Yale Wright Laboratory

Upcoming NPA Seminar

Thursday, April 13, 2017

1:00PM

WL-210

Björn Schenke
Brookhaven National Laboratory

Revealing proton shape fluctuations

I will discuss recent advances in understanding fluctuations of the proton shape and their effect on diffractive vector meson production in electron proton scattering at HERA and anisotropic flow measurements in proton+lead collisions at the Large Hadron Collider (LHC).

I will present the theoretical description of both processes, which is based on an effective theory of quantum chromo dynamics (QCD), the Color Glass Condensate. In case of proton+lead collisions, the calculation has to be supplemented by relativistic hydrodynamic evolution of the created medium to convert initial spatial structures to final state (anisotropic) momentum distributions of produced particles. In both e+p and p+Pb systems, we find that significant fluctuations of the proton shape are necessary to reproduce certain experimental observables.

Host: Eliane Epple

Lunch will be served from 12 – 1 in WL/EAL108, **RSVP required**: catherine.barabas@yale.edu

Sponsored by the Flint Fund, Yale Wright Laboratory, Yale University, and the Yale Physics Department