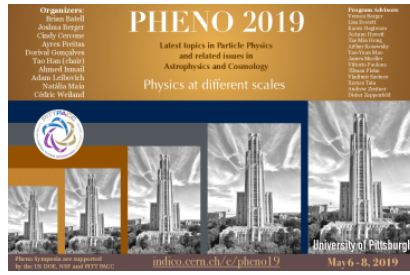


Phenomenology 2019 Symposium



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Soft gluon radiation of Z boson plus jet production at the LHC

Monday 6 May 2019 15:15 (15 minutes)

We study the multiple soft gluon radiation effects in Z boson plus jet production at the LHC. By applying the transverse momentum dependent factorization formalism, the large logarithms introduced by the small total transverse momentum of the Z boson plus jet final state system, are resummed to all orders in the expansion of the strong interaction coupling at the accuracy of Next- to-Leading Logarithm(NLL). We also compare our results with the CMS data by the reweighting method to include the effects from Z boson decay and the kinematical cuts on the leptons . It shows our resummation calculation agree with data very well for both the total transverse momentum and the azimuthal angle correlations of the final state Z boson and jet system

Summary

Authors: Prof. SUN, Peng (Nanjing Normal University); Dr YAN, Bin (Michigan State University); Prof. YUAN, C.-P. (Michigan State University); Prof. YUAN, Feng (Lawrence Berkeley National Laboratory)

Presenter: Dr YAN, Bin (Michigan State University)

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