

## High order cumulants of azimuthal anisotropy in pA collisions from initial state physics

*Thursday 4 December 2014 15:20 (20 minutes)*

In this talk, using the hybrid formalism of the CGC to describe p+A collisions at high energies, we compute the azimuthal structure of the m-particle correlation function. We show that within the conventional CGC, the “flow” coefficient  $v_2\{2\}$  is real, while  $v_2\{4\}$  is complex ( $v_2\{4\}$  is negative). The analogous pattern holds for higher order cumulants. We argue that this result is also true for the so-called “glasma” graph. Phenomenological consequences of this finding are discussed. We also consider the case of anisotropic fluctuations of the saturation momentum of the target nucleus, and show that within this approach,  $v_2\{4\}$  changes sign as a function of the anisotropy strength. This might explain the change of sign of  $c_2\{4\}$  as a function of multiplicity observed experimentally in p+Pb collisions at LHC energy.

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