

Measurement of quarkonia production in heavy-ion collisions with the ATLAS detector

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The suppression of heavy quarkonia states in heavy-ion collisions is a phenomenon understood as a consequence of QGP formation in the hot, dense system produced in interactions of heavy ions at high energy. In addition to hot matter effects, cold nuclear effects can play an important role in quarkonia production. Therefore, a full assessment of different physics scenarios requires detailed studies on the effects present in Pb+Pb and p+Pb collisions in comparison to the pp collisions. Results of the studies based on p+Pb data collected in 2013 and pp and Pb+Pb data collected in 2015 at the LHC by the ATLAS experiment at the centre of mass energy of 5.02 TeV allowed studying prompt and non-prompt J/ψ and $\psi(2S)$ productions as well as $Y(nS)$ ($n = 1, 2, 3$) production via the di-muon decay final states. The results of the measurements presented as a function rapidity and transverse momentum as well as the ratios between different species and systems are presented and discussed in the talk.

List of tracks

Resonance decays at low, intermediate and at RHIC and LHC

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