

Events / 0.25

**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  $\tau_{\text{sub}}$  real

data

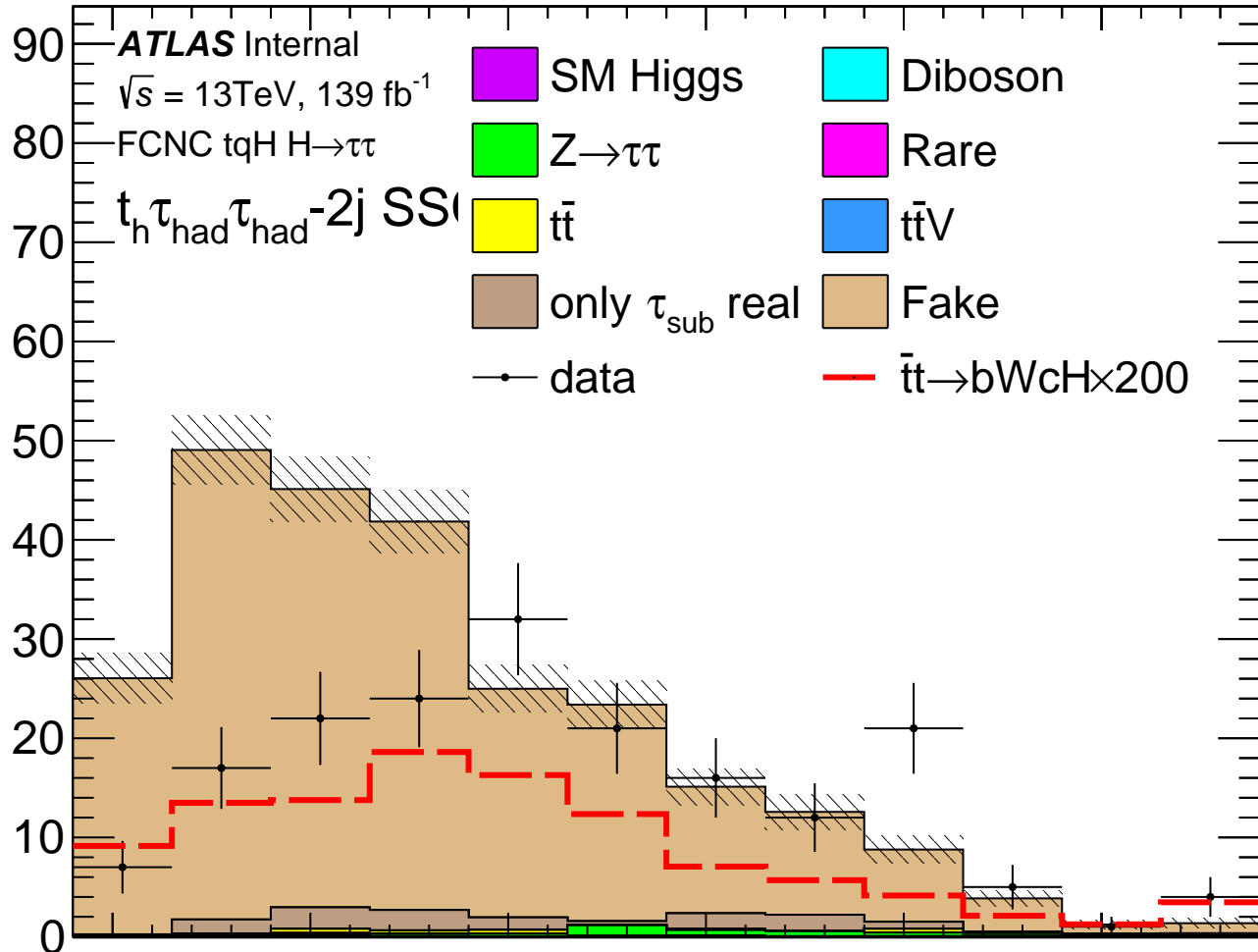
Diboson

Rare

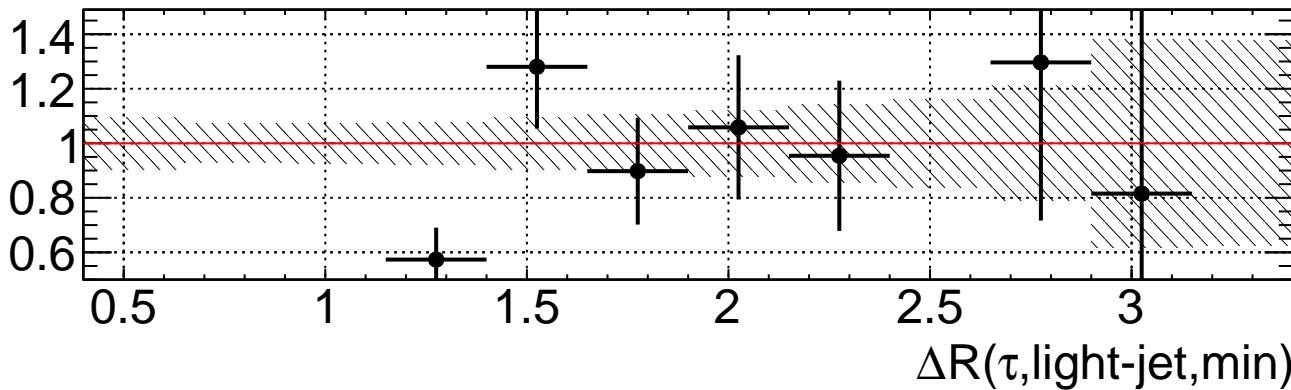
$t\bar{t}V$

Fake

$t\bar{t} \rightarrow bWcH \times 200$



Data/Bkg



Events / 0.25

**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  $\tau_{\text{sub}}$  real

data

Diboson

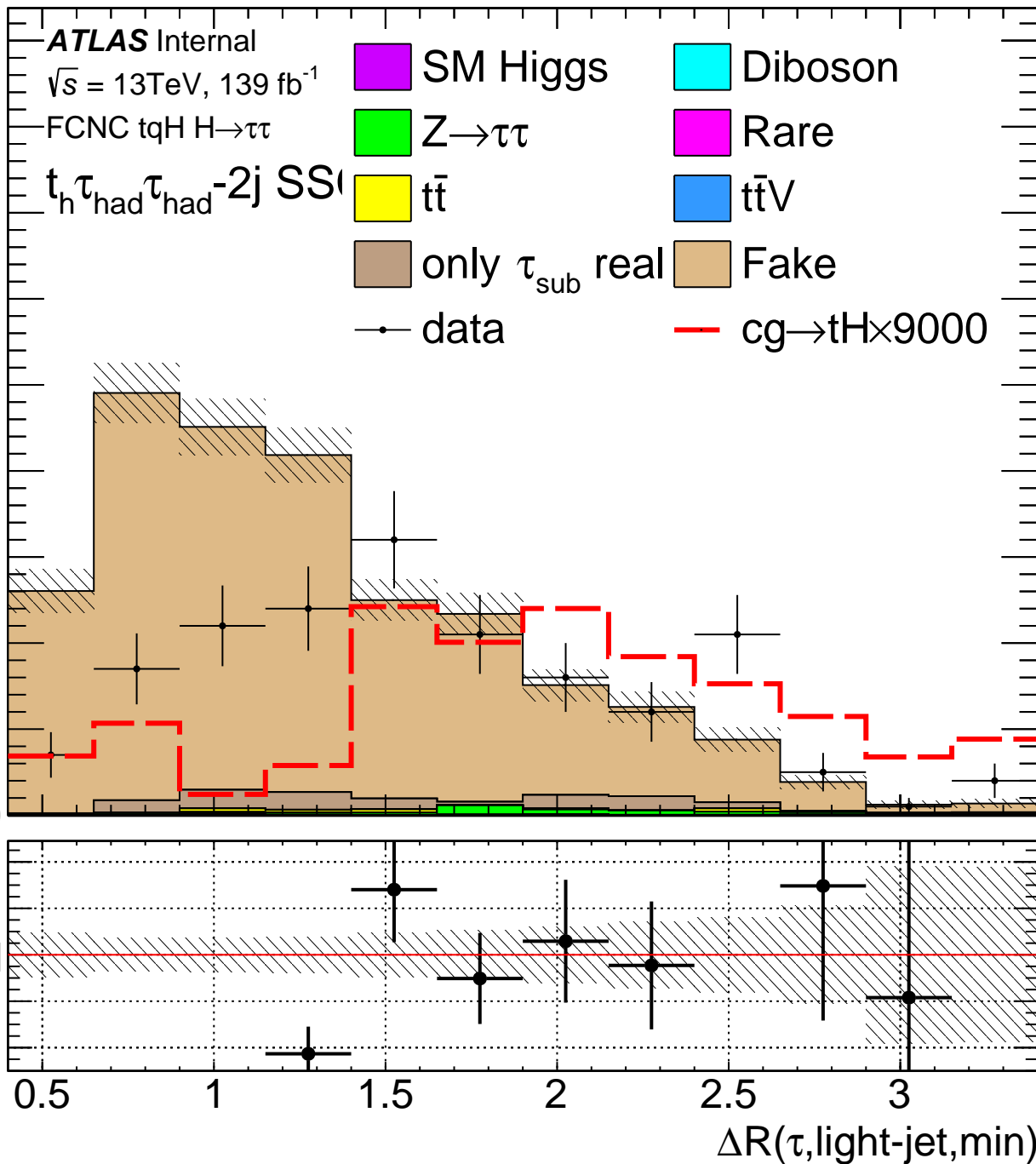
Rare

 $t\bar{t}V$ 

Fake

 $cg \rightarrow tH \times 9000$ 

Data/Bkg

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

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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  $\tau_{\text{sub}}$  real

data

Diboson

Rare

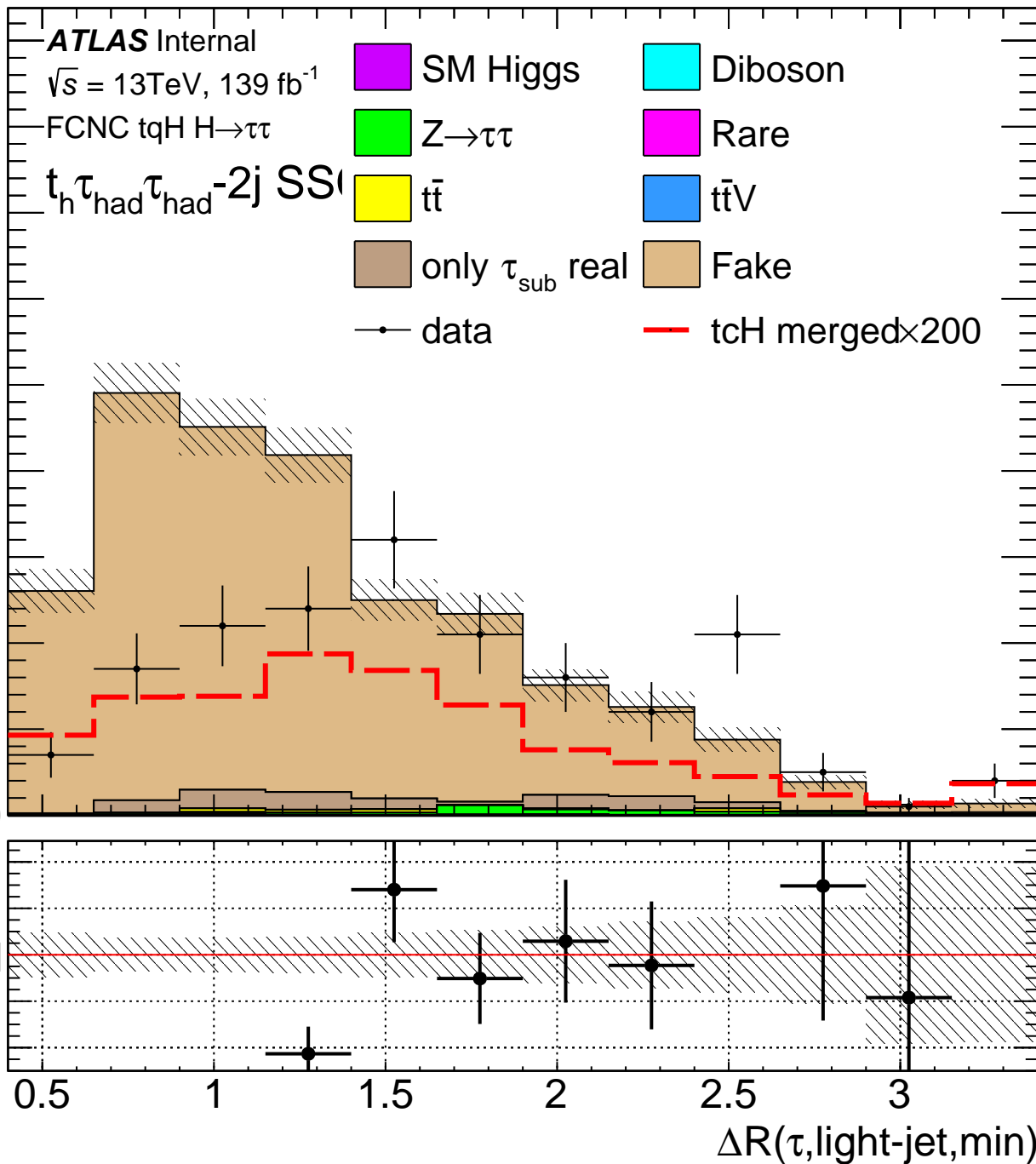
$t\bar{t}V$

Fake

tcH merged  $\times 200$

Data/Bkg

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



Events / 0.25

**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  $\tau_{\text{sub}}$  real

data

Diboson

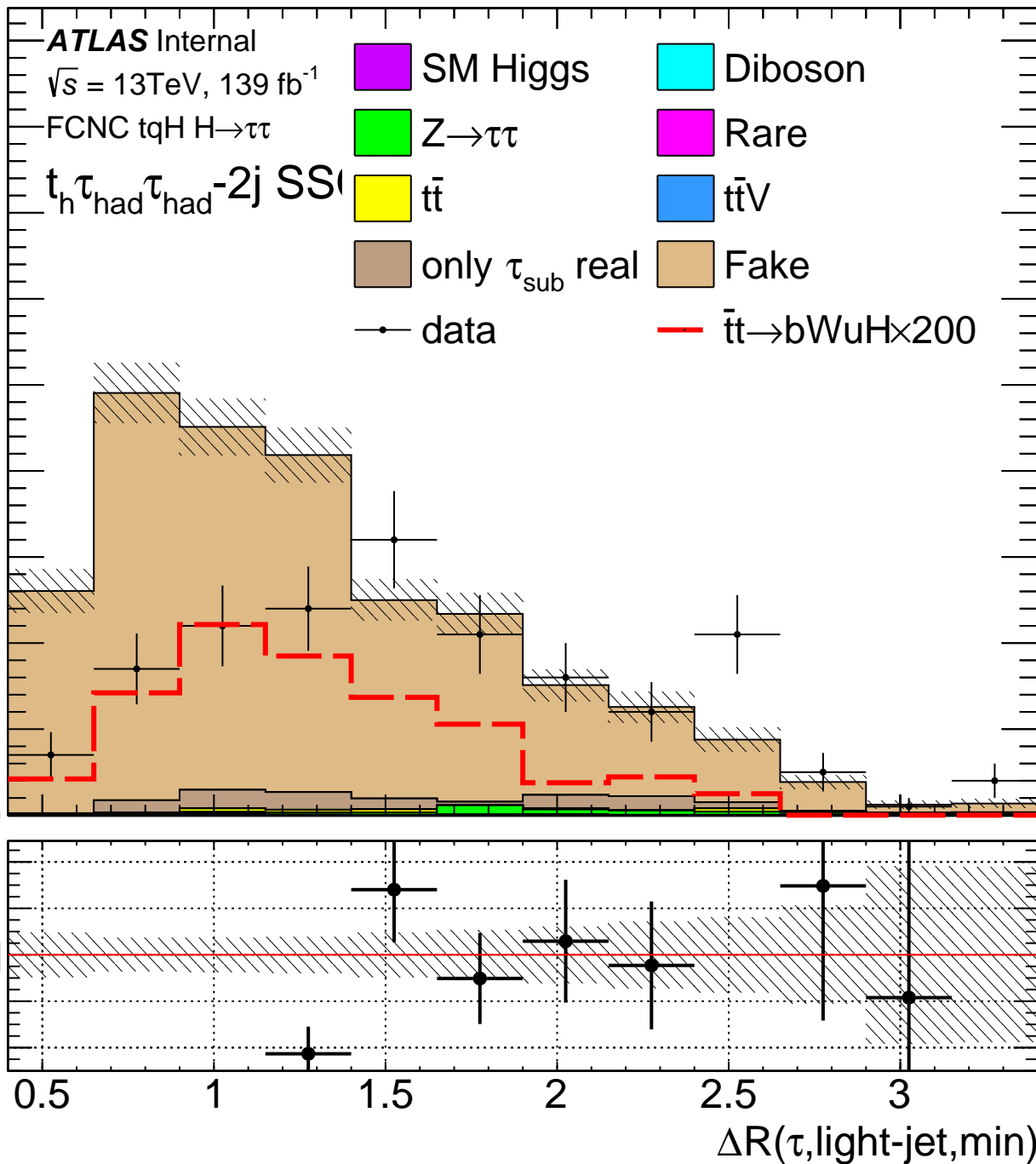
Rare

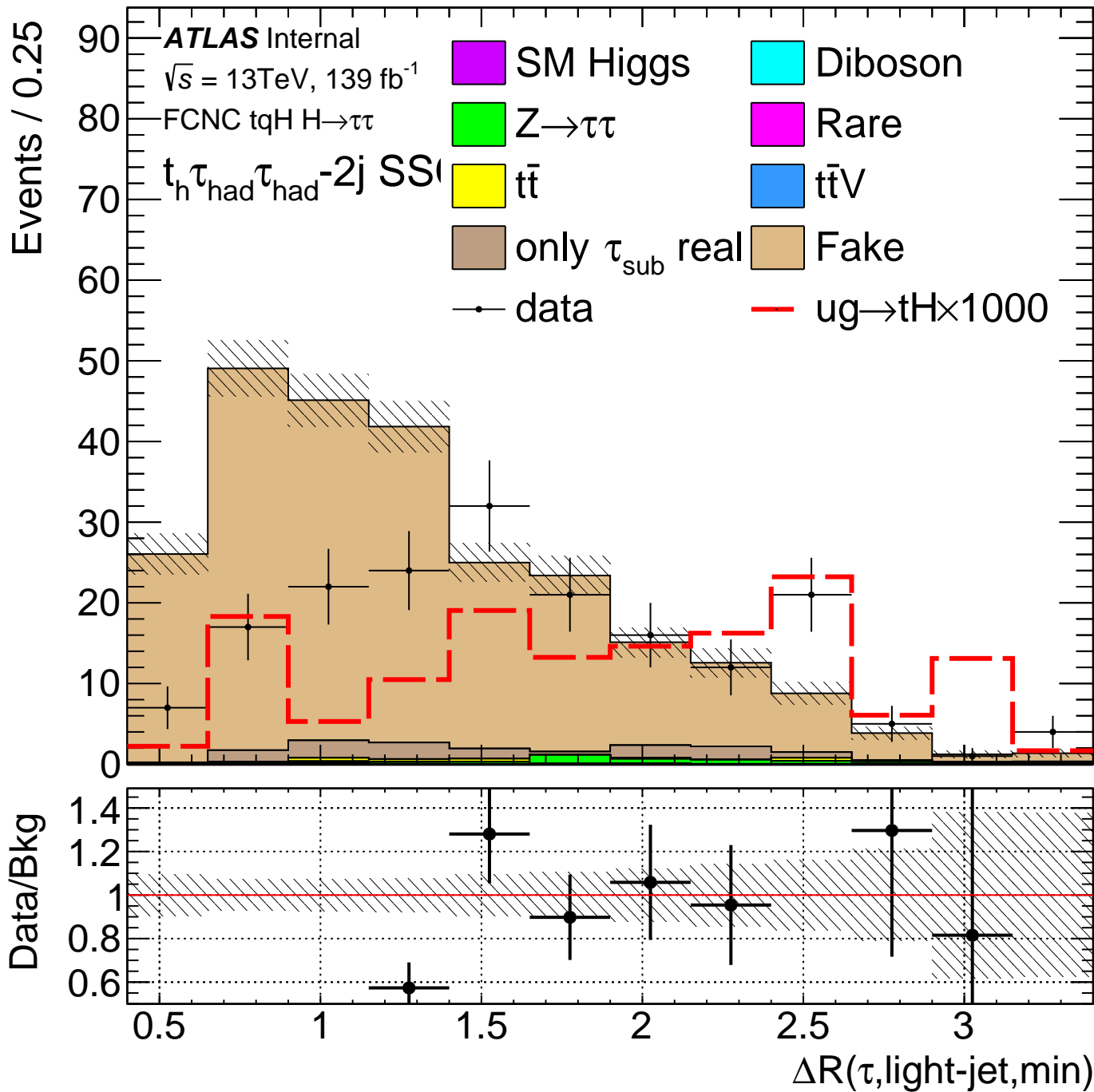
 $t\bar{t}V$ 

Fake

 $t\bar{t} \rightarrow bWuH \times 200$ 

Data/Bkg

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



Events / 0.25

Data/Bkg

**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  $\tau_{\text{sub}}$  real

data

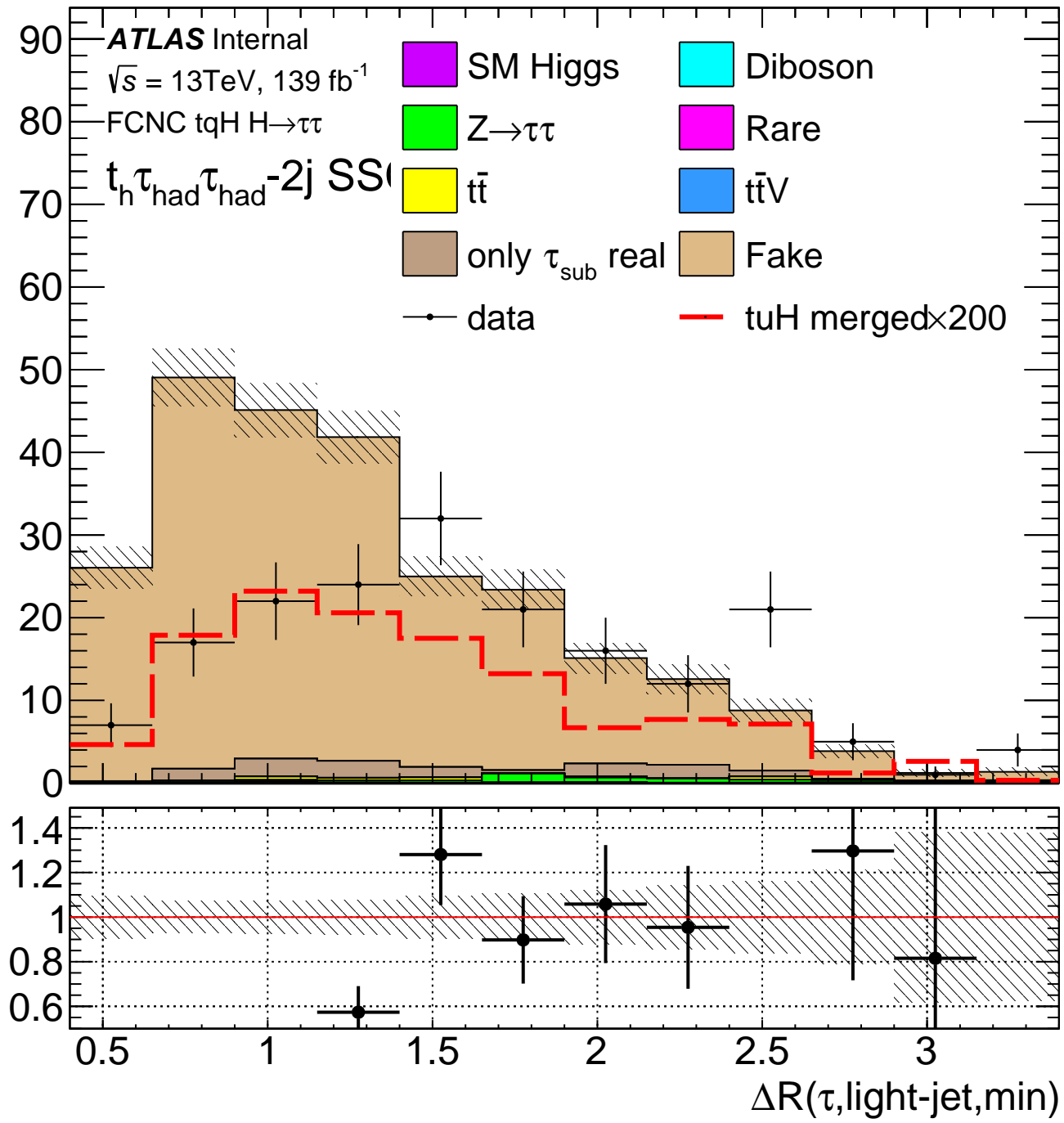
Diboson

Rare

$t\bar{t}V$

Fake

tuH merged  $\times 200$



Events / 0.25

**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  $\tau_{\text{sub}}$  real

data

 $cg \rightarrow tH \times 9000$  $ug \rightarrow tH \times 1000$ 

Diboson

Rare

 $t\bar{t}V$ 

Fake

 $t\bar{t} \rightarrow bWcH \times 200$  $t\bar{t} \rightarrow bWuH \times 200$ 

Data/Bkg

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