



Contribution ID: 114

Type: **not specified**

J/psi Photoproduction in ultra-peripheral Au+Au collisions measured by RHIC-PHENIX.

Wednesday, 28 March 2012 14:06 (18 minutes)

Title: J/psi Photoproduction in ultra-peripheral Au+Au collisions measured by RHIC-PHENIX.

Ultra-peripheral collisions are heavy-ion collisions with impact parameter larger than twice the nuclear radius. Since there is no nuclear overlap, strong interactions cannot occur and ions interact through photon-ion (coherent), photon-nucleus (incoherent), and photon-photon collisions.

Measurement of vector meson photo production is a sensitive probe of gluon distribution in nuclei. At RHIC energy, measurement of J/psi photo production corresponds to $x \cong 0.015$ and $Q^2 = 2.5 \text{ GeV}/c^2$. In the kinematic region, nuclear shadowing plays an important role and that still have large uncertainty.

PHENIX has the capability of measuring J/psi's via their dielectron decays at mid-rapidity ($|y| < 0.35$) and dimuon decays at forward ($1.2 < |y| < 2.2$) rapidity. PHENIX published J/psi photo production cross section at mid-rapidity in Au+Au collisions at $\sqrt{s_{NN}} = 200 \text{ GeV}$ in the 2004 dataset [1] (add reference in the end). The measured cross section was found to be consistent with theoretical calculations within its statistical error.

PHENIX collected higher statistics Au+Au collisions datasets in 2007 and 2010 that allow a more precise measurement over a wider rapidity range. In this talk I will present present new preliminary results for the integrated and differential cross section of UPC J/psi at central and forward rapidity.

Author: Mr TAKAHARA, Akihisa (CNS, University of Tokyo and JRA RIKEN)

Presenter: Mr TAKAHARA, Akihisa (CNS, University of Tokyo and JRA RIKEN)

Session Classification: Heavy flavours

Track Classification: Heavy flavours