



Contribution ID: 295

Type: **Parallel Session Talk**

J/psi polarization in $p+p$ collisions at PHENIX

Wednesday 10 April 2019 14:51 (17 minutes)

The J/ψ , a bound state of charm and anti-charm quark with spin 1 state, decays into spin $\frac{1}{2}$ lepton pairs with a large branching ratio. Its production in $p+p$ collisions shed light on inner workings of charmonium production that is dominated by gluon-gluon interaction at RHIC energy. Hadronization of charmonium in unpolarized $p+p$ collisions is also accessible in robust nonrelativistic QCD formalism due to the large energy scale of heavy quark mass relative to the hadronization scale. Measuring how the spin of a decay lepton aligns with the spin of charmonium can test and map out various production mechanisms. In the past, the PHENIX saw non-sizeable polarization in J/ψ mesons produced in forward rapidity at $\sqrt{s} = 510$ GeV and efforts continue to measure polarization at mid-rapidity. Status of mid-rapidity measurements of J/ψ to decay di-electrons spin alignment for $p+p$ collisions from data taken at $\sqrt{s} = 510$ GeV in 2013 will be presented.

Primary author: LEE, sookhyun

Presenter: LEE, sookhyun

Session Classification: WG6: Spin and 3D structure

Track Classification: WG6: Spin and 3D structure