



XXIV QUARK MATTER DARMSTADT 2014

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Quarkonia production in p+p collisions from the STAR experiment

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Quarkonium production in heavy-ion collisions is an important tool for studying the properties of quark-gluon-plasma (QGP). Interpretation of these results requires a good understanding of the production mechanisms in p+p collisions, which include direct production via gluon fusion, parton fragmentation, and feed down from higher quarkonium states. Despite decades of efforts, the quarkonium production mechanism still remains an open question to date. New quarkonium measurements, especially production at high transverse momentum and spin alignment for various beam energies, are necessary to constrain models.

In this presentation we report on the new measurements of J/ψ and $\psi(2S)$ invariant yields in a broad range of transverse momentum ($4 < p_T < 20 \text{ GeV}/c$) at midrapidity ($|y| < 1.0$) in p+p collisions at $\sqrt{s} = 500$ GeV from STAR. We further present the new polarization measurements from J/ψ and Υ in p+p collisions at $\sqrt{s} = 200$ GeV and 500 GeV from STAR. Comparisons among model calculations will be discussed.

On behalf of collaboration:

STAR

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