Contribution ID: **62** Type: **Poster**

Upsilon production in p-Pb collisions with ALICE at the LHC

Tuesday 15 May 2018 19:10 (30 minutes)

Quarkonia are bound states of a quark and an anti-quark (i.e $c\bar{c}$ or $b\bar{b}$) and are important probes to study the properties of the deconfined medium of quarks and gluons produced in Pb-Pb collisions at LHC. These probes can also be used to study the cold nuclear matter (CNM) effects, like shadowing or gluon saturation, which are related to the modification of the parton distribution functions (PDF), or parton energy loss, which is related to the interaction of the partons with the nuclear matter. These effects can be studied at LHC in p-Pb collisions.

ALICE has reported the inclusive production of Υ in forward (2.03<y<3.53) as well as backward (-4.46<y<-2.96) rapidity regions with the Muon Spectrometer in p-Pb collisions at $\sqrt{s_{\rm NN}}$ = 5.02 TeV via $\mu^+\mu^-$ decay channel. It was found that the CNM effects are smaller for Υ(1S) compared to J/ψ. In this poster we will present the first ALICE measurement of the differential production cross-section of Υ as a function of transverse momentum ($p_{\rm T}$) and rapidity (y) in p-Pb collisions at $\sqrt{s_{\rm NN}}$ = 8.16 TeV with the Muon Spectrometer. The nuclear modification factor (R_{AA}) of Υ(1S) as function of $p_{\rm T}$ and y will also be reported.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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Session Classification: Poster Session

Track Classification: Quarkonia