The LaTeX report

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1 Setup

1.1 Command history

```
 ma5>import /opt/sbg/cms/ui6_data1/aalloul/MG5_aMC_v2_1_2/diphoton/Events/run_01/-
unweighted_events.lhe.gz as IsolOff
ma5>import /opt/sbg/cms/ui6_data1/aalloul/MG5_aMC_v2_1_2/diphoton/Events/run_02/-
unweighted_events.lhe.gz as R04
ma5>set main.stacking_method = superimpose
ma5>plot PT(a)
ma5>plot PT(a[1])
ma5>plot PT(a[1]) 20 0 200
ma5>plot PT(a) 20 0 200
ma5>plot PT(a[1]) 200 0 200
ma5>plot PT(a) 200 0 200
ma5>plot PT(a) 200 0 200 [logY]
ma5>plot PT(a[1]) 200 0 200 [logY]
ma5>plot PT(a) 200 0 40 [logY]
ma5>plot PT(a[1]) 200 0 40 [logY]
ma5>plot DELTAR(a,j) 100 0 10
ma5>plot DELTAR(a,j) 100 0 0.5
ma5>plot DELTAR(a[1],j) 100 0 10
ma5>plot DELTAR(a[1],j) 100 0 0.5
ma5>plot PT(j) 100 0 100
ma5>plot PT(j) 100 0 50
ma5>reject (j) PT < 10
ma5>plot DELTAR(a,j) 100 0 1
ma5>plot DELTAR(a,j) 100 0 0.5
ma5>submit photon-mg5
```

1.2 Configuration

- MadAnalysis version 1.1.11.16 (2014/07/08).
- Histograms given for an integrated luminosity of 10fb^{-1}.

2 Datasets

2.1 isoloff

- Samples stored in the directory: /grid_mnt/opt__sbg__cms__ui6_data1/aalloul/-LRSUSY/v1.1.10beta .
- Sample consisting of: signal events.
- Generated events: 100000 events.
- Normalization to the luminosity: 27306410+/- 27251 events.
- Ratio (event weight): 273 - warning: please generate more events (weight larger than 1)!

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
/opt/sbg/cms/-ui6_data1/aalloul/-MG5_aMC_v2_1_2/-diphoton/Events/run_01/-unweighted_events.lhe.gz	100000	2730 @ 0.1%	0.0

2.2 r04

- Samples stored in the directory: /grid_mnt/opt__sbg__cms__ui6_data1/aalloul/-LRSUSY/v1.1.10beta .
- Sample consisting of: signal events.
- Generated events: 100000 events.
- Normalization to the luminosity: 27324800+/- 34183 events.
- Ratio (event weight): 273 - warning: please generate more events (weight larger than 1)!

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
/opt/sbg/cms/-ui6_data1/aalloul/-MG5_aMC_v2_1_2/-diphoton/Events/run_02/-unweighted_events.lhe.gz	100000	2732 @ 0.13%	0.0

3 Histos and cuts

3.1 Histogram 1

*** Plot: PT (a)**

Table 1. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	54612820	2.0	5.32051	9.315	0.0	0.0
r04	54649600	2.0	5.38849	9.39	0.0	0.0

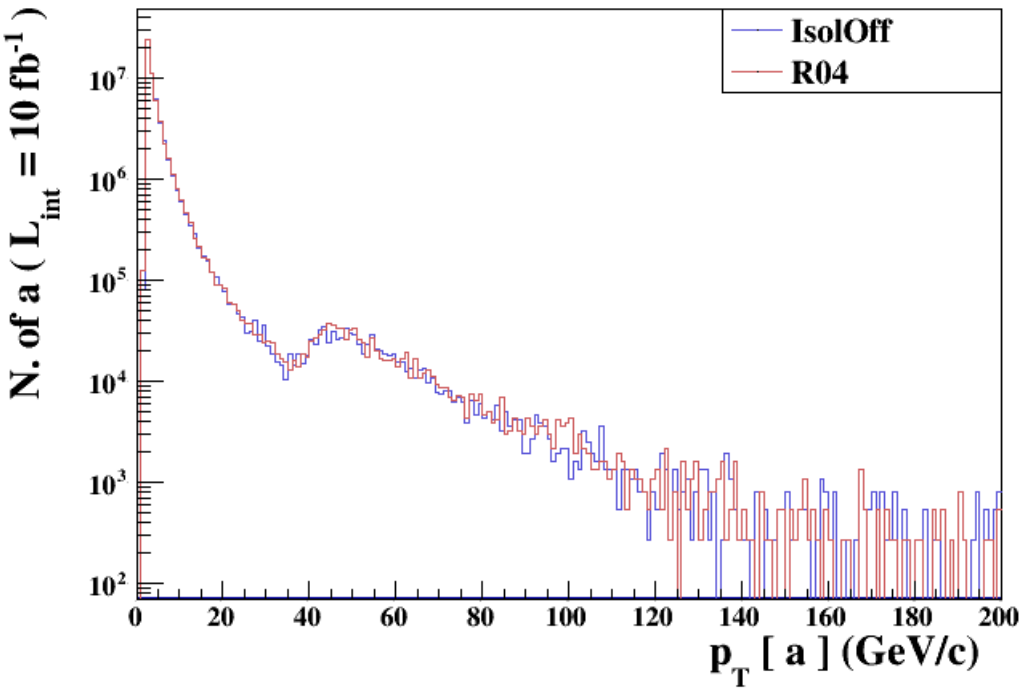

Figure 7.

3.8 Histogram 8

*** Plot: PT (a[1])**

Table 8. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	27306409	1.0	6.09499	12.27	0.0	0.03
r04	27324800	1.0	6.22032	12.37	0.0	0.028

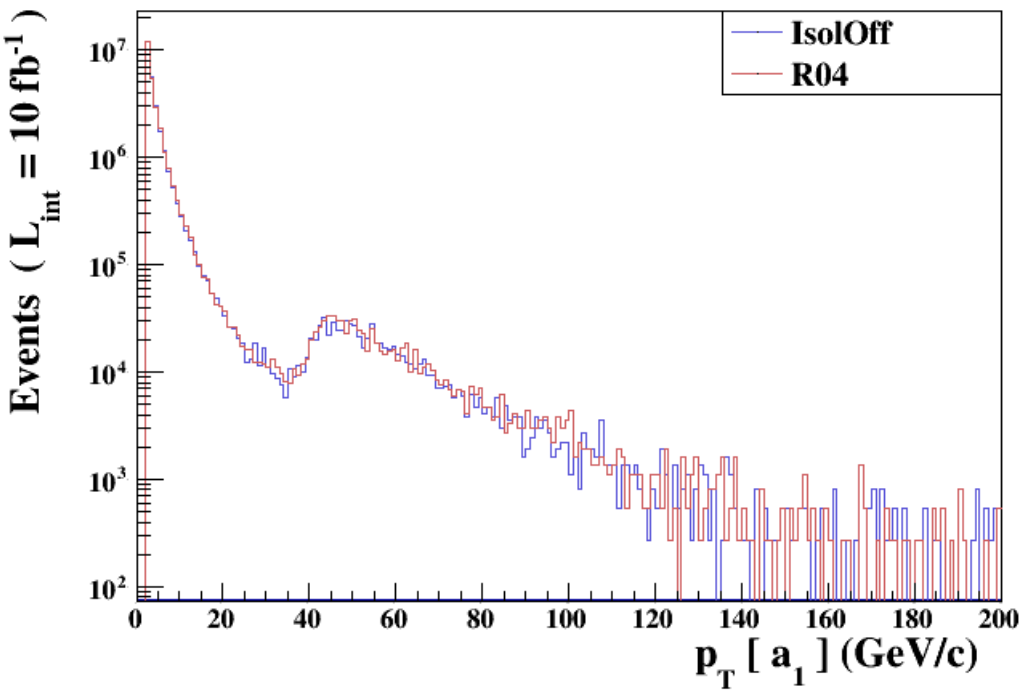

Figure 8.

3.9 Histogram 9

*** Plot: PT (a)**

Table 9. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	54612820	2.0	5.32051	9.315	0.0	1.525
r04	54649599	2.0	5.38849	9.39	0.0	1.608

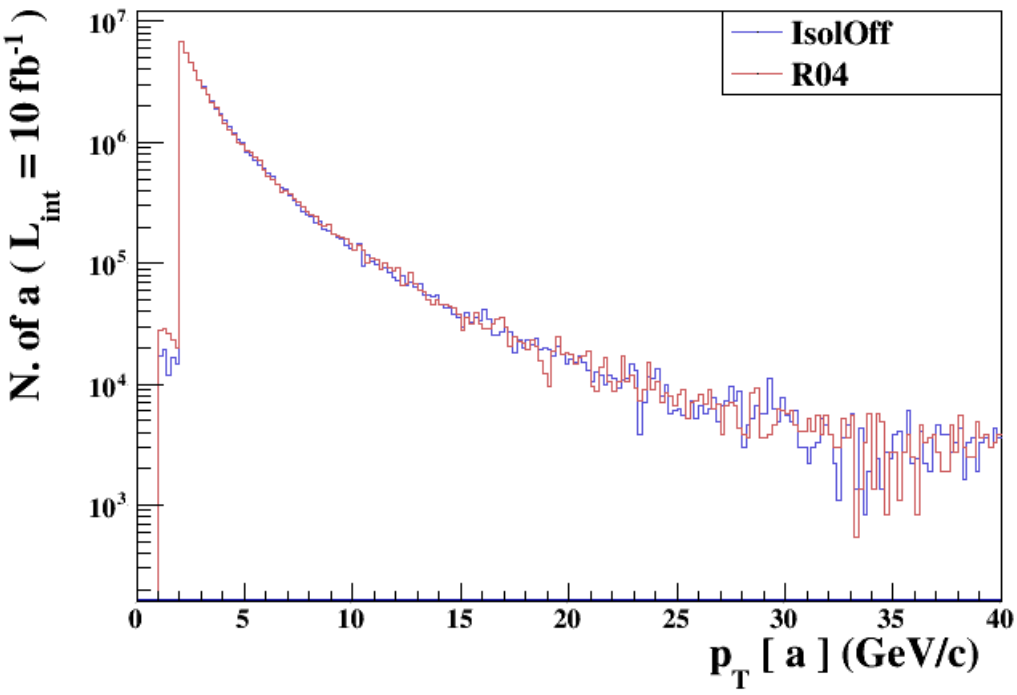

Figure 9.

3.10 Histogram 10

*** Plot: PT (a[1])**

Table 10. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	27306410	1.0	6.09499	12.27	0.0	2.809
r04	27324800	1.0	6.22032	12.37	0.0	2.993

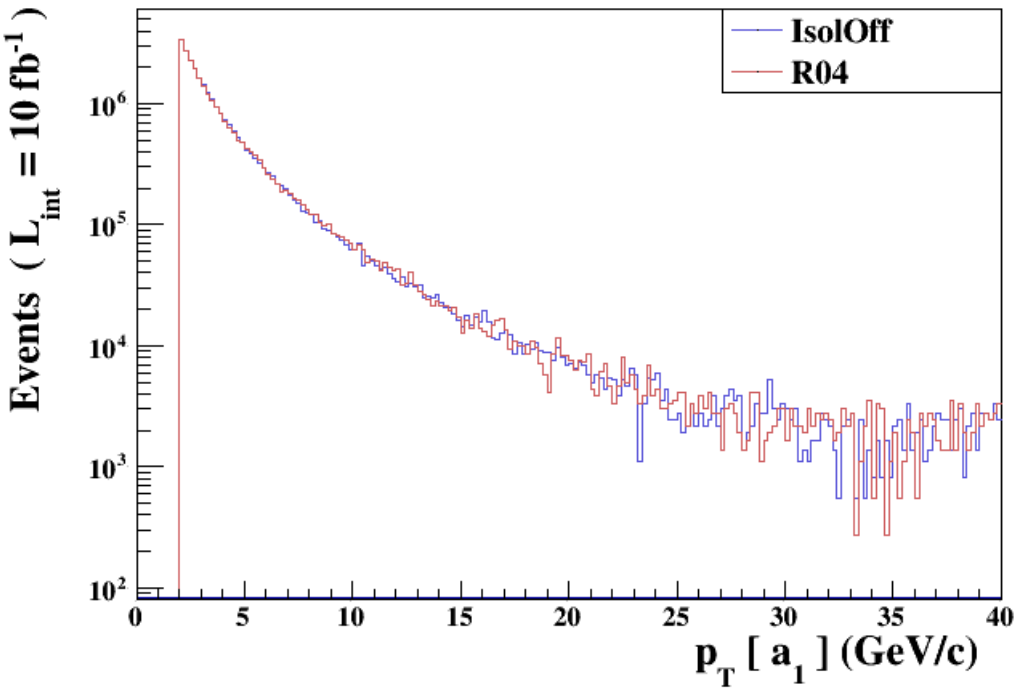

Figure 10.

3.11 Histogram 11

*** Plot: DELTAR (a , j)**

Table 11. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	1568480	0.0574	2.49683	1.13	0.0	0.0
r04	1716544	0.0628	2.50666	1.115	0.0	0.0

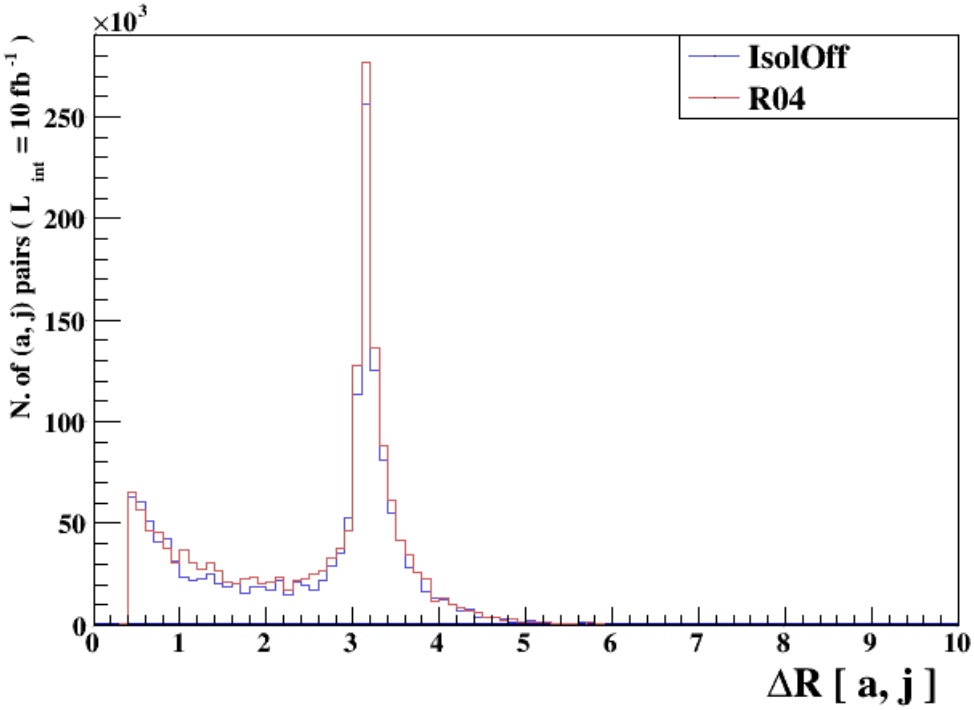

Figure 11.

3.12 Histogram 12

*** Plot: DELTAR (a , j)**

Table 12. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	1568480	0.0574	2.49683	1.13	0.0	95.96
r04	1716544	0.0628	2.50666	1.115	0.0	96.16

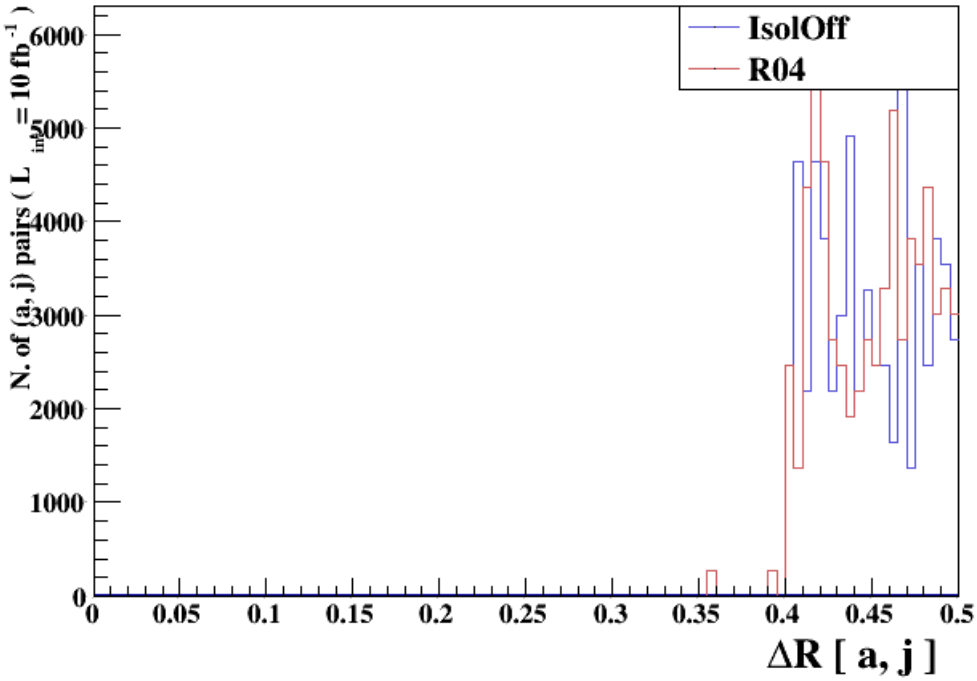

Figure 12.

3.13 Histogram 13

*** Plot: DELTAR (a[1] , j)**

Table 13. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	784240	0.0287	3.29603	0.3633	0.0	0.0
r04	858272	0.0314	3.29293	0.3762	0.0	0.0

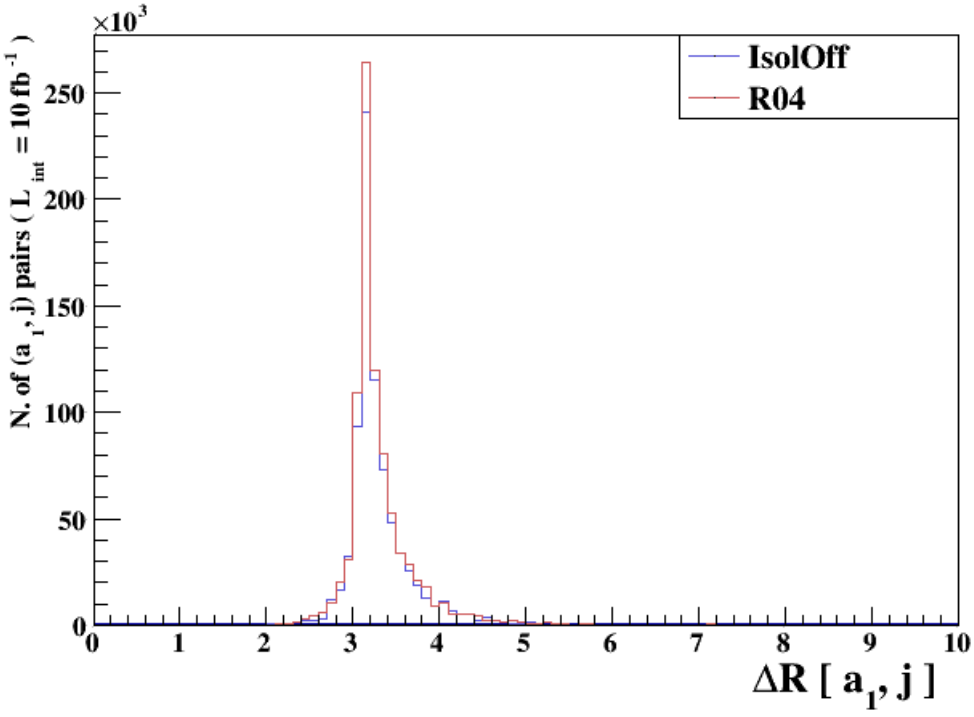

Figure 13.

3.14 Histogram 14

*** Plot: DELTAR (a[1] , j)**

Table 14. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	784240	0.0287	3.29603	0.3633	0.0	100.0
r04	858272	0.0314	3.29293	0.3762	0.0	100.0

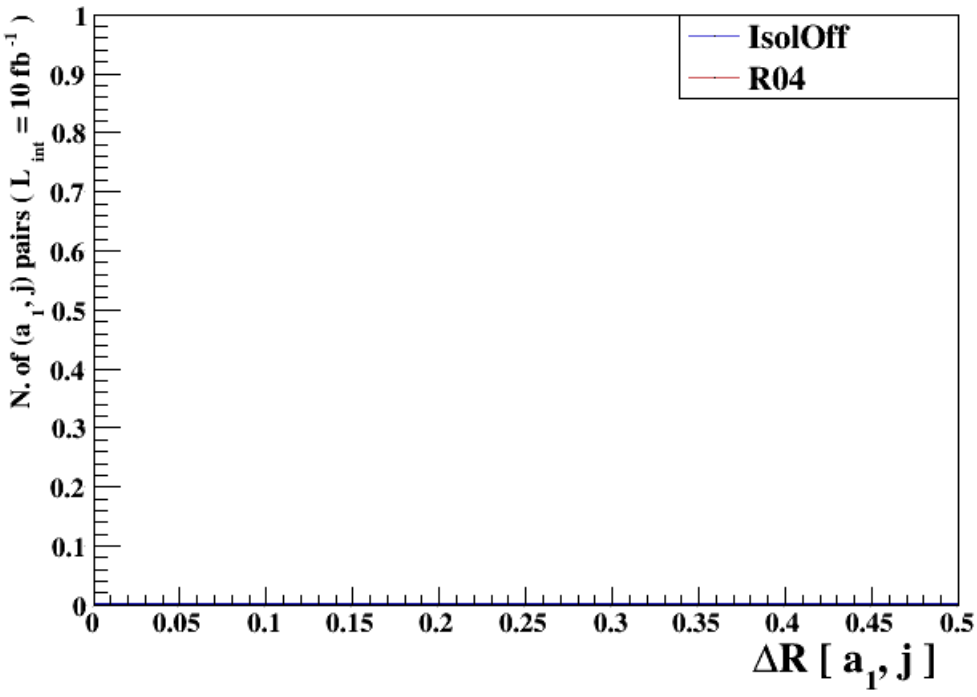

Figure 14.

3.15 Histogram 15

*** Plot: PT (j)**

Table 15. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	784240	0.0287	61.5687	33.04	0.0	6.999
r04	858272	0.0314	60.9839	29.95	0.0	6.749

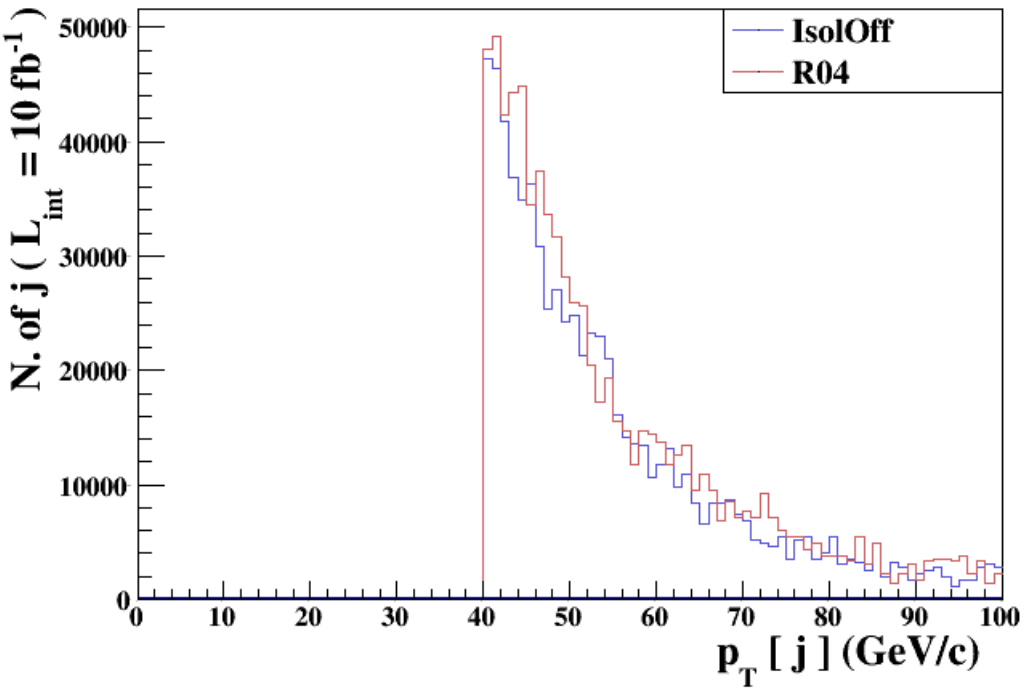

Figure 15.

3.16 Histogram 16

*** Plot: PT (j)**

Table 16. Statistics table

Dataset	Integral	Entries / events	Mean	RMS	%Underfl	%Overflow
isoloff	784240	0.0287	61.5687	33.04	0.0	55.22
r04	858272	0.0314	60.9839	29.95	0.0	54.09