

Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

Diboson

Rare

 $t\bar{t}V$

Fake

 $t\bar{t} \rightarrow bWcH \times 80$

70

60

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

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

0

0.5

1

1.5

2

2.5

3

Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

Diboson

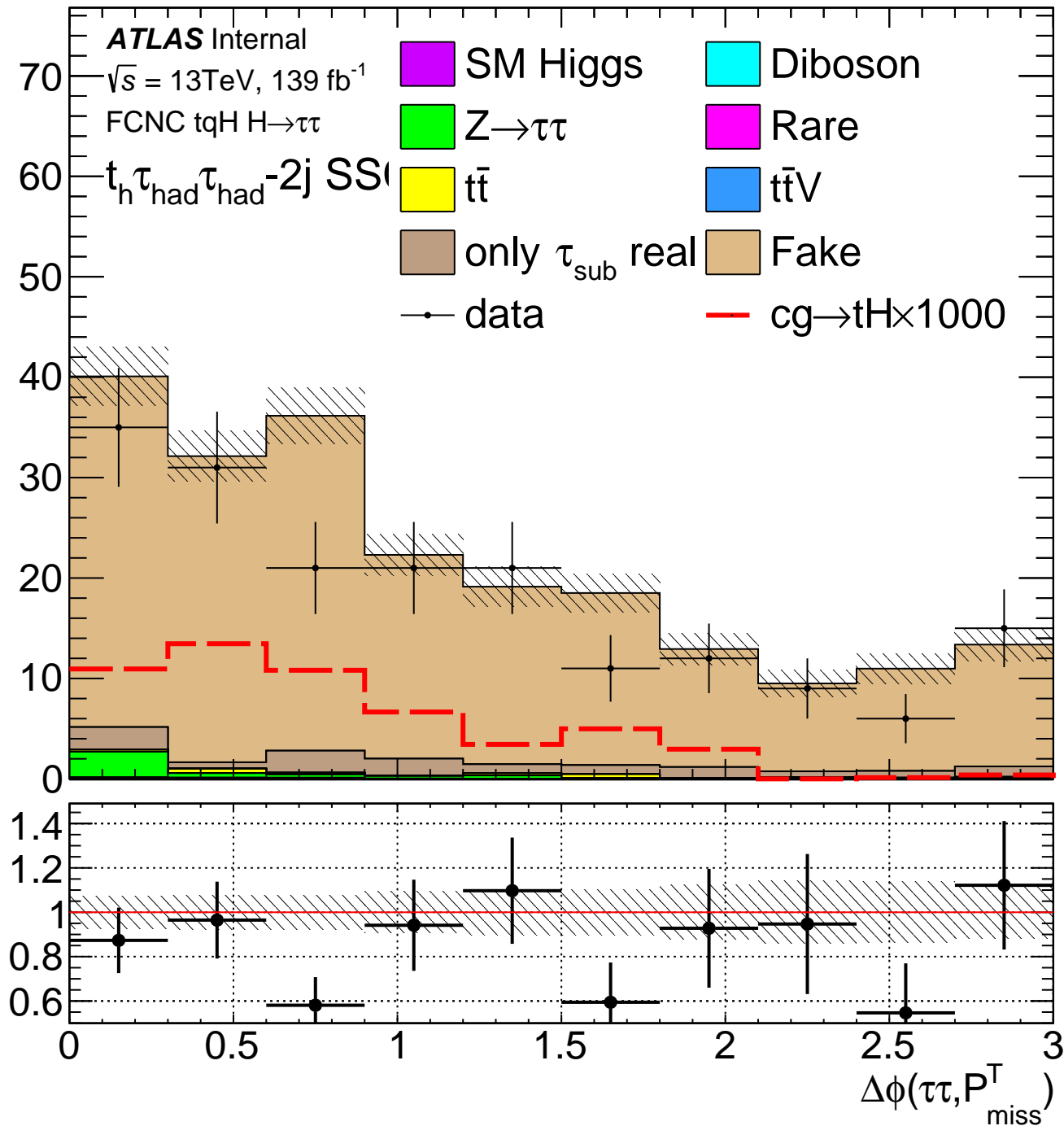
Rare

 $t\bar{t}V$

Fake

 $cg \rightarrow tH \times 1000$

Data/Bkg



Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

Diboson

Rare

 $t\bar{t}V$

Fake

tcH merged $\times 70$

70

60

50

40

30

20

10

0

Data/Bkg

1.4

1.2

1.0

0.8

0.6

0

0.5

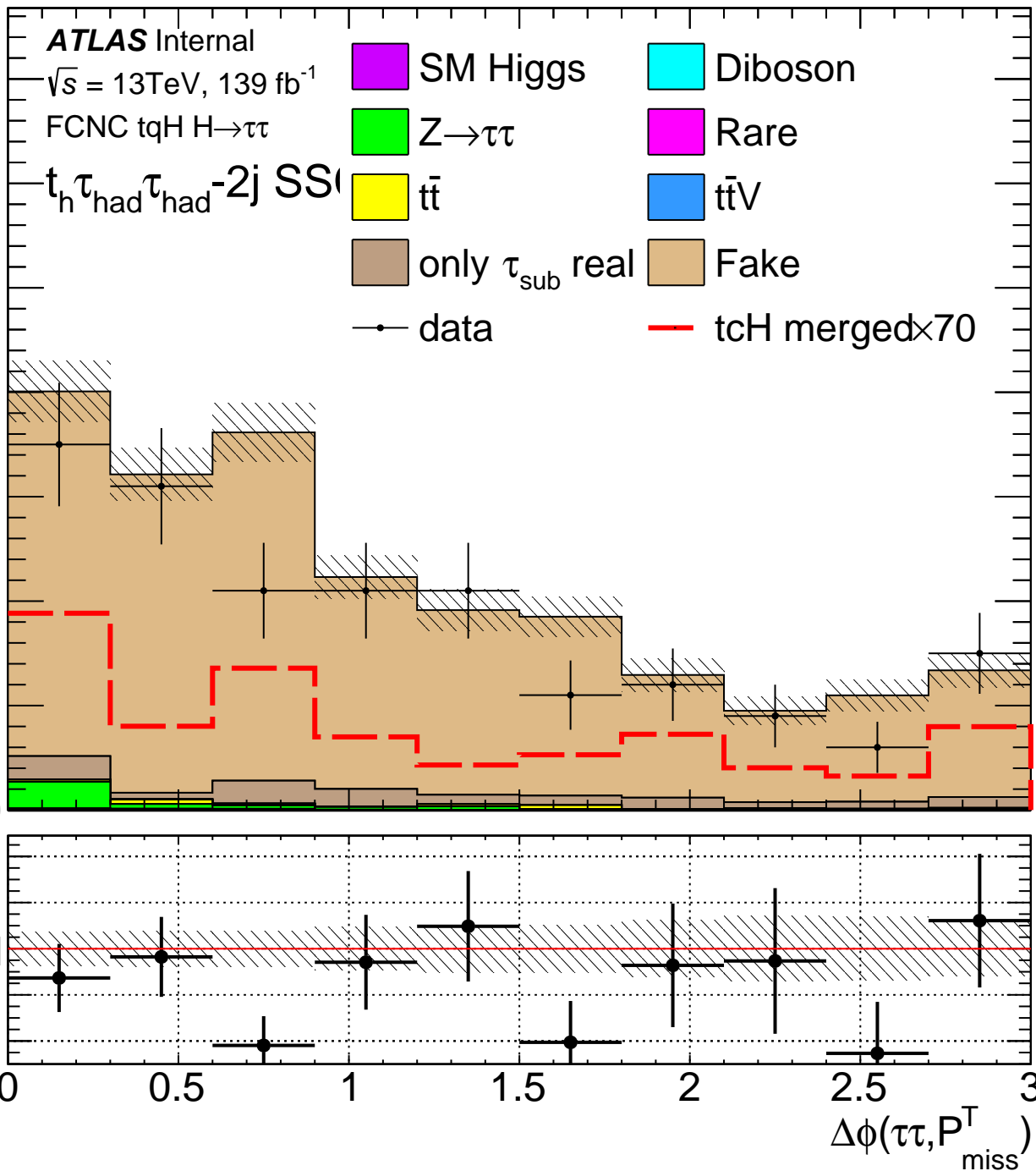
1

1.5

2

2.5

3

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

Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

Diboson

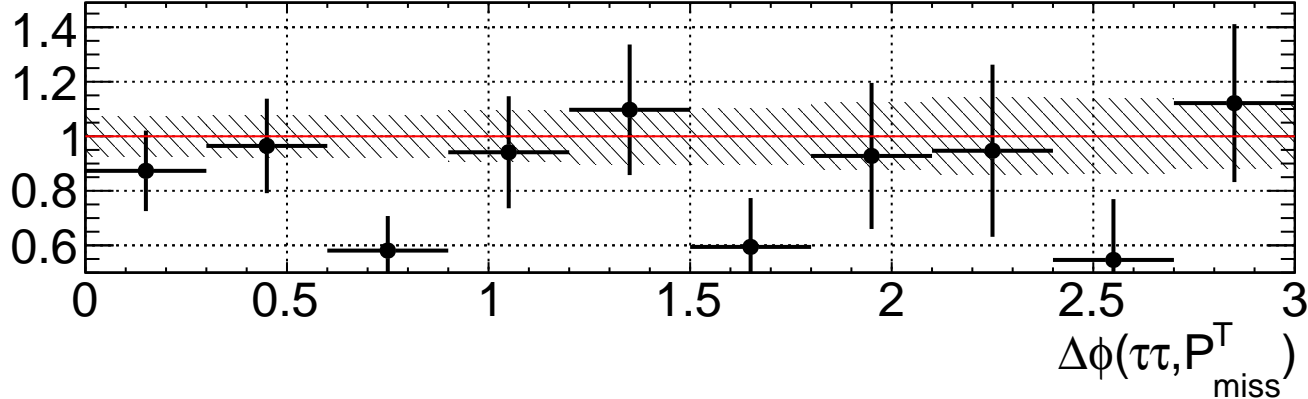
Rare

 $t\bar{t}V$

Fake

 $t\bar{t} \rightarrow bWuH \times 100$

Data/Bkg



Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

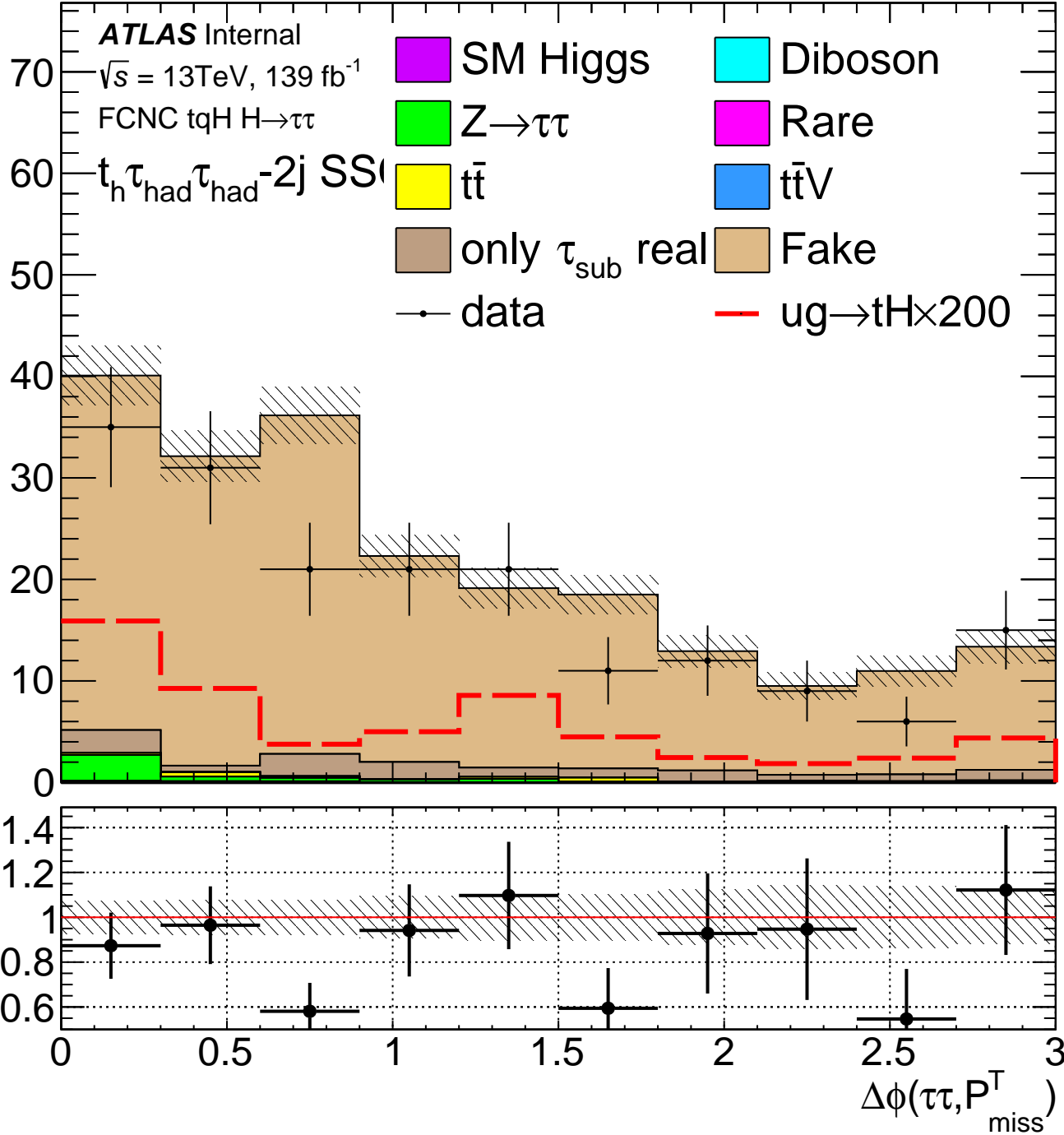
data

Diboson

Rare

 $t\bar{t}V$

Fake

 $u g \rightarrow t H \times 200$ 

Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}($

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

Diboson

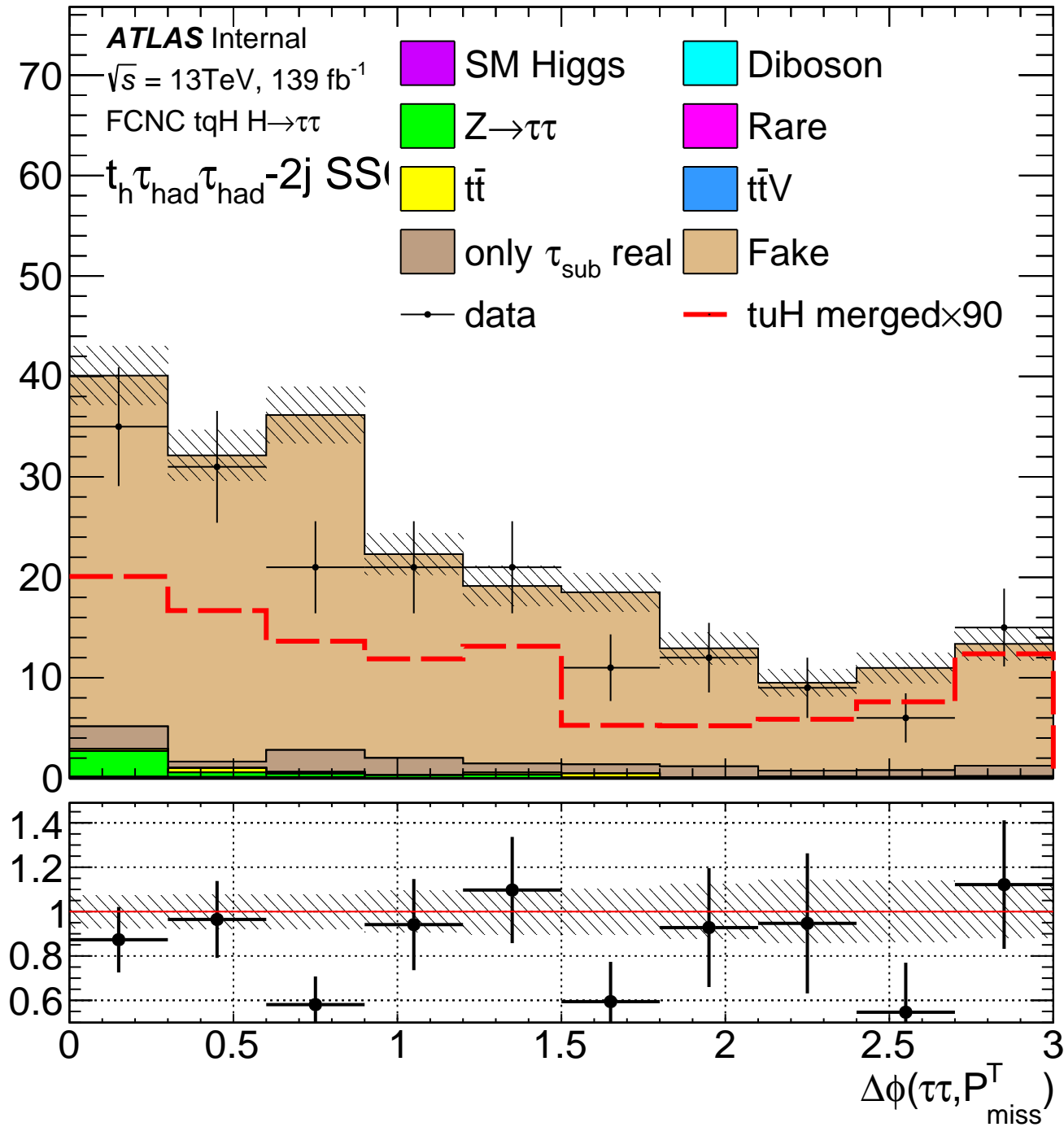
Rare

 $t\bar{t}V$

Fake

tuH merged $\times 90$

Data/Bkg



Events / 0.30

ATLAS Internal $\sqrt{s} = 13\text{TeV}, 139\text{ fb}^{-1}$ FCNC tqH $H \rightarrow \tau\tau$ $t_h \tau_{\text{had}} \tau_{\text{had}} - 2j \text{ SS}(\tau_{\text{had}})$

SM Higgs

 $Z \rightarrow \tau\tau$ $t\bar{t}$ only τ_{sub} real

data

 $cg \rightarrow tH \times 1000$ $ug \rightarrow tH \times 200$

Diboson

Rare

 $t\bar{t}V$

Fake

 $t\bar{t} \rightarrow bWcH \times 80$ $t\bar{t} \rightarrow bWuH \times 100$

Data/Bkg

