

Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

Energy dependence of J/ψ production in p+p collisions at STAR
QIAN YANG, BNL/USTC, STAR COLLABORATION — J/ψ production in heavy-ion collisions is an important tool for studying the properties of Quark-Gluon Plasma (QGP). Interpretation of these results requires a good understanding of the production mechanisms in p+p collisions, which include direct production via gluon fusion, parton fragmentation, and feed down from excited charmonium states and B hadrons. Despite decades of efforts, the J/ψ production mechanism still remains a puzzle in high energy physics. J/ψ measurement at a new beam energy provides new insights on J/ψ production mechanism and constrains theoretical parameters. In 2013, a large fraction of the Muon Telescope Detector (MTD) was installed at mid-rapidity in STAR. This enables, for the first time, the measurement of J/ψ at STAR via the di-muon channel. In this talk, we will present the measurement on J/ψ production in p+p collisions at $\sqrt{s} = 200$ and 500 GeV in a wide p_T range up to 20 GeV/c, by combining measurements from the MTD and the other detectors. We will discuss the physics perspectives of J/ψ measurement in the forward pseudo-rapidity range $2.5 < \eta < 4.5$ with the proposed future Forward Calorimeter System and Forward Tracking System at STAR.

Qian Yang
BNL/USTC

Date submitted: 30 Jun 2015

Electronic form version 1.4