

# 11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 245

Typ: Talk

## $J/\psi$ production in Ru+Ru and Zr+Zr collisions at $\sqrt{s_{NN}} = 200$ GeV with the STAR experiment

Donnerstag, 30. März 2023 10:00 (20 Minuten)

$J/\psi$  is an important probe to study the properties of the quark-gluon plasma (QGP) created in heavy-ion collisions. Measurements of  $J/\psi$  yield suppression in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV suggest that  $J/\psi$  production in heavy-ion collisions is affected by the interplay of several effects, such as dissociation, regeneration in the QGP, and the cold nuclear matter effects. Since all these effects are expected to strongly depend on the system size, varying the collision system provides a promising approach to study  $J/\psi$  production in heavy-ion collisions.

In 2018, the STAR experiment collected a high statistics sample of isobaric collisions ( $^{96}_{44}\text{Ru}+^{96}_{44}\text{Ru}$  and  $^{96}_{40}\text{Zr}+^{96}_{40}\text{Zr}$ ) at  $\sqrt{s_{NN}} = 200$  GeV. In this talk, we will present the precision measurements of inclusive  $J/\psi$  production yields as well as its elliptic flow from this data sample. These results will be compared to the similar measurements in Au+Au and Cu+Cu collisions at  $\sqrt{s_{NN}} = 200$  GeV and physics implications will also be discussed.

### Experiment/Theory

STAR

### Affiliation

STAR

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**Sitzung Einordnung:** Parallel: Heavy Flavours & Quarkonia

**Track Klassifizierung:** Heavy flavor and quarkonia