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Jet angularities in inhomogeneous matter

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Relying on the recent theoretical developments in the theory of jet quenching, we consider a set of widely studied jet substructure observables and generalize them to account for the matter inhomogeneities. We show that the energy distribution inside a jet is pushed towards the direction of the largest matter anisotropy, while the away region is depleted. As a consequence, the jet mass and girth gain a non-trivial azimuthal dependence. We further show that the same is the case for an azimuthal generalization of the within-jet energy-energy correlator, which exhibits the azimuthal dependence in a large angular window.

Category

Theory

Collaboration

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