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Measurements of quarkonium suppression in Au+Au collisions at sqrtsNN = 200 GeV with the STAR experiment RONGRONG MA, Brookhaven National Laboratory, STAR COLLABORATION — The quark-gluon plasma (QGP) is believed to have existed in the early universe, and can be created in laboratory through ultra-relativistic heavy-ion collisions. Quarkonia are expected to dissociate in the QGP due to the color screening of the quark-antiquark potential by the surrounding partons. Such a dissociation occurs when the quarkonium size exceeds the medium Debye radius, which is inversely proportional to the medium temperature. Consequently, quarkonium suppression in heavy-ion collisions was proposed as a strong evidence of the QGP formation. Furthermore, the three bottomonium states of different binding energies are expected to dissociate at different temperatures, which can be used to constrain the temperature of the QGP. In this talk, we will report the latest measurements of J/ψ and Υ suppression in Au+Au collisions at $\sqrt{s_{\rm NN}}$ = 200 GeV by the STAR experiment at RHIC. A strong suppression of high-$p_{\rm T}$ J/ψ is observed in head-on Au+Au collisions. Furthermore, a sequential suppression pattern is observed for the Υ mesons, with the excited states more suppressed than the ground state. These measurements will be compared with model calculations and the physics implications will be discussed.

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