

## 0.1 SR H160: $\tilde{t}_1(250) \rightarrow b\tilde{\chi}_1^+(106) \rightarrow W^+\tilde{\chi}_1^0(60)$ (ATLAS\_2014\_I1286444 (1403.4853))

- Process:  $pp \rightarrow \tilde{t}_1\tilde{t}_1^* : \tilde{t}_1 \rightarrow b\tilde{\chi}_1^+ \rightarrow W^+\tilde{\chi}_1^0$ .
- Mass:  $m_{\tilde{t}_1} = 250$  GeV,  $m_{\tilde{\chi}_1^\pm} = 106$  GeV,  $m_{\tilde{\chi}_1^0} = 60$  GeV.
- The number of events:  $10^4$ .
- 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	$p_T(\ell_1) > 25$ : SF	100.0	100.0							
1	H160: $= 2b$ -jets: SF	$41.1 \pm 0.77$	$41.69 \pm 2.43$	1.01	0.23	0	$0.41 \pm 0.01$	$0.42 \pm 0.02$	1.01	0.23
2	H160: $m_{T2}(b - \text{jet}) > 160$ : SF	$5.81 \pm 0.29$	$2.48 \pm 0.6$	0.43	-5.0	1	$0.14 \pm 0.01$	$0.06 \pm 0.01$	0.42	-5.11
3	H160: $m_{T2} < 90$ : SF	$5.65 \pm 0.29$	$2.48 \pm 0.6$	0.44	-4.76	2	$0.97 \pm 0.05$	$1.0 \pm 0.24$	1.03	0.11
4	H160: $p_T(\ell_1) < 60$ : SF	$2.88 \pm 0.2$	$2.04 \pm 0.55$	0.71	-1.44	3	$0.51 \pm 0.04$	$0.82 \pm 0.22$	1.61	1.41

Table 1: The cut-flow table for the same flavour channel.

#	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	$p_T(\ell_1) > 25$ : DF	100.0	100.0							
1	H160: $= 2b$ -jets: DF	$36.17 \pm 0.7$	$40.16 \pm 2.29$	1.11	1.67	0	$0.36 \pm 0.01$	$0.4 \pm 0.02$	1.11	1.67
2	H160: $m_{T2}(b - \text{jet}) > 160$ : DF	$5.57 \pm 0.27$	$3.5 \pm 0.69$	0.63	-2.8	1	$0.15 \pm 0.01$	$0.09 \pm 0.02$	0.57	-3.58
3	H160: $m_{T2} < 90$ : DF	$5.46 \pm 0.27$	$3.5 \pm 0.69$	0.64	-2.66	2	$0.98 \pm 0.05$	$1.0 \pm 0.2$	1.02	0.1
4	H160: $p_T(\ell_1) < 60$ : DF	$2.36 \pm 0.18$	$3.1 \pm 0.65$	1.32	1.11	3	$0.43 \pm 0.03$	$0.88 \pm 0.18$	2.05	2.42

Table 2: The cut-flow table for the different flavour channel.