

$$tHq(2ISS+1\tau)$$

SR

CR $t\bar{t}+t\bar{t}X$

JER EffectiveNP 12restTerm

JER EffectiveNP 11

JER EffectiveNP 10

JER EffectiveNP 9

JER EffectiveNP 8

JER EffectiveNP 7

JER EffectiveNP 6

JER EffectiveNP 5

JER EffectiveNP 4

JER EffectiveNP 3

JER EffectiveNP 2

JER EffectiveNP 1

JER DataVsMC AFII

JER DataVsMC MC16

- Not present
- Kept
- Shape dropped
- Norm. dropped
- Dropped
- Norm >99% (dropped)
- Bad shape (dropped)
- Bad shape & norm. (dropped)

| | | | | | | | | | | | | |
|-------|-------|-------|------------|-------------|-------------|-------------|-------|------|--------|---------|-----------|-----------|
| tHq | tWH | tWZ | $t\bar{t}$ | $t\bar{t}W$ | $t\bar{t}Z$ | $t\bar{t}H$ | tZq | tW | Z+jets | Diboson | minor bkg | minor bkg |
|-------|-------|-------|------------|-------------|-------------|-------------|-------|------|--------|---------|-----------|-----------|

| tHq | tWH | tWZ | $\bar{t}\bar{t}$ | $\bar{t}\bar{t}W$ | $\bar{t}\bar{t}Z$ | $\bar{t}\bar{t}H$ | tZq | tW | Z+jets | Diboson | minor bkg | minor bkg |
|-------|-------|-------|------------------|-------------------|-------------------|-------------------|-------|------|--------|---------|-----------|-----------|
|-------|-------|-------|------------------|-------------------|-------------------|-------------------|-------|------|--------|---------|-----------|-----------|