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Overview and interpretations of centrality-dependent high-pT jet production measurements at RHIC and the LHC DENNIS PEREPELITSA, Brookhaven Natl Lab — Measurements of jet production at large transverse momentum in proton- and deuteron-nucleus collisions have traditionally been understood as a valuable way to probe the partonic content of the dense nucleus and to constrain the magnitude of energy loss in the cold nuclear environment. Recent results on the inclusive production of reconstructed jets at mid-rapidity at RHIC and over a wide rapidity range at the LHC show that jet rates are minimally modified with respect to the scaled proton-proton cross-section. On the other hand, jet rates at both colliders were found to have a highly anomalous relationship to the soft particle-based observables traditionally interpreted as an indirect handle of the collision geometry. Furthermore, analysis of the kinematics- and collision-energy-dependence of these modifications reveal that they have a surprising dependence on the Bjorken-x of the hard-scattered parton in the colliding proton or deuteron, and not on that in the nucleus. This observation has inspired novel interpretations of the origin of this effect. In this talk, I will present a summary of the relevant data and theoretical ideas.

Dennis Perepelitsa
Brookhaven Natl Lab

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