

The LaTeX report

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1 Setup

1.1 Command history

```
ma5>
ma5>import /home/jcordero/CMS/Theory/MG5_aMC_v2_7_2//bin/internal/ufomodel
ma5>import /home/jcordero/CMS/Theory/MG5_aMC_v2_7_2/corderom/output/results/ntgc_llg_CBBL4/-
Events/run_01/unweighted_events.lhe.gz as unweighted_events
ma5>set main.graphic_render = root
ma5>plot THT 40 0 500 [logY]
ma5>plot MET 40 0 500 [logY]
ma5>plot SQRTS 40 0 500 [logY]
ma5>plot PT(z[1]) 40 0 1000 [logY interstate]
ma5>plot ETA(z[1]) 40 -7 7 [logY interstate]
ma5>plot PT(a[1]) 40 0 1000 [logY]
ma5>plot ETA(a[1]) 40 -7 7 [logY]
ma5>plot M(z[1] a[1]) 40 0 800 [logY allstate]
ma5>plot DELTAR(z[1],a[1]) 40 0 8 [logY allstate]
ma5>plot PT(a[1]) 40 0 800 [logY]
ma5>plot ETA(a[1]) 40 -7 7 [logY]
ma5>plot PT(l-[1]) 40 0 650 [logY]
ma5>plot ETA(l-[1]) 40 -7 7 [logY]
ma5>plot PT(l+[1]) 40 0 650 [logY]
ma5>plot ETA(l+[1]) 40 -7 7 [logY]
ma5>plot M(a[1] l+[1]) 40 0 800 [logY ]
ma5>plot M(a[1] l-[1]) 40 0 800 [logY ]
ma5>plot M(a[1] l-[1] l+[1]) 40 0 900 [logY ]
ma5>plot M(l-[1] l+[1]) 40 20 200 [logY ]
ma5>plot DELTAR(a[1],l+[1]) 40 0 8 [logY ]
ma5>plot DELTAR(a[1],l-[1]) 40 0 8 [logY ]
ma5>plot DELTAR(l-[1],l+[1]) 40 0 5 [logY ]
ma5>submit /home/jcordero/CMS/Theory/MG5_aMC_v2_7_2/corderom/output/results/ntgc_llg_CBBL4/-
MA5_PARTON_ANALYSIS_analysis1
```

1.2 Configuration

- MadAnalysis version 1.8.34 (2019/12/04).
- Histograms given for an integrated luminosity of 10fb^{-1} .

2 Datasets

2.1 unweighted_events

- Sample consisting of: [signal](#) events.
- Generated events: [10000](#) events.
- Normalization to the luminosity: [89+/- 1](#) events.
- Ratio (event weight): [0.0089](#) .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
output/results/ntgc_llg_CBBL4/- Events/run_01/- unweighted_events.lhe.gz	10000	0.00896 @ 0.26%	0.0

3 Histos and cuts

3.1 Histogram 1

* Plot: THT

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	0.0	0.0	0.0	0.0

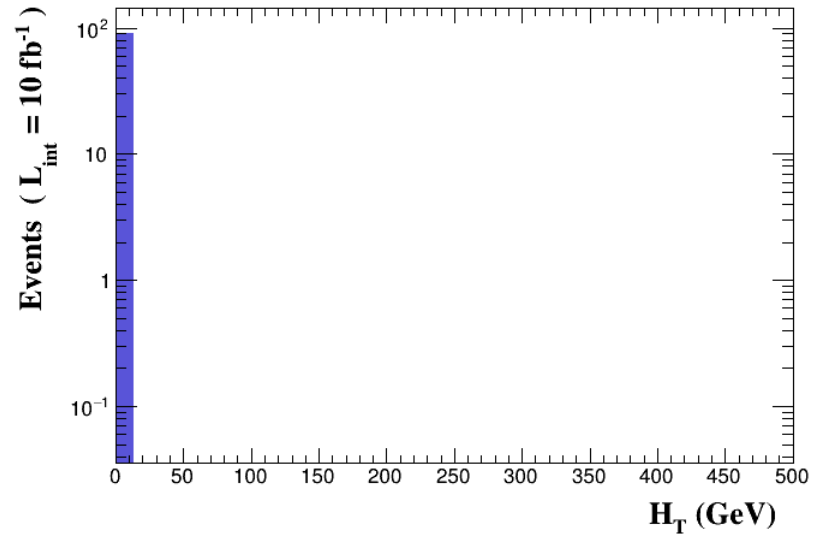


Figure 1.

3.2 Histogram 2

* Plot: MET

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	1.25307e-08	1.735e-08	0.0	0.0

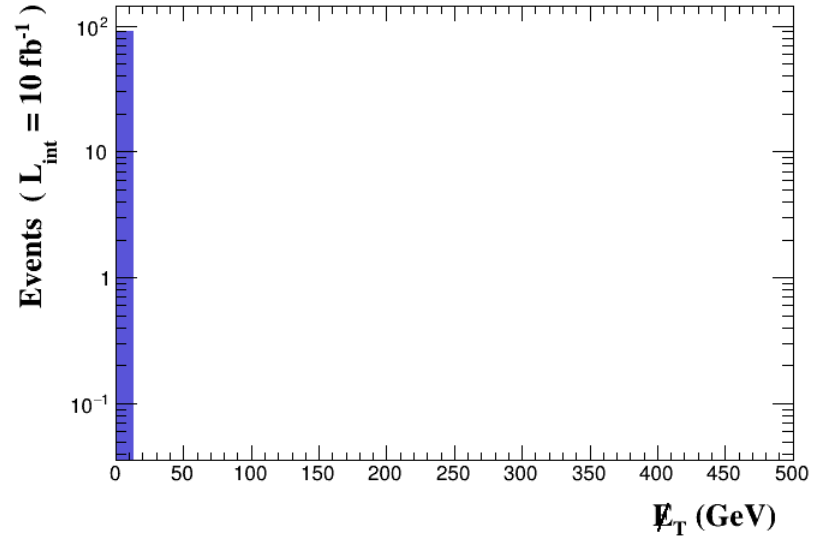


Figure 2.

3.3 Histogram 3

* Plot: SQRTS

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	2434.09	1259	0.0	98.39

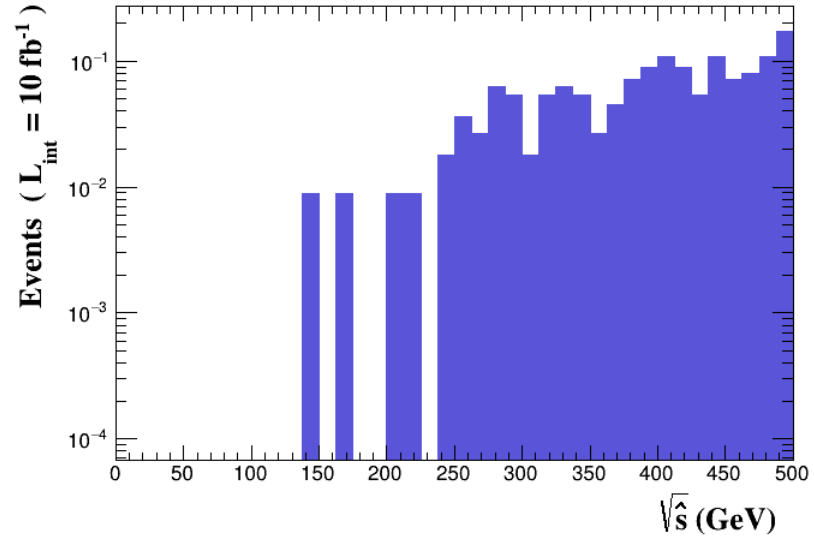


Figure 3.

3.4 Histogram 4

* Plot: PT (z[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	919.996	562.8	0.0	36.94

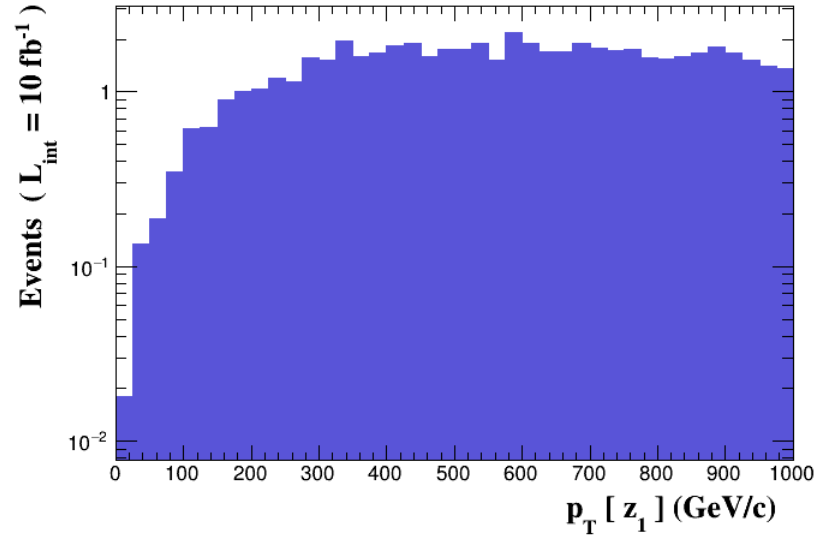


Figure 4.

3.5 Histogram 5

* Plot: ETA ($z[1]$)

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	-0.00629505	1.232	0.0	0.0

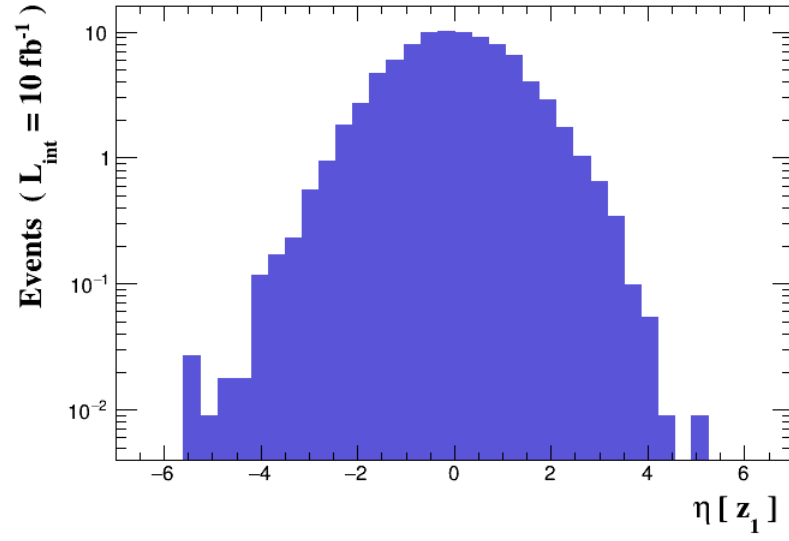


Figure 5.

3.6 Histogram 6

* Plot: PT (a[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	919.996	562.8	0.0	36.94

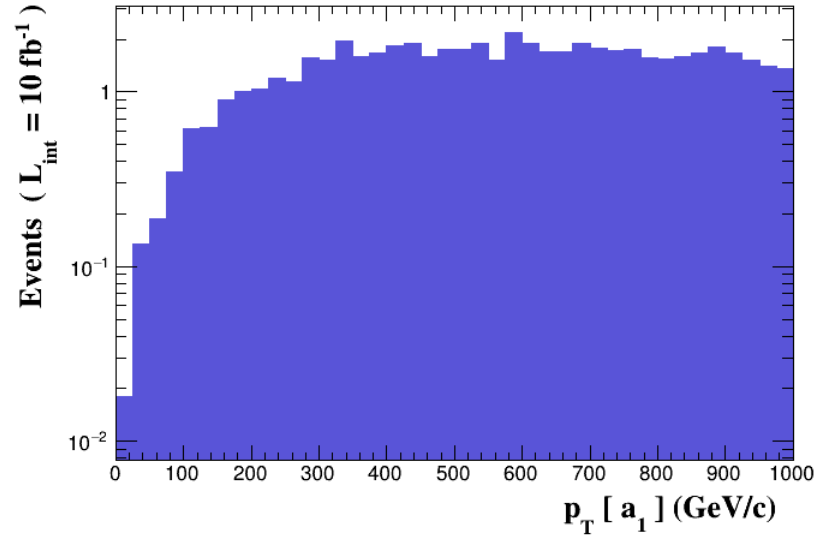


Figure 6.

3.7 Histogram 7

* Plot: $\text{ETA} (a[1])$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	-0.000903441	1.095	0.0	0.0

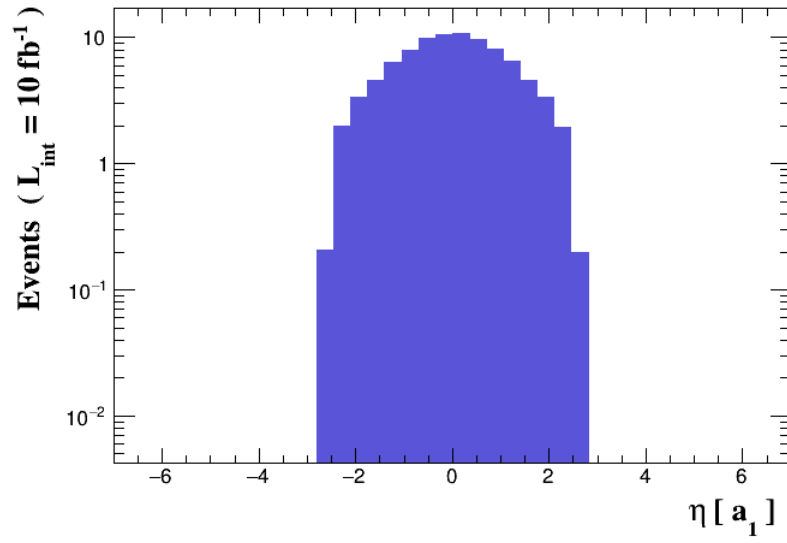


Figure 7.

3.8 Histogram 8

* Plot: $M (a_1 z_1)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	2434.09	1259	0.0	93.97

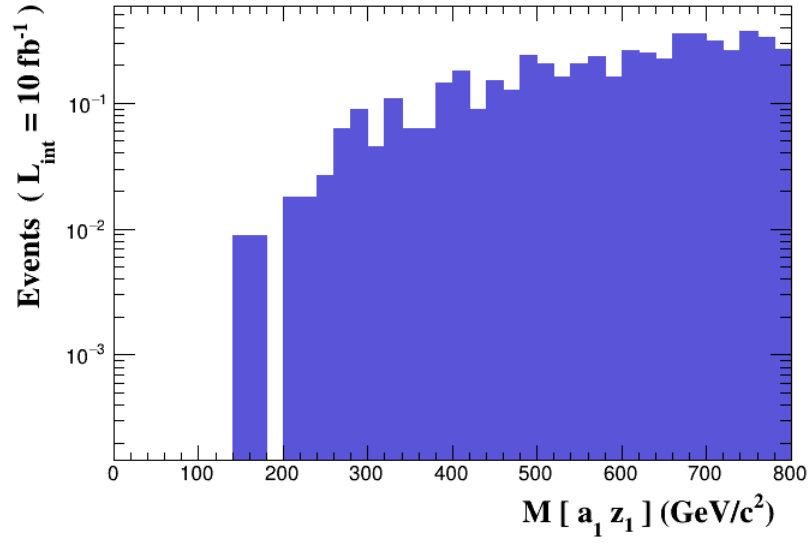


Figure 8.

3.9 Histogram 9

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	3.60417	0.5599	0.0	0.0

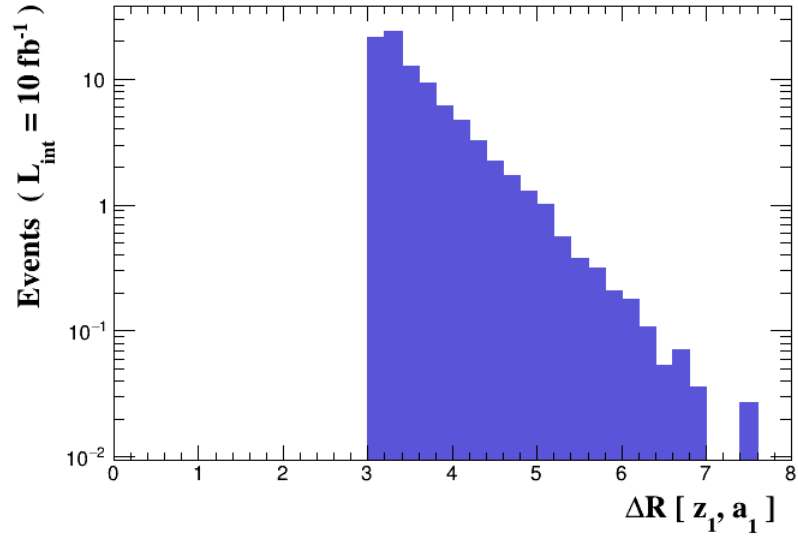


Figure 9.

3.10 Histogram 10

* Plot: PT (a[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	919.996	562.8	0.0	50.94

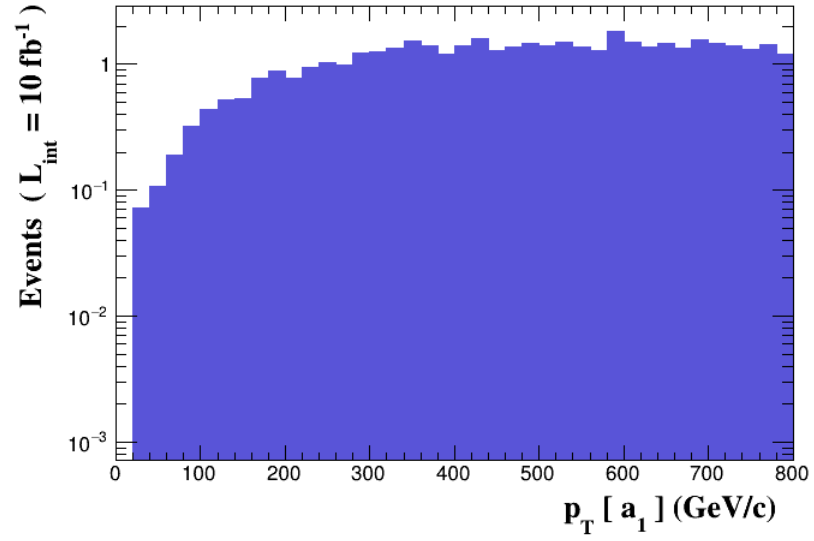


Figure 10.

3.11 Histogram 11

* Plot: $\text{ETA} (a_1)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	-0.000903441	1.095	0.0	0.0

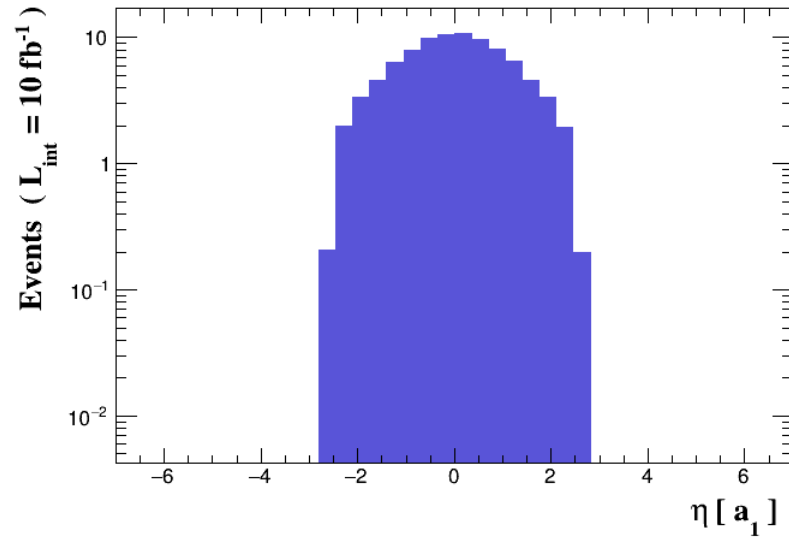


Figure 11.

3.12 Histogram 12

* Plot: PT (l-[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	463.409	376.1	0.0	23.52

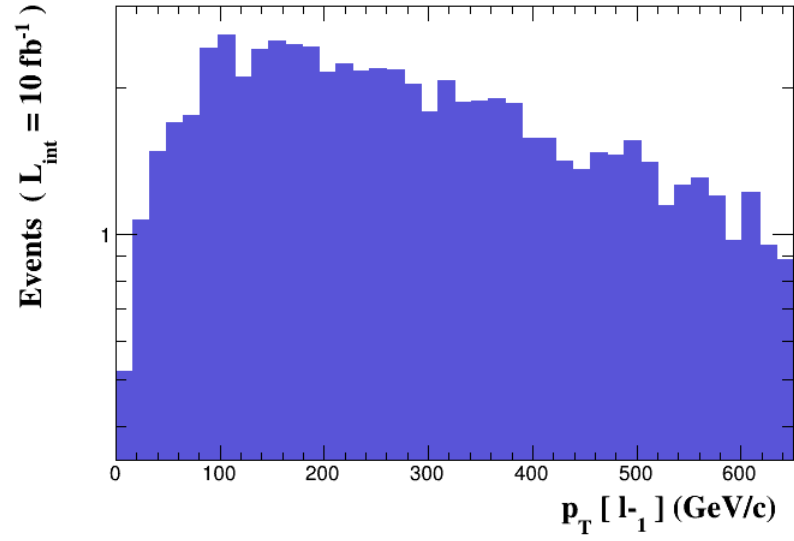


Figure 12.

3.13 Histogram 13

* Plot: $\text{ETA} \ (l-[1])$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	-0.00679359	1.236	0.0	0.0

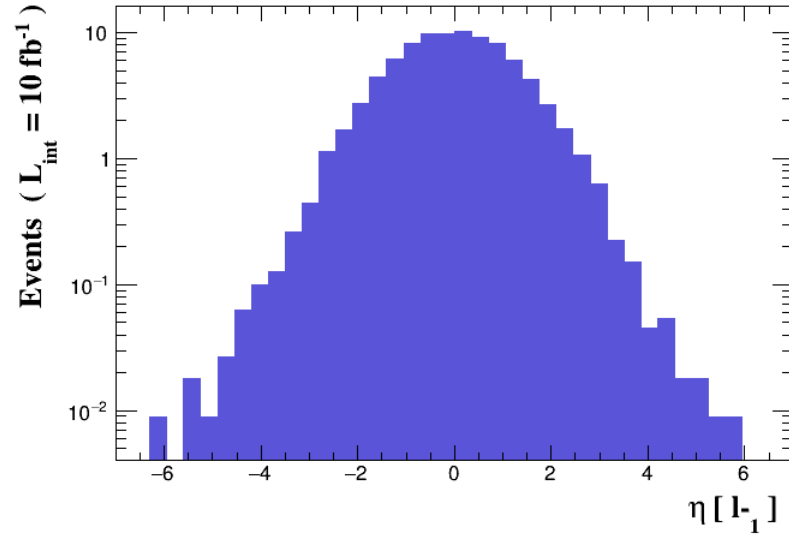


Figure 13.

3.14 Histogram 14

* Plot: $p_T (l+l_1)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	460.271	366.9	0.0	22.97

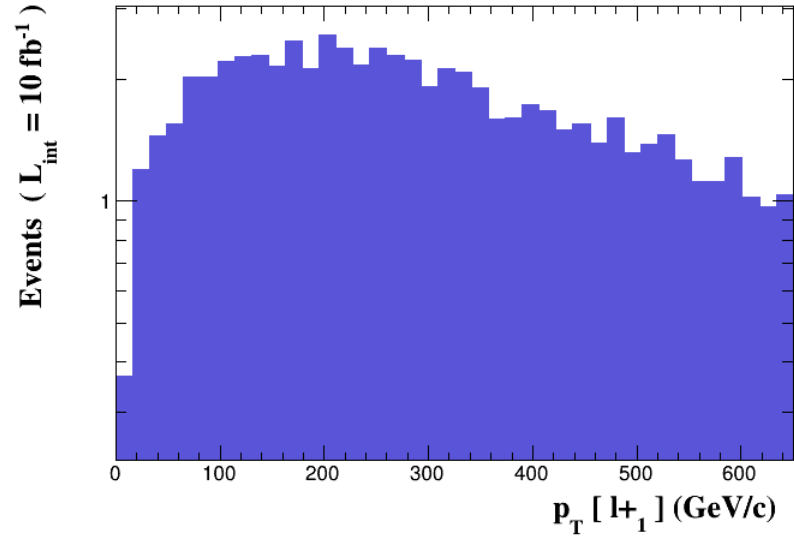


Figure 14.

3.15 Histogram 15

* Plot: $\text{ETA} (l+[1])$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	-0.00406644	1.234	0.0	0.0

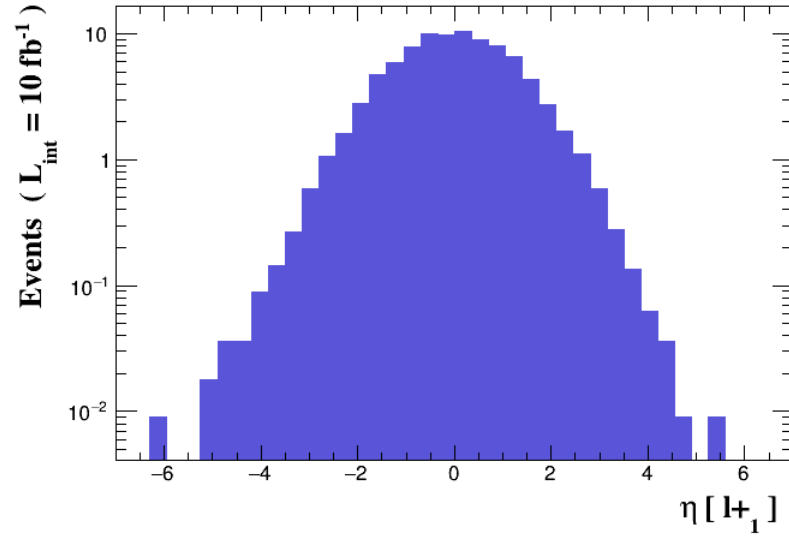


Figure 15.

3.16 Histogram 16

* Plot: $M (a_1 l_+ l_-)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	1664.65	979.3	0.0	80.96

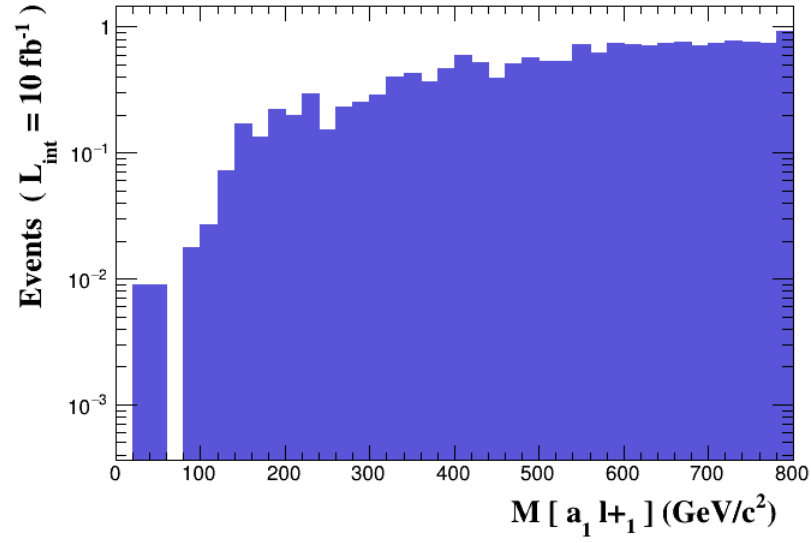


Figure 16.

3.17 Histogram 17

* Plot: $M (a_1 l_1)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	1668.35	994.3	0.0	80.78

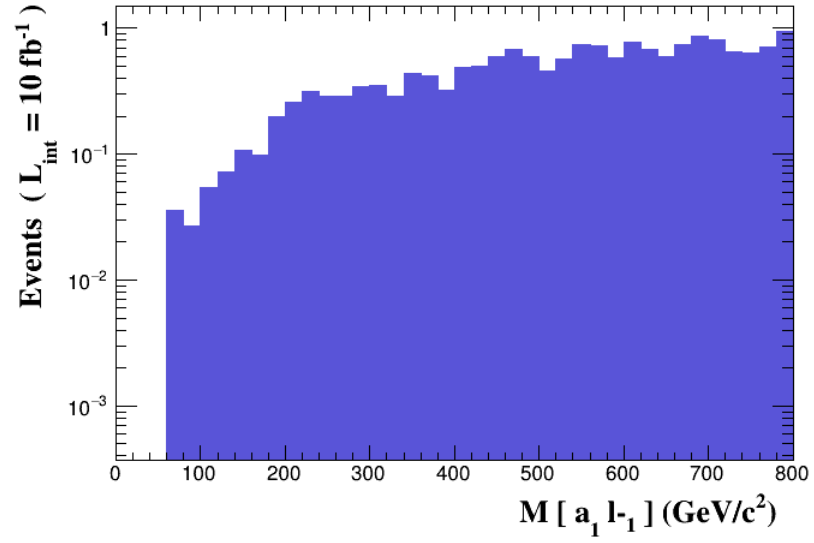


Figure 17.

3.18 Histogram 18

* Plot: $M (a_1 l_+ l_- l_1)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	2434.09	1259	0.0	91.68

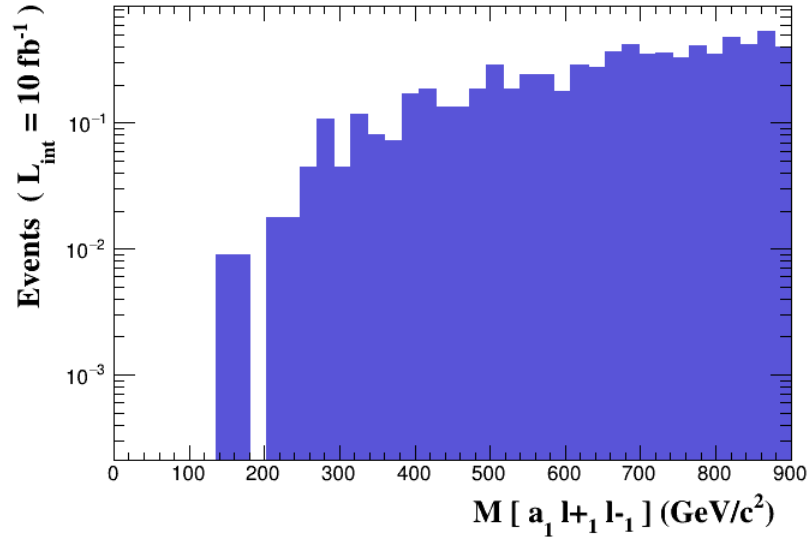


Figure 18.

3.19 Histogram 19

* Plot: $M (l^+ l^-)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	91.1584	5.168	0.0	0.0

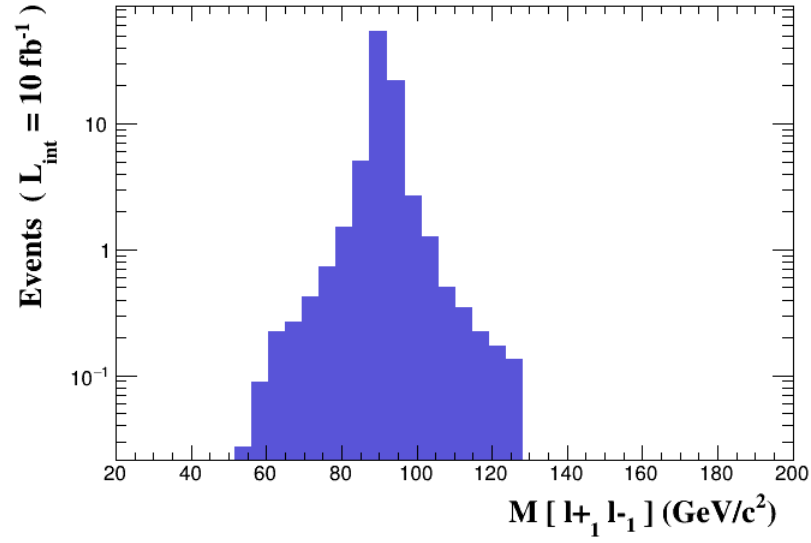


Figure 19.

3.20 Histogram 20

* Plot: DELTAR (a[1] , l+[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	3.50683	0.5484	0.0	0.0

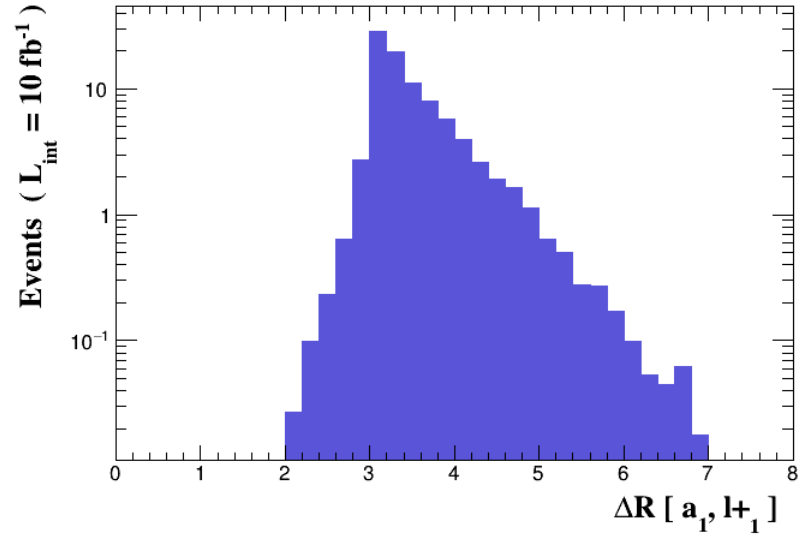


Figure 20.

3.21 Histogram 21

* Plot: DELTAR (a[1] , l-[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	3.5066	0.5537	0.0	0.0

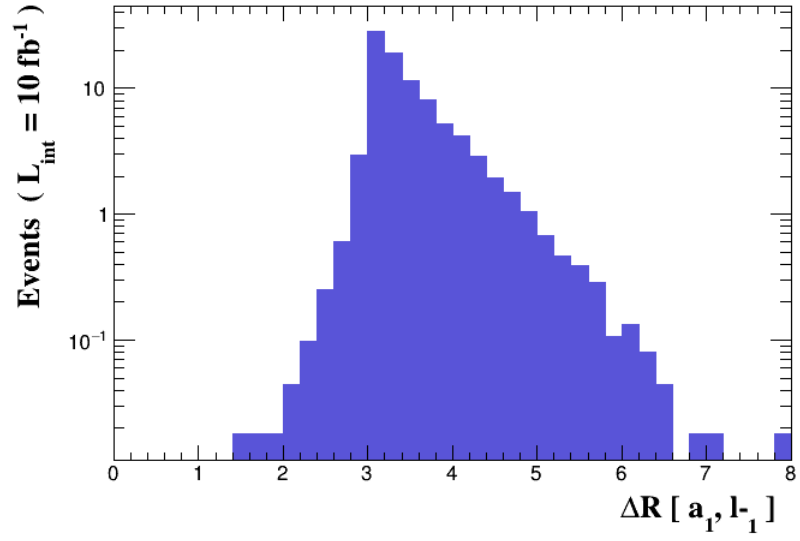


Figure 21.

3.22 Histogram 22

* Plot: DELTAR (l-[1] , l+[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	89.6	1.0	0.370242	0.3658	0.0	0.0

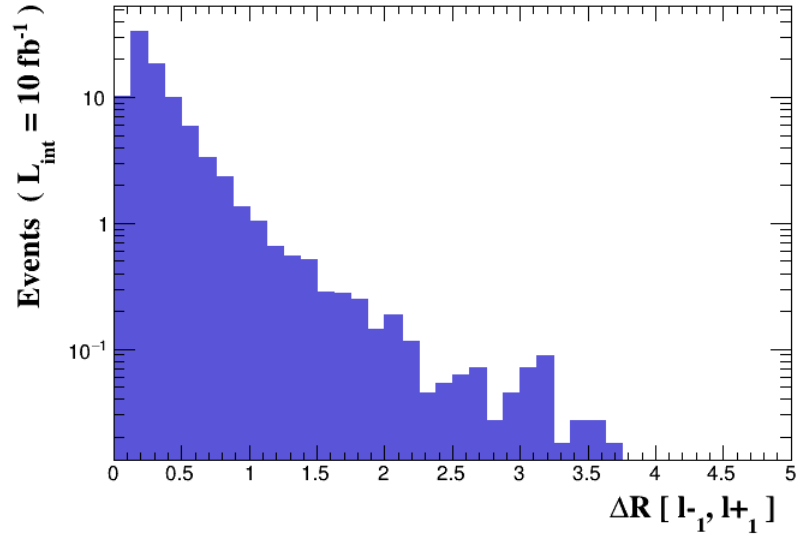


Figure 22.