

## $\Psi(2S)$ and $J/\Psi$ modification in pPb collisions at 5.02 TeV with CMS

A variety of effects modify the charmonium production in pPb collisions with respect to pp collisions, like modification of nPDFs, initial-state energy loss and nuclear break-up. The forward/backward ratio of the  $J/\Psi$ , previously measured by CMS, is particularly sensitive to such effects. However, both nPDF and initial-state energy loss should modify the ground and excited state in a similar way, while evidence for a different modification of the  $J/\Psi$  and  $\Psi(2S)$  in pPb have been reported by other experiments. In this presentation, final prompt  $J/\Psi$  results in pPb collisions at 5.02 TeV will be presented, including the new measurement of the  $R_{pA}$  using the 2015 pp data taken at the same energy. New results will also be reported regarding prompt  $\Psi(2S)$  meson production in pPb collisions, as a function of transverse momentum and rapidity and down to  $p_T = 4$  GeV.

### Preferred Track

Quarkonia

### Collaboration

CMS

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