













Events / 0.25

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$

reg1mtau1ltau

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real $t\bar{t} \rightarrow bWcH \times 1000$ $t\bar{t} \rightarrow bWuH \times 1000$

Diboson

Rare

 $t\bar{t}V$

data

 $cg \rightarrow tH \times 39000$ $ug \rightarrow tH \times 6000$

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0.5

1

1.5

2

2.5

3

 $\Delta R(\tau, \text{light-jet}, \text{min})$ 