

Events / 0.25

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

FCNC  $t\bar{q}H \rightarrow \tau\tau$

$t_h \tau_{\text{lep}} \tau_{\text{had}} - 2j$

Other MC

b-jets fake  $\tau$

$\tau_W$

QCD Fake lep

$cg \rightarrow tH \times 60$

$t\bar{t}$

lepton fake  $\tau$

Other Fake  $\tau$

data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

0.5

1

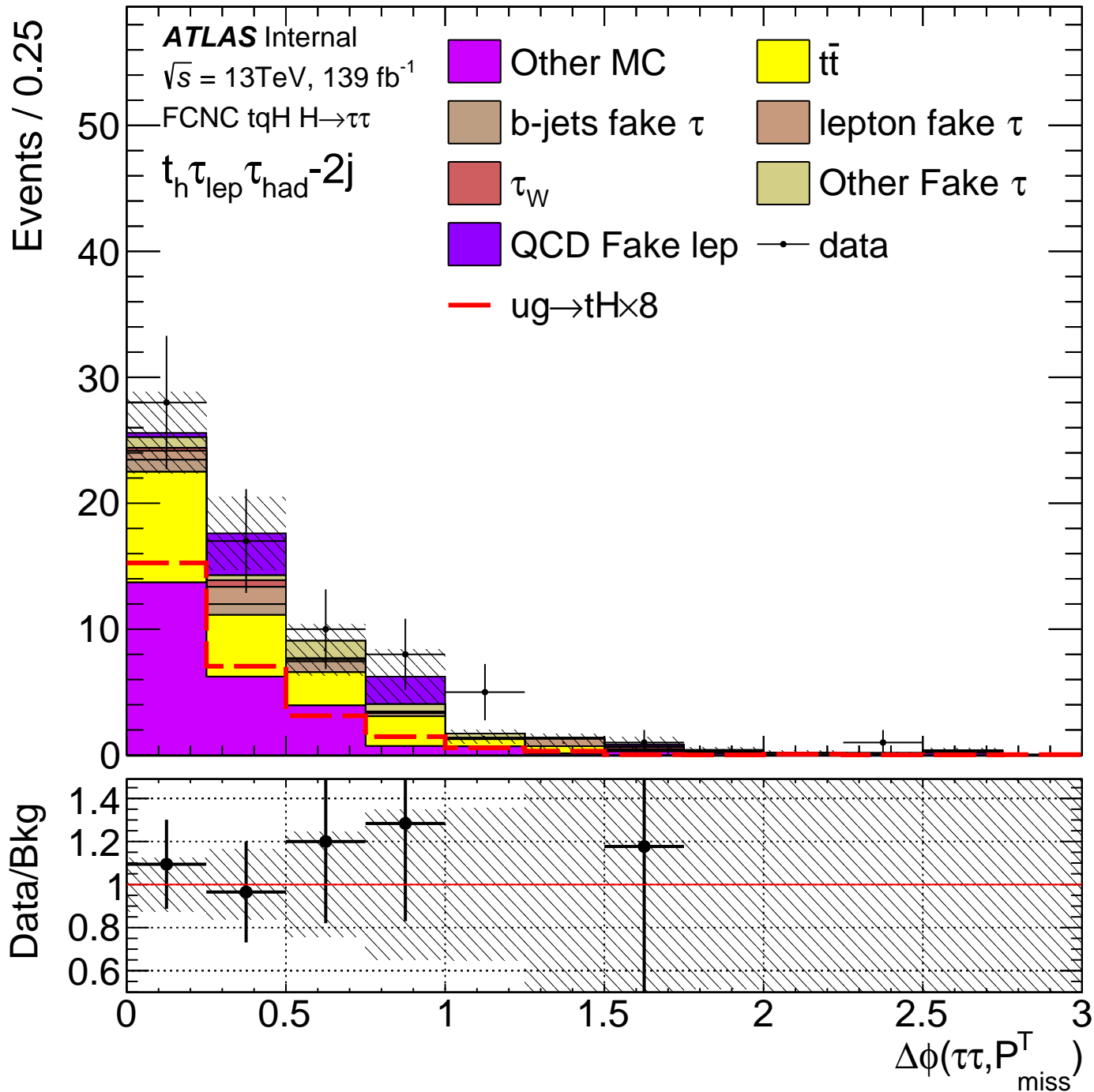
1.5

2

2.5

3

 $\Delta\phi(\tau\tau, P_{\text{miss}}^T)$



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FCNC  $t\bar{q}H \rightarrow H\tau\tau$

$t_h\tau_{\text{lep}}\tau_{\text{had}}-2j$

Other MC

b-jets fake  $\tau$

$\tau_W$

QCD Fake lep

tcH merged $\times 10$

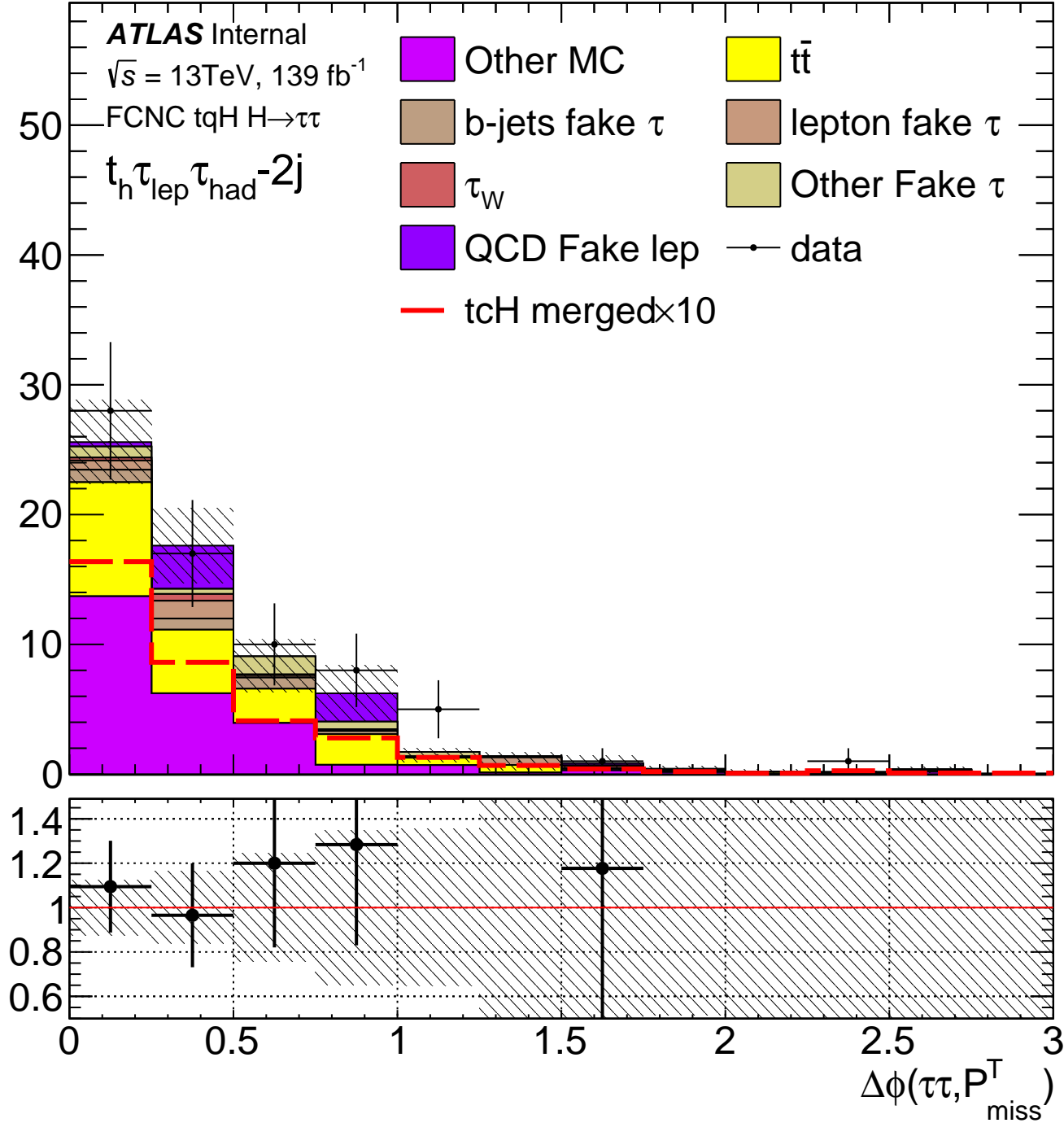
$t\bar{t}$

lepton fake  $\tau$

Other Fake  $\tau$

data

Data/Bkg



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FCNC tqH  $H \rightarrow \tau\tau$

$t_h \tau_{\text{lep}} \tau_{\text{had}} - 2j$

Other MC

b-jets fake  $\tau$

$\tau_W$

QCD Fake lep

$\bar{t}t \rightarrow bWuH \times 10$

$\bar{t}t$

lepton fake  $\tau$

Other Fake  $\tau$

data

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

0.5

1

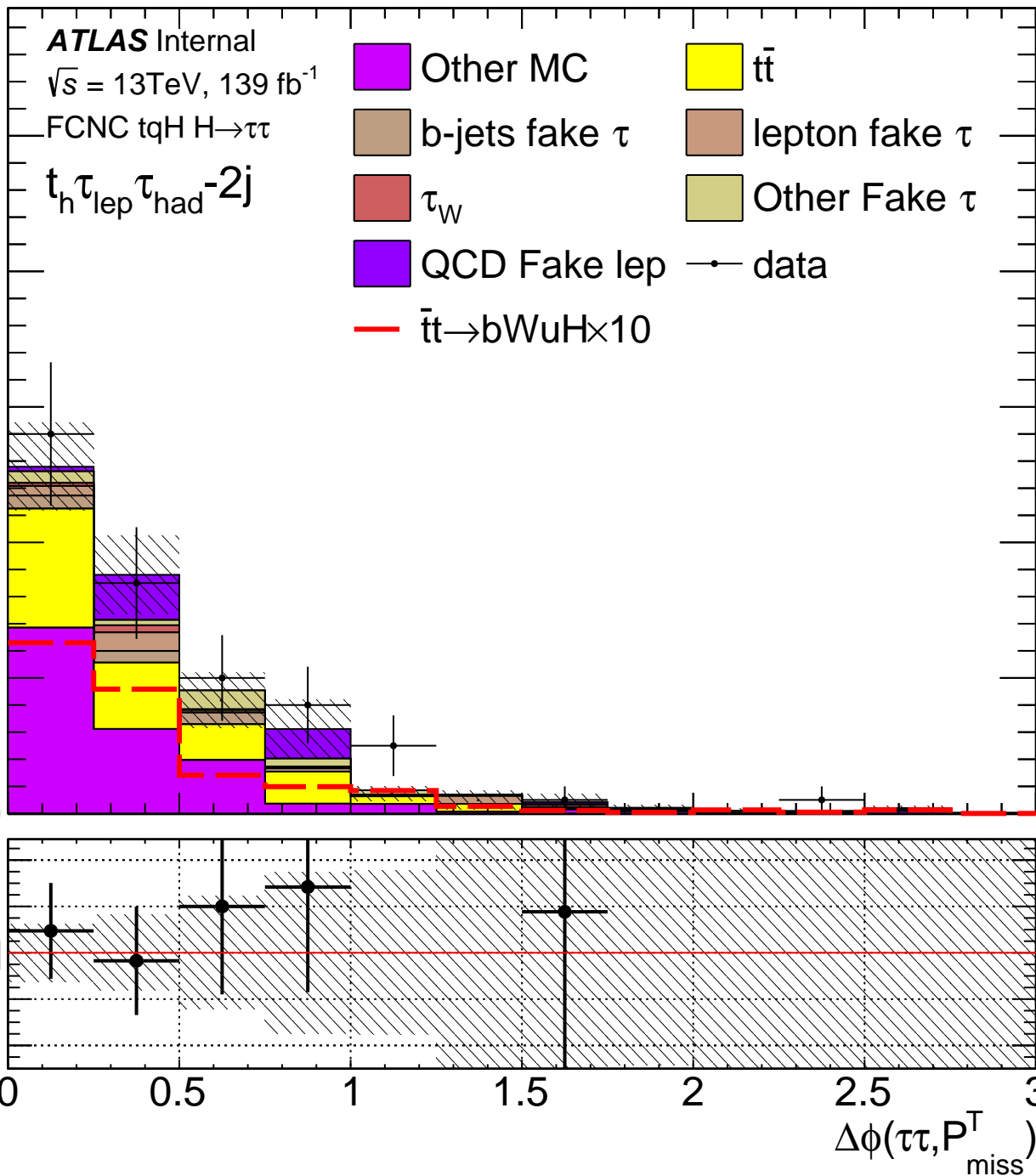
1.5

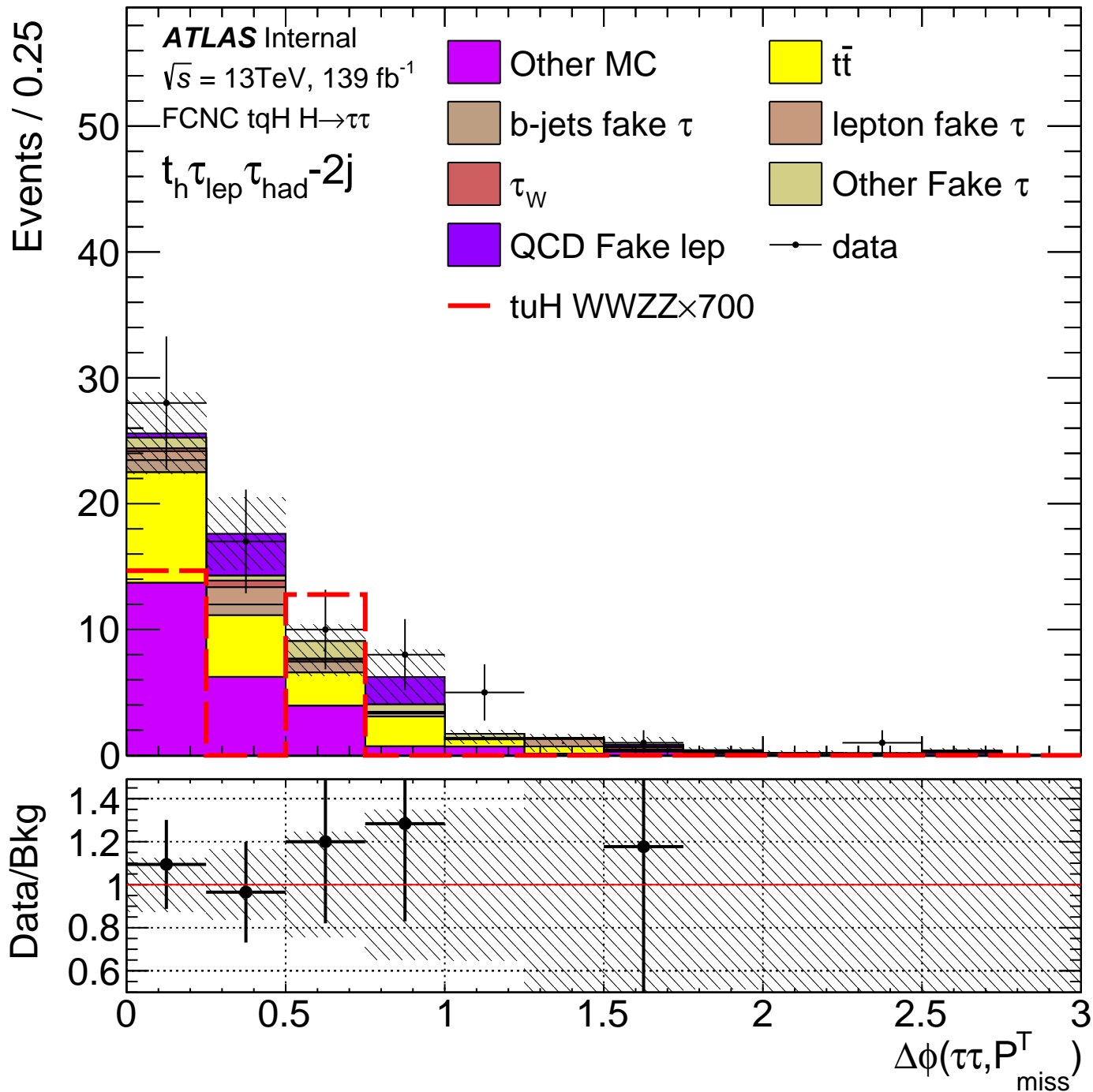
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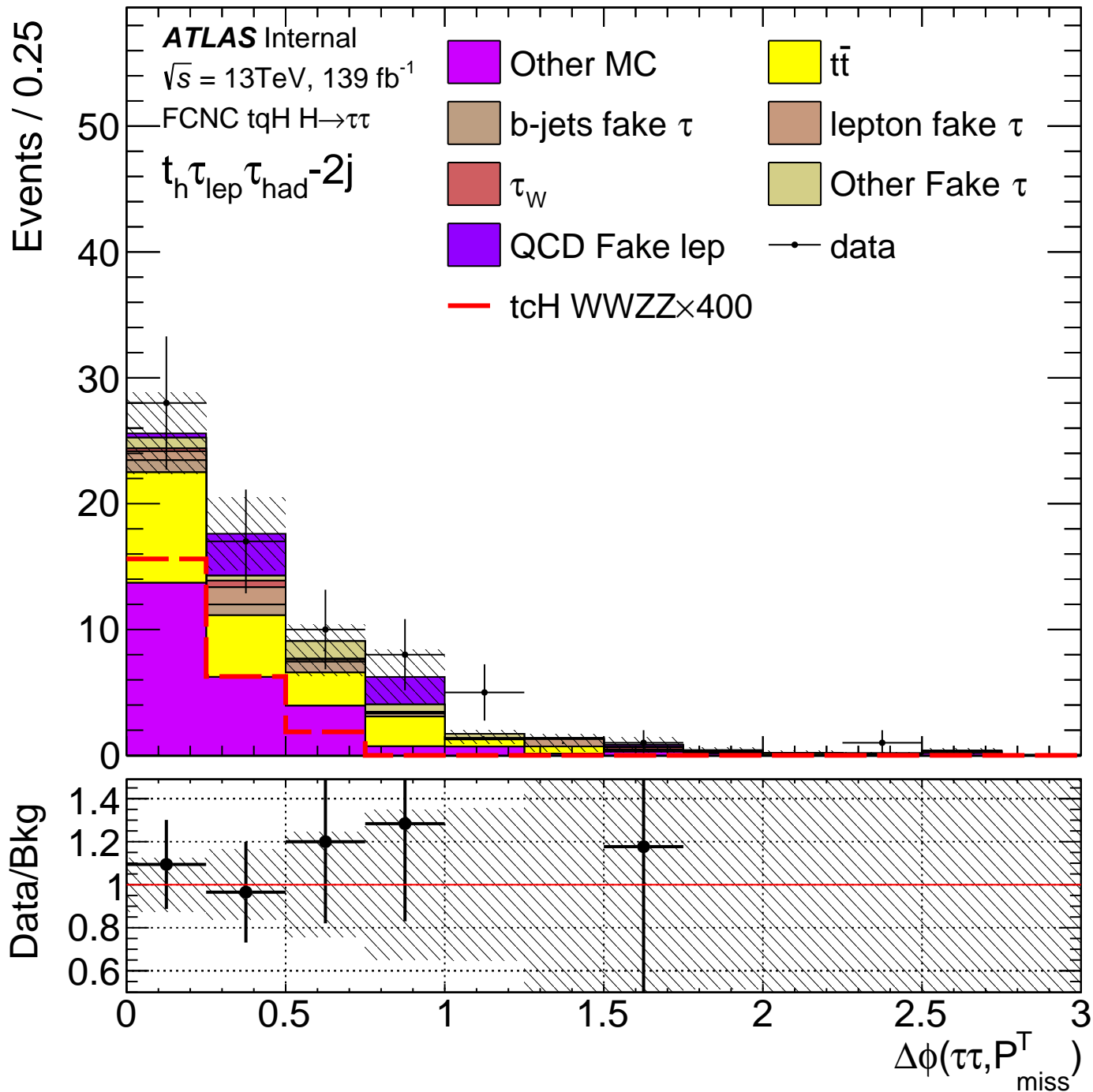
2.5

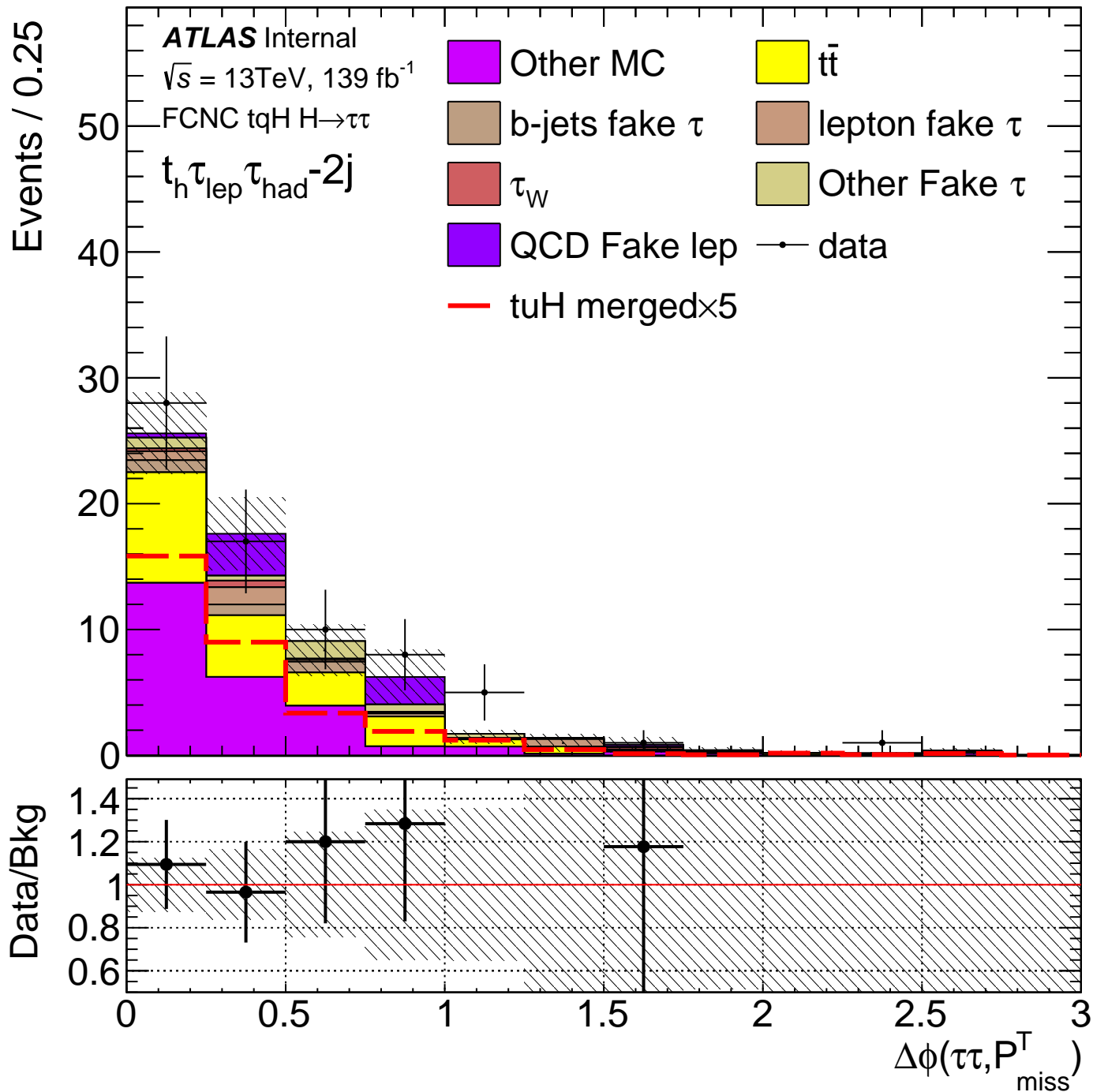
3

$\Delta\phi(\tau\tau, P_{\text{miss}}^T)$





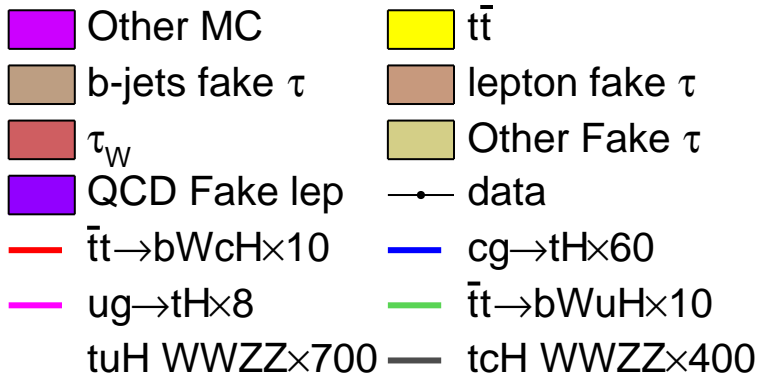






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Data/Bkg

