

Quarkonium measurements with the STAR experiment

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The main goal of relativistic heavy-ion collision is to search for the Quark-gluon Plasma (QGP) and to study its properties. Quarkonium suppression in heavy-ion collisions due to color-screening of quark and anti-quark has been proposed as a signature of QGP formation. But other mechanisms such as the cold nuclear matter effect, heavy quark recombination and hot wind dissociation are likely to contribute to the measured quarkonium yield in heavy-ion collisions. Measurements of different quarkonium states at different collision systems and centralities provide an important tool to decouple some of the mechanisms and extract the color-screening effects.

In this talk, we will summarize the recent STAR measurements of quarkonium production at mid-rapidity ($|y| < 1$) in $p + p$, $d + \text{Au}$ and $\text{Au} + \text{Au}$ collisions at $\sqrt{s_{NN}} = 200$ GeV.

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