



Contribution ID: 174

Type: **Contributed Talk**

Investigating saturation effects in ultraperipheral collisions at the LHC with the color dipole model

Wednesday, 25 March 2020 12:09 (17 minutes)

We investigate saturation effects in ep scattering as well as in ultraperipheral pA and AA collisions at small x with four variants of the impact parameter dependent color dipole model: with and without gluon saturation and with and without a novel mechanism that suppresses unphysical dipole radii above the confinement scale. We show that ep scattering at HERA can be very well described by any of the four variants. When going from ep to eA scattering, saturation effects are expected to increase with increasing A . In lieu of an electron-ion collider (EIC), we confront the different versions of the dipole model with data recorded in ultraperipheral collisions at the LHC in order to estimate the sensitivity of the data to gluon saturation in the target nuclei. We also report on new prediction for the EIC.

Primary authors: Dr TOLL, Tobias (Indian Institute of Technology Delhi); Prof. ULLRICH, Thomas (BNL)

Presenter: Dr TOLL, Tobias (Indian Institute of Technology Delhi)

Session Classification: Small- x , Diffraction and Vector Mesons

Track Classification: Small- x , Diffraction and Vector Mesons