Contribution ID: **86** Type: **Parallel Talk**

Precision Dijet Acoplanarity Tomography of the Chromo Structure of Perfect QCD Fluids

Wednesday, 16 May 2018 16:50 (20 minutes)

Dijet azimuthal acoplanarity is dominated by vacuum pQCD radiation always associated with hard jet production. Jet-medium interactions broaden the vacuum Sudakov azimuthal angle distributions. In the Gaussian approximation (A.H.Mueller et al 2016) the broadening rms $\Delta\phi_G \sim \sqrt{<\hat{q}(T,E)L>/E}$ depends only on the jet path L averaged transport coefficient $\hat{q}$. We focus on the rarer non-Gaussian "Landau tail" $\Delta\phi_G \ll \Delta\phi$ finite scattering induced fluctuations that are more sensitive to the detailed microscopic chromo-electric and chromo-magnetic structure of prefect QCD fluids. We estimate the magnitude of experimental precision needed in future dijet experiments to discriminate between perturbative QCD/HTL screened color electric q+g color structure and possible non-perturbative color bleached semi-QGP plus emergent magnetic Monopole (sQGMP) color structure of QCD perfect fluids using a new event by event version, CIBJET (S.Shi et al 2018), of the CUJET3 (JHEP 1602 (2016) 169) framework that combines ebe viscous hydro with finite opacity medium induced jet energy loss.

Content type

Theory

Collaboration

Centralised submission by Collaboration

Presenter name already specified

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Session Classification: Jet modifications and high-pT hadrons

Track Classification: Jet modifications and high-pT hadrons