

Ratio to nominal

**STAR**

$p+p \rightarrow p' + \pi^+ \pi^- + p' \quad \sqrt{s} = 200 \text{ GeV}$

$\pi^+, \pi^-:$   
 $p_T > 0.2 \text{ GeV}$   
 $|\eta| < 0.7$

$p': (p_x + 0.3 \text{ GeV})^2 + p_y^2 < 0.25 \text{ GeV}^2$   
 $0.2 \text{ GeV} < |p_y| < 0.4 \text{ GeV}$   
 $p_x > -0.2 \text{ GeV}$

-180 -120 -60 0 60 120 180

$\phi^{\text{GJ}}(\pi^+)$

$\Delta\epsilon_{\text{TPC}}$  (embed. stat.)  
 $\Delta\epsilon_{\text{TPC}}$  (dead mat.)  
 $\Delta\epsilon_{\text{RP}}$   
 $\Delta\epsilon_{\text{RP}}^{\text{trig.}}$   
 $\Delta\epsilon_{\text{RP}}$   
 $\Delta\epsilon_{\text{veto}}$   
 $\Delta\sigma(z_{\text{vtx}})$   
 $\Delta\text{Luminosity}$

$\Delta\epsilon_{\text{TPC}}$  (pile-up)  
 $\Delta\epsilon_{\text{TOF}}$   
 $\Delta\epsilon_{\text{DM veto}}$   
 $\Delta\epsilon_{\text{RP}}$   
 $\Delta\epsilon_{\text{vtx}}$   
 $\Delta\langle z_{\text{vtx}} \rangle$   
 $\Delta N_{\text{bkgd}}^{\text{non-excl}}$

Total (w/o lumi.)  
Total (w/ lumi.)