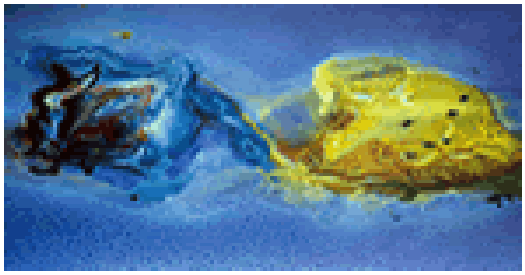

Contribution ID: **256** Type: **Invited talk**

Forward particle production in proton-nucleus collisions at next-to-leading order

Thursday, 2 August 2018 14:30 (30 minutes)

Reaching next-to-leading order accuracy in perturbative calculations of particle production in QCD at high energy is essential for reliable phenomenological applications. In recent years, the Color Glass Condensate effective theory (the natural framework for such calculations) has indeed been promoted to NLO accuracy. However, the first NLO calculation of single-inclusive hadron production met with an unexpected difficulty: the cross-section suddenly turns negative at transverse momenta of the order of a few GeV, in a range where perturbation theory is expected to be reliable. We summarize recent efforts to understand and solve this issue, as well as to develop a running coupling scheme that can be used to consistently describe various processes in this formalism.

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