Contribution ID: **890** Type: **Parallel session talk**

SUBA-Jet: a new coherent jet energy loss model for heavy-ion collisions

Saturday, 20 July 2024 15:53 (17 minutes)

We present a new coherent jet energy loss model for heavy-ion collisions. It is implemented as a Monte Carlo perturbative final-state parton shower followed by elastic and radiative collisions with the medium constituents. Coherency is achieved by starting with trial gluons that act as field dressing of the initial jet parton. These are formed according to a Gunion-Bertsch seed. The QCD version of the LPM effect is attained by increasing the phase of the trial gluons through elastic scatterings with the medium.

The model has been validated by successfully reproducing the BDMPS-Z prediction for the energy spectrum of radiated gluons in a static medium. The realistic case for LHC energy with minimal assumptions is also produced and shown. We also show the influence of various parameters on the energy spectrum and transverse momentum distribution. The model is constructed with realistic medium description and jet-medium coupling in mind.

Alternate track

I read the instructions above

Yes

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