

# Measurements of J/psi polarization in p+p, p+Au and Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV by the STAR experiment

Quarkonium production mechanisms in hadron collisions are not fully understood. Different models on quarkonium production can describe the measured production cross-sections in p+p collisions but have significantly different predictions on quarkonium polarization. Measurements of J/psi polarization in p+p collisions can distinguish these models to test the fundamental theory on quarkonium production. Measurements of J/psi polarization in p+Au and Au+Au collisions can provide insights into cold and hot nuclear matter effects on quarkonium production, which has been used extensively to study the properties of Quark-Gluon Plasma. In this poster, we will present the measurements of J/psi polarization in p+p collisions at  $\sqrt{s} = 200$  GeV using data taken in 2012 by the STAR experiment. We will also present the progress on J/psi polarization measurements in p+Au and Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV using the data taken in 2011 and 2015.

## Preferred Track

Quarkonia

## Collaboration

STAR

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