

Electromagnetic particle production in ultra-peripheral heavy-ion interactions at the LHC

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Vector mesons are copiously produced in ultra-peripheral nucleus-nucleus collisions. In these collisions, the nuclei are separated by impact parameters larger than the sum of the nuclear radii, and the interaction is mediated by the electromagnetic field. The interaction effectively corresponds to a photonuclear interaction between a quasi-real photon, generated from the electromagnetic field of one of the nuclei, and the target nucleus. The ALICE Collaboration has studied exclusive production of ρ^0 , J/ψ and $\psi(2S)$ vector mesons in Pb-Pb collisions at the LHC. Exclusive production of J/ψ vector mesons has also been studied in p-Pb collisions. In this talk, these results will be reviewed and the constraints they set on the nuclear and nucleon gluon distributions will be discussed.