

ALICE measurements on quarkonium production in p-Pb and their impact on the understanding of Pb-Pb results

Tuesday, 24 May 2016 14:30 (20 minutes)

ALICE is the LHC experiment devoted to the study of heavy-ion collisions. The main purpose of ALICE is to investigate the properties of the deconfined state of nuclear matter, the Quark-Gluon Plasma (QGP). Quarkonium measurements play a crucial role in this investigation. Indeed, heavy quarks are created during the initial stages of the collision, before the QGP formation, and their number is conserved throughout the partonic and hadronic phases of the collision. The sequential suppression of the quarkonium states by colour screening has long been suggested as a signature and thermometer of the QGP. However, the first results on quarkonium suppression in Pb-Pb collisions at the LHC seem to indicate that for charmonia both regeneration and colour screening mechanisms play a role, while for bottomonia the regeneration mechanism should be small. Additionally, ALICE has recently reported an excess of J/ψ at very low transverse momentum (below 300 MeV/c), presumably of electromagnetic origin that could become a valuable probe of the system.

We will present the latest results on quarkonium production in Pb-Pb collisions at LHC energies measured by ALICE. Quarkonia are measured at mid-rapidity in the dielectron decay channel and at forward rapidity in the dimuon one. Comparisons of measurements at different collision energies and to available theoretical calculations will be discussed.

Collaboration

ALICE

Primary author: Dr RAKOTOZAFINDRABE, Andry (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR))

Presenter: Dr RAKOTOZAFINDRABE, Andry (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR))

Session Classification: Parallel