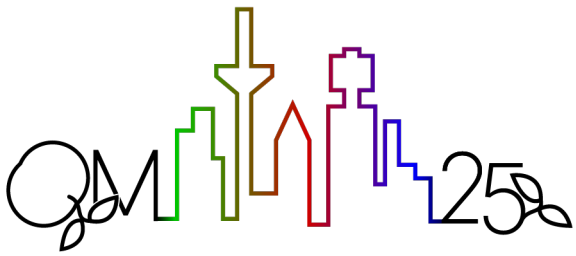

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Flavor and path-length dependence of jet quenching from inclusive jet and γ-jet suppression

We use the parametric approach to analyze jet suppression measured using the nuclear modification factor of inclusive jets and jets from gamma-jet events. With minimum model assumptions, we quantify the magnitude of the average energy loss, its pt-dependence, and flavor dependence. Further, we quantify the impact of fluctuations in the energy loss and nuclear PDFs on the measured jet suppression. When employing the Glauber model to infer the information about the collision geometry, we quantify the path-length dependence of the average energy loss. The extracted path-length dependence should contribute to the discussion about the impact of medium expansion on the observed quantities and our ability to distinguish radiative and collisional energy loss based on its path-length dependence.

Comparison between the magnitude of the energy loss in 2.76 TeV and 5.02 TeV Pb+Pb collisions along with Glauber modeling allows also to perform a transparent extrapolation of the magnitude of energy loss expected to be measured in upcoming Oxygen-Oxygen collisions. These estimates then represent a basic prediction of the nuclear modification factor of jets to be seen in Oxygen-Oxygen collisions. The work presented in this talk is based on a new extension of modeling published in PLB 767 (2017) 10 and EPJC 76 (2016) 2, 50, which was recently submitted for publication.

Category

Theory

Collaboration (if applicable)

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