Contribution ID: **294** Type: **not specified**

Fluctuations of the multiplicity of produced particles in onium-nucleus collisions

Thursday, 6 April 2017 09:30 (20 minutes)

We address the general features of event-by-event fluctuations of the multiplicity of gluons produced in the scattering of a dilute hadron off a large nucleus at high energy in the fragmentation region of the dilute hadron. We relate these fluctuations to the stochasticity of the number of quanta contained in the hadron at the time of the interaction. For simplicity, we address the ideal case in which the hadron is an onium, and investigate different kinematical regimes in rapidity and onium size. We show that at large rapidity, the multiplicity distribution exhibits an exponential tail in the large-multiplicity region, which is qualitatively consistent with the proton-nucleus data. But interestingly enough, the exponential shape is determined by confinement. We shall also present new numerical checks of our analytical calculations.

Primary author: MUNIER, Stéphane (CNRS and École polytechnique)

Presenter: MUNIER, Stéphane (CNRS and École polytechnique)

Session Classification: WG2 Low x and Diffraction

Track Classification: WG2) Low x and Diffraction