

Abstract Submitted
for the PSF17 Meeting of
The American Physical Society

Measurements of J/psi polarization in p+p at $\sqrt{s} = 200$ GeV by the STAR experiment SIWEI LUO, The University of Illinois at Chicago, STAR COLLABORATION — Quarkonium production mechanisms in elementary hadron collisions are not yet fully understood. Different models for quarkonium production can describe the measured production cross-section in p+p collisions but have significantly different predictions for polarization. Measurements of J/psi polarization in p+p collisions can distinguish these models and test the fundamental theory on quarkonium production. In this presentation, I will show the measurements of J/psi polarization in p+p collisions at $\sqrt{s} = 200$ GeV using data taken in 2012 by the STAR experiment. The polarization parameter λ_θ in the helicity frame is extracted using 1-dimensional fit in the transverse momentum range of 2-8 GeV/c. Furthermore, I will also discuss the approach to extract the polarization parameters using a 2-dimensional maximum likelihood fit. The new method has the capability to extract the three polarization parameters λ_θ , λ_ϕ and $\lambda_{\theta\phi}$ simultaneously, which provides a more comprehensive picture for understanding the J/psi polarization.

Siwei Luo
Univ of Illinois - Chicago

Date submitted: 27 Oct 2017

Electronic form version 1.4