

**STAR** $p+p \rightarrow p' + \pi^+ \pi^- + p' \quad \sqrt{s} = 200 \text{ GeV}$  $\pi^+, \pi^-:$  $p_T > 0.2 \text{ GeV}$  $|\eta| < 0.7$  $m(\pi^+ \pi^-) < 1.0 \text{ GeV}$  $p': (p_x + 0.3 \text{ GeV})^2 + p_y^2 < 0.25 \text{ GeV}^2$  $0.2 \text{ GeV} < |p_y| < 0.4 \text{ GeV}$  $p_x > -0.2 \text{ GeV}$ 

Ratio to nominal

1.2

1

-1

-0.5

0

0.5

1

 $\cos \theta^{\text{GJ}}(\pi^+)$  $\Delta \epsilon_{\text{TPC}}$  (embed. stat.) $\Delta \epsilon_{\text{TPC}}$  (dead mat.) $\Delta \epsilon_{\text{TOF}}$  $\Delta \epsilon_{\text{DM veto}}$  $\Delta \epsilon_{\text{RP}}$  $\Delta \epsilon_{\text{vtx}}$  $\Delta \langle z_{\text{vtx}} \rangle$  $\Delta N_{\text{non-excl}}$  $\Delta N_{\text{bkgd}}$  $\Delta \epsilon_{\text{TPC}}$  (pile-up) $N^{\text{hits}}, d_0/\text{DCA}(R)$  $\Delta \epsilon_{\text{RP}}$  $\Delta \epsilon_{\text{RP}}$  $\Delta \epsilon_{\text{veto}}$  $\Delta \sigma(z_{\text{vtx}})$  $\Delta \text{Luminosity}$ 

Total (w/o lumi.)

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