0.1 $\tilde{q}\tilde{q}$ direct (662, 287): (ATLAS_CONF_2013_047)

- Process: $pp \to \tilde{q}\tilde{q} \to (q\chi_1^0)(q\chi_1^0)$.
- Mass: $m_{\tilde{q}} = 662$ GeV, $m_{\tilde{\chi}_1^0} = 287$ GeV.
- The number of events: 10^4.
- Event Generator: `MadGraph 5 and Pythia 6`. The MLM merging is used with the shower-k_T scheme implemented in MadGraph 5 and Pythia 6, where we take xqcut = qcut = $M_{\rm SUSY}/4$ with MSUSY being the mass of the heavier SUSY particles in the production.

#	cut name	$\epsilon_{\rm Exp}$	$\epsilon_{\rm Atom}$	$\frac{\rm Atom}{\rm Exp}$	$\frac{\rm (Exp-Atom)}{\rm Error}$	#/?	$R_{\rm Exp}$	$R_{\rm Atom}$	$\frac{\rm Atom}{\rm Exp}$	$\frac{\rm (Exp-Atom)}{\rm Error}$
0	No cut	100.0	100.0							
1	base: 0 lepton	98.21 ± 0.99	99.98 ± 0.02	1.02	1.79	0	0.98 ± 0.01	1.0 ± 0.0	1.02	1.79
2	base: MET > 160	80.68 ± 0.9	81.73 ± 0.4	1.01	1.06	1	0.82 ± 0.01	0.82 ± 0.0	0.99	−0.41
3	base: $p_T(j_1) > 130$	79.95 ± 0.89	80.38 ± 0.41	1.01	0.43	2	0.99 ± 0.01	0.98 ± 0.01	0.99	−0.61
4	base: $p_T(j_2) > 60$	75.64 ± 0.87	75.52 ± 0.45	1.0	−0.12	3	0.95 ± 0.01	0.94 ± 0.01	0.99	−0.53
5	$p_T(j_3) > 60$	35.31 ± 0.59	28.34 ± 0.47	0.8	−9.21	4	0.47 ± 0.01	0.38 ± 0.01	0.8	−9.15
6	$p_T(j_4) > 60$	11.5 ± 0.34	7.13 ± 0.27	0.62	−10.12	5	0.33 ± 0.01	0.25 ± 0.01	0.77	−5.51
7	C base: $\Delta\phi(j_i, \text{MET}) > 0.4$	10.12 ± 0.32	6.29 ± 0.25	0.62	−9.43	6	0.88 ± 0.03	0.88 ± 0.04	1.0	0.05
8	C base: $\Delta\phi(j_i > 40, \text{MET}) > 0.2$	9.28 ± 0.3	5.94 ± 0.25	0.64	−8.52	7	0.92 ± 0.03	0.95 ± 0.04	1.03	0.58
9	CM: $\text{MET}/m_{\rm eff}(4j) > 0.25$	7.16 ± 0.27	4.71 ± 0.22	0.66	−7.05	8	0.77 ± 0.03	0.79 ± 0.04	1.03	0.46
10	CM: $m_{\rm eff}(\text{inc}) > 1200$	2.96 ± 0.17	2.05 ± 0.15	0.69	−4.03	9	0.41 ± 0.02	0.43 ± 0.03	1.05	0.53

Table 1: The cut-flow table for C medium signal region: $\tilde{q}\tilde{q}$ direct (662, 287).