Matching Validation and kinematics of top-anti-top and extra-jets

MadReport

December 20, 2007

Contents

1 Production 1 details

```
xqcut=40
ickkw=1
qcut=60
q^2
wimpy
```

2 Production 2 details

```
xqcut=40
ickkw=1
qcut=60
q^2
power
```

3 Production 3 details

```
xqcut=40
ickkw=1
qcut=60
pt^2
parp(64)=4
wimpy
```

4 Production 4 details

```
xqcut=40
ickkw=1
qcut=60
pt^2
parp(64)=4
power
```

5 Production 5 details

```
xqcut=40
ickkw=1
qcut=60
q^2
maxjets=0
wimpy
```

6 Production 6 details

```
xqcut=40
ickkw=1
qcut=60
q^2
maxjets=0
power
```

7 Production 7 details

```
xqcut=40
ickkw=1
qcut=60
pt^2
parp(64)=4
maxjets=0
wimpy
```

8 Production 8 details

```
xqcut=40
ickkw=1
qcut=60
pt^2
parp(64)=4
maxjets=0
power
```

9 Differential Jet Rate

9.1 Production 1

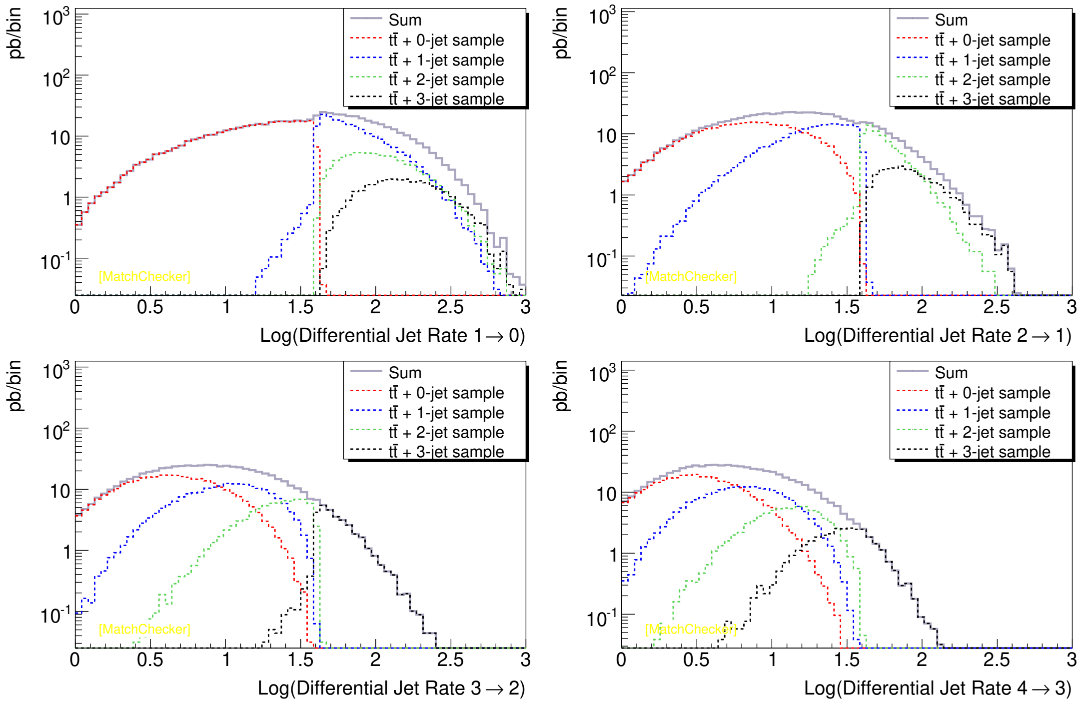

Figure 1: Differential jet rate with $Qcut$= 20 GeV.

9.2 Production 2

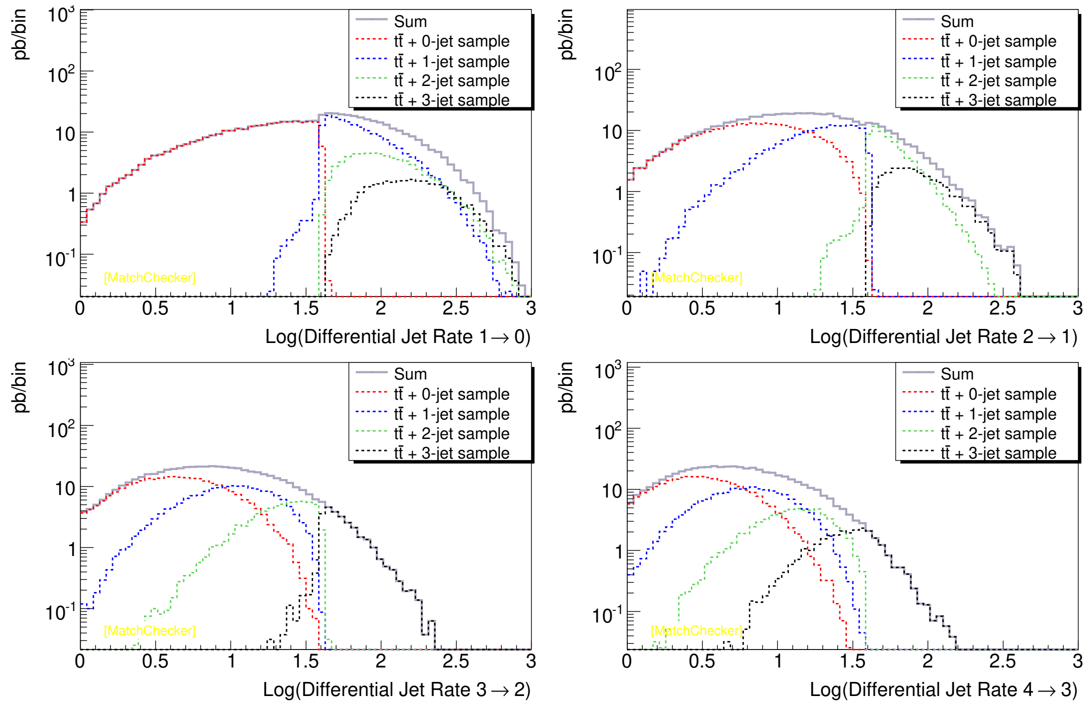

Figure 2: Differential jet rate with $Qcut$= 20 GeV.

9.3 Production 3

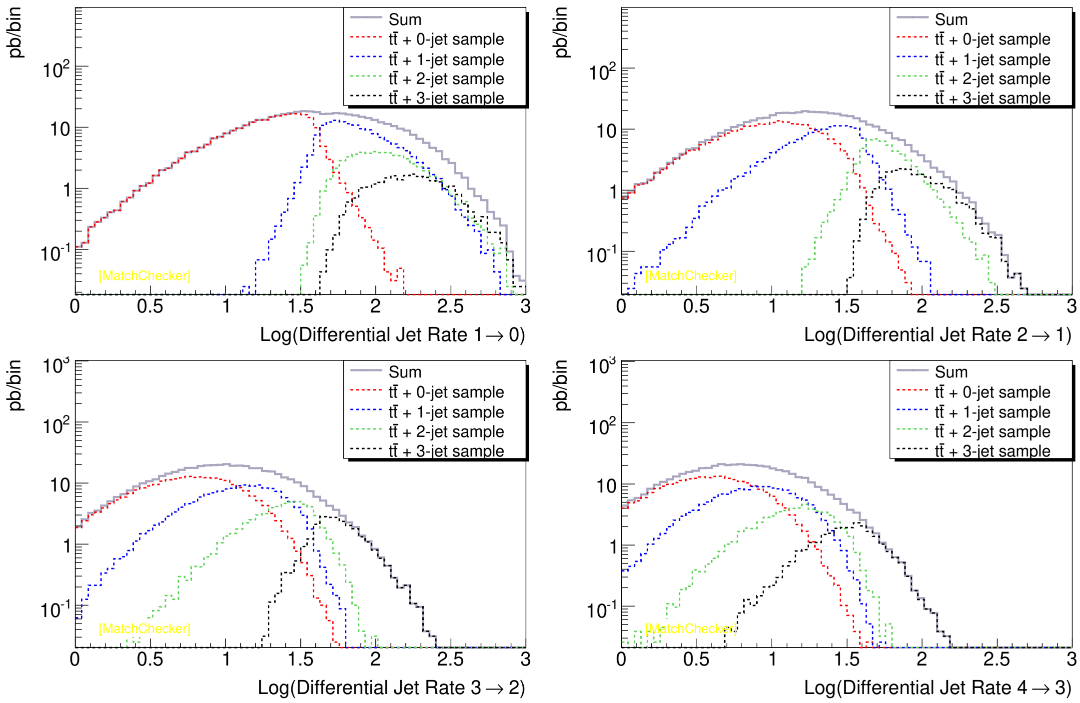

Figure 3: Differential jet rate with $Qcut$= 20 GeV.

9.4 Production 4

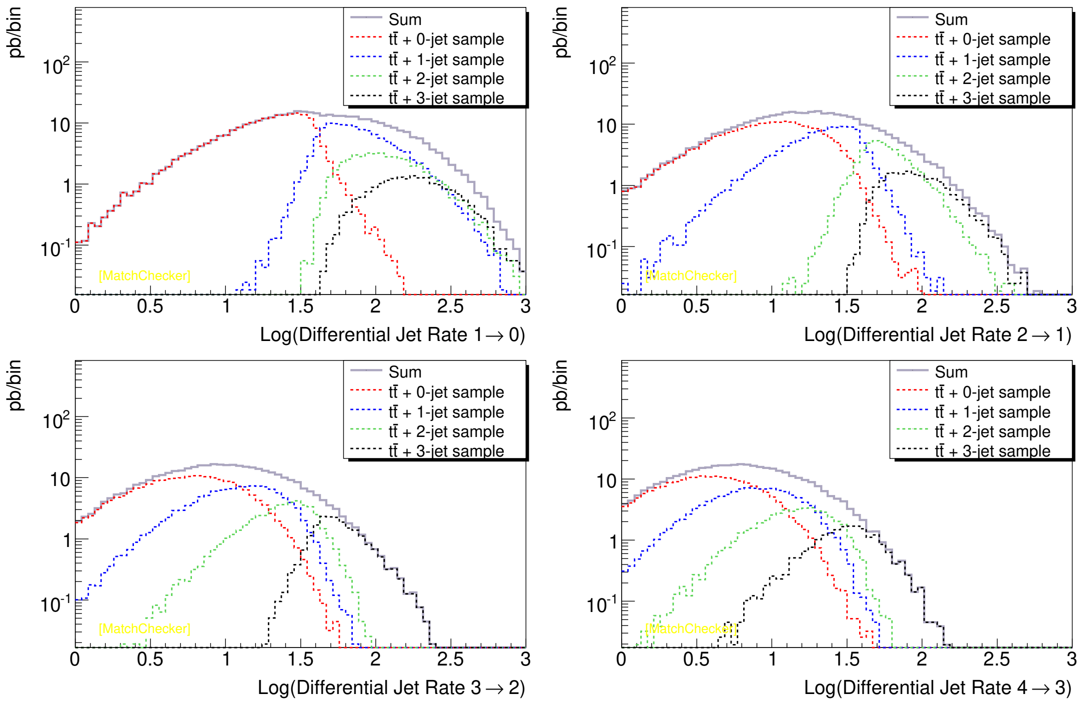

Figure 4: Differential jet rate with $Qcut$= 20 GeV.

9.5 Production 5

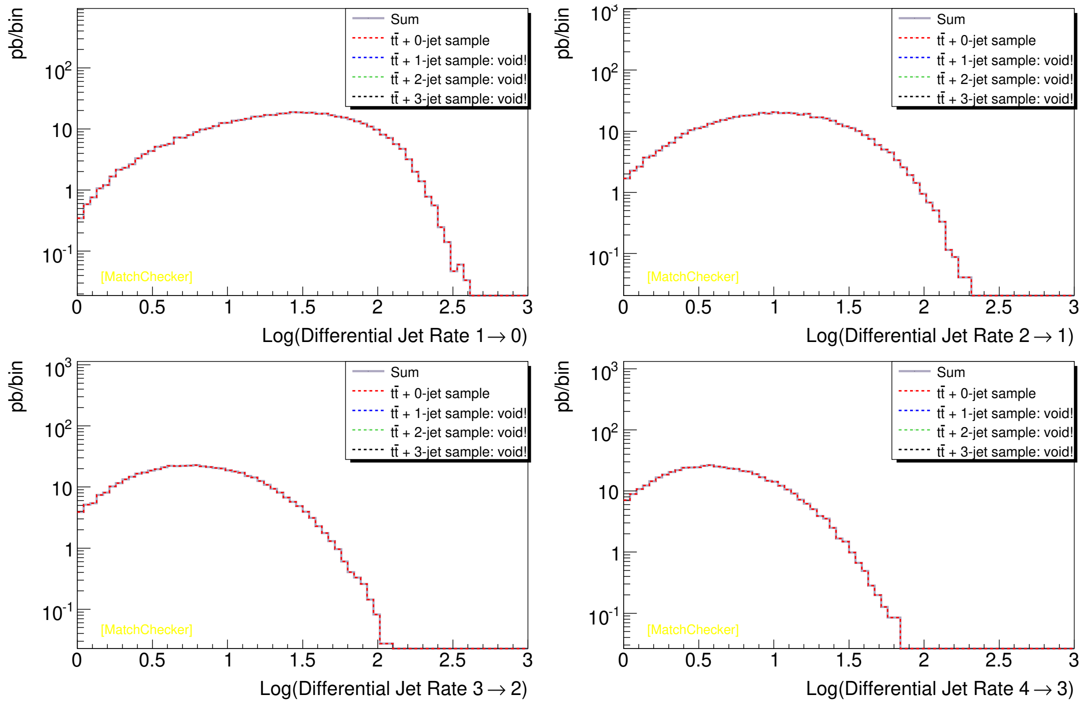

Figure 5: Differential jet rate with $Qcut$= 20 GeV.

9.6 Production 6

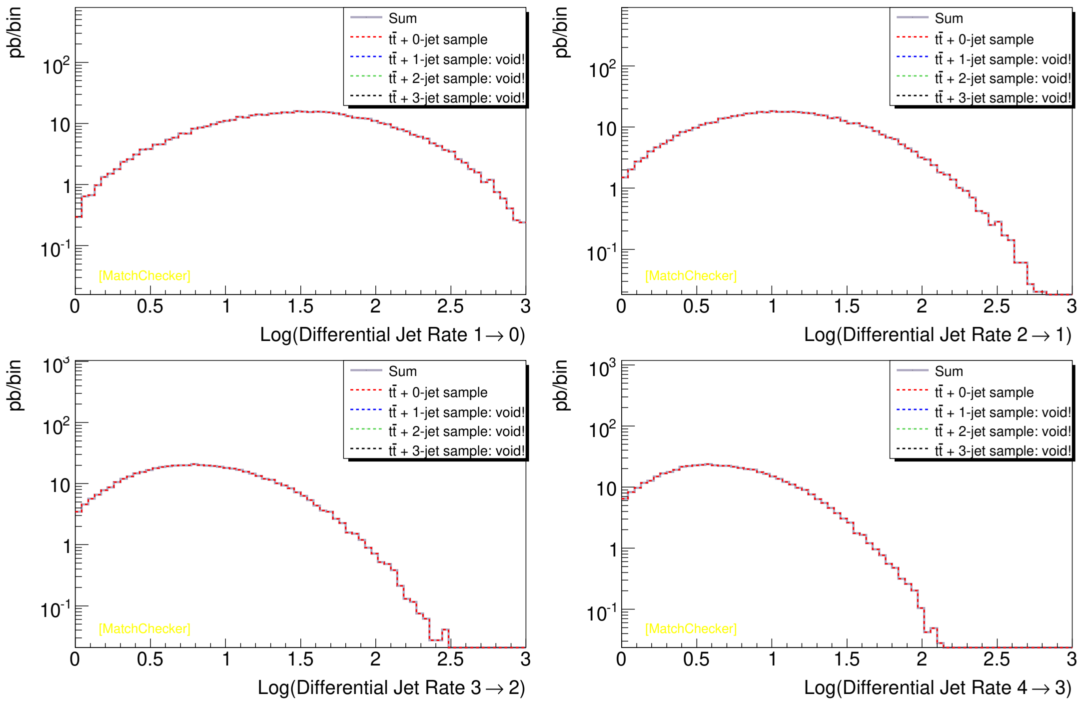

Figure 6: Differential jet rate with $Qcut$= 20 GeV.

9.7 Production 7

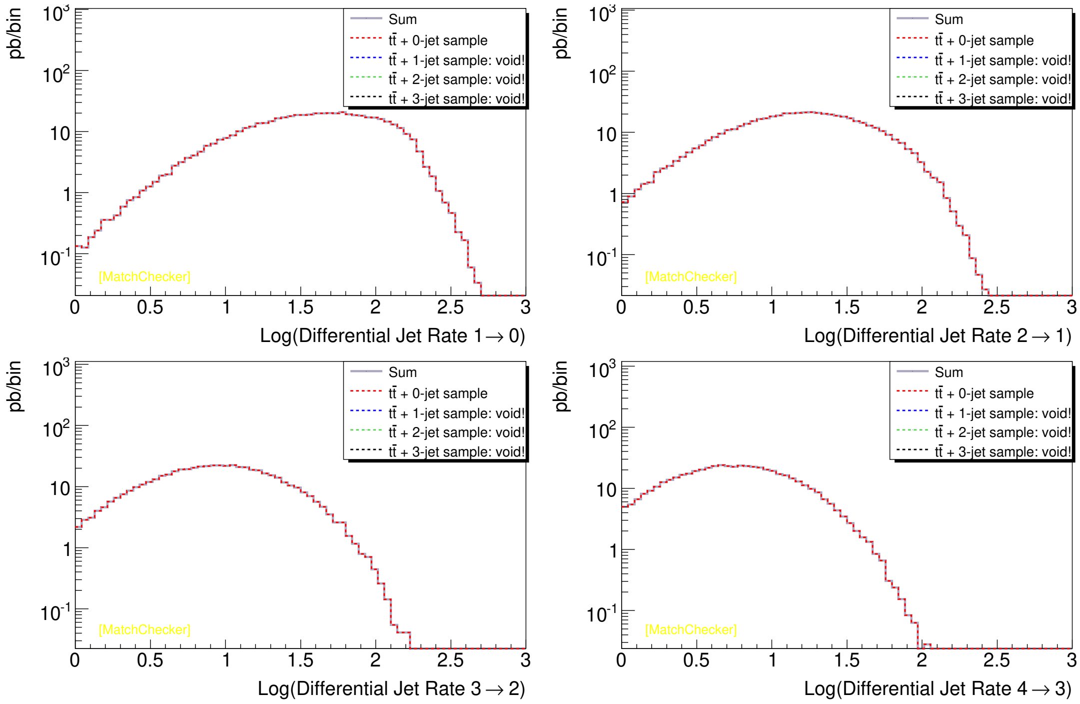

Figure 7: Differential jet rate with $Qcut$= 20 GeV.

9.8 Production 8

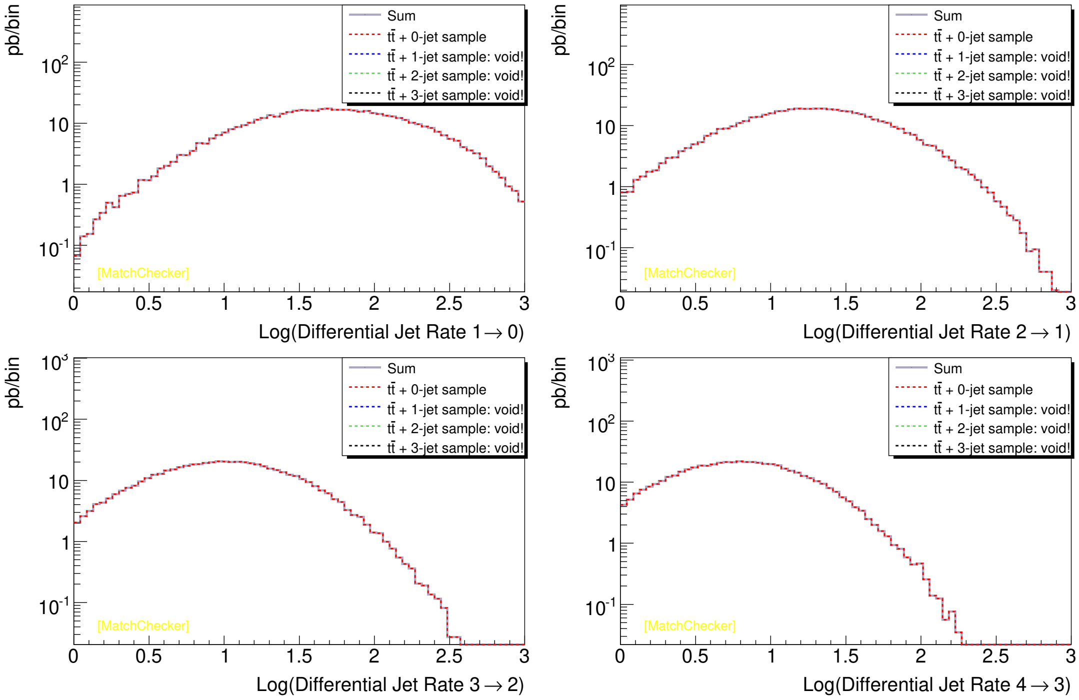

Figure 8: Differential jet rate with $Qcut$= 20 GeV.

9.9 Comparison of differential jet rates (global shapes) between productions

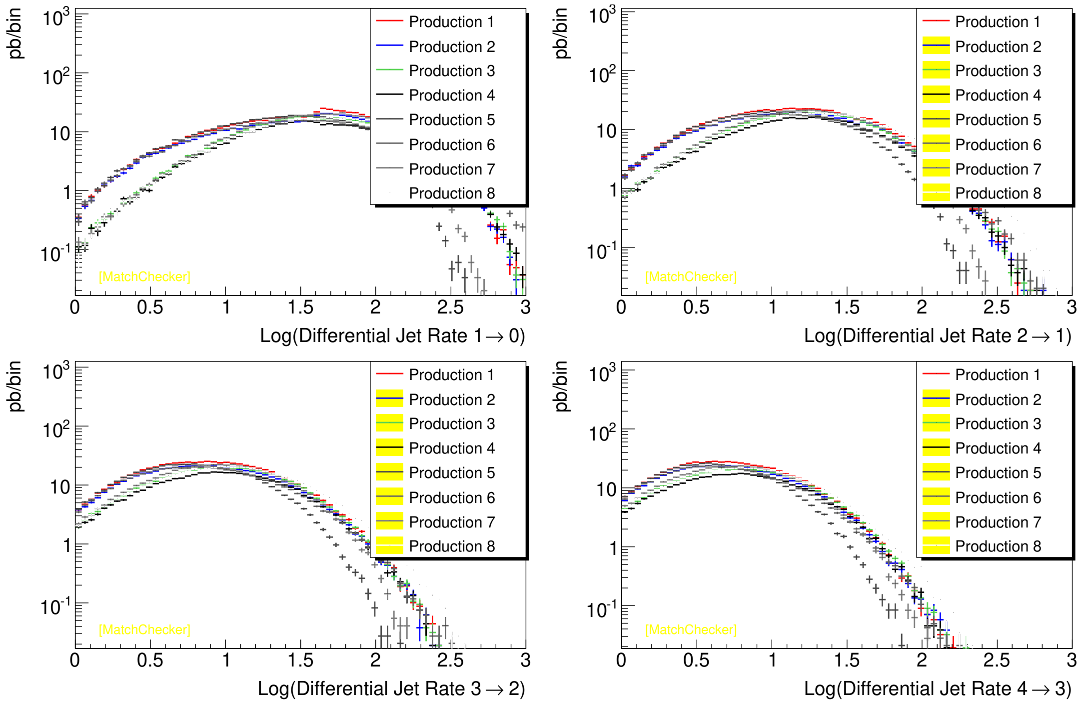

Figure 9: Comparison of differential jet rates between different parametrization .

9.10 Ratio of distribution

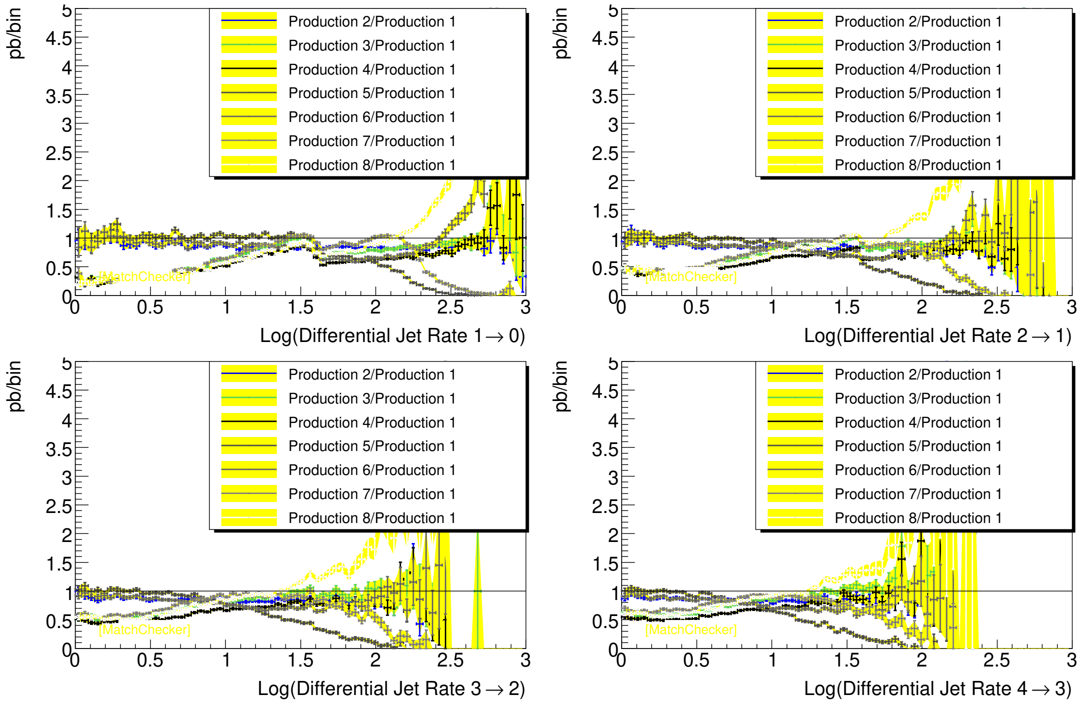

Figure 10: Comparison of differential jet rates between different parametrization .

10 X kinematics

10.1 Production 1

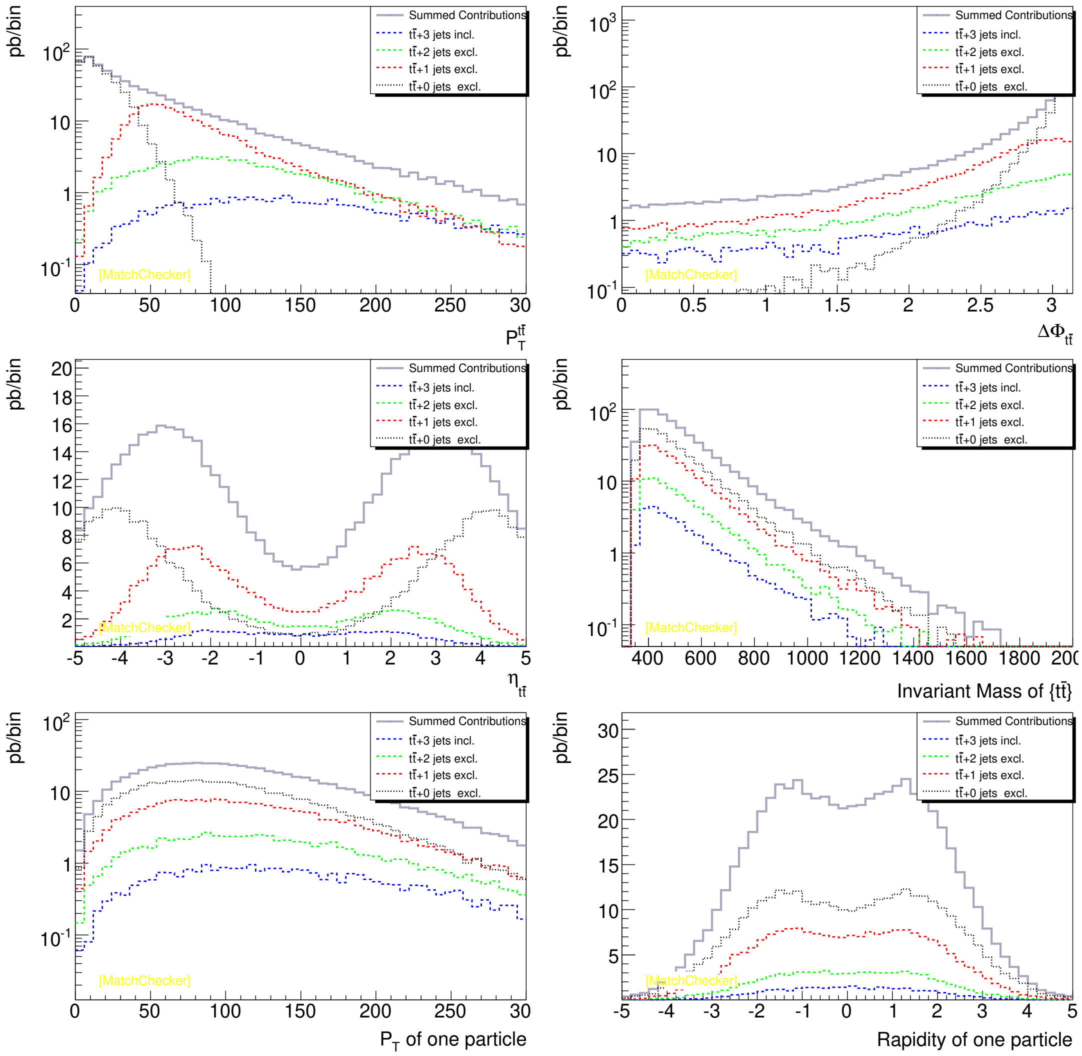

Figure 11: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.2 Production 2

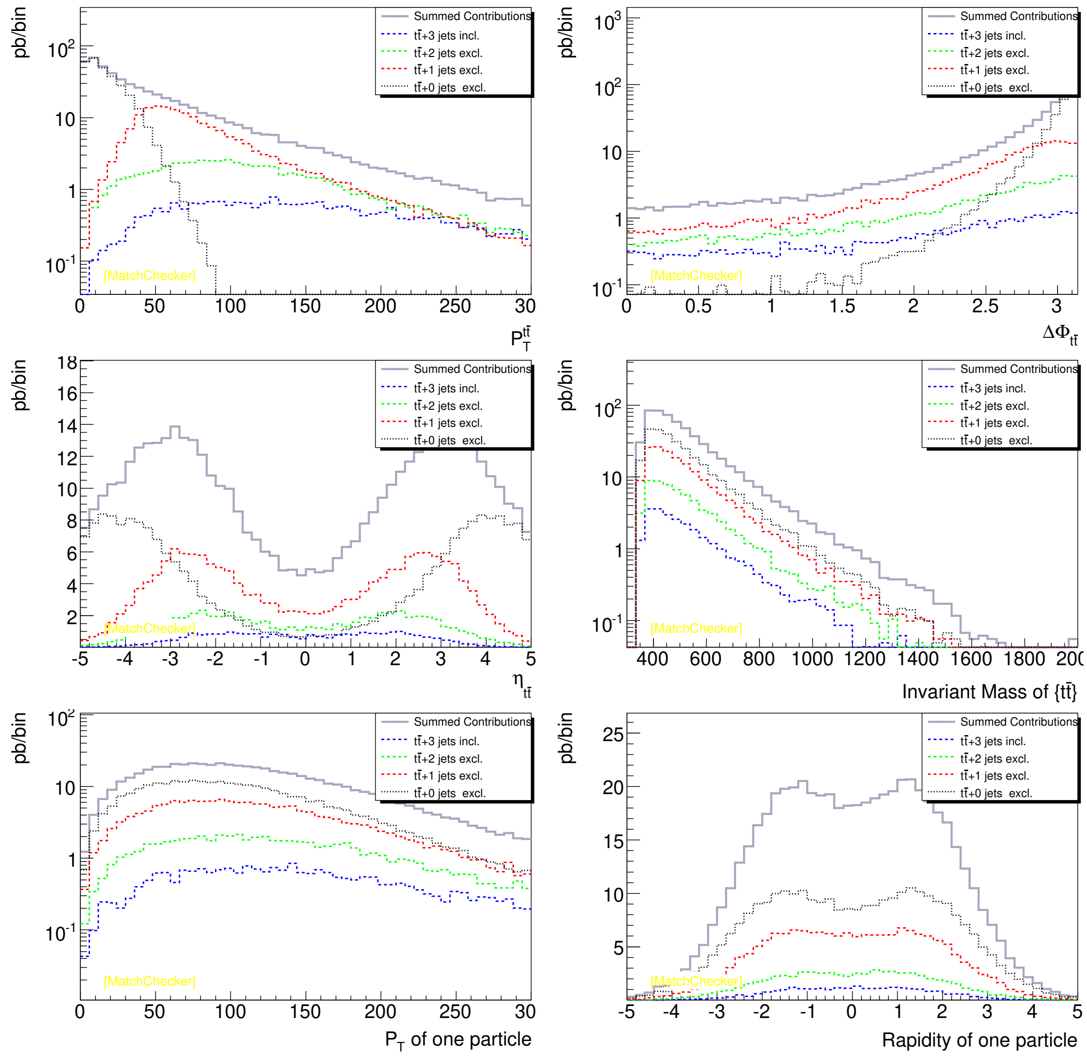

Figure 12: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.3 Production 3

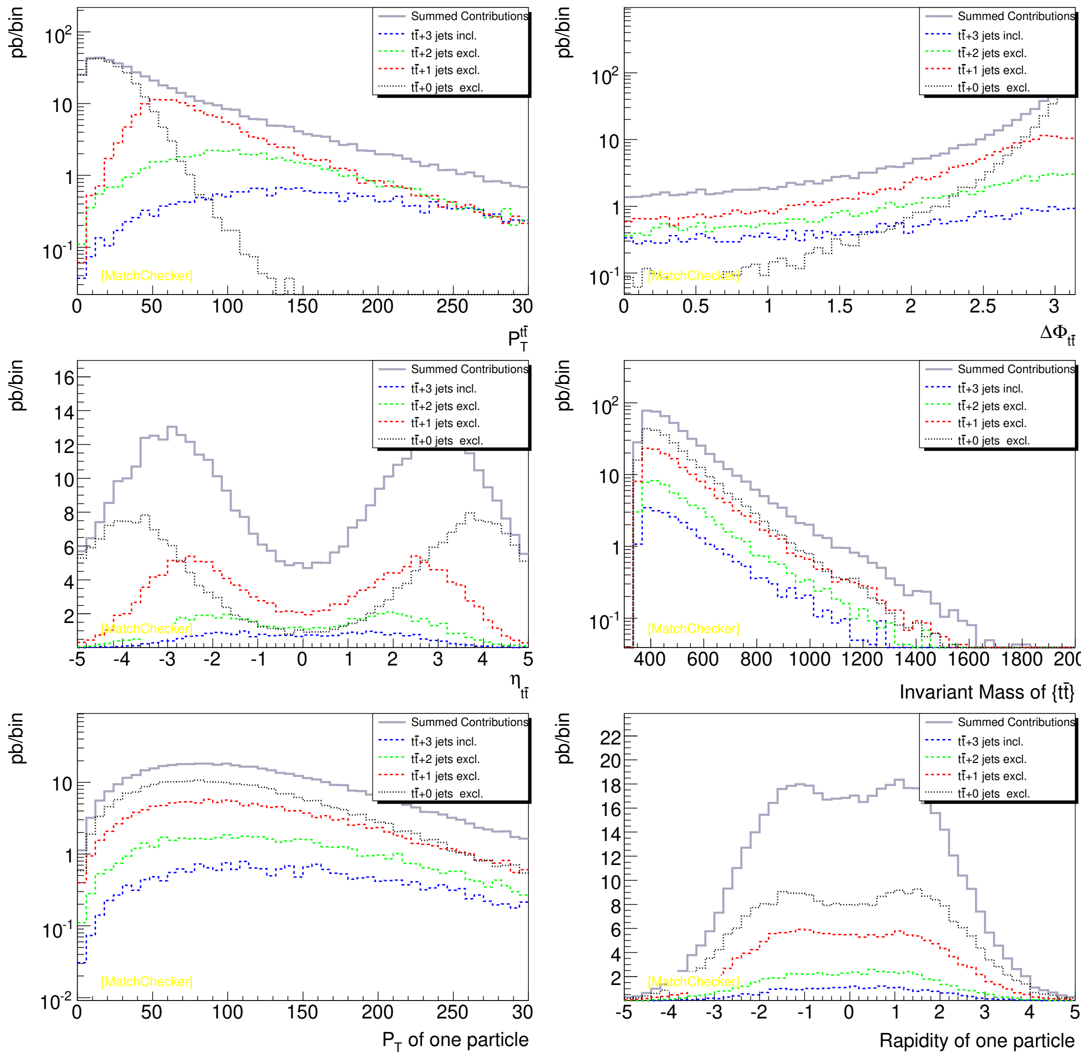

Figure 13: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.4 Production 4

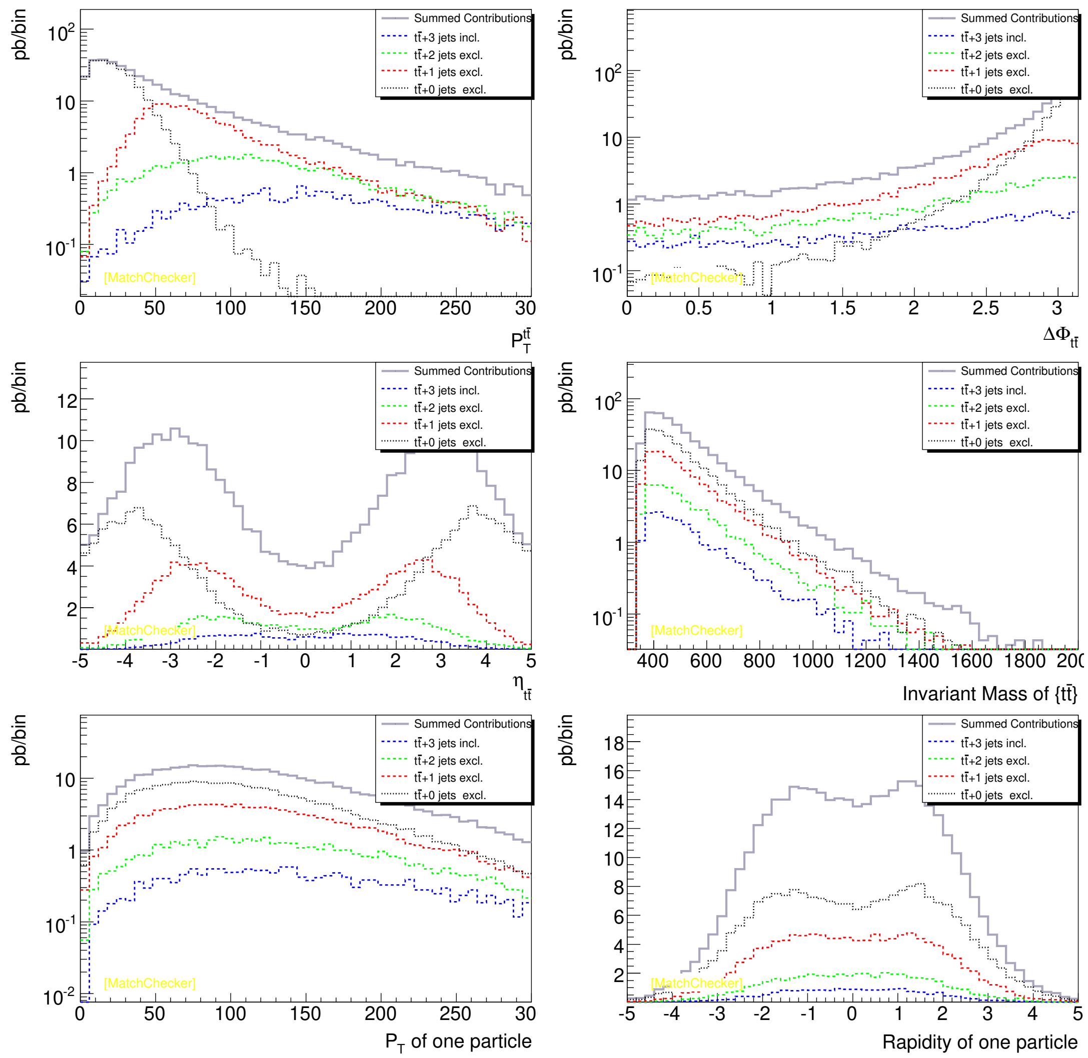

Figure 14: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.5 Production 5

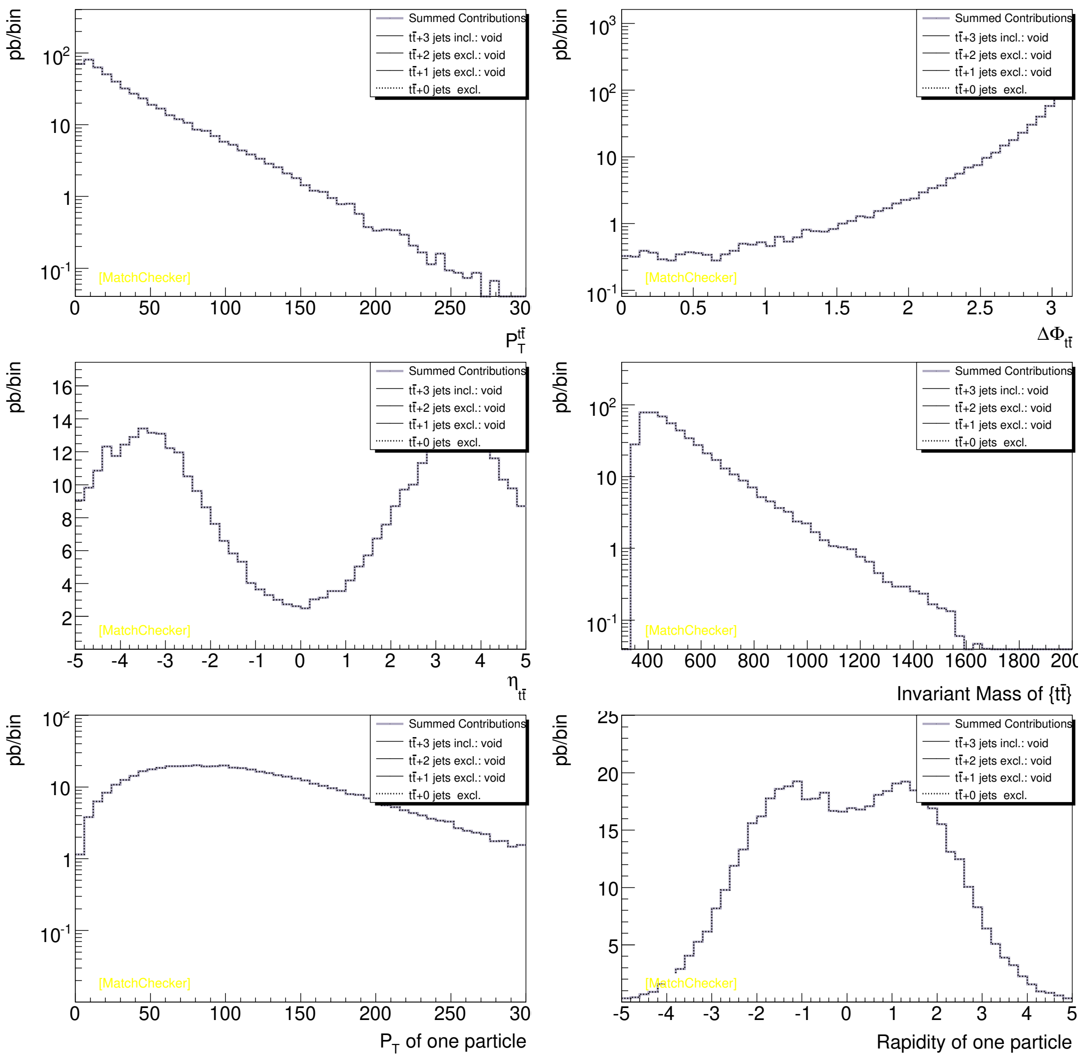

Figure 15: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.6 Production 6

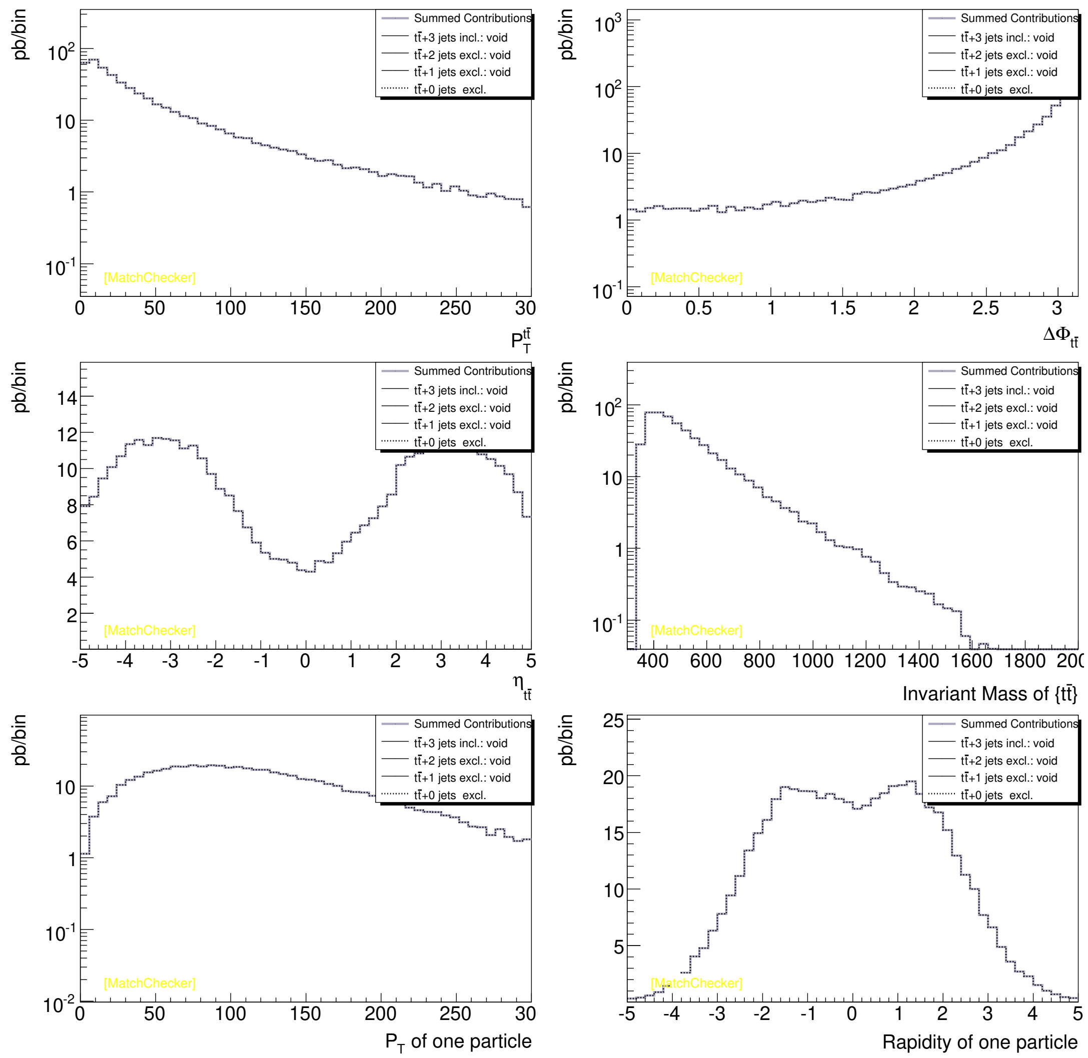

Figure 16: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.7 Production 7

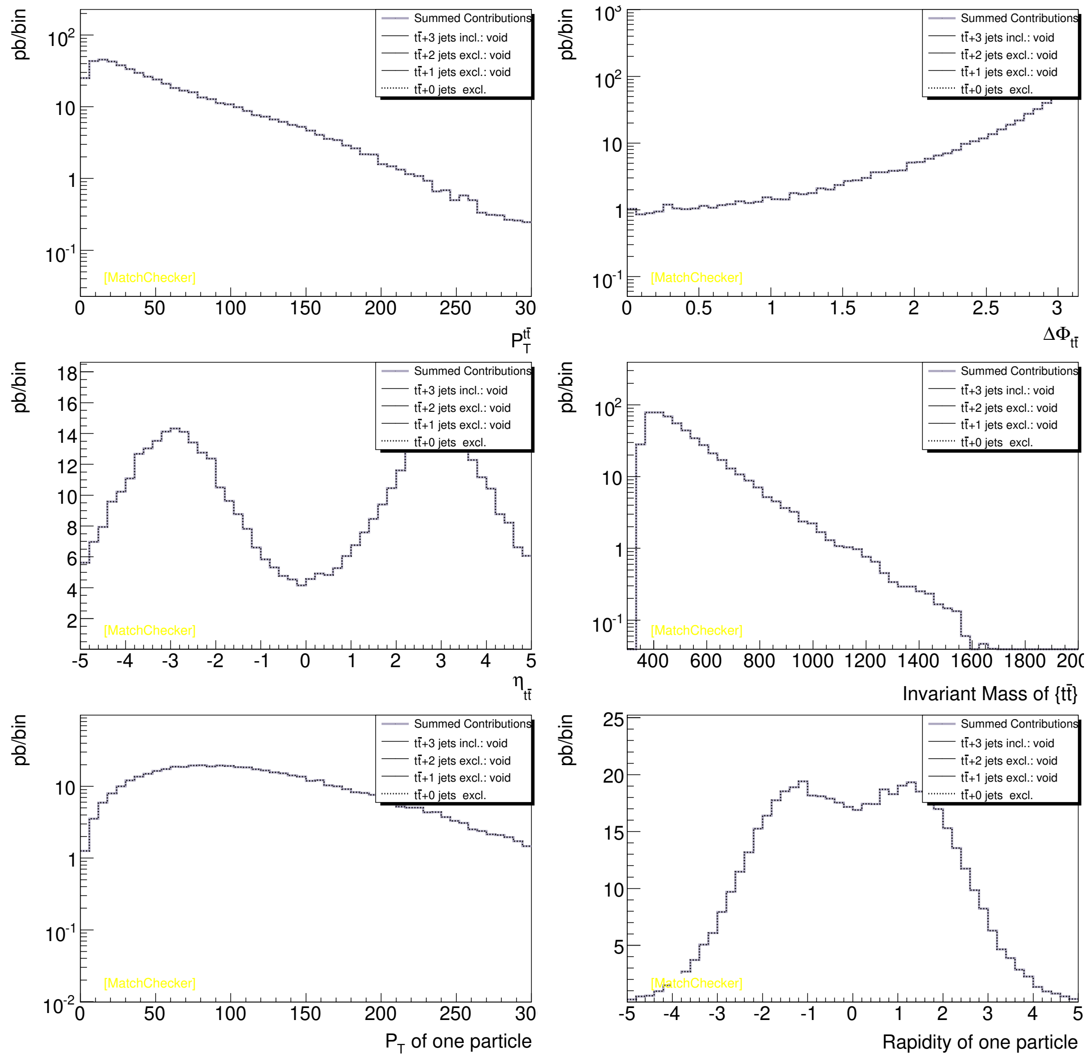

Figure 17: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.8 Production 8

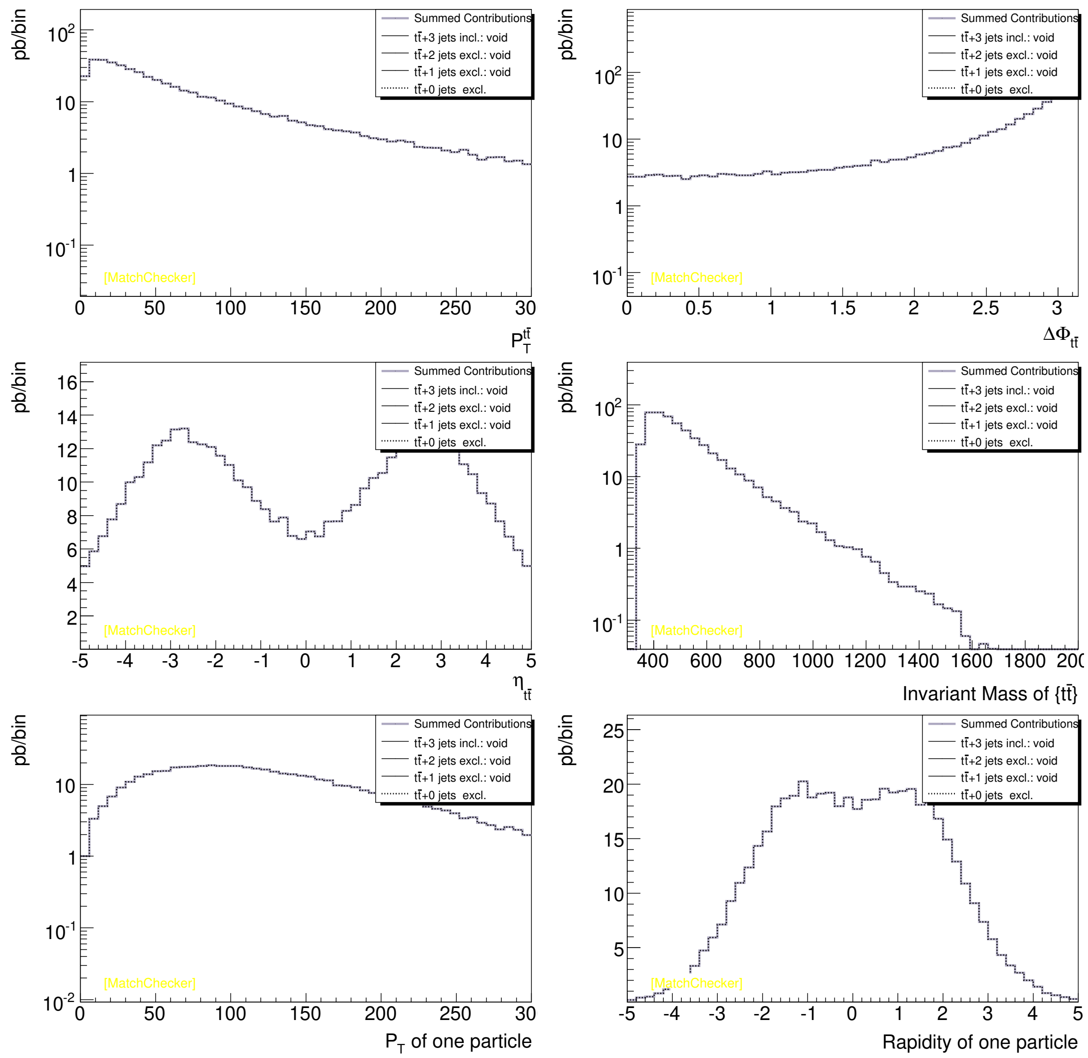

Figure 18: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

10.9 Comparison of "X" kinematics (global shapes) between productions

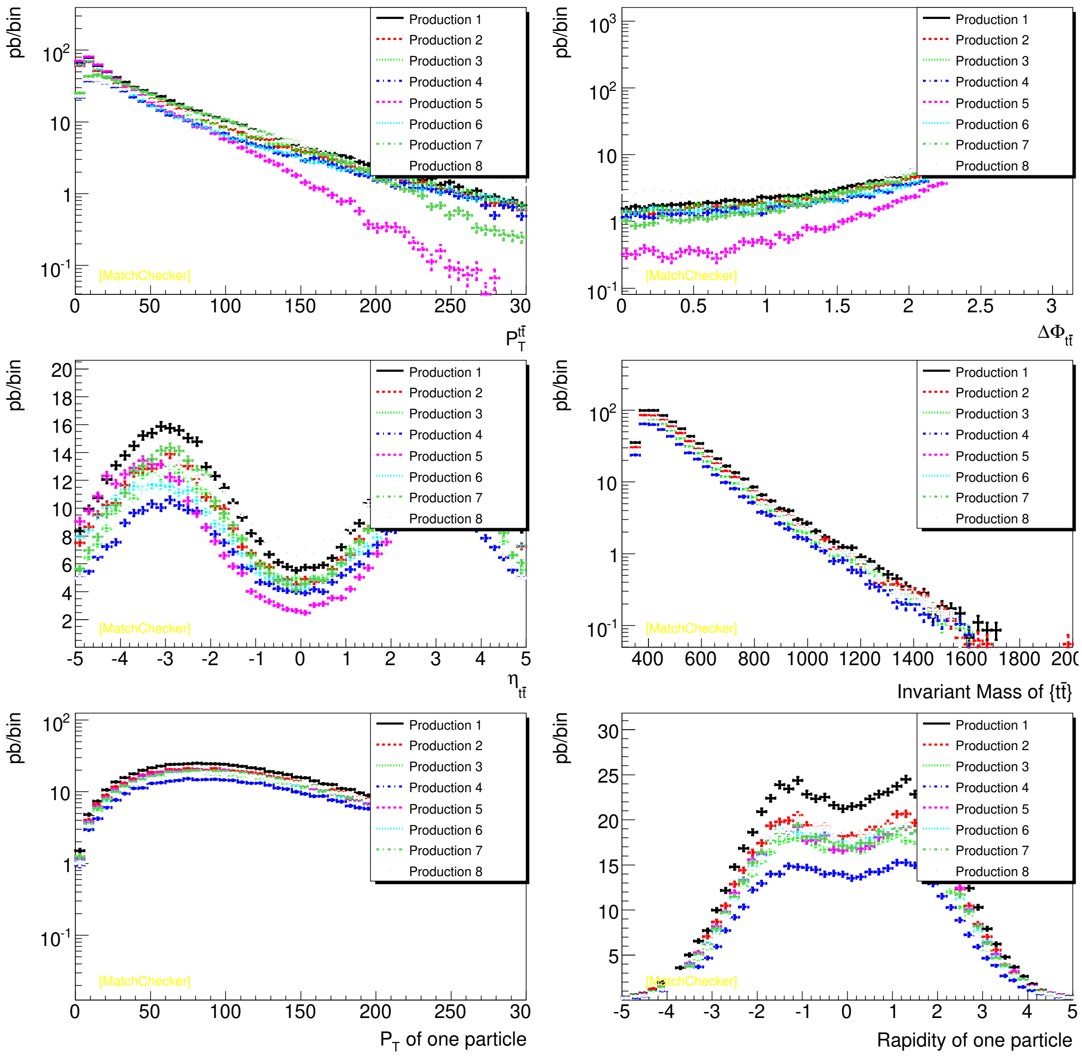

Figure 19: Comparison of kinematics variables for $t\bar{t}$.

10.10 Ratio of distributions

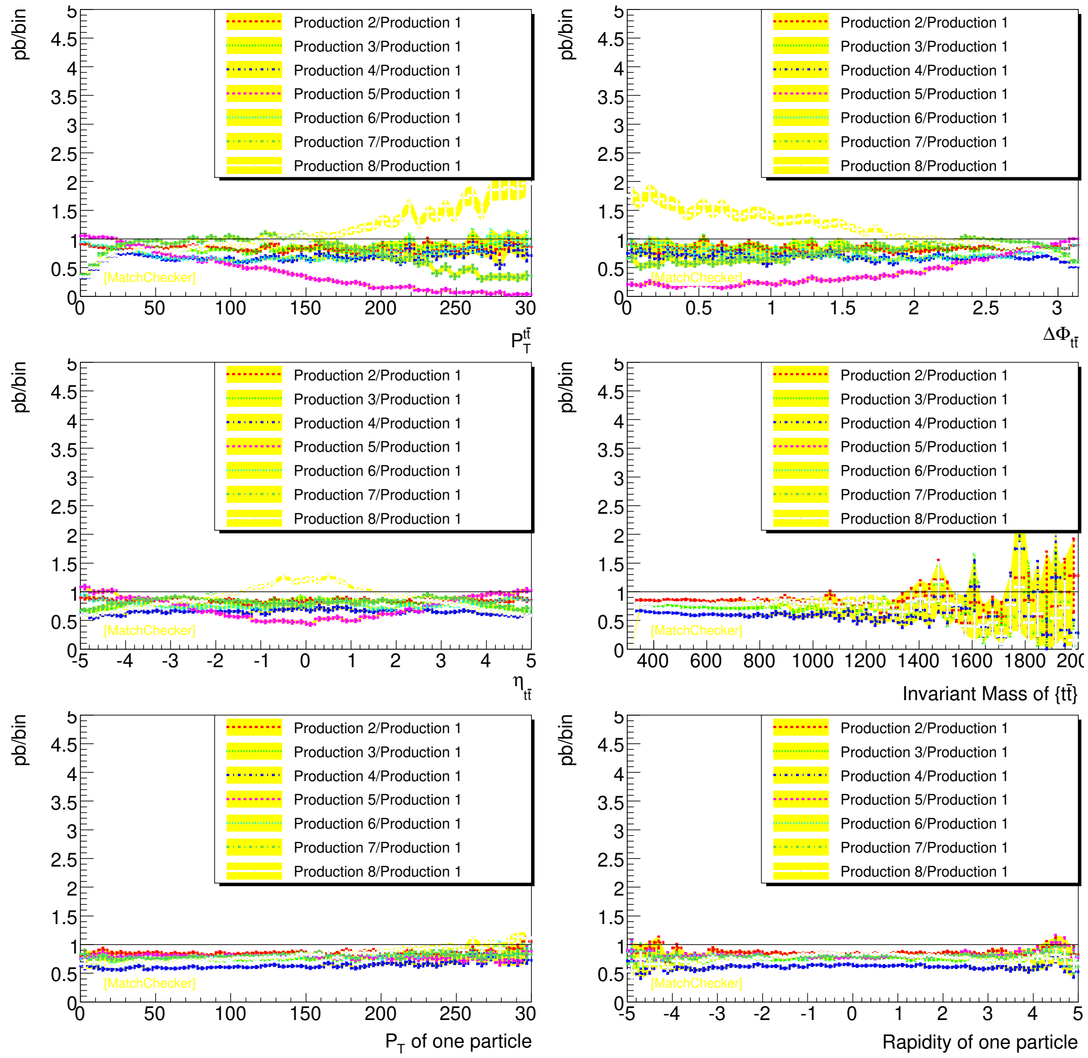

Figure 20: Comparison of kinematics variables for $t\bar{t}$.

11 Jet P_T

11.1 Production 1

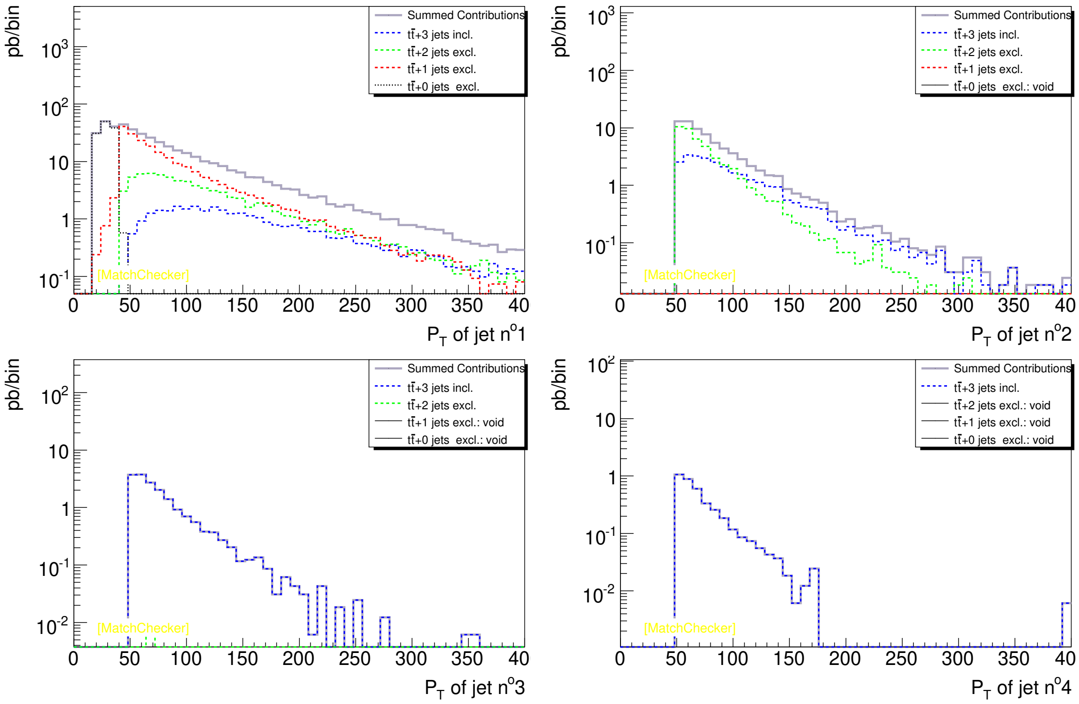

Figure 21: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.2 Production 2

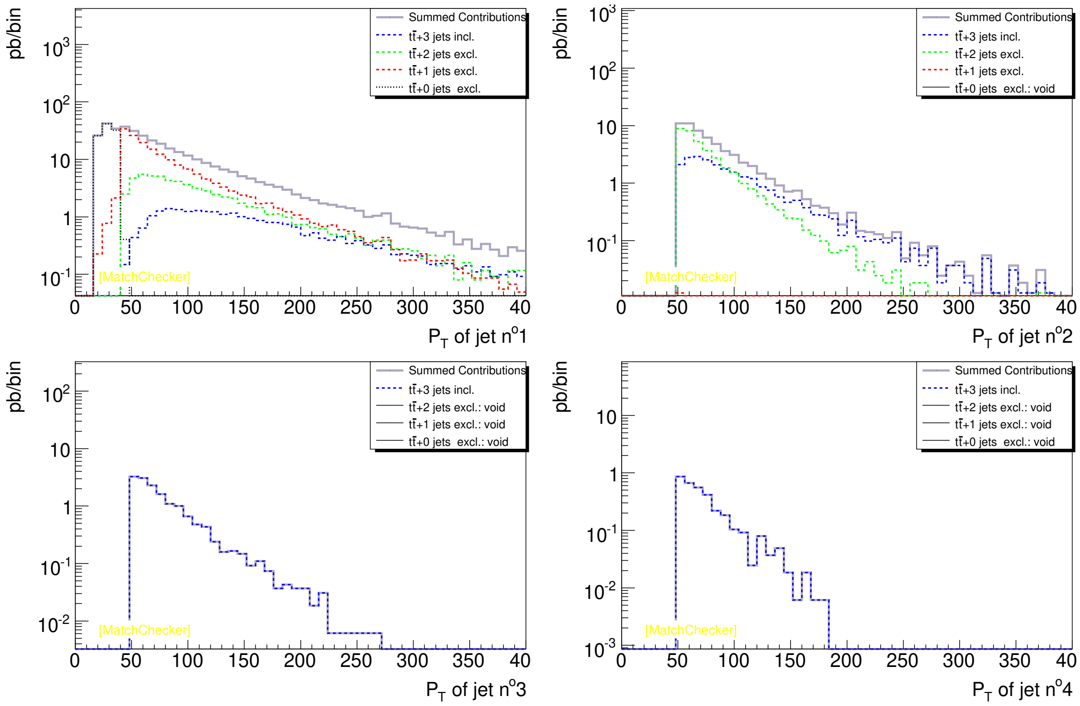

Figure 22: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.3 Production 3

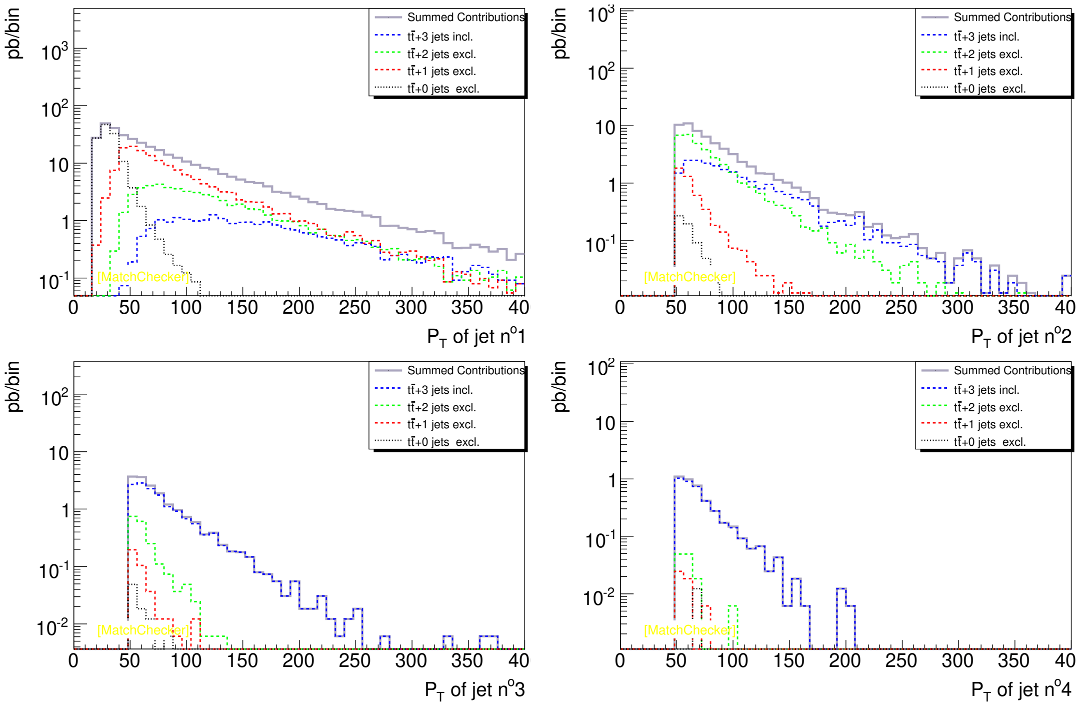

Figure 23: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.4 Production 4

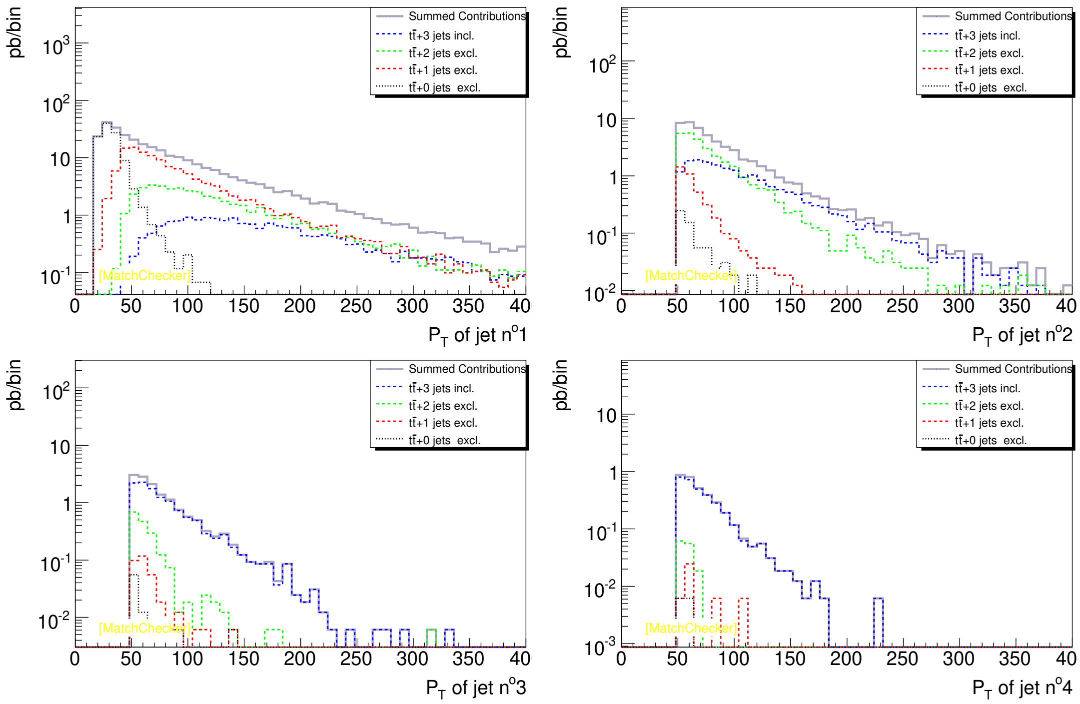

Figure 24: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.5 Production 5

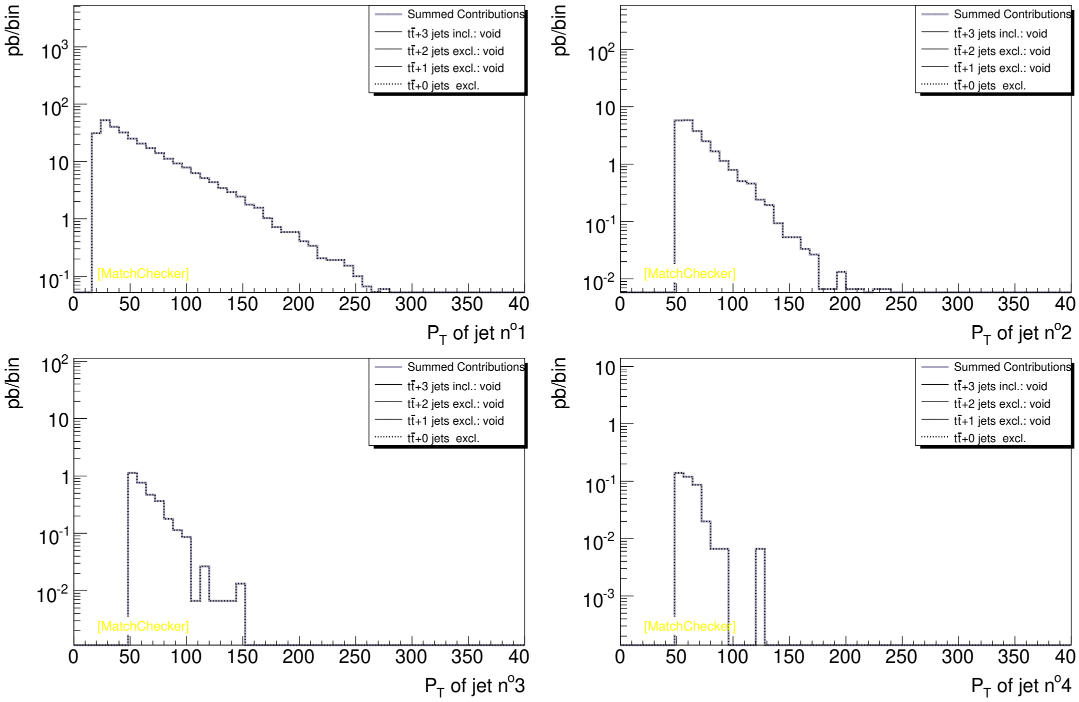

Figure 25: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.6 Production 6

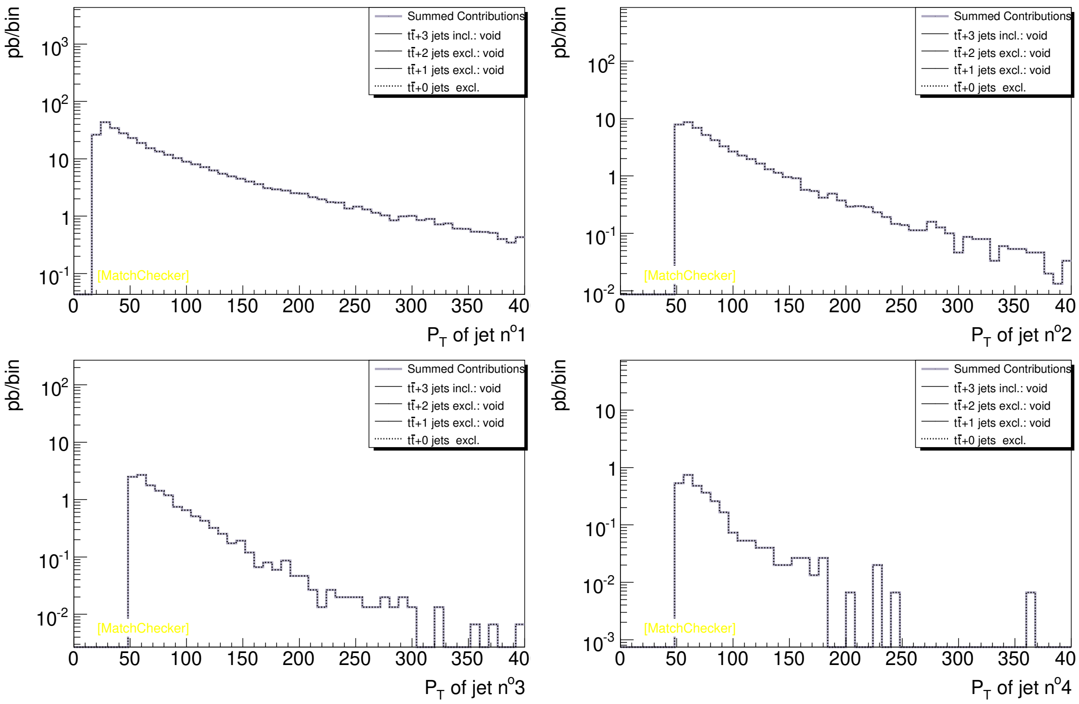

Figure 26: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.7 Production 7

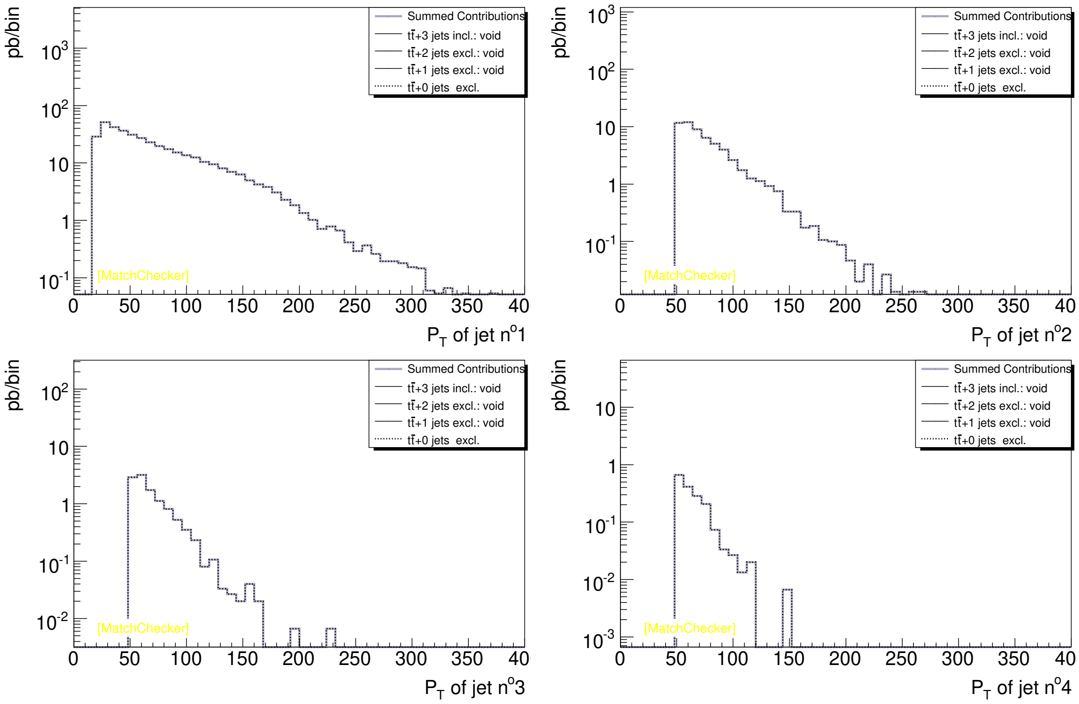

Figure 27: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.8 Production 8

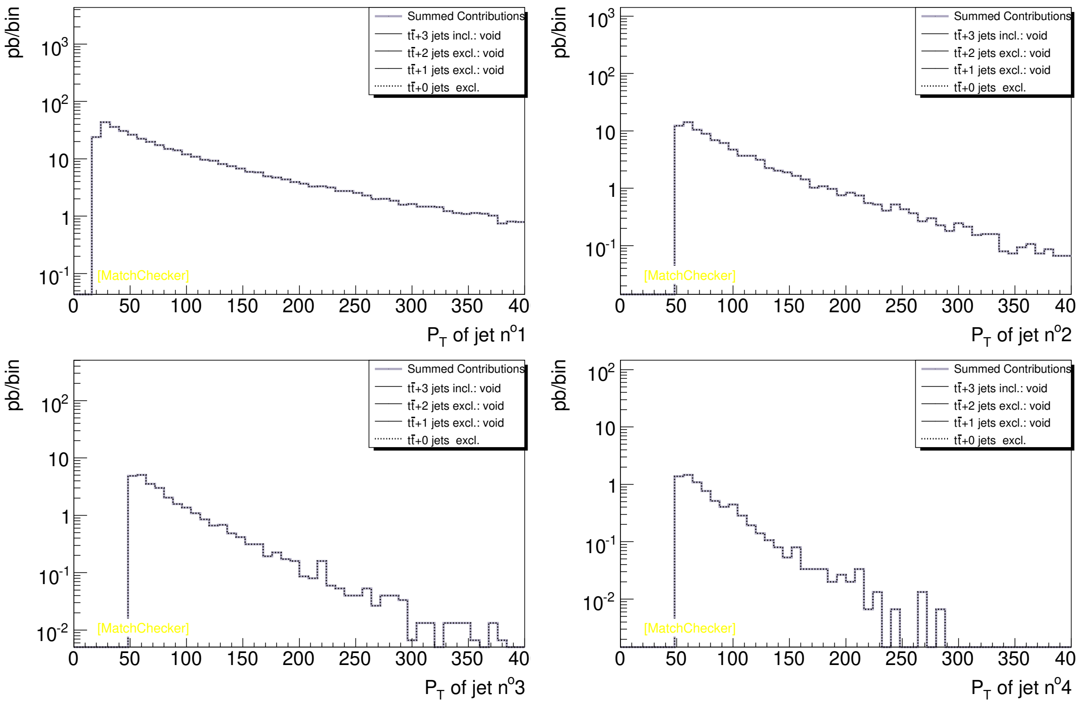

Figure 28: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

11.9 Comparison of Jet kinematics (global shapes) between productions

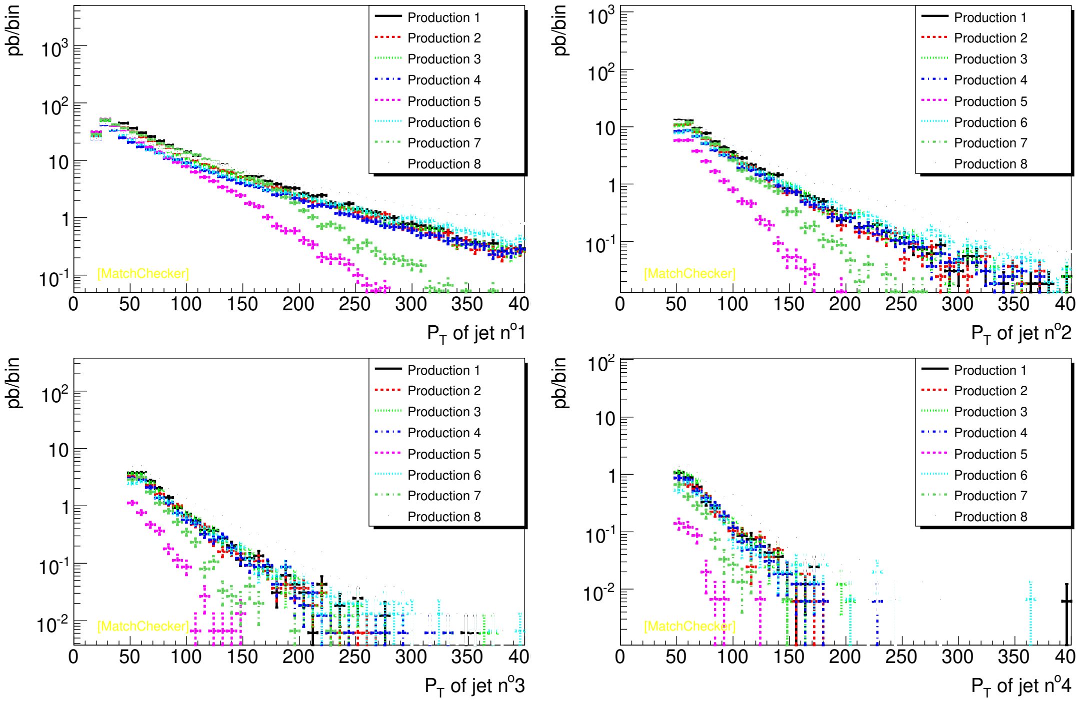

Figure 29: Comparison of kinematics variables for $t\bar{t}$.

11.10 Ratio of distributions

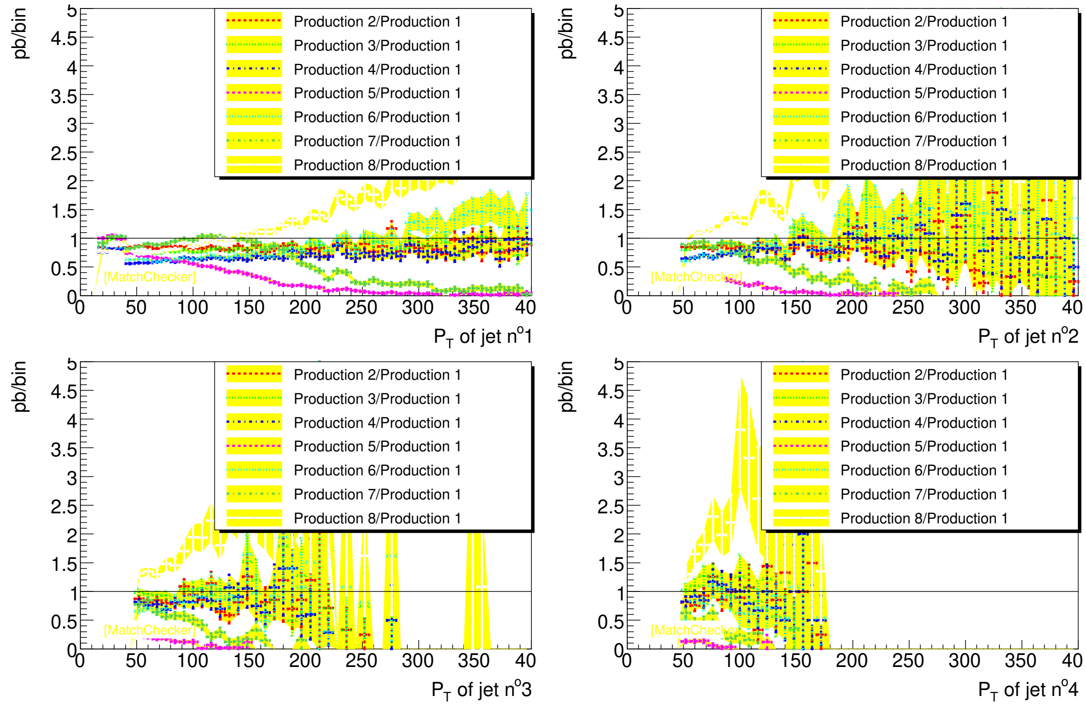

Figure 30: Comparison of kinematics variables for $t\bar{t}$.

12 Jet rapidity

12.1 Jet Rapidity: Production 1, jets with minimal P_T of 20 Gev

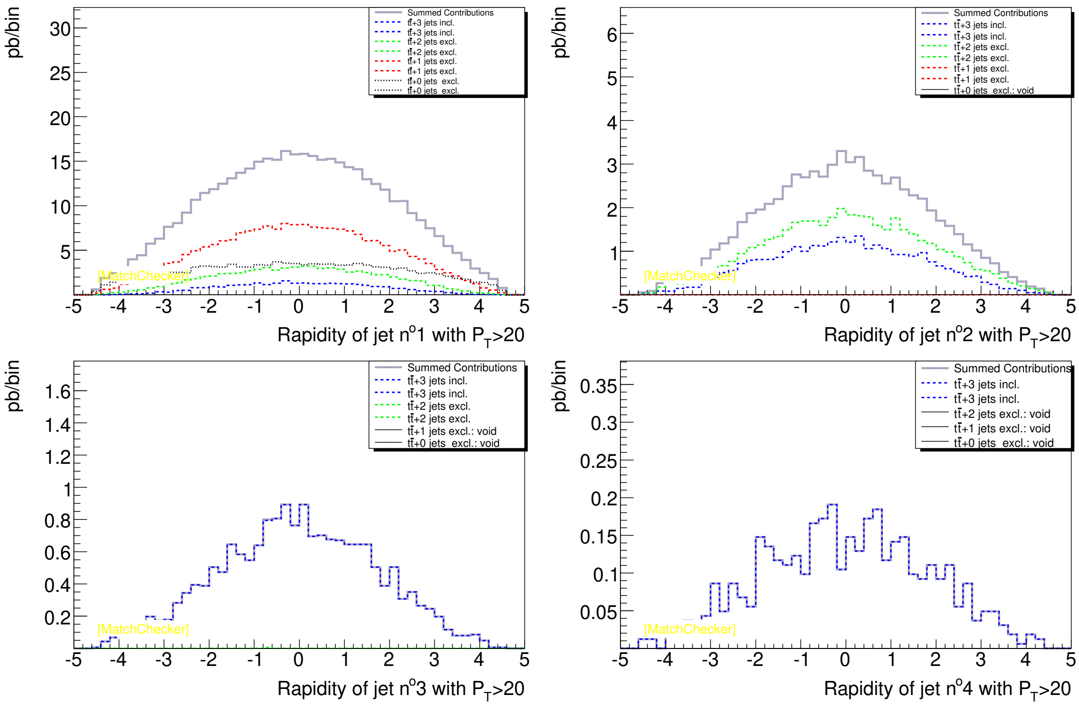

Figure 31: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.2 Jet Rapidity: Production 2, jets with minimal P_T of 20 Gev

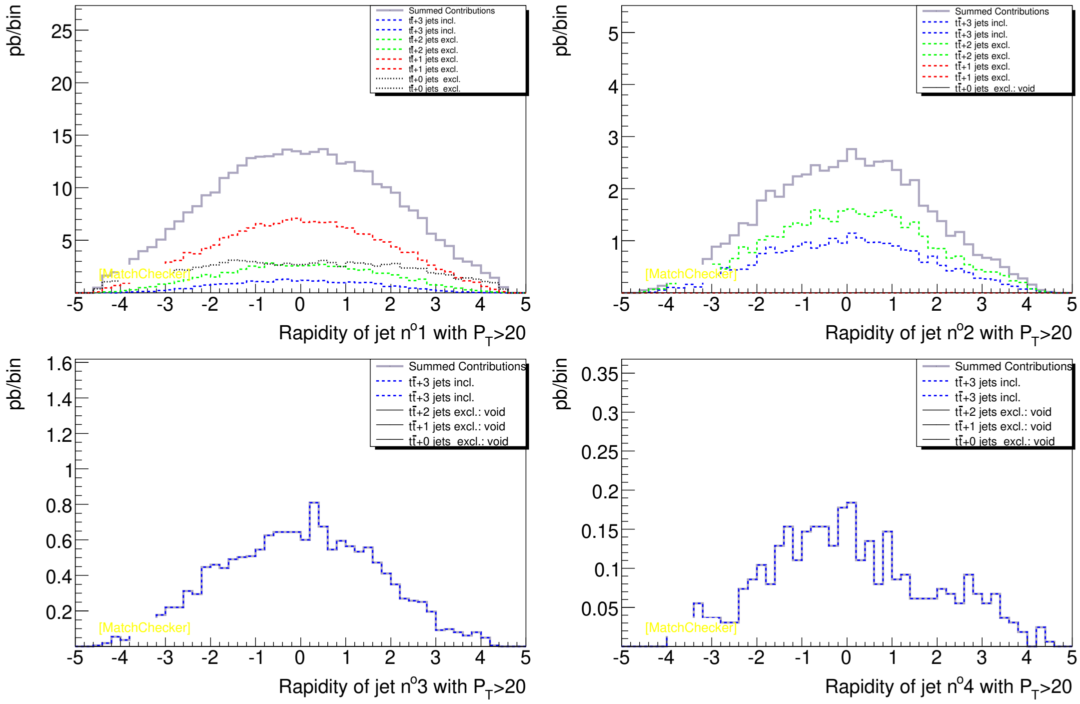

Figure 32: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.3 Jet Rapidity: Production 3, jets with minimal P_T of 20 Gev

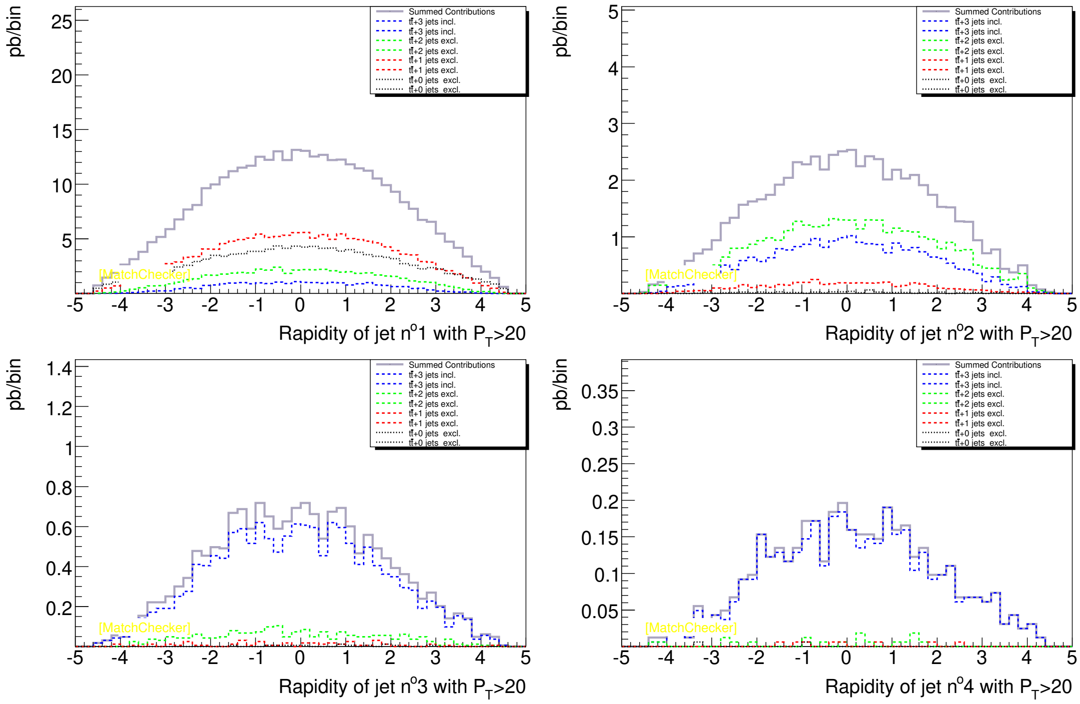

Figure 33: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.4 Jet Rapidity: Production 4, jets with minimal P_T of 20 Gev

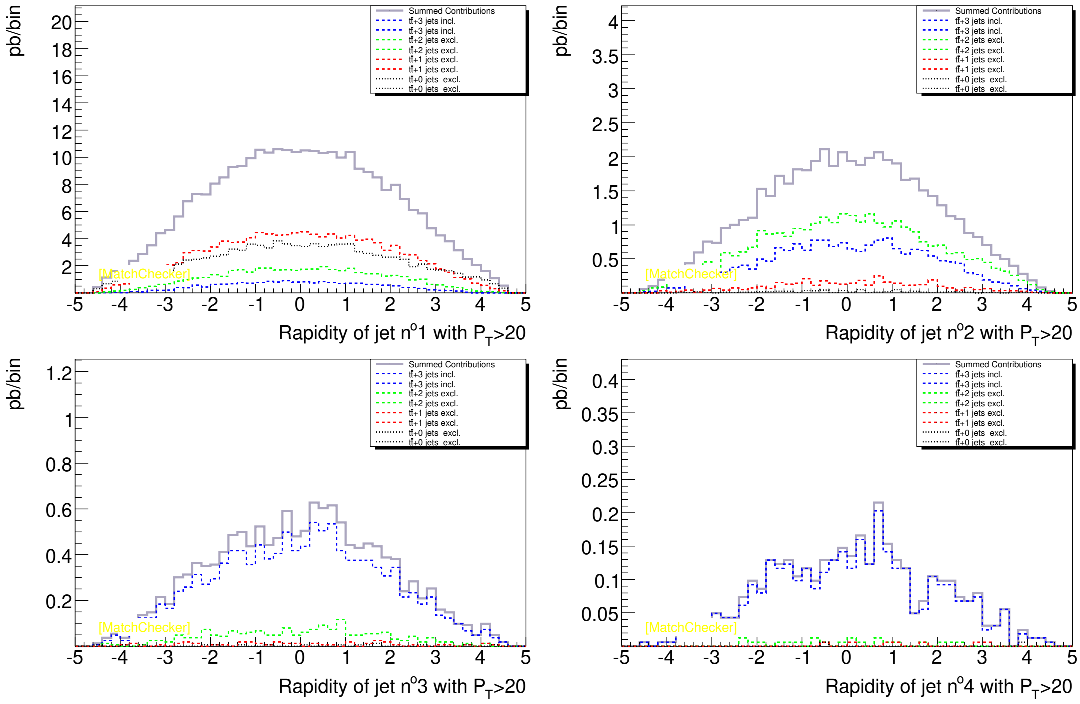

Figure 34: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.5 Jet Rapidity: Production 5, jets with minimal P_T of 20 Gev

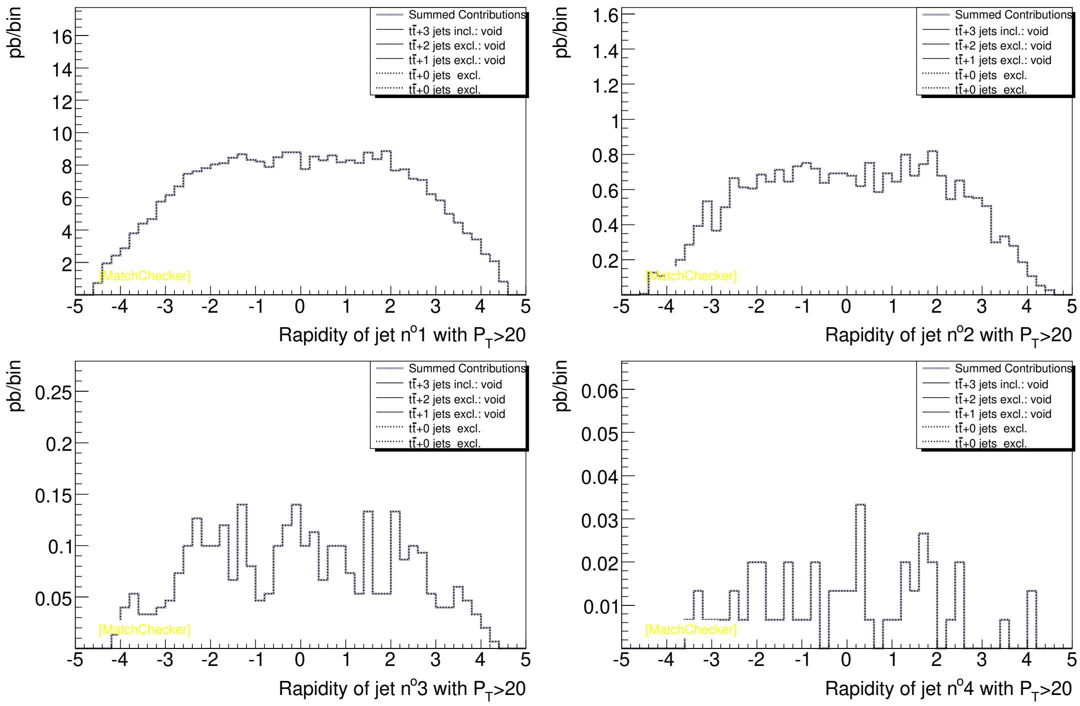

Figure 35: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.6 Jet Rapidity: Production 6, jets with minimal P_T of 20 Gev

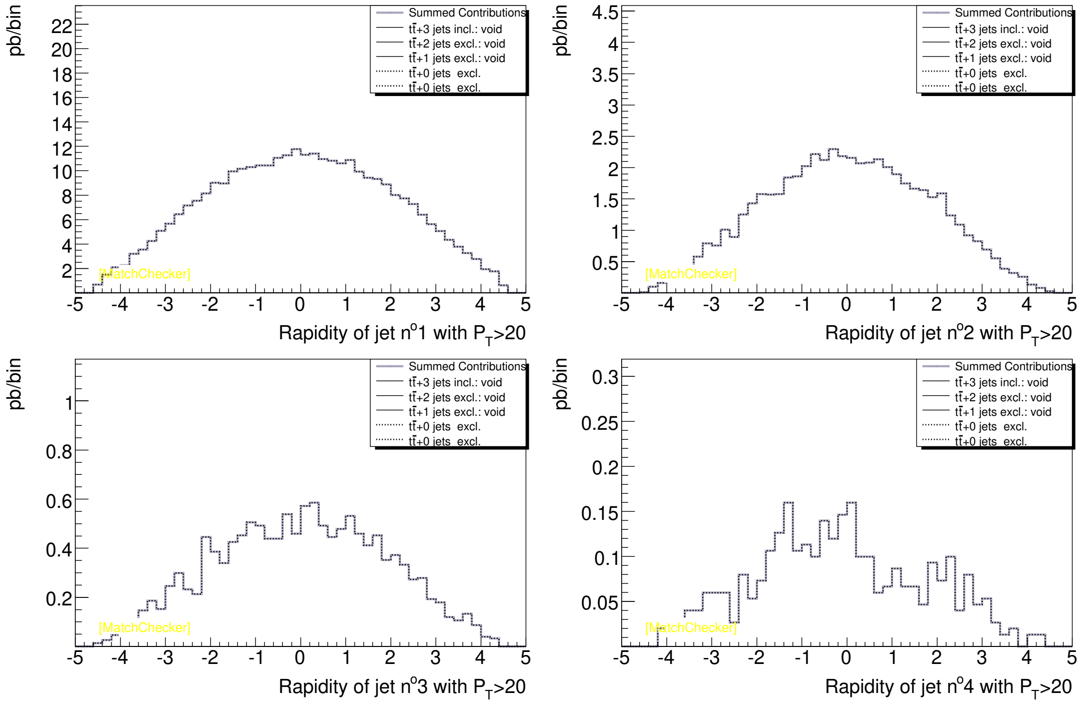

Figure 36: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.7 Jet Rapidity: Production 7, jets with minimal P_T of 20 Gev

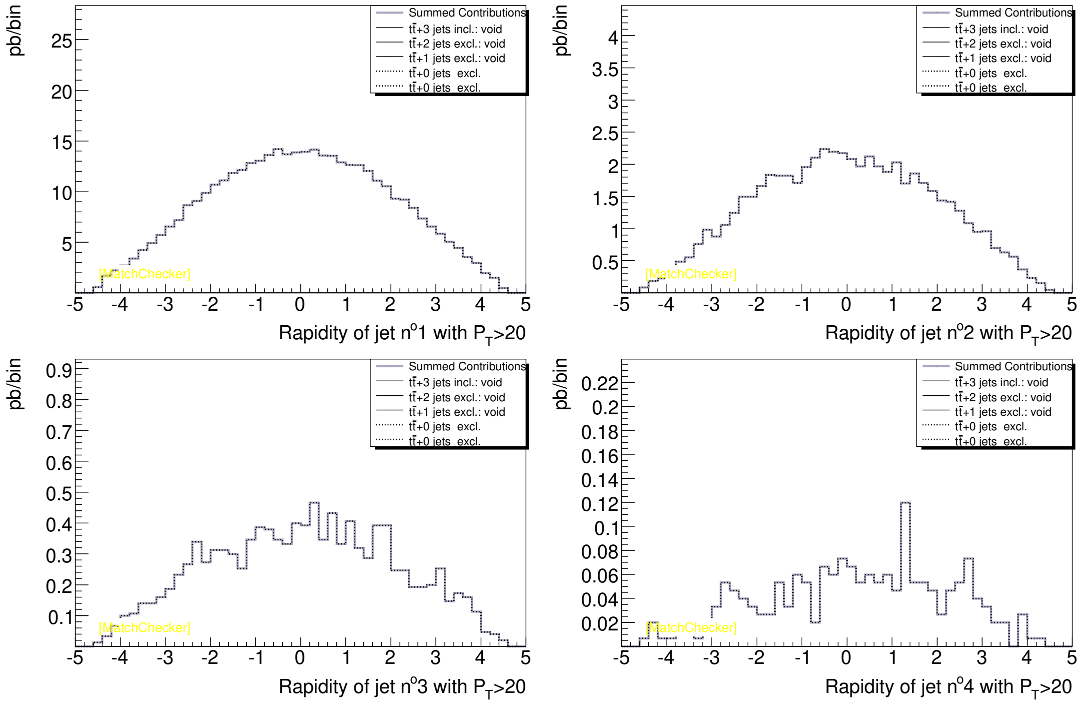

Figure 37: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.8 Jet Rapidity: Production 8, jets with minimal P_T of 20 Gev

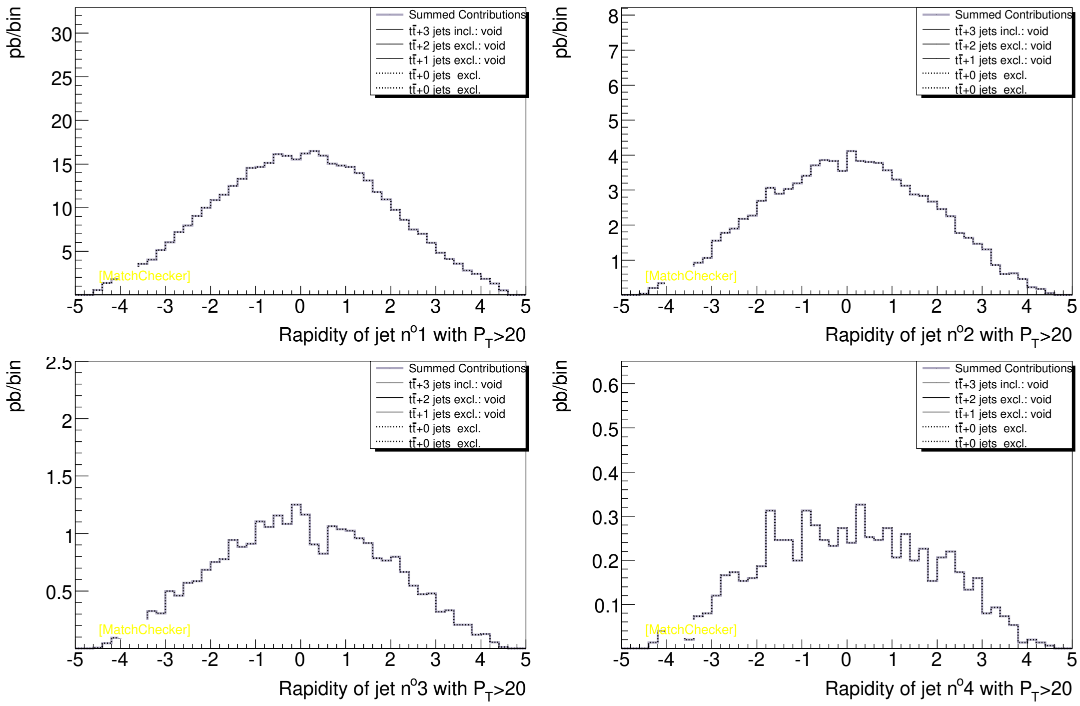

Figure 38: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.9 Comparison of Jets with a cut of 20 Gev in P_T

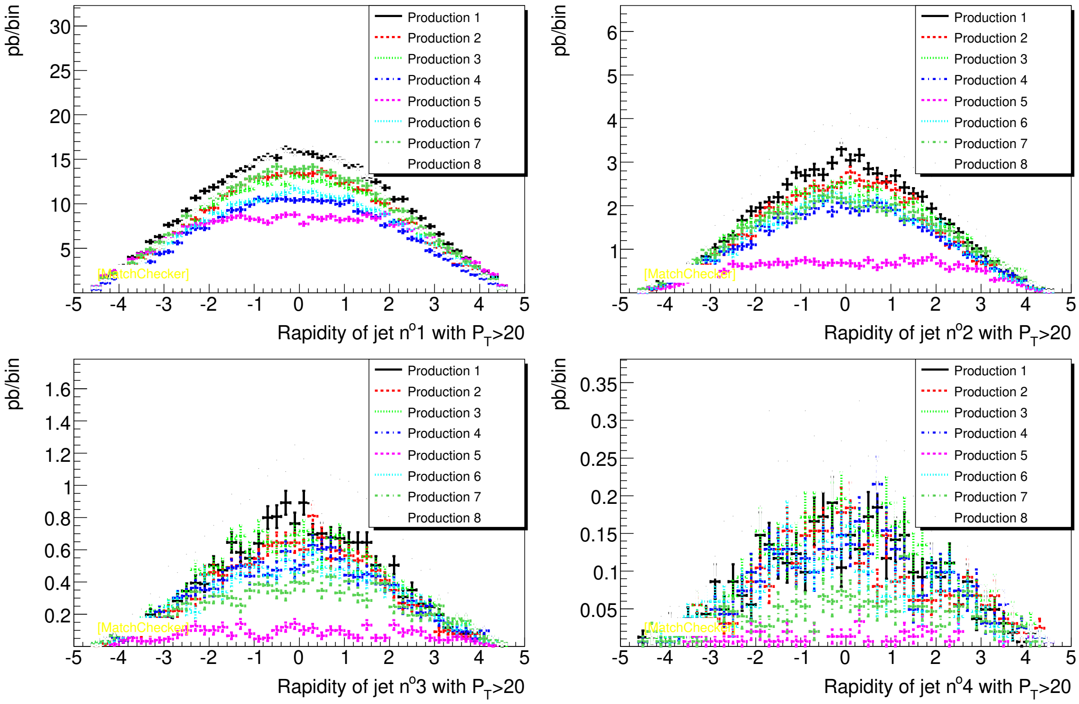

Figure 39: Comparison of kinematics variables for $t\bar{t}$.

12.10 Ratio of distributions

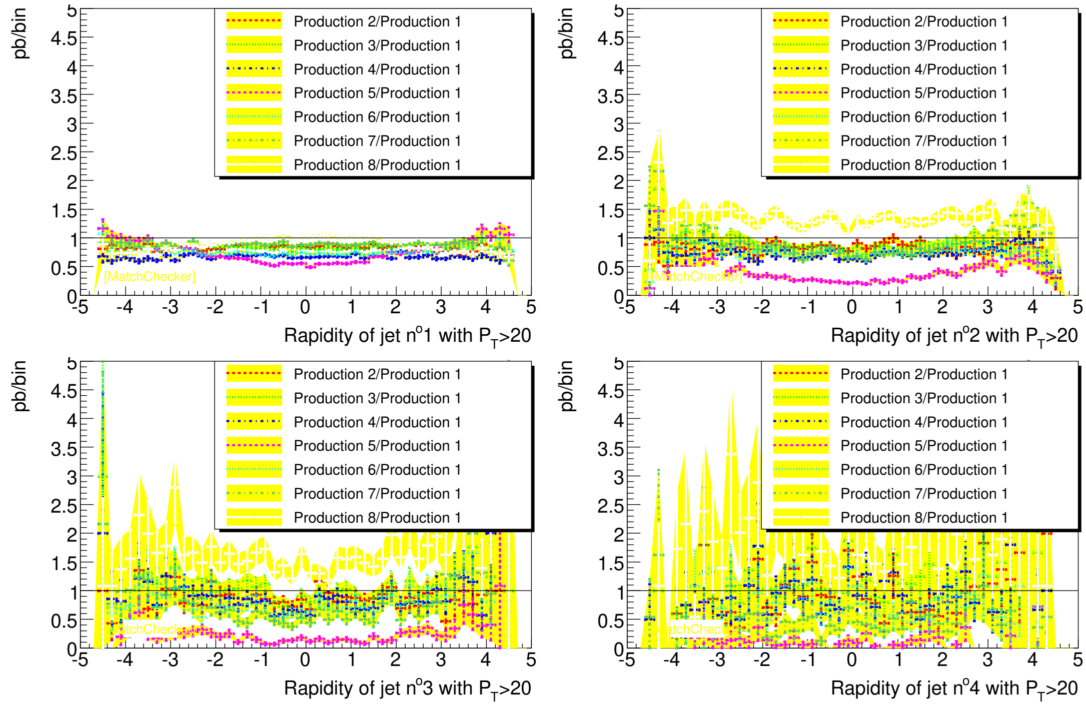

Figure 40: Comparison of kinematics variables for $t\bar{t}$.

12.11 Jet Rapidity: Production 1, jets with minimal P_T of 50 Gev

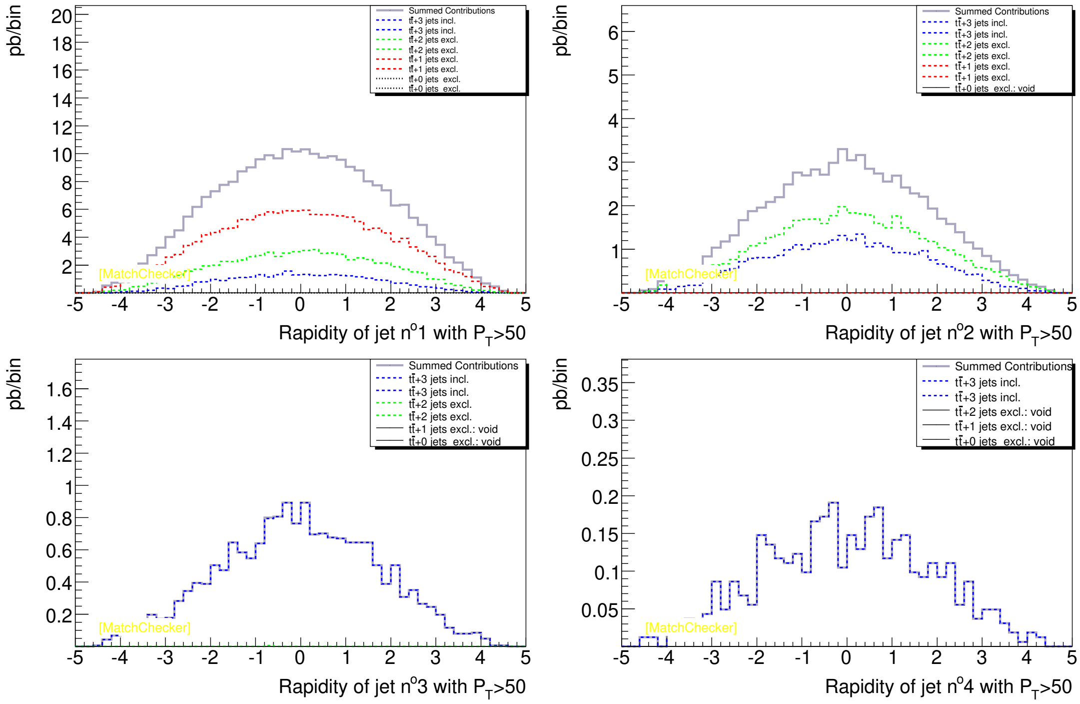

Figure 41: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.12 Jet Rapidity: Production 2, jets with minimal P_T of 50 Gev

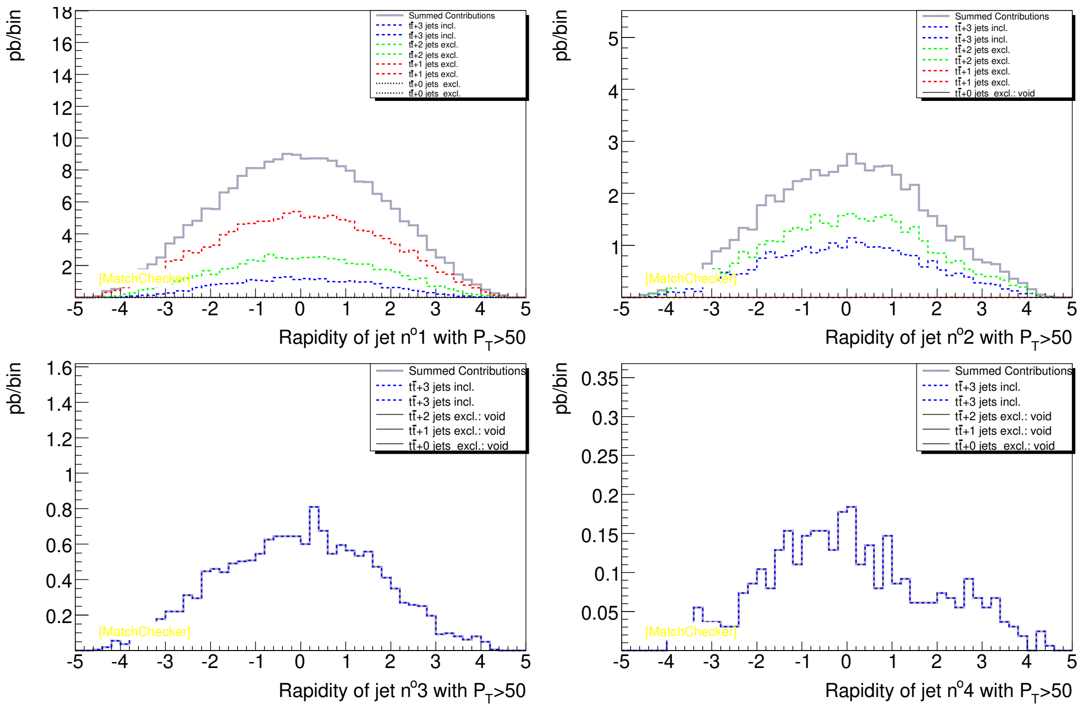

Figure 42: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.13 Jet Rapidity: Production 3, jets with minimal P_T of 50 Gev

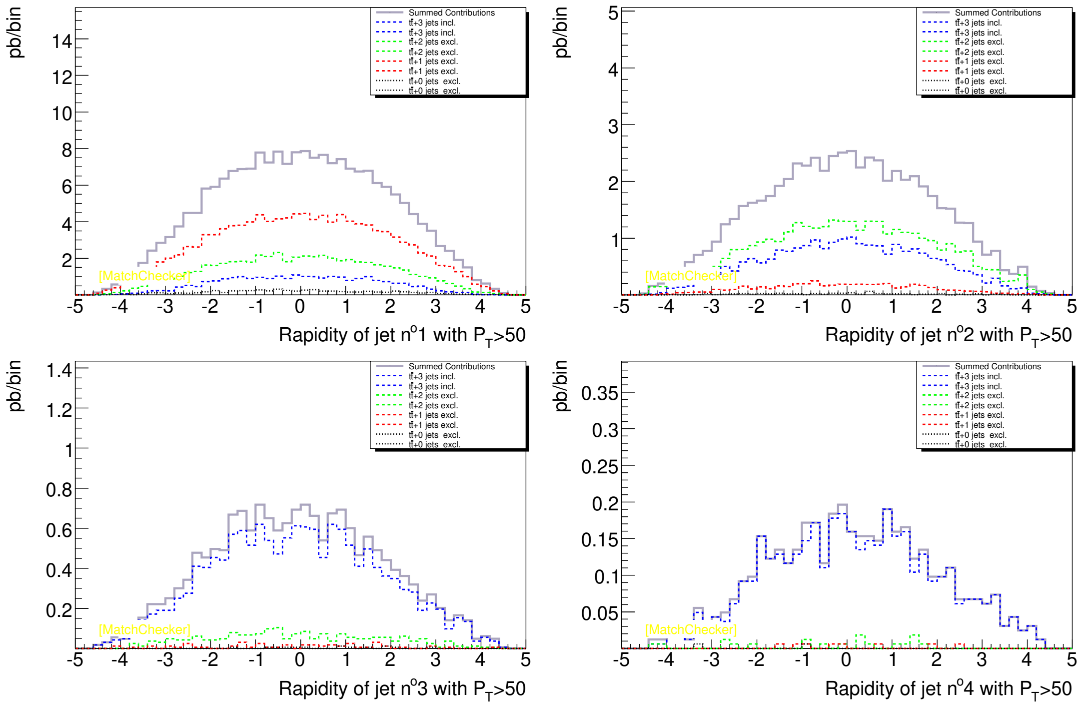

Figure 43: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.14 Jet Rapidity: Production 4, jets with minimal P_T of 50 Gev

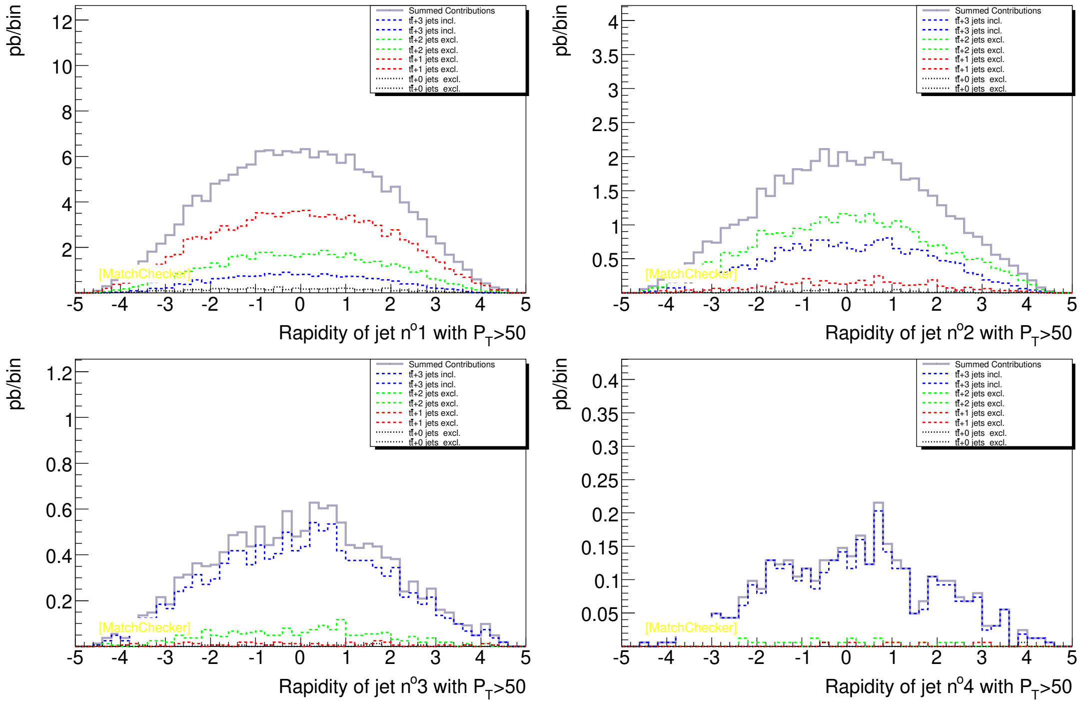

Figure 44: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.15 Jet Rapidity: Production 5, jets with minimal P_T of 50 Gev

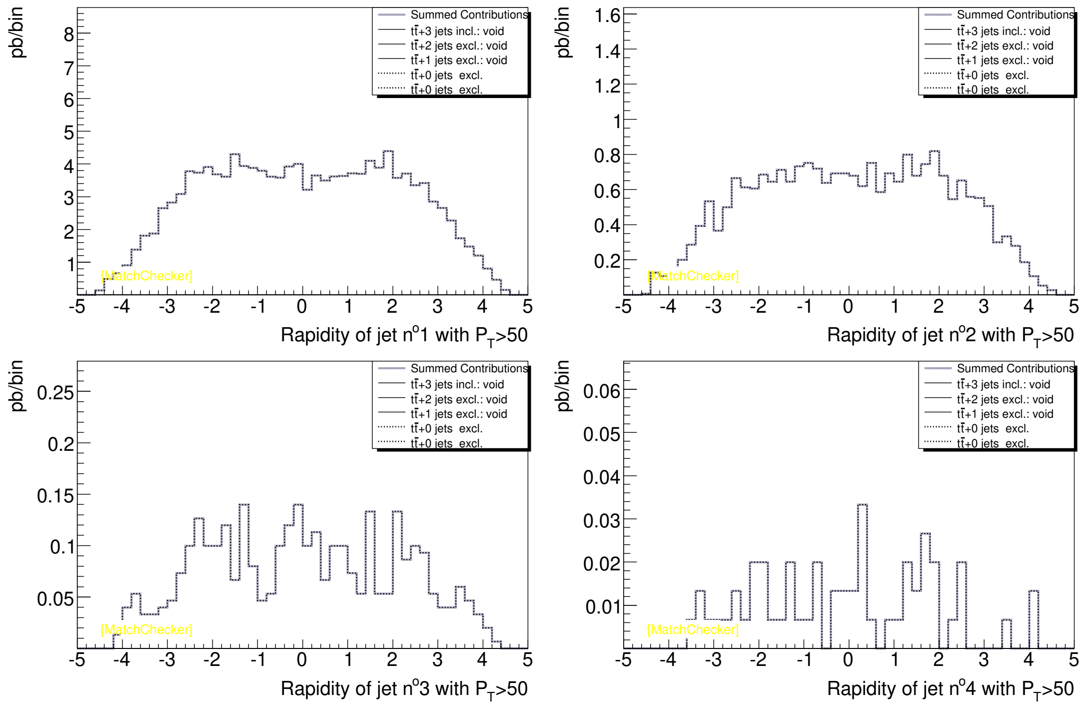

Figure 45: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.16 Jet Rapidity: Production 6, jets with minimal P_T of 50 Gev

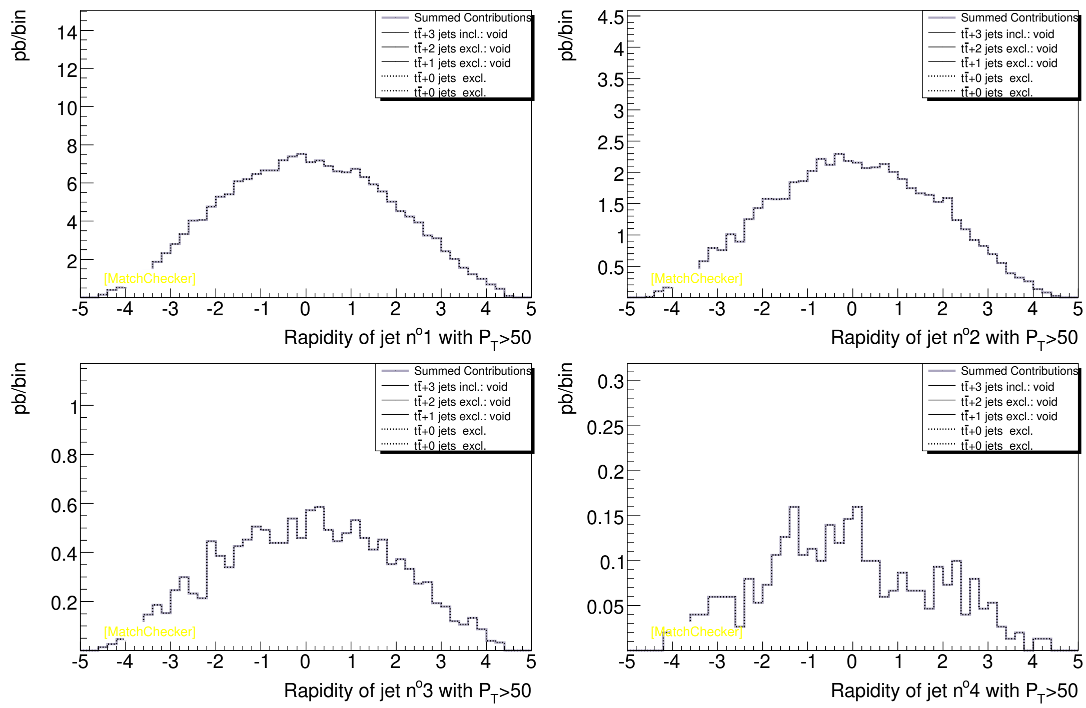

Figure 46: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.17 Jet Rapidity: Production 7, jets with minimal P_T of 50 Gev

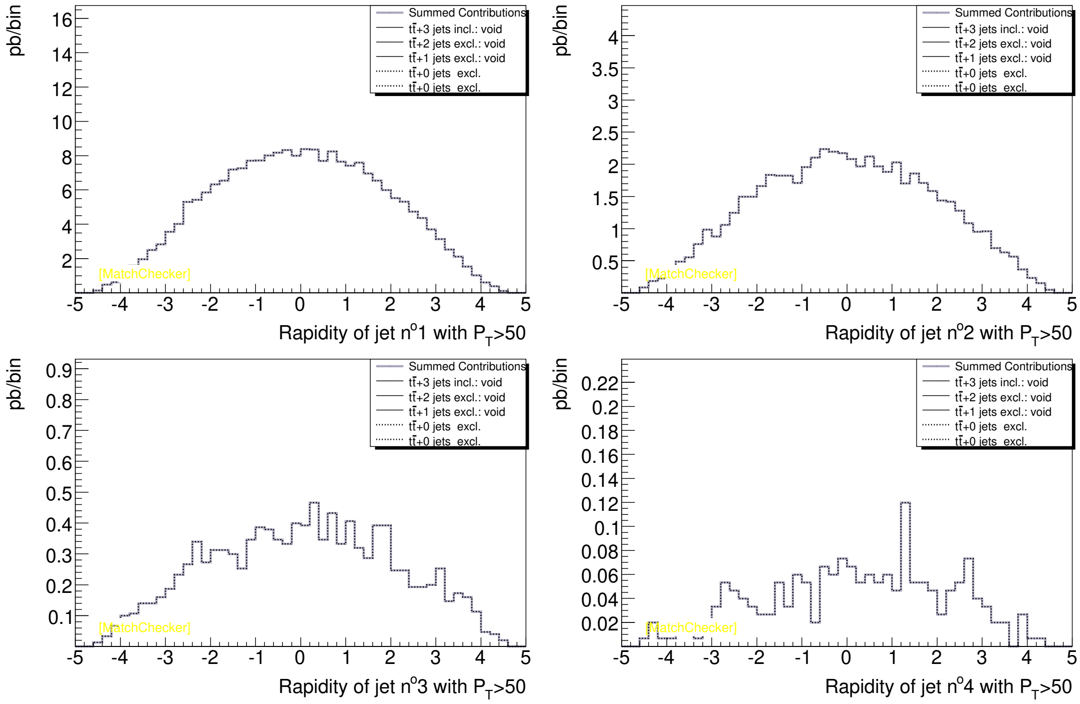

Figure 47: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.18 Jet Rapidity: Production 8, jets with minimal P_T of 50 Gev

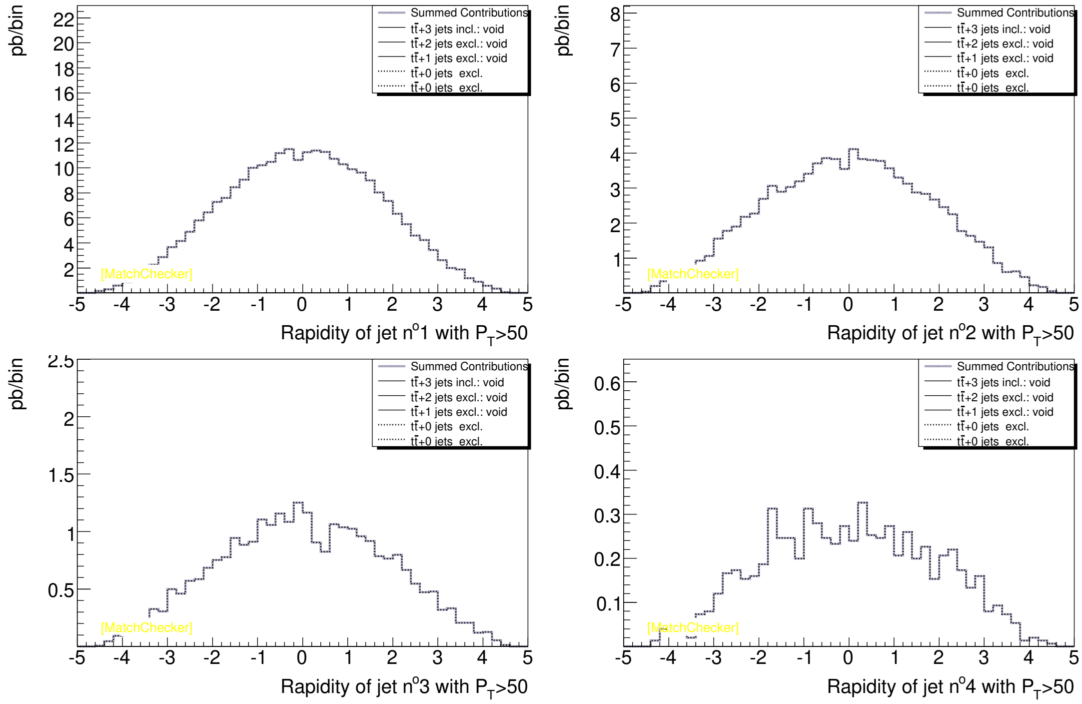

Figure 48: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.19 Comparison of Jets with a cut of 50 Gev in P_T

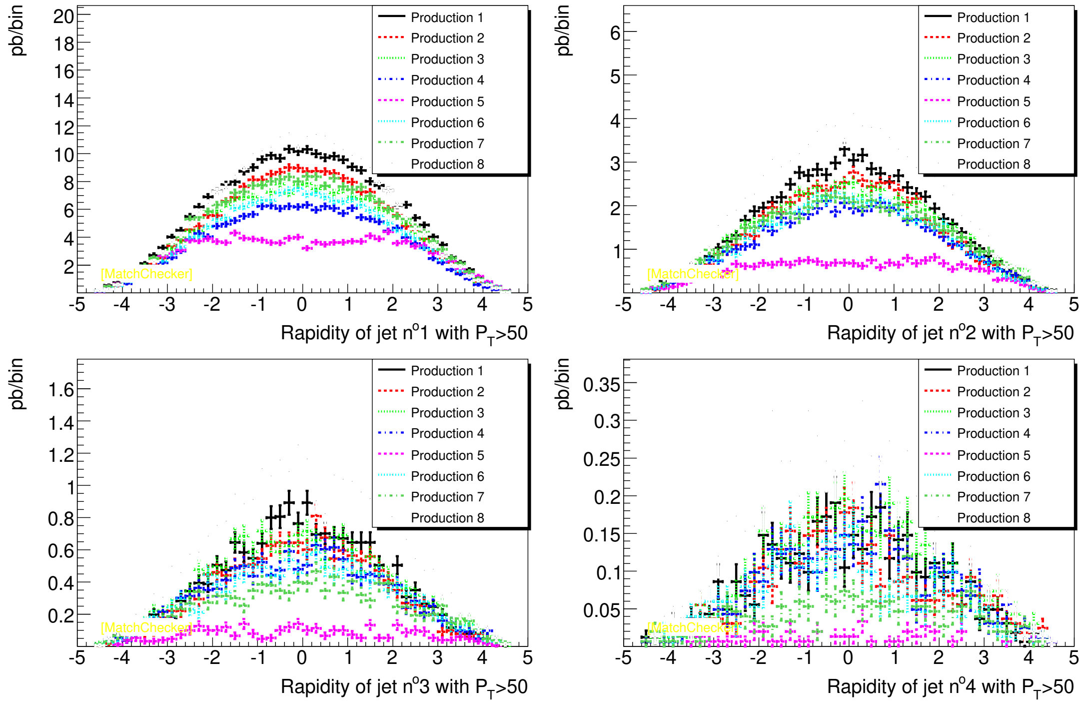

Figure 49: Comparison of kinematics variables for $t\bar{t}$.

12.20 Ratio of distributions

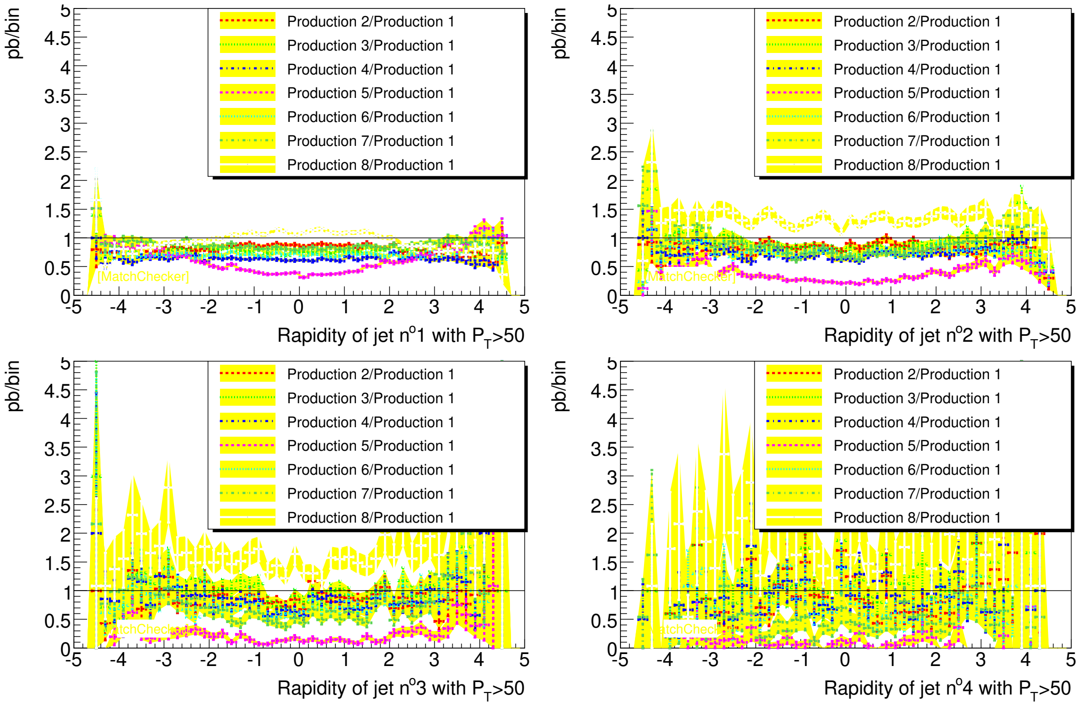

Figure 50: Comparison of kinematics variables for $t\bar{t}$.

12.21 Jet Rapidity: Production 1, jets with minimal P_T of 100 Gev

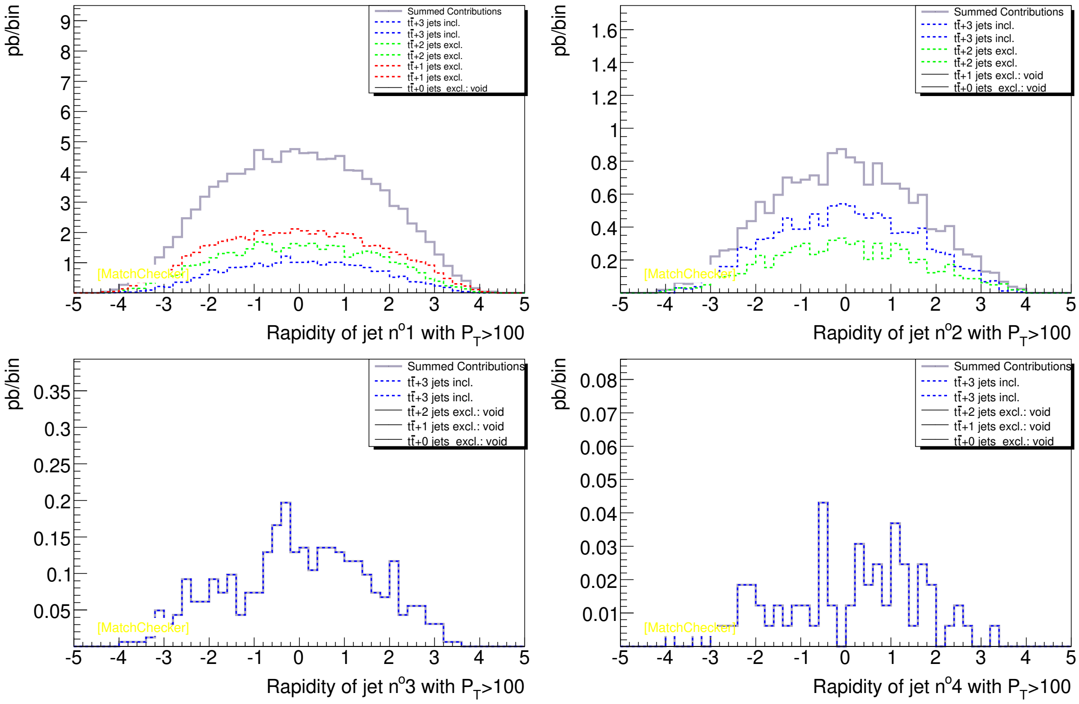

Figure 51: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.22 Jet Rapidity: Production 2, jets with minimal P_T of 100 Gev

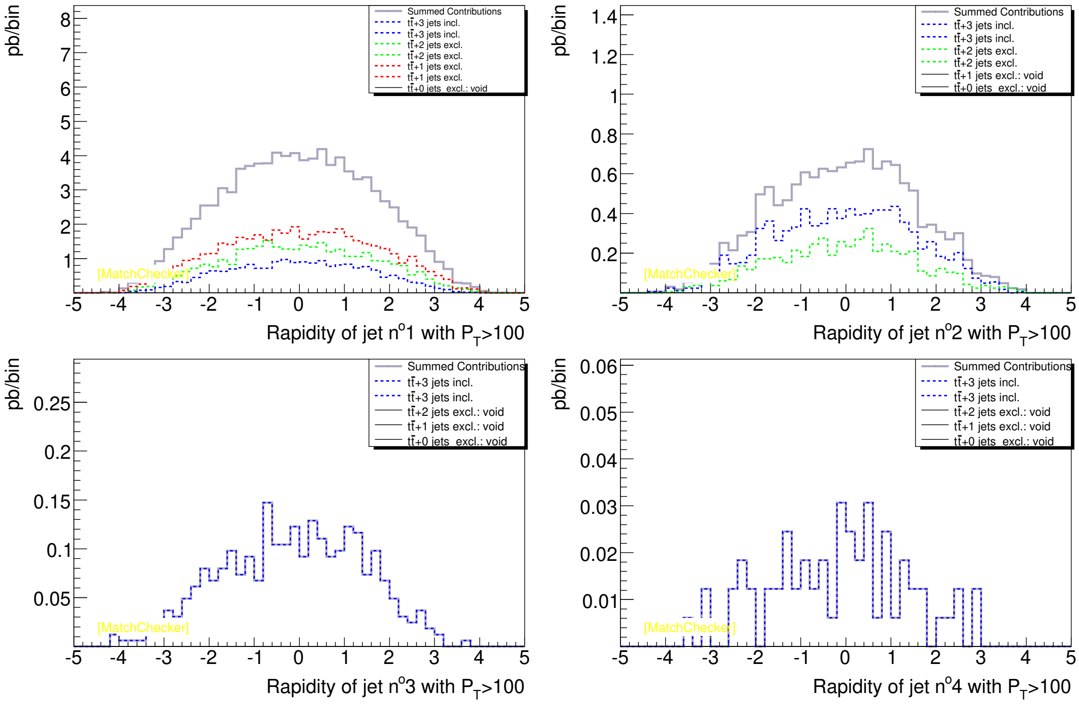

Figure 52: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.23 Jet Rapidity: Production 3, jets with minimal P_T of 100 Gev

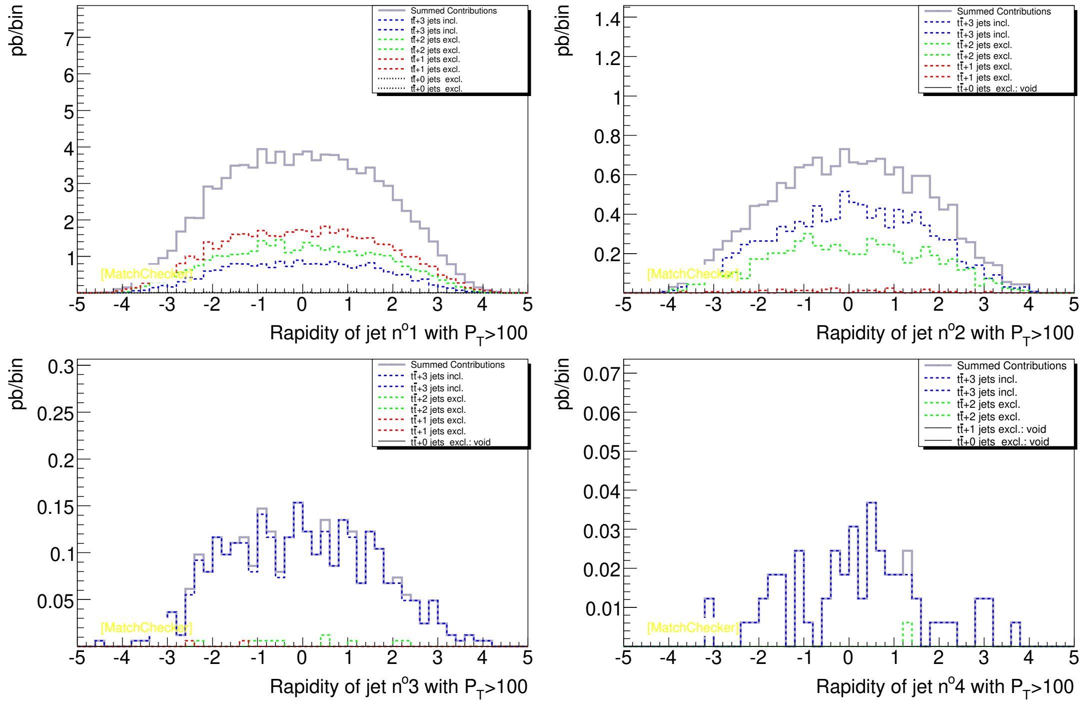

Figure 53: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.24 Jet Rapidity: Production 4, jets with minimal P_T of 100 Gev

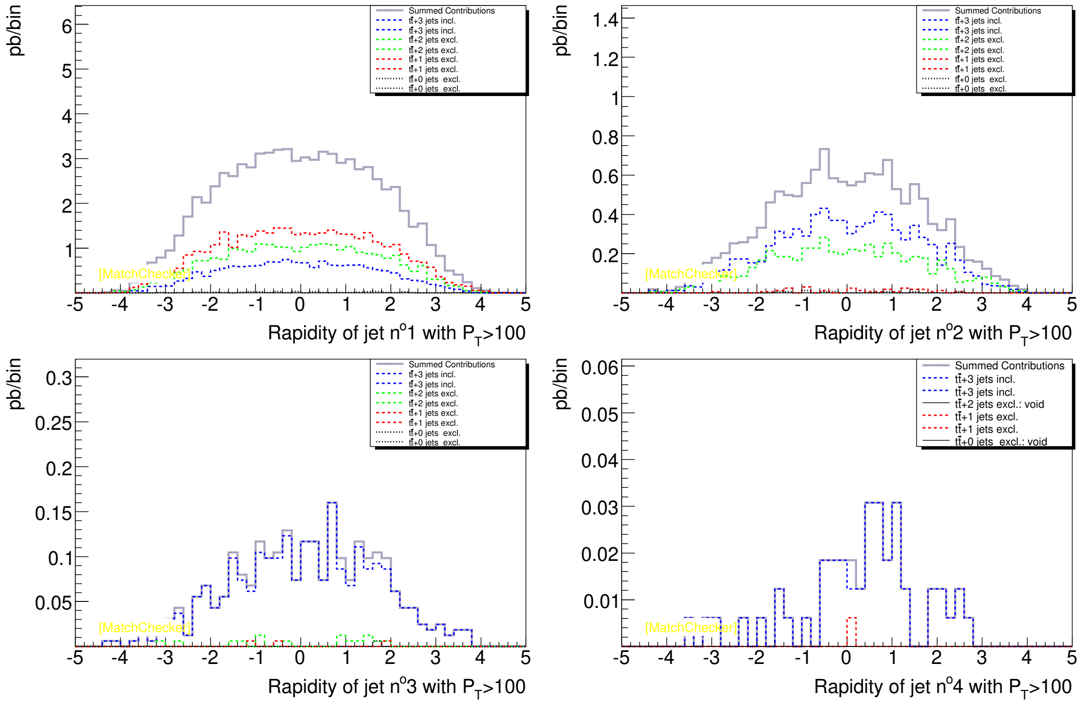

Figure 54: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.25 Jet Rapidity: Production 5, jets with minimal P_T of 100 Gev

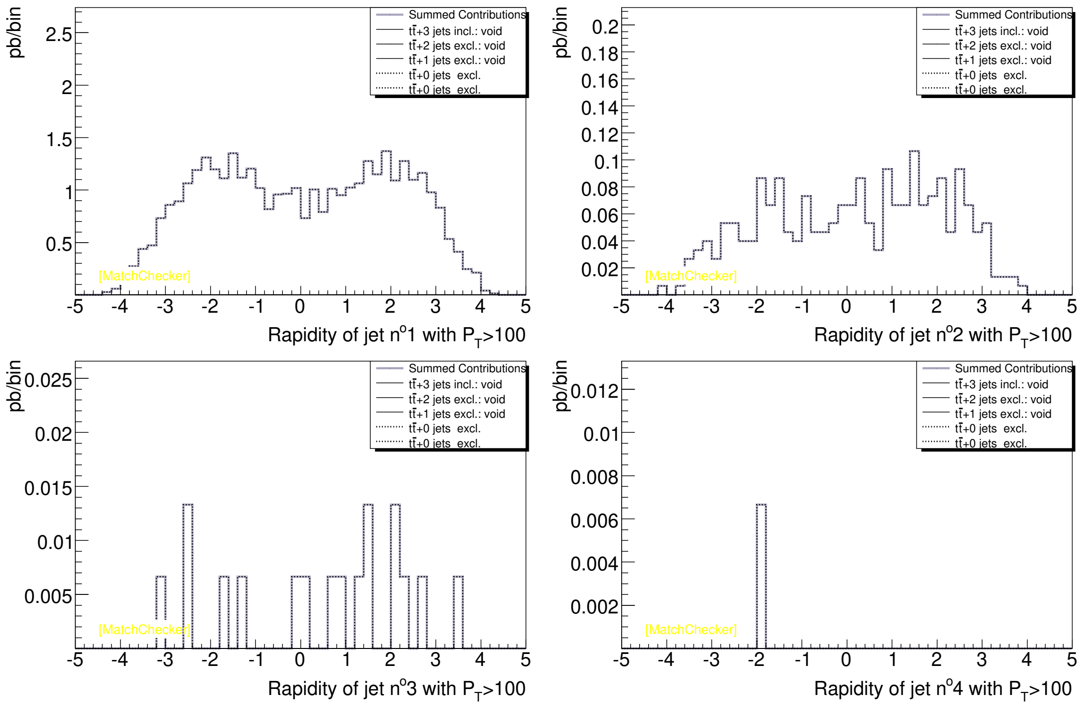

Figure 55: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.26 Jet Rapidity: Production 6, jets with minimal P_T of 100 Gev

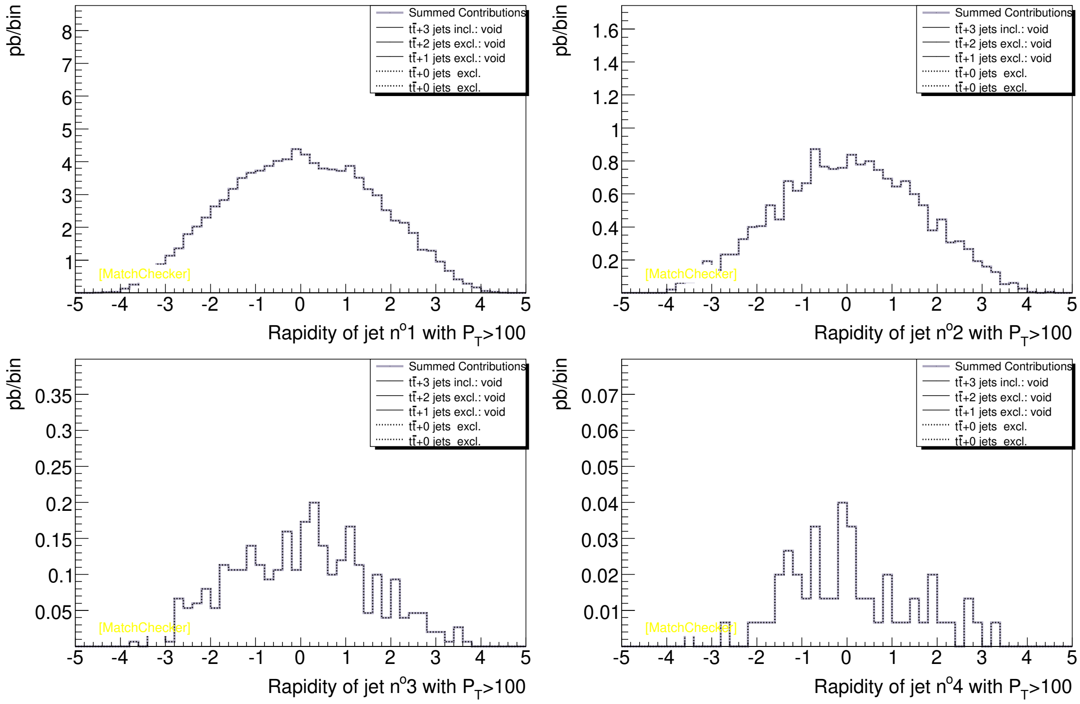

Figure 56: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.27 Jet Rapidity: Production 7, jets with minimal P_T of 100 Gev

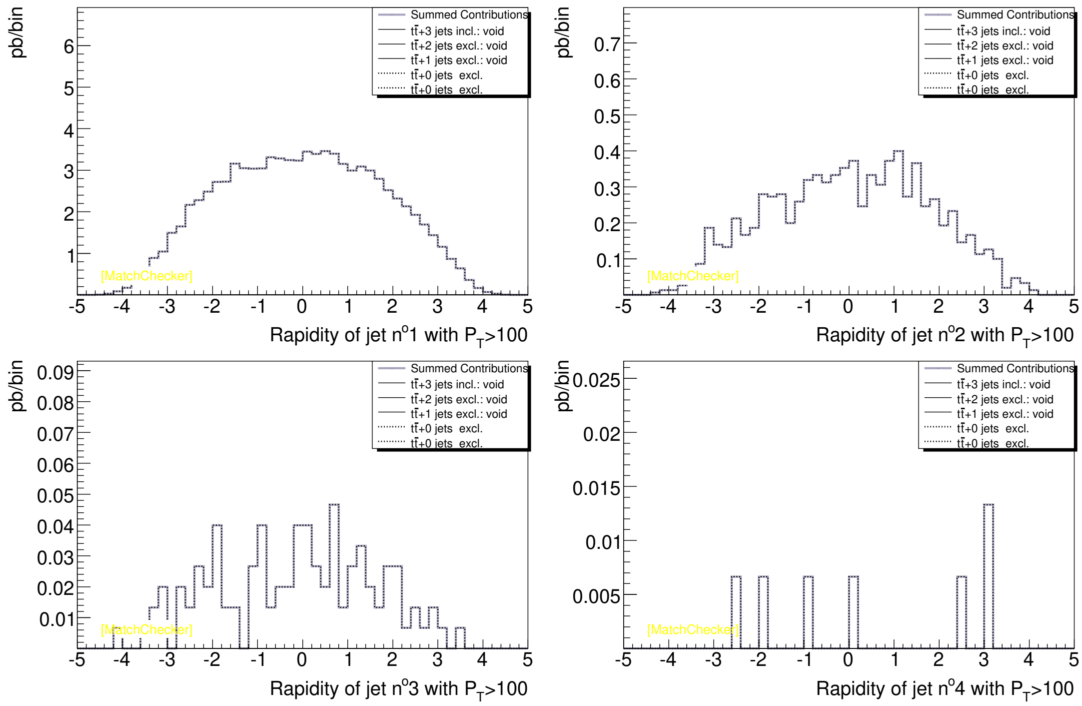

Figure 57: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.28 Jet Rapidity: Production 8, jets with minimal P_T of 100 Gev

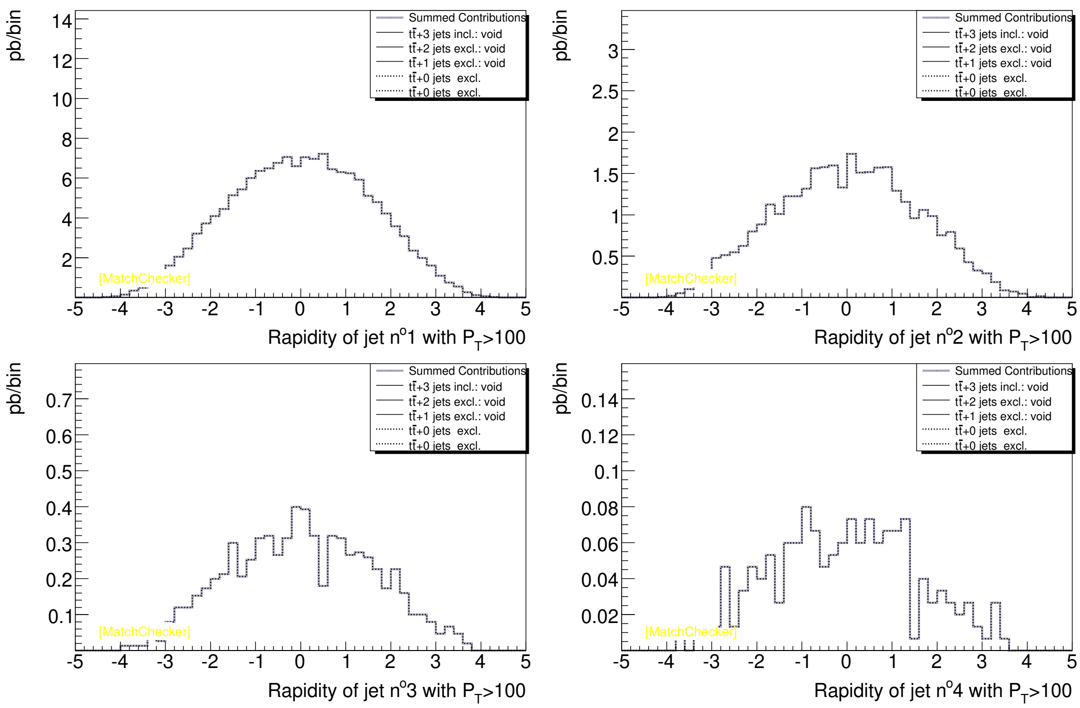

Figure 58: Pt of the four first extra-jets in Pt for $t\bar{t}$ using mg, .

12.29 Comparison of Jets with a cut of 100 Gev in P_T

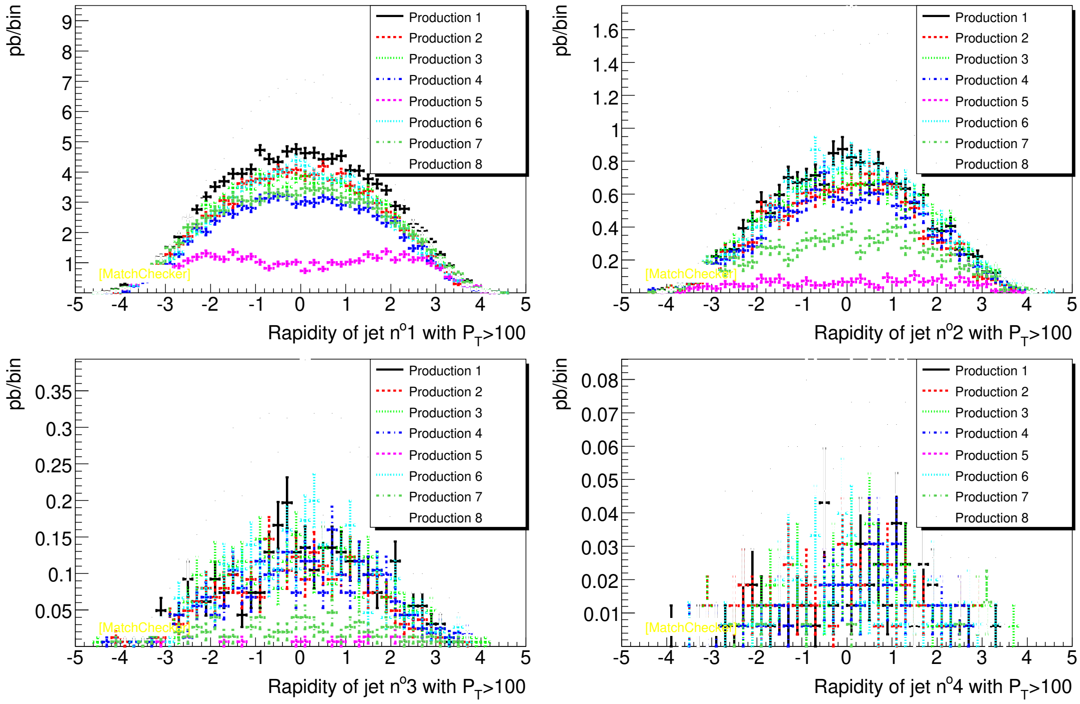

Figure 59: Comparison of kinematics variables for $t\bar{t}$.

12.30 Ratio of distributions

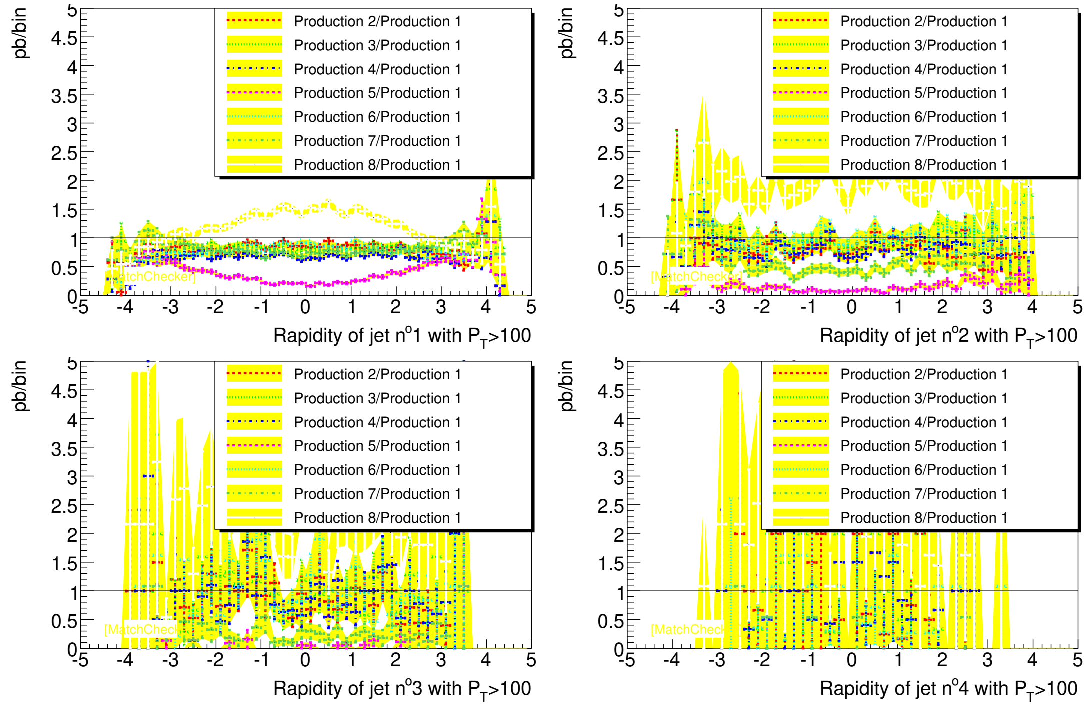

Figure 60: Comparison of kinematics variables for $t\bar{t}$.

13 Ht calculation

13.1 Ht calculation: Production 1, done with minimal P_T of 20 Gev

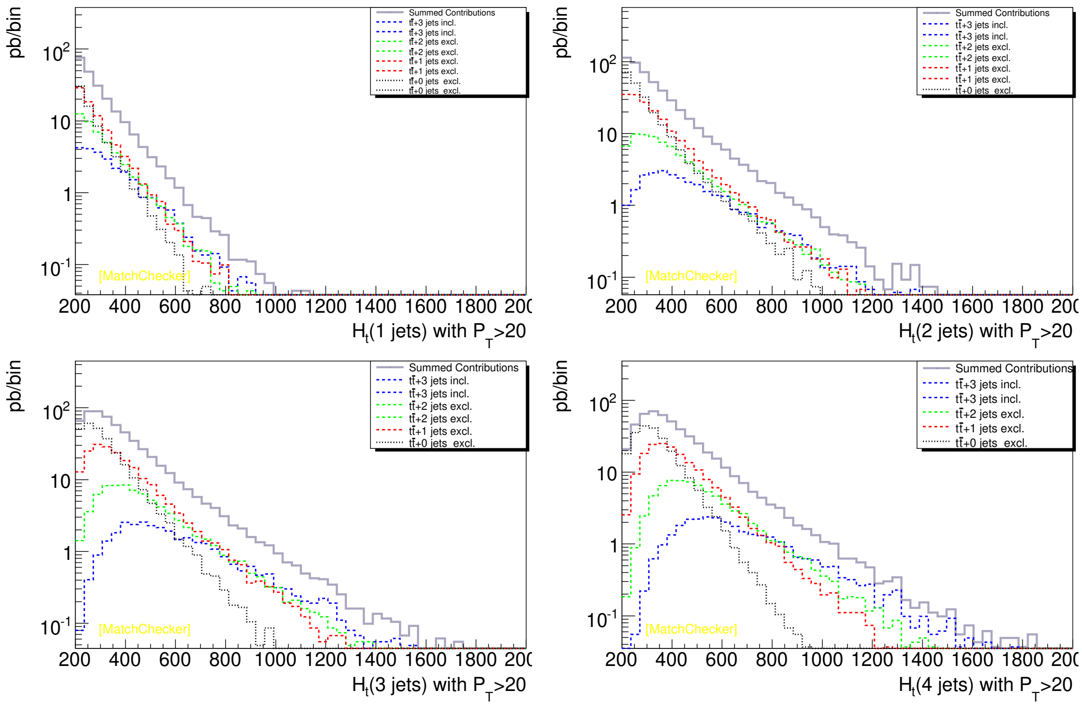

Figure 61: Ht(0 to 4) for $t\bar{t}$ using mg.

13.2 Ht calculation: Production 2, done with minimal P_T of 20 Gev

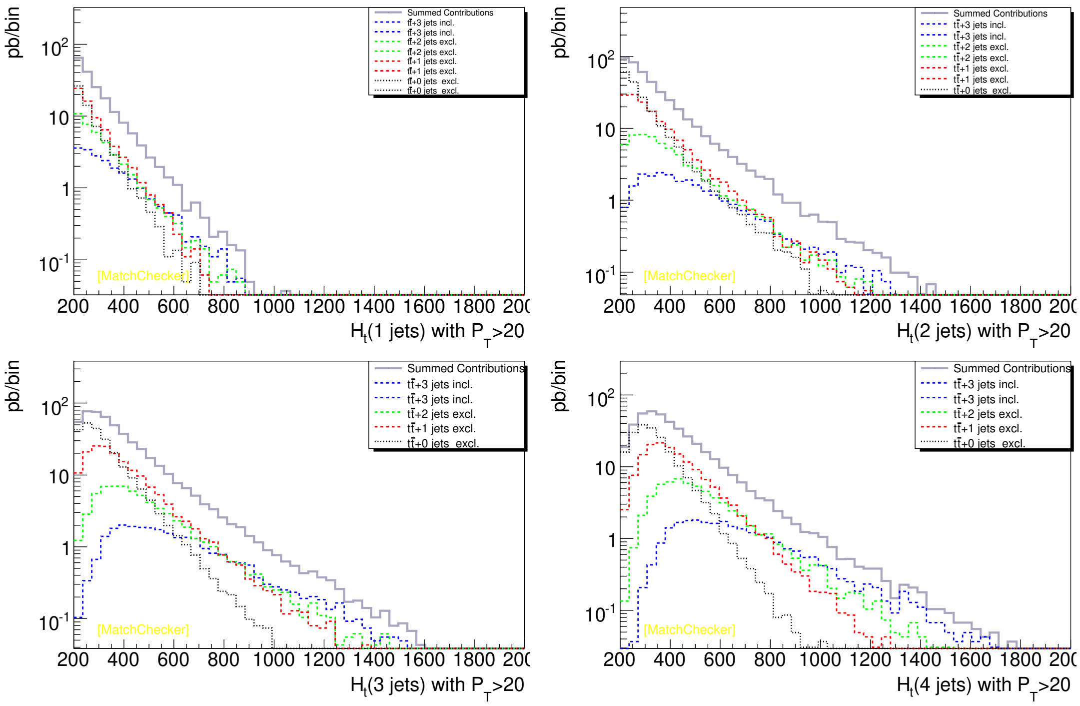

Figure 62: Ht(0 to 4) for $t\bar{t}$ using mg.

13.3 Ht calculation: Production 3, done with minimal P_T of 20 Gev

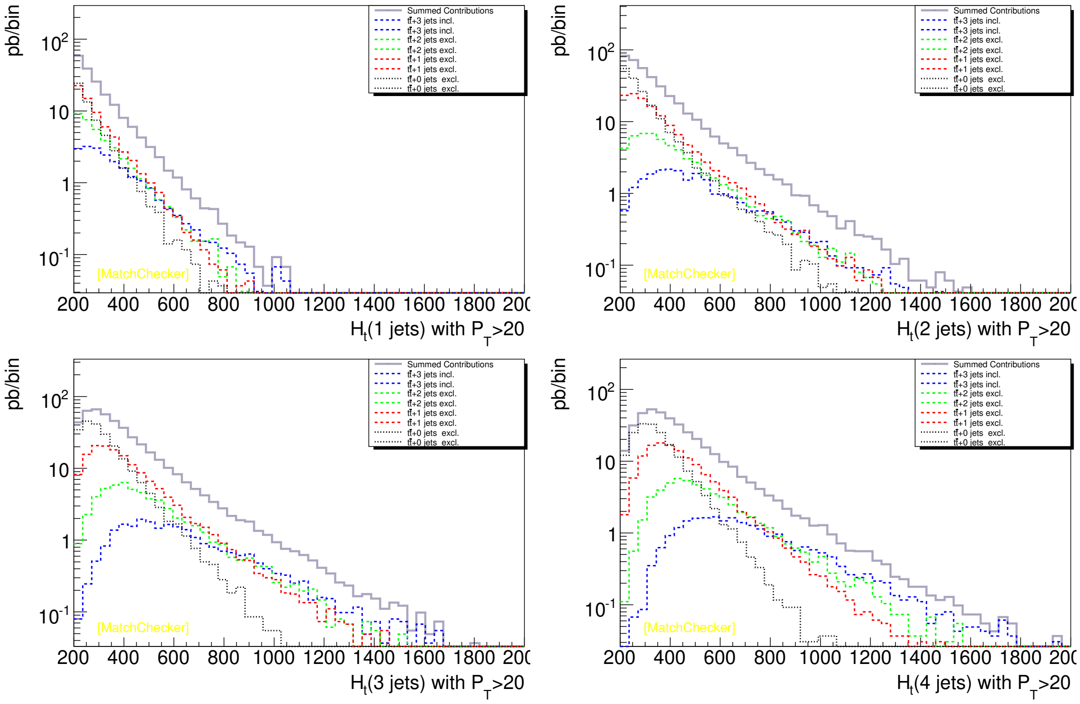

Figure 63: Ht(0 to 4) for $t\bar{t}$ using mg.

13.4 Ht calculation: Production 4, done with minimal P_T of 20 Gev

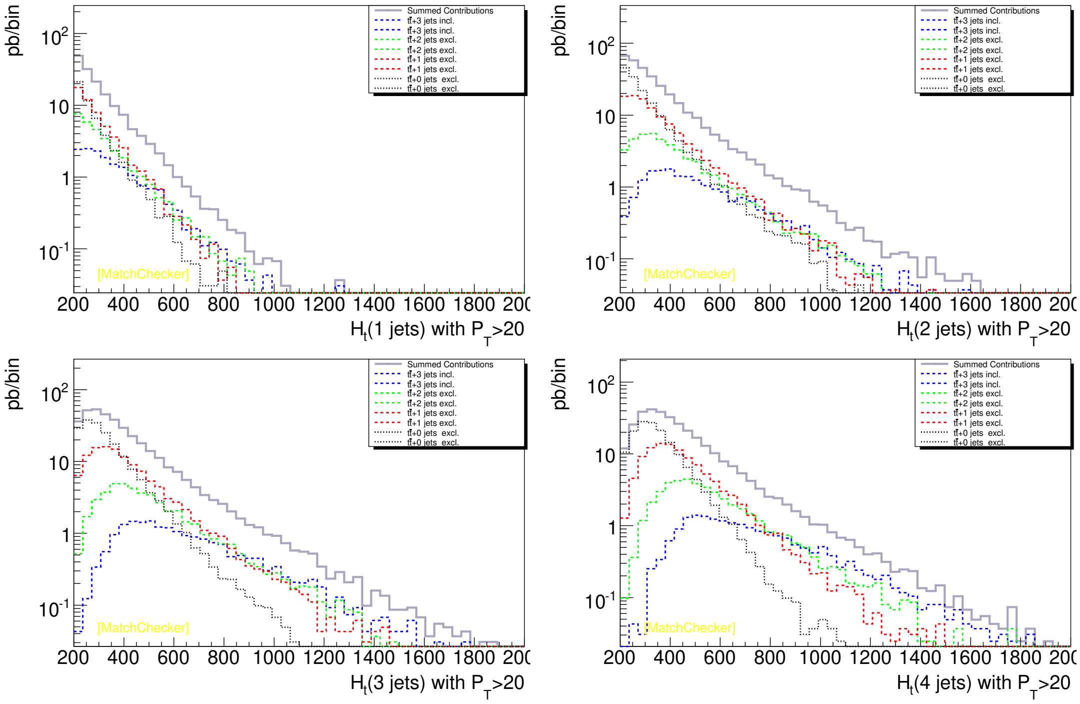

Figure 64: Ht(0 to 4) for $t\bar{t}$ using mg.

13.5 Ht calculation: Production 5, done with minimal P_T of 20 Gev

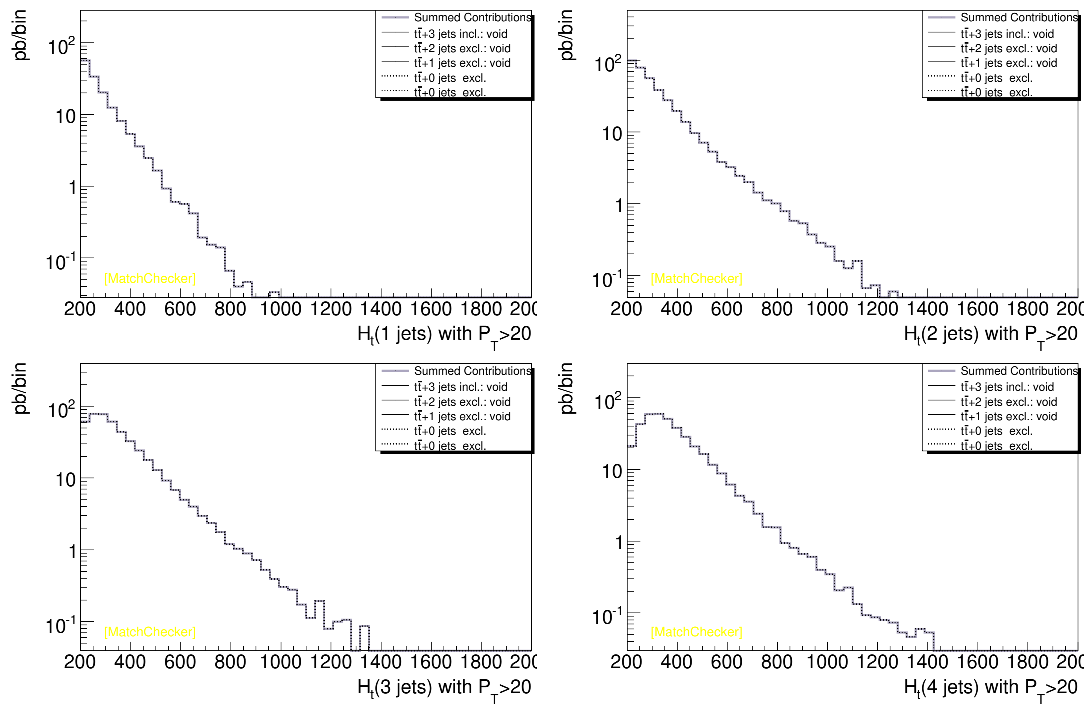

Figure 65: Ht(0 to 4) for $t\bar{t}$ using mg.

13.6 Ht calculation: Production 6, done with minimal P_T of 20 Gev

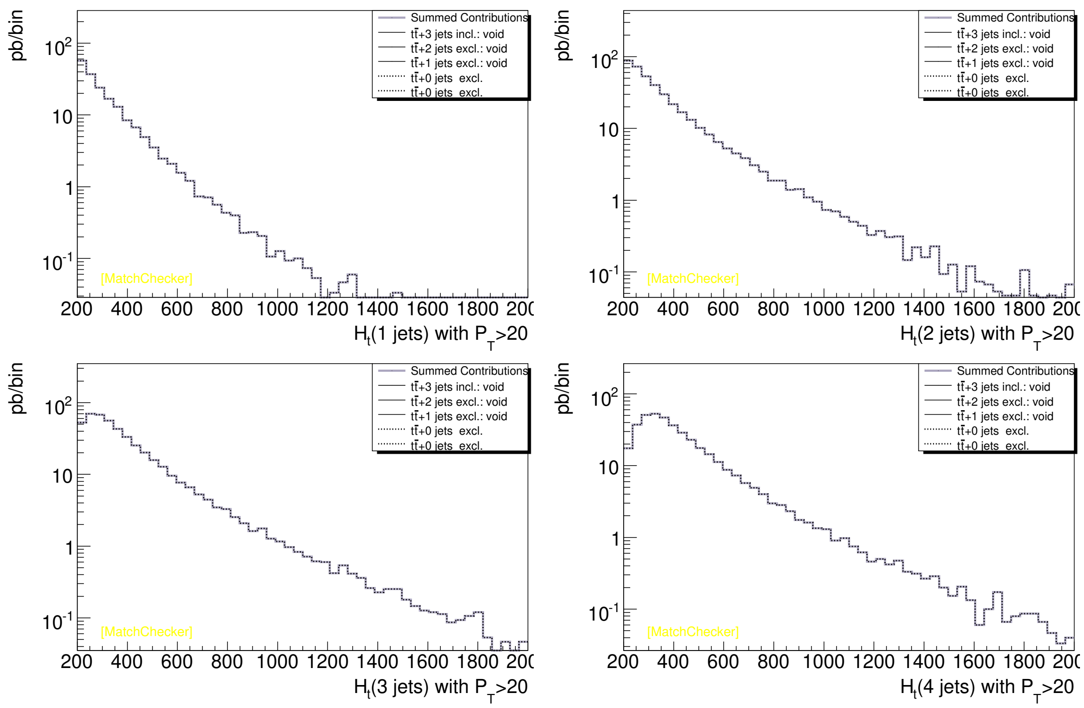

Figure 66: Ht(0 to 4) for $t\bar{t}$ using mg.

13.7 Ht calculation: Production 7, done with minimal P_T of 20 Gev

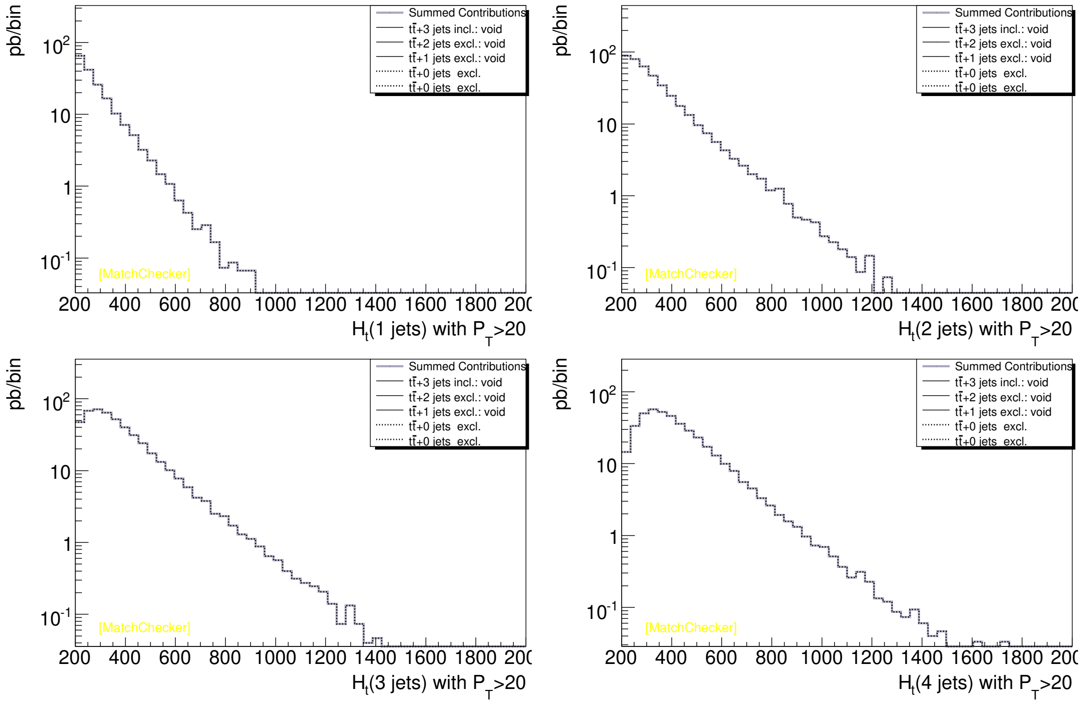

Figure 67: Ht(0 to 4) for $t\bar{t}$ using mg.

13.8 Ht calculation: Production 8, done with minimal P_T of 20 Gev

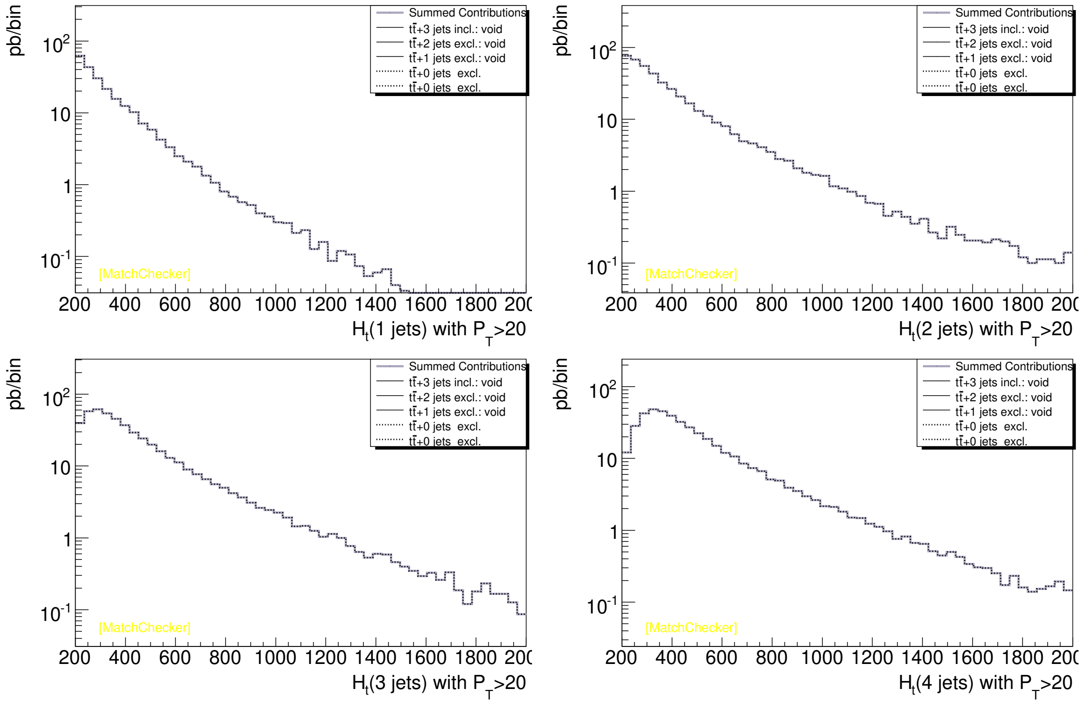

Figure 68: Ht(0 to 4) for $t\bar{t}$ using mg.

13.9 Comparison of Ht(0 to 4) with a cut of 20 Gev in P_T

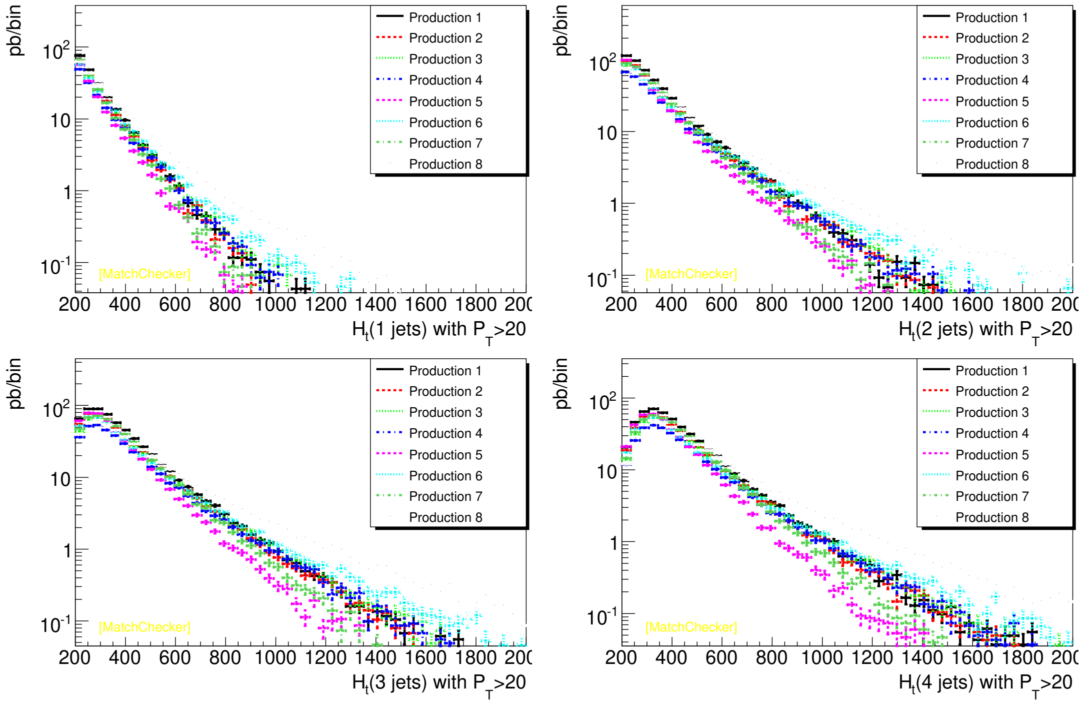

Figure 69: Comparison of Ht(0 to 4) variables for $t\bar{t}$.

13.10 Ratio of distributions

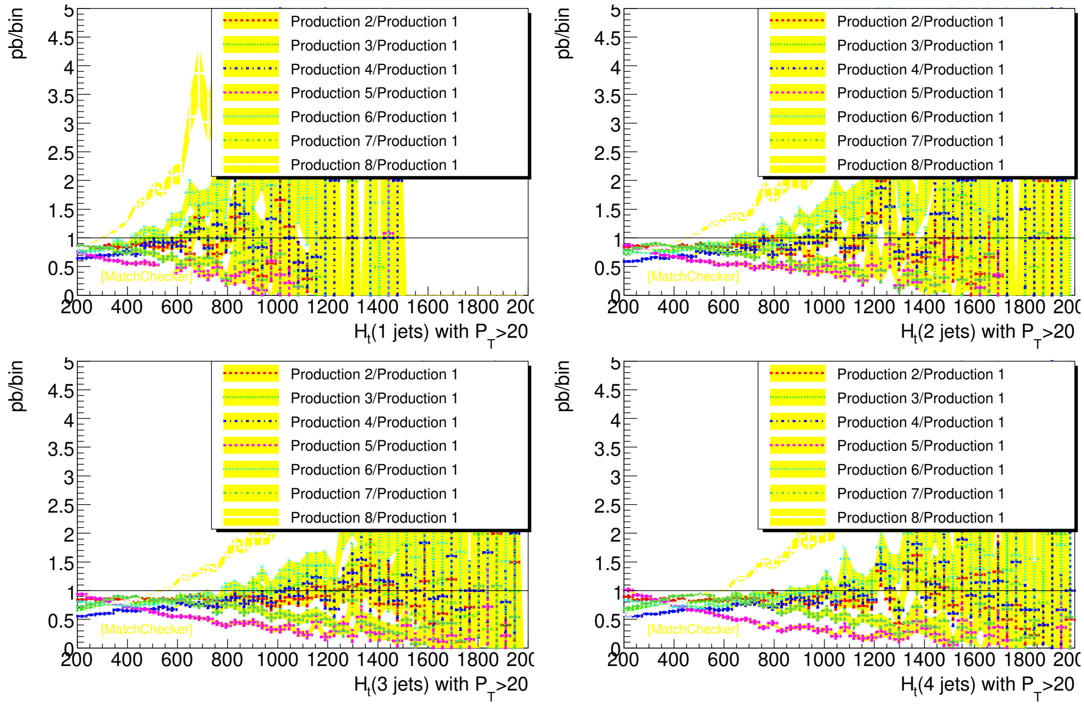

Figure 70: Ratio of Ht(0 to 4) for $t\bar{t}$.

13.11 Ht calculation: Production 1, done with minimal P_T of 50 Gev

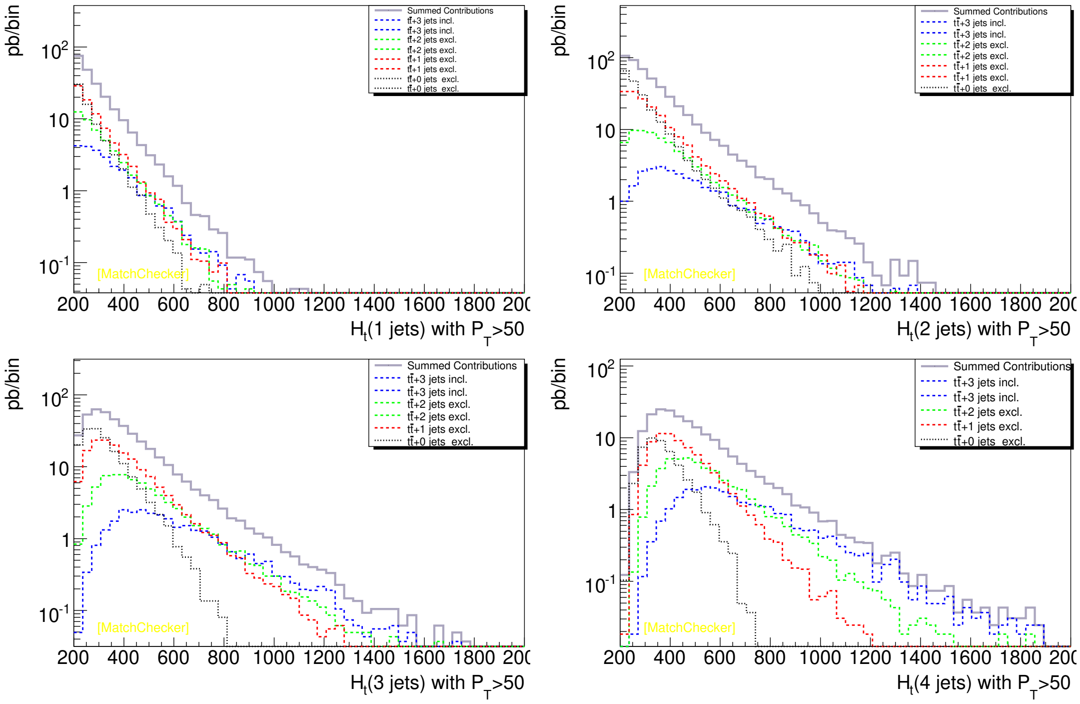

Figure 71: Ht(0 to 4) for $t\bar{t}$ using mg.

13.12 Ht calculation: Production 2, done with minimal P_T of 50 Gev

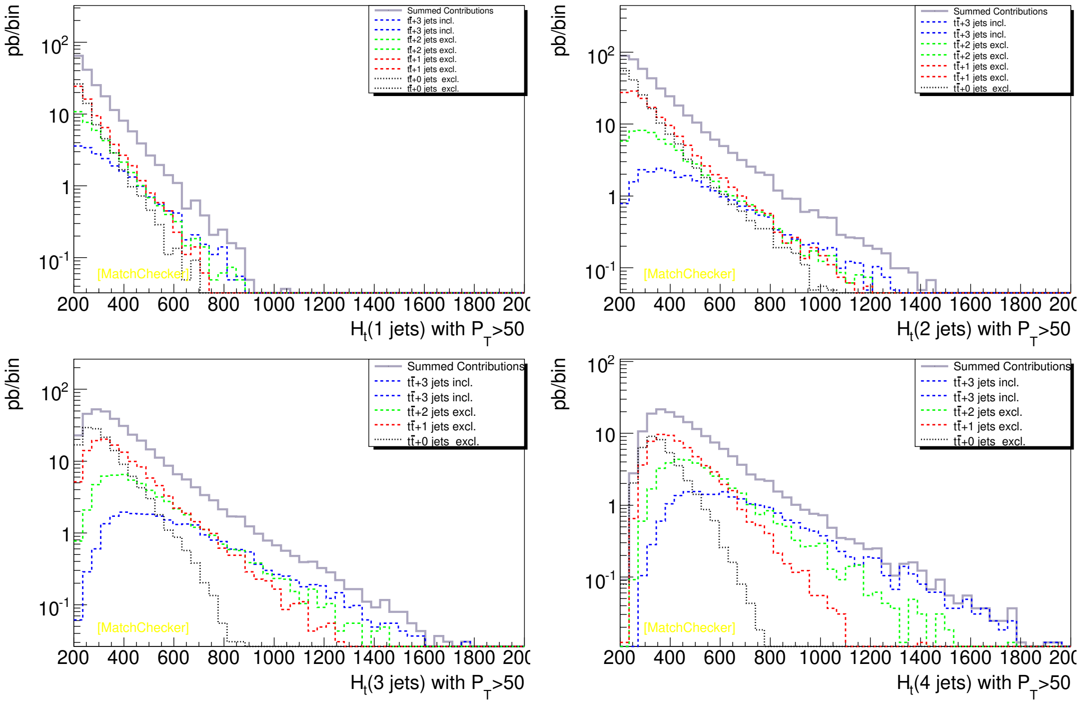

Figure 72: Ht(0 to 4) for $t\bar{t}$ using mg.

13.13 Ht calculation: Production 3, done with minimal P_T of 50 Gev

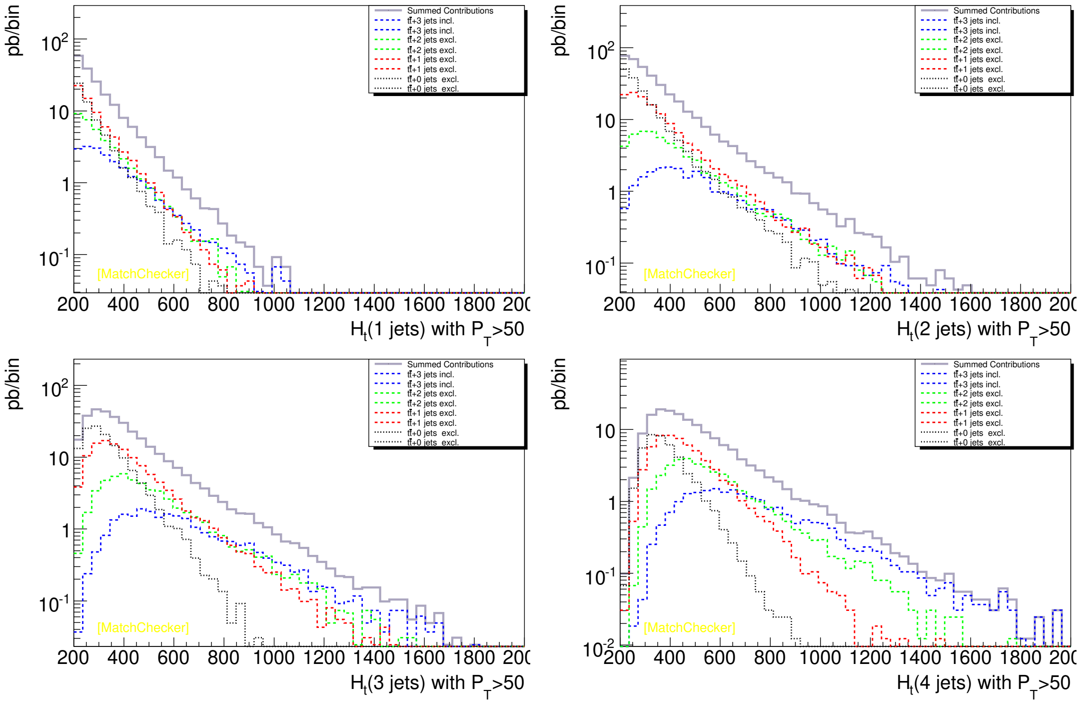

Figure 73: Ht(0 to 4) for $t\bar{t}$ using mg.

13.14 Ht calculation: Production 4, done with minimal P_T of 50 Gev

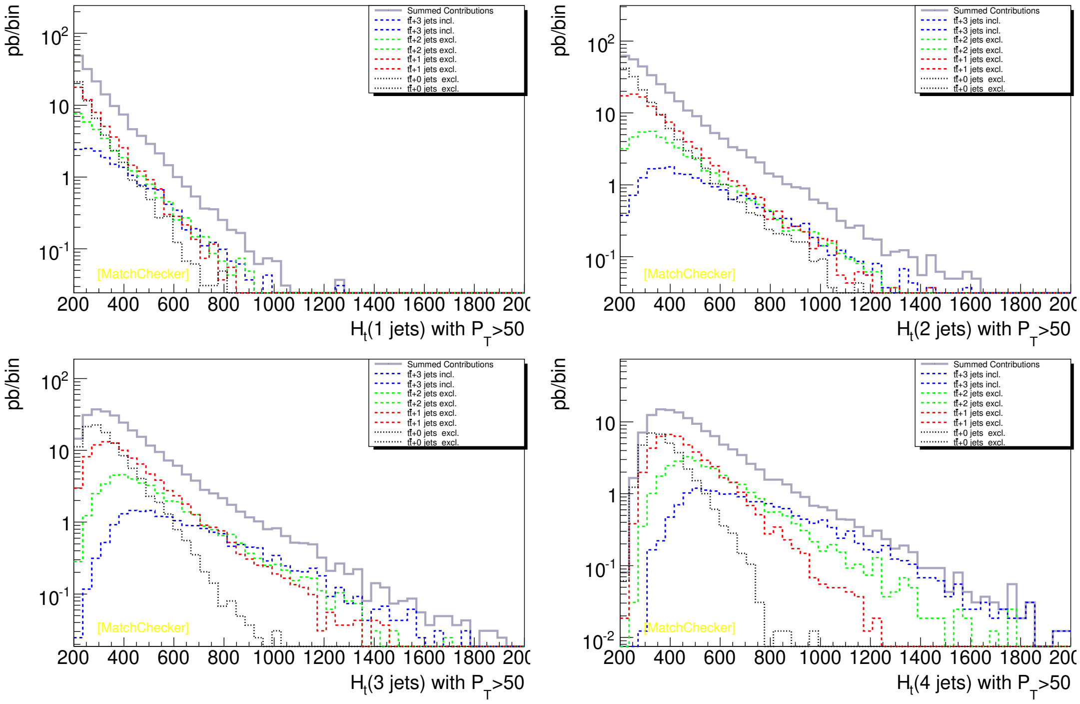

Figure 74: Ht(0 to 4) for $t\bar{t}$ using mg.

13.15 Ht calculation: Production 5, done with minimal P_T of 50 Gev

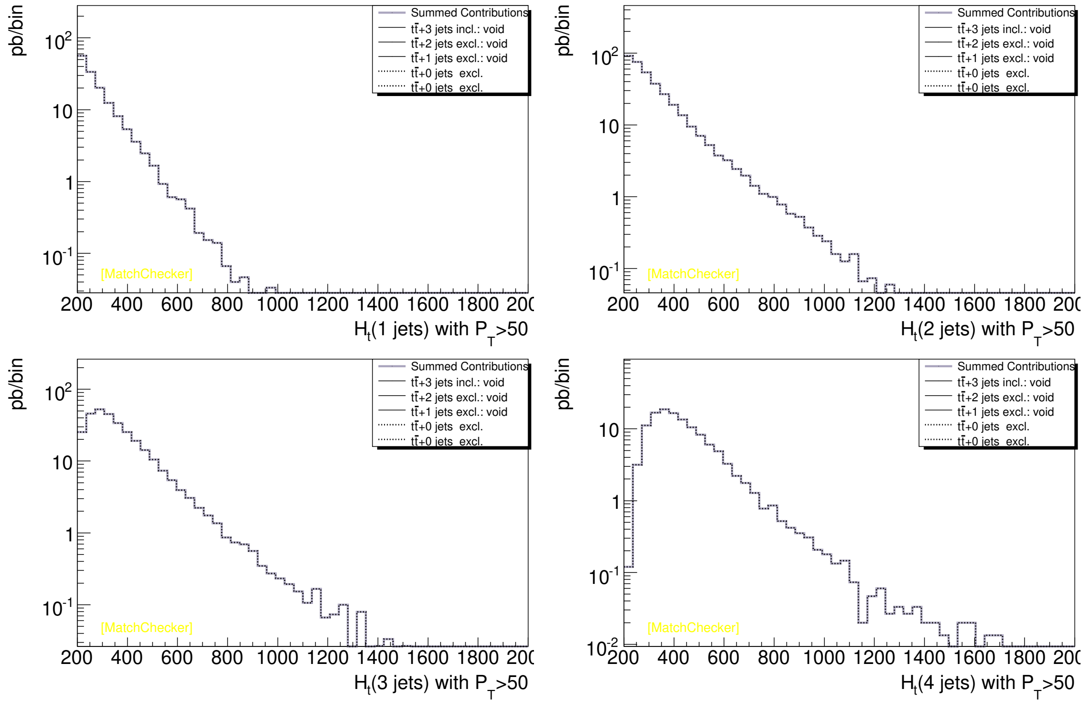

Figure 75: Ht(0 to 4) for $t\bar{t}$ using mg.

13.16 Ht calculation: Production 6, done with minimal P_T of 50 Gev

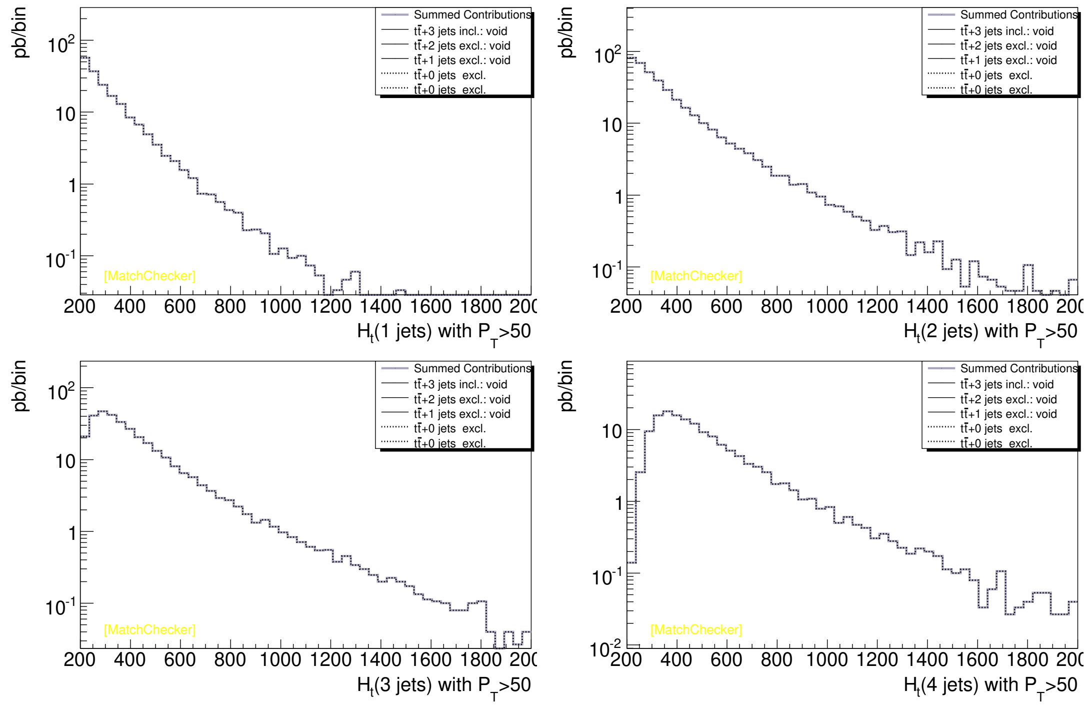

Figure 76: Ht(0 to 4) for $t\bar{t}$ using mg.

13.17 Ht calculation: Production 7, done with minimal P_T of 50 Gev

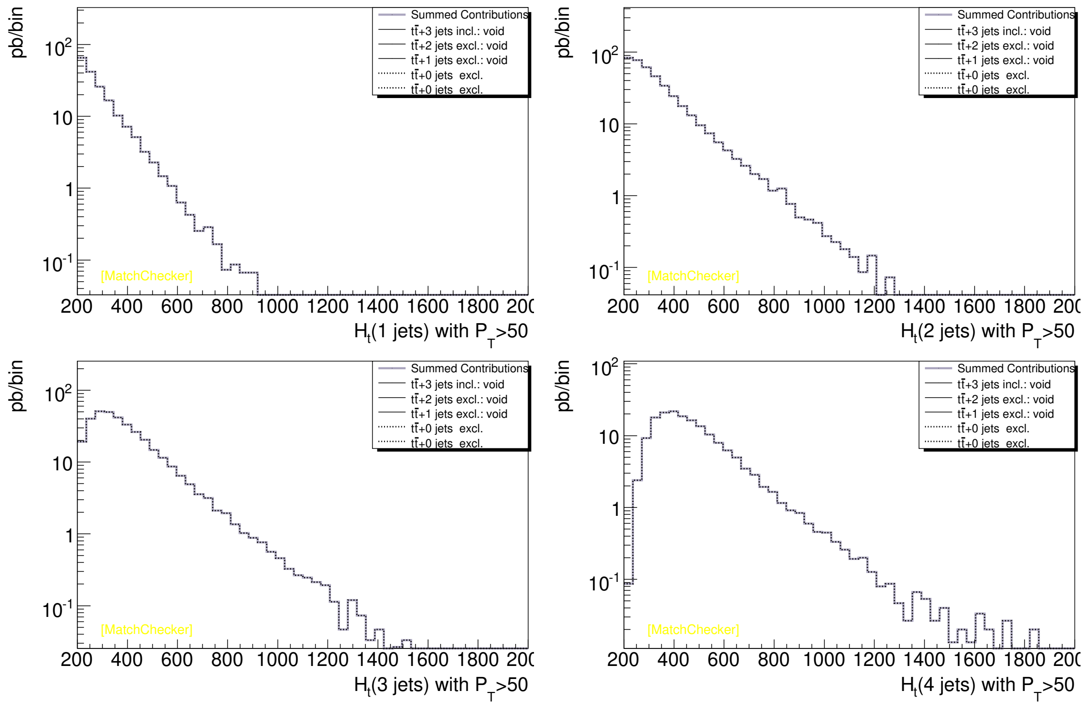

Figure 77: Ht(0 to 4) for $t\bar{t}$ using mg.

13.18 Ht calculation: Production 8, done with minimal P_T of 50 Gev

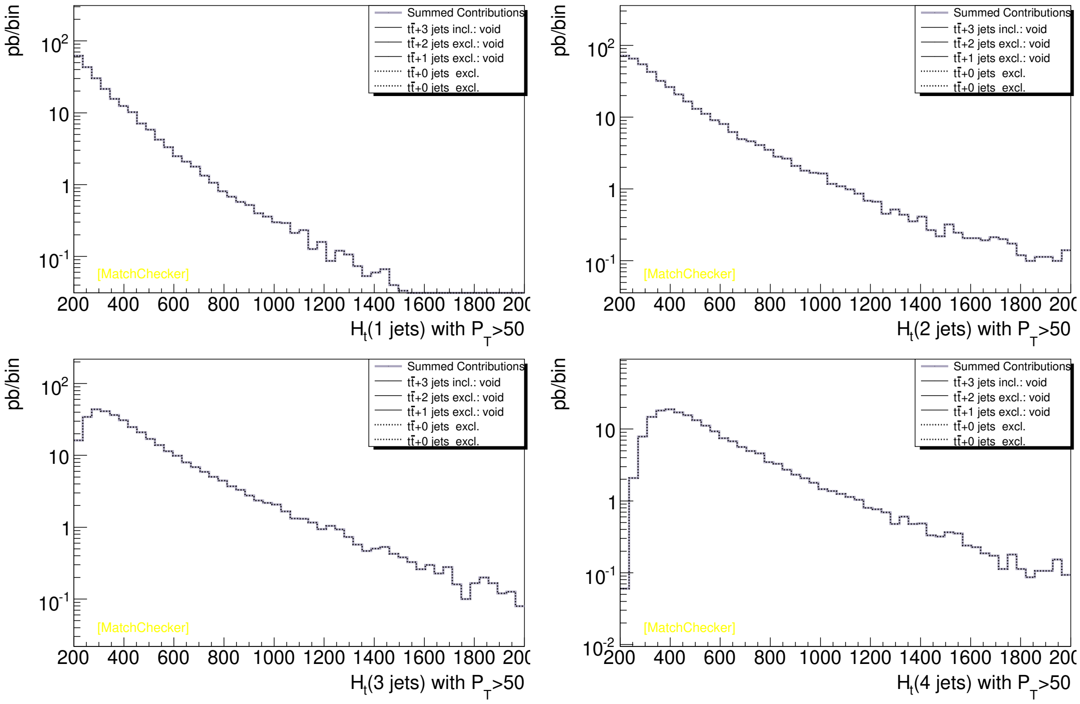

Figure 78: Ht(0 to 4) for $t\bar{t}$ using mg.

13.19 Comparison of Ht(0 to 4) with a cut of 50 Gev in P_T

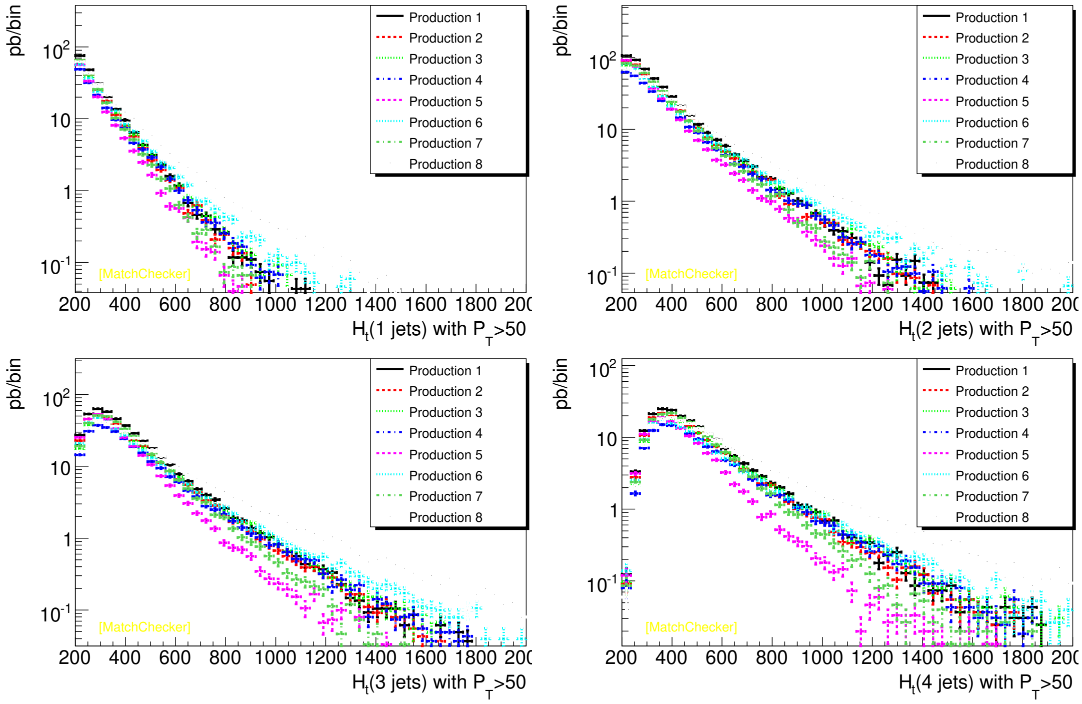

Figure 79: Comparison of Ht(0 to 4) variables for $t\bar{t}$.

13.20 Ratio of distributions

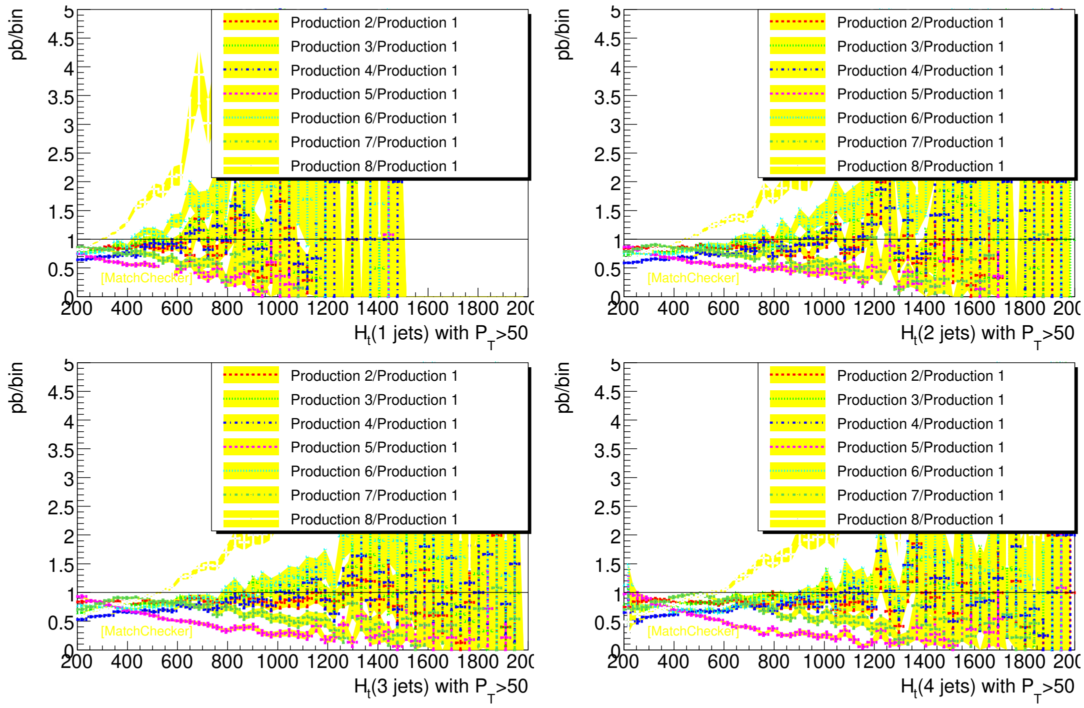

Figure 80: Ratio of Ht(0 to 4) for $t\bar{t}$.

13.21 Ht calculation: Production 1, done with minimal P_T of 100 Gev

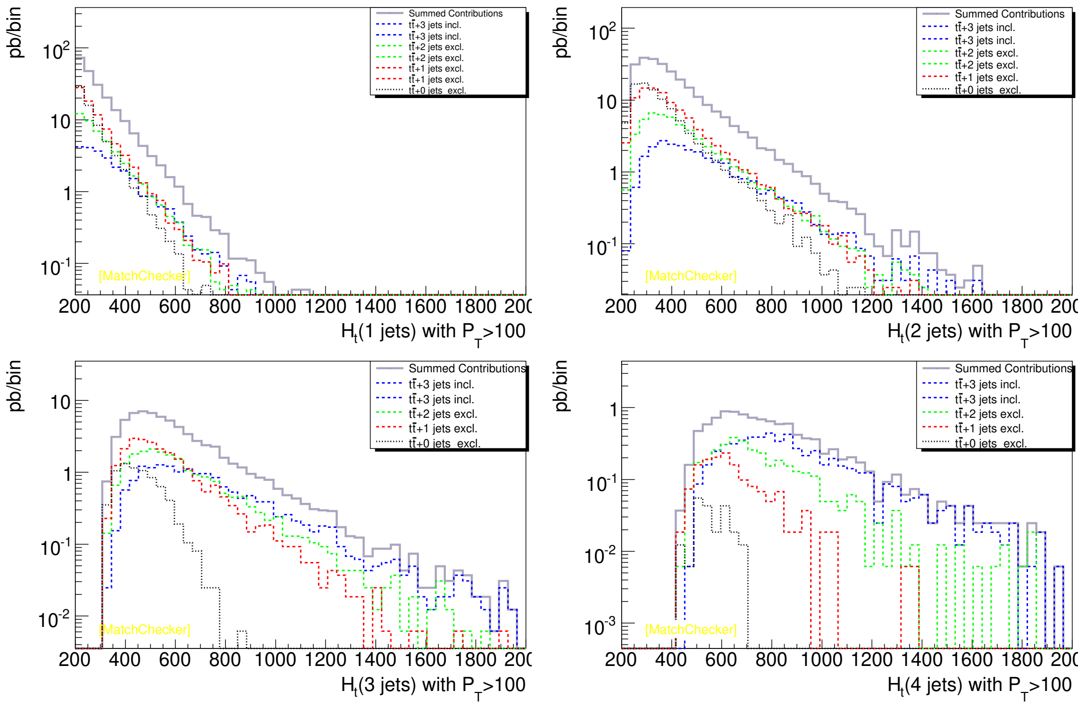

Figure 81: Ht(0 to 4) for $t\bar{t}$ using mg.

13.22 Ht calculation: Production 2, done with minimal P_T of 100 Gev

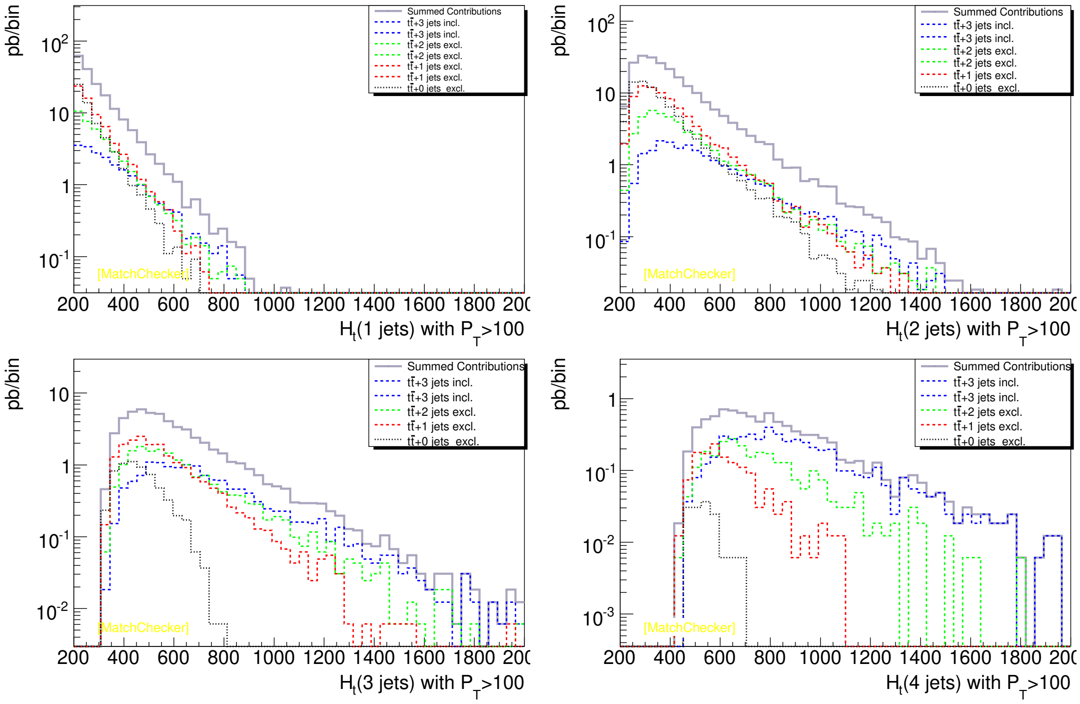

Figure 82: Ht(0 to 4) for $t\bar{t}$ using mg.

13.23 Ht calculation: Production 3, done with minimal P_T of 100 Gev

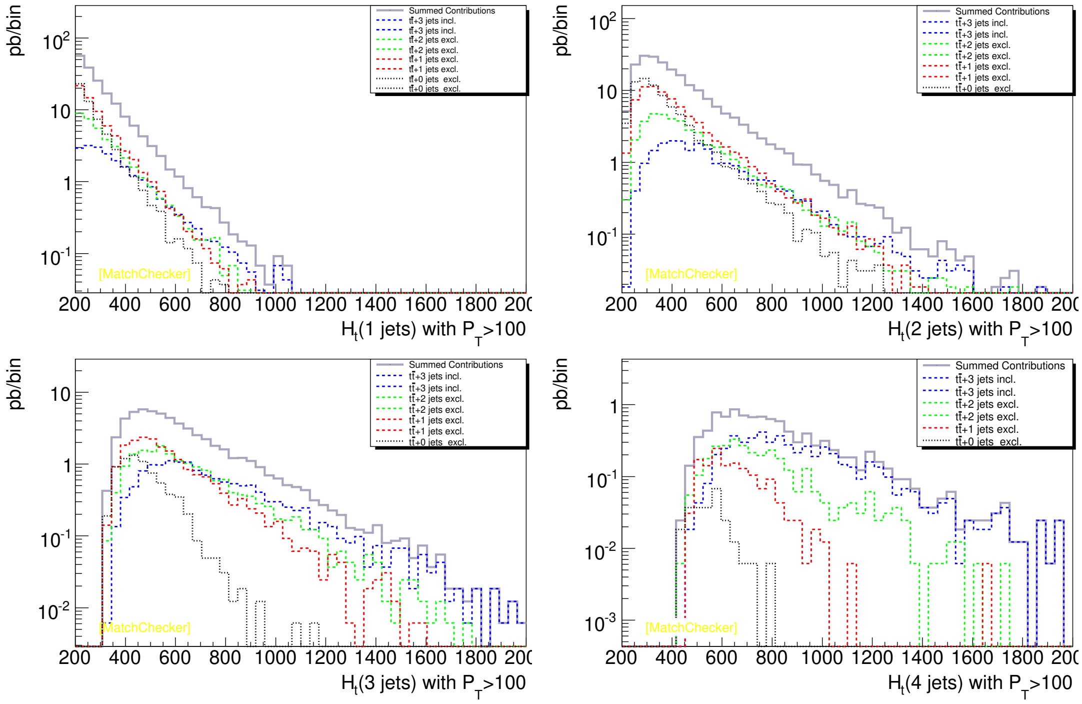

Figure 83: Ht(0 to 4) for $t\bar{t}$ using mg.

13.24 Ht calculation: Production 4, done with minimal P_T of 100 Gev

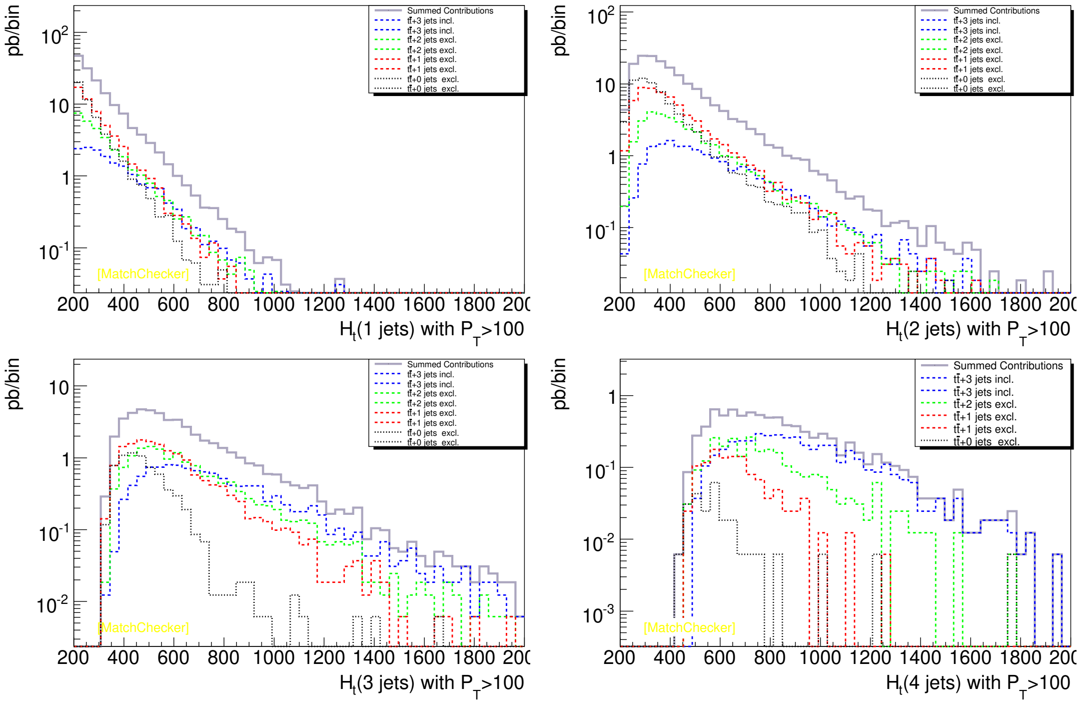

Figure 84: Ht(0 to 4) for $t\bar{t}$ using mg.

13.25 Ht calculation: Production 5, done with minimal P_T of 100 Gev

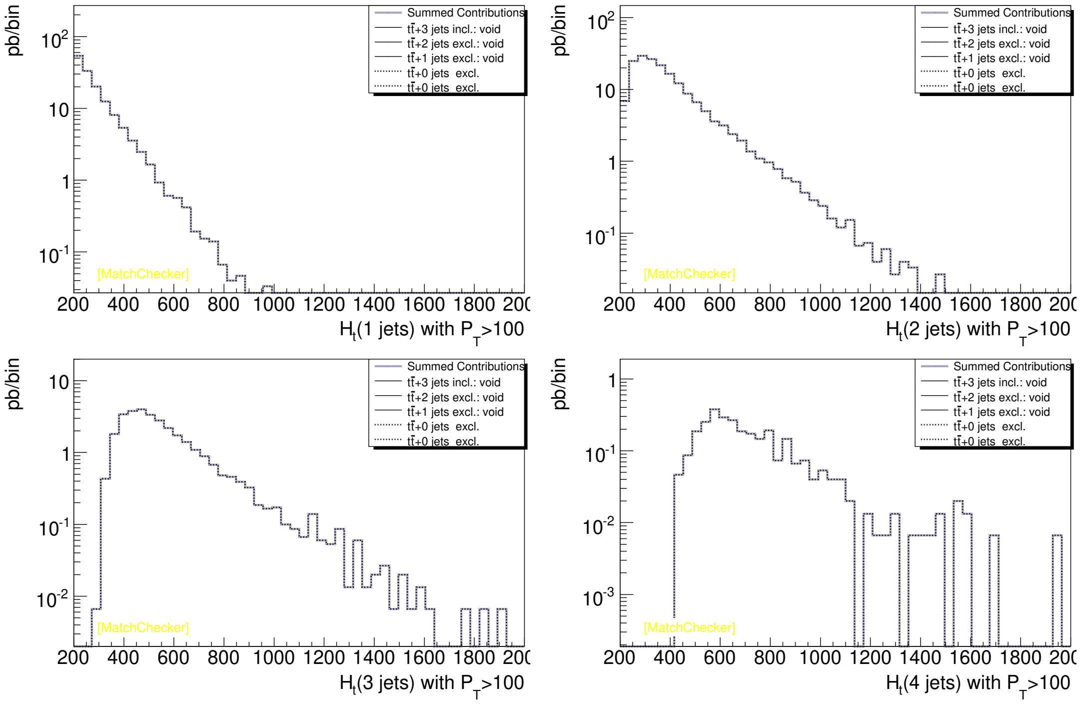

Figure 85: Ht(0 to 4) for $t\bar{t}$ using mg.

13.26 Ht calculation: Production 6, done with minimal P_T of 100 Gev

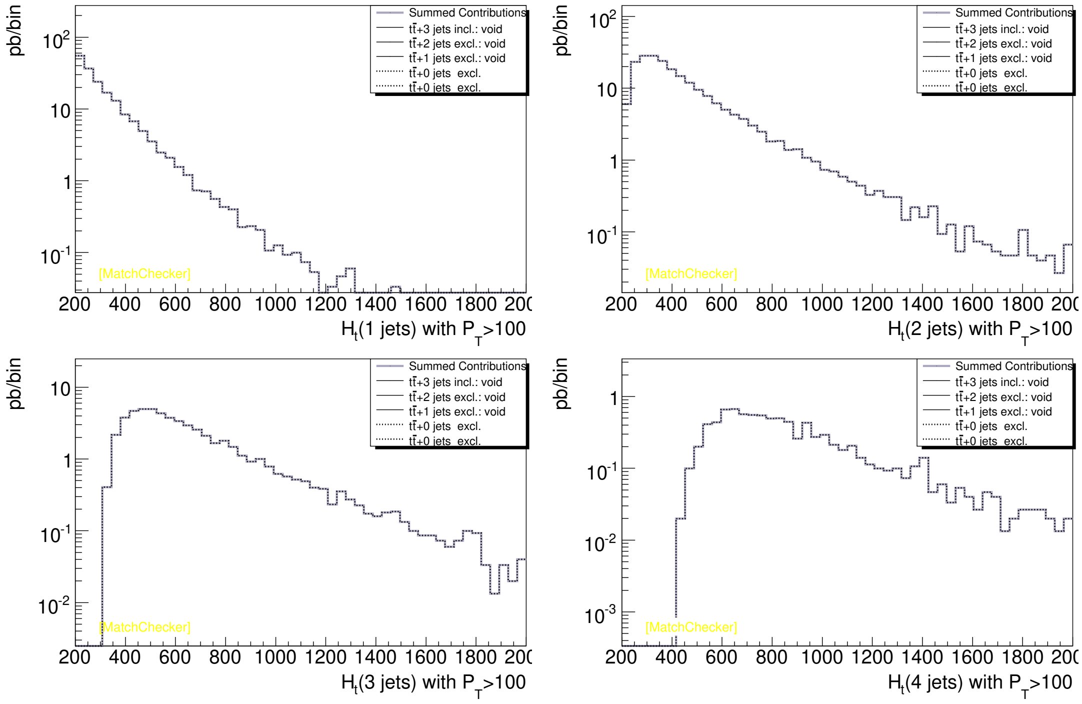

Figure 86: Ht(0 to 4) for $t\bar{t}$ using mg.

13.27 Ht calculation: Production 7, done with minimal P_T of 100 Gev

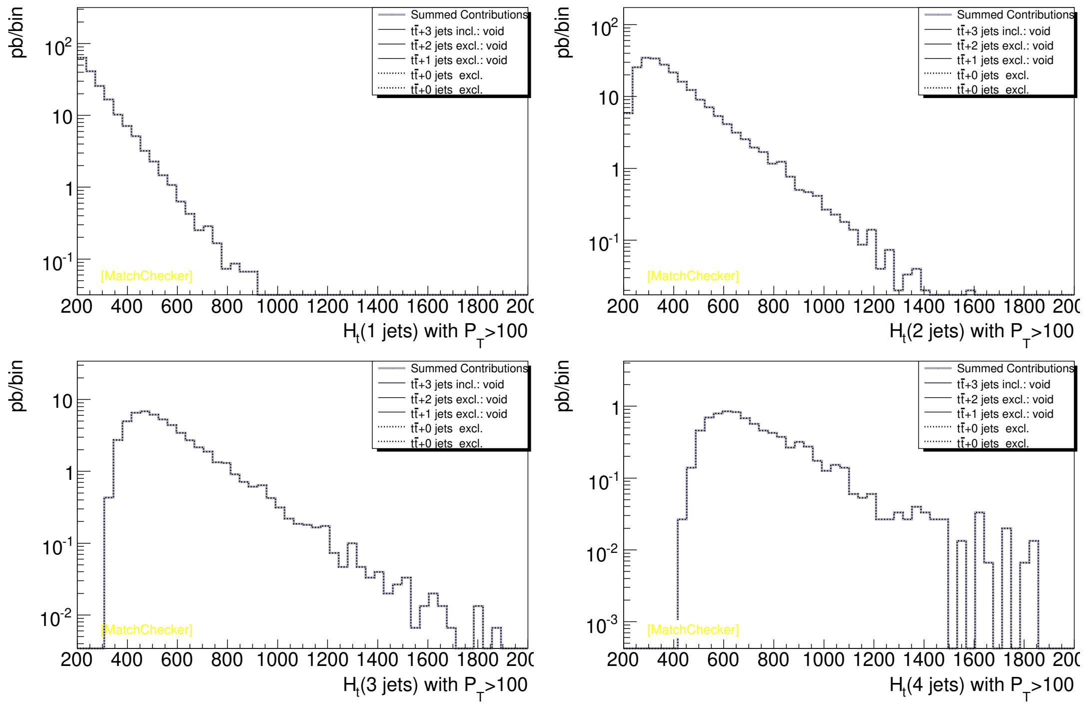

Figure 87: Ht(0 to 4) for $t\bar{t}$ using mg.

13.28 Ht calculation: Production 8, done with minimal P_T of 100 Gev

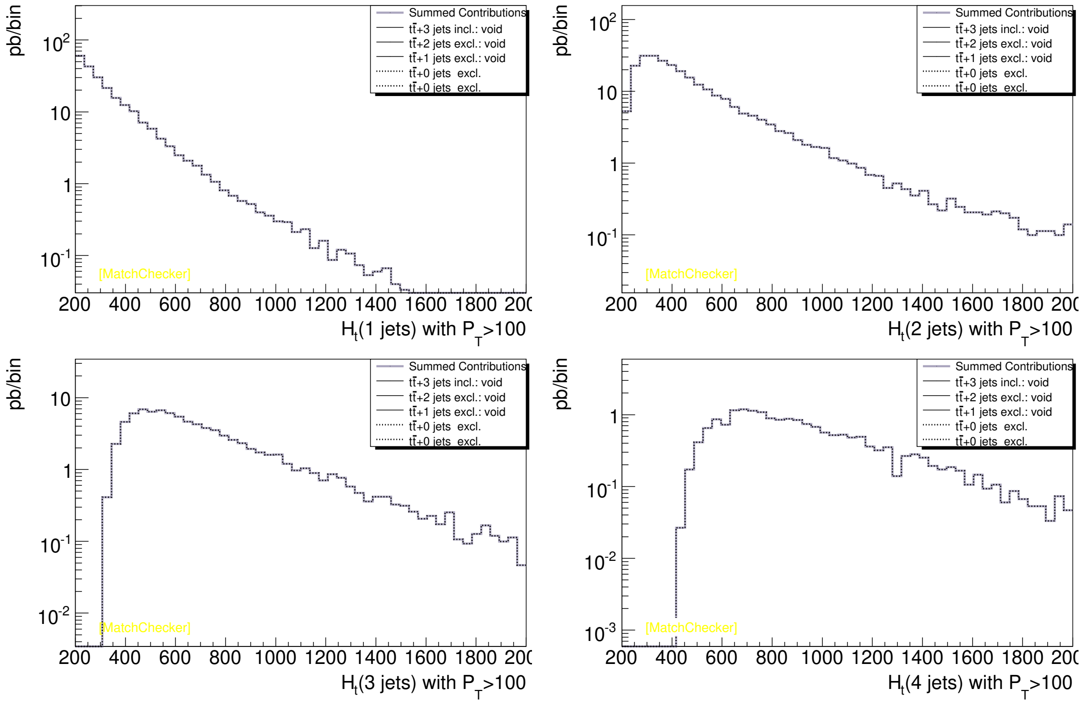

Figure 88: Ht(0 to 4) for $t\bar{t}$ using mg.

13.29 Comparison of Ht(0 to 4) with a cut of 100 Gev in P_T

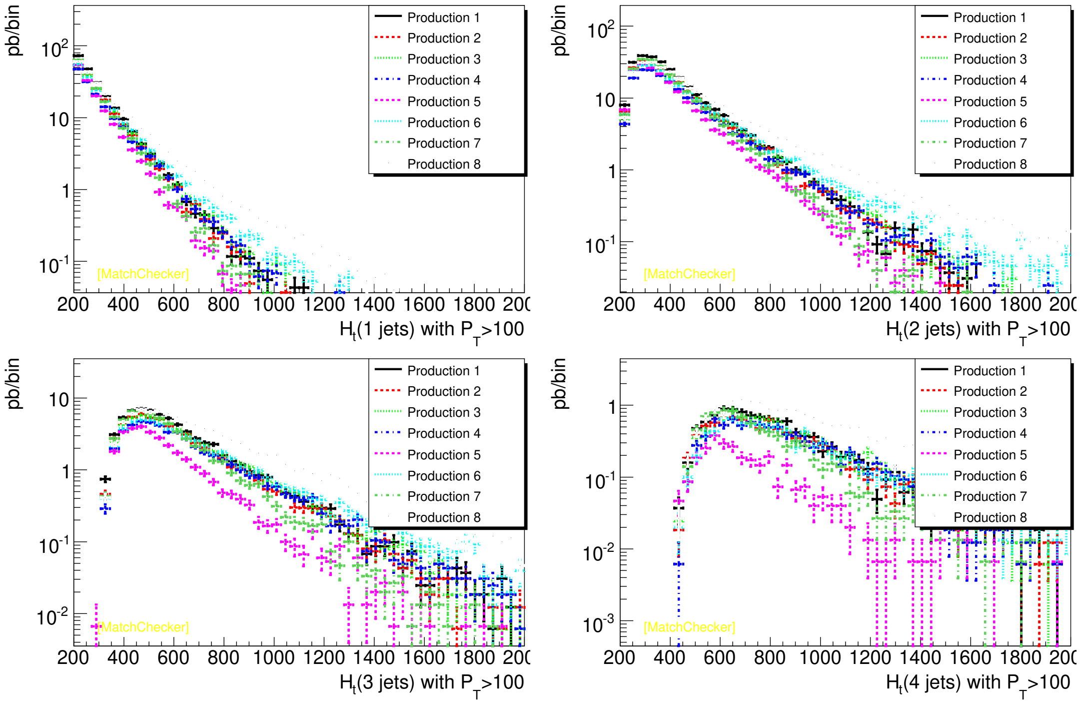

Figure 89: Comparison of Ht(0 to 4) variables for $t\bar{t}$.

13.30 Ratio of distributions

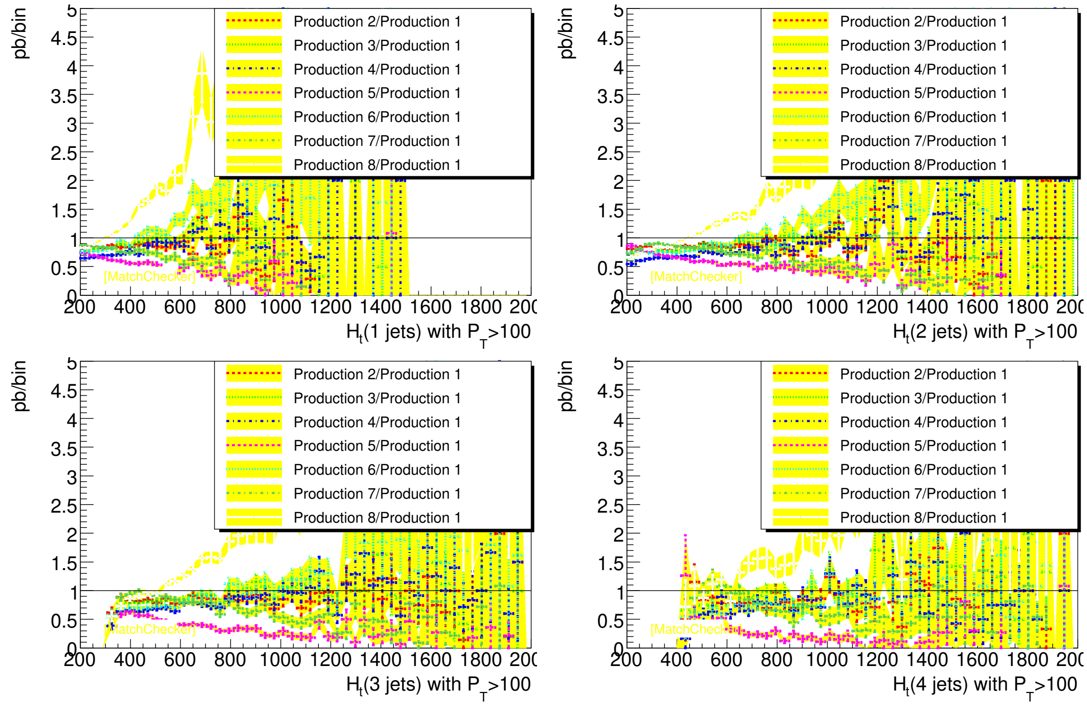

Figure 90: Ratio of Ht(0 to 4) for $t\bar{t}$.

14 Missing ET

14.1 Production 1

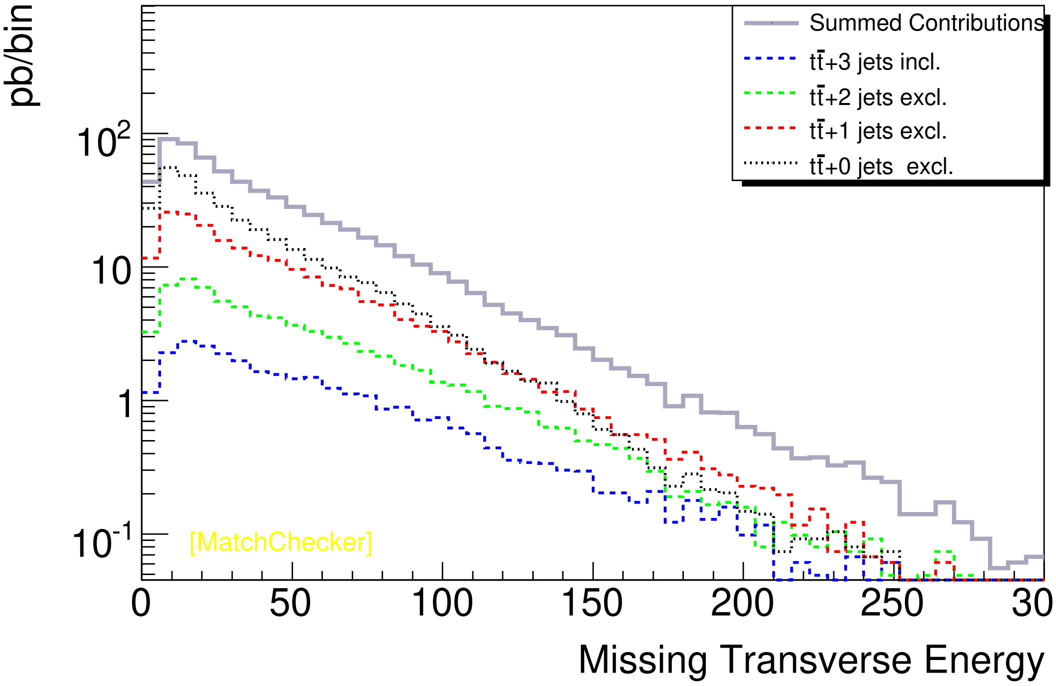

Figure 91: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.2 Production 2

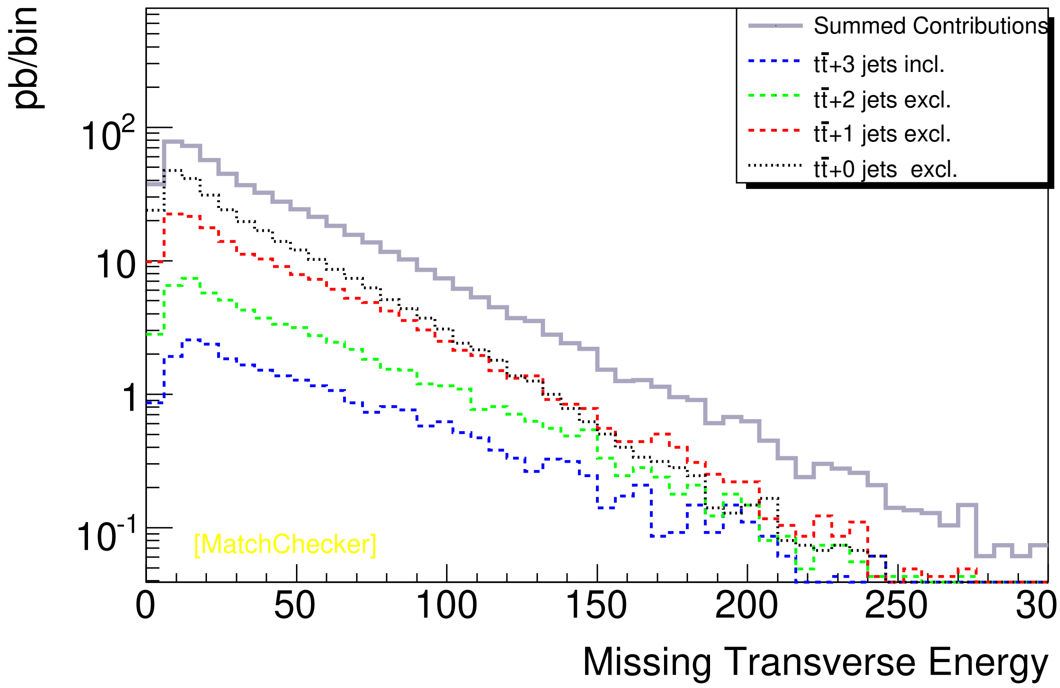

Figure 92: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.3 Production 3

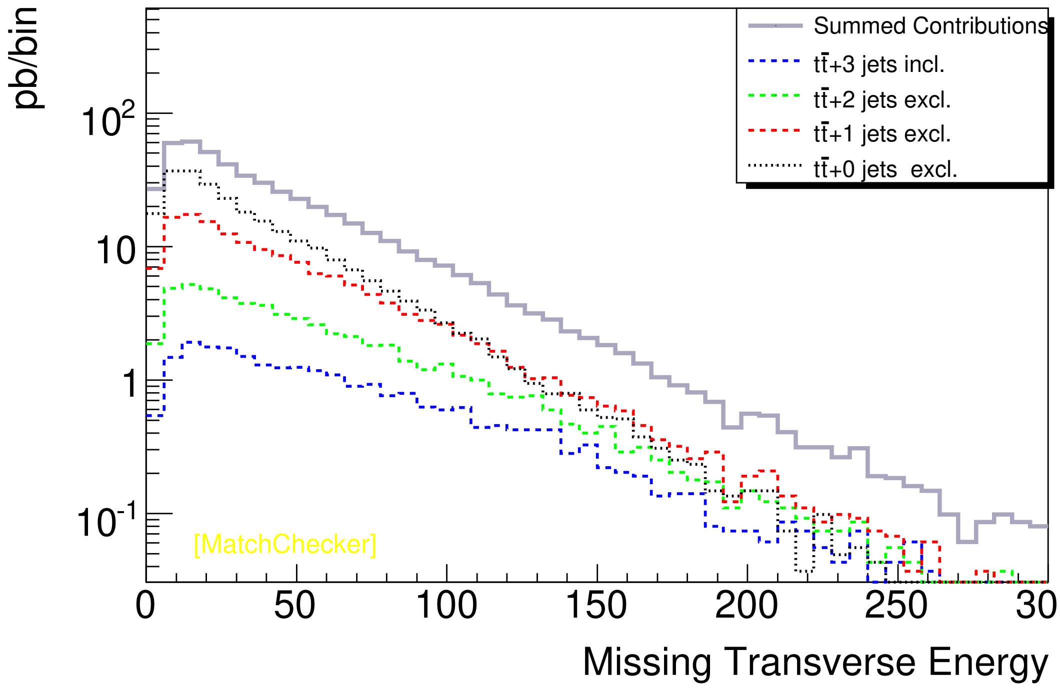

Figure 93: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.4 Production 4

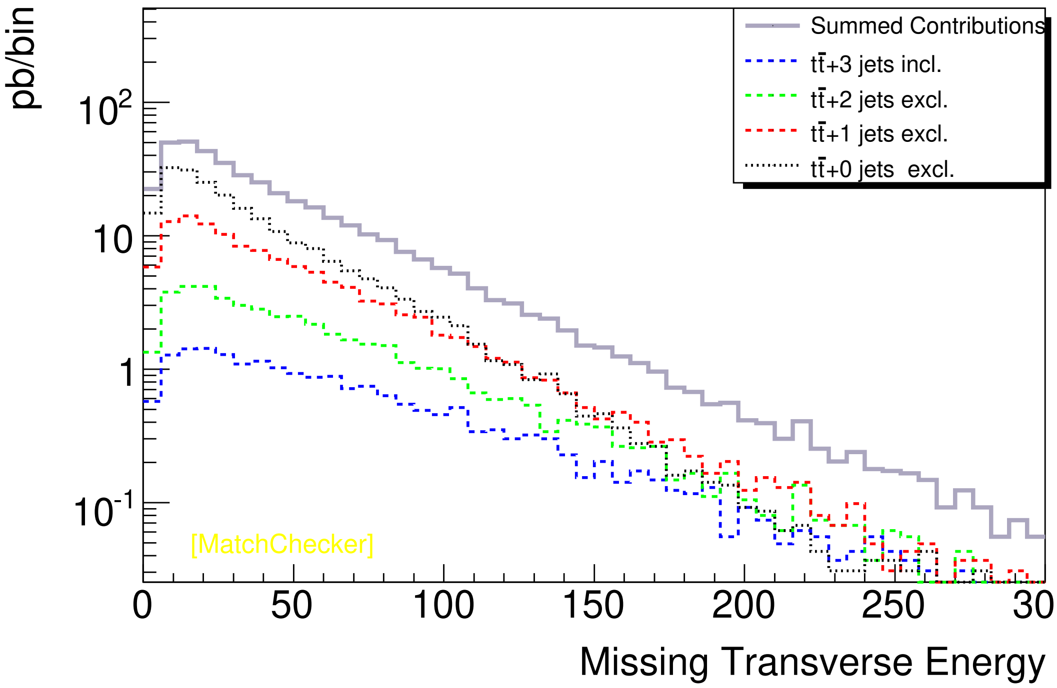

Figure 94: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.5 Production 5

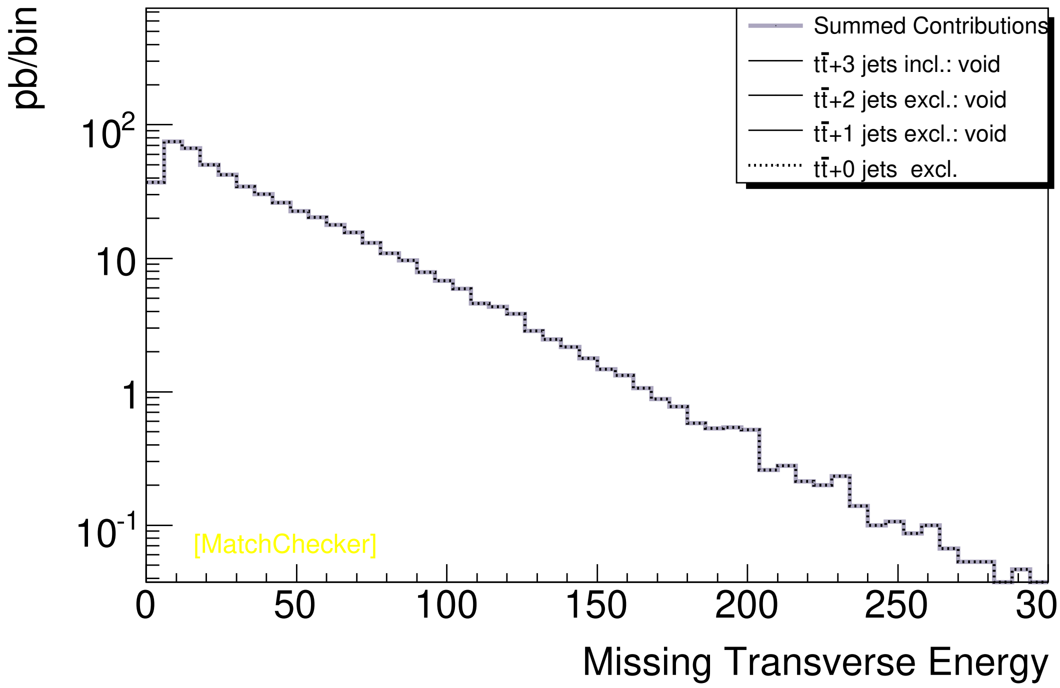

Figure 95: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.6 Production 6

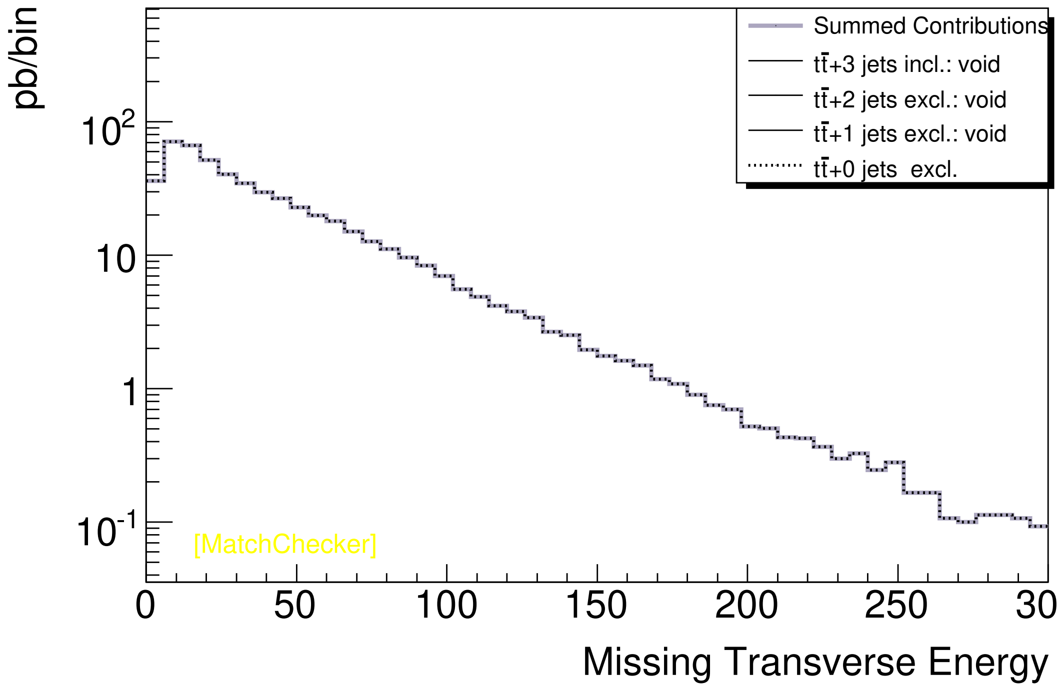

Figure 96: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.7 Production 7

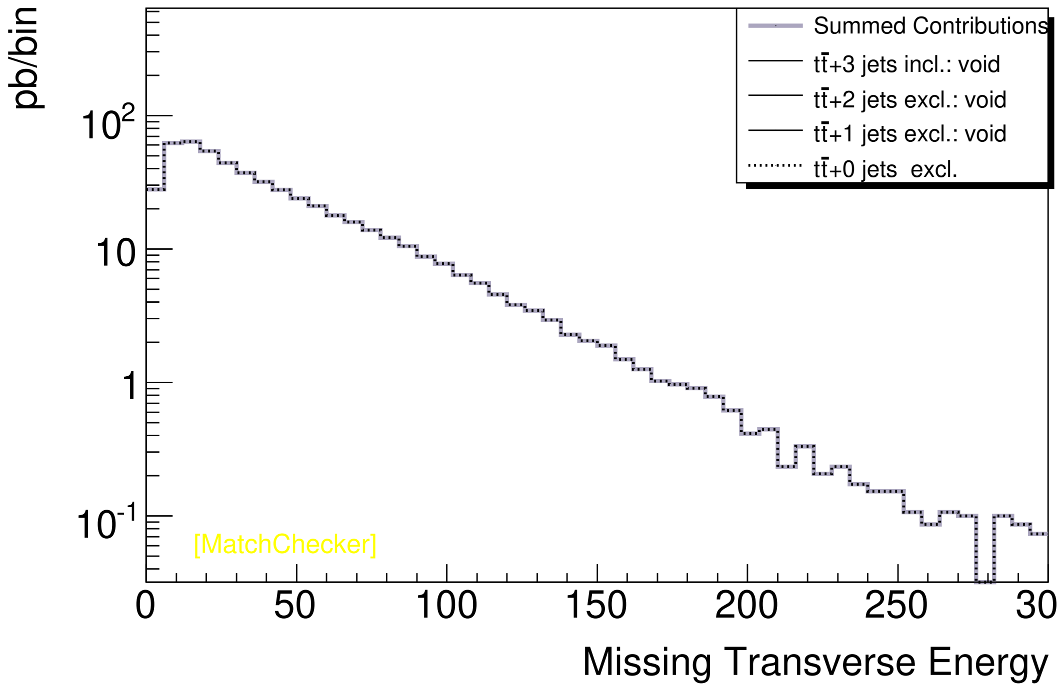

Figure 97: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.8 Production 8

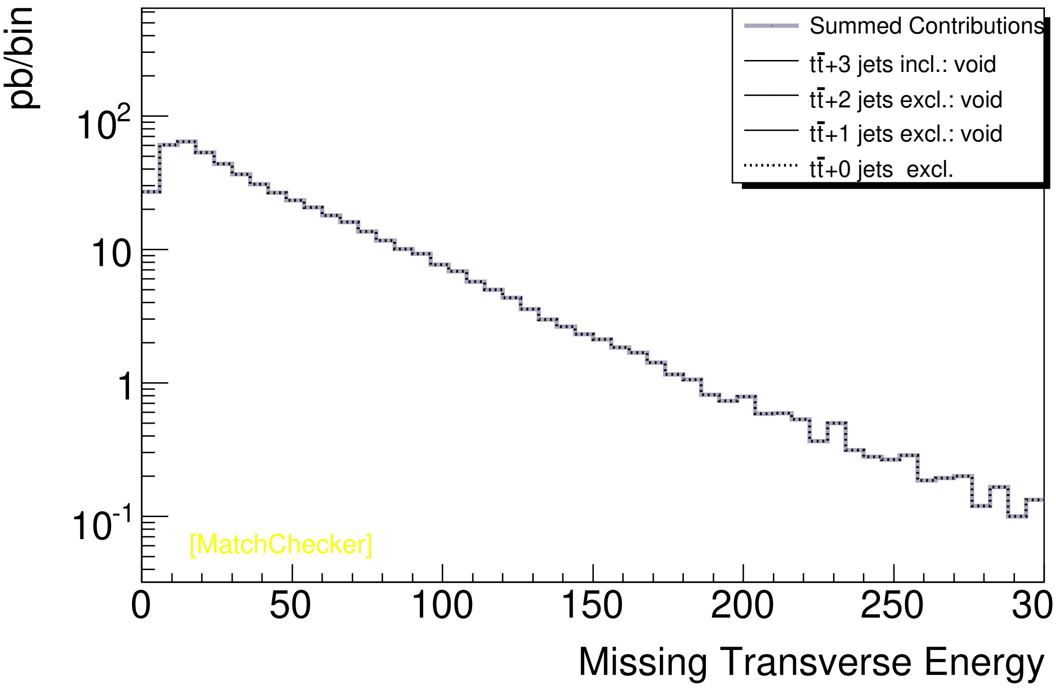

Figure 98: Kinematics variables for $t\bar{t}$ with a multiplicity up to 3 using mg, .

14.9 Comparison of Missing ET (global shapes) between productions

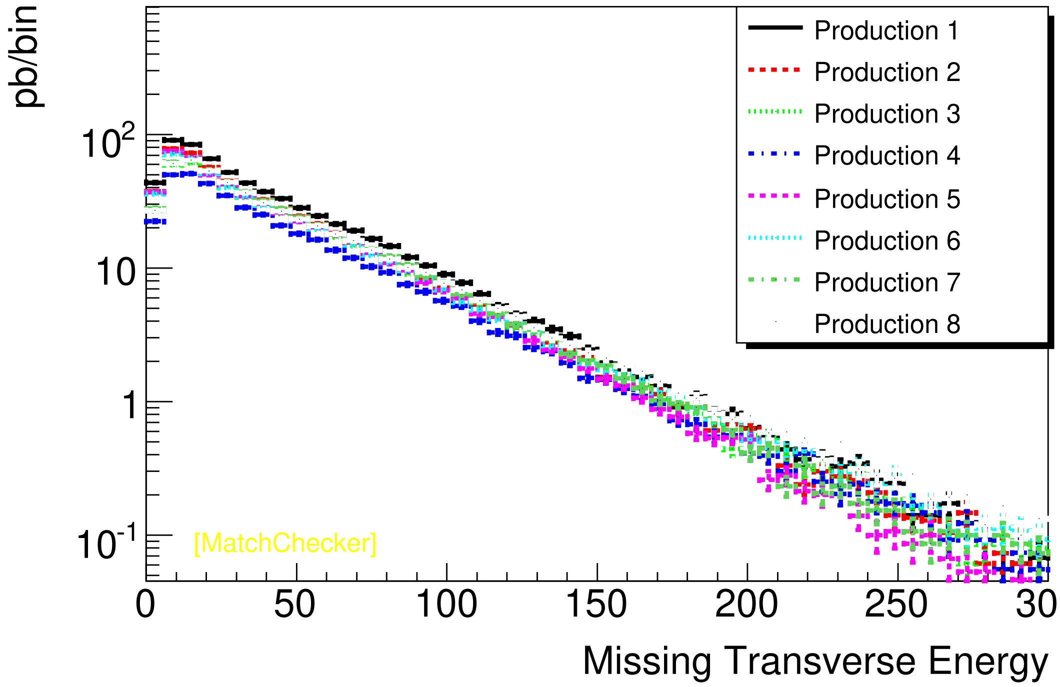

Figure 99: Comparison of kinematics variables for $t\bar{t}$.

14.10 Ratio of distributions

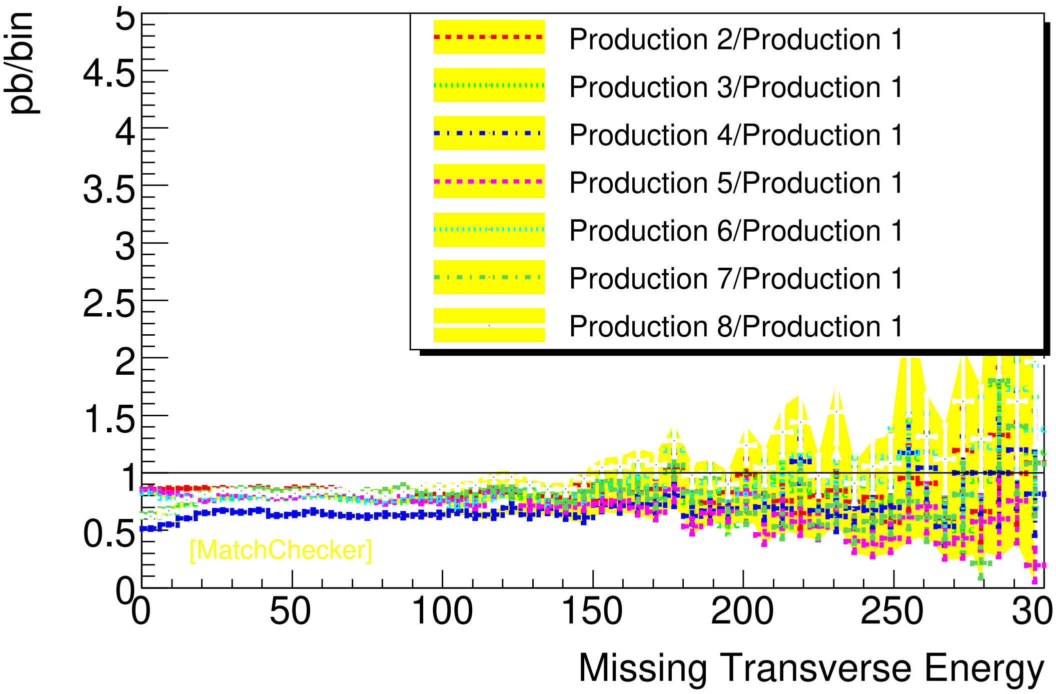

Figure 100: Comparison of kinematics variables for $t\bar{t}$.