

Validation of CMS_1504_03198

AUTHOR: Junjie Cao, Liangliang Shang, Peiwen Wu, Jin Min Yang, Yang Zhang

EMAIL: junjiec@itp.ac.cn,
shlwell1988@gmail.com,
peiwen.wu123@gmail.com,
jmyang@itp.ac.cn,
zhangyang@itp.ac.cn

Signal Region	SR	
Process	$p p \rightarrow \bar{t} t \bar{\chi} \chi$	
Source	CMS	CheckMATE-1.2.2 (40,000 events)
M_χ (GeV)	Signal efficiency (%) (\pm stat)	Signal efficiency (%)
1	1.01 ± 0.02	1.10
10	1.01 ± 0.02	1.19
50	1.20 ± 0.02	1.31
100	1.46 ± 0.02	1.48
200	1.73 ± 0.02	1.72
600	2.40 ± 0.03	2.48
1000	2.76 ± 0.04	2.90

Table 1: Cutflow validation for cms_1504_03198, which has only one signal region which we denote as SR. Cut efficiencies of the report and CheckMATE for different M_χ are shown, respectively.

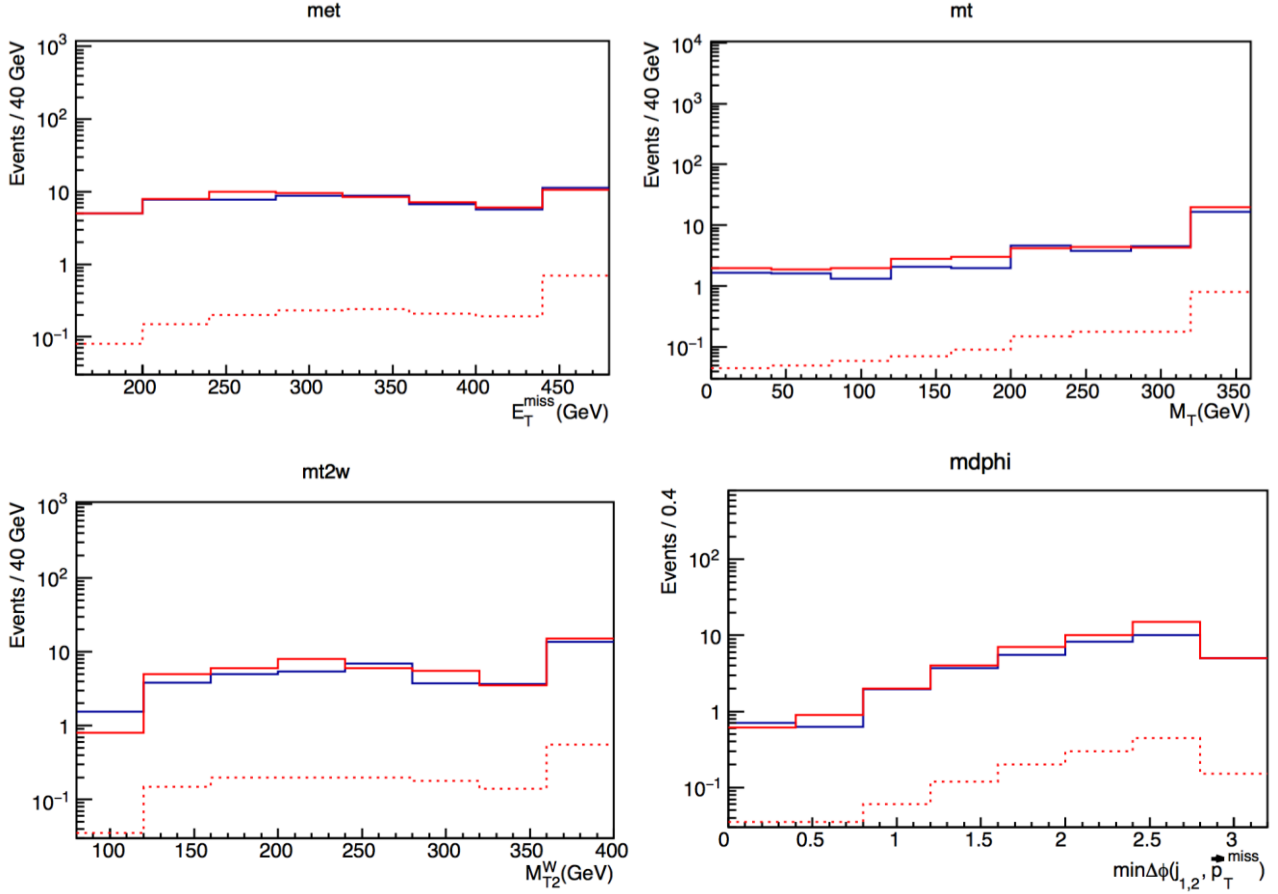


Figure 1. Validation of Figure 3 for $M_\chi = 1$ GeV in the report cms_1504_03198, which includes the distributions of E_T^{miss} , M_T , M_{T2}^W and $\min \Delta \phi(j_{1,2}, \vec{p}_T^{miss})$, where the red (dotted) solid line stands for $M_\chi = 1$ (600) GeV given by the report, while the blue solid line is what we reproduce for $M_\chi = 1$ GeV.

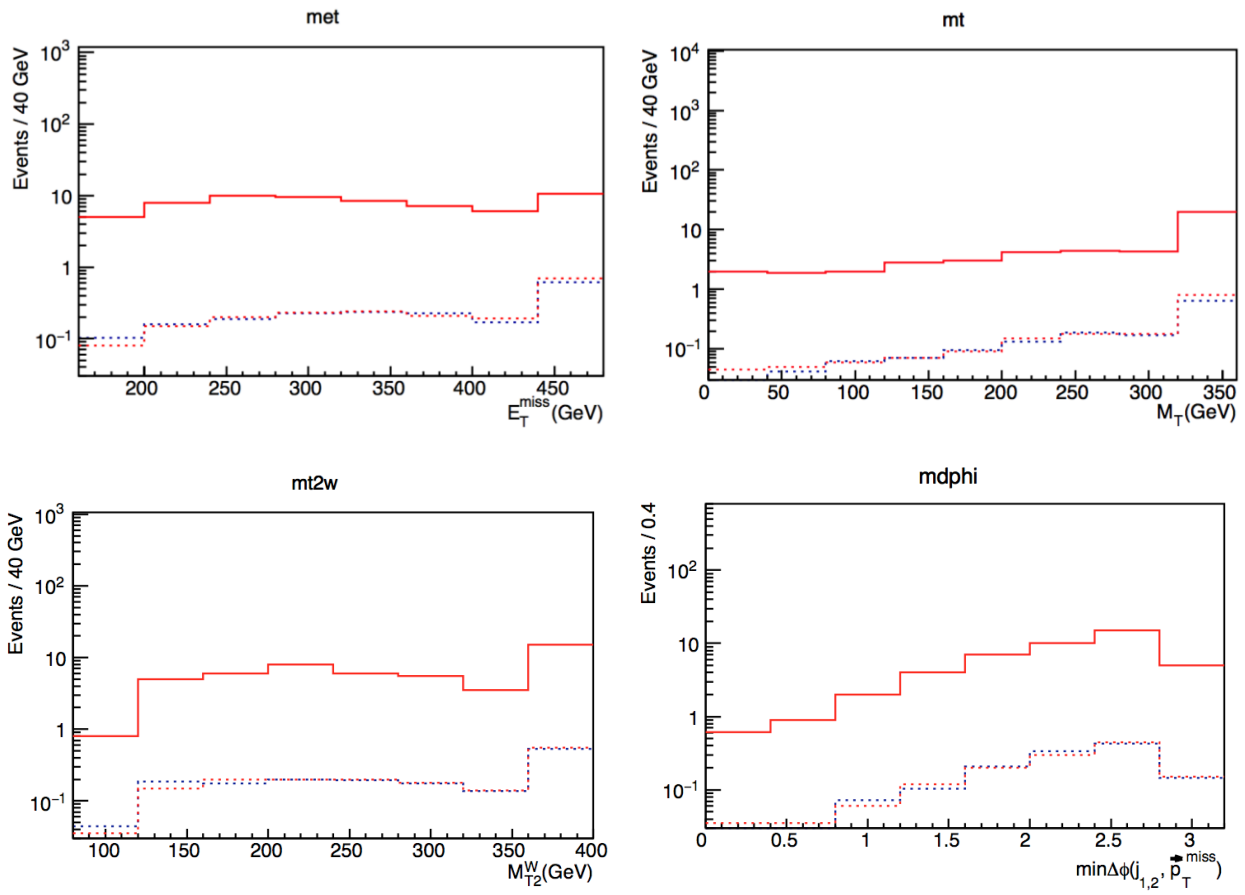


Figure 2. Same as Fig.1 but for $M_\chi = 600$ GeV.