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Towards the Test of Saturation Physics Beyond Leading Logarithm

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Earlier this year, we published the first numerical calculation to incorporate all next-to-leading order (NLO) corrections for the forward pion production cross section in pA collisions. Our calculation gives a good description of existing results from RHIC at p_{\perp} up to the saturation scale. I will present an overview of the calculation, review the results for RHIC as compared to the experimental data, and present our predictions for the LHC's heavy ion program. I'll also discuss an interesting issue in which, at larger $p_{\perp} > Q_s$, the results of the prediction become negative, and review the progress of our attempts to cure the negativity, including by resumming higher-order terms of the cross section.

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