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Azimuthal Jet Tomography at RHIC and LHC

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Recent data on the azimuthal and transverse momentum dependence of high-pT pion nuclear modification factors in nuclear collisions at RHIC and LHC are analyzed in terms of a wide class of jet-energy loss models, ranging from running coupling pQCD based prescriptions to AdS/CFT-inspired models, considering a variety of transverse expanding collective flow backgrounds. RHIC data are found to be surprisingly consistent with rather different dE/dx models. However, extrapolations to LHC favor running coupling QCD based energy-loss models over fixed coupling QCD, conformal AdS holography, or Tc-dominated jet-energy loss models that tend to overpredict jet quenching at the LHC.

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