

Ratio to nominal

**STAR**

$p+p \rightarrow p'+p\bar{p}+p'$   $\sqrt{s} = 200$  GeV

$p, \bar{p}$ :  $p_T > 0.4$  GeV  $|\eta| < 0.7$   
 $\min(p_T^+, p_T^-) < 1.1$  GeV

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

2

2.5

3

$m(p\bar{p})$  [GeV]

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

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

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