cms_sus_13_016 CutFlow

CMS
cms_sus_13_016
2 lepton, >4(2) jets(b), EtMiss
Energy: 8 TeV
Luminosity: 19.5 fb^{-1}

Validation notes:

- Validation has been performed versus all published cutflows, Table 1.

  - The Monte-Carlo generator was MadGraph5-v1.5.12 [1] and showered with Pythia 6.420 for all cutflowss.
  - Cross-sections calculated with NLL-Fast 2.1 [2, 3, 4, 5, 6].
  - SUSY spectrum generated with SOFTSUSY 3.3.9 [7].

Process	$\tilde{g} \to t\bar{t}\tilde{\chi}_1^0$			
Point	$m(\tilde{g}) = 1150$ GeV			
	$m(\tilde{\chi}_1^0) = 275$ GeV		$m(\tilde{\chi}_1^0) = 525$ GeV	
Source	CMS	CheckMATE	CMS	CheckMATE
Generated events	28277	28277	29455	29455
Initial Events	128	128	128	128
$2\ell + \geq j$	9.8 ± 0.2	10.4 ± 0.2	9.5 ± 0.2	10.4 ± 0.2
$E_T^{miss} > 180$ GeV	7.5 ± 0.2	8.1 ± 0.2	6.6 ± 0.2	6.7 ± 0.2
N(jets) > 4	6.2 ± 0.2	7.0 ± 0.2	5.4 ± 0.1	5.6 ± 0.2
N(b-jets) > 2	2.6 ± 0.1	2.8 ± 0.1	2.3 ± 0.1	2.3 ± 0.1
$\eta(j1) < 1$	2.2 ± 0.1	2.4 ± 0.1	2.0 ± 0.1	1.9 ± 0.1
$\eta(j2) < 1$	1.9 ± 0.1	1.9 ± 0.1	1.6 ± 0.1	1.6 ± 0.1

Table 1: Cutflow validation for cms_sus_13_016, testing gluino production and decay to 2 top quarks. Shown are the number of events after each selection cut, normalised to 20.1 fb^{-1}. Final error is from Monte Carlo statistics for both CMS and CheckMATE.

References

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