

Process	$1\ell + 2\tau_h$	$3\ell + 1\tau_h$
$t\bar{t}H, H \rightarrow \tau\tau$	2.84 ± 1.35	1.01 ± 0.65
$t\bar{t}H, H \rightarrow WW$	0.07 ± 0.04	0.63 ± 0.29
$t\bar{t}H, H \rightarrow ZZ$	0.02 ± 0.01	0.09 ± 0.04
$t\bar{t}Z$	4.07 ± 0.56	3.78 ± 0.62
$t\bar{t}W$	0.21 ± 0.05	0.24 ± 0.05
Electroweak	1.10 ± 1.05	0.32 ± 0.05
Fake	20.98 ± 3.87	1.07 ± 0.34
Other	0.54 ± 0.23	0.24 ± 0.08
Total expected background	26.91 ± 3.84	5.65 ± 0.85
SM expectation	29.85 ± 4.07	7.38 ± 1.10
Observed data	24	7

Process	$2\ell_{ss} + 1\tau_h$	
	“no-missing-jet”	“missing-jet”
$t\bar{t}H, H \rightarrow \tau\tau$	1.38 ± 0.89	2.86 ± 1.68
$t\bar{t}H, H \rightarrow WW$	1.03 ± 0.47	2.09 ± 1.01
$t\bar{t}H, H \rightarrow ZZ$	0.06 ± 0.03	0.06 ± 0.04
$t\bar{t}Z$	3.07 ± 0.46	8.33 ± 1.08
$t\bar{t}W$	1.10 ± 0.15	7.18 ± 0.80
Electroweak	0.21 ± 0.19	3.73 ± 3.39
Fake	1.66 ± 0.52	7.80 ± 2.51
Charge flip	0.05 ± 0.01	0.39 ± 0.10
Other	0.50 ± 0.20	2.44 ± 1.01
Total expected background	6.59 ± 0.88	29.87 ± 4.75
SM expectation	9.06 ± 1.33	34.88 ± 5.05
Observed data	8	41