

# DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 206

Type: **Parallel talk**

## Recent results from near-threshold $J/\Psi$ photoproduction measurement from Hall-C $J/\Psi$ -007 experiment

*Thursday, March 30, 2023 10:50 AM (20 minutes)*

Measurement of near threshold quarkonia photoproduction cross section provides a unique tool to probe gluonic structure inside the nucleon, hence allowing extraction of gluonic form factors and mass radii.  $J/\Psi$ -007 experiment (E12-16-007) was conducted at Hall-C of the Thomas Jefferson National Accelerator Facility to measure near threshold 2-D differential  $J/\Psi$  photoproduction cross section as a function of photon energy  $E_\gamma$  and Mandelstam variable  $t$  (momentum transfer from initial photon to the produced  $J/\Psi$ ). The experiment utilized a high intensity real photon beam produced by incidence of a 10.6 GeV incident electron beam on a copper radiator situated upstream of a hydrogen target. The produced  $e^-e^+$  ( $\mu^-\mu^+$ ) pair from decay of  $J/\Psi$  was detected using two arm spectrometers in Hall C: the HMS and the SHMS. The scanned photon energy range  $E_\gamma$  and momentum transfer  $|t|$ , are between 9.1 GeV and 10.6 GeV and up to  $4.5 \text{ GeV}^2$ , respectively. Recent results from analysis of the measured 2-D  $J/\Psi$  photoproduction cross section ( $e^-e^+$  channel) will be presented. In addition, preliminary results from analysis of muon channel will be also be shown.

### Submitted on behalf of a Collaboration?

Yes

### Participate in poster competition?

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**Session Classification:** WG2

**Track Classification:** WG2: Small-x, Diffraction and Vector Mesons