

## Investigation of medium effects on energy-energy correlation (EEC) in jets within the CoLBT-hydro model.

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Energy-energy correlators (EECs) has recently emerged as an excellent jet substructure to study space-time information of parton shower. We explore the EECs within  $\gamma$ -jets using our LBT and CoLBT-hydro frameworks. We investigate the effects of jet quenching, medium-induced gluon radiation, and medium response on EECs in AA collisions compared to pp collisions. Additionally, we find that the angular distribution is sensitive to the Debye screening mass  $\mu_D$ , which determines the angular scales of each jet-medium scattering and characterizes the structure of the QGP medium in our model simulations. Furthermore, we analyze the medium modification of single inclusive jet EECs in AA collisions relative to pp collisions. Through this analysis, we aim to provide insights into the hadronization process in high-energy heavy-ion collisions.

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