Process	$N_{events} \pm stat \pm sys$ μ + jets	$N_{events} \pm stat \pm sys$ e + jets
$m_{H^+} = 80$ GeV	$25889 \pm 141(0.5\%) \pm 2006(7.7\%)$	$17718 \pm 115(0.6\%) \pm 1416(8.0\%)$
$m_{H^+} = 90$ GeV	$26516 \pm 141(0.5\%) \pm 2024(7.6\%)$	$18293 \pm 116(0.6\%) \pm 1447(7.9\%)$
$m_{H^+} = 100$ GeV	$26770 \pm 142(0.5\%) \pm 2050(7.7\%)$	$18186 \pm 115(0.6\%) \pm 1434(7.9\%)$
$m_{H^+} = 120$ GeV	$25253 \pm 137(0.5\%) \pm 1935(7.7\%)$	$17214 \pm 112(0.6\%) \pm 1362(7.9\%)$
$m_{H^+} = 140$ GeV	$19693 \pm 122(0.6\%) \pm 1614(8.2\%)$	$13545 \pm 99(0.7\%) \pm 1116(8.2\%)$
$m_{H^+} = 150$ GeV	$14401 \pm 104(0.7\%) \pm 1238(8.6\%)$	$9960 \pm 85(0.9\%) \pm 870(8.7\%)$
$m_{H^+} = 155$ GeV	$11355 \pm 94(0.8\%) \pm 992(8.7\%)$	$8017 \pm 78(1.0\%) \pm 707(8.8\%)$
$m_{H^+} = 160$ GeV	$8795 \pm 81(0.9\%) \pm 743(8.5\%)$	$6113 \pm 67(1.1\%) \pm 539(8.8\%)$
SM $t\bar{t}$ + jets	$345660 \pm 198(0.1\%) \pm 26301(7.6\%)$	$232429 \pm 160(0.1\%) \pm 18115(7.8\%)$
Single t	$10955 \pm 49(0.4\%) \pm 866(7.9\%)$	$7283 \pm 39(0.5\%) \pm 582(8.0\%)$
W + jets	$5263 \pm 154(2.9\%) \pm 698(13.3\%)$	$2812 \pm 58(2.0\%) \pm 329(11.7\%)$
Z/γ + jets	$654 \pm 18(2.7\%) \pm 86(13.1\%)$	$660 \pm 16(2.5\%) \pm 82(12.4\%)$
VV	$167 \pm 9(5.2\%) \pm 21(12.4\%)$	$122 \pm 7(5.9\%) \pm 15(12.1\%)$
MC QCD	$7738 \pm 2417(31.2\%) \pm 1047(13.5\%)$	$3736 \pm 2271(60.8\%) \pm 683(18.3\%)$
Data	$348477 \pm 590(0.2\%) \pm 0(0.0\%)$	$236500 \pm 486(0.2\%) \pm 0(0.0\%)$

Table 1: Event yield for inclusive category.

Process	Pileup	Lepton	btag b-jet	btag l-jet	Prefire	JEC	JER	Norm	Statistical
$m_{H^+} = 80$ GeV	0.3(0.5)	0.8(1.8)	2.5(2.5)	0.2(0.2)	0.3(0.4)	4.0(4.0)	0.2(0.5)	6.1(6.1)	0.5(0.6)
$m_{H^+} = 90$ GeV	0.2(0.5)	0.8(1.8)	2.5(2.5)	0.2(0.1)	0.3(0.4)	3.7(3.9)	0.3(0.2)	6.1(6.1)	0.5(0.6)
$m_{H^+} = 100$ GeV	0.2(0.3)	0.8(1.8)	2.5(2.6)	0.2(0.1)	0.3(0.4)	3.8(3.8)	0.1(0.4)	6.1(6.1)	0.5(0.6)
$m_{H^+} = 120$ GeV	0.1(0.5)	0.8(1.8)	2.6(2.6)	0.2(0.2)	0.3(0.4)	3.7(3.8)	0.4(0.4)	6.1(6.1)	0.5(0.6)
$m_{H^+} = 140$ GeV	0.4(0.6)	0.8(1.8)	2.8(2.8)	0.3(0.3)	0.4(0.4)	4.6(4.4)	0.5(0.3)	6.1(6.1)	0.6(0.7)
$m_{H^+} = 150$ GeV	0.3(0.5)	0.8(1.9)	2.9(2.9)	0.4(0.4)	0.4(0.4)	5.2(5.2)	0.3(0.1)	6.1(6.1)	0.7(0.9)
$m_{H^+} = 155$ GeV	0.2(0.2)	0.8(1.9)	3.1(3.0)	0.5(0.5)	0.4(0.4)	5.3(5.2)	0.5(0.4)	6.1(6.1)	0.8(1.0)
$m_{H^+} = 160$ GeV	0.3(0.3)	0.8(1.9)	3.3(3.2)	0.6(0.7)	0.4(0.4)	4.7(5.0)	0.8(0.8)	6.1(6.1)	0.9(1.1)
SM $t\bar{t}$ + jets	0.3(0.5)	0.8(1.8)	2.6(2.6)	0.1(0.1)	0.3(0.4)	3.6(3.6)	0.2(0.2)	6.1(6.1)	0.1(0.1)
Single t	0.2(0.3)	0.8(1.8)	2.7(2.7)	0.4(0.4)	0.4(0.4)	5.3(5.2)	0.8(0.7)	5.0(5.0)	0.4(0.5)
W + jets	1.7(1.5)	0.8(1.9)	2.9(3.3)	4.7(2.5)	0.4(0.5)	10.4(9.1)	2.9(2.3)	5.0(5.0)	2.9(2.0)
Z/γ + jets	3.0(2.5)	0.8(1.8)	2.6(2.9)	3.8(2.9)	0.4(0.6)	10.0(10.0)	4.5(2.5)	4.5(4.5)	2.7(2.5)
VV	0.3(0.2)	0.8(1.8)	3.4(3.3)	1.8(1.3)	0.3(0.4)	10.8(10.4)	2.1(2.3)	4.0(4.0)	5.2(5.9)
MC QCD	6.6(9.5)	0.7(1.7)	2.4(3.2)	4.2(1.7)	0.6(0.4)	0.3(7.9)	4.0(12.9)	10.0(0.0)	31.2(60.8)

Table 2: Systematic and statistical uncertainties in % for muon (electron) channel.