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Medium modification of jet shapes in heavy-ion collisions

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Jet shape gives the internal energy distribution of a jet and its alteration in heavy-ion collisions relative to hadron-hadron reactions has recently attracted a lot of attentions. In this talk we investigate the medium modification of differential jet shapes in heavy-ion collisions within the framework of QCD resummation at NLO for pp baseline and PYQUEN parton energy loss model in AA reactions. A centrality-dependent nuclear modification of differential jet shapes and their comparison of experimental data are present.

Summary

It is shown that the differential jet shapes are significantly modified after fast parton propagated the hot and dense nuclear matter created in this reaction. The angular distribution of medium induced gluon radiation is close relative to the medium correction of jet shapes. In peripheral collisions, the jet shapes in heavy-ion collisions are similar to those in pp collisions.

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