

Novel tools and observables for jet physics in heavy-ion collisions / 5th
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Jet-induced medium excitation in gamma-hadron correlation

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We use a Linear Boltzmann Transport model (LBT model) coupled to (3+1)D ideal hydrodynamic evolution in real time with fluctuating initial conditions simulate both the transport of jet shower partons and jet-induced medium excitation. In this coupled approach, propagation of energetic shower partons are treated in the Linear Boltzmann transport (LBT) model on the basis of evolving bulk medium information provided by 3+1D hydrodynamic model. Soft partons from both elastic and inelastic processes from the LBT are fed back into the medium as a source term in the 3+1D hydrodynamic. Such source terms in the hydrodynamic will induce medium excitation. With this coupled approach we investigate the hadrons spectrum in the whole transverse momentum region and focus on gamma-hadron to study the effect of jet-induced medium excitations.

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