Contribution ID: **49** Type: **not specified**

Evolution of the jet opening angle distribution in holographic plasma

Saturday 24 September 2016 08:50 (20 minutes)

In this talk I will argue that essential progress can be made by studying the interplay of jet energy loss and the evolution of the jet opening angle as the jet traverses (strongly coupled) quark-gluon plasma. I will illustrate this evolution in a simple holographic model, where we start with energy and angular distributions from pQCD. We identify two competing effects: (1) all individual jets become wider, and (2) the distribution of final jets becomes narrower, since jets with a narrow opening angle suffer less energy loss and are thereby more likely to survive. Even though every jet widens, jets with a given energy can therefore have a smaller mean opening angle after passage through the plasma than jets with that energy would have had in vacuum, as experimental data may indicate.

Reference: Physical Review Letters 116, 211603 (2016)

Summary

Presentation type

Oral

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Session Classification: Parallel Session I: Jet Modification in A+A (I)