

$\tilde{t}_1(650) \rightarrow t\tilde{\chi}_1^0(1)$  (ATLAS\_CONF\_2013\_037)

- Process:  $\tilde{t}_1\tilde{t}_1^* \rightarrow (t\tilde{\chi}_1^0)(\bar{t}\tilde{\chi}_1^0)$ .
- Mass:  $m_{\tilde{t}_1} = 650$  GeV,  $m_{\tilde{\chi}_1^0} = 1$  GeV.
- The number of events:  $5 \cdot 10^4$ .
- Event Generator: Herwig++ 2.5.2.

#	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	[00] No cut	100.0	100.0							
1	[02] Lepton (= 1 signal)	$23.57 \pm 0.22$	$22.93 \pm 0.19$	0.97	-2.22	0	$0.24 \pm 0.0$	$0.23 \pm 0.0$	0.97	-2.22
2	[03] 4jets (80,60,40,25)	$15.71 \pm 0.18$	$14.09 \pm 0.16$	0.9	-6.87	1	$0.67 \pm 0.01$	$0.61 \pm 0.01$	0.92	-5.15
3	[04] $>= 1$ b in 4 leading jets	$13.34 \pm 0.16$	$12.06 \pm 0.15$	0.9	-5.86	2	$0.85 \pm 0.01$	$0.86 \pm 0.01$	1.01	0.45
4	[05] MET > 100	$12.38 \pm 0.16$	$11.18 \pm 0.14$	0.9	-5.65	3	$0.93 \pm 0.01$	$0.93 \pm 0.01$	1.0	-0.02
5	[06] MET/ $\sqrt{(H_T)} > 5$	$12.14 \pm 0.16$	$10.97 \pm 0.14$	0.9	-5.57	4	$0.98 \pm 0.01$	$0.98 \pm 0.01$	1.0	0.02
6	[07] $\Delta\phi(j_2, \text{MET}) > 0.8$	$11.11 \pm 0.15$	$10.72 \pm 0.14$	0.97	-1.91	5	$0.92 \pm 0.01$	$0.98 \pm 0.01$	1.07	3.52
7	[SRtN2] MET > 200	$9.27 \pm 0.14$	$8.85 \pm 0.13$	0.95	-2.26	6	$0.83 \pm 0.01$	$0.83 \pm 0.01$	0.99	-0.53
8	[SRtN2] MET/ $\sqrt{(H_T)} > 13$	$6.75 \pm 0.12$	$6.39 \pm 0.11$	0.95	-2.26	7	$0.73 \pm 0.01$	$0.72 \pm 0.01$	0.99	-0.35
9	[SRtN2] $m_T > 140$	$6.19 \pm 0.11$	$5.7 \pm 0.1$	0.92	-3.18	8	$0.92 \pm 0.02$	$0.89 \pm 0.02$	0.97	-1.04
10	[SRtN3] MET > 275	$7.07 \pm 0.12$	$6.25 \pm 0.11$	0.88	-5.1	6	$0.64 \pm 0.01$	$0.58 \pm 0.01$	0.92	-3.63
11	[SRtN3] MET/ $\sqrt{(H_T)} > 11$	$6.98 \pm 0.12$	$6.08 \pm 0.11$	0.87	-5.66	10	$0.99 \pm 0.02$	$0.97 \pm 0.02$	0.99	-0.62
12	[SRtN3] $m_T > 200$	$5.54 \pm 0.11$	$4.77 \pm 0.1$	0.86	-5.41	11	$0.79 \pm 0.02$	$0.78 \pm 0.02$	0.99	-0.39
13	[SRbC1-3] MET > 150	$10.23 \pm 0.14$	$9.08 \pm 0.13$	0.89	-6.02	6	$0.92 \pm 0.01$	$0.85 \pm 0.01$	0.92	-4.24
14	[SRbC1-3] MET/ $\sqrt{(H_T)} > 7$	$10.05 \pm 0.14$	$8.91 \pm 0.13$	0.89	-6.01	13	$0.98 \pm 0.01$	$0.98 \pm 0.01$	1.0	-0.06
15	[SRbC1-3] $m_T > 120$	$8.78 \pm 0.13$	$7.73 \pm 0.12$	0.88	-5.89	14	$0.87 \pm 0.01$	$0.87 \pm 0.01$	0.99	-0.3
16	[SRbC1-3] MET > 160	$8.7 \pm 0.13$	$7.67 \pm 0.12$	0.88	-5.79	15	$0.99 \pm 0.02$	$0.99 \pm 0.02$	1.0	0.07
17	[SRbC1-3] MET/ $\sqrt{(H_T)} > 8$	$8.51 \pm 0.13$	$7.52 \pm 0.12$	0.88	-5.65	16	$0.98 \pm 0.01$	$0.98 \pm 0.02$	1.0	0.08
18	[SRbC1-3] $m_{\text{eff}} > 550$	$8.45 \pm 0.13$	$7.42 \pm 0.12$	0.88	-5.86	17	$0.99 \pm 0.02$	$0.99 \pm 0.02$	0.99	-0.24
19	[SRbC1-3] $m_{\text{eff}} > 700$	$7.84 \pm 0.13$	$6.75 \pm 0.11$	0.86	-6.46	18	$0.93 \pm 0.01$	$0.91 \pm 0.02$	0.98	-0.86
20	SRtN2	$3.21 \pm 0.08$	$2.53 \pm 0.07$	0.79	-6.4	9	$0.52 \pm 0.01$	$0.44 \pm 0.01$	0.85	-4.23
21	SRtN3	$2.72 \pm 0.07$	$2.1 \pm 0.06$	0.77	-6.28	12	$0.49 \pm 0.01$	$0.44 \pm 0.01$	0.9	-2.63
22	SRbC1	$6.41 \pm 0.11$	$5.58 \pm 0.1$	0.87	-5.43	6	$0.58 \pm 0.01$	$0.52 \pm 0.01$	0.9	-4.04
23	SRbC2	$1.89 \pm 0.06$	$1.67 \pm 0.06$	0.89	-2.56	6	$0.17 \pm 0.01$	$0.16 \pm 0.01$	0.92	-1.81
24	SRbC3	$1.05 \pm 0.05$	$0.78 \pm 0.04$	0.75	-4.38	6	$0.09 \pm 0.0$	$0.07 \pm 0.0$	0.77	-3.85

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