Contribution ID: **170** Type: **Oral**

First global study of super dense gluonic matter with UPCs by ALICE

Wednesday 6 September 2023 09:10 (20 minutes)

ALICE has been the first experimental collaboration observing a moderate nuclear suppression down to low Bjorken x in lead nuclei using coherent J/ψ photoproduction. In this talk, we present new results extending the studies of the photonuclear cross section by covering the Bjorken-x interval of $1.1 \cdot 10^{-5} < x < 3.3 \cdot 10^{-2}$, corresponding to the photon-nuclear energies $17 < W_{\gamma Pb} < 920$˜GeV. This is achieved by using multiple methods to extract the energy dependence, including new results on the forward neutron emission accompanying the coherent photoproduction process. These new results, combined with ALICE measurements of J/ψ off proton target, probe the gluonic structure of the lead nuclei at the lowest Bjorken-x possible with any current experiment, challenging both gluon saturation and shadowing models to describe the data.

Category

Experiment

Collaboration (if applicable)

ALICE

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Session Classification: UPC

Track Classification: UPC Physics