

# Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



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## Recent quarkonium measurements in small systems with the ALICE detector at the LHC

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Quarkonium production measurements represent a key probe to investigate the space-time properties of the Quark-Gluon Plasma (QGP) created in heavy-ion collisions. Measurements in small systems, namely pA and proton-proton (pp), are crucial in order to interpret correctly results in heavy-ion collisions. Potential initial-state effects can be constrained through the measurement of the nuclear modification factor in pA collisions ( $R_{pA}$ ), defined as the ratio of quarkonium yields in pA to the reference production in pp collisions, collected at the same center-of-mass energy and scaled by the number of binary nucleon-nucleon collisions. Besides serving as reference, results in pp collisions represent a benchmark test of QCD based models in both perturbative and non-perturbative regimes.

The ALICE detector has unique capabilities at the LHC for measuring quarkonia down to zero transverse momentum. Measurements are carried out at both central and forward rapidity, in the dielectron and dimuon decay channel, respectively.

In this contribution the latest quarkonium measurements performed by the ALICE collaboration in pp and p-Pb collisions will be presented. Recent nuclear modification factor measurements at mid-rapidity in p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be shown for both prompt and non-prompt  $J/\psi$  mesons, the latter originated from the decays of long-lived beauty-flavored hadrons. The status of mid-rapidity  $J/\psi$  analyses in p-Pb collisions at  $\sqrt{s_{NN}} = 8.16$  TeV, using both minimum bias and high  $p_T$  triggered (using ALICE TRD detector) events and including the study of non-prompt  $J/\psi$  contribution, will be also presented. In addition the centrality, rapidity and transverse momentum dependence of  $R_{pPb}$  for  $\psi(2S)$ ,  $\Upsilon(1S)$  and  $\Upsilon(2S)$ , measured at forward rapidity in p-Pb collisions at  $\sqrt{s_{NN}} = 8.16$  TeV, will be shown. Regarding pp collisions, recent  $J/\psi$  cross-section measurements at  $\sqrt{s} = 5$  and 13 TeV performed at central and forward rapidity, including the status of the analysis for the separation between prompt and non-prompt  $J/\psi$  components at mid-rapidity, will be presented. Results in both pp and p-Pb collisions will be compared with available theoretical model calculations.

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