

Interpreting inclusive jet and gamma-jet suppression in heavy-ion collisions at the LHC

Friday, 19 July 2024 15:04 (17 minutes)

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. Employing the Glauber model to infer the information about the collision geometry, we quantify the path-length dependence of the average energy loss. Comparison between the magnitude of the energy loss in 2.76 TeV and 5.02 TeV Pb+Pb collisions along with Glauber modeling enables extrapolation of the magnitude of energy loss expected to be measured in upcoming O-O collisions. The work presented in this talk is an extension of modeling published in PLB 767 (2017) 10 and EPJC 76 (2016) 2, 50, and it should help to shed light on the basic properties of parton energy loss measured at the LHC.

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