

Shown are distributions:

- $\eta^\tau$ : pseudorapidity of  $\tau$ ;
- $\eta^j$ : pseudorapidity of jet;
- $\Delta\eta^{jj}$ : pseudorapidity gap between two jets;
- $Y^{\tau,\tau}$ : rapidity of the  $\tau\tau$  system;
- $m^{jj}$ : invariant mass of the  $jj$  system;
- $p_T^{jj}$ : transverse momenta of the  $jj$  system;
- $Y^{jj}$ : rapidity of the  $jj$  system;
- $m^{\tau\tau jj}$ : invariant mass of the  $\tau\tau jj$  system.
- $p_T^{\tau\tau}$ : transverse momentum of the  $\tau\tau jj$  system.
- $p_z^{\tau\tau}$ : longitudinal momentum of the  $\tau\tau$  system.
- $p_z^{\tau\tau jj}$ : longitudinal momentum of the  $\tau\tau jj$  system.

#### VBF selection

- $100 < m^{jj} < 800$  GeV
- $p_T^{\tau\tau} < 600$  GeV
- $m^{\tau\tau jj} < 1500$  GeV

#### Normalisation

- X sample :  $\sigma = 0.90614$  e+03 (pb)
- Higgs sample :  $\sigma = 0.20431$  e+00 (pb)

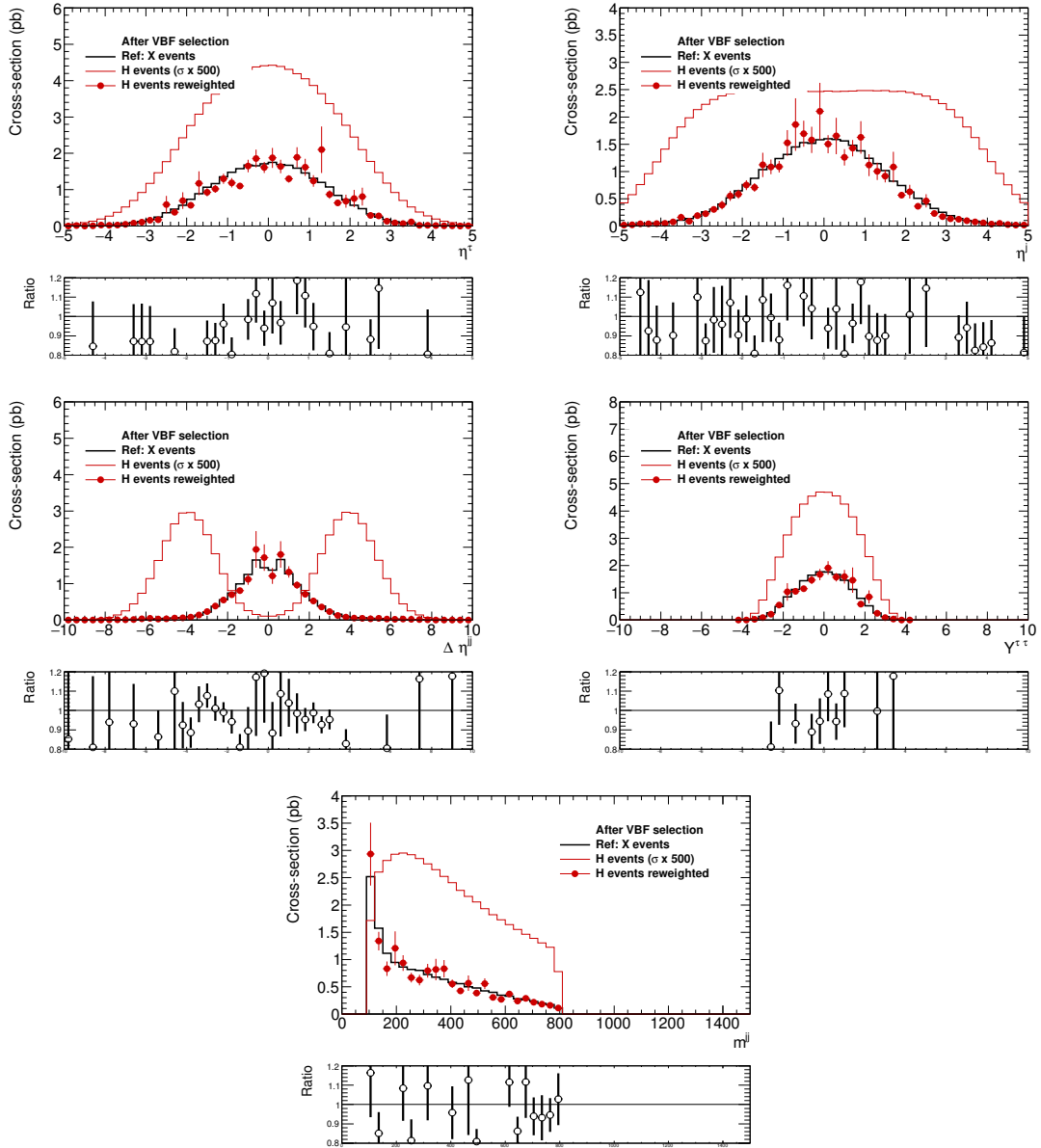


Figure 1: The Higgs sample reweighted to X and compared to X sample. After VBF selection.

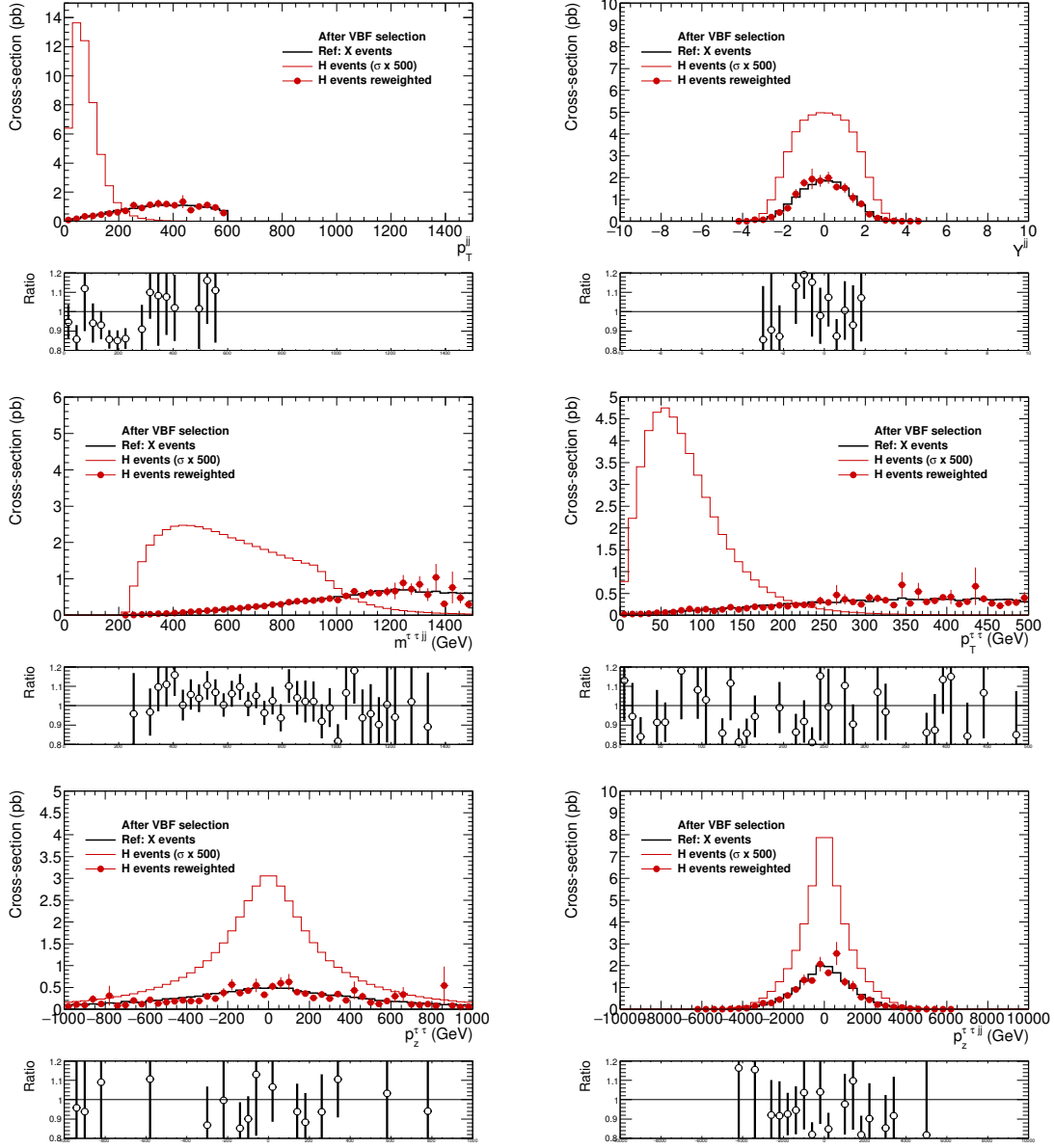


Figure 2: The Higgs sample reweighted to X and compared to X sample. After VBF selection.

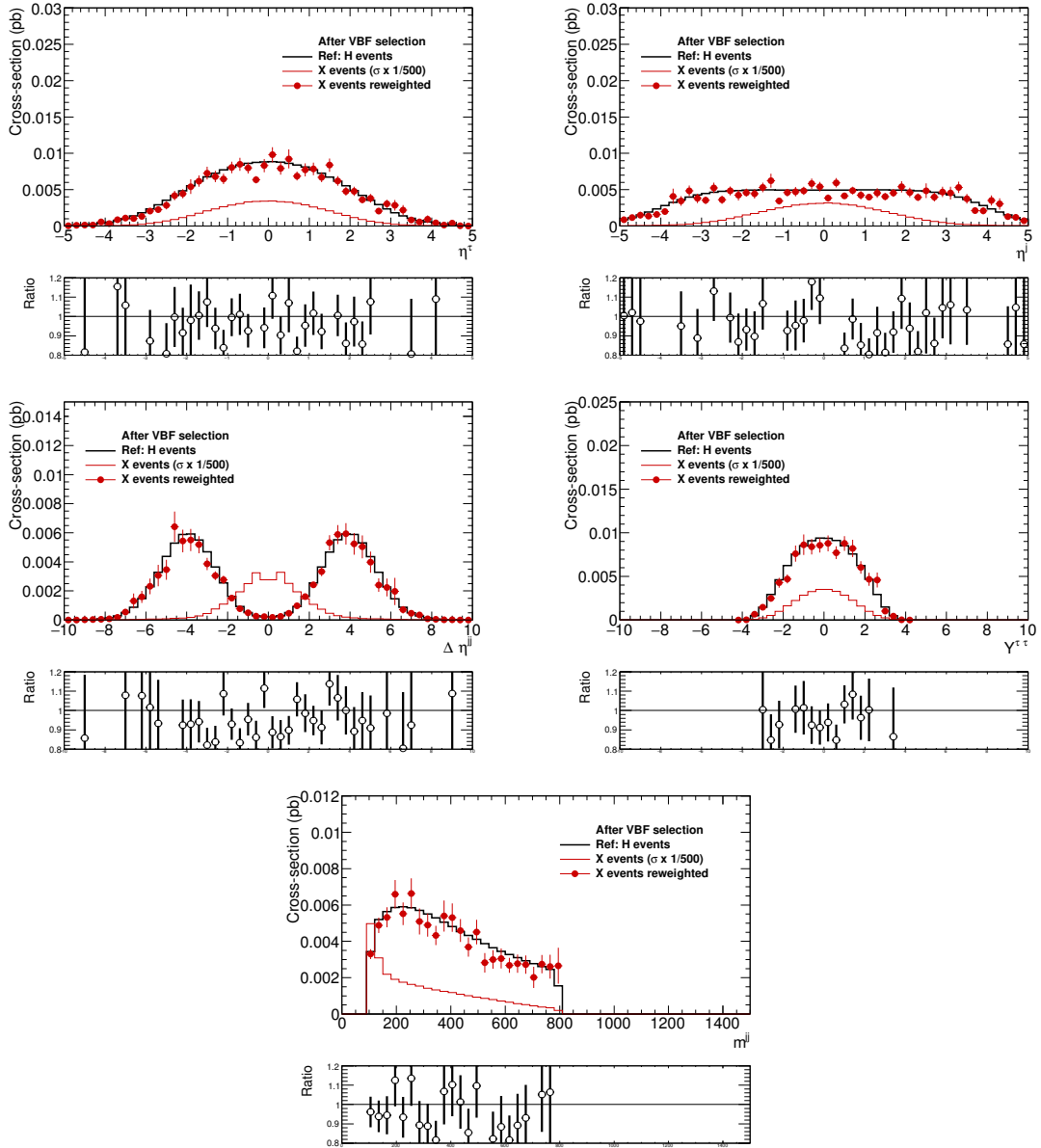


Figure 3: The X sample reweighted to the Higgs. After VBF selection.

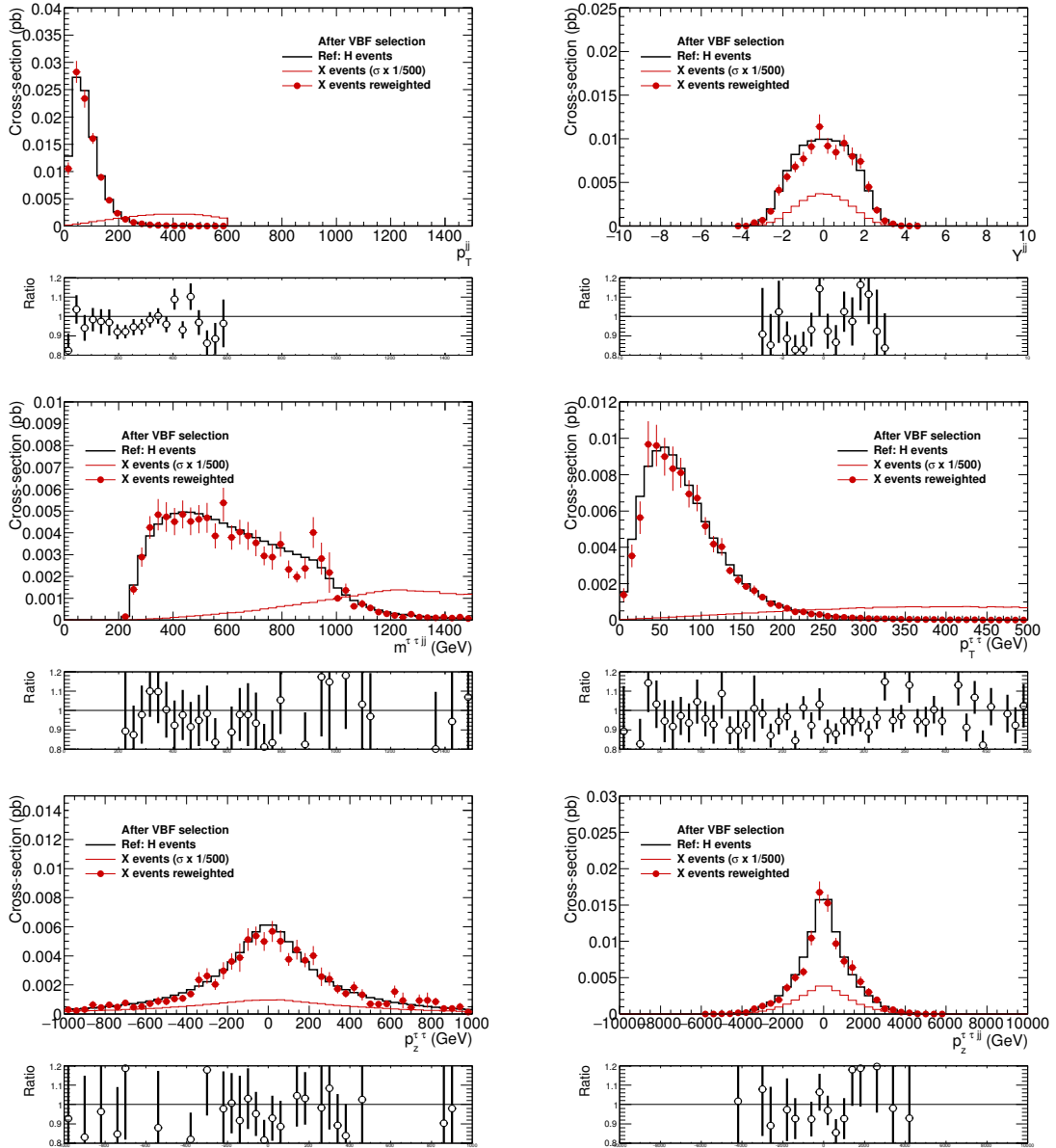


Figure 4: The X sample reweighted to the Higgs. After VBF selection.