XXVII International Workshop on Deep Inelastic Scattering and Related Subjects



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

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The J/psi, a bound state of charm and anti-charm quark with spin 1 state, decays into spin ½ 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-sizable polarization in J/psi 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.

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