Contribution ID: **17** Type: **Oral**

Role of rapidity choice for the Balitsky-Kovchegov equation

Reaching higher energies of electron-ion collisions with facilities like EIC is expected to provide a probe of a kinematic region where the divergent parton densities should start to exhibit signs of saturation.
This phenomenon is theoretically implemented by the Balitsky-Kovchegov (BK) equation, which, within the colour dipole picture, describes the evolution of the dipole scattering amplitude with respect to rapidity. There are two possible formulations of the BK equation based on which rapidity, projectile or target, is considered. Besides this variable, there are four more degrees of freedom, two of which have been so far incorporated into the numerical solutions.
We present a comparative solution of the two-dimensional BK equation formulated in both projectile and target rapidity together with their impact on quantities to be observed at EIC such as proton structure functions or vector meson production cross sections.

Primary author: VACULČIAK, Matěj

Presenter: VACULČIAK, Matěj