The LaTeX report

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> **E. Conte, B. Fuks and G. Serret**,
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> arXiv:1206.1599 [hep-ph].

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Contents

1 Setup

1.1 Command history

```
ma5>import output_pp_xdxdxj/bin/internal/ufomodel
ma5>import output_pp_vlvlxj/Events/run_sm_ptj50/unweighted_events.lhe.gz as sm_pj
ma5>
ma5>import output_pp_xdxdxj/Events/run_dm_ptj50/unweighted_events.lhe.gz as dm_pj
ma5>
ma5>set main.lumi = 0.1
ma5>set main.stacking_method = normalize2one
ma5>set sm_pj.type = background
ma5>set sm_pj.backcolor = none
ma5>set sm_pj.linecolor = red
ma5>set dm_pj.type = signal
ma5>set dm_pj.backcolor = none
ma5>set dm_pj.linecolor = green
ma5>
ma5>
ma5>plot MET 251 0 500 [logY]
ma5>plot P(j) 251 0 500 [logY]
ma5>plot PT(j) 251 0 500 [logY]
ma5>plot Y(j) 51 -5 5
ma5>plot PHI(j) 41 -4 4
ma5>submit output_ma5_analysis
```

1.2 Configuration

- MadAnalysis version 1.9.32 (2021/07/16).
- Histograms given for an integrated luminosity of 0.1fb^{-1}.

2 Datasets

2.1 sm_pj

- Sample consisting of: background events.
- Generated events: 10000 events.
- Normalization to the luminosity: 64867+/- 221 events.
- Ratio (event weight): 6.5 - warning: please generate more events (weight larger than 1)!

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
output_pp_vlvlxj/-Events/run_sm_ptj50/-unweighted_events.lhe.gz	10000	648 @ 0.34%	0.0

2.2 dm_pj

- Sample consisting of: signal events.
- Generated events: 10000 events.
- Normalization to the luminosity: 320+/- 2 events.
- Ratio (event weight): 0.032 .

Path to the event file	Nr. of events	Cross section (pb)	Negative wgts (%)
output_pp_xdxdxj/-Events/run_dm_ptj50/-unweighted_events.lhe.gz	10000	3.2 @ 0.36%	0.0

3 Histos and cuts

3.1 Histogram 1

*** Plot: MET**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
sm_pj	1.0	1.0	80.1502	37.4	0.0	0.01
dm_pj	1.0	1.0	104.111	61.17	0.0	0.15

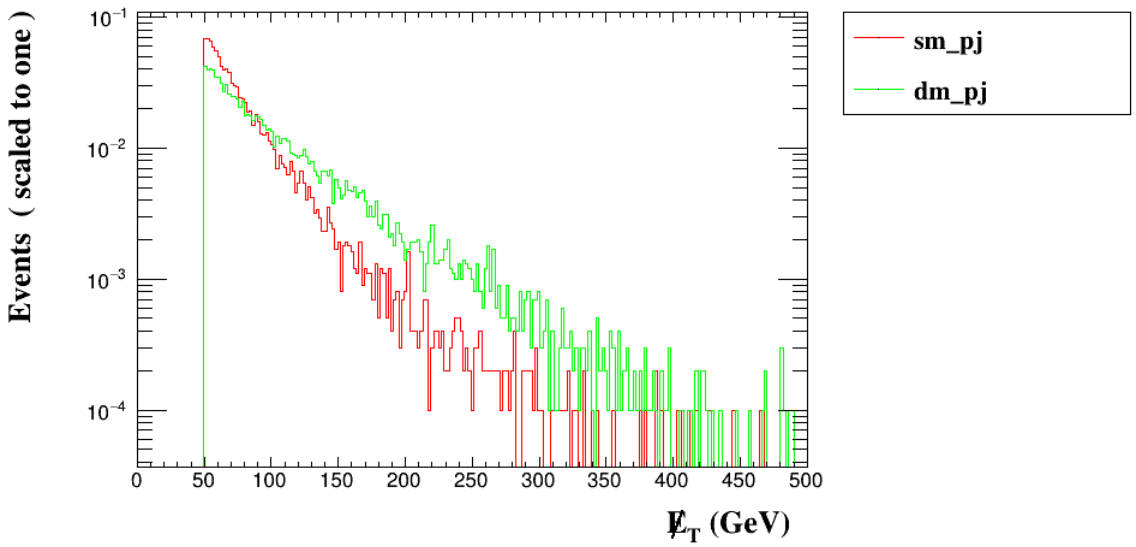

Figure 1.

3.2 Histogram 2

*** Plot: P (j)**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
sm_pj	1.0	1.0	296.773	352.2	0.0	16.16
dm_pj	1.0	1.0	386.581	476.2	0.0	22.04

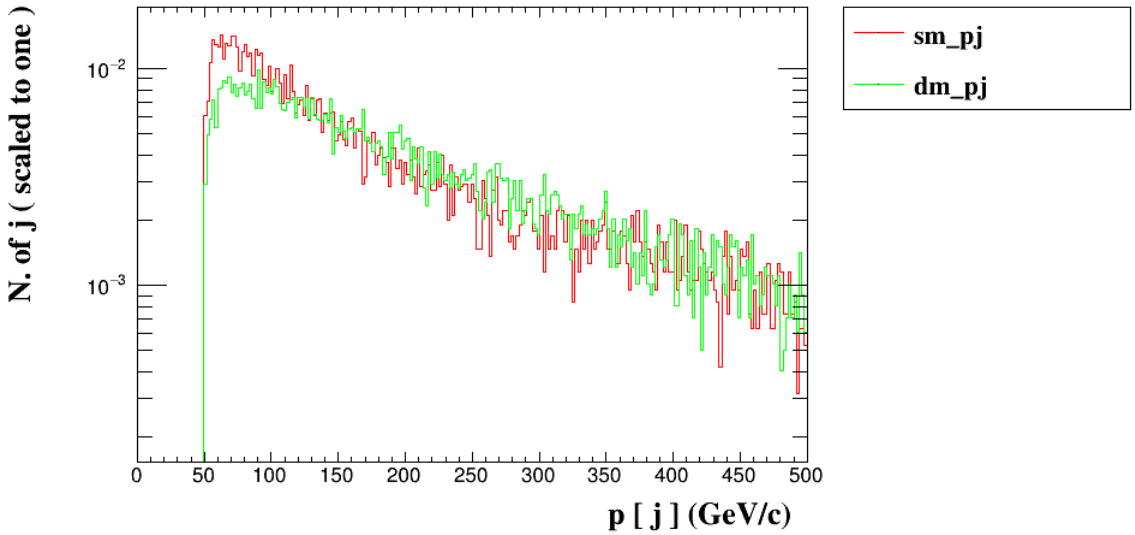

Figure 2.

3.3 Histogram 3

*** Plot: PT (j)**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
sm_pj	1.0	1.0	80.328	37.48	0.0	0.01054
dm_pj	1.0	1.0	104.166	61.31	0.0	0.1518

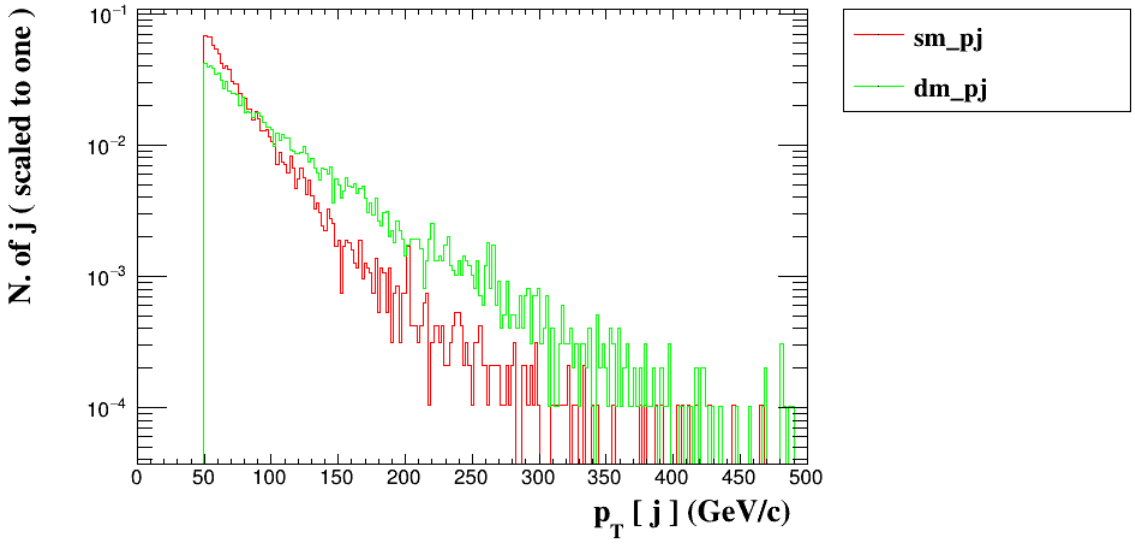

Figure 3.

3.4 Histogram 4

*** Plot: Y (j)**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
sm_pj	1.0	1.0	0.00428722	1.774	0.0	0.0
dm_pj	1.0	1.0	0.016307	1.812	0.0	0.0

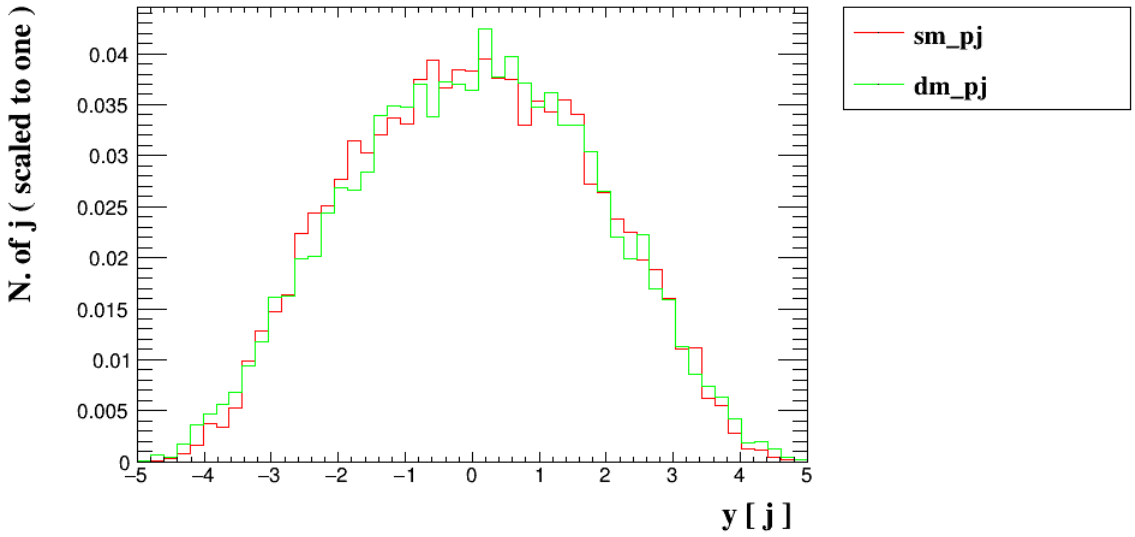

Figure 4.

3.5 Histogram 5

*** Plot: PHI (j)**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
sm_pj	1.0	1.0	-0.0140693	1.813	0.0	0.0
dm_pj	1.0	1.0	-0.0314111	1.796	0.0	0.0

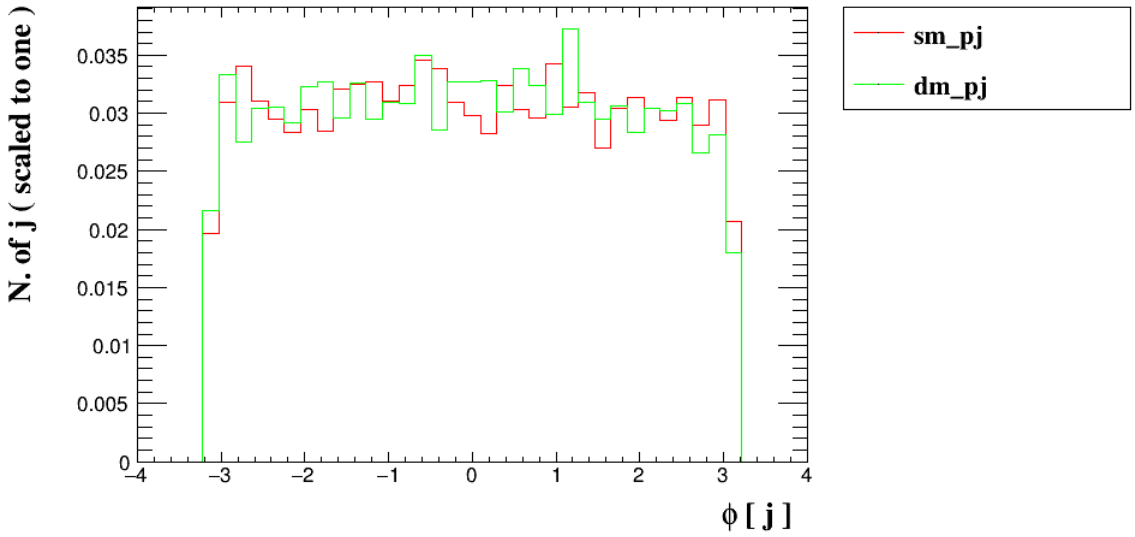

Figure 5.