

Measurements of charmonium production in p+p collisions at STAR

Friday, 21 December 2018 15:15 (15 minutes)

Charmonia are bound states of charm and anti-charm quarks which provide a unique opportunity to explore properties of the quantum chromodynamics.

The production mechanism of charmonia in elementary collisions is not fully understood yet.

Several models have been proposed to describe the production of J/ψ mesons, each one employing a different treatment of the hadronization process.

Experimental data on the J/ψ cross-section and polarization in p+p collisions can be used to test these models and provide insight into the J/ψ production mechanism.

The STAR experiment has recorded large samples of p+p collisions at $\sqrt{s} = 200$ GeV and 500 GeV.

In this talk, we will present recent measurements of J/ψ production cross-section over broad p_T ranges.

J/ψ polarization measurements in both helicity and Collins-soper frames will also be presented.

The results are compared with model calculations, and physics implications will be discussed.

Type

Parallel talk

Sessions (parallel only)

Heavy Flavor

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