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Constraints on the Jet-Energy Loss from Jet Measurements at RHIC and LHC

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Results based on a generic dE/dx -model that interpolates between running coupling pQCD based models such as CUJET2.0 and AdS/CFT-inspired holographic prescriptions are compared to recent data on the high- p_T pion nuclear modification factors and the high- p_T elliptic flow in nuclear collisions at RHIC and LHC. The jet-energy loss models are coupled to state-of-the-art viscous hydrodynamic fields. The impact of energy-loss fluctuations, event-by-event fluctuations, viscosity, and different colliding systems is discussed. While RHIC data are found to be surprisingly consistent with most dE/dx +Hydro models, extrapolations to LHC energies favor running coupling QCD-based energy-loss models, while conformal holography models are shown to be inconsistent with the data.

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