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Looking for the dead-cone in heavy-ion collisions with energy correlators (remote)

Tuesday, 5 September 2023 09:10 (20 minutes)

In this talk we use the recently introduced energy correlator framework for jet substructure in heavy-ion collisions to show how the radiation pattern of heavy quarks is modified by the presence of the QGP. We present an analytical calculation of the medium-modified 2-point energy correlator of a heavy quark jet determining how the dead-cone is populated by medium-induced radiation. We identify two regimes: the near-massless limit where the deadcone is not affected by the QGP, and the large-mass limit where the in-medium radiation begins to fill the deadcone. This study provides the first illustration of the ability of energy correlators to disentangle complicated competing jet dynamics.

Category

Theory

Collaboration (if applicable)

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