The LaTeX report

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Contents

1 Setup

1.1 Command history

```
ma5>import /home/s1412595/Desktop/SummerProject2019/MG5_aMC_v2_6_6/BP2_080719/bin/-
internal/ufomodel
ma5>import /home/s1412595/Desktop/SummerProject2019/MG5_aMC_v2_6_6/BP2_080719/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( chi+[1]) 40 0 500 [logY interstate]
ma5>plot ETA( chi+[1]) 40 -10 10 [logY interstate]
ma5>plot PT( chi-[1]) 40 0 500 [logY]
ma5>plot ETA( chi-[1]) 40 -10 10 [logY]
ma5>plot M( chi+[1]  chi-[1]) 40 0 500 [logY allstate]
ma5>plot DELTAR( chi+[1], chi-[1]) 40 0 10 [logY allstate]
ma5>plot PT( chi-[1]) 40 0 500 [logY]
ma5>plot ETA( chi-[1]) 40 -10 10 [logY]
ma5>plot PT( psi[1]) 40 0 500 [logY]
ma5>plot ETA( psi[1]) 40 -10 10 [logY]
ma5>plot PT(l+[1]) 40 0 500 [logY]
ma5>plot ETA(l+[1]) 40 -10 10 [logY]
ma5>plot PT(nn[1]) 40 0 500 [logY]
ma5>plot ETA(nn[1]) 40 -10 10 [logY]
ma5>plot M(l+[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1] l+[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1] l+[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1]  psi[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1]  psi[1] l+[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1]  psi[1] l+[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( chi-[1]  psi[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( psi[1] l+[1]) 40 0 500 [logY ]
ma5>plot M( psi[1] l+[1] nn[1]) 40 0 500 [logY ]
ma5>plot M( psi[1] nn[1]) 40 0 500 [logY ]
ma5>plot DELTAR(l+[1],nn[1]) 40 0 10 [logY ]
ma5>plot DELTAR( chi-[1],l+[1]) 40 0 10 [logY ]
ma5>plot DELTAR( chi-[1],nn[1]) 40 0 10 [logY ]
ma5>plot DELTAR( chi-[1], psi[1]) 40 0 10 [logY ]
ma5>plot DELTAR( psi[1],l+[1]) 40 0 10 [logY ]
ma5>plot DELTAR( psi[1],nn[1]) 40 0 10 [logY ]
ma5>plot PT( chi-[1]) 40 0 500 [logY interstate]
ma5>plot ETA( chi-[1]) 40 -10 10 [logY interstate]
ma5>plot PT( chi+[1]) 40 0 500 [logY]
ma5>plot ETA( chi+[1]) 40 -10 10 [logY]
```

```
ma5>plot M( chi-[1]  chi+[1]) 40 0 500 [logY allstate]
ma5>plot DELTAR( chi-[1], chi+[1]) 40 0 10 [logY allstate]
ma5>plot PT( psi [1]) 40 0 500 [logY]
ma5>plot ETA( psi [1]) 40 -10 10 [logY]
ma5>plot PT(l-[1]) 40 0 500 [logY]
ma5>plot ETA(l-[1]) 40 -10 10 [logY]
ma5>plot PT( chi+[1]) 40 0 500 [logY]
ma5>plot ETA( chi+[1]) 40 -10 10 [logY]
ma5>plot PT(nn [1]) 40 0 500 [logY]
ma5>plot ETA(nn [1]) 40 -10 10 [logY]
ma5>plot M(l-[1] nn [1]) 40 0 500 [logY ]
ma5>plot M(l-[1]  chi+[1]) 40 0 500 [logY ]
ma5>plot M(l-[1]  chi+[1] nn [1]) 40 0 500 [logY ]
ma5>plot M( chi+[1] nn [1]) 40 0 500 [logY ]
ma5>plot M( psi [1] l-[1]) 40 0 500 [logY ]
ma5>plot M( psi [1] l-[1] nn [1]) 40 0 500 [logY ]
ma5>plot M( psi [1] l-[1]  chi+[1]) 40 0 500 [logY ]
ma5>plot M( psi [1] l-[1]  chi+[1] nn [1]) 40 0 500 [logY ]
ma5>plot M( psi [1] nn [1]) 40 0 500 [logY ]
ma5>plot M( psi [1]  chi+[1]) 40 0 500 [logY ]
ma5>plot M( psi [1]  chi+[1] nn [1]) 40 0 500 [logY ]
ma5>plot DELTAR(l-[1],nn [1]) 40 0 10 [logY ]
ma5>plot DELTAR(l-[1], chi+[1]) 40 0 10 [logY ]
ma5>plot DELTAR( chi+[1],nn [1]) 40 0 10 [logY ]
ma5>plot DELTAR( psi [1],l-[1]) 40 0 10 [logY ]
ma5>plot DELTAR( psi [1],nn [1]) 40 0 10 [logY ]
ma5>plot DELTAR( psi [1], chi+[1]) 40 0 10 [logY ]
ma5>submit /home/s1412595/Desktop/SummerProject2019/MG5_aMC_v2_6_6/BP2_080719/MA5_PARTON_ANALYSIS_
```

1.2 Configuration

- MadAnalysis version 1.8.5 (2019/04/04).
- 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: 0+/- 1 events.
- Ratio (event weight): 0.0 .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
BP2_080719/Events/run_01/-unweighted_events.lhe.gz	10000	4.91e-49 @ 0.22%	0.0

3 Histos and cuts

3.1 Histogram 1

*** Plot: THT**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

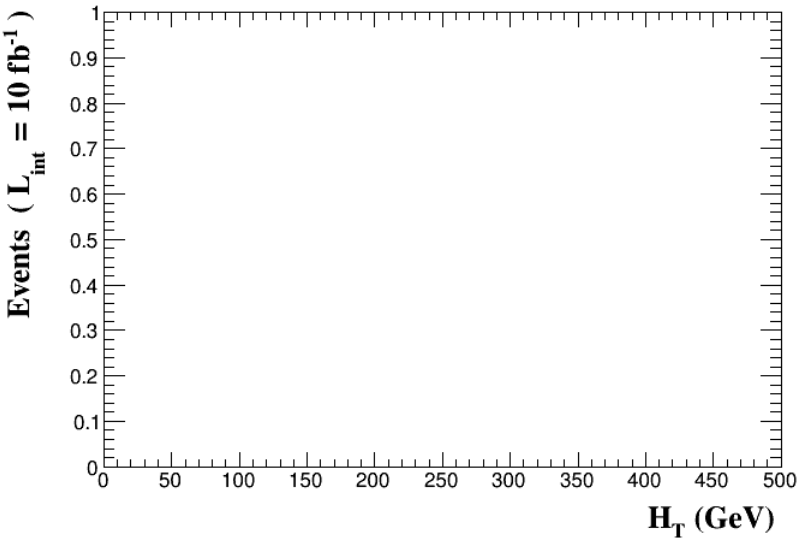

Figure 1.

3.2 Histogram 2

*** Plot: MET**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

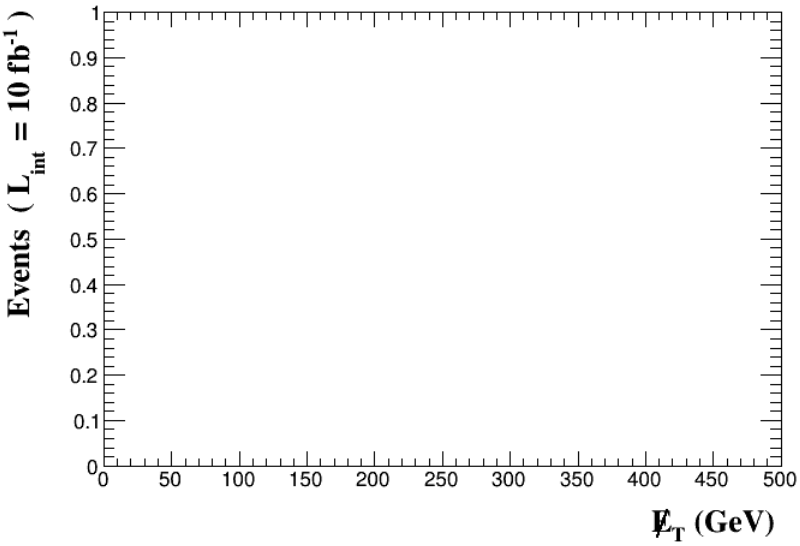

Figure 2.

3.3 Histogram 3

*** Plot: SQRTS**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

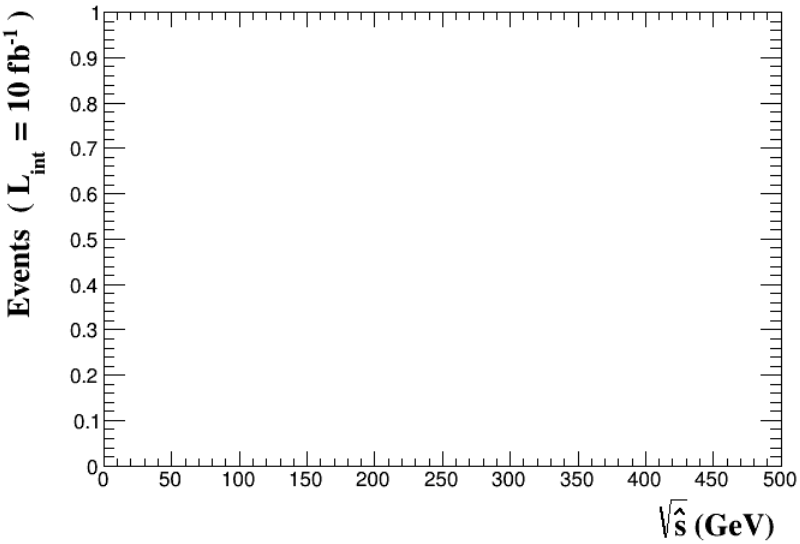

Figure 3.

3.4 Histogram 4

*** Plot: PT (l+[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

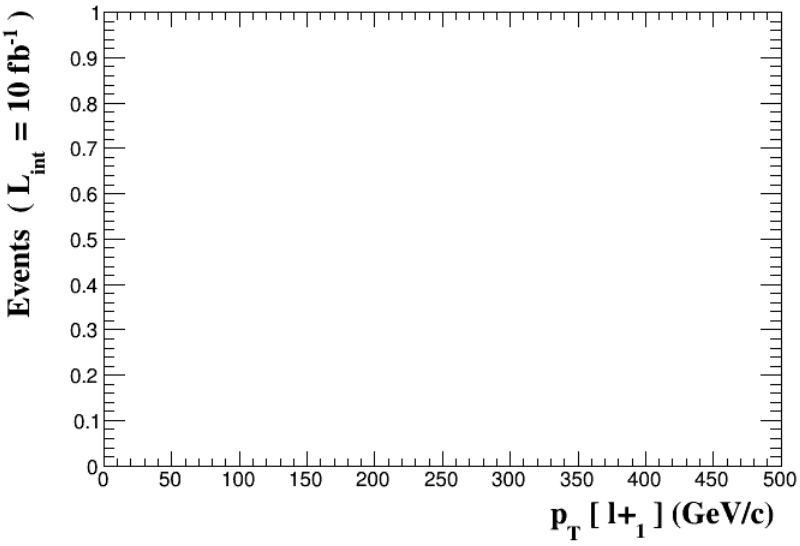

Figure 4.

3.5 Histogram 5

*** Plot: ETA (l+[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

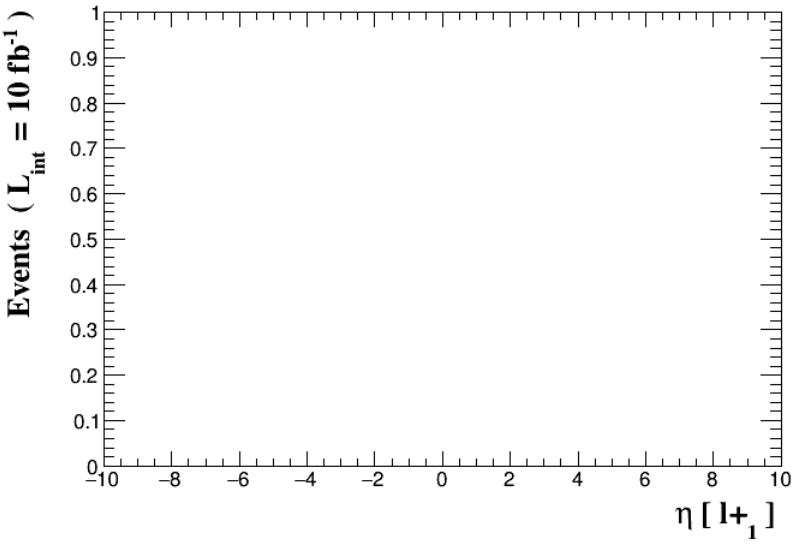

Figure 5.

3.6 Histogram 6

*** Plot: PT (l-[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

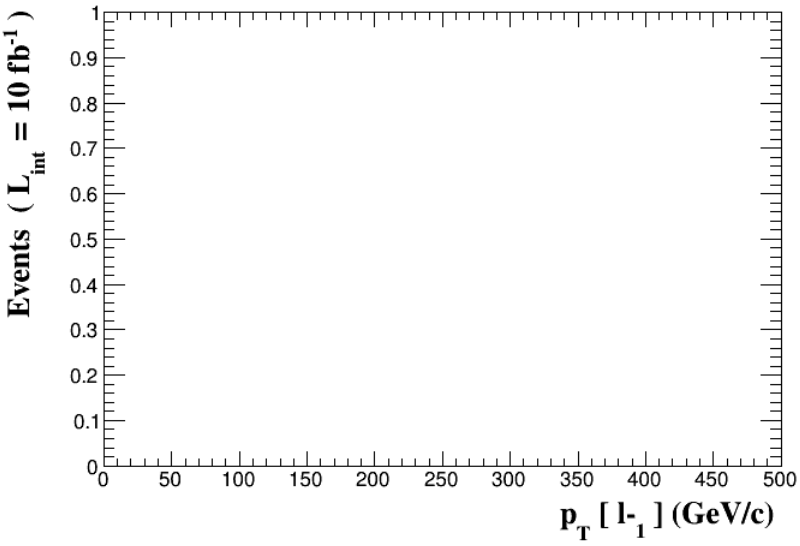

Figure 6.

3.7 Histogram 7

*** Plot: ETA (l-[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
unweighted_eve	0.0 +/- 0.0	1.0	0.0	0.0	0.0	0.0

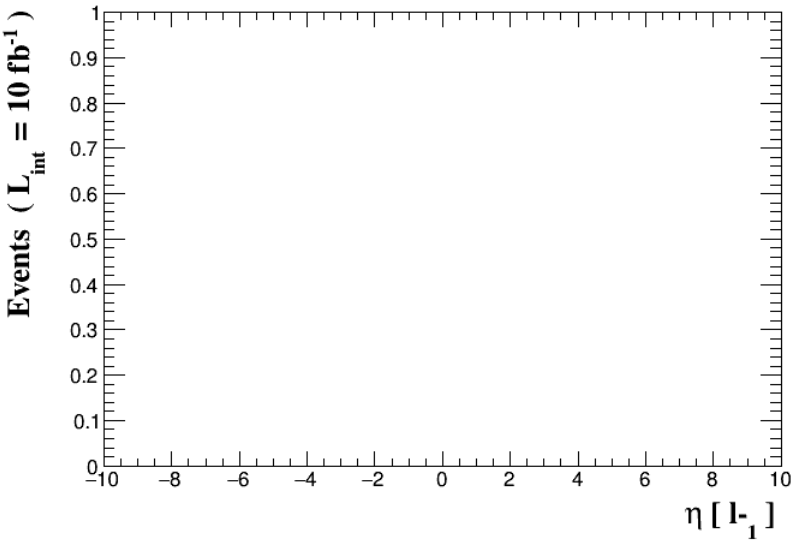

Figure 7.