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Type: **Poster**

Inclusive $\Psi(2S)$ Suppression in p-Pb collisions with ALICE at the LHC

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Quarkonia are produced in the initial hard scatterings and are useful probes to study the microscopic properties of the matter produced in the ultra relativistic heavy-ion collisions. The experimental results show that in nucleus-nucleus collisions, the charmonium yields are modified compared to the expectations based on the yields measured in proton proton interactions, scaled by the number of binary collisions. In proton-nucleus collisions this yield modification is due to the so-called Cold Nuclear Matter (CNM) effects such as shadowing, gluon saturation, parton energy loss, comover absorption. This information can be obtained from p-Pb collisions.

At LHC energies ($\sqrt{s_{NN}} = 5.02$ and 8.16 TeV), ALICE has observed a modification of the J/ψ yields in p-Pb collisions which can be understood assuming shadowing to be the dominant contribution. On the other hand, the $\psi(2S)$ was found to have a similar suppression as the J/ψ at forward rapidity, but it shows a much stronger suppression in the backward rapidity region. So, this behavior cannot be explained by the shadowing or energy loss only unlike J/ψ . Final state mechanisms, as the comover absorption, should be playing a role in this region.

ALICE results on the measurement of $\psi(2S)$ yields and nuclear modification factor as a function of transverse momentum, rapidity and collision centrality in p-Pb $\sqrt{s_{NN}} = 8.16$ TeV collisions will be presented in the poster.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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