



Contribution ID: 212

Type: Poster

## NLO updates of the EKRT model for central AA collisions at RHIC and LHC

Thursday, August 16, 2012 4:00 PM (2 hours)

The EKRT model [1] which combines pQCD minijet production with the saturation of produced gluons and (ideal) hydrodynamics, has predicted the measured multiplicities in central A + A collisions both at RHIC and LHC remarkably well [2]. Also the published  $p_T$  spectra of bulk hadrons (at RHIC) have been reproduced quite nicely [3]. We now bring this closed framework to NLO as rigorously as possible. In particular, we calculate the minijet transverse energy production by using the latest knowledge of nuclear parton distributions (nPDFs), the NLO sets EPS09 [4], and discuss how the nPDF uncertainties propagate into the computed hydrodynamical initial conditions as well as observable multiplicities. Regarding the NLO minijet production, we develop a new set of infra-red safe measurement functions and study their effect on the multiplicity systematics from RHIC to LHC. Our main goal here is to quantify the theoretical uncertainties and the predictive power of this NLO pQCD + saturation + hydrodynamics -framework.

[1] K. J. Eskola, K. Kajantie, P. V. Ruuskanen and K. Tuominen *Nuc. Phys. B* 570 (2000) 379.

[2] K. J. Eskola, P. V. Ruuskanen, S. S. Rasanen and K. Tuominen, *Nucl. Phys. A* 696 (2001) 715.

[3] K. J. Eskola, H. Honkanen, H. Niemi, P. V. Ruuskanen and S. S. Rasanen, *Phys. Rev. C* 72 (2005) 044904

[4] K. J. Eskola, H. Paukkunen and C. A. Salgado, *JHEP* 0904 (2009) 065.

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**Session Classification:** Poster Session Reception

**Track Classification:** Pre-equilibrium and initial state dynamics