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Typ: Talk

Determining the onset of color coherence with energy correlators

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We present a new approach to jet substructure in heavy-ion collisions based on the study of correlation functions of energy flow operators (energy correlators). This approach is based on the insight that the dynamics of the QGP is imprinted at specific time scales in the jet, which will be reflected as changes in the shape of the correlator. We analyze the two-point correlator of an in-medium massless quark jet within three jet quenching formalisms: BDMPS-Z with the harmonic oscillator approximation, BDMPS-Z with a Yukawa (Gyulassy-Wang) parton-interaction model, and the first opacity GLV framework. We show that the spectra of correlation functions is sensitive to color coherence, which allows us to robustly identify the *resolution scale* of the QGP: the energy scale at which in-medium emissions start to be resolved by the QGP.

Experiment/Theory

Theory/Phenomenology

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Track Klassifizierung: Jets and their modification in QCD matter