The LaTeX report

Generated by hamzeh-khanpour on 07 December 2025, 18:40:47

This report has been generated automatically by MadAnalysis 5.

Please cite:

> **E. Conte, B. Fuks and G. Serret**,
> *MadAnalysis 5, A User-Friendly Framework for Collider Phenomenology*,
> Comput. Phys. Commun. **184** (2013) 222-256,
> arXiv:1206.1599 [hep-ph].

To contact us:

> **http://madanalysis.irmp.ucl.ac.be**
> **ma5team@iphc.cnrs.fr**

Contents

1 Setup

1.1 Command history

```
ma5>import /home/hamzeh-khanpour/MG5_aMC_v3_6_6/mugamma_muh_muLHC_FCCmuh/bin/internal/-
ufomodel
ma5>import /home/hamzeh-khanpour/MG5_aMC_v3_6_6/mugamma_muh_muLHC_FCCmuh/Events/run_01/-
unweighted_events.lhe.gz as run_01
ma5>define vl = 12 14 16
ma5>define vl  = -16 -14 -12
ma5>define invisible = vm  vt ve  ve vm 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(h[1]) 40 0 500 [logY]
ma5>plot ETA(h[1]) 40 -10 10 [logY]
ma5>plot PT(mu+[1]) 40 0 500 [logY]
ma5>plot ETA(mu+[1]) 40 -10 10 [logY]
ma5>plot M(h[1] mu+[1]) 40 0 500 [logY ]
ma5>plot DELTAR(h[1],mu+[1]) 40 0 10 [logY ]
ma5>submit /home/hamzeh-khanpour/MG5_aMC_v3_6_6/mugamma_muh_muLHC_FCCmuh/MA5_PARTON_ANALYSIS_analy
```

1.2 Configuration

- MadAnalysis version 1.9.60 (2025-11-27).
- Histograms given for an integrated luminosity of 10fb^{-1}.

2 Datasets

2.1 run_01

- Sample consisting of: signal events.
- Generated events: 100000 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 (%)
mugamma_muh_muLHC_FCCmuh Events/run_01/- unweighted_events.lhe.gz	100000	4.84e-07 @ 0.047%	0.0

3 Histos and cuts

3.1 Histogram 1

*** Plot: THT**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	0.0	0.0	0.0	0.0

3.2 Histogram 2

*** Plot: MET**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	0.0	0.0	0.0	0.0

3.3 Histogram 3

*** Plot: SQRTS**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	254.166	160.0	0.0	6.767

3.4 Histogram 4

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	29.1353	39.76	0.0	0.035

3.5 Histogram 5

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	-3.93061	0.9614	0.0	0.0

3.6 Histogram 6

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	29.1353	39.76	0.0	0.035

3.7 Histogram 7

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

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	0.147107	1.469	0.0	0.0

3.8 Histogram 8

*** Plot: M (h[1] mu+[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	254.166	160.0	0.0	6.767

3.9 Histogram 9

*** Plot: DELTAR (h[1] , mu+[1])**

Dataset	Integral	Entries per event	Mean	RMS	% underflow	% overflow
run_01	0.00484	1.0	5.29428	1.463	0.0	0.167