Hard Probe 2016



Contribution ID: 42

Type: not specified

Medium recoil in JEWEL

Saturday 24 September 2016 15:00 (20 minutes)

JEWEL is a fully dynamical event generator for jet evolution in a dense QCD medium, which has been validated for multiple jet and jet-like observables. Jet constituents (partons) undergo collisions with thermal partons from the medium, leading to both elastic and radiative energy loss. The recoiling medium scattering centres carry away energy and momentum from the jet. Keeping track of these recoils is essential for the description of intra-jet observables. Since the thermal component of the recoils is part of the soft background activity, comparison with data on jet observables requires the implementation of a background subtraction procedure. We will show two independent procedures through which background subtraction can be performed and discuss the impact of the medium recoil on jet shape observables and jet-background correlations. Keeping track of the medium recoil significantly improves the JEWEL description of jet shape measurements.

Summary

Presentation type

Oral

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Session Classification: Parallel Session III: Jet MC and Jet Modification in A+A