

0.1 Changes in tracks multiplicity

- highPurity
- $p_T > 100$ MeV
- $p_T Error/p_T < 0.1$
- No requirements on dz or dxy

Reason: to avoid an interference with PV selection and PV filter efficiency calculation.

Disadvantage: different quality cuts for M-tracks and the tracks for dNdEta (w/ $p_T > 0.5$ GeV)

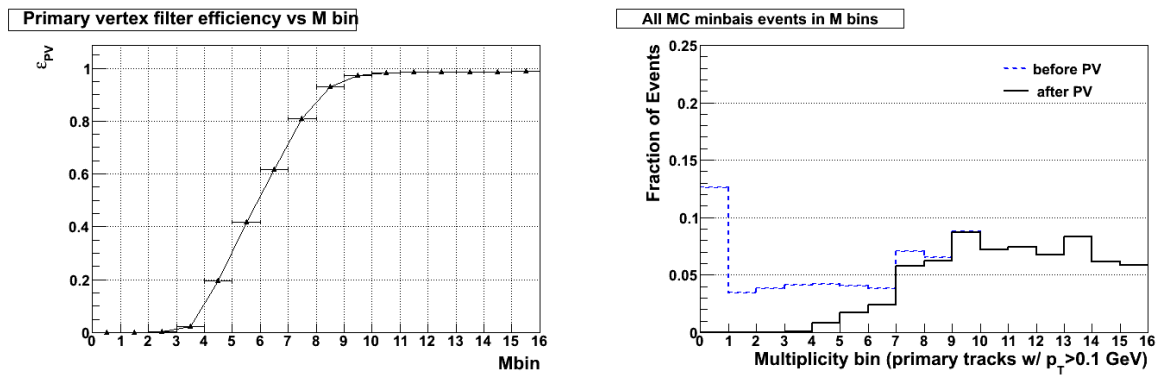


Figure 1: Primary vertex filter. $ndof > 4$, $|z| < 15$, $|d0| < 2$

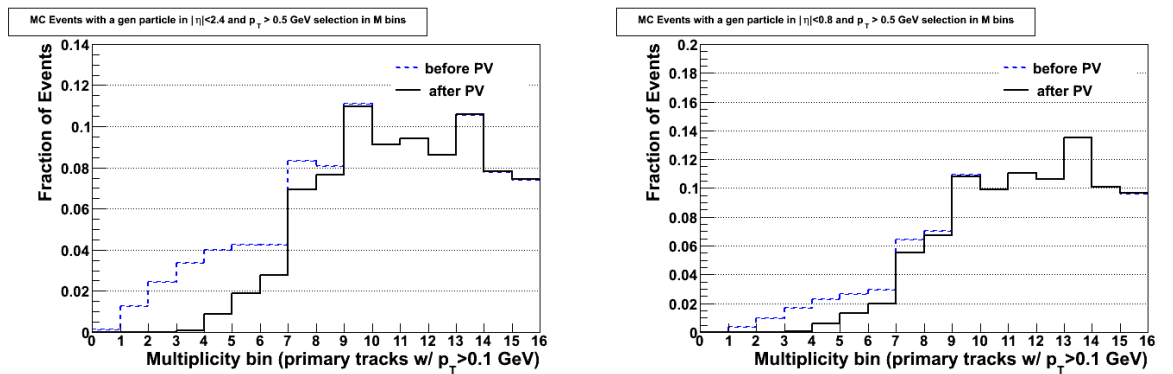


Figure 2: Events with a particle above 0.5 GeV

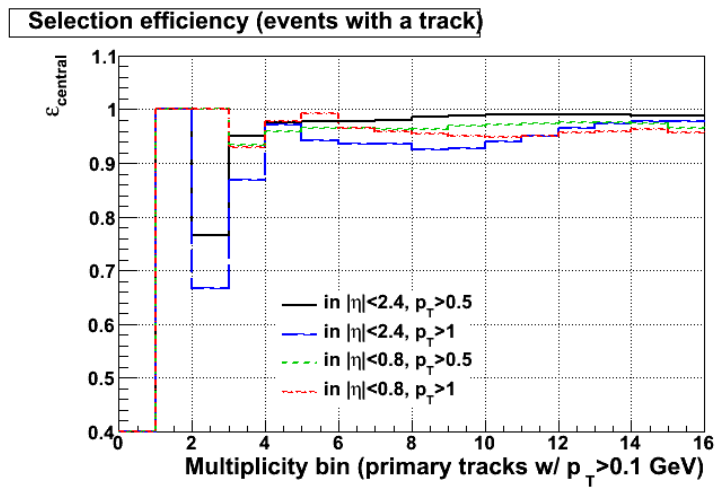


Figure 3: Central track selection efficiency

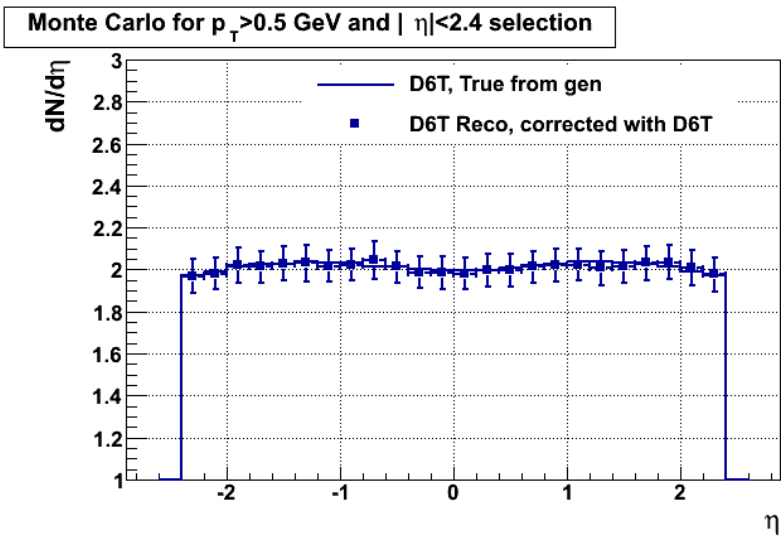
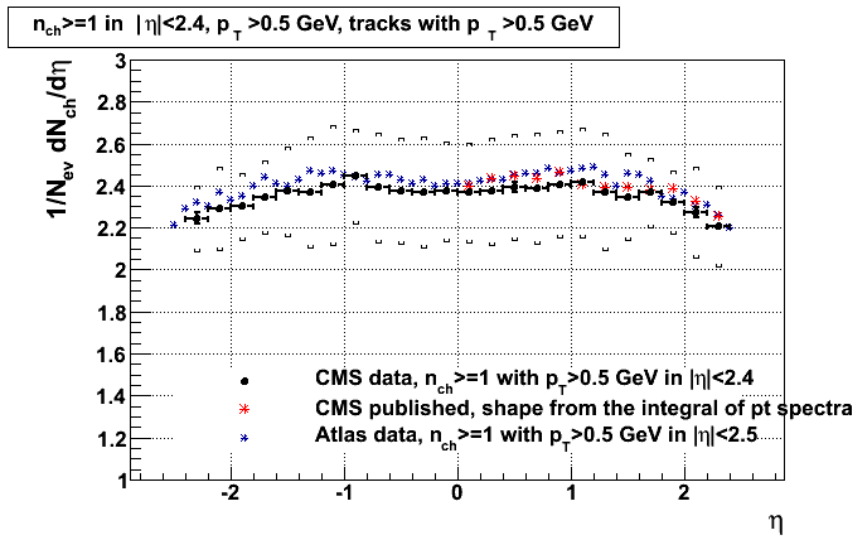
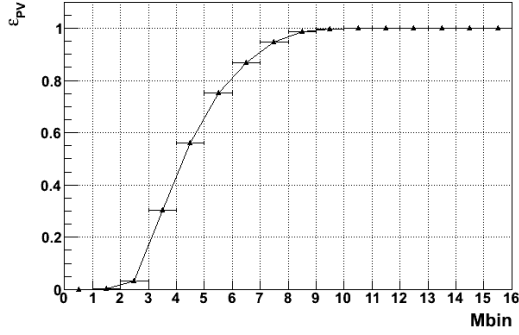


Figure 4: Result for 2.4 and closure test

Primary vertex filter efficiency vs M bin



All MC minbias events in M bins

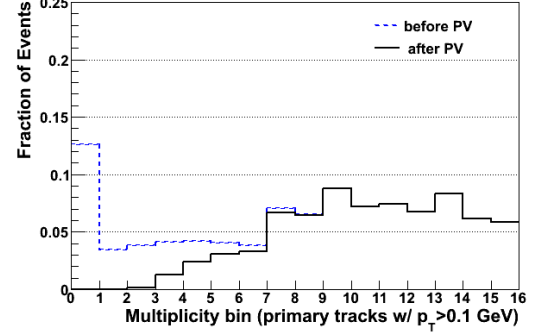
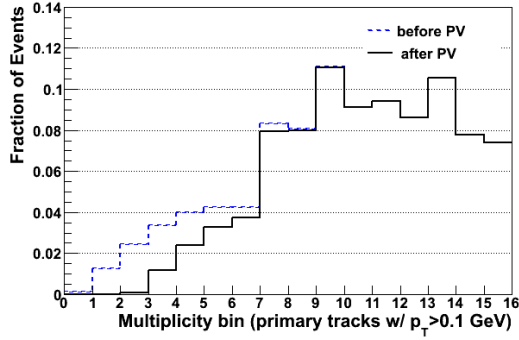


Figure 5: Primary vertex filter. $ndof > 1$, $|z| < 20$, $|d0| < 5$

MC Events with a gen particle in $|\eta| < 2.4$ and $p_T > 0.5$ GeV selection in M bins



MC Events with a gen particle in $|\eta| < 0.8$ and $p_T > 0.5$ GeV selection in M bins

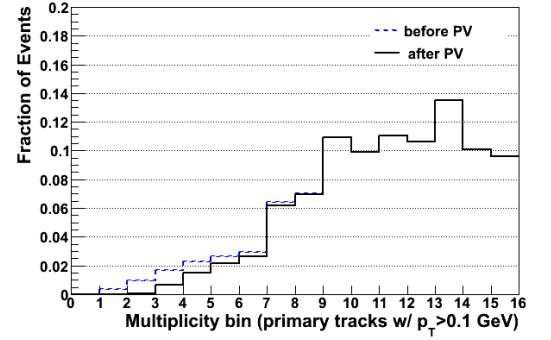


Figure 6: Events with a particle above 0.5 GeV

Selection efficiency (events with a track)

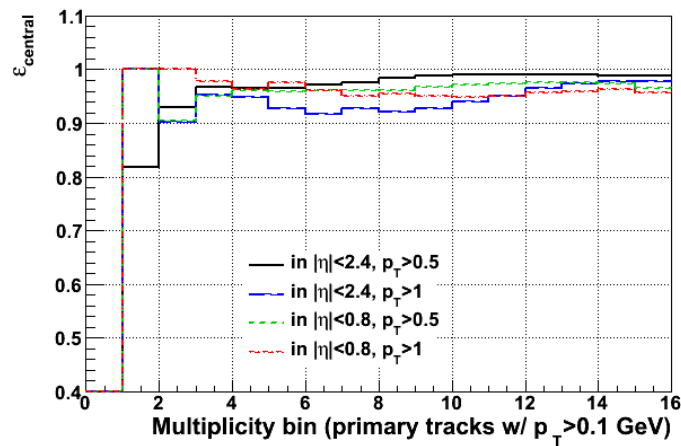


Figure 7: Central track selection efficiency

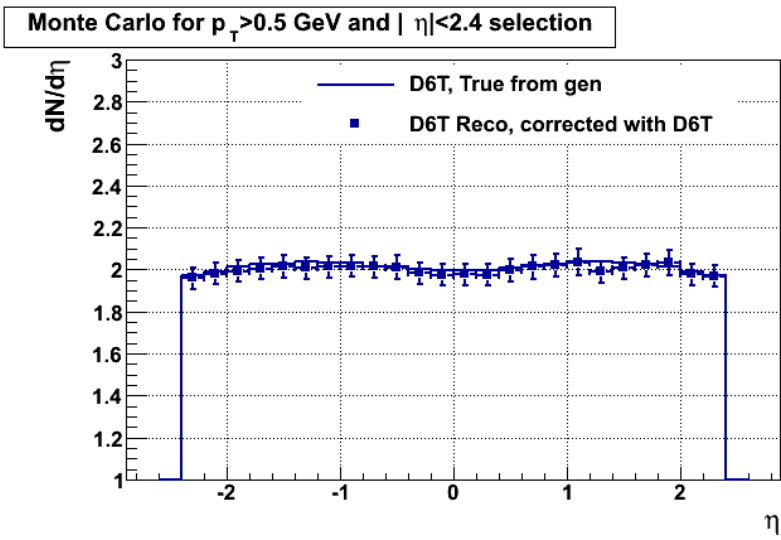
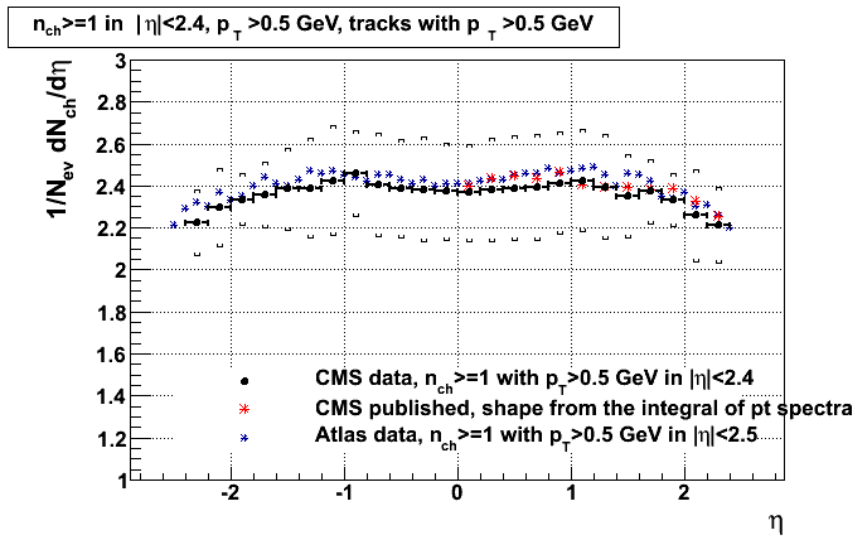
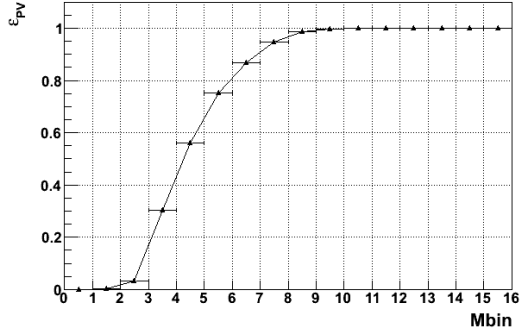


Figure 8: Result for 2.4 and closure test

Primary vertex filter efficiency vs M bin



All MC minbias events in M bins

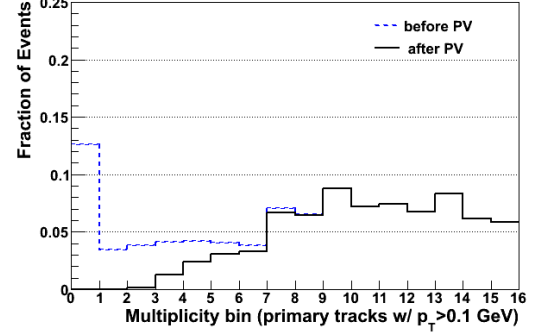
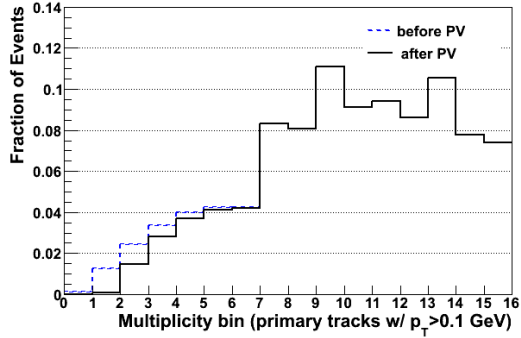


Figure 9: Primary vertex filter. $ndof > 0$, $|z| < 35$, $|d0| < 20$

MC Events with a gen particle in $|\eta| < 2.4$ and $p_T > 0.5$ GeV selection in M bins



MC Events with a gen particle in $|\eta| < 0.8$ and $p_T > 0.5$ GeV selection in M bins

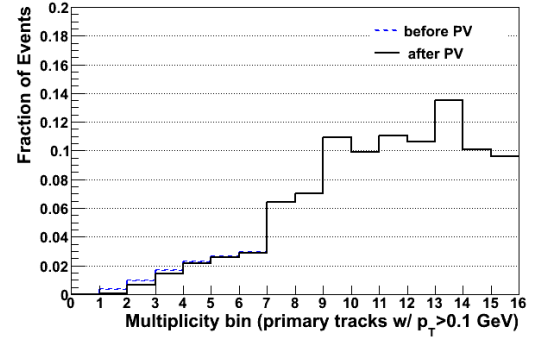


Figure 10: Events with a particle above 0.5 GeV

Selection efficiency (events with a track)

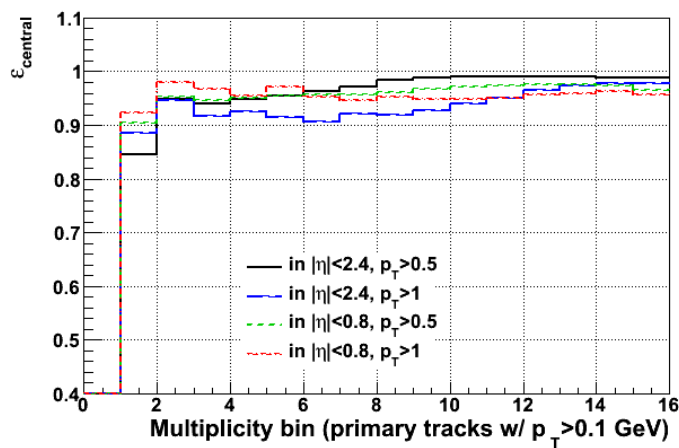


Figure 11: Central track selection efficiency

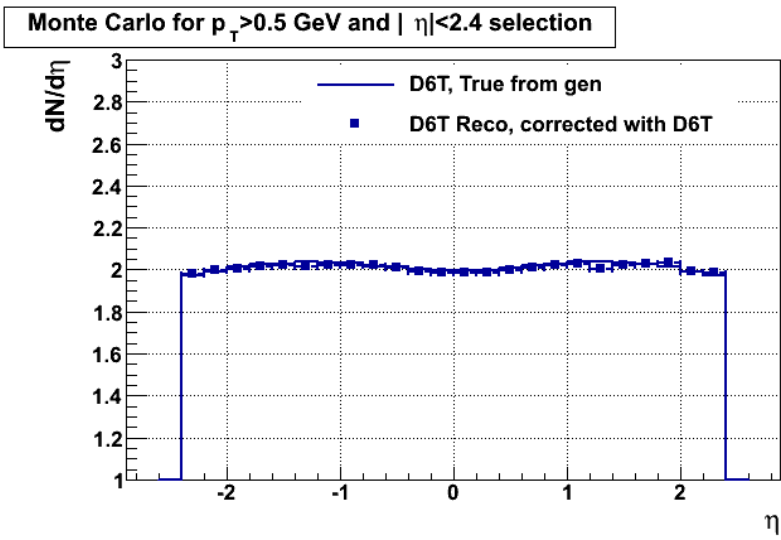
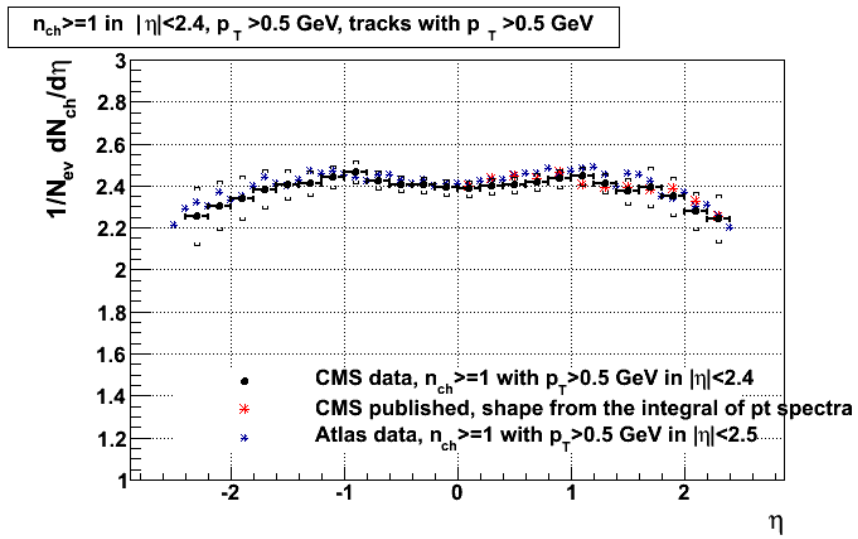


Figure 12: Result for 2.4 and closure test

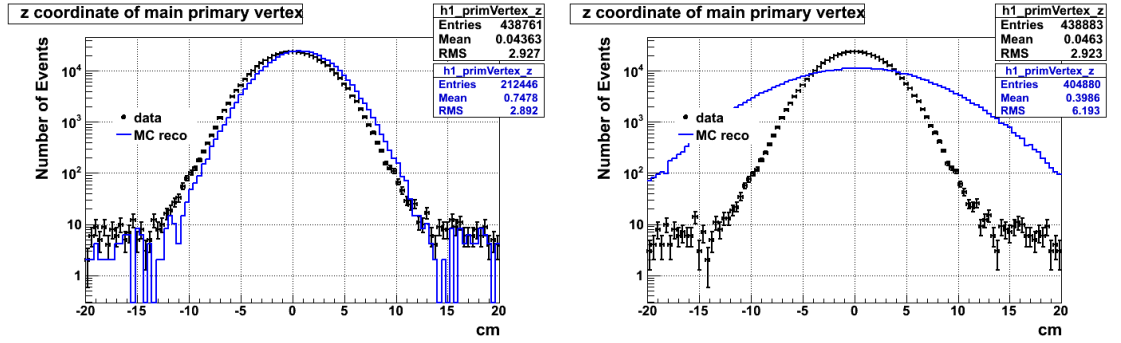


Figure 13: Vertex z . Left: Spring10 MC and June9, Right: Fall10 MC and Sept17 data. Events selected with Vertex filter: $ndof > 0$, $|z| < 35$, $d_0 < 20$,

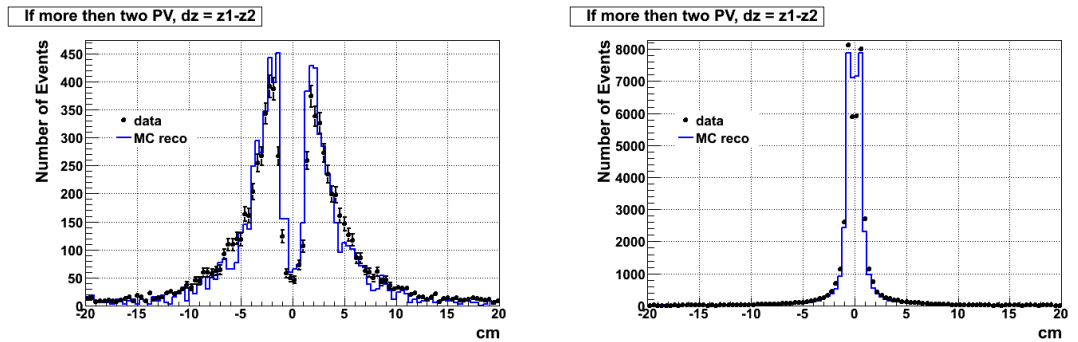


Figure 14: Vertex z_1-z_2 . Left: Spring10 MC and June9, Right: Fall10 MC and Sept17 data. Events selected with Vertex filter: $ndof > 0$, $|z| < 35$, $d_0 < 20$

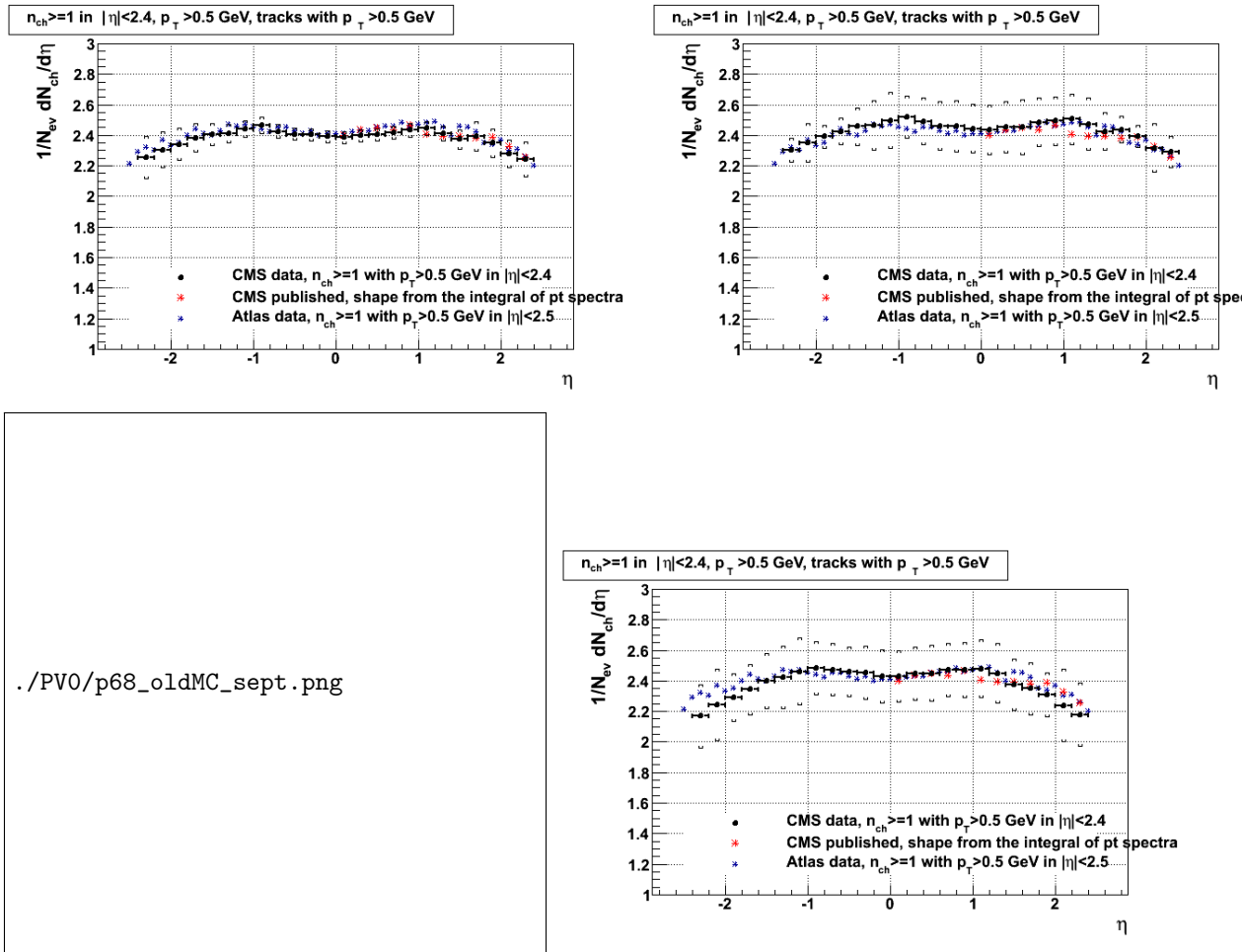


Figure 15: Results for 2.4. Top: Using Fall10 MC, left - Sept data, right - June Data. Events selected with Vertex filter: $ndof > 0$, $|z| < 35$, $d0 < 20$