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Measurement of exclusive Upsilon photoproduction off protons in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with CMS

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Exclusive photoproduction of Upsilon(nS) meson states off protons is measured in ultraperipheral pPb collisions at a center-of-mass energy per nucleon pair of 5.02 TeV. The measurement is carried out in the $\Upsilon(nS) \rightarrow \mu^+\mu^-$ decay modes, with data collected by the CMS experiment corresponding to an integrated luminosity of 32.6 nb^{-1} . Differential cross sections, as a function of the $\Upsilon(nS)$ transverse momentum squared p_T^2 , and rapidity y , are presented. The $\Upsilon(1S)$ photoproduction cross section is extracted as a function of the photon-proton center-of-mass energy over the $91 < W_{\gamma p} < 826 \text{ GeV}$ range. The data are compared to theoretical perturbative quantum chromodynamics predictions and to previous measurements.

Content type

Experiment

Collaboration

CMS

Centralised submission by Collaboration

Presenter name already specified

Author: CMS EXPERIMENT

Presenter: CHUDASAMA, Ruchi (Bhabha Atomic Research Centre (IN))

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