Contribution ID: **80** Type: **Poster**

Measurement of J/psi Polarization in p+p Collisions at √s = 200 GeV through the Di-muon Channel at STAR

Tuesday 15 May 2018 19:10 (30 minutes)

Quarkonium production mechanism in elementary collisions has not been fully understood. Experimental data on the J/ψ cross section in p+p collisions can be described relatively well by several models that are currently available on the market. However, these models differ in their predictions for the J/ψ polarization. Therefore precise measurements of J/ψ polarization can provide further constraints on the production models. During the RHIC 2015 run, the STAR experiment recorded a large sample of p+p collisions at $\sqrt{s}$ = 200 GeV triggered by the Muon Telescope Detector for charmonium studies via the di-muon decay channel. In this poster, we will present the J/ψ polarization measurement in the helicity and Collins-Soper reference frames utilizing this data set. The polarization parameters λ_θ and λ_ϕ are extracted from simultaneous fit to 1-dimensional polar and azimuthal angular distributions of decay μ^+ in the J/ψ transverse momentum range of 0-6 GeV/c in both frames. The results will be compared with similar measurements in higher transverse momentum region as well as with model calculations.

Content type

Experiment

Collaboration

STAR

Centralised submission by Collaboration

Presenter name already specified

Author: YE, Zhenyu (University of Illinois at Chicago)

Presenter: LIU, Zhen (University of Science and Technology of China and Brookhaven National Laboratory)

Session Classification: Poster Session

Track Classification: Quarkonia