Contribution ID: **162** Type: **not specified**

# Exclusive photoproduction of J/psi and psi(2S) in pp and AA collisions

*Monday, 15 September 2014 11:50 (20 minutes)*

The amplitude for $\gamma p \to J/\psi p$ ($\gamma p \to \psi' p$) is calculated in a pQCD kT-factorization approach. The total cross section for this process is calculated for different unintegrated gluon distributions and compared with the HERA data and the data extracted recently by the LHCb collaboration. The amplitude for $\gamma p \to J/\psi p$ ($\gamma p \to \psi' p$) is used to predict the cross section for exclusive photoproduction of $J/\psi$ ($\psi'$) meson in proton-proton and nucleus-nucleus collisions. In the pp case, compared to earlier calculations we include both Dirac and Pauli electromagnetic form factors. We also discuss the dependence of nuclear shadowing on the charmonium state.

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**Session Classification:** Diffraction in Nuclear Physics (I)

**Track Classification:** Diffraction in nuclear physics