

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

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6 **Abstract**

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

15 In this talk, we will present the measurement of the fraction of charged jet  
16 transverse momentum ( $p_T$ ) carried by the  $J/\psi$  meson,  $z(J/\psi) \equiv p_T(J/\psi)/p_T(jet)$ ,  
17 at mid-pseudorapidity ( $|\eta| < 1$ ) with kinematic cuts of  $p_T(J/\psi) > 5$  GeV/c and  
18  $p_T(jet) > 10$  GeV/c in p+p collisions at  $\sqrt{s} = 500$  GeV by the STAR experiment.  
19 The comparison to model calculations and similar measurements carried out at the  
20 LHC will be presented, and its physics implications will be discussed.