



The LaTeX report

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1 Setup

1.1 Command history

```
ma5>import /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/Tutorial_new/-  
bin/internal/ufomodel  
ma5>import /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/Tutorial_new/-  
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]  
ma5>plot ETA(uv[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(uv[1] uv [1]) 40 0 500 [logY ]  
ma5>plot DELTAR(uv[1],uv [1]) 40 0 10 [logY ]  
ma5>submit /afs/cern.ch/work/b/bkailasa/MCGens/madgraph/MG5_aMC_v2_6_7/Tutorial_new/-  
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: **76810+/- 129** events.
- **Ratio (event weight): 7.7 - warning: please generate more events (weight larger than 1)!**

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
Tutorial_new/Events/run_01/- unweighted_events.lhe.gz	10000	7.68 @ 0.17%	0.0

3 Histos and cuts

3.1 Histogram 1

* Plot: THT

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	0.0	0.0	0.0	0.0

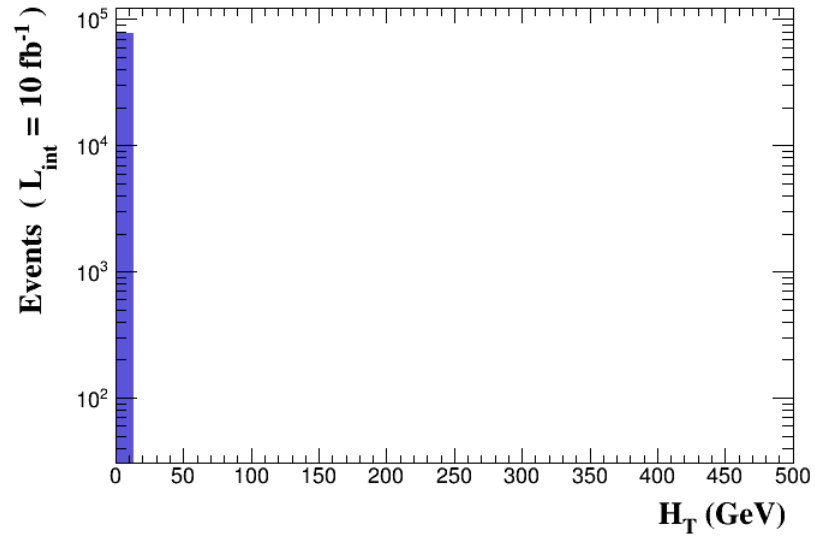


Figure 1.

3.2 Histogram 2

* Plot: MET

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	0.0	0.0	0.0	0.0

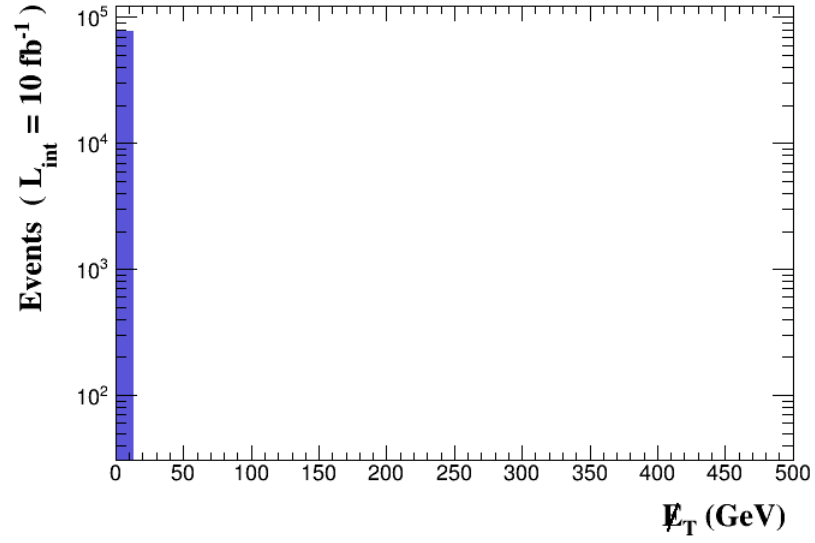


Figure 2.

3.3 Histogram 3

* Plot: SQRTS

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	1113.55	286.1	0.0	100.0

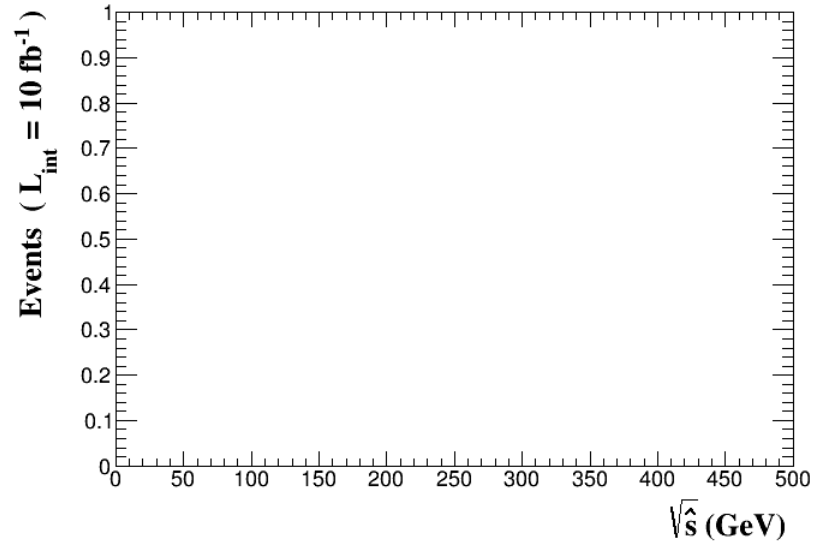


Figure 3.

3.4 Histogram 4

* Plot: PT (uv[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	248.786	155.2	0.0	6.7

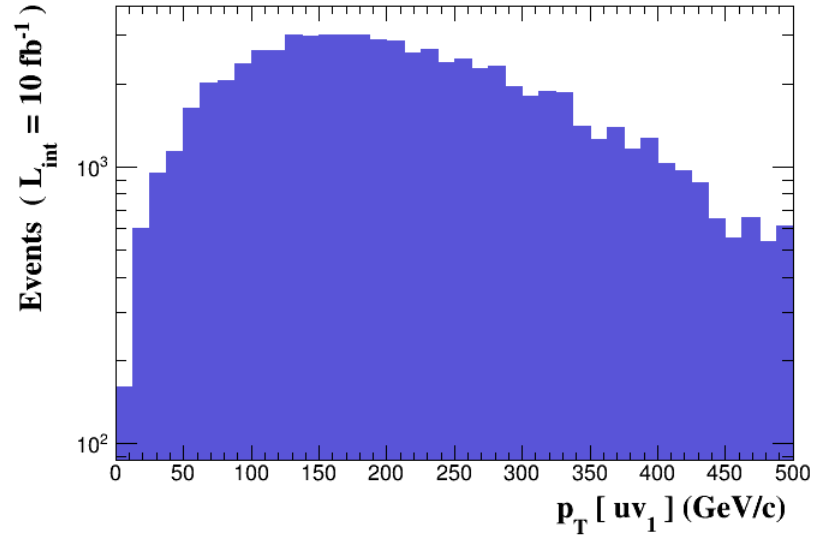


Figure 4.

3.5 Histogram 5

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	76810	1.0	-0.0172837	1.667	0.0	0.0

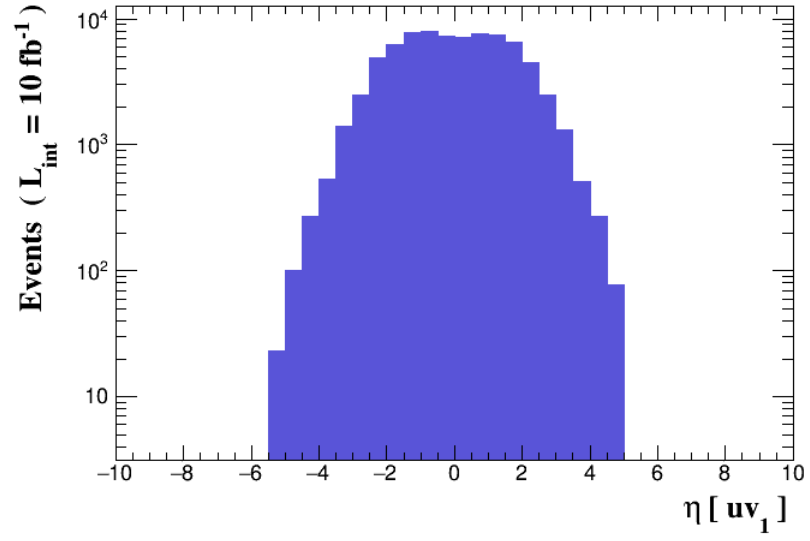


Figure 5.

3.6 Histogram 6

* Plot: $PT \text{ (uv [1])}$

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	248.786	155.2	0.0	6.7

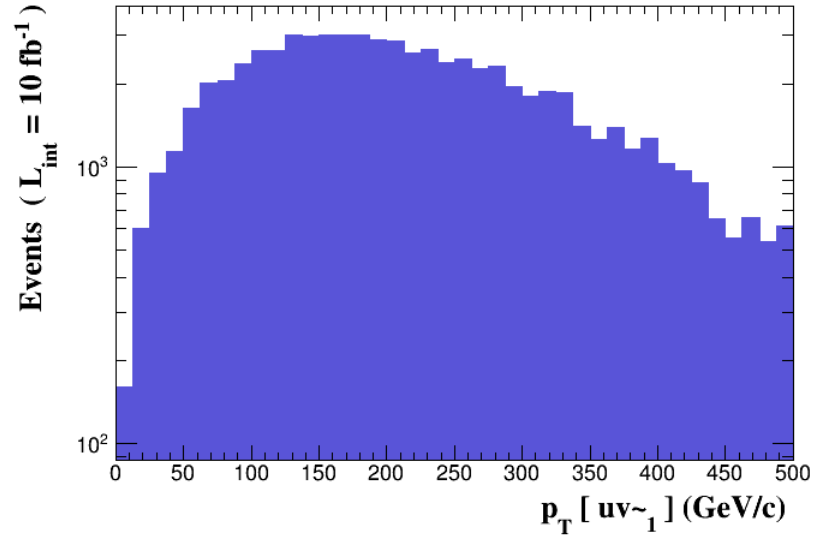


Figure 6.

3.7 Histogram 7

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	-0.000711414	1.682	0.0	0.0

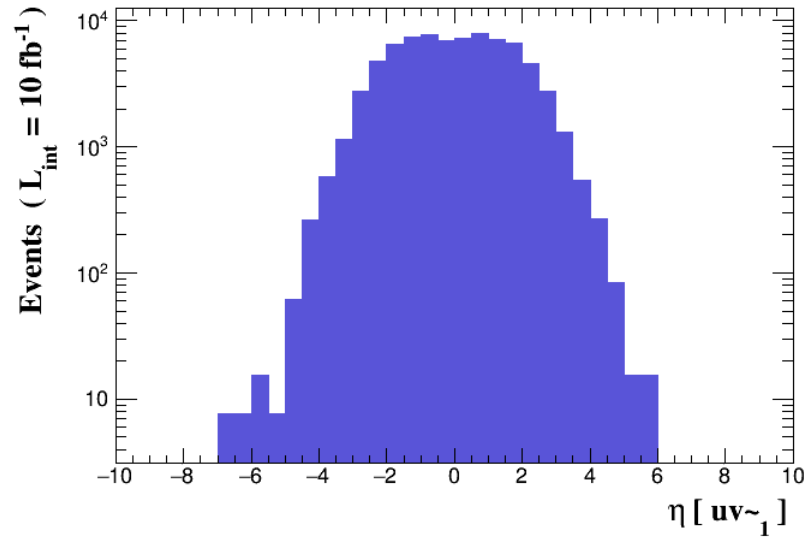


Figure 7.

3.8 Histogram 8

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	76810	1.0	1113.55	286.1	0.0	100.0

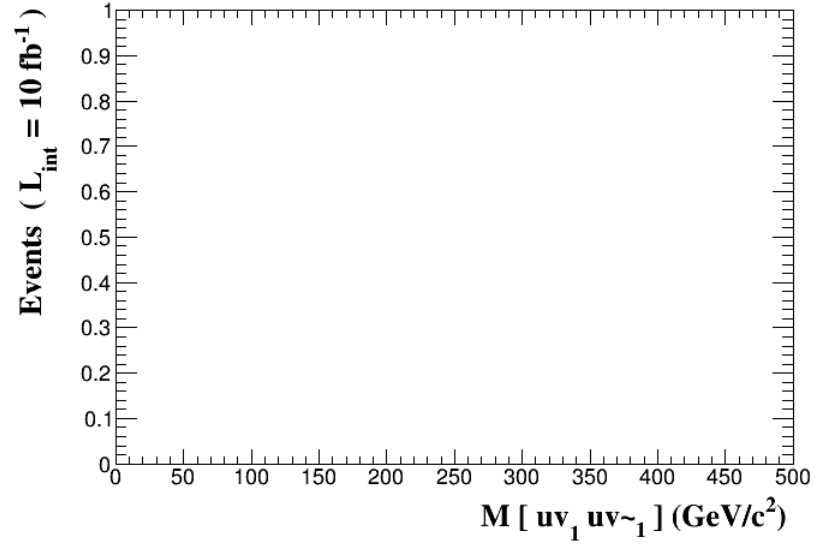


Figure 8.

3.9 Histogram 9

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	76810	1.0	3.56808	0.6564	0.0	0.03

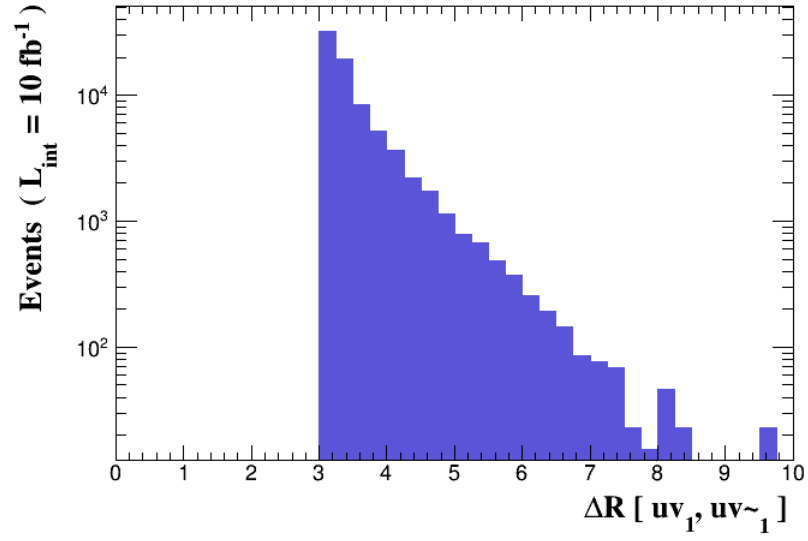


Figure 9.