

$$\tilde{t}_R \tilde{t}_R^* \rightarrow t \tilde{\chi}_1^0 \bar{t} \tilde{\chi}_1^0 \text{ (ATLAS\_CONF\_2013\_024)}$$

#	cut name	$\epsilon_{\text{Exp}}$	$\epsilon_{\text{Atom}}$	$\frac{\text{Atom}}{\text{Exp}}$	$\frac{(\text{Exp}-\text{Atom})}{\text{Error}}$	#/?	$R_{\text{Exp}}$	$R_{\text{Atom}}$	$\frac{\text{Atom}}{\text{Exp}}$	$\frac{(\text{Exp}-\text{Atom})}{\text{Error}}$
0	No cut	$100.0 \pm 0.2$	$100.0 \pm 0.0$				$\pm$	$\pm$		
1	$\mu$ veto	$75.14 \pm 0.17$	$82.07 \pm 1.93$	1.09	3.58	0	$0.75 \pm 0.0$	$0.82 \pm 0.02$	1.09	3.58
2	$e$ veto	$56.0 \pm 0.15$	$55.05 \pm 2.5$	0.98	-0.38	1	$0.75 \pm 0.0$	$0.67 \pm 0.03$	0.9	-2.44
3	MET > 130	$51.86 \pm 0.14$	$47.47 \pm 2.51$	0.92	-1.75	2	$0.93 \pm 0.0$	$0.86 \pm 0.05$	0.93	-1.4
4	$N_{\text{jets}}$ and $p_T$	$19.18 \pm 0.09$	$42.17 \pm 2.48$	2.2	9.26	3	$0.37 \pm 0.0$	$0.89 \pm 0.05$	2.4	9.91
5	MET <sub>track</sub> > 30	$18.98 \pm 0.09$	$41.92 \pm 2.48$	2.21	9.24	4	$0.99 \pm 0.0$	$0.99 \pm 0.06$	1.0	0.07
6	$\Delta\phi(\text{MET}, \text{MET}_{\text{track}}) < \pi/3$	$17.8 \pm 0.08$	$41.16 \pm 2.47$	2.31	9.44	5	$0.94 \pm 0.0$	$0.98 \pm 0.06$	1.05	0.75
7	$\Delta\phi(\text{jet}, \text{MET}) > \pi/5$	$15.2 \pm 0.08$	$37.63 \pm 2.43$	2.48	9.21	6	$0.85 \pm 0.0$	$0.91 \pm 0.06$	1.07	1.02
8	$\tau$ veto	$13.29 \pm 0.07$	$36.62 \pm 2.42$	2.76	9.63	7	$0.87 \pm 0.0$	$0.97 \pm 0.06$	1.11	1.53
9	$\geq 2$ -bjets	$5.82 \pm 0.05$	$13.13 \pm 1.7$	2.26	4.31	8	$0.44 \pm 0.0$	$0.36 \pm 0.05$	0.82	-1.7
10	$m_T(\text{bjets}, \text{MET}) > 175$	$3.98 \pm 0.04$	$10.86 \pm 1.56$	2.73	4.4	9	$0.68 \pm 0.01$	$0.83 \pm 0.12$	1.21	1.19
11	$80 < m_{jjj}^0 < 270$	$3.51 \pm 0.04$	$7.83 \pm 1.35$	2.23	3.2	10	$0.88 \pm 0.01$	$0.72 \pm 0.12$	0.82	-1.29
12	$80 < m_{jjj}^1 < 270$	$2.15 \pm 0.03$	$1.01 \pm 0.5$	0.47	-2.26	11	$0.61 \pm 0.01$	$0.13 \pm 0.06$	0.21	-7.47
13	SR1: MET > 200	$2.03 \pm 0.03$	$1.01 \pm 0.5$	0.5	-2.03	12	$0.94 \pm 0.01$	$1.0 \pm 0.5$	1.06	0.11
14	SR2: MET > 300	$1.54 \pm 0.02$	$0.76 \pm 0.44$	0.49	-1.79	13	$0.76 \pm 0.01$	$0.75 \pm 0.43$	0.99	-0.02
15	SR3: MET > 350	$1.2 \pm 0.02$	$0.76 \pm 0.44$	0.63	-1.02	14	$0.78 \pm 0.01$	$1.0 \pm 0.58$	1.28	0.38

Table 1: The cut-flow table for the  $\tilde{t}_R \tilde{t}_R^* \rightarrow t \tilde{\chi}_1^0 \bar{t} \tilde{\chi}_1^0$  process. The masses are set at  $m_{\tilde{t}_R} = 600$  GeV,  $m_{\tilde{\chi}_1^0} = 0$  GeV. The Atom efficiencies are calculated using  $10^4$  events generated by Herwig++ 2.5.2.