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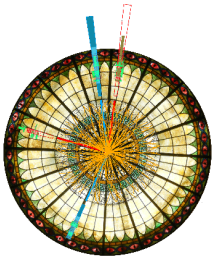

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Nuclear PDF constraints from p+Pb collisions at the LHC

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The current nuclear PDF analyses are mainly constrained by fixed-target DY and DIS data which provide direct constraints primarily for quarks at $x > 0.001$. Some constraints for gluons are provided by the inclusive pion production data in d+Au collisions at RHIC but due to the limited kinematic reach of the data the small-x nuclear gluon PDFs remain practically unconstrained in the current fits. In this talk I will discuss how the existing data from p+Pb collisions at the LHC can improve the nPDF fits and which measurements would further improve the kinematical coverage. In particular, I will quantify the x regions probed by inclusive hadron production at different rapidities and compare this to corresponding distributions for prompt photon production. Our results indicate that the prompt photons are more sensitive to the small-x region than the inclusive hadrons and that the sensitivity can be further increased by imposing an isolation cut for the prompt photons. Also EPS09-based NLO predictions for the isolated photon nuclear modification ratio and forward-to-backward asymmetry are presented.

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