The LaTeX report

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Contents

1 Setup

1.1 Command history

```
ma5>import /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/PROC_Tutorial_UFO_0/-
bin/internal/ufomodel
ma5>import /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/PROC_Tutorial_UFO_0/-
Events/run_01/unweighted_events.lhe.gz as unweighted_events
ma5>define vl = 12 14 16
ma5>define vl  = -16 -14 -12
ma5>define invisible = ve ve  vm vm  vt vt  vl vl
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(uv[1]) 40 0 500 [logY interstate]
ma5>plot ETA(uv[1]) 40 -10 10 [logY interstate]
ma5>plot PT(uv [1]) 40 0 500 [logY]
ma5>plot ETA(uv [1]) 40 -10 10 [logY]
ma5>plot M(uv[1] uv [1]) 40 0 500 [logY allstate]
ma5>plot DELTAR(uv[1],uv [1]) 40 0 10 [logY allstate]
ma5>plot PT(c[1]) 40 0 500 [logY]
ma5>plot ETA(c[1]) 40 -10 10 [logY]
ma5>plot PT(p1[1]) 40 0 500 [logY]
ma5>plot ETA(p1[1]) 40 -10 10 [logY]
ma5>plot PT(uv [1]) 40 0 500 [logY]
ma5>plot ETA(uv [1]) 40 -10 10 [logY]
ma5>plot M(c[1] p1[1]) 40 0 500 [logY ]
ma5>plot M(c[1] p1[1] uv [1]) 40 0 500 [logY ]
ma5>plot M(c[1] uv [1]) 40 0 500 [logY ]
ma5>plot M(p1[1] uv [1]) 40 0 500 [logY ]
ma5>plot DELTAR(c[1],p1[1]) 40 0 10 [logY ]
ma5>plot DELTAR(c[1],uv [1]) 40 0 10 [logY ]
ma5>plot DELTAR(p1[1],uv [1]) 40 0 10 [logY ]
ma5>submit /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/PROC_Tutorial_UFO_0/-
MA5_PARTON_ANALYSIS_analysis1
```

1.2 Configuration

- MadAnalysis version 1.8.31 (2019/11/06).
- 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: 2982+/- 6 events.
- Ratio (event weight): 0.3 .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
PROC_Tutorial_UFO_0/-Events/run_01/-unweighted_events.lhe.gz	10000	0.298 @ 0.18%	0.0

3 Histos and cuts

3.1 Histogram 1

*** Plot: THT**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	206.941	115.3	0.0	2.17

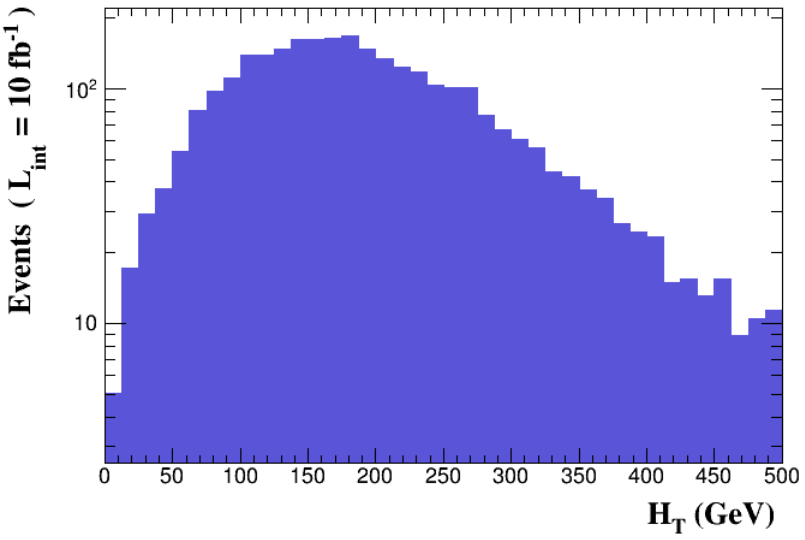

Figure 1.

3.2 Histogram 2

*** Plot: MET**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	4.43006e-09	3.146e-09	0.0	0.0

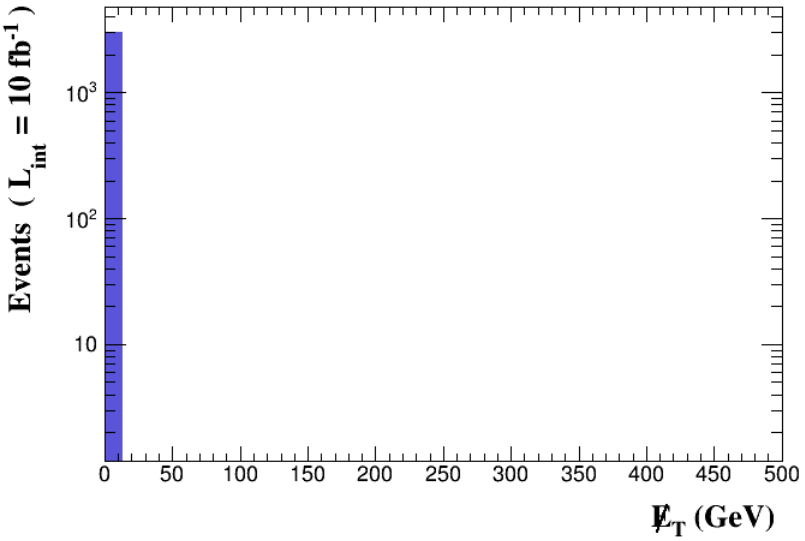

Figure 2.

3.3 Histogram 3

*** Plot: SQRTS**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	1122.71	302.3	0.0	100.0

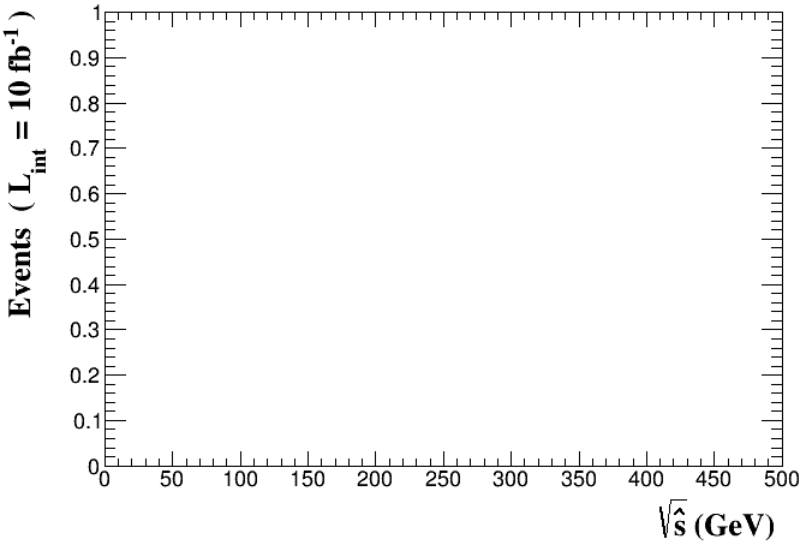

Figure 3.

3.4 Histogram 4

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	251.371	157.0	0.0	6.98

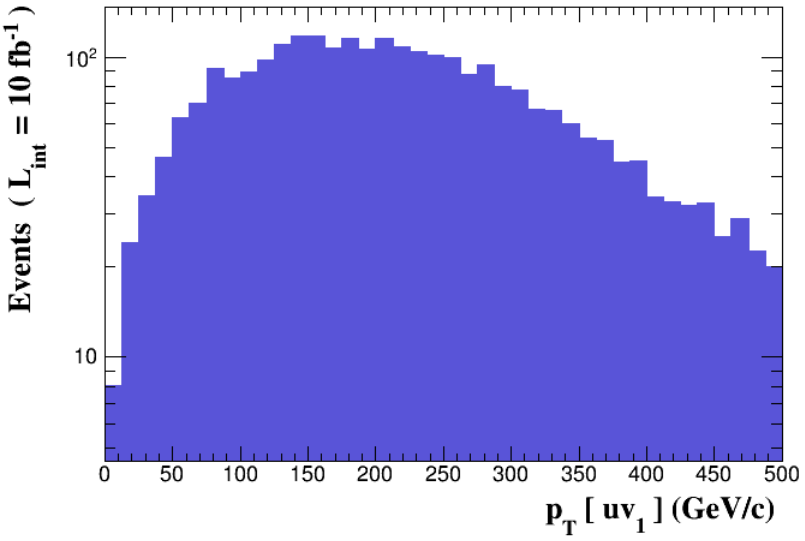

Figure 4.

3.5 Histogram 5

*** Plot: ETA (uv[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	-0.0206212	1.685	0.0	0.0

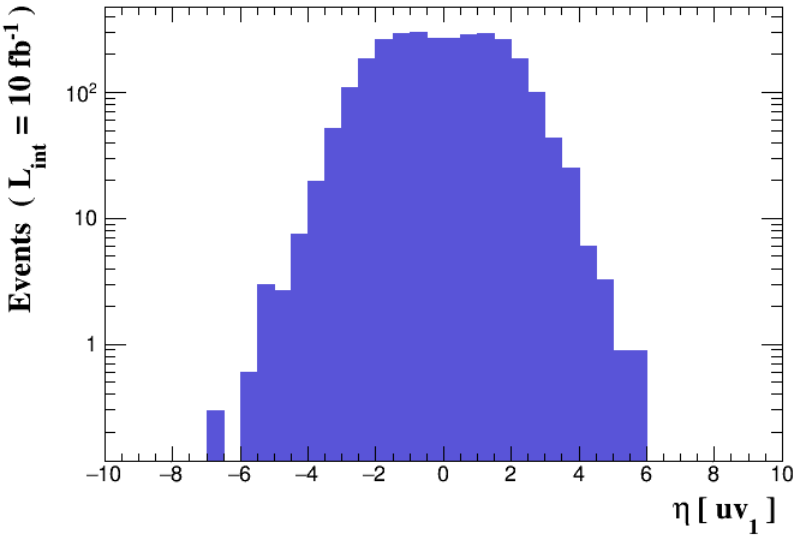

Figure 5.

3.6 Histogram 6

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	251.371	157.0	0.0	6.98

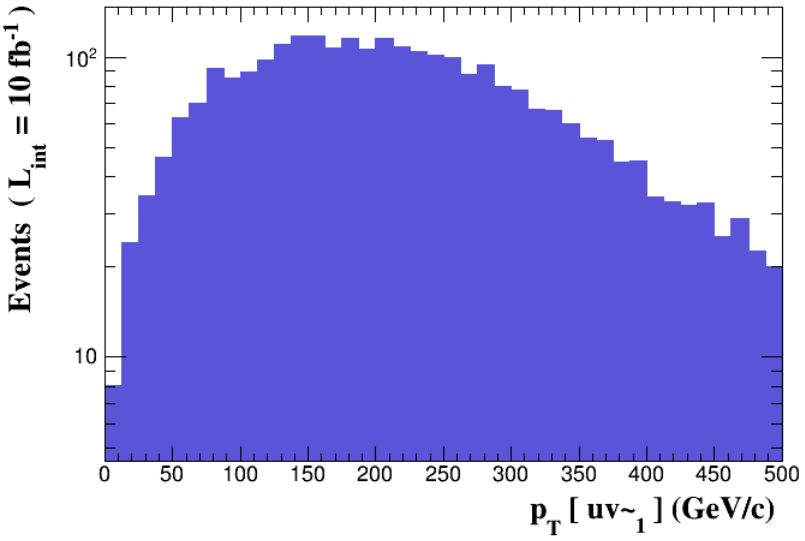

Figure 6.

3.7 Histogram 7

*** Plot: ETA (uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	-0.0303749	1.697	0.0	0.0

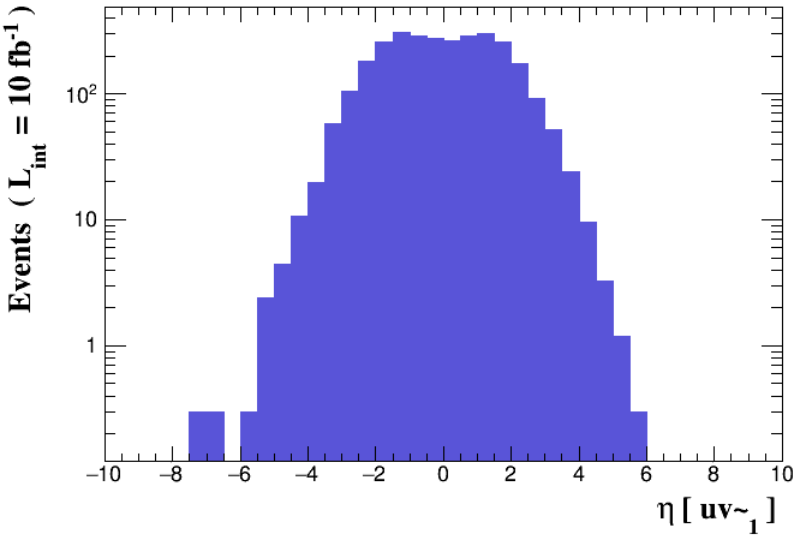

Figure 7.

3.8 Histogram 8

*** Plot: M (uv[1] uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	1122.71	302.3	0.0	100.0

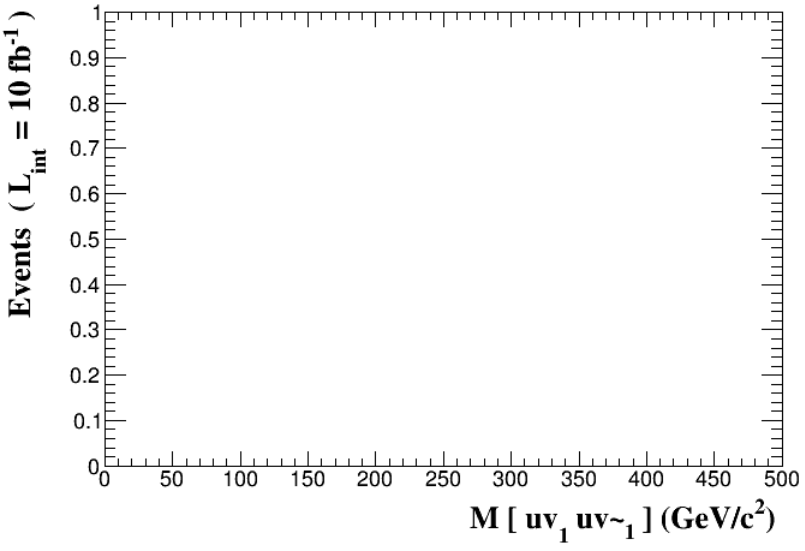

Figure 8.

3.9 Histogram 9

*** Plot: DELTAR (uv[1] , uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	3.57253	0.668	0.0	0.02

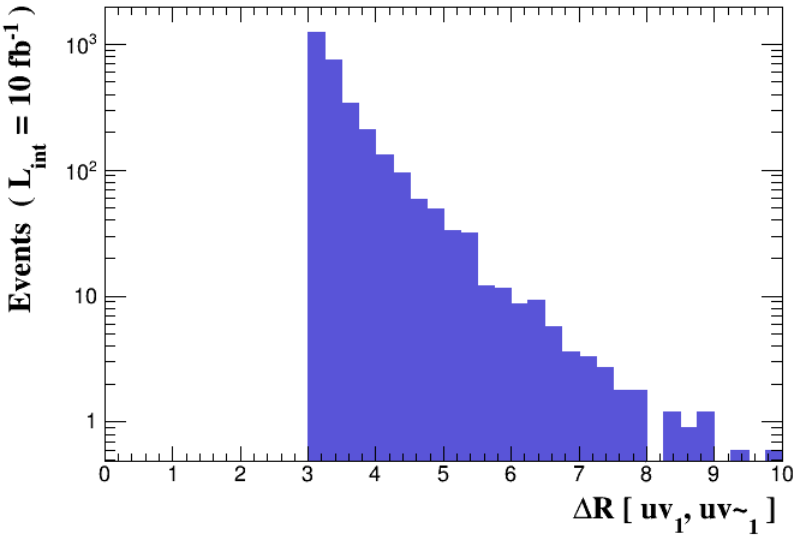

Figure 9.

3.10 Histogram 10

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	206.941	115.3	0.0	2.17

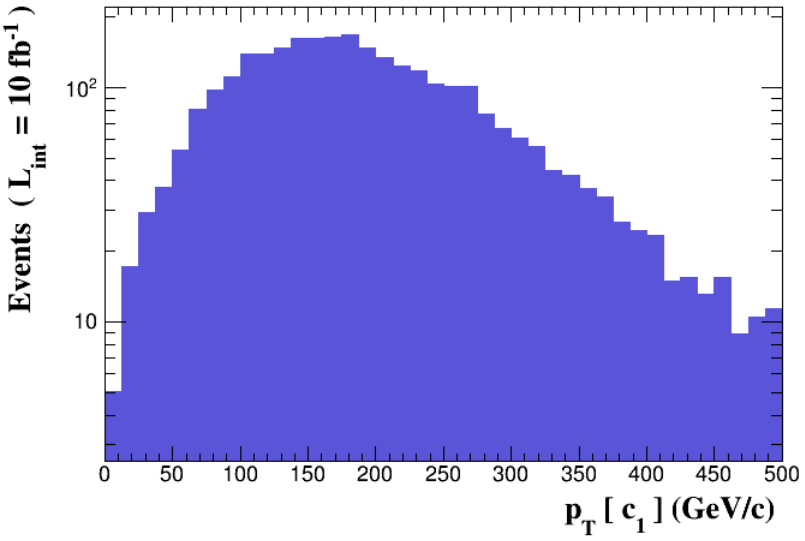

Figure 10.

3.11 Histogram 11

*** Plot: ETA (c[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	-0.0101637	1.271	0.0	0.0

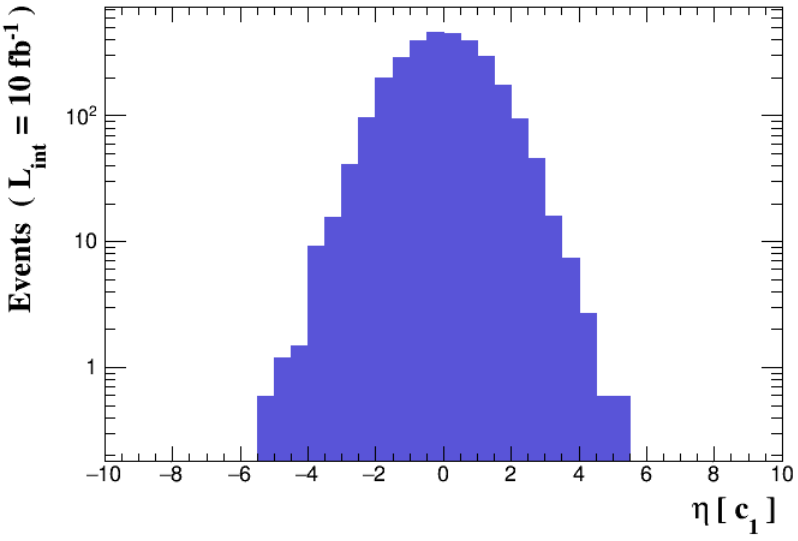

Figure 11.

3.12 Histogram 12

*** Plot: PT (p1[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	207.339	114.3	0.0	2.18

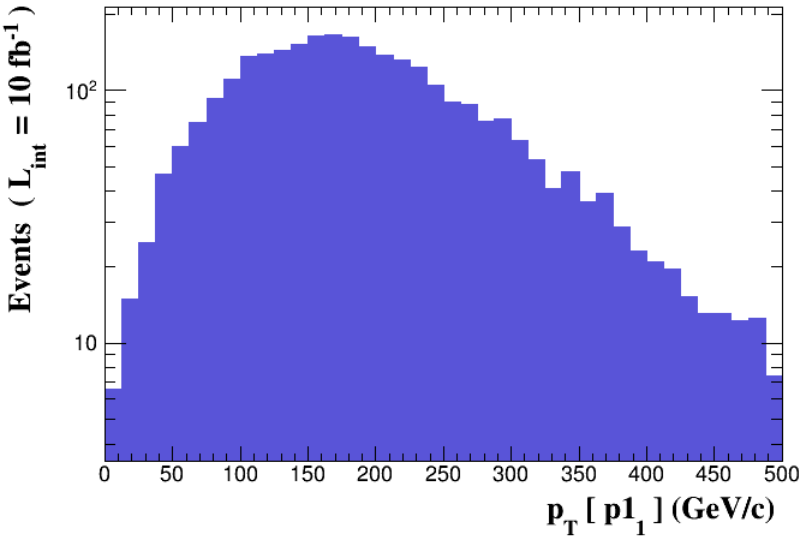

Figure 12.

3.13 Histogram 13

*** Plot: ETA (p1[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	-0.0052323	1.275	0.0	0.0

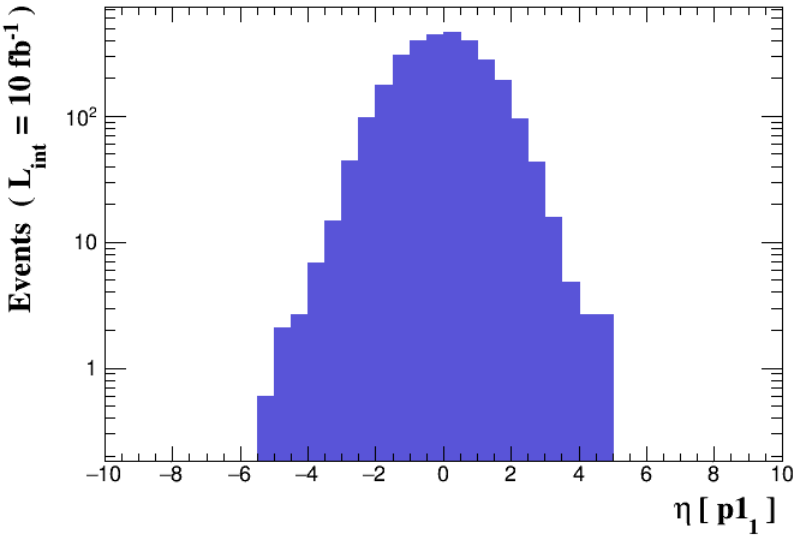

Figure 13.

3.14 Histogram 14

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	251.371	157.0	0.0	6.98

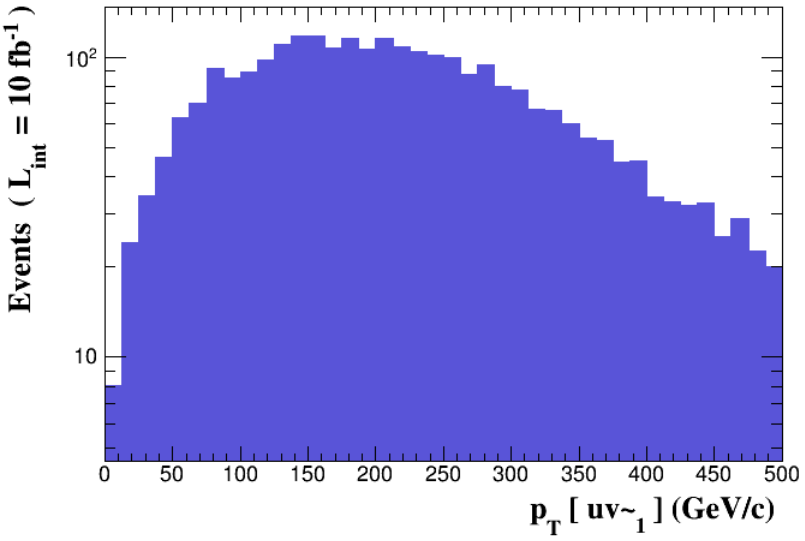

Figure 14.

3.15 Histogram 15

*** Plot: ETA (uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	-0.0303749	1.697	0.0	0.0

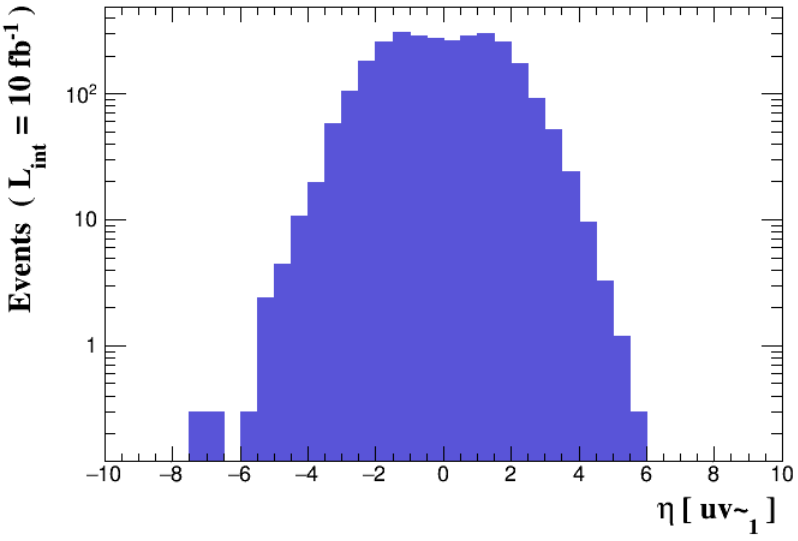

Figure 15.

3.16 Histogram 16

*** Plot: M (c[1] p1[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	399.97	2.149	0.0	0.0

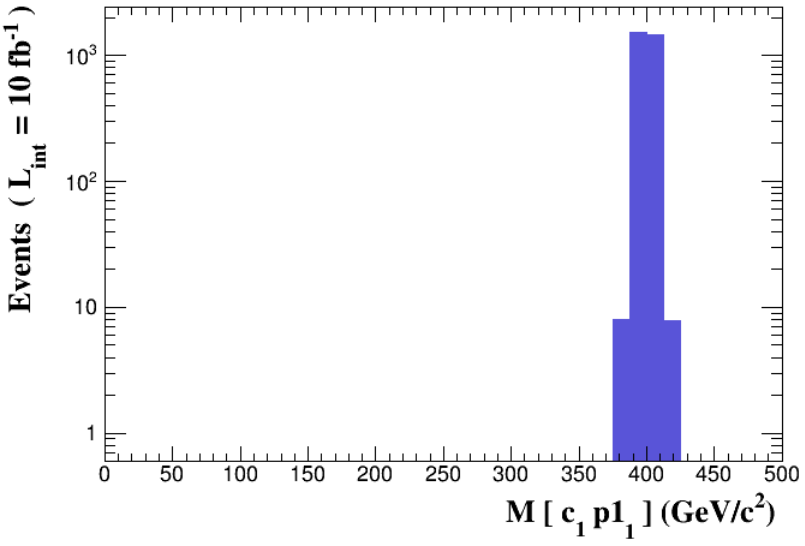

Figure 16.

3.17 Histogram 17

*** Plot: M (c[1] p1[1] uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	1122.71	302.3	0.0	100.0

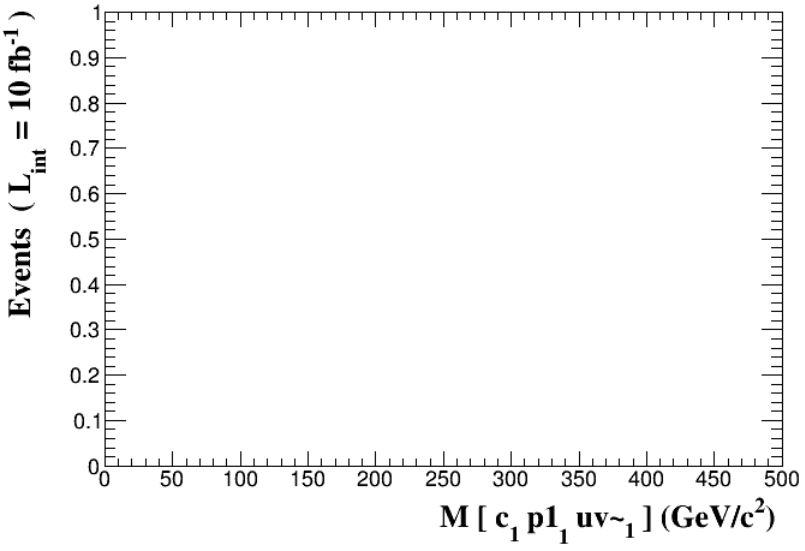

Figure 17.

3.18 Histogram 18

*** Plot: M (c[1] uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	774.79	271.2	0.0	93.86

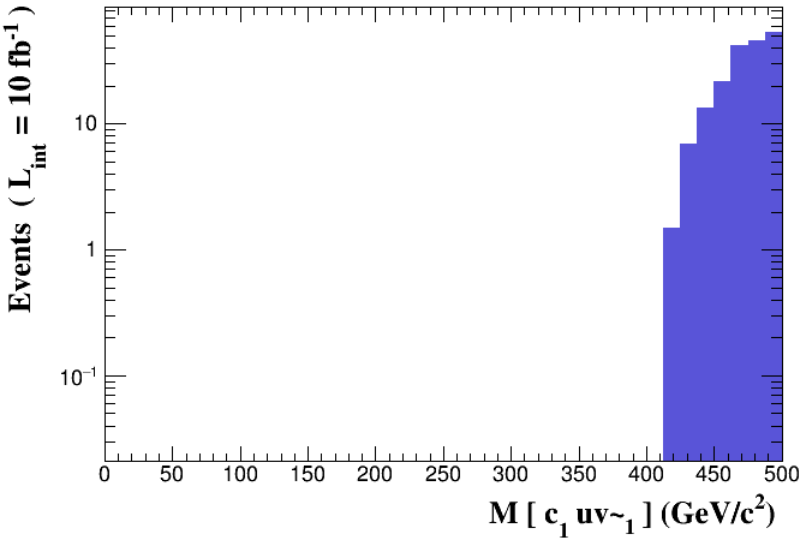

Figure 18.

3.19 Histogram 19

*** Plot: M (p1[1] uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	777.706	270.5	0.0	94.06

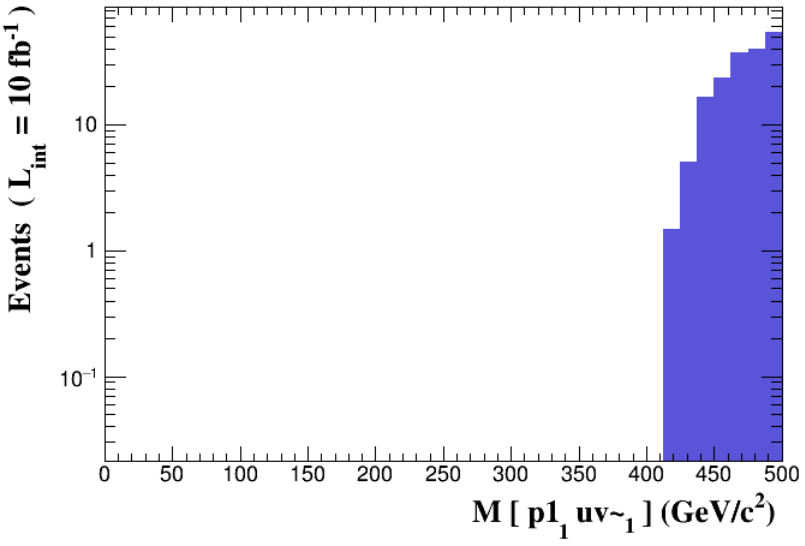

Figure 19.

3.20 Histogram 20

*** Plot: DELTAR (c[1] , p1[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	2.61548	0.6749	0.0	0.0

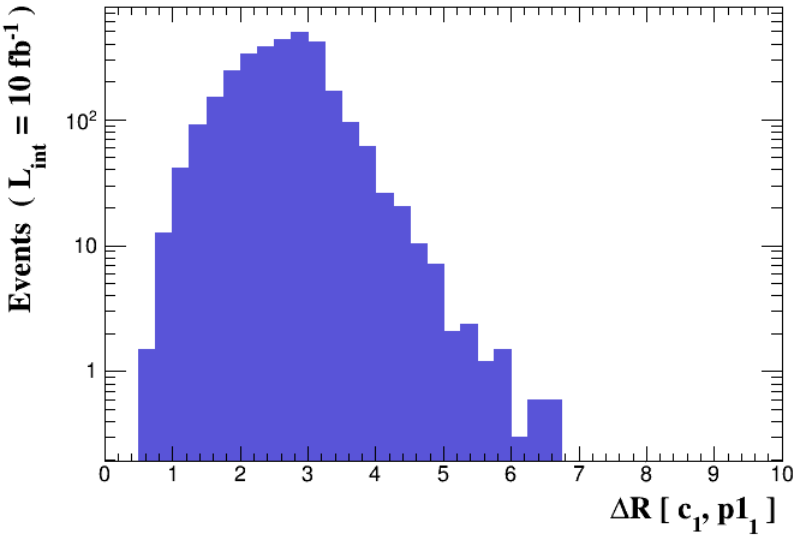

Figure 20.

3.21 Histogram 21

*** Plot: DELTAR (c[1] , uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	2.72079	0.9118	0.0	0.0

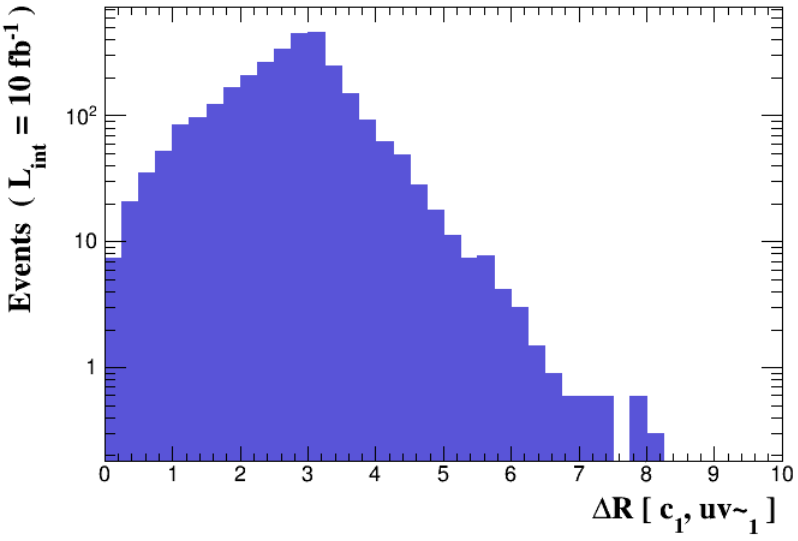

Figure 21.

3.22 Histogram 22

*** Plot: DELTAR (p1[1] , uv [1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2982	1.0	2.7398	0.903	0.0	0.0

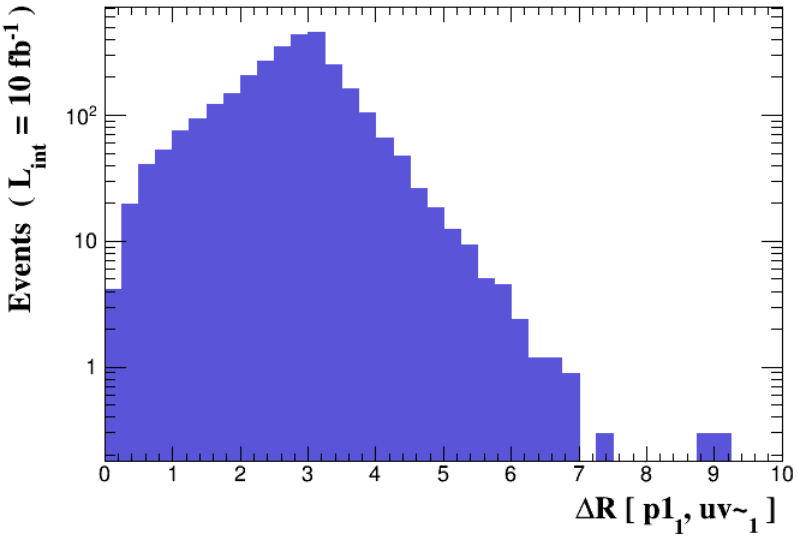

Figure 22.