



The LaTeX report

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1 Setup

1.1 Command history

```
ma5>
ma5>import /uscms/home/corderom/nobackup/Theory/CMSSW_10_2_13/src/SMP_ZGamma_MG5aMC/-
MG5_aMC/MG5_aMC_v2_7_2/corderom_MG5_aMC/./bin/internal/ufomodel
ma5>import /uscms/home/corderom/nobackup/Theory/CMSSW_10_2_13/src/SMP_ZGamma_MG5aMC/-
MG5_aMC/MG5_aMC_v2_7_2/corderom_MG5_aMC/output/results/ntgc_1lg_CBWL4_10/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 /uscms/home/corderom/nobackup/Theory/CMSSW_10_2_13/src/SMP_ZGamma_MG5aMC/-
MG5_aMC/MG5_aMC_v2_7_2/corderom_MG5_aMC/output/results/ntgc_1lg_CBWL4_10/MA5_PARTON_ANALYSIS_analy
```

1.2 Configuration

- MadAnalysis version 1.8.44 (2020/04/17).
- Histograms given for an integrated luminosity of 10fb^{-1} .

2 Datasets

2.1 unweighted_events

- Samples stored in the directory: [/uscms_data/d3/corderom/Theory/CMSSW_10_2_13/src/SMP_ZGamma_MG5aMC/MG5_aMC/MG5_aMC_v2_7_2/corderom_MG5_aMC](#) .
- Sample consisting of: [signal](#) events.
- Generated events: [10000](#) events.
- Normalization to the luminosity: [96+/- 1](#) events.
- Ratio (event weight): [0.0096](#) .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
/uscms/home/corderom/-nobackup/Theory/-CMSSW_10_2_13/src/-SMP_ZGamma_MG5aMC/-MG5_aMC/-MG5_aMC_v2_7_2/-corderom_MG5_aMC/output/-results/ntgc_llg_CBWL4_10/-Events/run_01/-unweighted_events.lhe.gz	10000	0.00965 @ 0.29%	0.0

3 Histos and cuts

3.1 Histogram 1

* Plot: THT

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	96.5	1.0	0.0	0.0	0.0	0.0

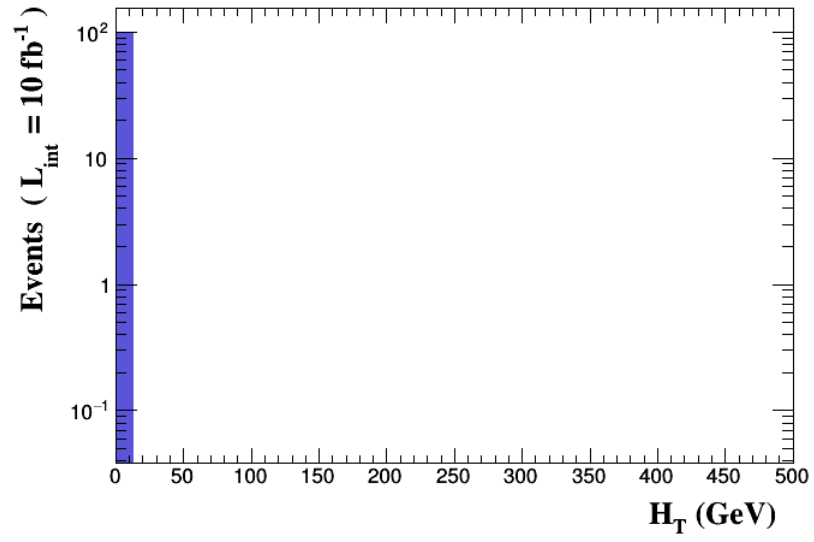


Figure 1.

3.2 Histogram 2

* Plot: MET

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	1.22561e-08	1.676e-08	0.0	0.0

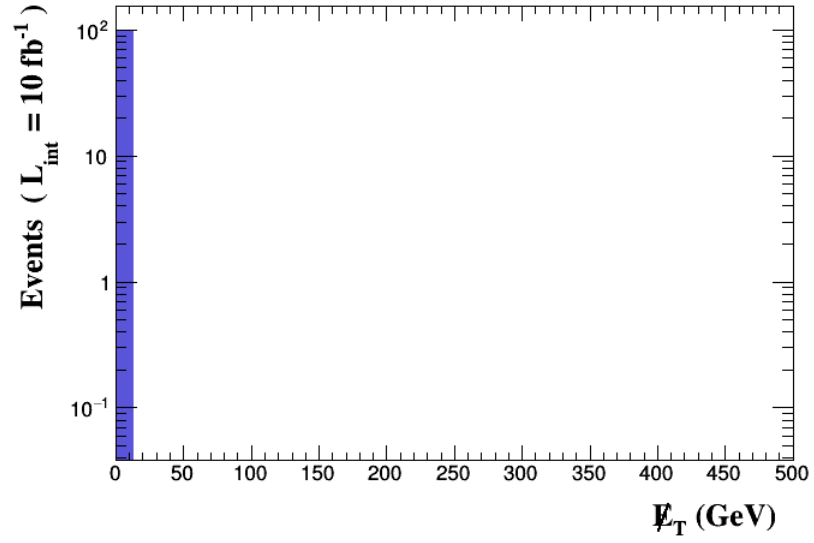


Figure 2.

3.3 Histogram 3

* Plot: SQRTS

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	2432.87	1259	0.0	98.4

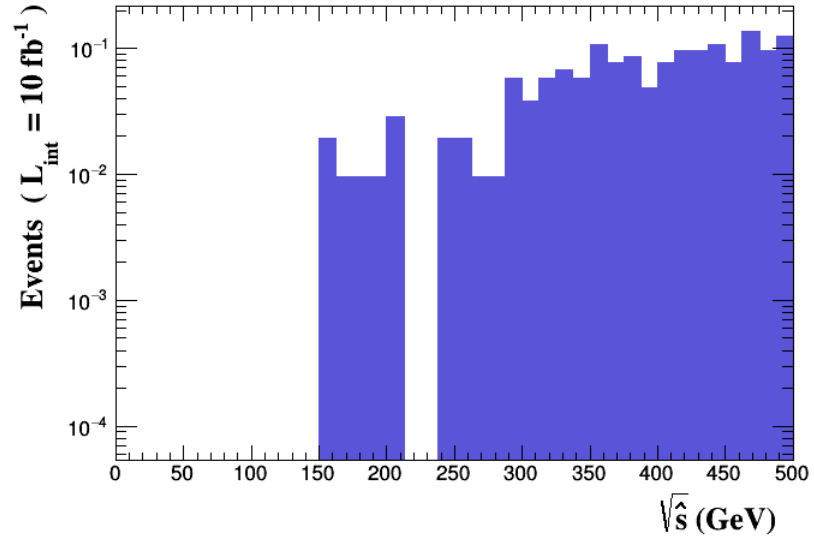


Figure 3.

3.4 Histogram 4

* Plot: PT (z[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	96.5	1.0	917.828	558.1	0.0	36.81

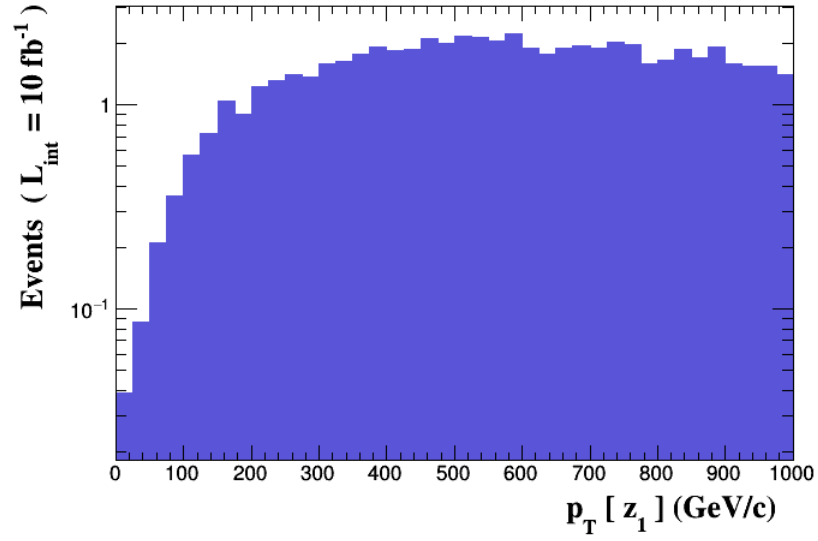


Figure 4.

3.5 Histogram 5

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	0.00274128	1.202	0.0	0.0

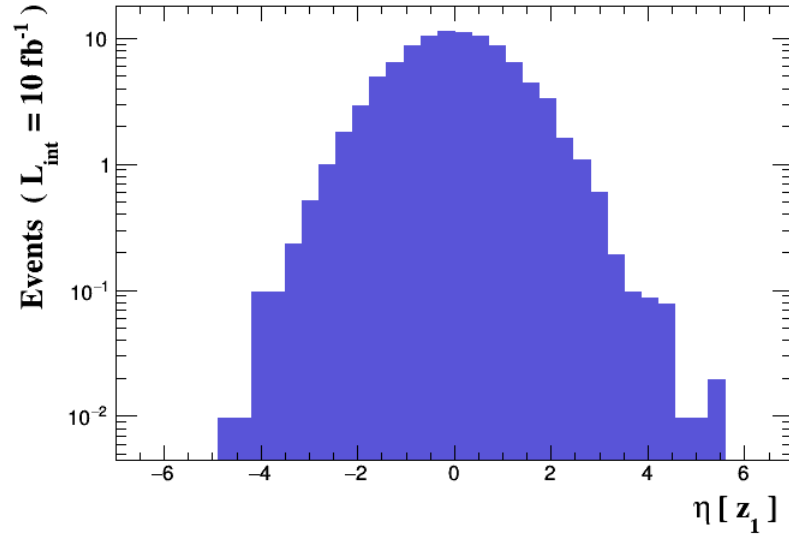


Figure 5.

3.6 Histogram 6

* Plot: $p_T (a[1])$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	917.828	558.1	0.0	36.81

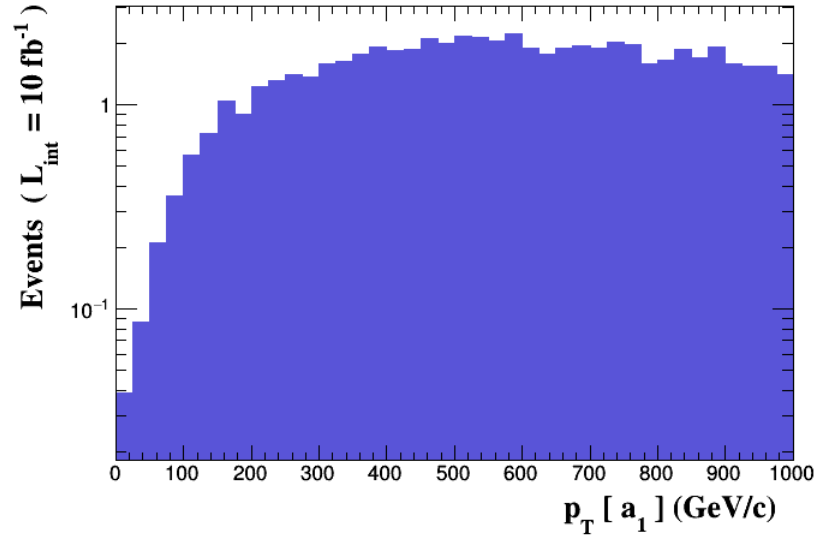


Figure 6.

3.7 Histogram 7

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	0.0242069	1.097	0.0	0.0

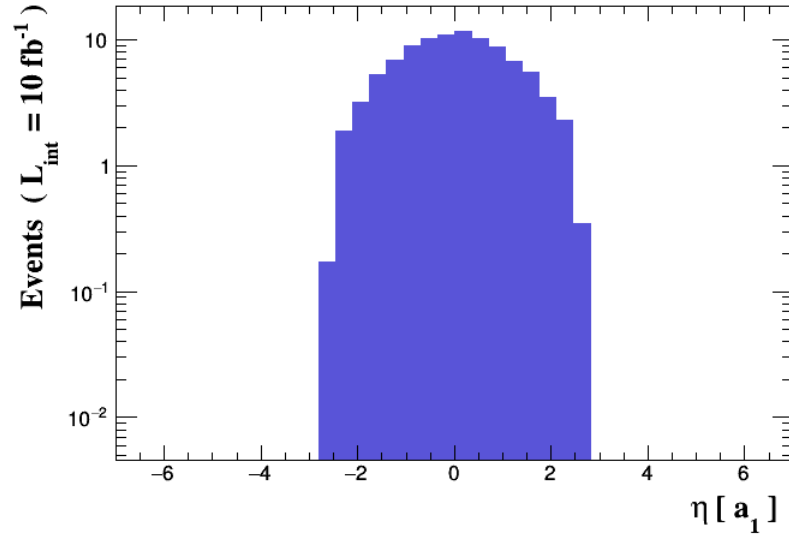


Figure 7.

3.8 Histogram 8

* Plot: $M [a_1 z_1]$ ()

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	2432.87	1259	0.0	93.95

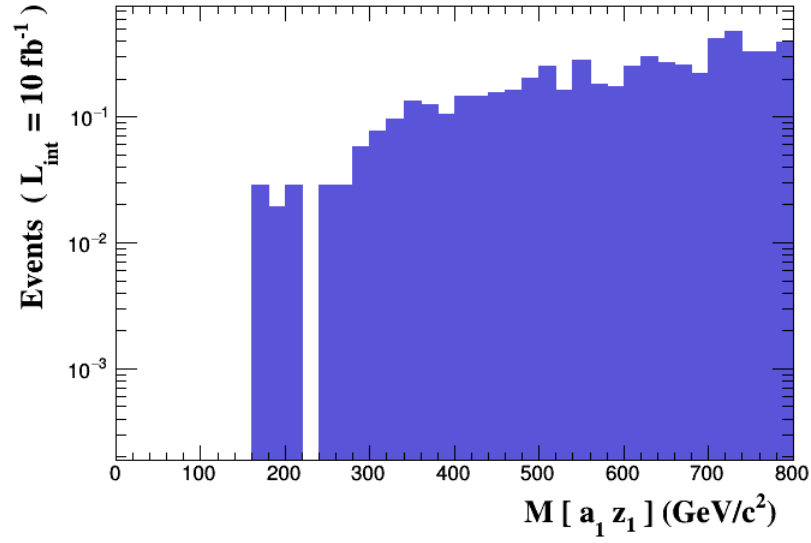


Figure 8.

3.9 Histogram 9

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	3.60543	0.5616	0.0	0.0

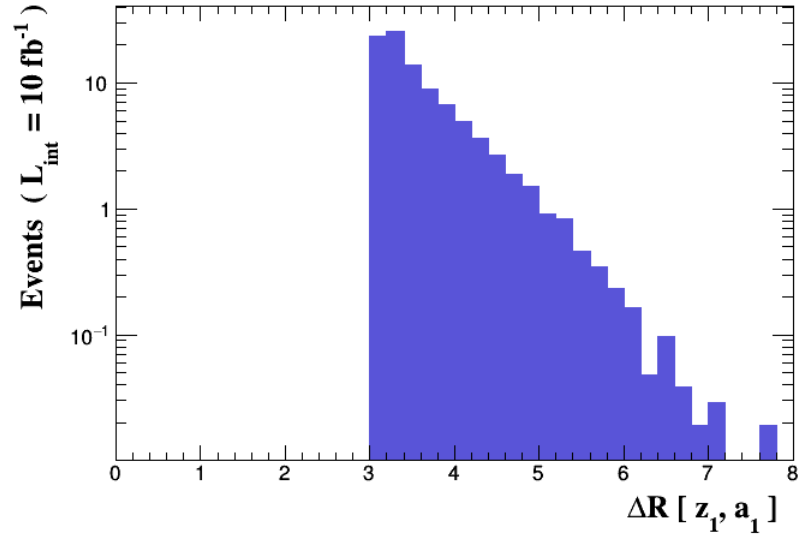


Figure 9.

3.10 Histogram 10

* Plot: PT (a[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	96.5	1.0	917.828	558.1	0.0	50.56

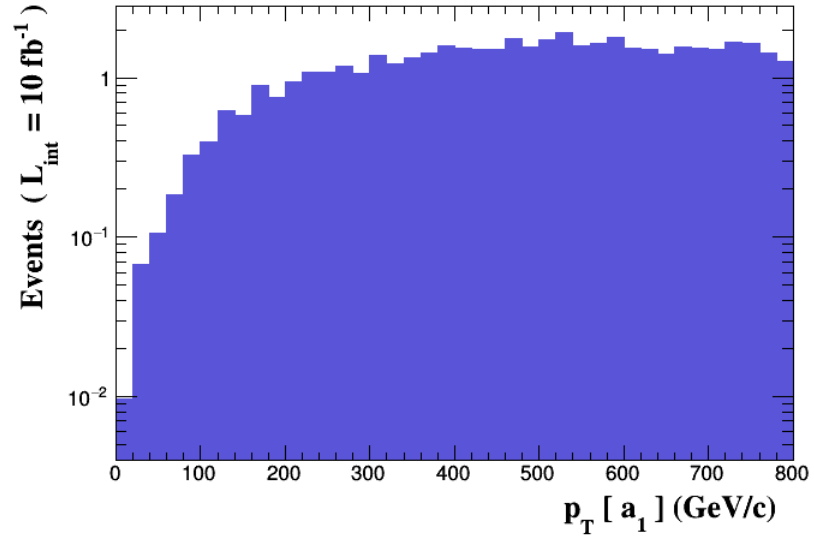


Figure 10.

3.11 Histogram 11

* Plot: ETA (a[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	0.0242069	1.097	0.0	0.0

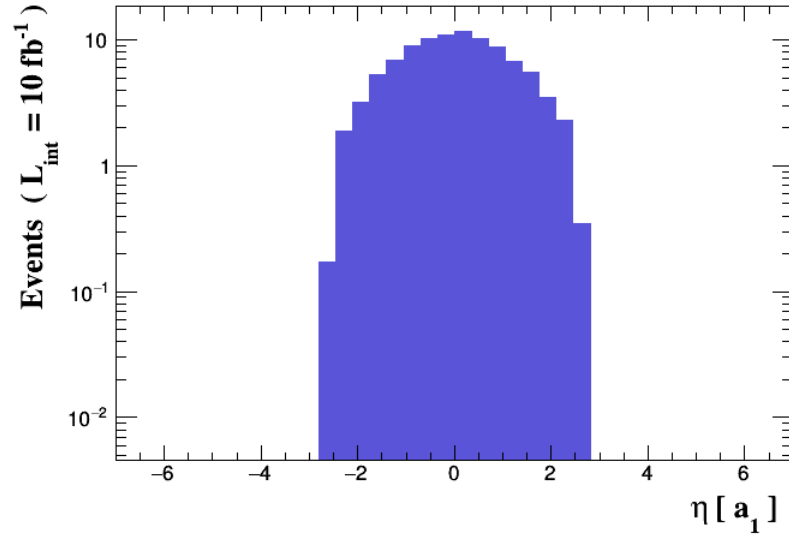


Figure 11.

3.12 Histogram 12

* Plot: PT (l-1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	458.709	367.5	0.0	23.1

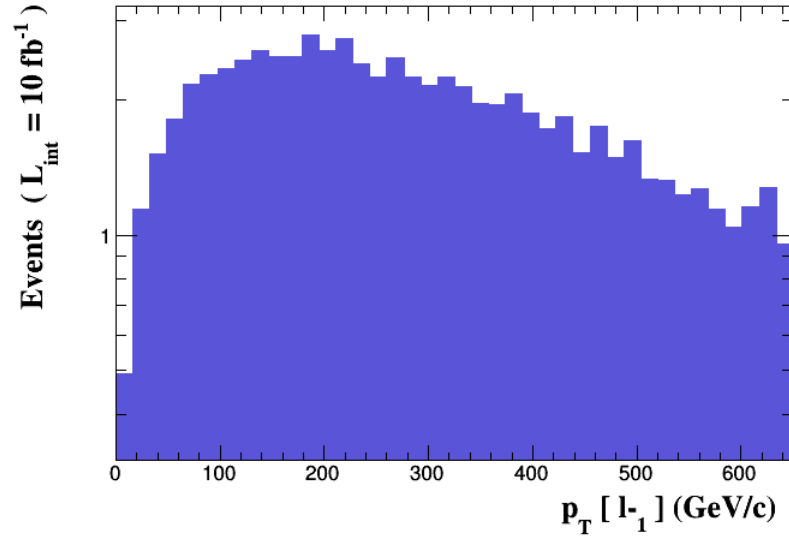


Figure 12.

3.13 Histogram 13

* Plot: $\text{ETA} \ (l_1[1])$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	0.00225523	1.201	0.0	0.0

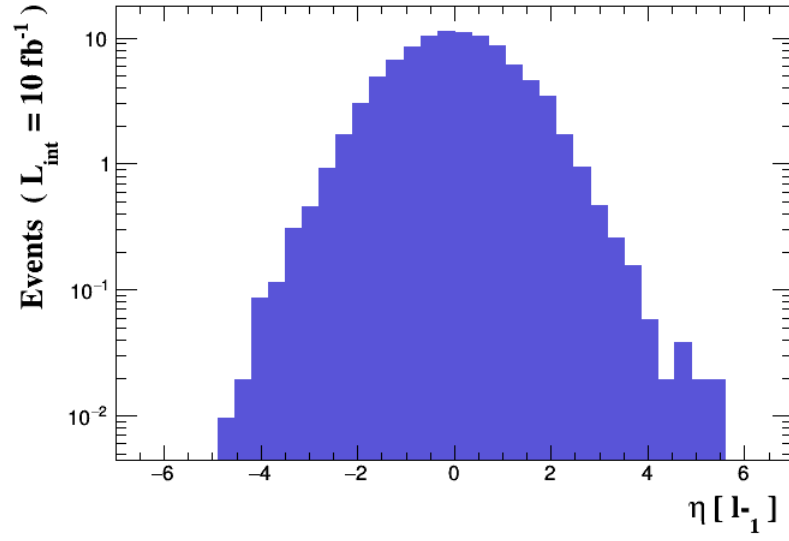


Figure 13.

3.14 Histogram 14

* Plot: PT (l+[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	462.803	368.2	0.0	23.54

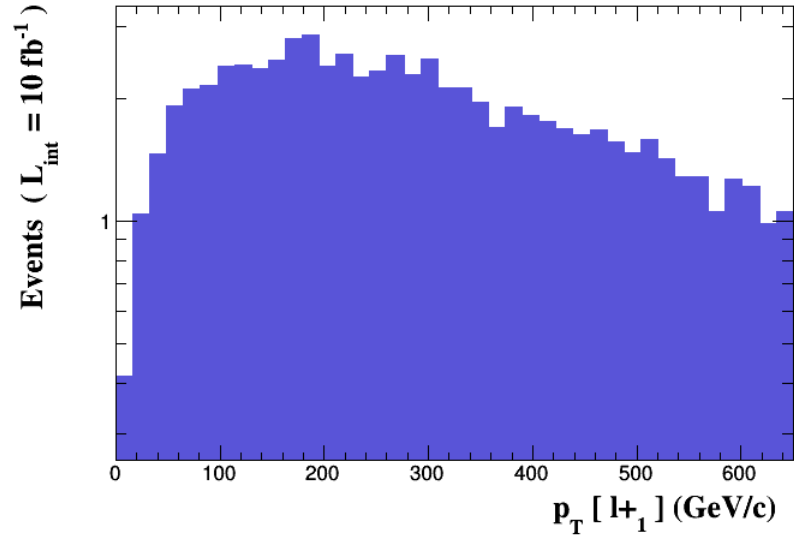


Figure 14.

3.15 Histogram 15

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	0.00422155	1.205	0.0	0.0

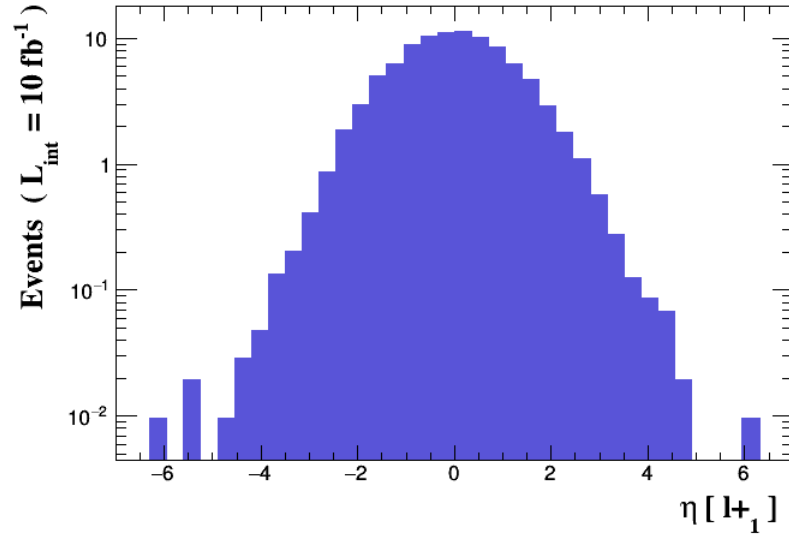


Figure 15.

3.16 Histogram 16

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	1672.78	988.1	0.0	81.33

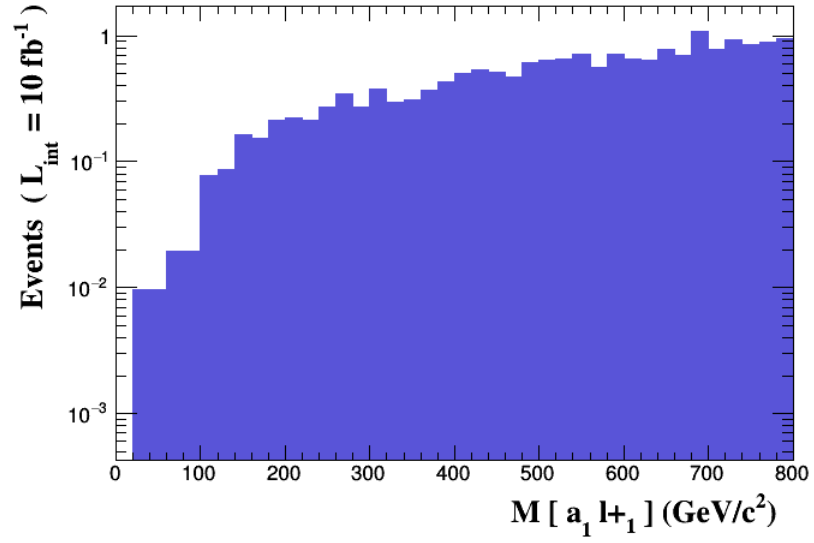


Figure 16.

3.17 Histogram 17

* Plot: $M [a_1 l_1]$ ($a[1] l-[1]$)

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	1660.66	981.6	0.0	80.9

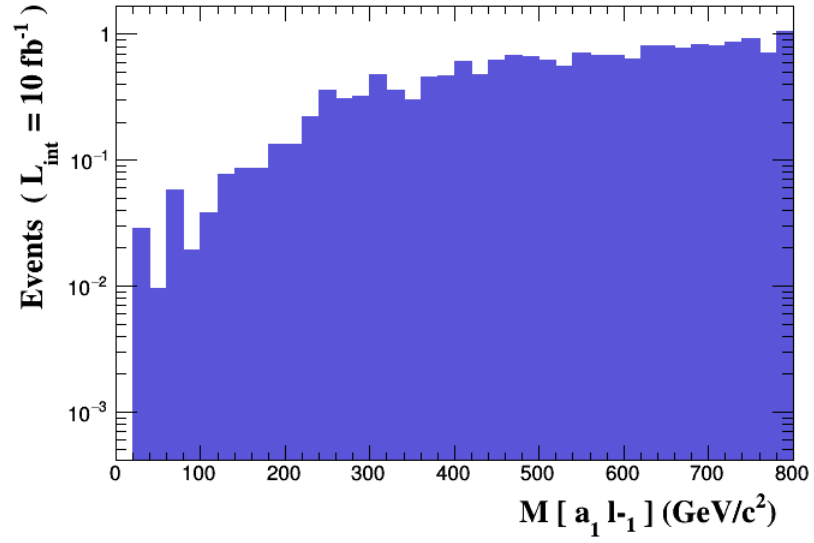


Figure 17.

3.18 Histogram 18

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	96.5	1.0	2432.87	1259	0.0	91.89

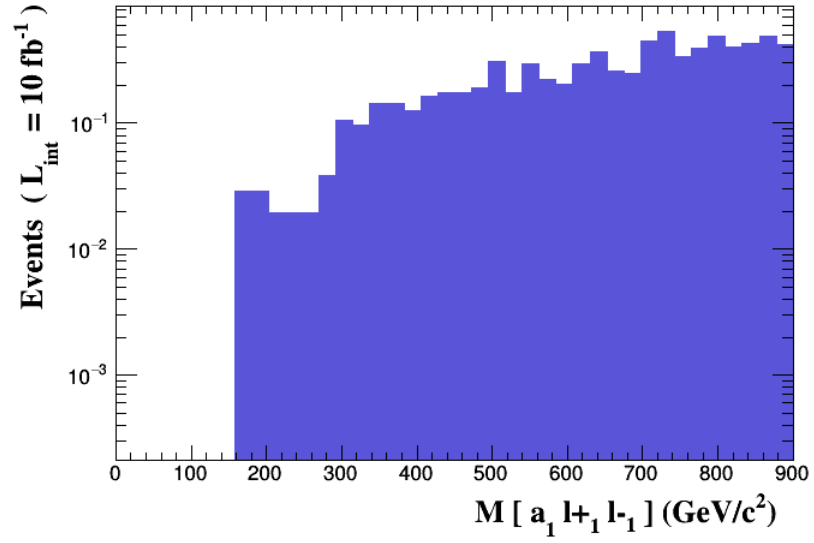


Figure 18.

3.19 Histogram 19

* Plot: $M \left(l_+ l_- \right)$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	91.1506	5.405	0.0	0.0

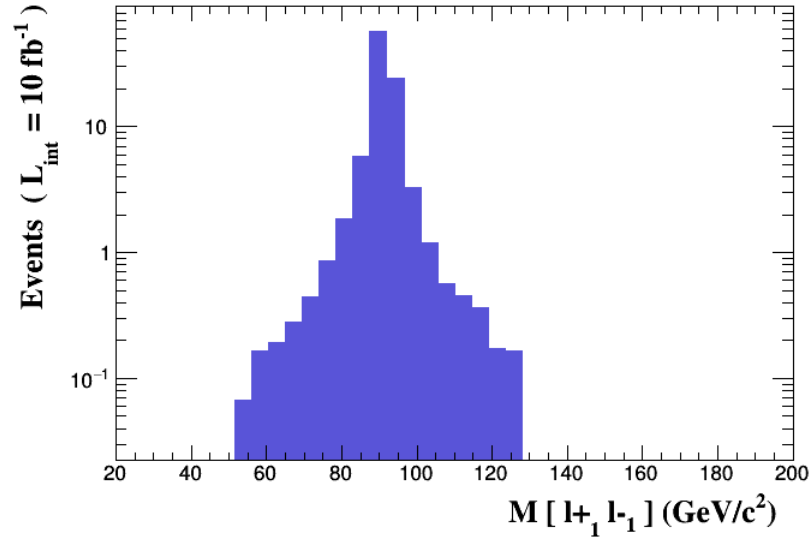


Figure 19.

3.20 Histogram 20

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	3.50974	0.5567	0.0	0.01

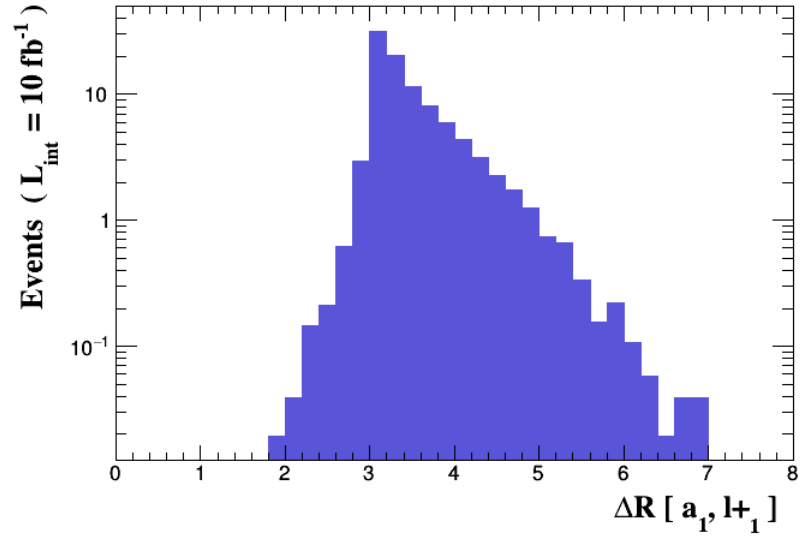


Figure 20.

3.21 Histogram 21

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	3.50659	0.5512	0.0	0.0

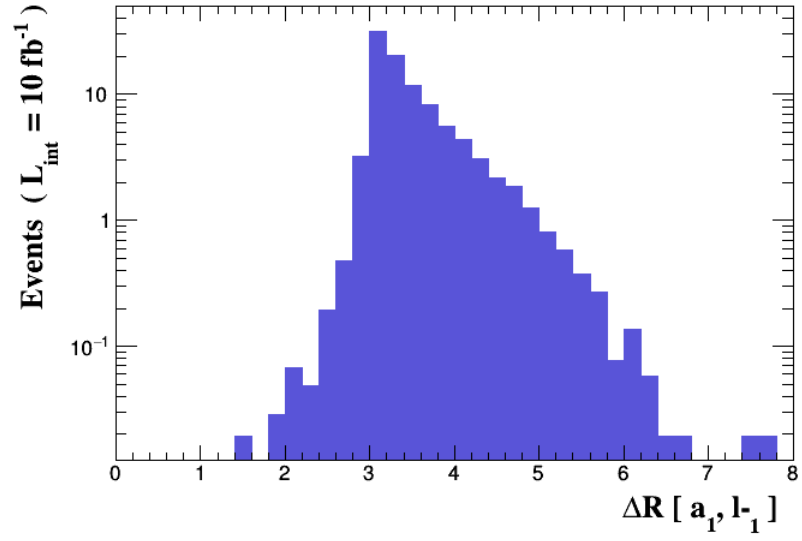


Figure 21.

3.22 Histogram 22

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_events	96.5	1.0	0.365085	0.3502	0.0	0.0

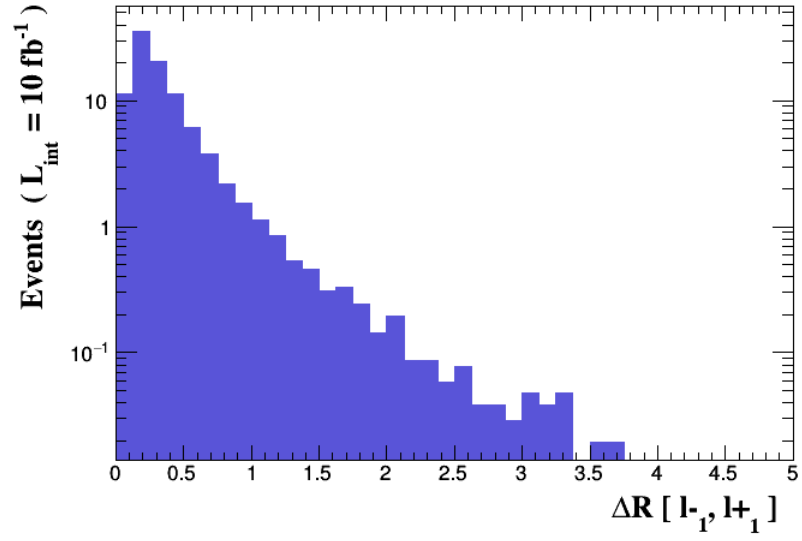


Figure 22.