

Abstract Submitted  
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**J/ $\psi$  photo-production measurement at RHIC using the STAR detector for  $\sqrt{s_{\text{NN}}} = 200$  GeV Au+Au collisions** CHANAKA DE SILVA, Creighton University — Ultra-peripheral collision events are effectively photo-production on nuclear targets. Relativistic heavy ions carry strong transverse electromagnetic fields that can be treated as sources of quasi-real virtual photons. The ions interact through photon-Pomeron and photon-photon collisions at impact parameters more than twice the nuclear radius, so hadronic interactions are suppressed in ultra-peripheral events. These events also provide an ideal proving ground for new programs in e+A physics. We present the latest results on J/ $\psi$  photo-production using  $\sqrt{s_{\text{NN}}} = 200$  GeV Au+Au collisions in the STAR experiment at RHIC. The  $p_{\text{T}}$  distribution of the J/ $\psi$  mesons peaks at very low  $p_{\text{T}}$ , consistent with expectations for coherent photo-production. We further discuss the current status of measurements that are expected to provide information on nuclear gluon distributions, gluon shadowing, generalized parton distributions and parton form factors. Finally, we present the measurement of the ratio of J/ $\psi$  to  $\rho$  production as a function of rapidity for  $\sqrt{s_{\text{NN}}} = 200$  GeV Au+Au collisions. Possible theory comparisons are also discussed.

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