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

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## Abstract

The fragmentation function is believed to play a crucial role to differentiate different production mechanisms of J/$\psi$. In order to have a better understanding of charm quarks and gluons fragmenting into J/$\psi$, production of J/$\psi$ mesons in jets has been studied in $pp$ collisions at the LHC and RHIC. The measured J/$\psi$ production is found to be much less isolated than nonrelativistic QCD (NRQCD) prediction as implemented in PYTHIA.

The dependence of J/$\psi$ production on jet activity (the number of jets per event) is another observable which could be easily compared with theoretical predictions to understand the relation between jet fragmentation and J/$\psi$ production. In this talk, we will present the progress of the study of J/$\psi$ production with jet activity at mid-rapidity in $pp$ collisions at $\sqrt{s} = 200$ GeV at the STAR experiment.