

Ratio to nominal

STAR

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

π^+, π^- : $p_T > 0.2$ GeV
 $|\eta| < 0.7$

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

$|\vec{\Delta p}_T| > 0.12 \text{ GeV}$

$\Delta\phi > 90^\circ$

0.9

1.0

1.1

1.2

1.3

1.4

0.5

1

1.5

2

2.5

3

3.5

$m(\pi^+ \pi^-)$ [GeV]

$\epsilon_{\text{TPC}} \uparrow$ (embed. stat.)
 $\epsilon_{\text{TPC}} \uparrow$ (pile-up)
 $\epsilon_{\text{TPC}} \uparrow$ (dead mat.)
 $\epsilon_{\text{TOF}} \uparrow$
 $\epsilon_{\text{RP}} \uparrow$
 $\langle z \rangle_{\text{vtx}} \uparrow$
 $\sigma(z_{\text{vtx}}) \uparrow$
 Luminosity \uparrow

$\epsilon_{\text{TPC}} \downarrow$ (embed. stat.)
 $\epsilon_{\text{TPC}} \downarrow$ (pile-up)
 $\epsilon_{\text{TPC}} \downarrow$ (dead mat.)
 $\epsilon_{\text{TOF}} \downarrow$
 $\epsilon_{\text{RP}} \downarrow$
 $\langle z \rangle_{\text{vtx}} \downarrow$
 $\sigma(z_{\text{vtx}}) \downarrow$
 Luminosity \downarrow

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