

Category	Process	Pileup	jet & $p_T^{\text{miss}}$	b & c jets	Normalization	Statistical	$p_T$ (t)
Loose	$m_{H^+} = 100 \text{ GeV}$	0.6 (1.1)	4.2 (3.5)	6.1 (6.1)	6.1 (6.1)	1.0 (1.2)	1.4 (1.8)
	$t\bar{t}$	0.9 (1.1)	3.6 (3.6)	5.8 (5.8)	6.1 (6.1)	0.2 (0.2)	1.5 (1.9)
	Single t quark	0.6 (0.8)	4.9 (5.4)	6.5 (6.6)	5.0 (5.0)	0.7 (0.8)	—
	W + jets	2.3 (0.4)	13 (6.9)	10 (10)	5.0 (5.0)	3.9 (4.5)	—
	Z/ $\gamma$ + jets	1.8 (2.4)	11 (8.4)	9.2 (9.0)	4.5 (4.5)	5.7 (4.2)	—
	VV	1.5 (7.9)	19 (13)	7.2 (7.0)	4.0 (4.0)	19 (22)	—
	QCD multijet	—	—	—	10 (10)	20 (7.3)	—
Medium	$m_{H^+} = 100 \text{ GeV}$	0.4 (0.3)	3.5 (2.0)	6.7 (6.8)	6.1 (6.1)	1.1 (1.3)	1.6 (1.9)
	$t\bar{t}$	0.3 (0.4)	3.0 (3.0)	7.3 (7.3)	6.1 (6.1)	0.2 (0.3)	1.5 (2.0)
	Single t quark	0.3 (0.1)	4.4 (4.1)	8.1 (8.1)	5.0 (5.0)	0.9 (1.0)	—
	W + jets	2.9 (1.6)	14 (6.8)	12 (11)	5.0 (5.0)	4.8 (5.7)	—
	Z/ $\gamma$ + jets	0.7 (3.4)	9.0 (11)	12 (11)	4.5 (4.5)	5.9 (5.9)	—
	VV	0.6 (4.4)	15 (49)	10 (9.4)	4.0 (4.0)	20 (36)	—
	QCD multijet	—	—	—	10 (10)	19 (9.4)	—
Tight	$m_{H^+} = 100 \text{ GeV}$	1.2 (1.3)	2.2 (3.0)	9.2 (9.2)	6.1 (6.1)	1.6 (1.9)	1.4 (1.8)
	$t\bar{t}$	0.9 (1.0)	2.7 (3.1)	9.4 (9.4)	6.1 (6.1)	0.4 (0.5)	1.4 (1.8)
	Single t quark	0.4 (0.5)	4.3 (4.5)	9.8 (9.8)	5.0 (5.0)	1.8 (2.1)	—
	W + jets	1.1 (2.8)	23 (3.4)	13 (13)	5.0 (5.0)	12 (14)	—
	Z/ $\gamma$ + jets	3.7 (2.7)	7.5 (10)	13 (12)	4.5 (4.5)	9.1 (15)	—
	VV	2.3 (8.9)	36 (0.3)	11 (10)	4.0 (4.0)	38 (100)	—
	QCD multijet	—	—	—	10 (10)	47 (17)	—