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Exploring cold nuclear matter effects in d+Au with high-pT reconstructed jets at PHENIX

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Proton-nucleus (p+A) collisions can be used to investigate cold nuclear matter effects on hard-scattered partons and serve as an important baseline for heavy-ion collisions. In particular, p+A collisions at different centrality selections can probe the impact parameter dependence of nuclear parton distribution functions, initial state energy loss and final state parton interactions in the cold nucleus. Jet reconstruction can better determine the initial parton kinematics and recent improvements in analysis techniques allow the exploration of these effects over a wide pT range. We present the latest jet reconstruction measurements performed with the PHENIX detector at RHIC in deuteron-gold (d+Au) collisions at 200 GeV using the Gaussian filter and anti-kT algorithms and discuss the possible implications on descriptions of cold nuclear matter.

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