



The LaTeX report

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1 Setup

1.1 Command history

```
ma5>import /home/alessandro/Documents/PhD/courses/MG5_aMC/mg5amcnlo/2.7.3-new/_day3_dm/-  
bin/internal/ufomodel  
ma5>import /home/alessandro/Documents/PhD/courses/MG5_aMC/mg5amcnlo/2.7.3-new/_day3_dm/-  
Events/run_02/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 xd xd  
ma5>set main.graphic_render = matplotlib  
ma5>plot MET 40 200 800 [logY]  
ma5>plot PT(j[1]) 40 200 800 [logY]  
ma5>plot ETA(j[1]) 40 -4 4 [logY]  
ma5>plot MT_MET(j[1]) 40 400 1600 [logY]  
ma5>submit /home/alessandro/Documents/PhD/courses/MG5_aMC/mg5amcnlo/2.7.3-new/_day3_dm/-  
MA5_PARTON_ANALYSIS_analysis1
```

1.2 Configuration

- MadAnalysis version 1.8.45 (2020/05/01).
- 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: [2234](#) \pm 9 events.
- Ratio (event weight): [0.22](#) .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
_day3_dm/Events/run_02/- unweighted_events.lhe.gz	10000	0.223 @ 0.4%	0.0

3 Histos and cuts

3.1 Histogram 1

* Plot: MET

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2234	1.0	269.491	76.52	0.0	0.12

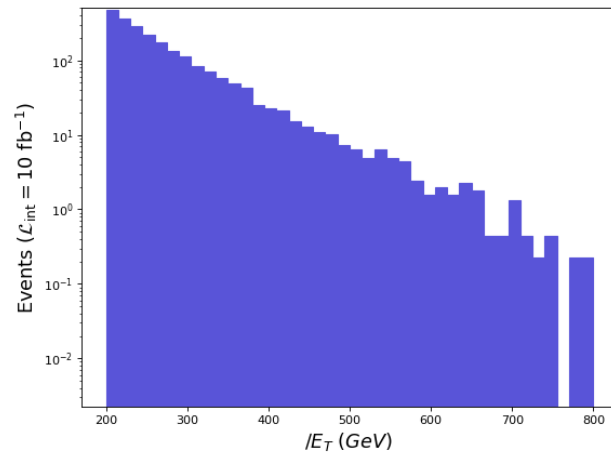


Figure 1.

3.2 Histogram 2

* Plot: PT (j[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2204	1.0	269.476	76.47	0.0	0.1216

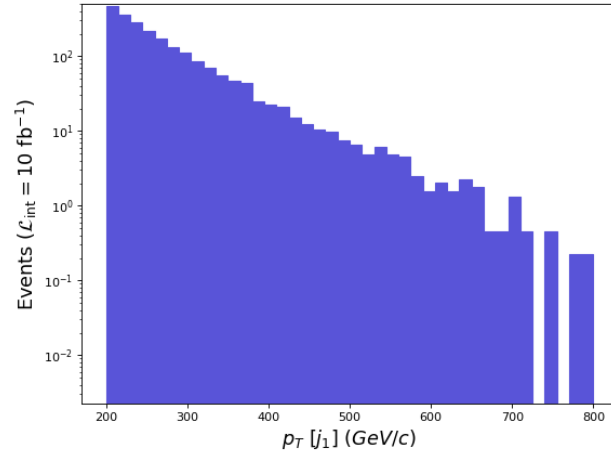


Figure 2.

3.3 Histogram 3

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	2204	1.0	0.0459149	1.396	0.0	0.0

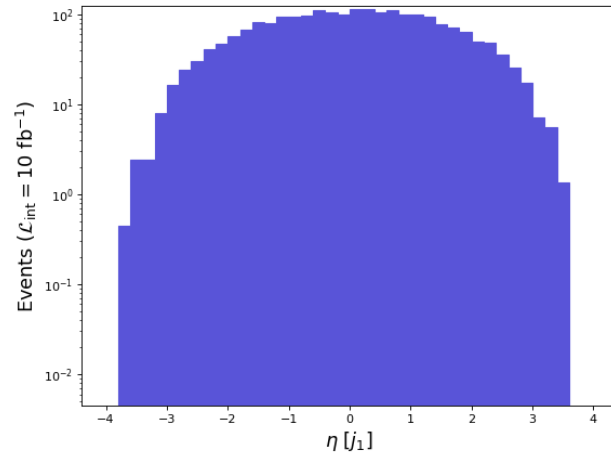


Figure 3.

3.4 Histogram 4

* Plot: MT_MET (j[1])

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_event	2204	1.0	538.952	152.9	0.0	0.1216

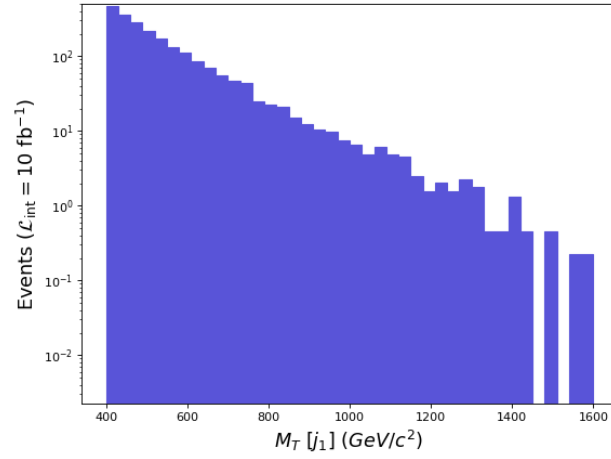


Figure 4.