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## Energy dependence of $J/\psi$ production in Au+Au collisions at $\sqrt{s_{NN}} = 14.6, 19.6$ and 27 GeV at STAR

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Measurements of heavy quarkonia in heavy-ion collisions play a crucial role in studying the properties of the quark-gluon plasma (QGP). The dissociation of  $J/\psi$ , caused by the color screening effect, was proposed as a direct signature of the QGP formation. However, recombination of deconfined charm-anticharm ( $c\bar{c}$ ) pairs complicates the interpretation of the observed  $J/\psi$  suppression in heavy-ion collisions, and its contribution is expected to be smaller at lower collision energies. Therefore, measuring the beam energy dependence of  $J/\psi$  production will help disentangle different effects.

In this poster, we report the measurements of inclusive  $J/\psi$  production in Au+Au collisions at  $\sqrt{s_{NN}} = 14.6, 19.6$  and 27 GeV using the Beam Energy Scan Phase II (BES-II) data recorded by the STAR experiment. The  $J/\psi$  invariant yields and nuclear modification factors ( $R_{AA}$ ) are presented as a function of centrality and transverse momentum. Beam energy dependence of  $J/\psi$   $R_{AA}$  is discussed together with model comparisons.

### Category

Experiment

### Collaboration (if applicable)

The STAR Collaboration

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