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## Measurements of vector meson photoproduction with ALICE in ultra-peripheral Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV

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The intense photon fluxes of relativistic nuclei provide a possibility to study photonuclear and two-photon interactions in ultra-peripheral collisions (UPC) where the nuclei do not overlap and no strong nuclear interactions occur. The study of such collisions provides information about the initial state of nuclei (nPDF).

Exclusive  $J/\psi$  production in UPC which is sensitive to the nuclear gluon distribution: first ALICE results from LHC Run 2 will be presented for this channel for both forward and mid-rapidity  $J/\psi$ . The increased statistics and the higher collision energy allows for a more detailed study of lower values of Bjorken- $x$ .

The analysis of the  $\gamma + A \rightarrow \rho^0 + A$  process in UPC is a tool to test the, so-called, black disk regime where the target nucleus appears like a black disk and the total  $\rho^0 + A$  cross section reaches its quantum mechanical limit.

ALICE reports new measurements of  $\rho^0$  photoproduction cross sections in Pb-Pb UPC at  $\sqrt{s_{NN}} = 5.02$  TeV at mid-rapidity which are compared to predictions.

### Experimental Collaboration

ALICE Collaboration

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