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Measurement of exclusive vector meson photoproduction in pPb and PbPb collisions with the CMS experiment

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The exclusive photoproduction of vector mesons provides a unique opportunity to constrain the gluon distribution function within protons and nuclei. Measuring vector mesons of various masses over a wide range of rapidity and as a function of transverse momentum provides important information on the evolution of the gluon distribution within nuclei. A variety of measurements, including the exclusive J/ψ , ρ , and Υ meson production in pPb (at nucleon-nucleon center of mass energies of 5.02 and 8.16 TeV) and PbPb (5.02 TeV) collisions, will be presented as functions of squared transverse momentum and the photon-proton center of mass energy. Finally, compilations of these data and previous measurements are compared to various theoretical predictions.

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