Testing the variation on the omega vs y cut at the separation of proton to quasi-elastic & Delta-pion

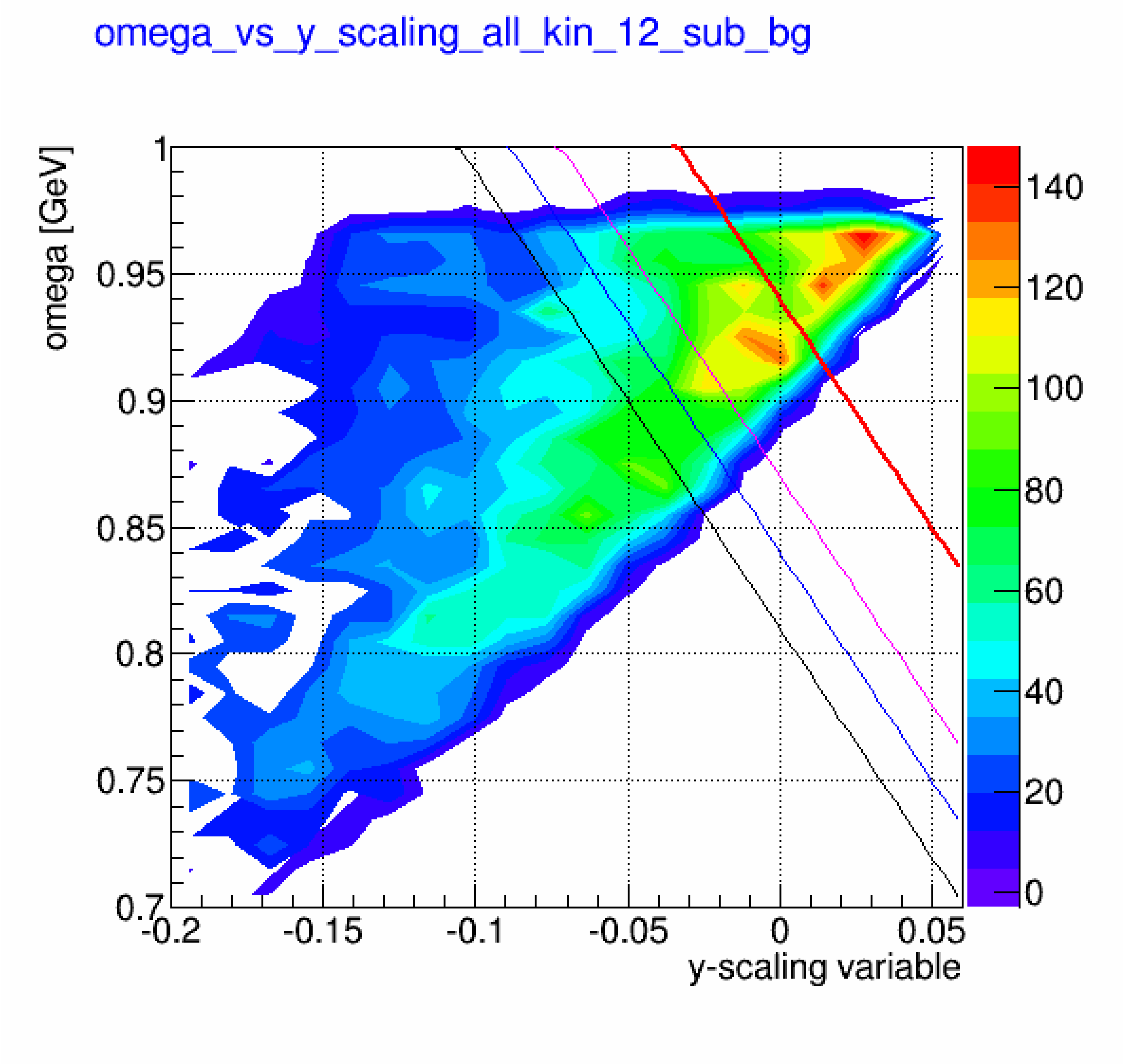

Figure 1: Omega vs y-scaling:
variation at the separation of proton to quasi-elastic & Delta-pion
*at Omega = 0.84 (+/- **0.03)** – 1.8*y*

wycut1: (blue): *Omega = 0.84 – 1.8*y*
wycut2: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y*
wycut3: (black): *Omega = 0.84 (**- 0.03)** – 1.8*y*

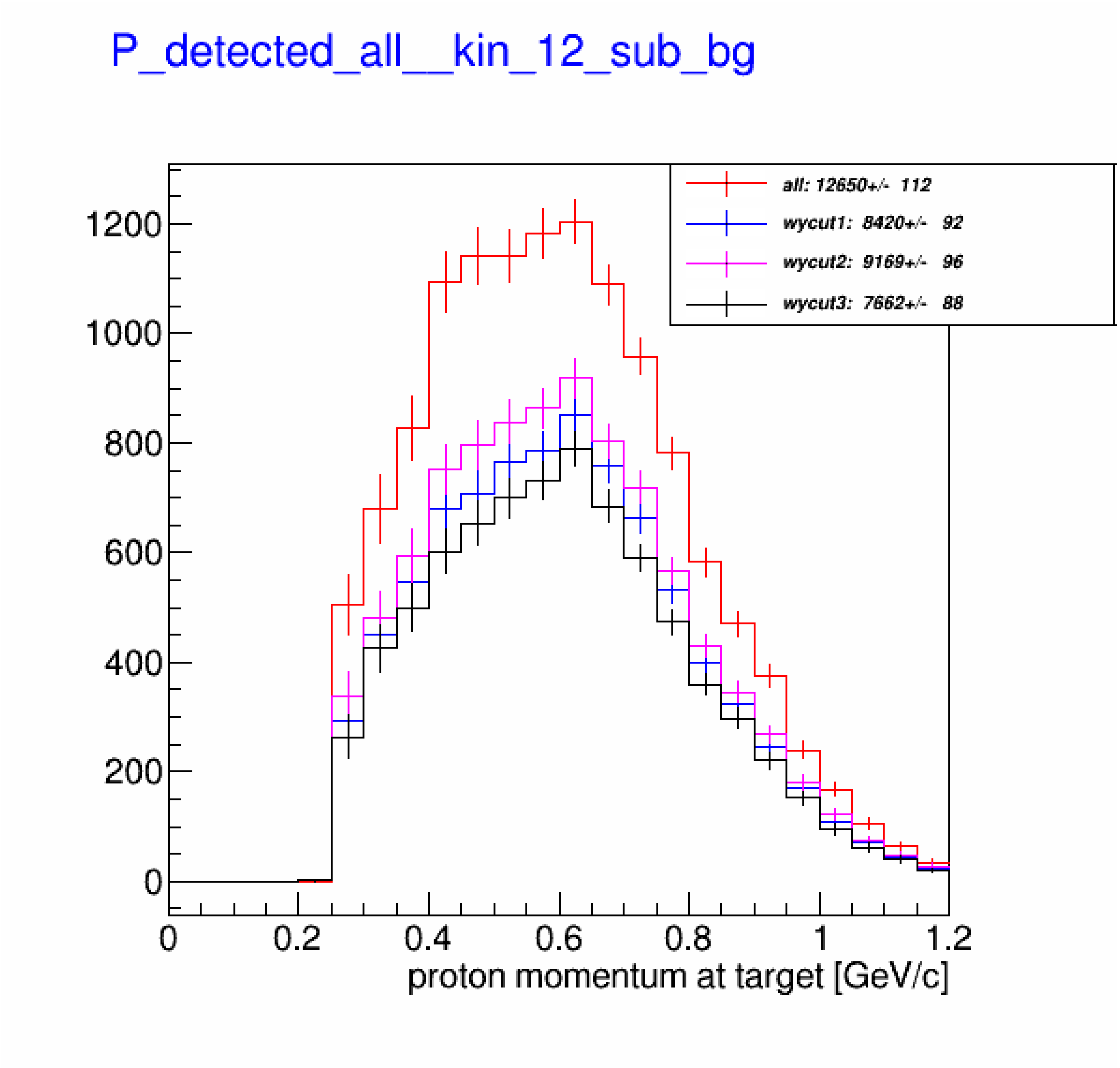

Figure 2.1: detected proton-momentum at target after background subtraction.

wycut1: (blue): *Omega = 0.84 – 1.8*y*
wycut2: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y*
wycut3: (black): *Omega = 0.84 (- 0.03) – 1.8*y*

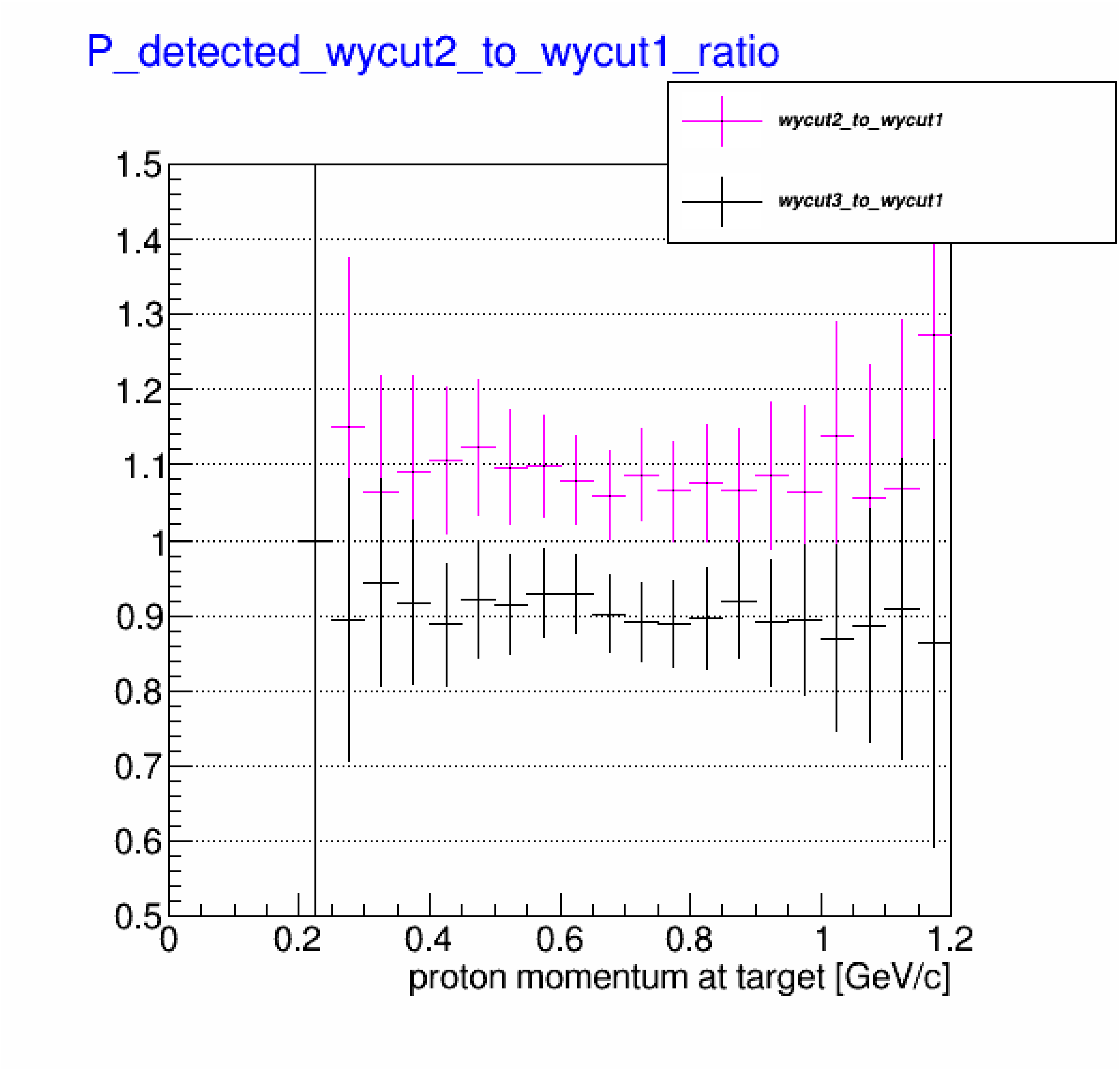

Figure 2.2: The wycut ratio of detected proton-momentum at target after background subtraction

wycut2 to wycut1: (pink):	*Omega = 0.84 (+**0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*
wycut3 to wycut1: (black):	*Omega = 0.84 (- **0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*

The Effect on the choice of wycut is ~10% differ in momentum bin

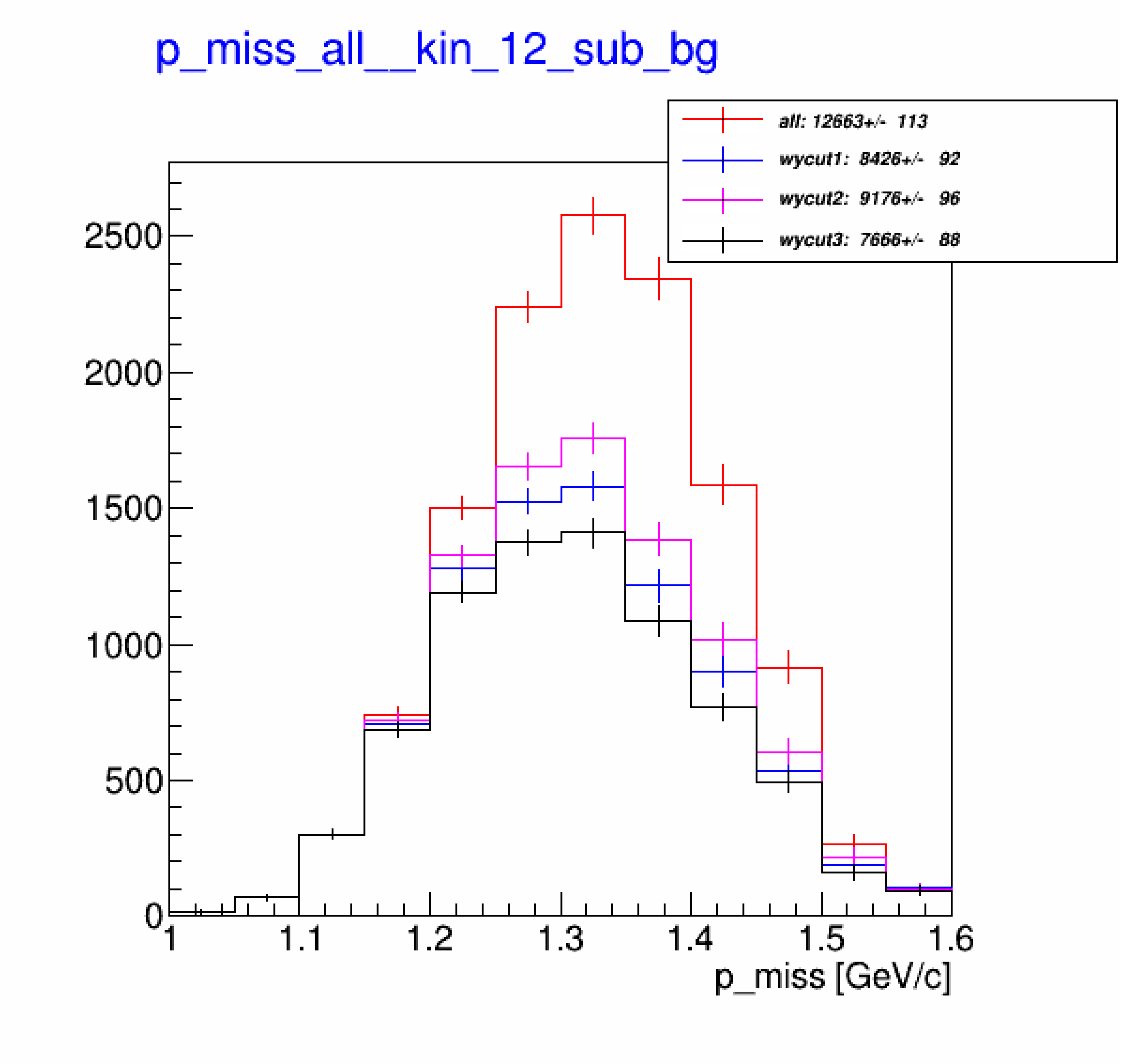

Figure 3.1: [p_miss] at target after background subtraction.

wycut1: (blue): *Omega = 0.84 – 1.8*y*
wycut2: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y*
wycut3: (black): *Omega = 0.84 (- 0.03) – 1.8*y*

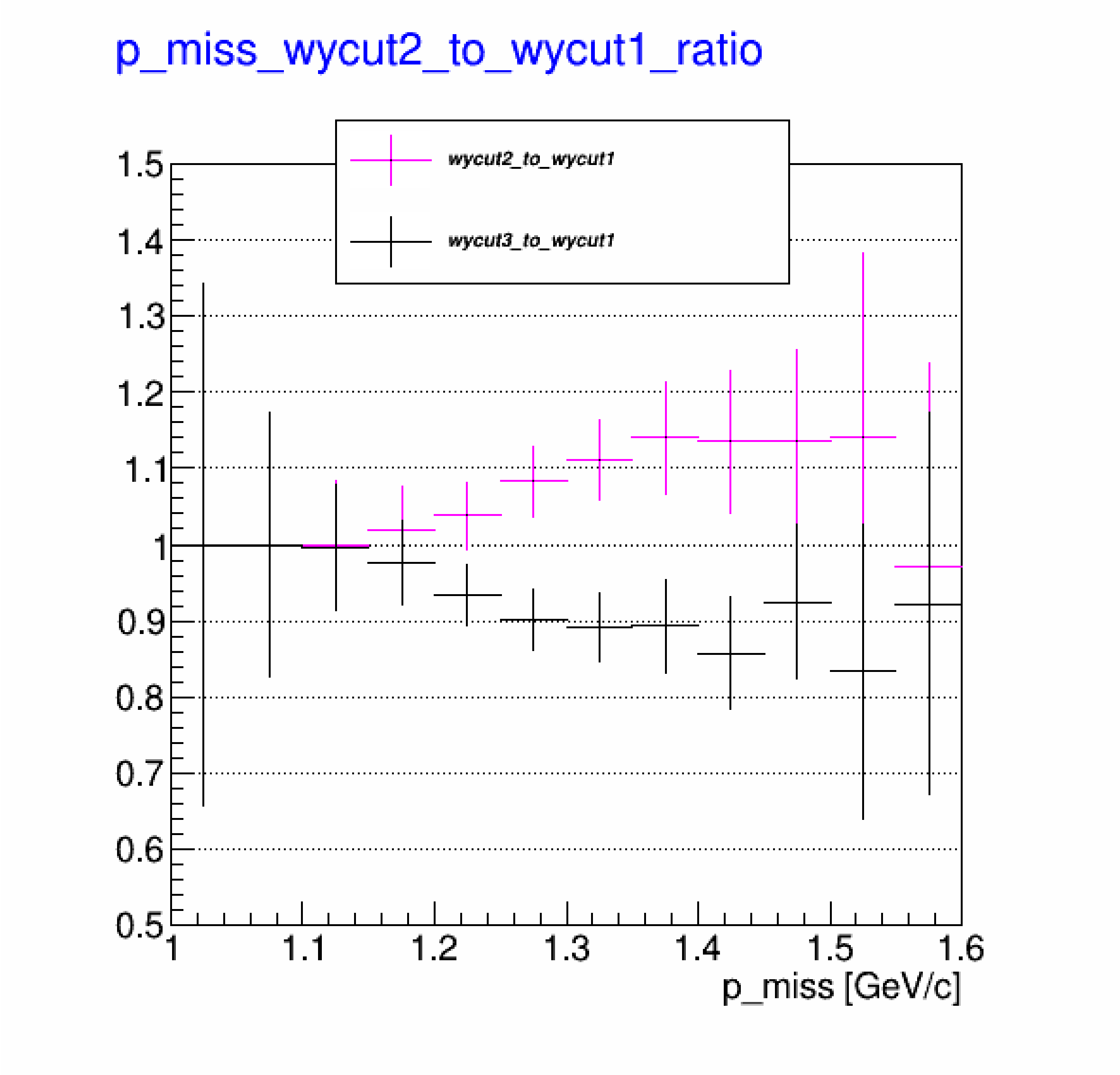

Figure 3.2: The wycut ratio of [p_miss] at target after background subtraction

wycut2 to wycut1: (pink):	*Omega = 0.84 (+**0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*
wycut3 to wycut1: (black):	*Omega = 0.84 (-**0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*

The choice of omega-y cut effect more in the high missing momentum.

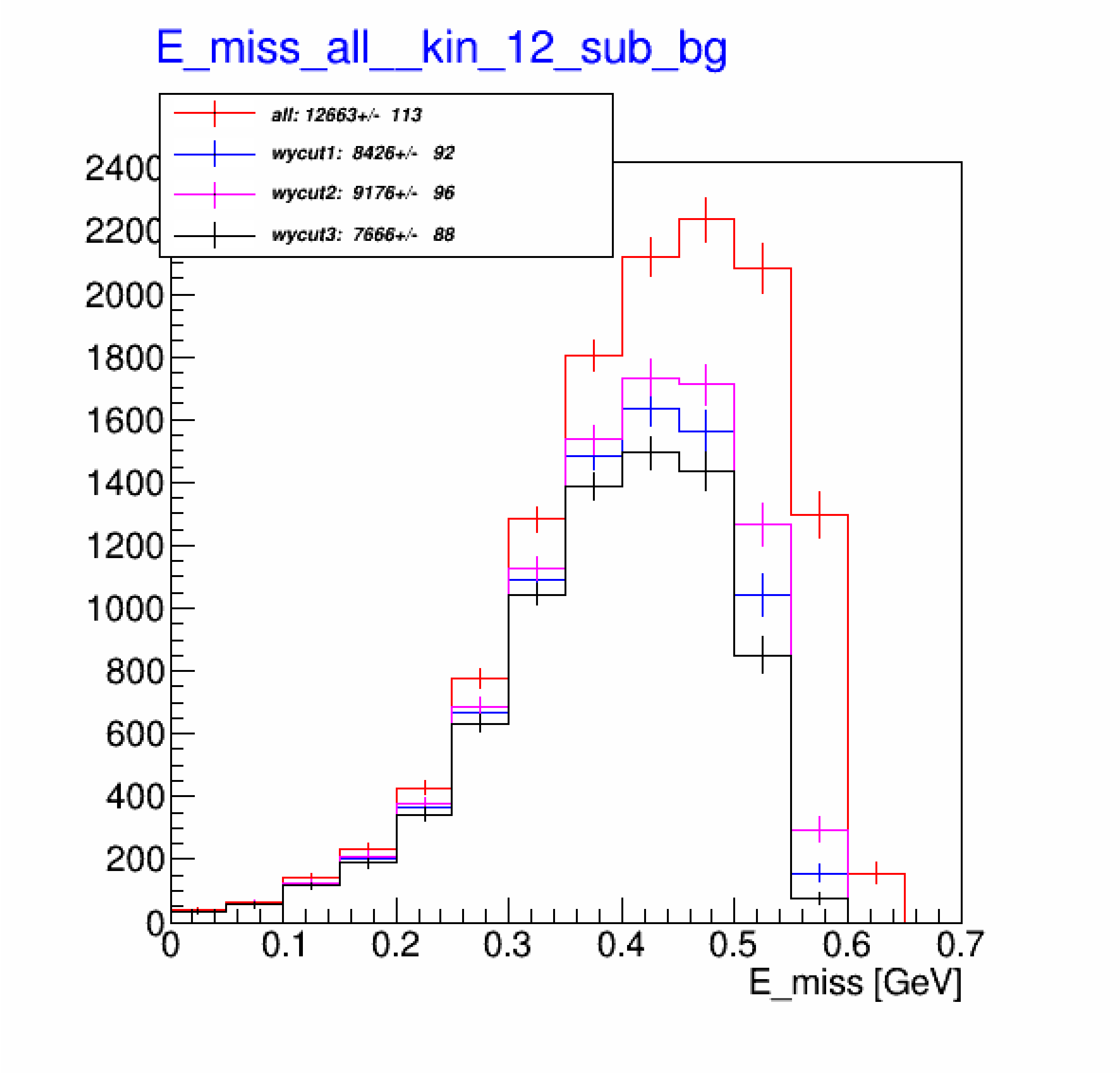

Figure 4.1: [E_miss] at target after background subtraction.

*wycut1: (blue): Omega = 0.84 – 1.8*y*
*wycut2: (pink): Omega = 0.84 (+**0.03**) – 1.8*y*
*wycut3: (black): Omega = 0.84 (- 0.03) – 1.8*y*

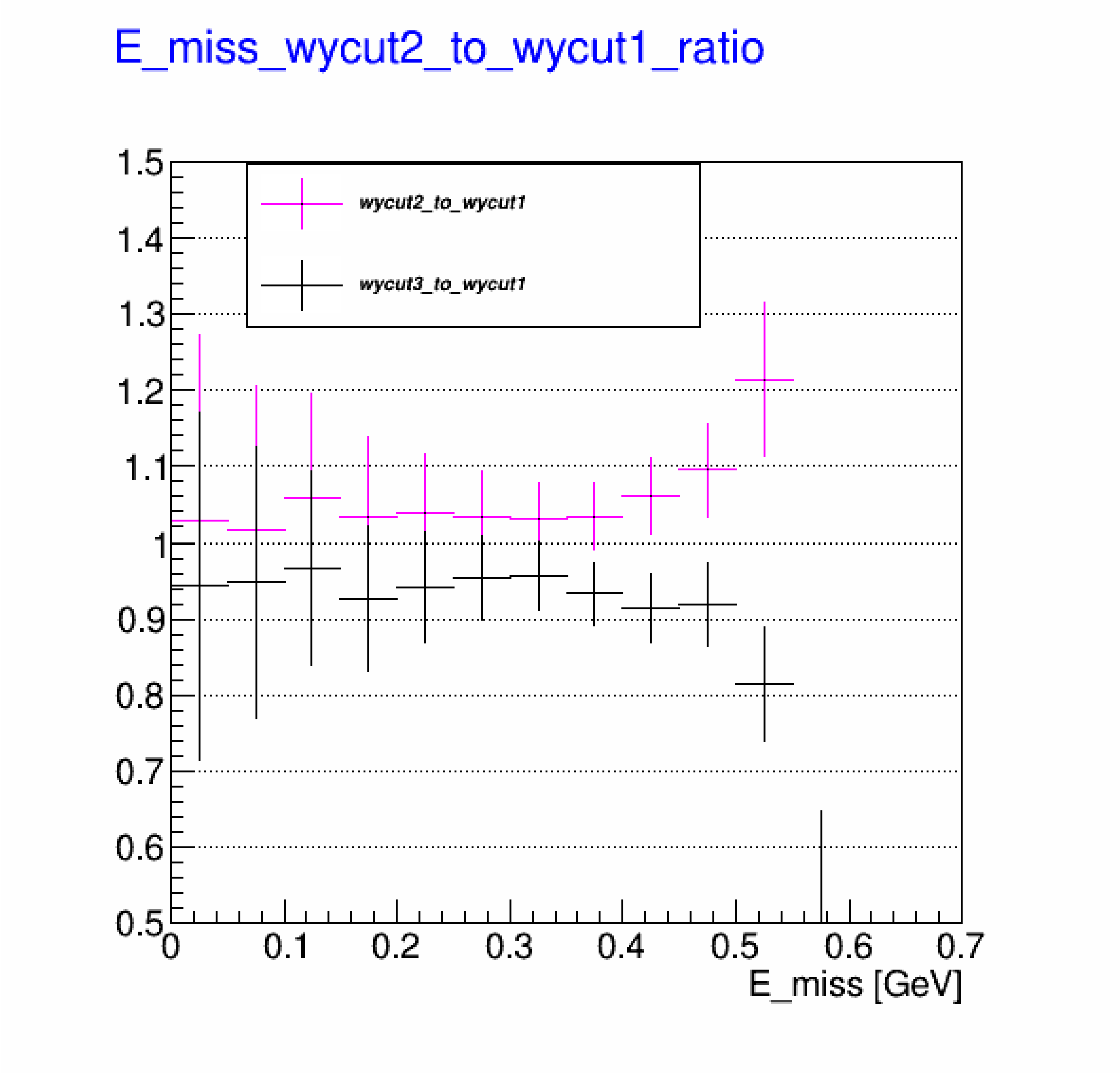

Figure 4.2: The wycut ratio of [E_miss] at target after background subtraction

wycut2 to wycut1: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y* *to* *Omega = 0.84 – 1.8*y*
wycut3 to wycut1: (black): *Omega = 0.84 (-**0.03**) – 1.8*y* *to* *Omega = 0.84 – 1.8*y*

The high E_miss has more change with the choice of omega-y cut

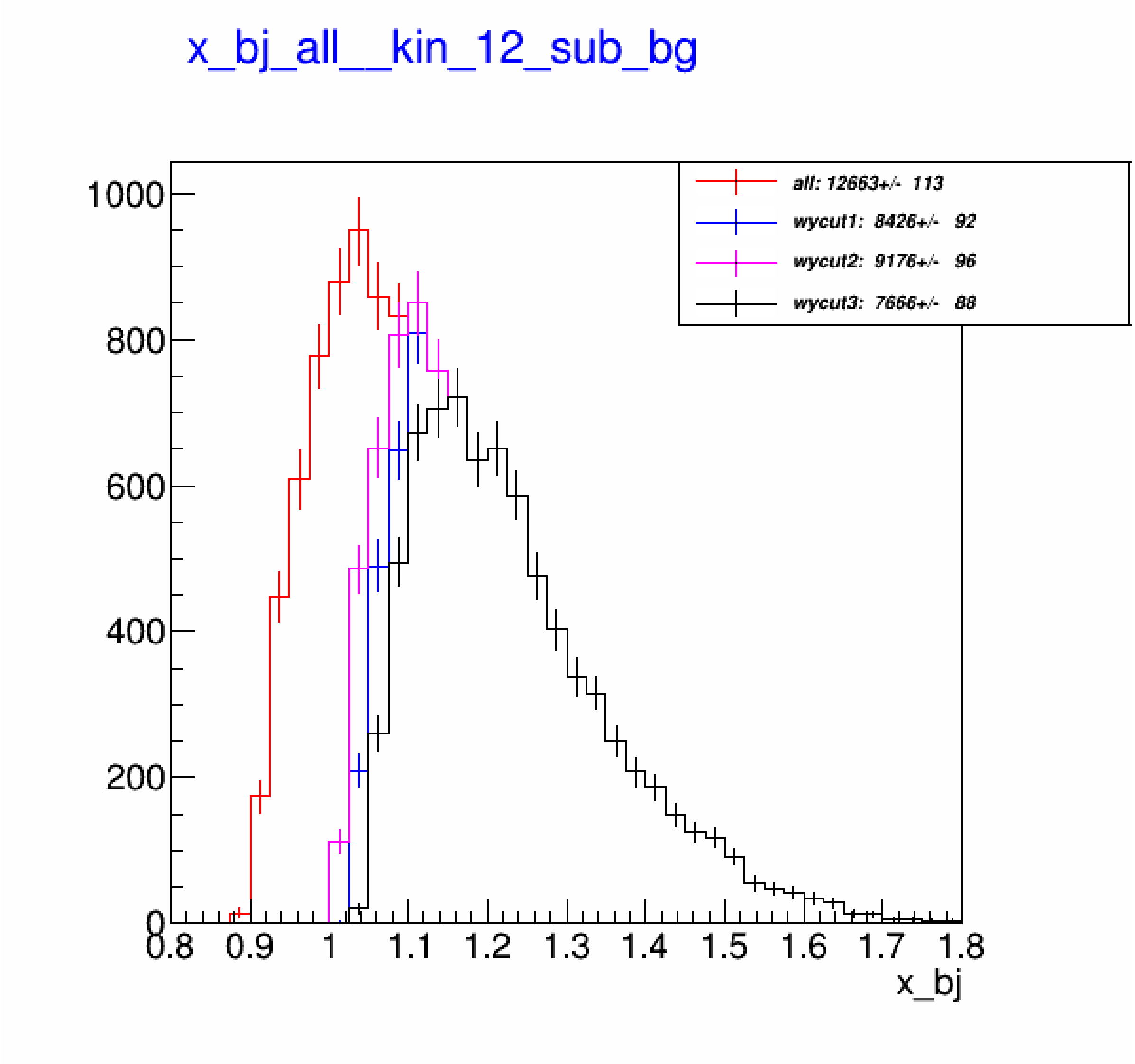

Figure 5.1: [x_bj] at target after background subtraction.

wycut1: (blue): *Omega = 0.84 – 1.8*y*
wycut2: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y*
wycut3: (black): *Omega = 0.84 (- 0.03) – 1.8*y*

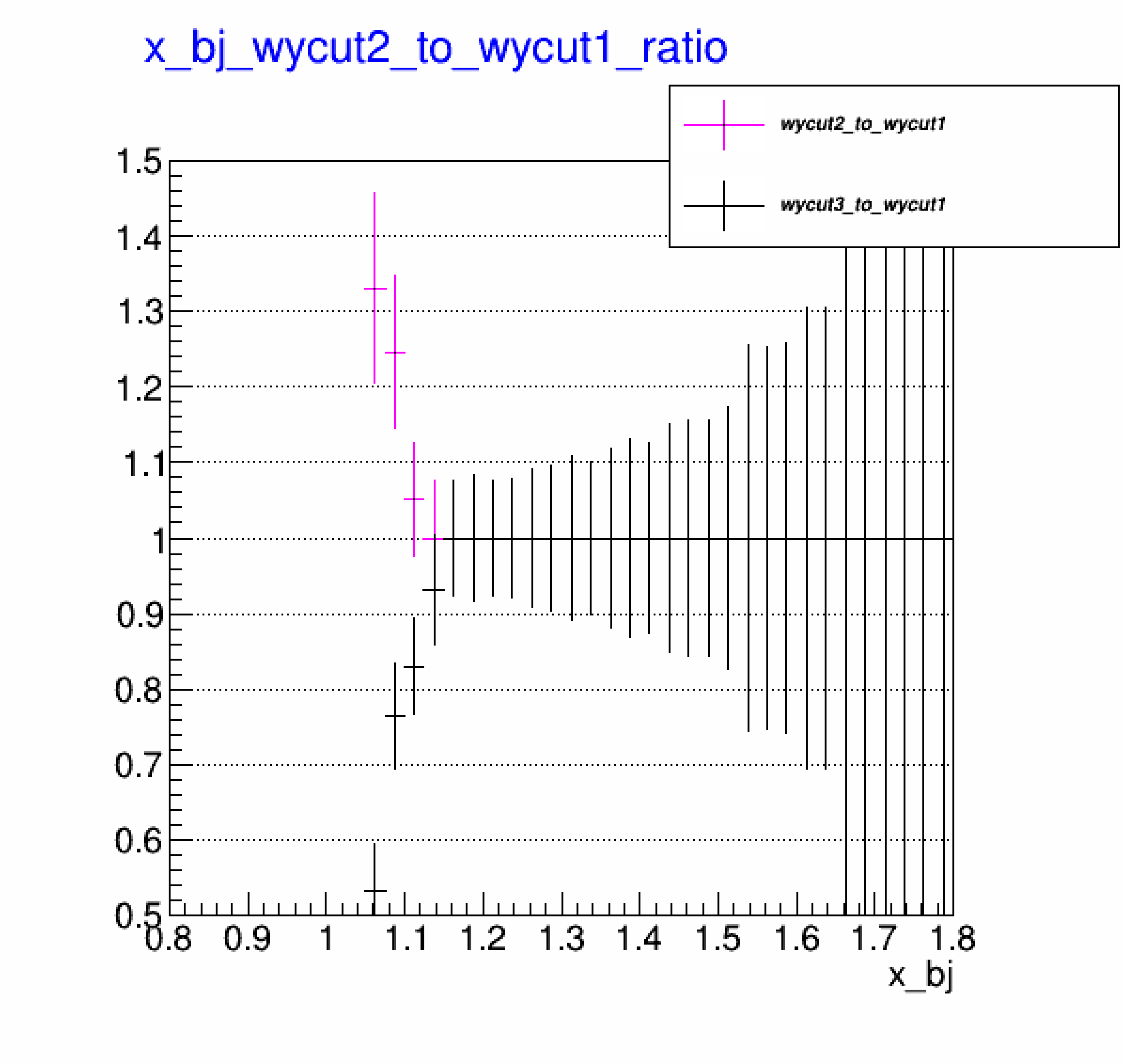

Figure 5.2: The wycut ratio of [x_bj] at target after background subtraction

wycut2 to wycut1: (pink):	*Omega = 0.84 (+**0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*
wycut3 to wycut1: (black):	*Omega = 0.84 (**-0.03**) – 1.8*y*	*to*	*Omega = 0.84 – 1.8*y*

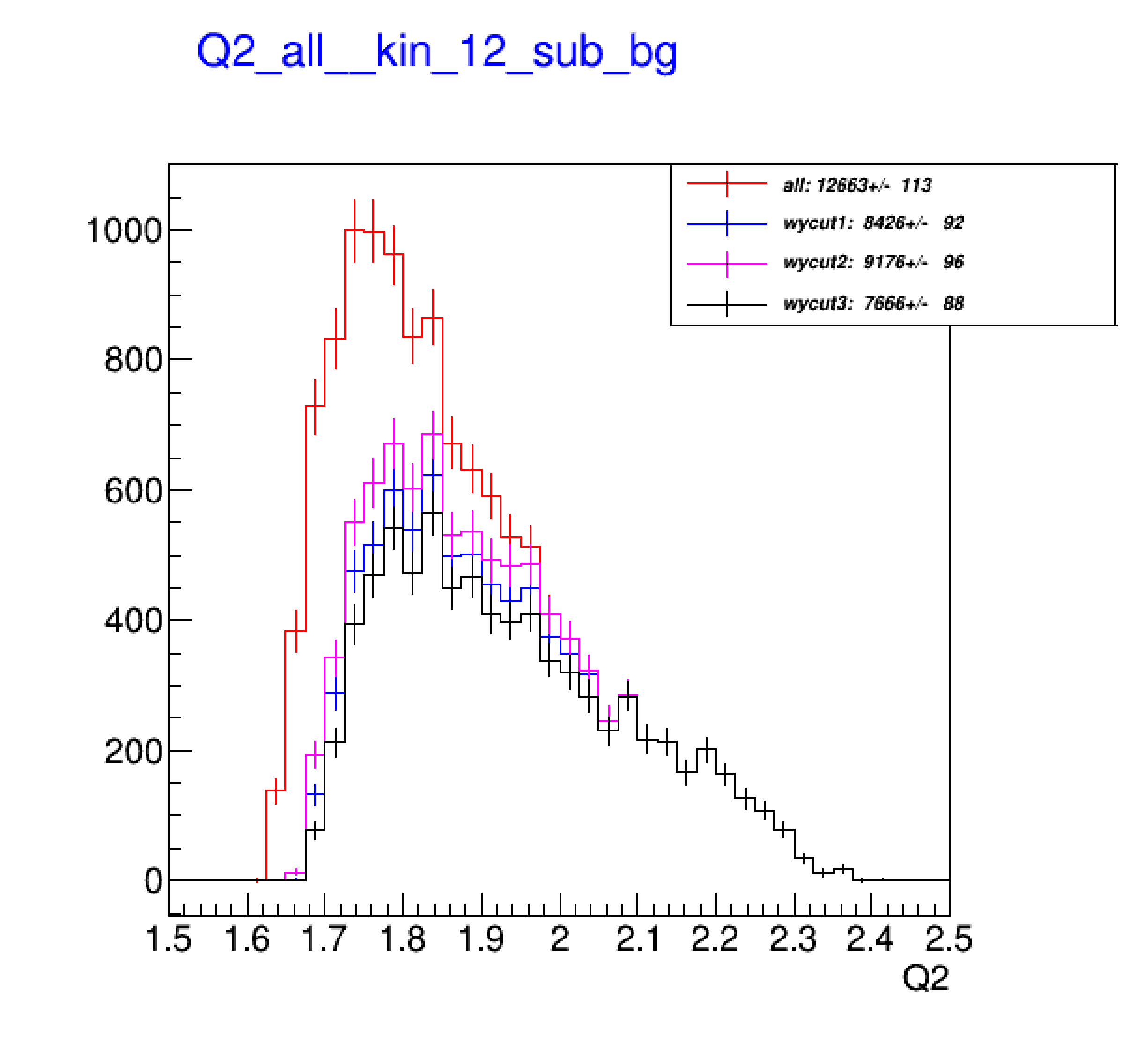

Figure 6.1: [Q2] at target after background subtraction.

wycut1: (blue): *Omega = 0.84 – 1.8*y*
wycut2: (pink): *Omega = 0.84 (+**0.03**) – 1.8*y*
wycut3: (black): *Omega = 0.84 (- 0.03) – 1.8*y*

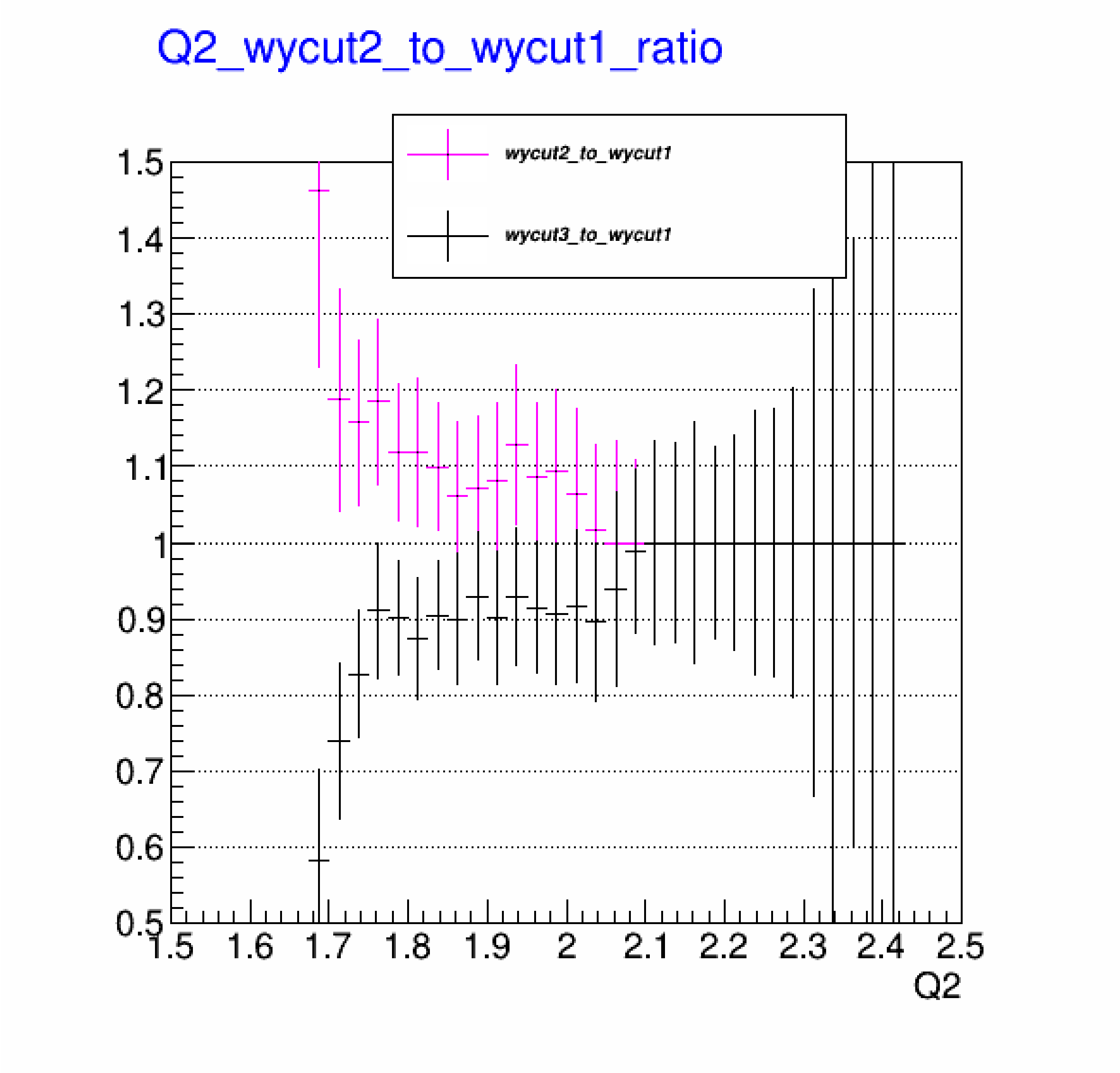

Figure 6.2: The wycut ratio of [Q2] at target after background subtraction

*wycut2 to wycut1: (pink): Omega = 0.84 (+**0.03**) – 1.8*y to Omega = 0.84 – 1.8*y*
*wycut3 to wycut1: (black): Omega = 0.84 (**-0.03**) – 1.8*y to Omega = 0.84 – 1.8*y*

Should we also make the cut on x_bj and Q2?

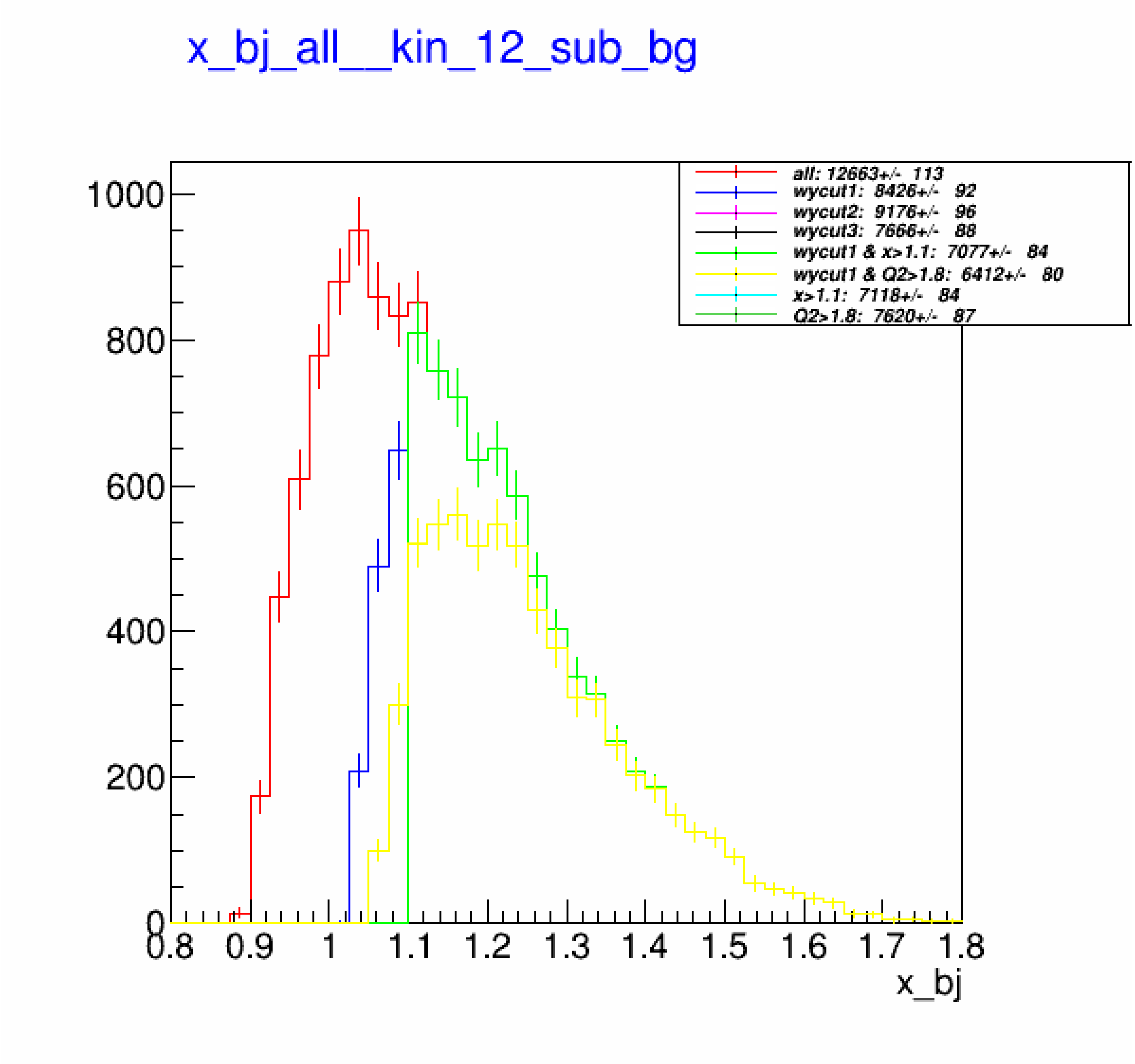

Figure 7.1: x_bj distribution with
blue: wycut1
green: wycut1 with x_bj>1.1
yellow: wycut1 with Q2>1.8

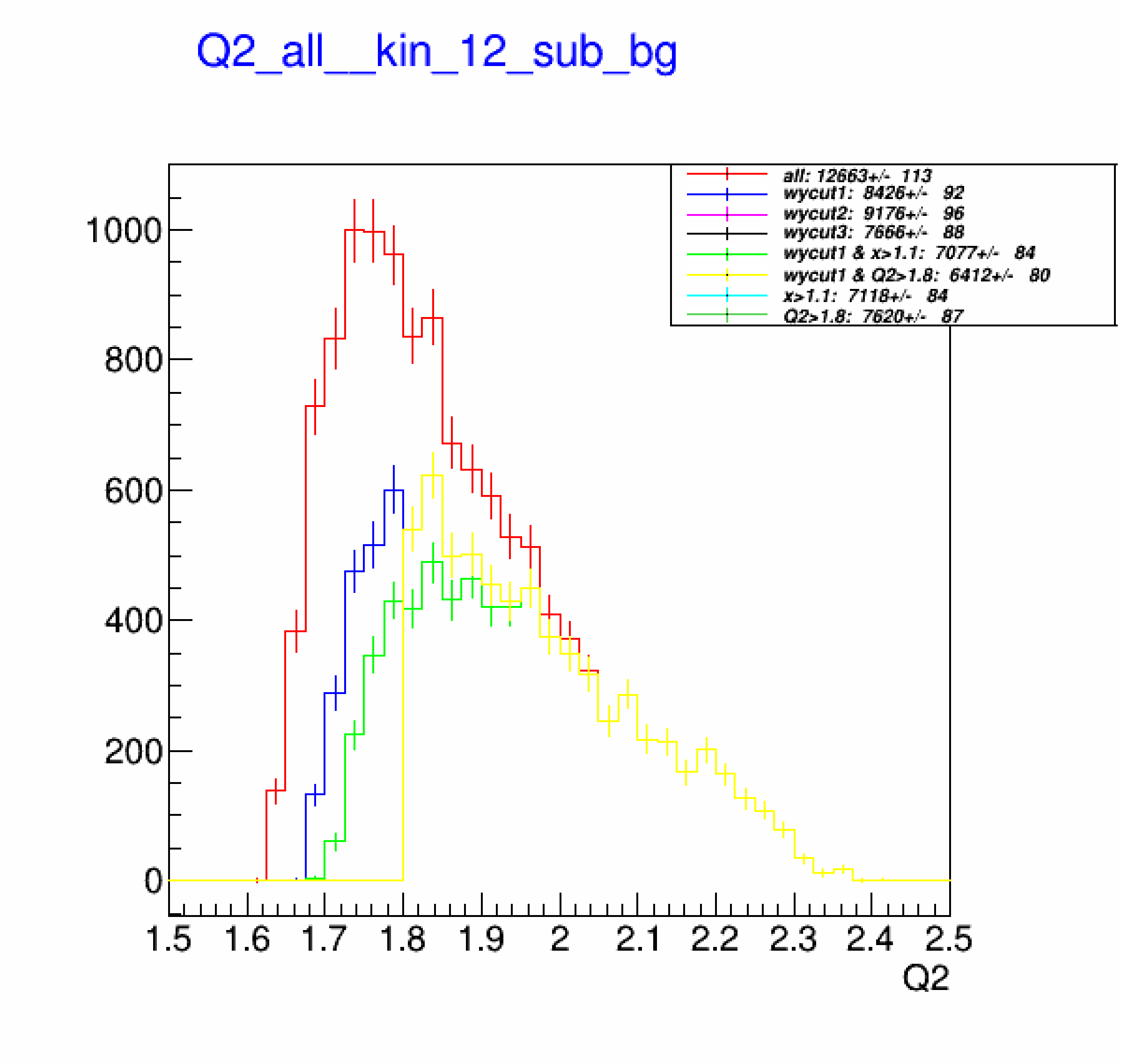

Figure 7.2 Q2
blue: wycut1
green: wycut1 with x_bj>1.1
yellow: wycut1 with Q2>1.8

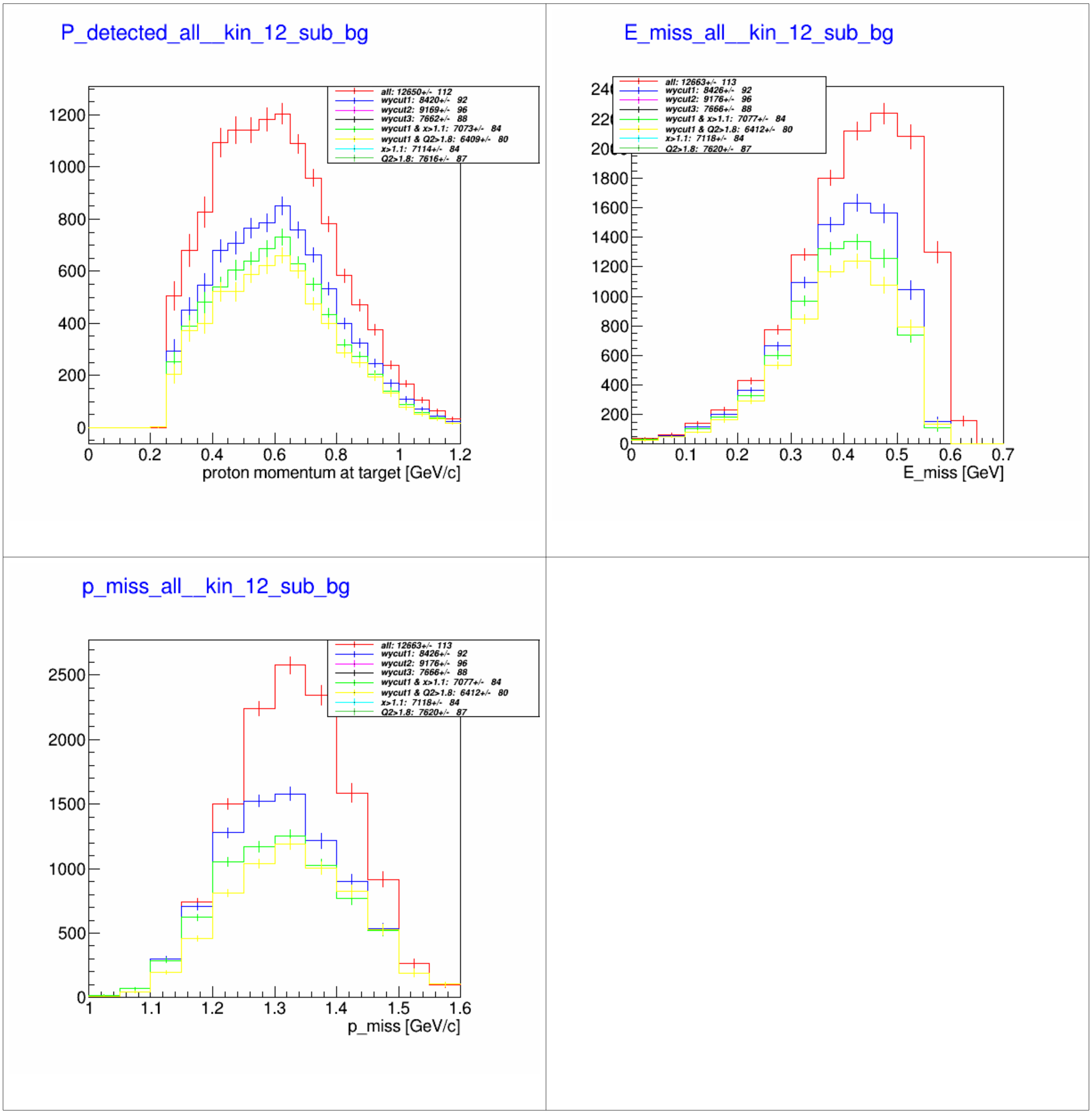

Figure 7.3-5 p_detected,E_miss,p_miss