

$\tau_e \tau_{\text{had}}$ channel	b -tag category			b -veto category		
$Z \rightarrow \tau\tau + \text{jets}$	42	$\pm$	7	4500	$\pm$	250
$\text{Jet} \rightarrow \ell, \tau_{\text{had-vis}} \text{ fakes}$	128	$\pm$	18	5400	$\pm$	350
$Z \rightarrow \ell\ell + \text{jets}$	3.6	$\pm$	1.5	590	$\pm$	120
$t\bar{t}$ and single top quark	115	$\pm$	16	35	$\pm$	5
Diboson	0.33	$\pm$	0.07	44	$\pm$	4
Total prediction	289	$\pm$	24	10600	$\pm$	360
Data	275			10619		
$ggH \ m_A = 500\text{GeV}, \tan\beta = 20$	0.020	$\pm$	0.010	1.2	$\pm$	0.2
$bbH \ m_A = 500\text{GeV}, \tan\beta = 20$	6.4	$\pm$	1.7	7.4	$\pm$	1.9

$\tau_\mu \tau_{\text{had}}$ channel	b -tag category			b -veto category		
$Z \rightarrow \tau\tau + \text{jets}$	42	$\pm$	6	5500	$\pm$	300
$\text{Jet} \rightarrow \ell, \tau_{\text{had-vis}} \text{ fakes}$	109	$\pm$	14	2760	$\pm$	170
$Z \rightarrow \ell\ell + \text{jets}$	5.2	$\pm$	0.6	830	$\pm$	50
$t\bar{t}$ and single top quark	136	$\pm$	15	40	$\pm$	5
Diboson	0.34	$\pm$	0.07	55	$\pm$	5
Total prediction	293	$\pm$	19	9200	$\pm$	300
Data	312			9163		
$ggH \ m_A = 500\text{GeV}, \tan\beta = 20$	0.016	$\pm$	0.005	1.1	$\pm$	0.2
$bbH \ m_A = 500\text{GeV}, \tan\beta = 20$	3.3	$\pm$	1.3	6.4	$\pm$	1.7

$\tau_{\text{had}} \tau_{\text{had}}$ channel	b -tag category			b -veto category		
$Z \rightarrow \tau\tau + \text{jets}$	1.9	$\pm$	0.3	146	$\pm$	20
Multi-jet	17	$\pm$	3	396	$\pm$	16
$W \rightarrow \tau\nu + \text{jets}$	1.1	$\pm$	0.2	45	$\pm$	7
$t\bar{t}$ and single top quark	11	$\pm$	3	4.5	$\pm$	0.9
Others	0.13	$\pm$	0.03	6.3	$\pm$	0.8
Total prediction	31	$\pm$	4	598	$\pm$	21
Data	23			628		
$ggH \ m_A = 500\text{GeV}, \tan\beta = 20$	0.034	$\pm$	0.014	2.2	$\pm$	0.7
$bbH \ m_A = 500\text{GeV}, \tan\beta = 20$	8	$\pm$	3	15	$\pm$	5