

Events / 12.50 GeV

ATLAS Internal

$\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$

FCNC tqH $H \rightarrow \tau\tau$

$t_l \tau_{\text{had}} \tau_{\text{had}}$

Other MC

b-jets fake τ

τ_W

Other Fake τ

$cg \rightarrow tH \times 9$

$t\bar{t}$

lepton fake τ

double fake τ

data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

50

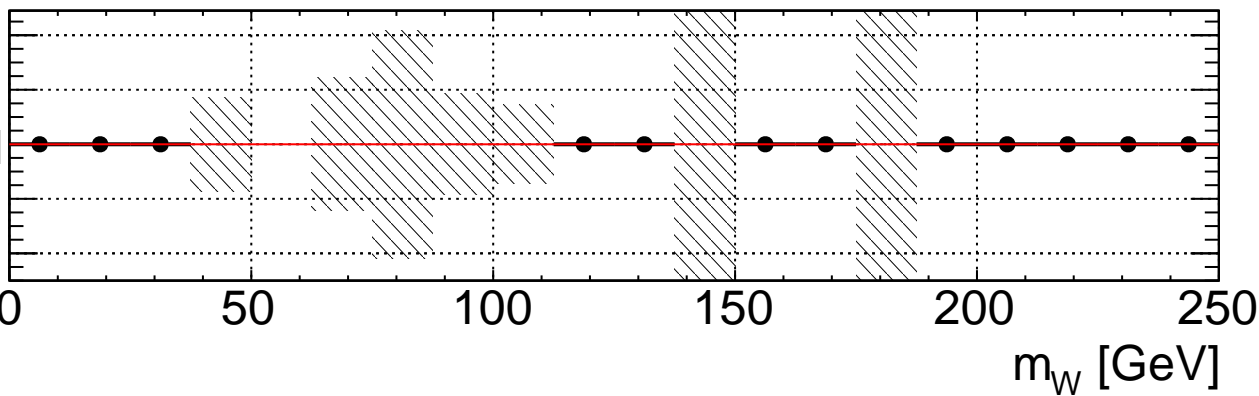
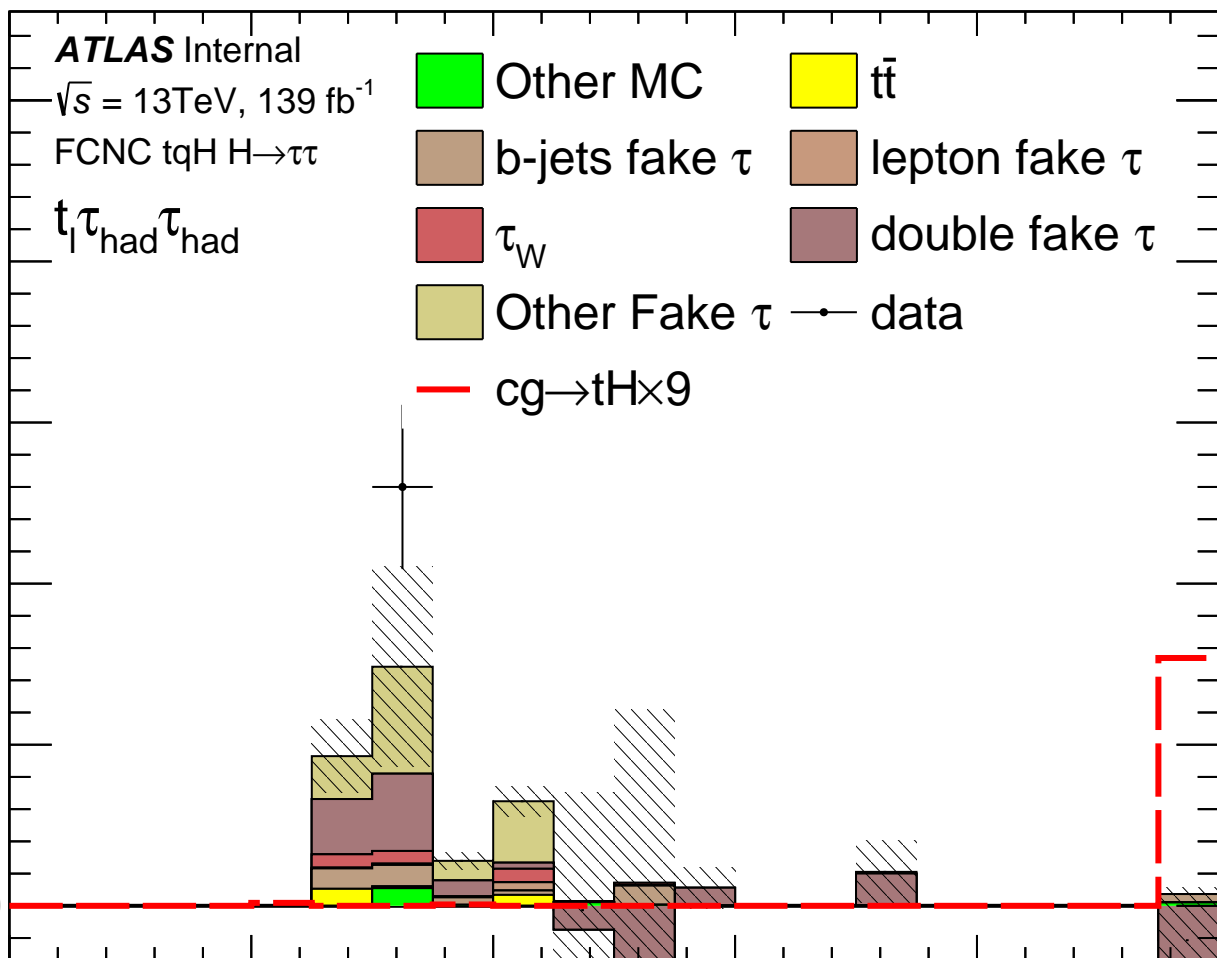
100

150

200

250

m_W [GeV]



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$t_l \tau_{\text{had}} \tau_{\text{had}}$

Other MC

b-jets fake τ

τ_W

Other Fake τ

tcH merged $\times 9$

$t\bar{t}$

lepton fake τ

double fake τ

data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

50

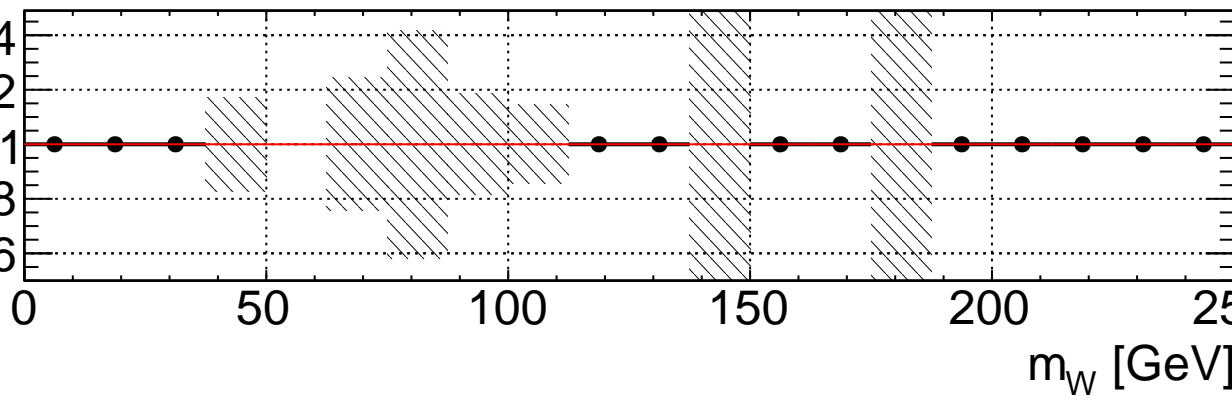
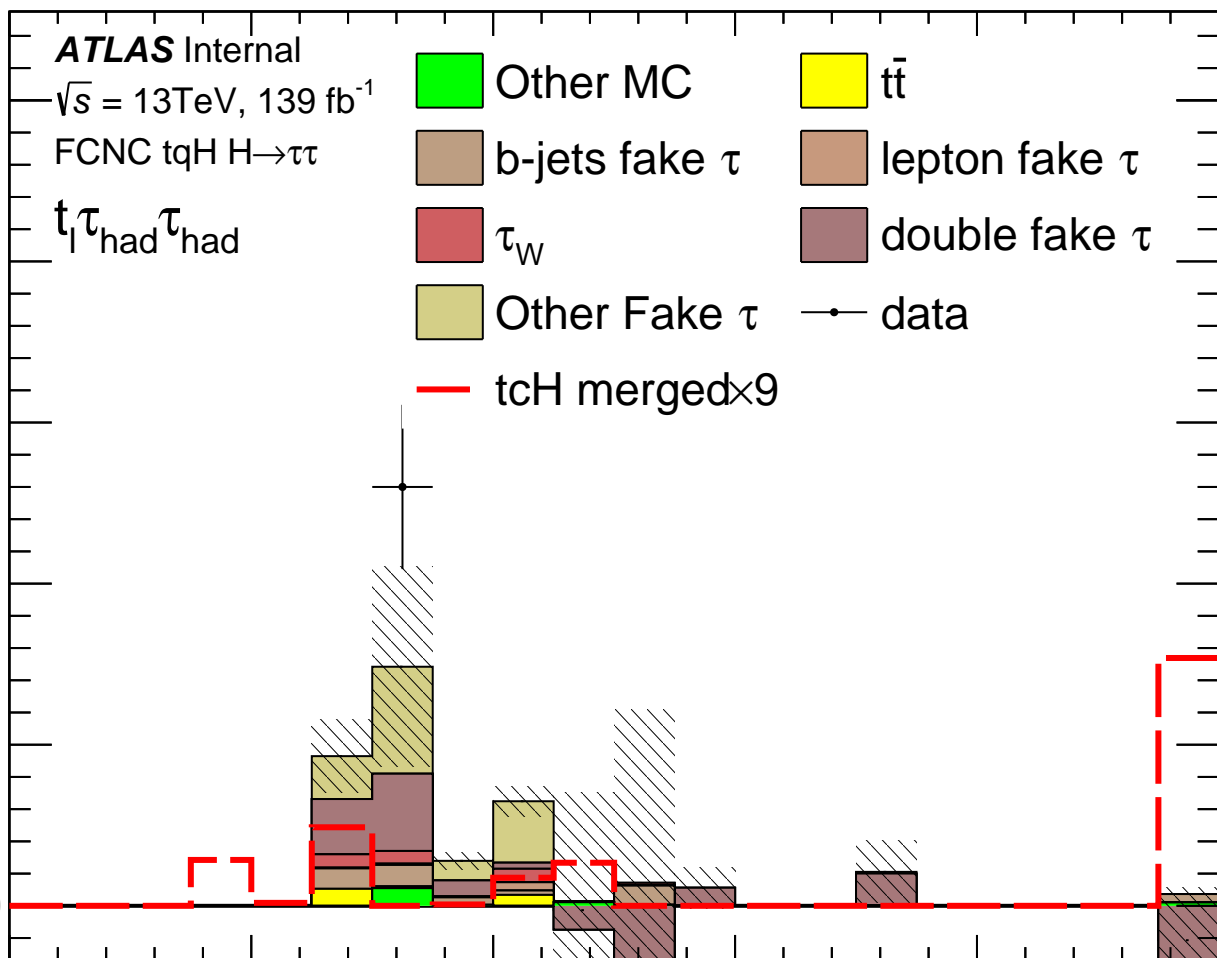
100

150

200

250

m_W [GeV]



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Other MC
 b-jets fake τ
 τ_W
 Other Fake τ
 $t\bar{t} \rightarrow bWuH \times 40$

$t\bar{t}$
 lepton fake τ
 double fake τ
 data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

50

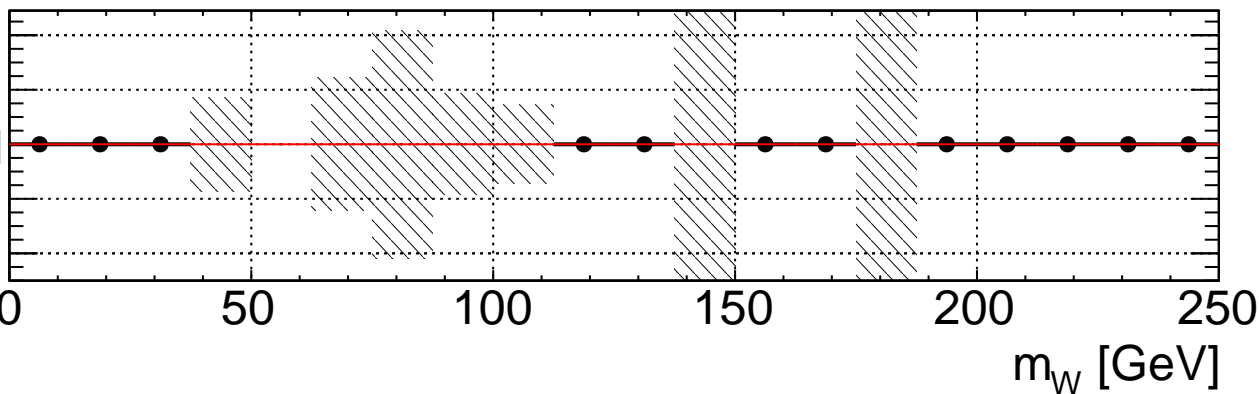
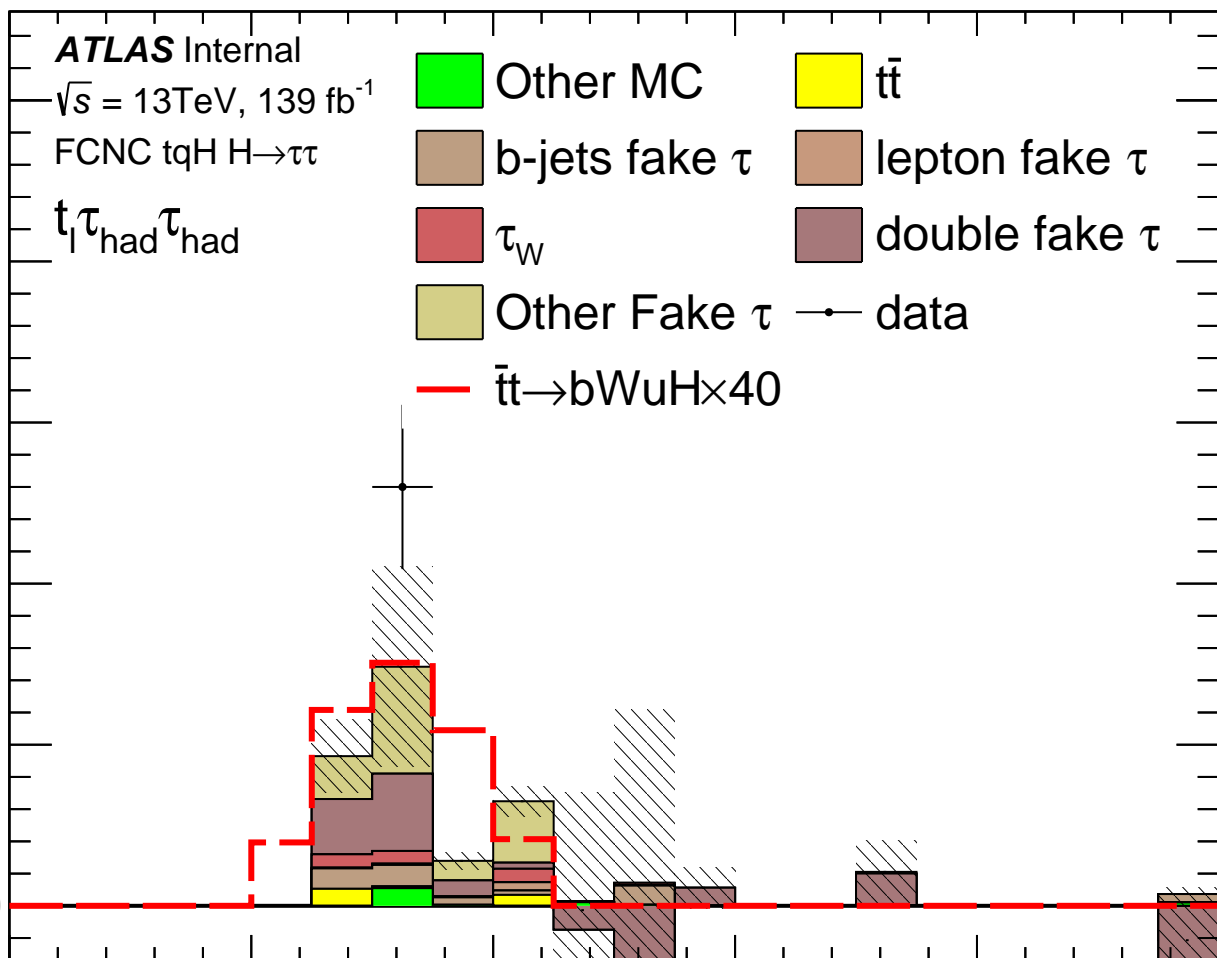
100

150

200

250

m_W [GeV]



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Other MC

b-jets fake τ

τ_W

Other Fake τ

$ug \rightarrow tH \times 80$

$t\bar{t}$

lepton fake τ

double fake τ

data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

50

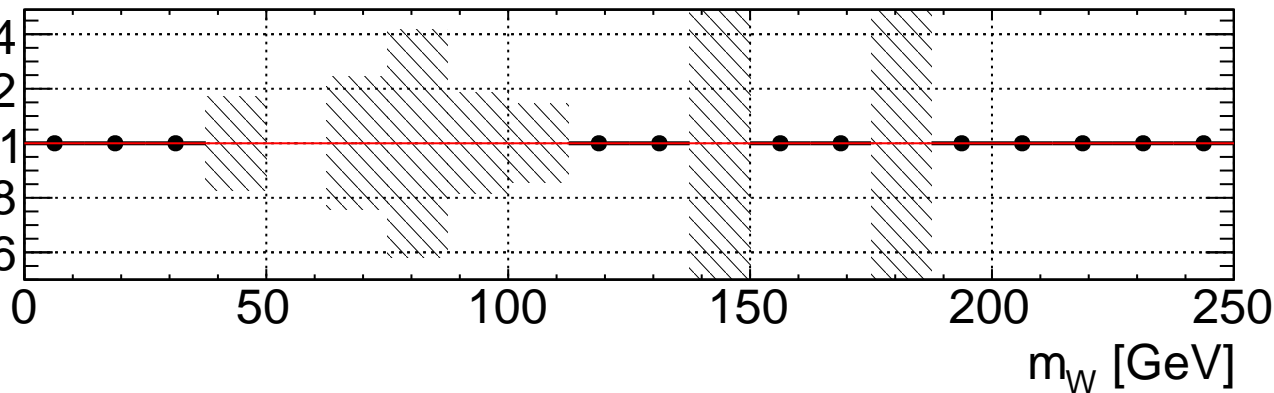
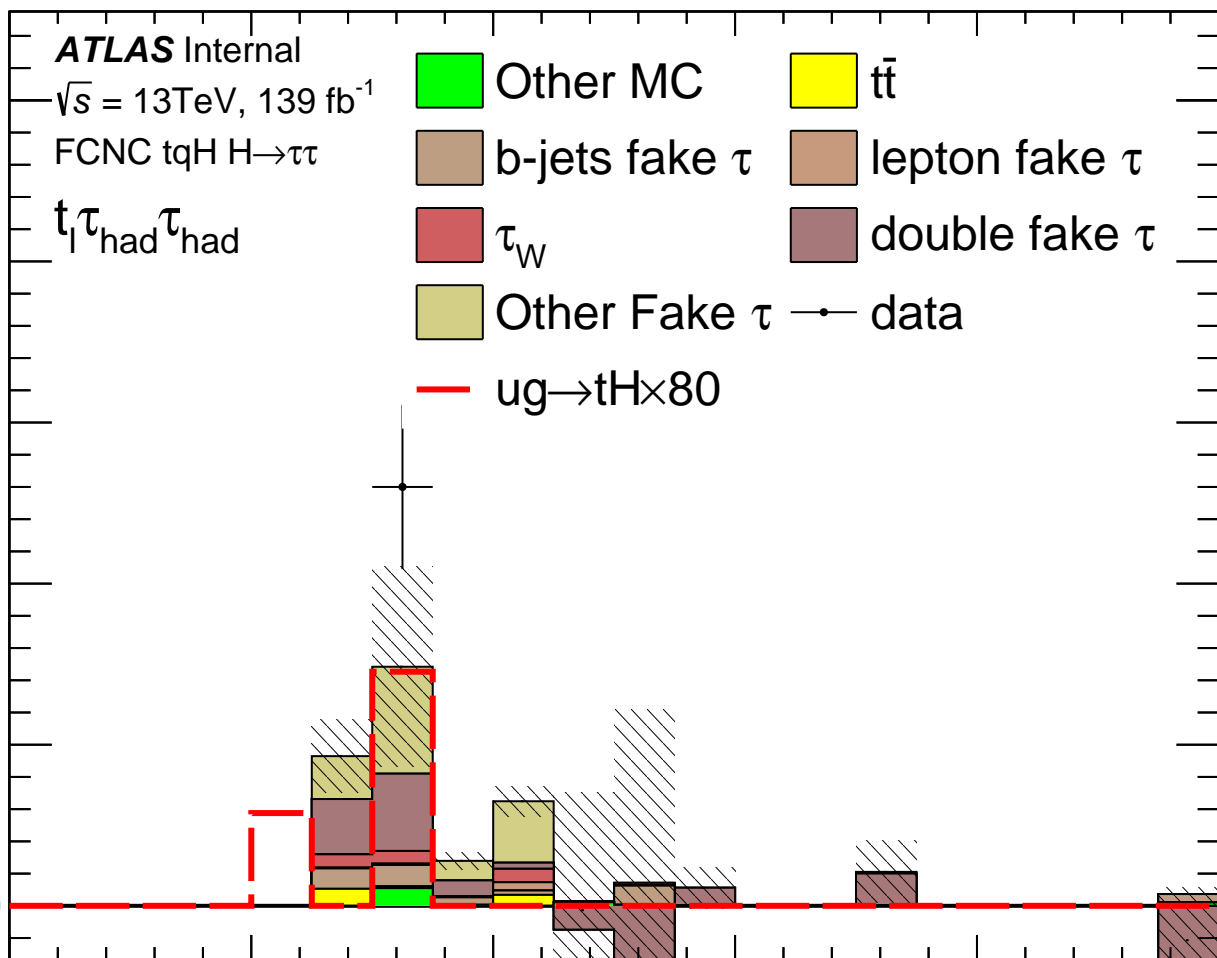
100

150

200

250

m_W [GeV]



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Other MC



b-jets fake τ



τ_W



Other Fake τ



$t\bar{t}$



lepton fake τ

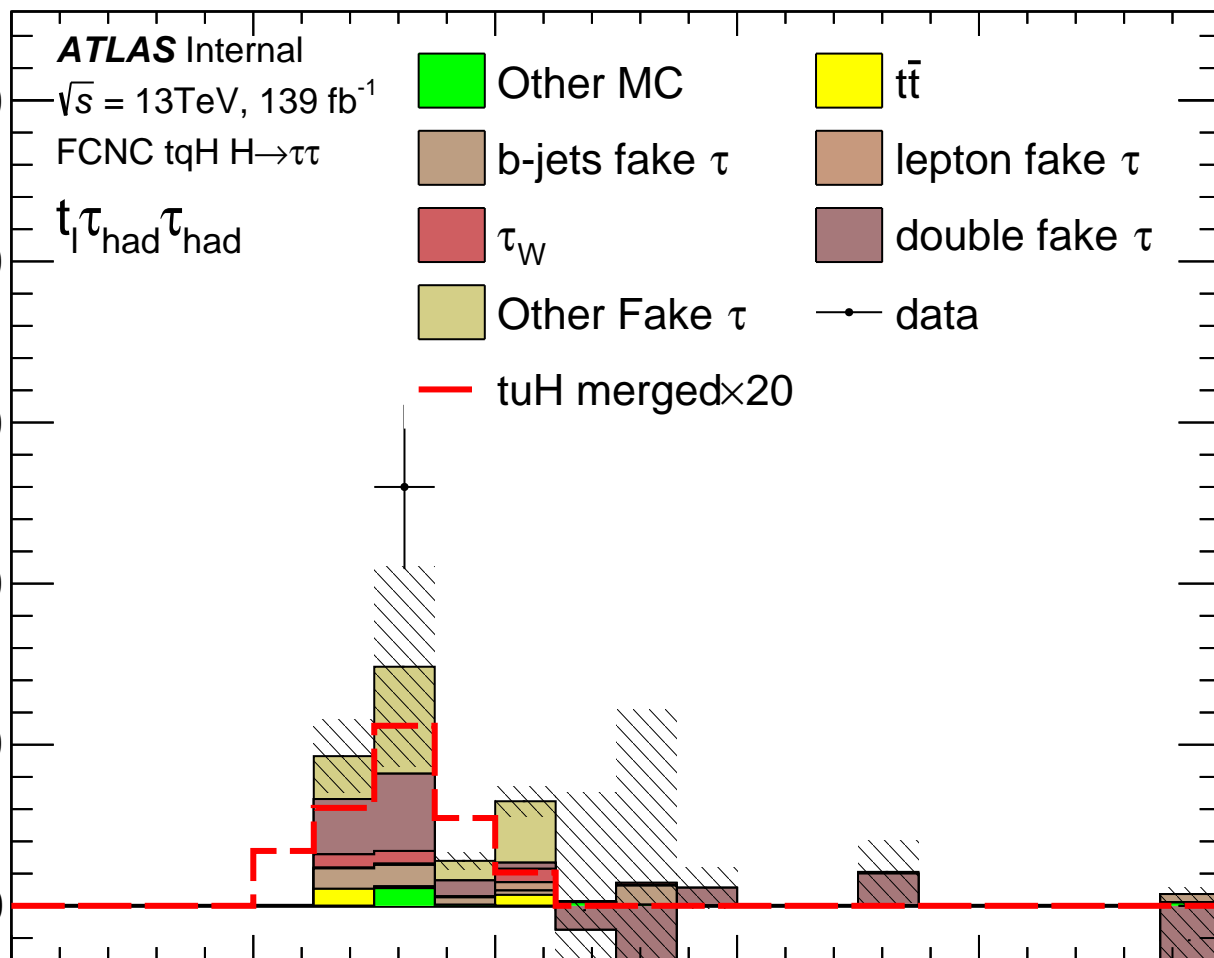


double fake τ

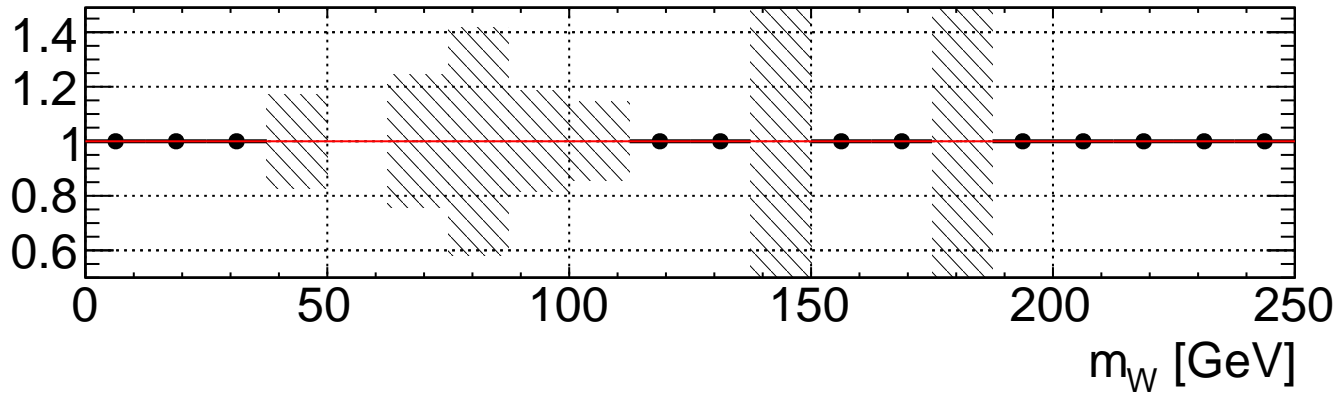


data

— $t\bar{u}H$ merged $\times 20$



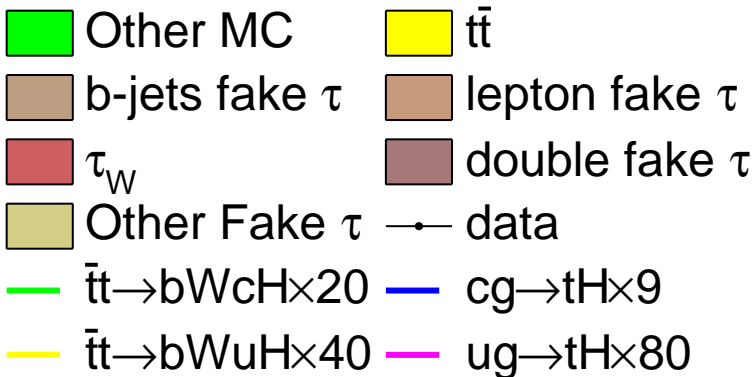
Data/Bkg



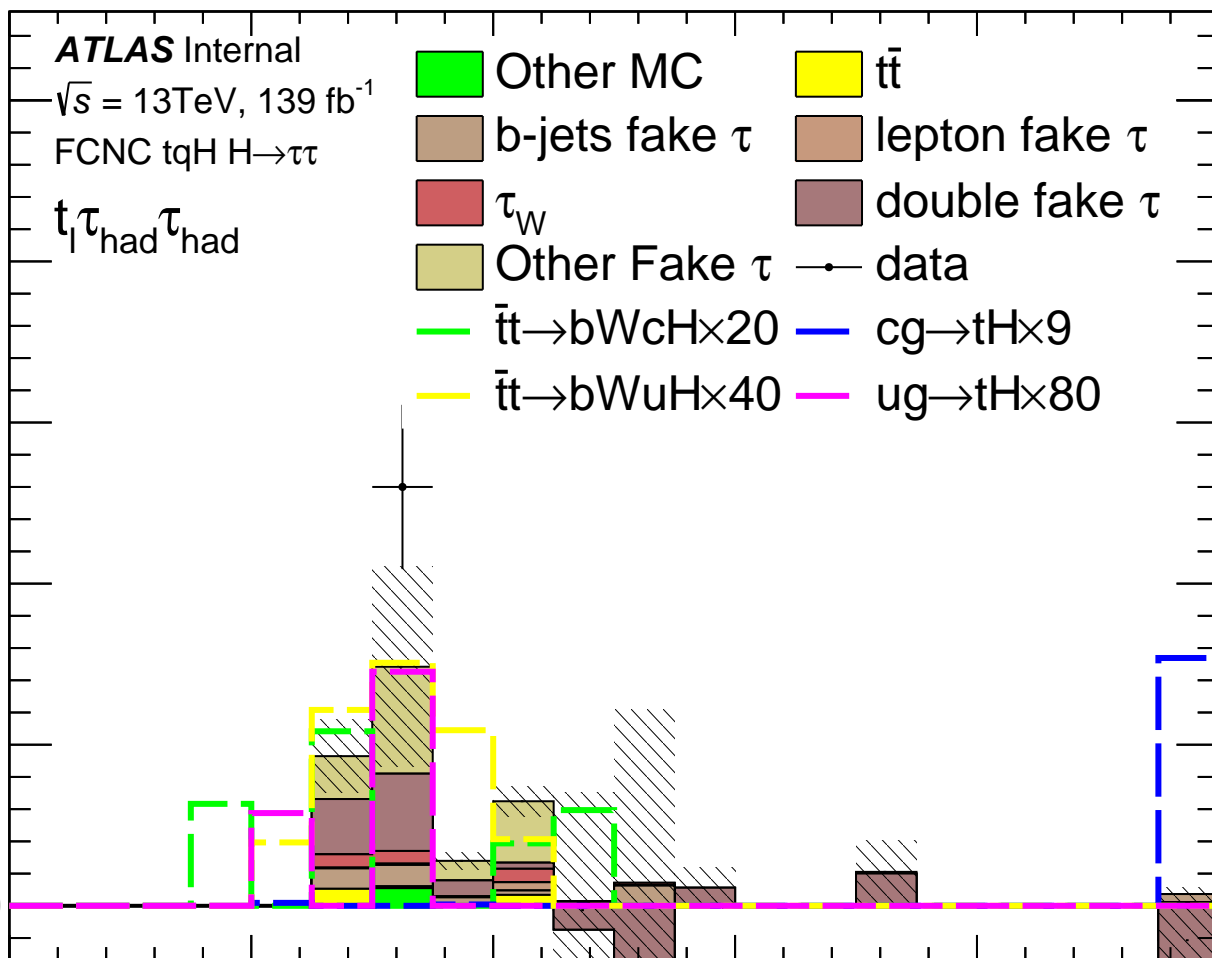
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50
40
30
20
10
0



Data/Bkg

1.4
1.2
1.0
0.8
0.6

