

Charmonia production at HERA in CGC model using a holographic AdS/QCD light front wavefunction

We use an anti-de Sitter/Quantum Chromodynamics (AdS/QCD) based holographic light-front wavefunction for the J/ψ meson, in conjunction with the Color dipole model cross-section to investigate the cross-sections data for exclusive J/ψ electroproduction. We have used the updated set of color dipole model parameters fitted to the most recent 2015 high precision HERA data on inclusive Deep Inelastic Scattering (DIS). Our results suggest that the holographic meson light-front wavefunction with color dipole model is able to give a successful description for rate of diffractive J/ψ electroproduction for HERA data at small x in a wide range of Q^2 for the quark mass $m_c = 1.27$ GeV. We also computed the rapidity distributions of J/ψ meson in dipole model proton-lead ultraperipheral collisions(UPC). Our predictions are in good agreement with the experimental data of ALICE.

Author: SHARMA, Neetika (Department of Physical Sciences, I K Gujral Punjab Technical University, Kapurthala-144603, Punjab, India.)

Presenter: SHARMA, Neetika (Department of Physical Sciences, I K Gujral Punjab Technical University, Kapurthala-144603, Punjab, India.)