

$\tilde{t}_1(500) \rightarrow t\tilde{\chi}_1^0(200)$ (ATLAS_CONF_2013_037)

- Process: $\tilde{t}_1\tilde{t}_1^* \rightarrow (t\tilde{\chi}_1^0)(\bar{t}\tilde{\chi}_1^0)$.
- Mass: $m_{\tilde{t}_1} = 500$ GeV, $m_{\tilde{\chi}_1^0} = 200$ GeV.
- The number of events: 10^4 .
- Event Generator: Herwig++ 2.5.2.

#	cut name	ϵ_{Exp}	ϵ_{Atom}	$\frac{\text{Atom}}{\text{Exp}}$	$\frac{(\text{Exp}-\text{Atom})}{\text{Error}}$	#/?	R_{Exp}	R_{Atom}	$\frac{\text{Atom}}{\text{Exp}}$	$\frac{(\text{Exp}-\text{Atom})}{\text{Error}}$
0	[00] No cut	100.0	100.0							
1	[02] Lepton (= 1 signal)	22.81 ± 0.15	22.54 ± 0.42	0.99	-0.61	0	0.23 ± 0.0	0.23 ± 0.0	0.99	-0.61
2	[03] 4jets (80,60,40,25)	12.34 ± 0.11	11.13 ± 0.31	0.9	-3.61	1	0.54 ± 0.0	0.49 ± 0.01	0.91	-3.18
3	[04] ≥ 1 b in 4 leading jets	10.53 ± 0.1	9.38 ± 0.29	0.89	-3.73	2	0.85 ± 0.01	0.84 ± 0.03	0.99	-0.41
4	[05] MET > 100	8.65 ± 0.09	7.6 ± 0.27	0.88	-3.72	3	0.82 ± 0.01	0.81 ± 0.03	0.99	-0.35
5	[06] MET/ $\sqrt{H_T} > 5$	8.45 ± 0.09	7.38 ± 0.26	0.87	-3.85	4	0.98 ± 0.01	0.97 ± 0.03	0.99	-0.17
6	[07] $\Delta\phi(j_2, \text{MET}) > 0.8$	7.63 ± 0.09	7.2 ± 0.26	0.94	-1.59	5	0.9 ± 0.01	0.98 ± 0.04	1.08	1.97
7	[SRtN2] MET > 200	4.31 ± 0.07	4.12 ± 0.2	0.96	-0.9	6	0.56 ± 0.01	0.57 ± 0.03	1.01	0.27
8	[SRtN2] MET/ $\sqrt{H_T} > 13$	2.33 ± 0.05	2.27 ± 0.15	0.97	-0.39	7	0.54 ± 0.01	0.55 ± 0.04	1.02	0.27
9	[SRtN2] $m_T > 140$	1.91 ± 0.04	1.96 ± 0.14	1.03	0.33	8	0.82 ± 0.02	0.86 ± 0.06	1.05	0.68
10	[SRtN3] MET > 275	1.87 ± 0.04	1.69 ± 0.13	0.9	-1.32	6	0.24 ± 0.01	0.23 ± 0.02	0.96	-0.54
11	[SRtN3] MET/ $\sqrt{H_T} > 11$	1.82 ± 0.04	1.65 ± 0.13	0.91	-1.27	10	0.97 ± 0.02	0.98 ± 0.08	1.0	0.03
12	[SRtN3] $m_T > 200$	1.05 ± 0.03	1.05 ± 0.1	1.0	-0.03	11	0.58 ± 0.02	0.64 ± 0.06	1.1	0.9
13	[SRbC1-3] MET > 150	6.03 ± 0.08	5.29 ± 0.22	0.88	-3.12	6	0.79 ± 0.01	0.73 ± 0.03	0.93	-1.69
14	[SRbC1-3] MET/ $\sqrt{H_T} > 7$	5.92 ± 0.08	5.14 ± 0.22	0.87	-3.32	13	0.98 ± 0.01	0.97 ± 0.04	0.99	-0.21
15	[SRbC1-3] $m_T > 120$	4.58 ± 0.07	3.9 ± 0.19	0.85	-3.31	14	0.77 ± 0.01	0.76 ± 0.04	0.98	-0.38
16	[SRbC1-3] MET > 160	4.39 ± 0.07	3.79 ± 0.19	0.86	-2.97	15	0.96 ± 0.01	0.97 ± 0.05	1.01	0.25
17	[SRbC1-3] MET/ $\sqrt{H_T} > 8$	4.26 ± 0.07	3.69 ± 0.19	0.87	-2.86	16	0.97 ± 0.01	0.97 ± 0.05	1.0	0.06
18	[SRbC1-3] $m_{\text{eff}} > 550$	4.01 ± 0.06	3.47 ± 0.18	0.86	-2.81	17	0.94 ± 0.01	0.94 ± 0.05	1.0	-0.04
19	[SRbC1-3] $m_{\text{eff}} > 700$	2.66 ± 0.05	2.23 ± 0.15	0.84	-2.76	18	0.66 ± 0.01	0.64 ± 0.04	0.97	-0.46
20	SRtN2	0.84 ± 0.03	0.76 ± 0.09	0.9	-0.87	9	0.44 ± 0.02	0.39 ± 0.04	0.88	-1.1
21	SRtN3	0.38 ± 0.02	0.41 ± 0.06	1.07	0.42	12	0.36 ± 0.02	0.39 ± 0.06	1.08	0.44
22	SRbC1	3.11 ± 0.06	2.75 ± 0.16	0.88	-2.08	6	0.41 ± 0.01	0.38 ± 0.02	0.94	-1.07
23	SRbC2	0.6 ± 0.02	0.53 ± 0.07	0.89	-0.86	6	0.08 ± 0.0	0.07 ± 0.01	0.94	-0.42
24	SRbC3	0.16 ± 0.01	0.19 ± 0.04	1.19	0.67	6	0.02 ± 0.0	0.03 ± 0.01	1.26	0.87

Table 1: The cut-flow table for the $\tilde{t}_1(500) \rightarrow t\tilde{\chi}_1^0(200)$ model.