

## 0.1 $\tilde{\chi}_1^\pm(425) \rightarrow (\ell\tilde{\nu}(250) \text{ or } \nu\tilde{\ell}(75)) \rightarrow \nu\ell\tilde{\chi}_1^0(0)$ (ATLAS\_CONF\_2013\_049)

- Process:  $\tilde{\chi}_1^+ \tilde{\chi}_1^- : \tilde{\chi}_1^\pm \rightarrow (\ell\tilde{\nu} \text{ or } \nu\tilde{\ell}) \rightarrow \nu\ell\tilde{\chi}_1^0$ .
- Mass:  $m_{\tilde{\chi}_1^\pm} = 425$  GeV,  $m_{\tilde{\ell}/\tilde{\nu}} = 250$  GeV,  $m_{\tilde{\chi}_1^0} = 75$  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	$ee$ : Trigger	100.0	100.0							
1	$ee$ : $Z$ veto	$95.0 \pm 1.54$	$94.73 \pm 2.08$	1.0	-0.1	0	$0.95 \pm 0.02$	$0.95 \pm 0.02$	1.0	-0.1
2	$ee$ : Jet veto	$35.0 \pm 0.94$	$27.76 \pm 1.16$	0.79	-4.84	1	$0.37 \pm 0.01$	$0.29 \pm 0.01$	0.8	-4.78
3	$ee$ : $\text{MET}^{\text{rel}}$	$30.0 \pm 0.87$	$24.45 \pm 1.09$	0.81	-3.98	2	$0.86 \pm 0.02$	$0.88 \pm 0.04$	1.03	0.5
4	$ee$ : $m_{T2} > 90$	$21.5 \pm 0.73$	$16.27 \pm 0.9$	0.76	-4.52	3	$0.72 \pm 0.02$	$0.67 \pm 0.04$	0.93	-1.17
5	$ee$ : $m_{T2} > 110$	$18.5 \pm 0.68$	$13.4 \pm 0.81$	0.72	-4.8	4	$0.86 \pm 0.03$	$0.82 \pm 0.05$	0.96	-0.61

Table 1: The cut-flow table for the  $ee$  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	$\mu\mu$ : Trigger	100.0	100.0							
1	$\mu\mu$ : $Z$ veto	$95.0 \pm 1.5$	$95.16 \pm 2.01$	1.0	0.07	0	$0.95 \pm 0.02$	$0.95 \pm 0.02$	1.0	0.07
2	$\mu\mu$ : Jet veto	$35.0 \pm 0.91$	$27.74 \pm 1.13$	0.79	-5.0	1	$0.37 \pm 0.01$	$0.29 \pm 0.01$	0.79	-5.04
3	$\mu\mu$ : $\text{MET}^{\text{rel}}$	$30.0 \pm 0.84$	$24.8 \pm 1.07$	0.83	-3.82	2	$0.86 \pm 0.02$	$0.89 \pm 0.04$	1.04	0.81
4	$\mu\mu$ : $m_{T2} > 90$	$21.5 \pm 0.71$	$16.45 \pm 0.88$	0.77	-4.47	3	$0.72 \pm 0.02$	$0.66 \pm 0.04$	0.93	-1.25
5	$\mu\mu$ : $m_{T2} > 110$	$18.5 \pm 0.66$	$13.75 \pm 0.8$	0.74	-4.57	4	$0.86 \pm 0.03$	$0.84 \pm 0.05$	0.97	-0.43

Table 2: The cut-flow table for the  $\mu\mu$  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	$e\mu$ : Trigger	100.0	100.0							
1	$e\mu$ : $Z$ veto	$93.55 \pm 1.07$	$94.48 \pm 1.36$	1.01	0.54	0	$0.94 \pm 0.01$	$0.94 \pm 0.01$	1.01	0.54
2	$e\mu$ : Jet veto	$35.48 \pm 0.66$	$27.93 \pm 0.8$	0.79	-7.28	1	$0.38 \pm 0.01$	$0.3 \pm 0.01$	0.78	-7.59
3	$e\mu$ : $\text{MET}^{\text{rel}}$	$29.03 \pm 0.6$	$24.34 \pm 0.75$	0.84	-4.89	2	$0.82 \pm 0.02$	$0.87 \pm 0.03$	1.07	1.68
4	$e\mu$ : $m_{T2} > 90$	$21.61 \pm 0.51$	$16.63 \pm 0.63$	0.77	-6.16	3	$0.74 \pm 0.02$	$0.68 \pm 0.03$	0.92	-1.97
5	$e\mu$ : $m_{T2} > 110$	$18.39 \pm 0.47$	$14.06 \pm 0.58$	0.76	-5.79	4	$0.85 \pm 0.02$	$0.85 \pm 0.03$	0.99	-0.12

Table 3: The cut-flow table for the  $e\mu$  channel.