

Overview of quarkonium production in heavy-ion collisions at LHC

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Quarkonium has been regarded as one of the golden probes for the deconfined phase transition to the quark-gluon plasma (QGP) since late 80's when the relativistic heavy-ion experiments started at AGS and SPS. The heavy quarkonia can be generated in gluon-gluon scatterings at early stage of the collision as the large momentum transfer is required. Later the binding potential between a quark and antiquark in quarkonium is screened by surrounding light quarks and antiquarks. Thus, the various quarkonium states are expected to be melt at different temperatures depending on their binding energies, which allows us to characterize the QCD phase transition. The suppression of the J/ψ and Upsilon yields in Pb + Pb collisions was observed at the Large Hadron Collider (LHC). In this presentation, we review the quarkonium data at LHC, and discuss possible implications related to the propagation of quarkonia in the deconfined hot, dense matter.

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