

1 Review on recent results of J/ψ production at
2 STAR

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4 The production of J/ψ (bound state of charm and anti-charm quark) in
5 proton-proton collisions gives an opportunity to test quantum chromodynamics
6 (QCD) calculations, as the production of J/ψ involves both perturbative and
7 non-perturbative processes. However, theoretical calculations are still unable to
8 fully explain experimental results, such as polarization and p_T spectra. More
9 studies are needed to investigate J/ψ production mechanism. In heavy-ion
10 collisions, charmonia can be used to study the properties of the medium as
11 they are expected to dissociate in the medium when the Debye radius, inversely
12 proportional to the medium temperature, becomes smaller than their size. Other
13 competing effects, such as recombination, have also been found to modify the
14 observed J/ψ yield in heavy-ion collisions.

15 In the talk, we will review recent measurements of J/ψ production in
16 proton-proton and heavy-ion collisions at various collision energies measured
17 with the STAR experiment at RHIC. The data will be compared with recent
18 model calculations on charmonia production.