Study of J/ψ production with jet activity in pp collisions at $\sqrt{s} = 200$ GeV with the STAR experiment

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Abstract

The production mechanism of quarkonia is an important topic to investigate since it involves both perturbative and non-perturbative processes. Quarkonium production from Color Singlet Model and Color Octet Mechanism should result in different jet activities (the number of jets per event) due to different number of emitted hard partons. Therefore, studies associated with jets can further help to differentiate between the different quarkonium production mechanisms.

In this poster, we will present the first results from RHIC of the J/ψ production cross section as a function of jet activity using the p+p collision data at $\sqrt{s} = 200$ GeV collected by the STAR experiment in 2015. These results will be compared to different production model calculations.