

10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Contribution ID: 232

Type: **Oral Presentation**

J/ψ production in jets in p+p collisions at $\sqrt{s} = 500$ GeV by STAR

Tuesday, June 2, 2020 12:55 PM (20 minutes)

The suppression of J/ψ production caused by the color-screening effect in heavy-ion collisions is considered as an evidence of the creation of quark-gluon plasma. To interpret the observed suppression in heavy-ion collisions, a good understanding of its production mechanism in p+p collisions is needed. However, the production of J/ψ in hadronic collisions remains not fully understood and requires further studies. Recently, J/ψ production in jets was proposed as a useful observable to help explore the J/ψ production mechanism, and to differentiate various J/ψ production models.

In this talk, we will present the measurement of the fraction of charged jet transverse momentum (p_T) carried by the J/ψ meson, $z(J/\psi) \equiv p_T(J/\psi)/p_T(jet)$, at mid-pseudorapidity ($|\eta| < 1$) with a kinematic cut of $p_T(J/\psi) > 5$ GeV/c in p+p collisions at $\sqrt{s} = 500$ GeV by the STAR experiment. The comparison to model calculations and similar measurements carried out at the LHC will be presented, and its physics implications will be discussed.

Collaboration (if applicable)

STAR

Track

Heavy Flavor and Quarkonia

Contribution type

Contributed Talk

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Session Classification: Parallel

Track Classification: Heavy Flavor and Quarkonia