

Charmonium photoproduction in ultra-peripheral Pb-Pb collisions with ALICE at the LHC

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“The photoproduction of vector mesons in Ultra-Peripheral Collisions (UPC) is a powerful tool to probe the nuclear gluon distribution in the nucleus, for which there is considerable uncertainty in the low- x region. The first measurements of coherent photoproduced J/ψ and $\psi(2S)$ in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, performed with the ALICE detector, are presented. The J/ψ is identified via its dimuon decay in the forward rapidity region and via dimuon and dielectron decay at midrapidity, while the $\psi(2S)$ is measured at midrapidity in three different decay channels (dilepton, $e^+e^- + \pi^+\pi^-$ and $\mu^+\mu^- + \pi^+\pi^-$). The measured cross section is compared to STARLIGHT and QCD based models, in order to investigate nuclear gluon shadowing.”

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