



Contribution ID: 25

Type: **not specified**

Effect of collisional energy loss on particle correlations in AMPT

Saturday, 24 September 2016 15:00 (20 minutes)

Jet quenching is a powerful tool to study medium properties of relativistic heavy ion collisions via jet-medium interactions. Jet quenching studies have so far focused on high transverse momentum (p_T) particle suppression. Jet shapes at low to intermediate p_T , containing rich information on jet-medium interactions, have been less explored. Experimentally, jetlike correlations at low p_T suffer from large uncertainties in anisotropic flow background. Recent development in data-driven flow subtraction will hopefully eliminate such uncertainties. Theoretically, jet shapes have been difficult to tackle due to non-perturbative effects at low p_T . In this talk, I will present a recent study, using a multiphase transport (AMPT) model, of effects on particle correlations from collisional energy loss of partons traversing the heavy ion medium. We follow the parton cascading history so that medium partons (associated particles) which have interacted with a high- p_T probe parton (hard probe trigger particle) can be uniquely identified and hence no subtraction of combinatorial background is needed. Results on particle correlation shapes will be presented as a function of p_T , the number of parton-parton collisions suffered by the probe parton, and the azimuthal angle of the probe parton relative to the reaction plane. These results reveal pathlength dependence of collisional energy loss that I will discuss. Potentials and future prospects of such transport model studies and experimental data comparisons will be discussed.

Summary

Presentation type

Oral

Primary author: WANG, Fuqiang (Purdue University (US))

Presenter: WANG, Fuqiang (Purdue University (US))

Session Classification: Parallel Session III: High p_T Correlations (I)