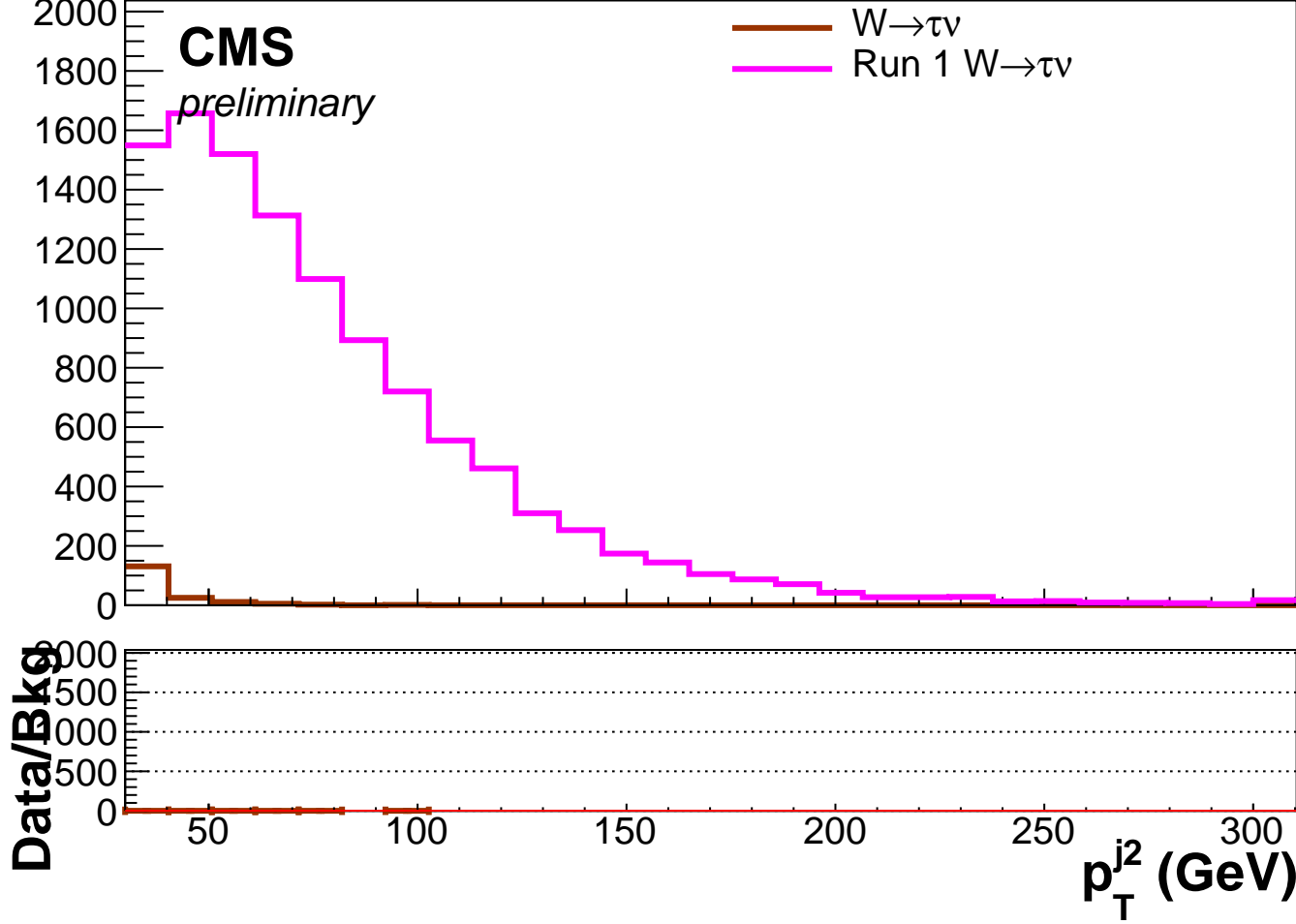


19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

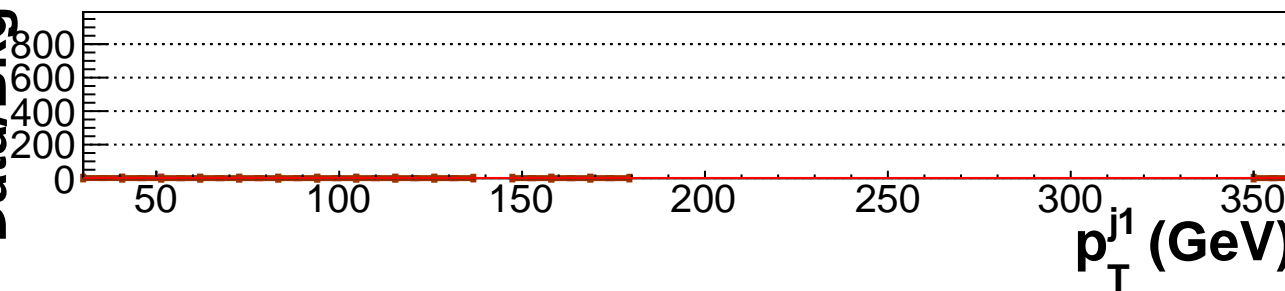
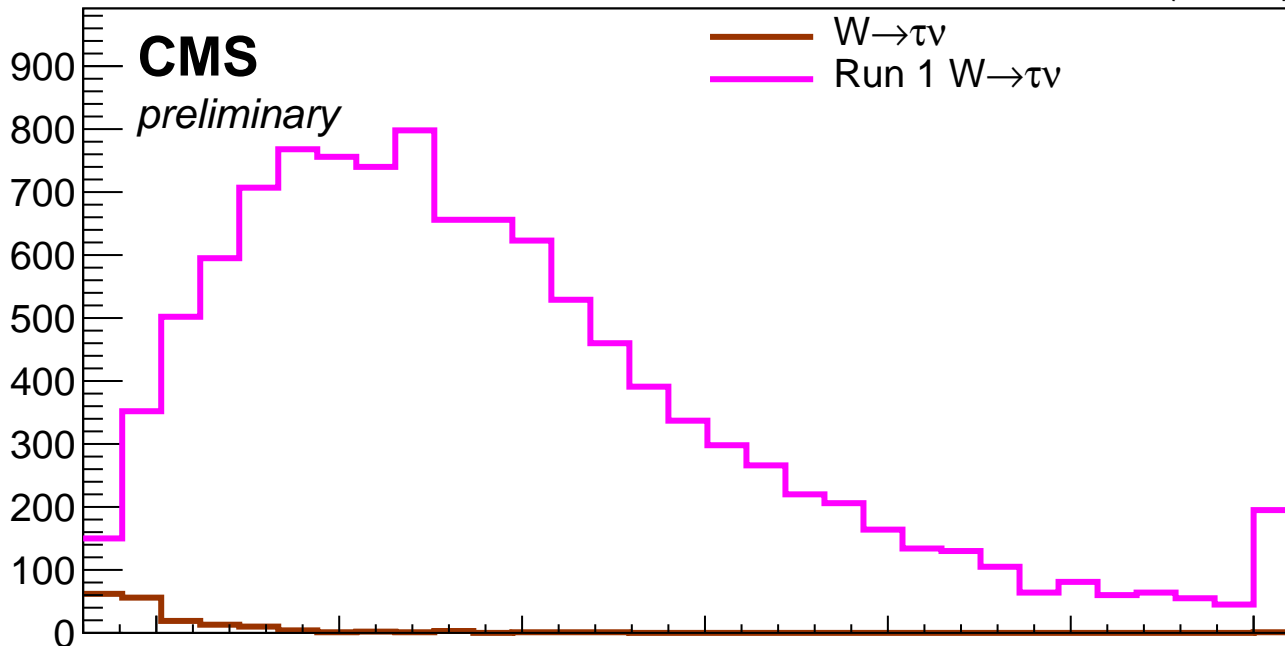
preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

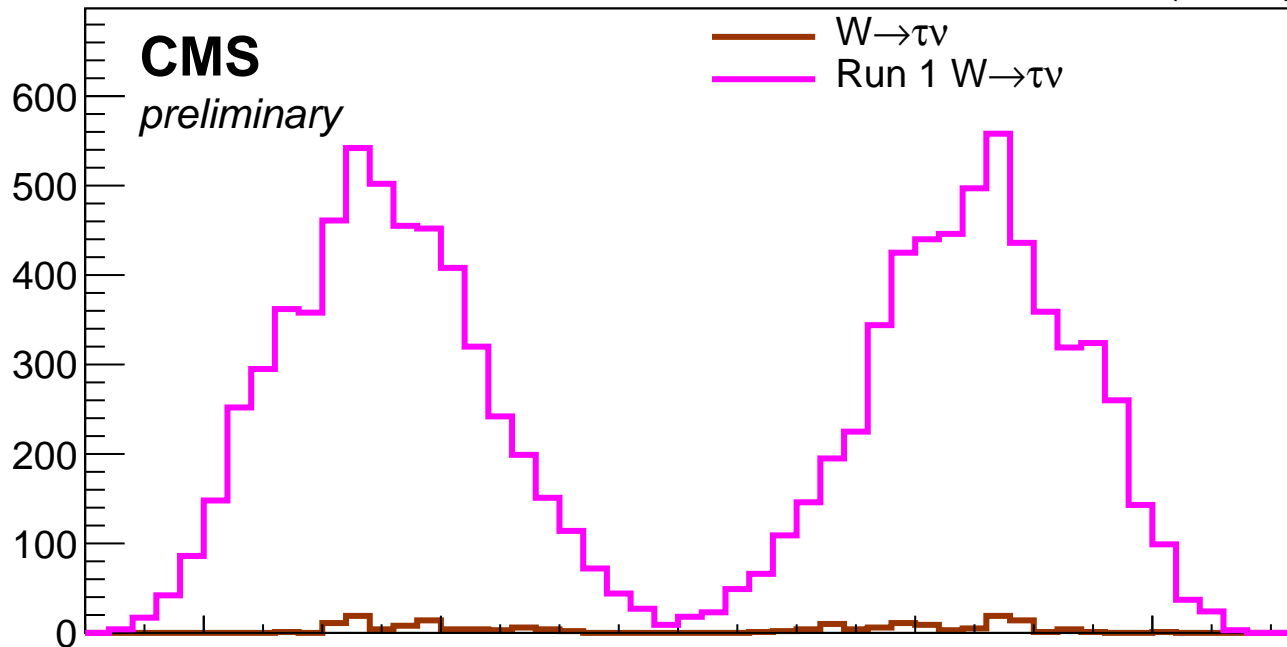
p_T^{j1} (GeV)



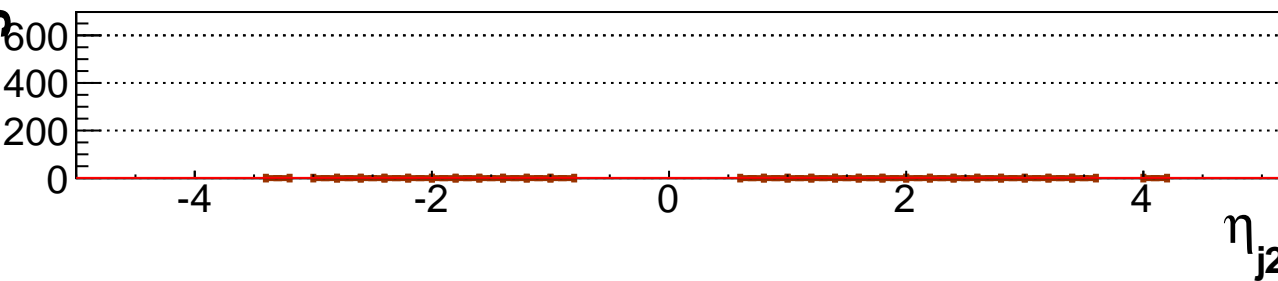
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



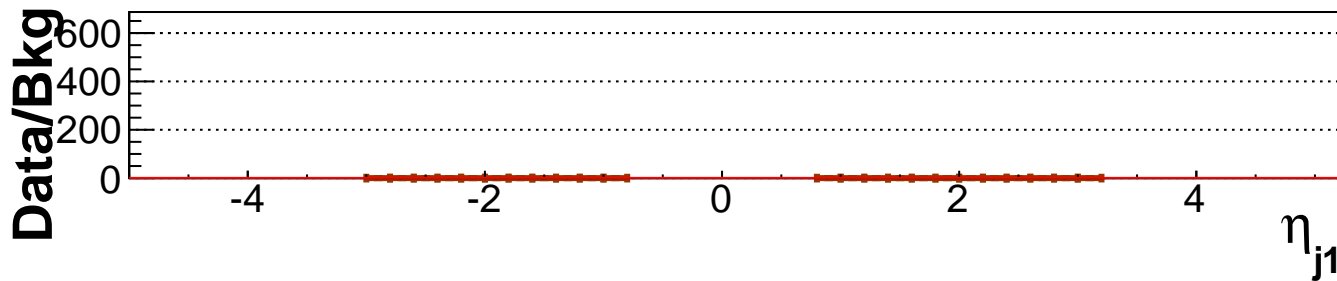
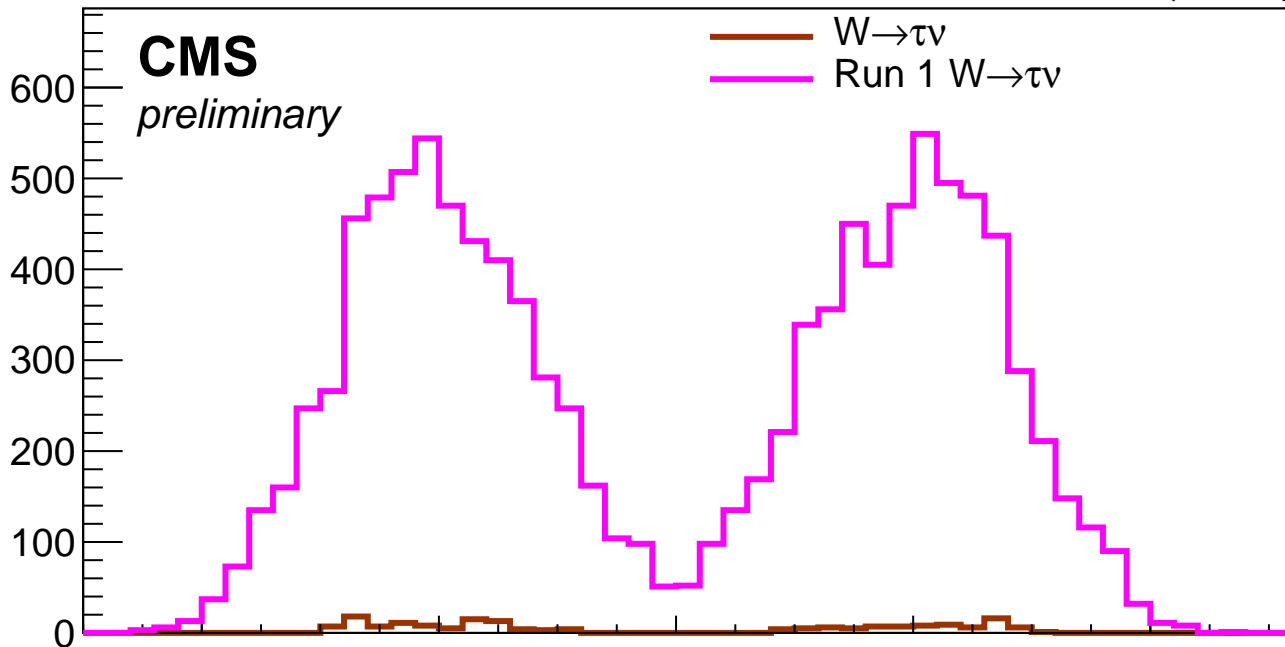
Data/Bkg



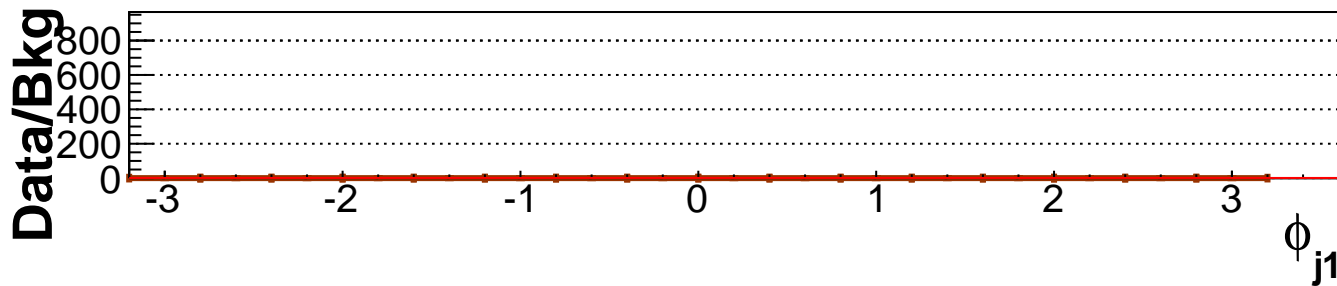
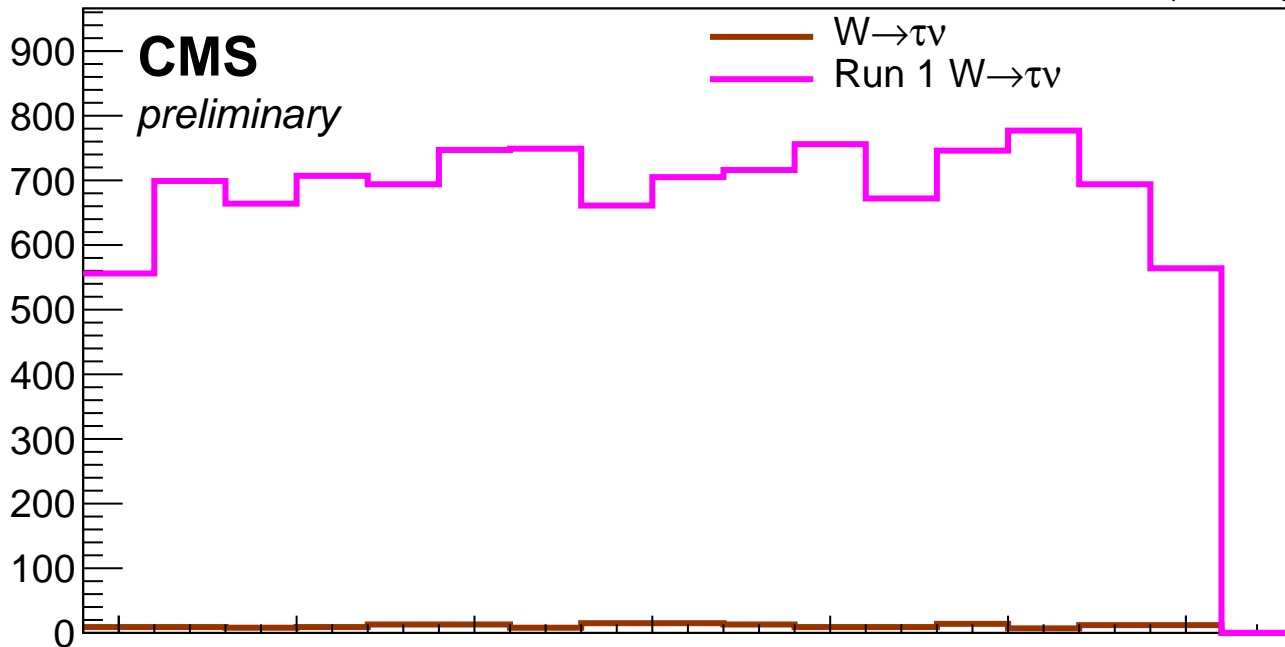
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)



19.2 fb⁻¹ (8 TeV)

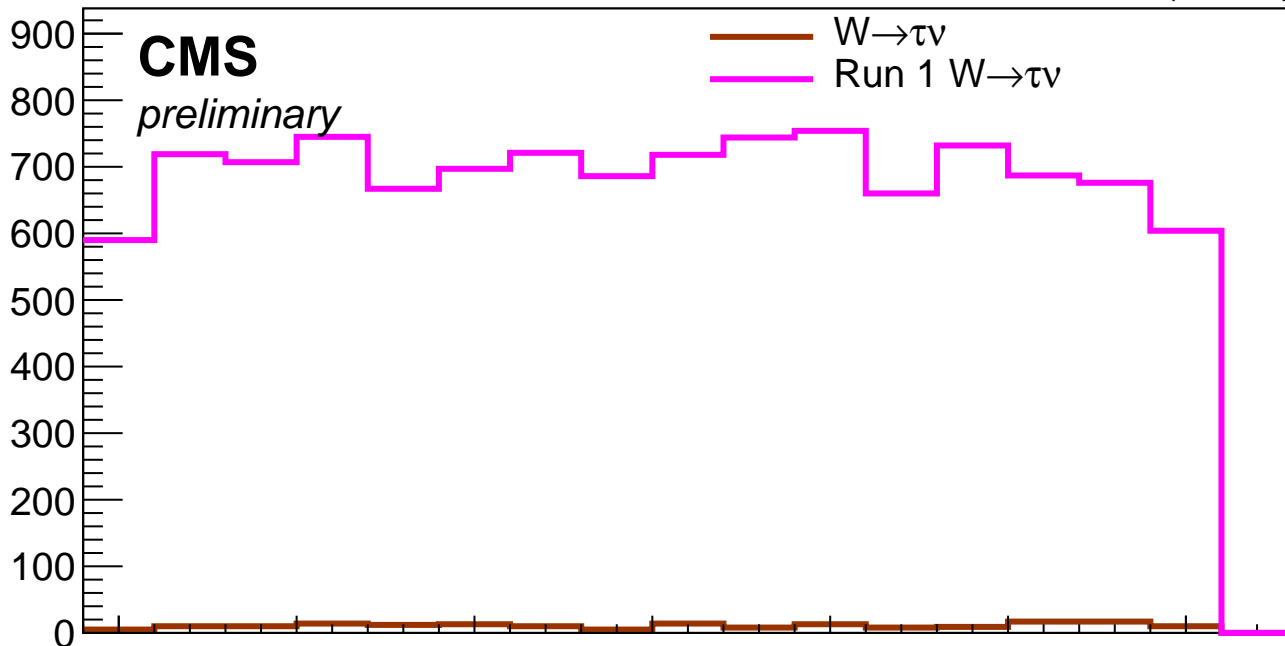
CMS

preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg



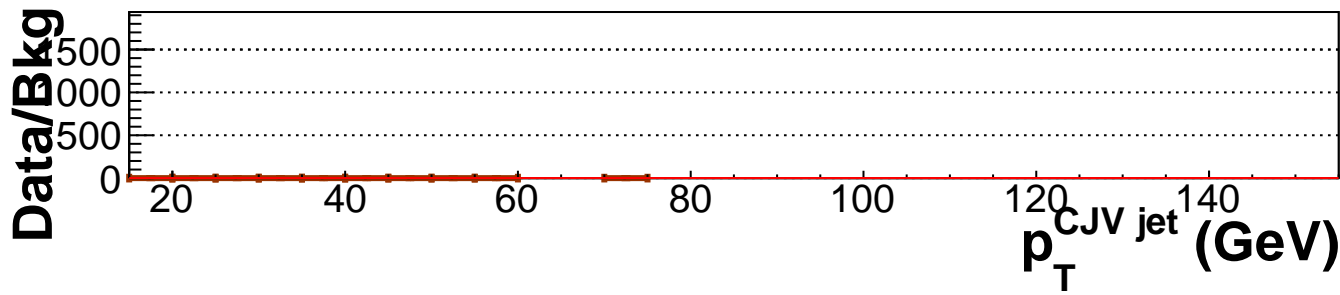
ϕ_{j2}

19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

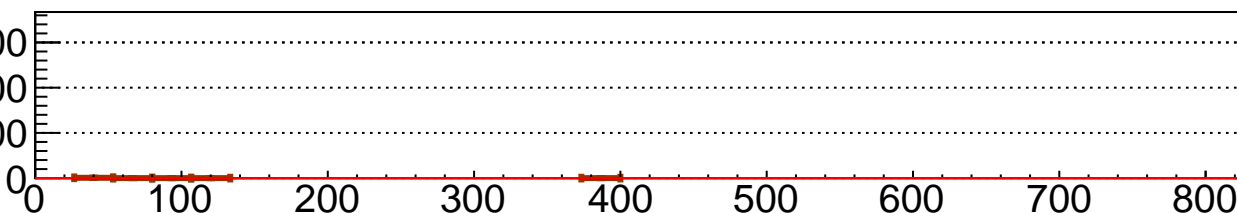
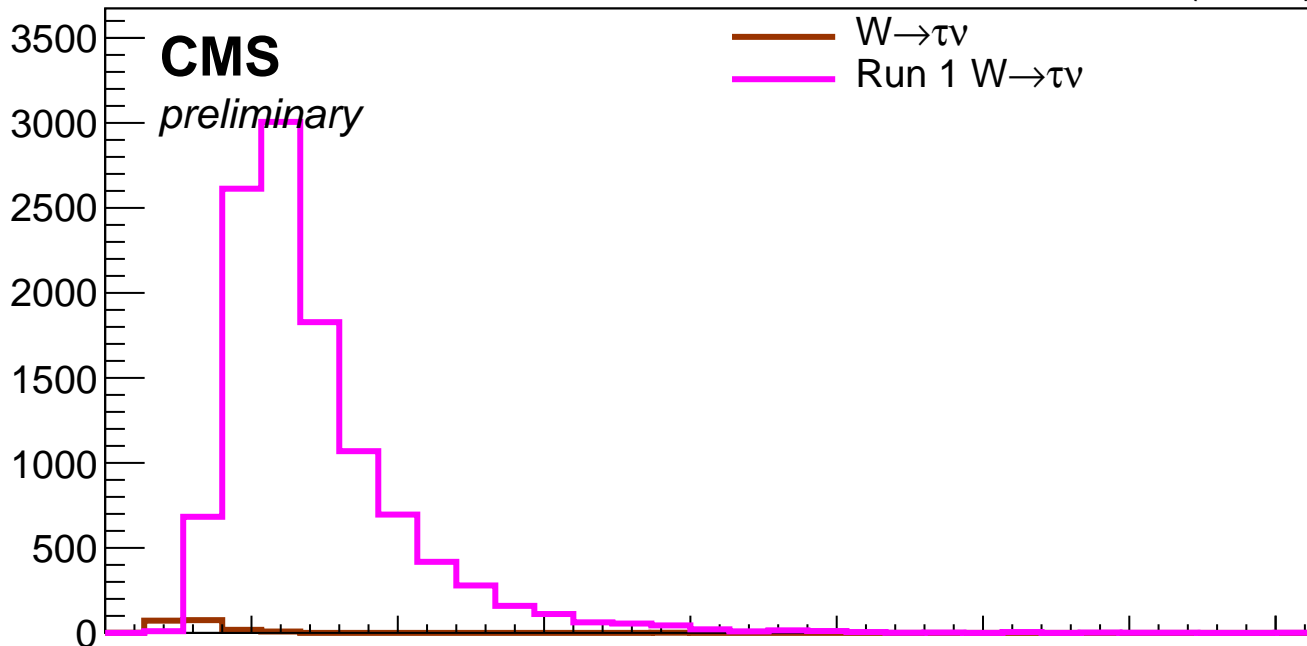
CMS

preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

Missing transverse energy (GeV)



19.2 fb⁻¹ (8 TeV)

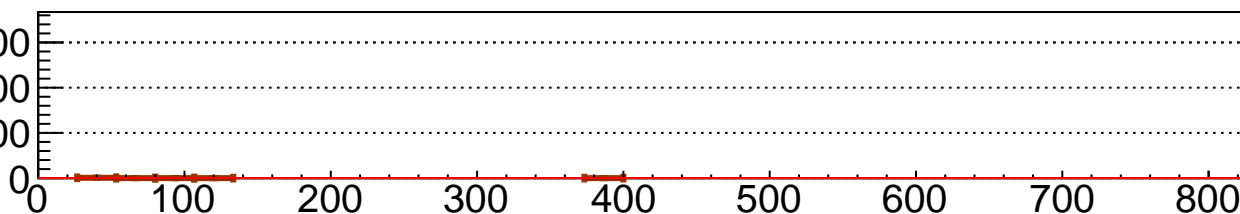
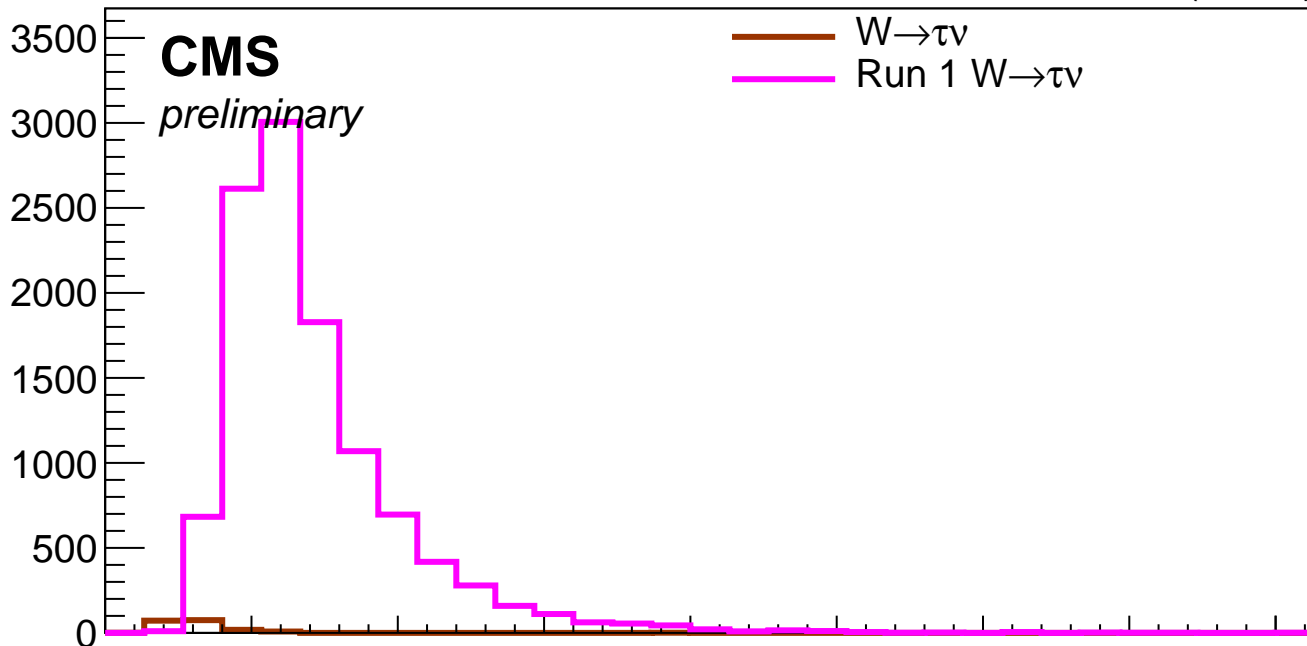
CMS

preliminary

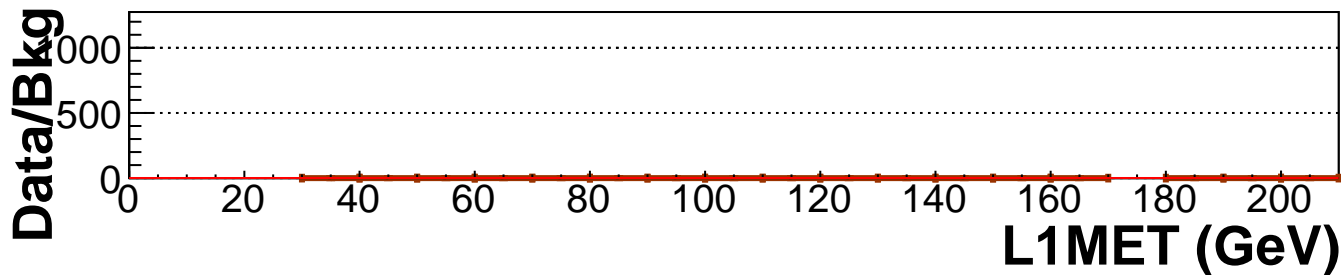
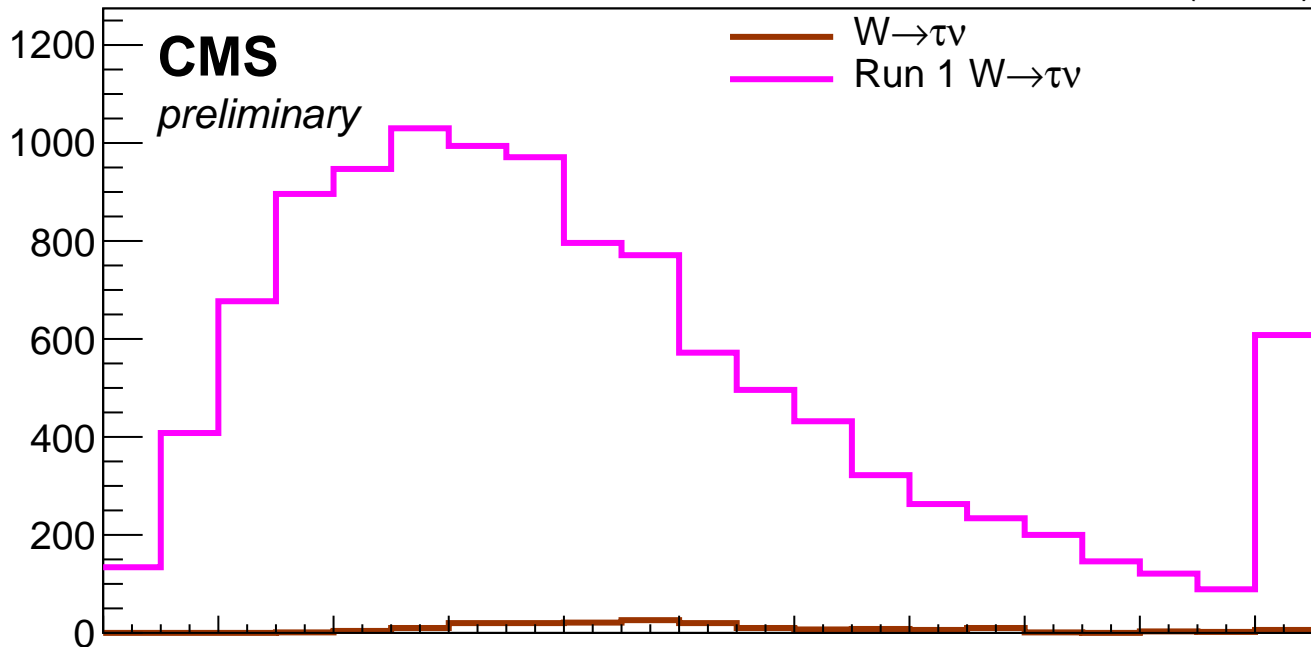
— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

MET (GeV)



19.2 fb⁻¹ (8 TeV)

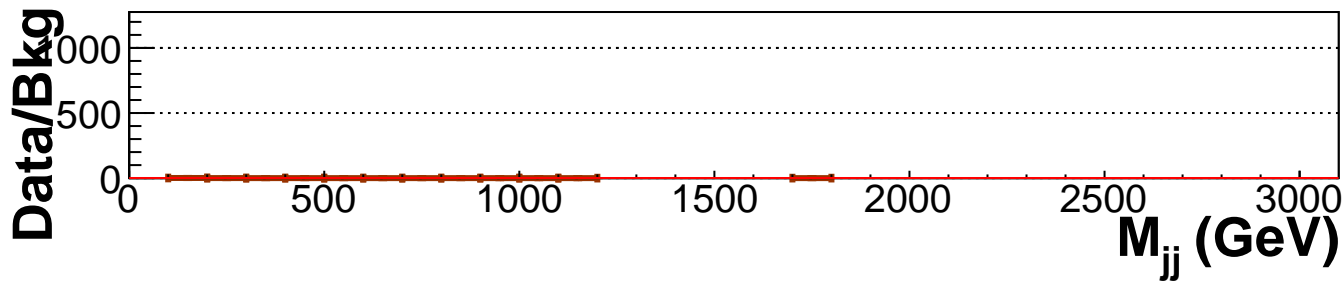


19.2 fb⁻¹ (8 TeV)

CMS

preliminary

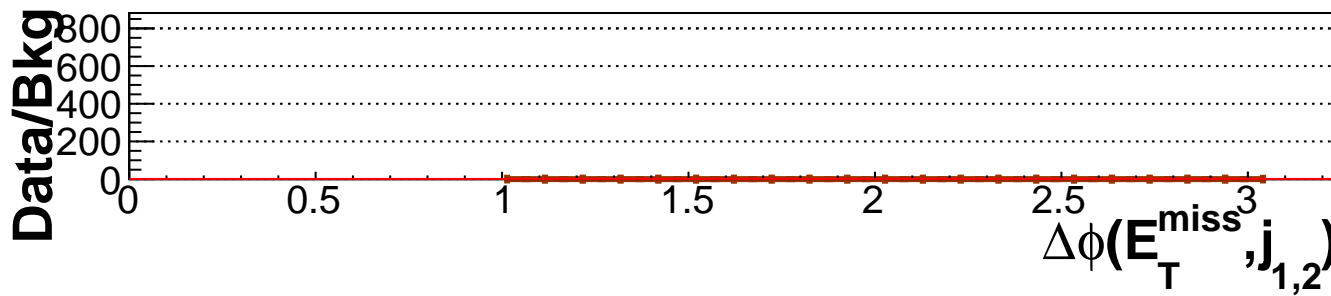
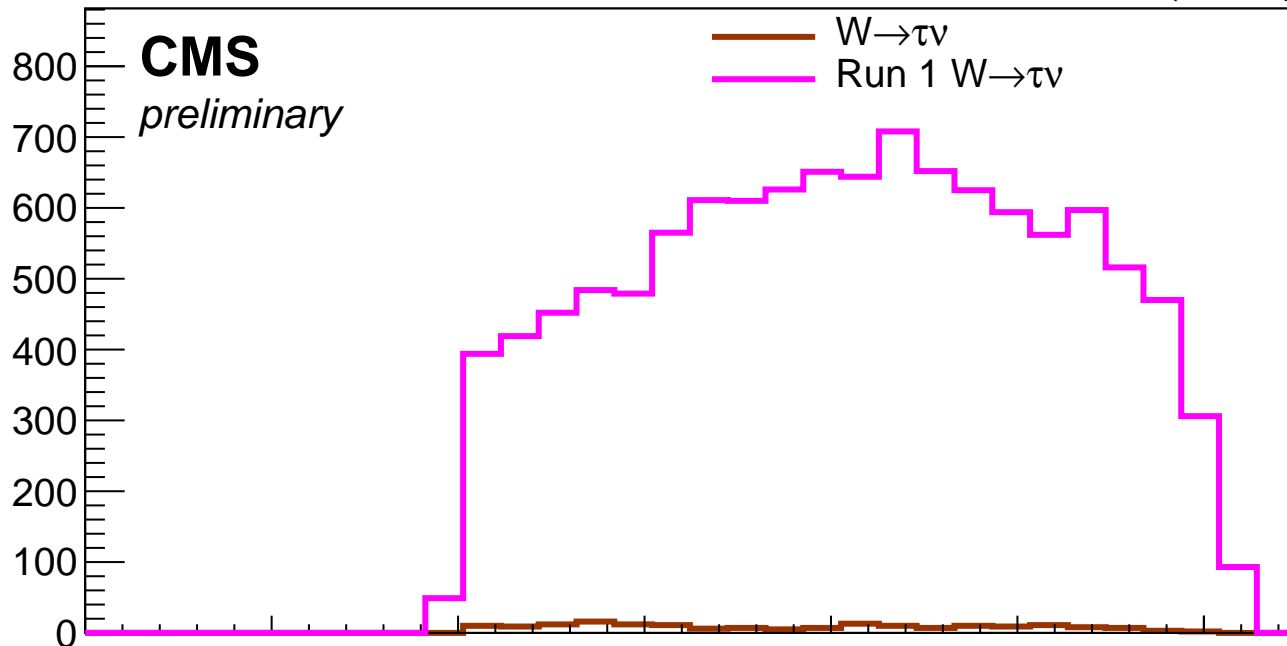
— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$

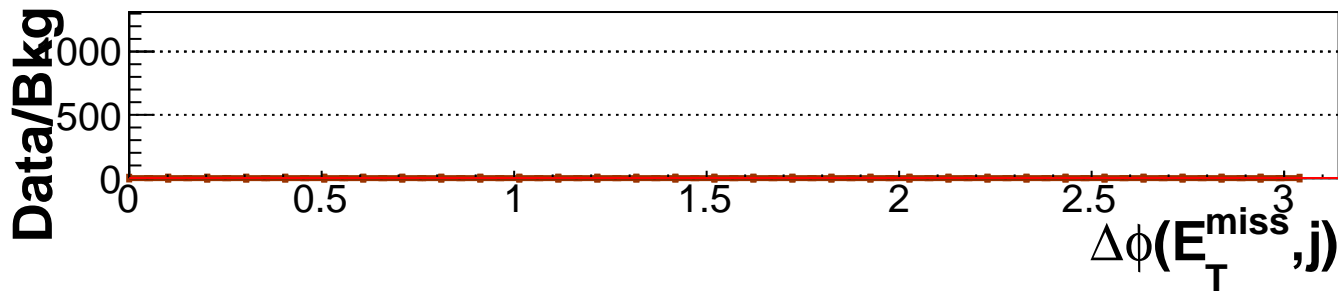


19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

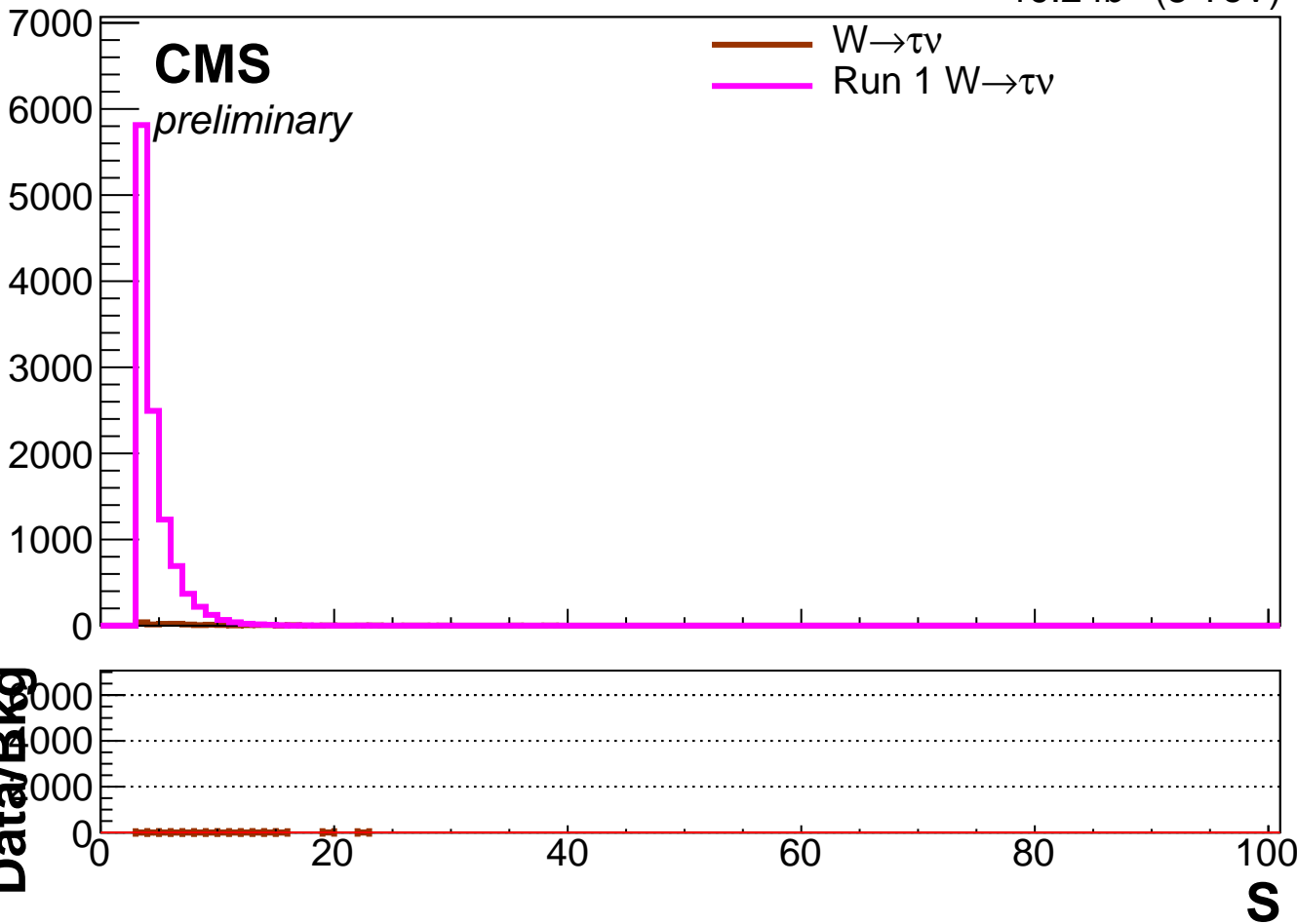
preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

S



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$

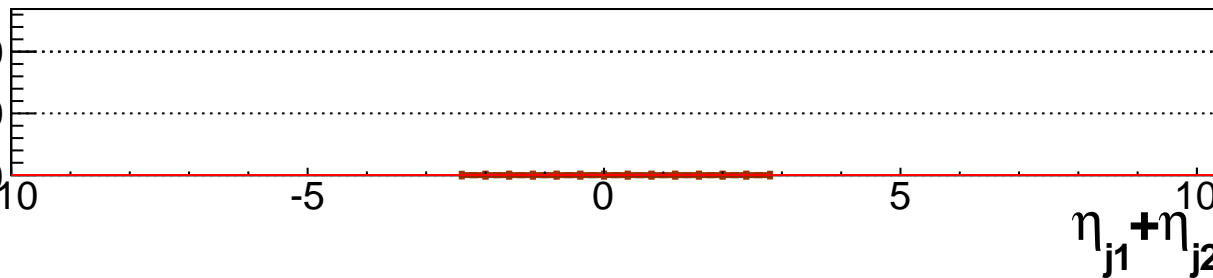
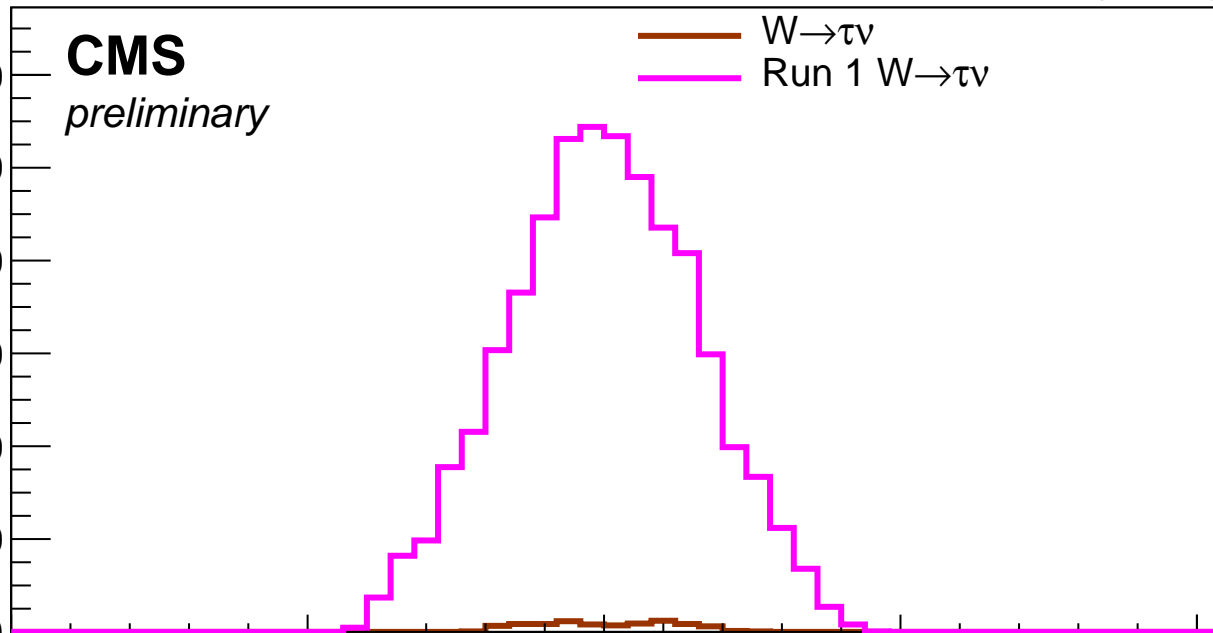
1200
1000
800
600
400
200
0

Data/Bkg

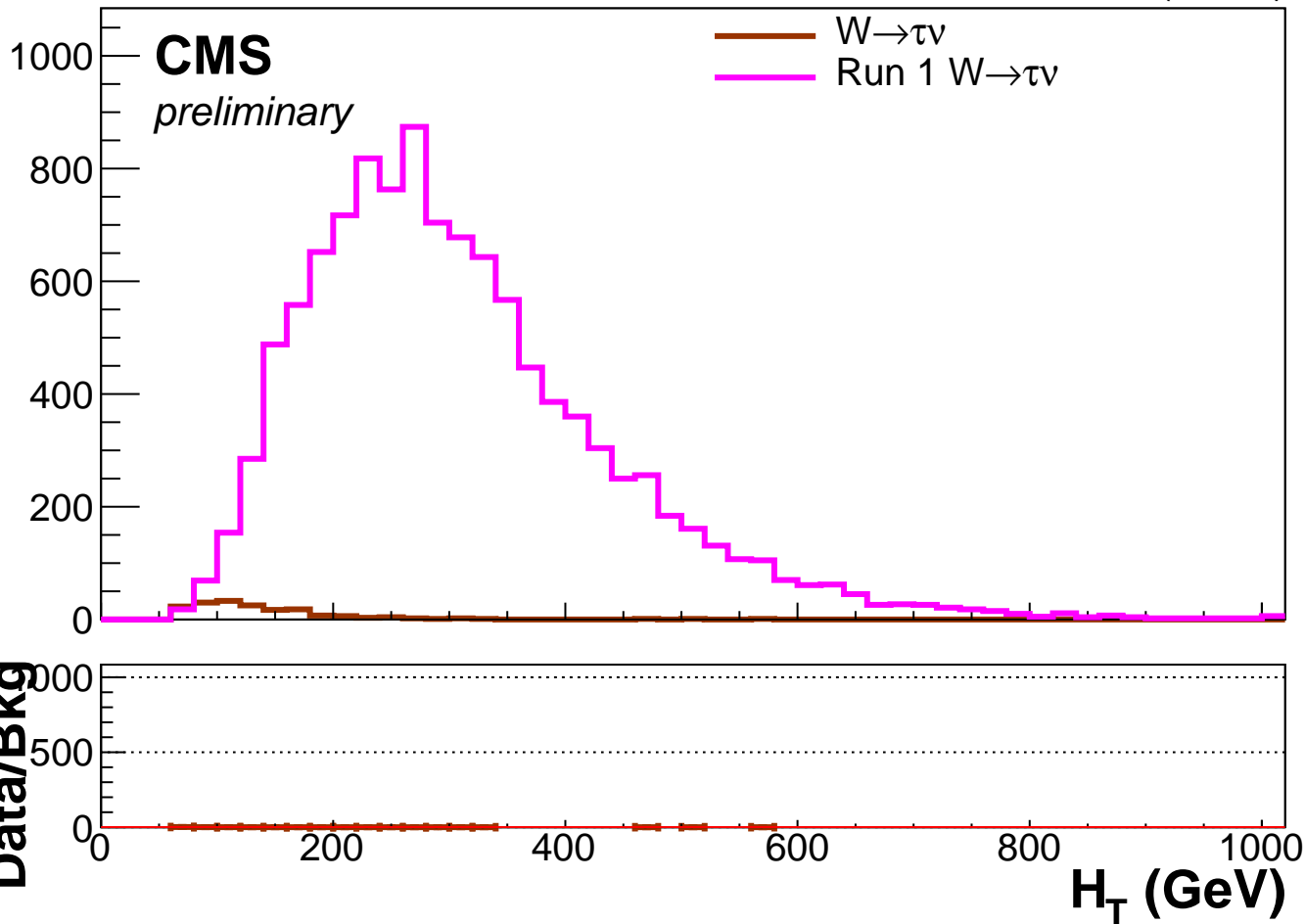
1000
500
0

$\eta_{j1} + \eta_{j2}$

-10
-5
0
5
10



19.2 fb⁻¹ (8 TeV)



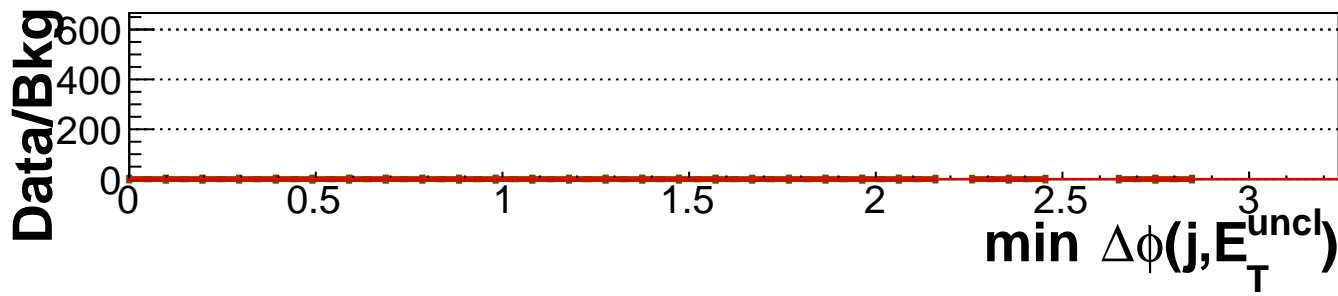
19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

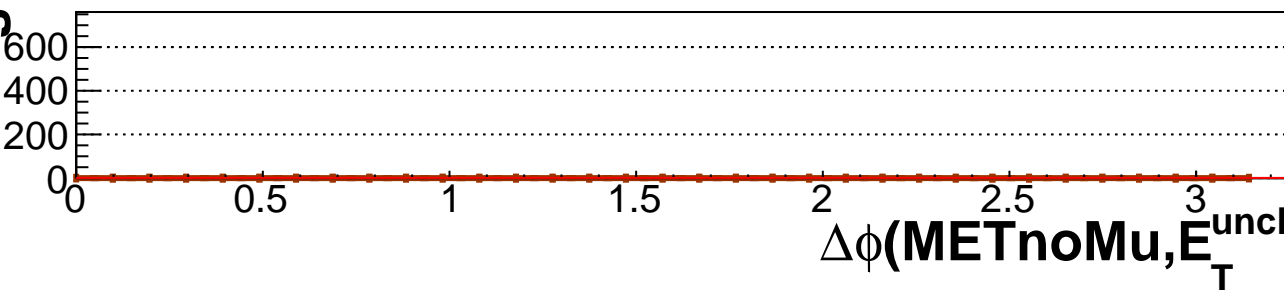
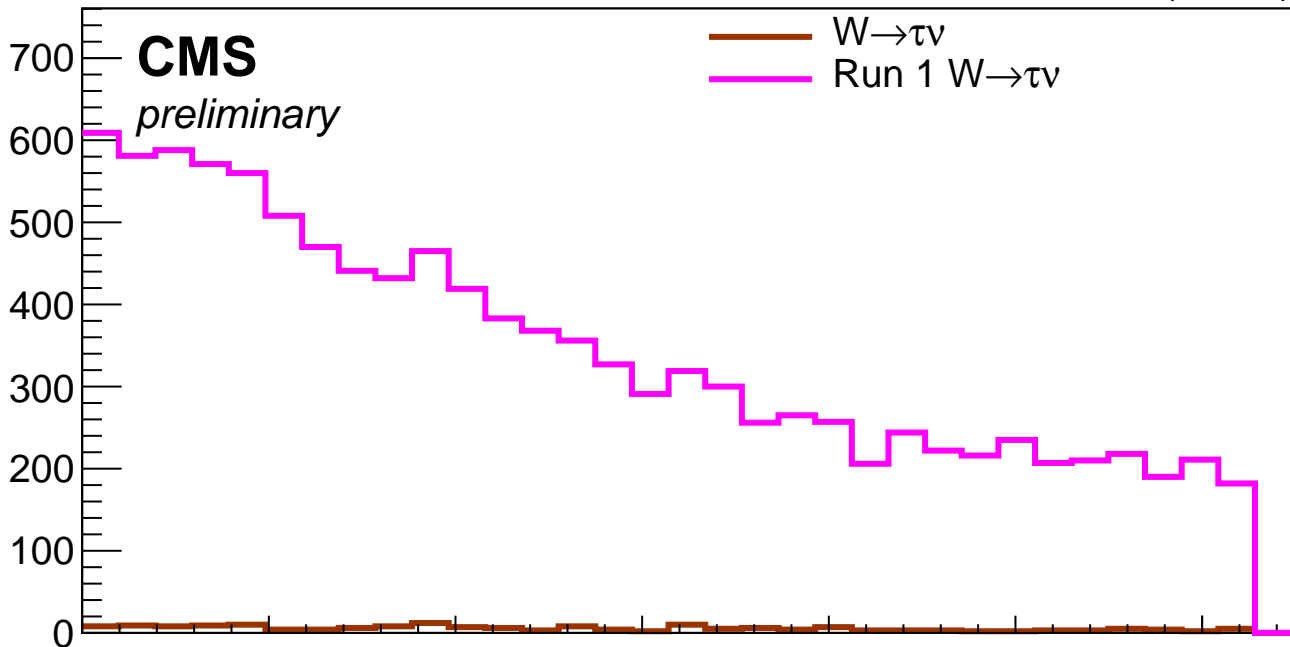
preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

$\Delta\phi(\text{MET no Mu}, E_{\text{T}}^{\text{uncl}})$



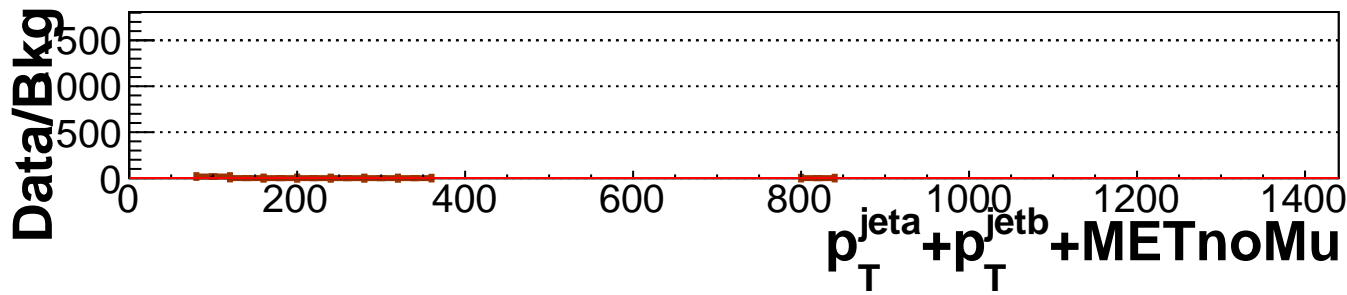
19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

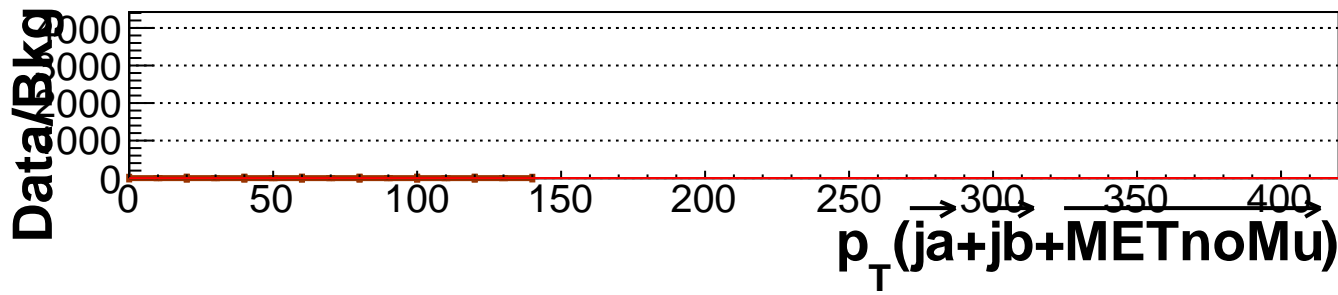


19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

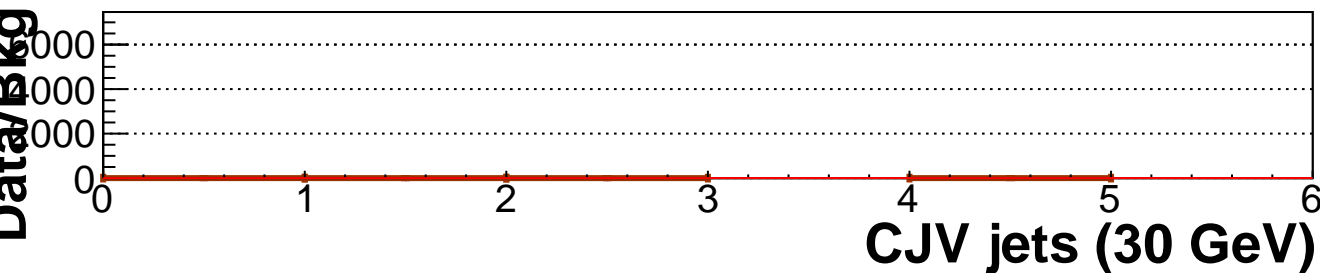
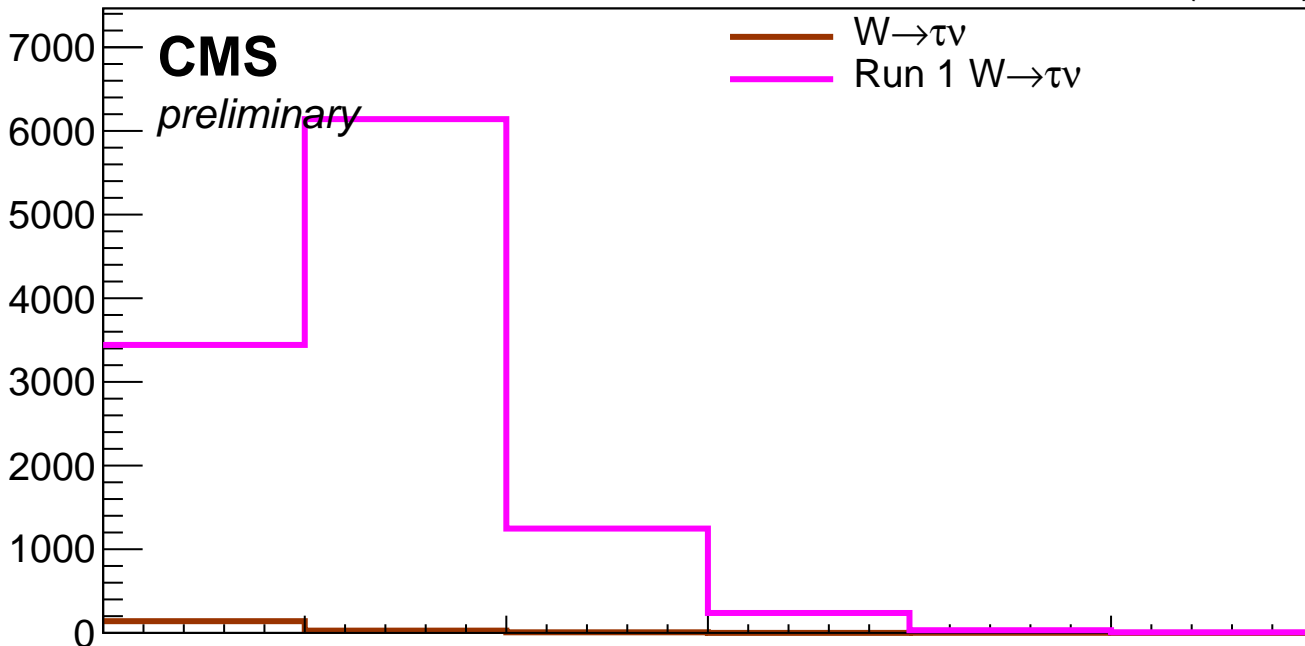
preliminary

W→τν

Run 1 W→τν

Data/Bkg

CJV jets (30 GeV)



19.2 fb⁻¹ (8 TeV)

CMS

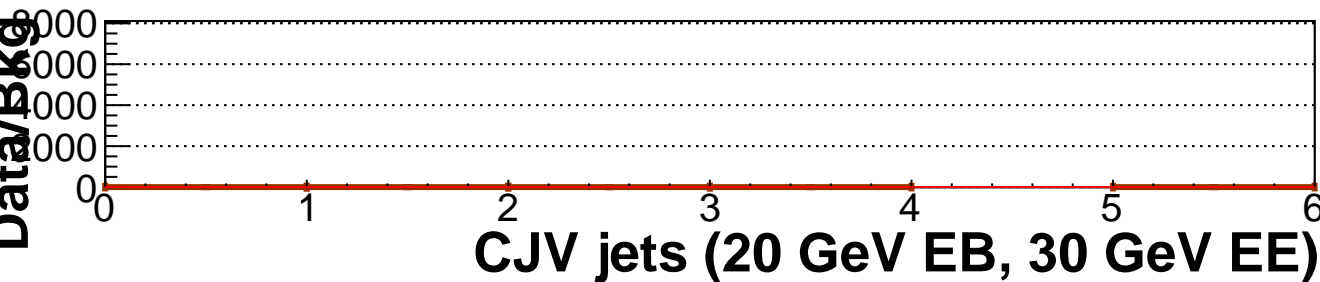
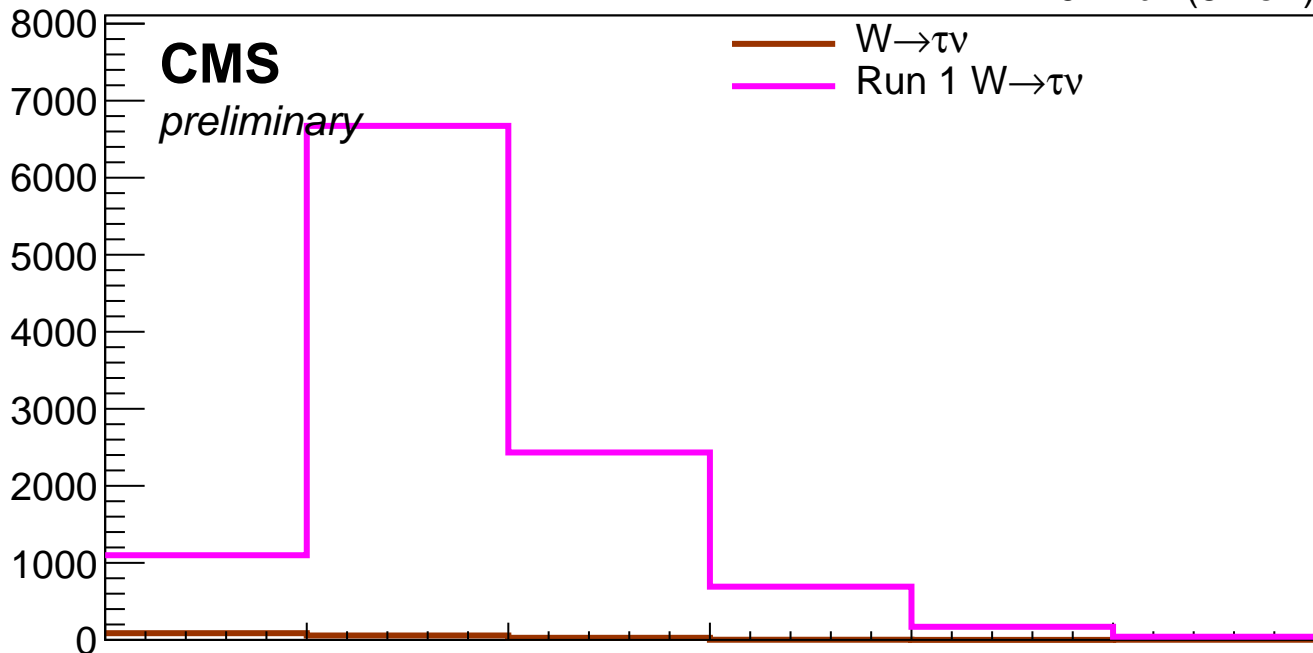
preliminary

W→τν

Run 1 W→τν

Data/Bkg

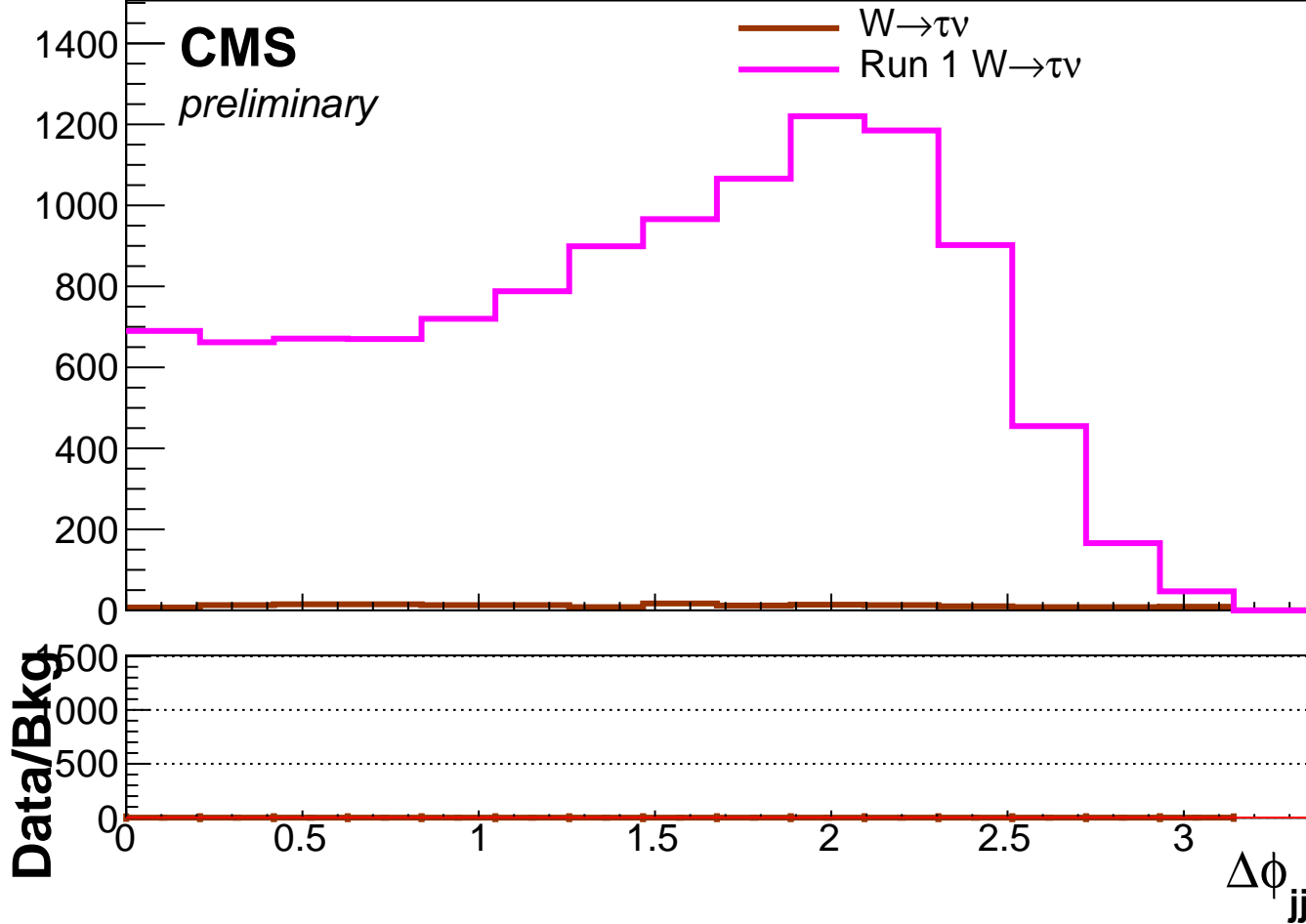
CJV jets (20 GeV EB, 30 GeV EE)



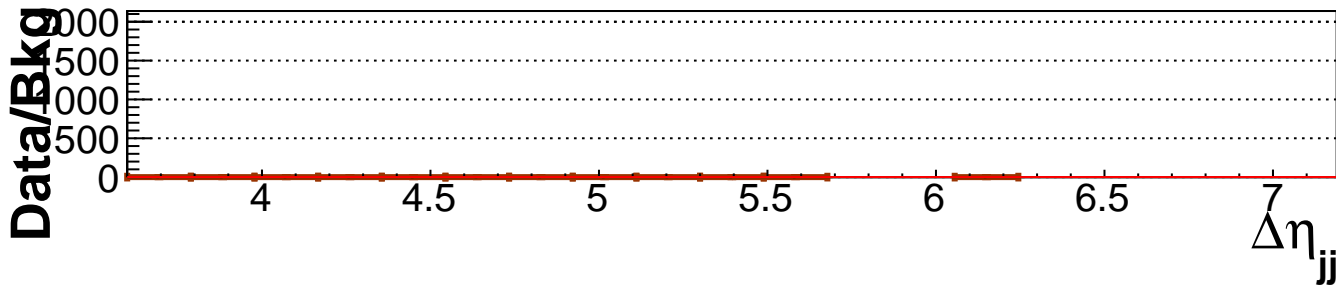
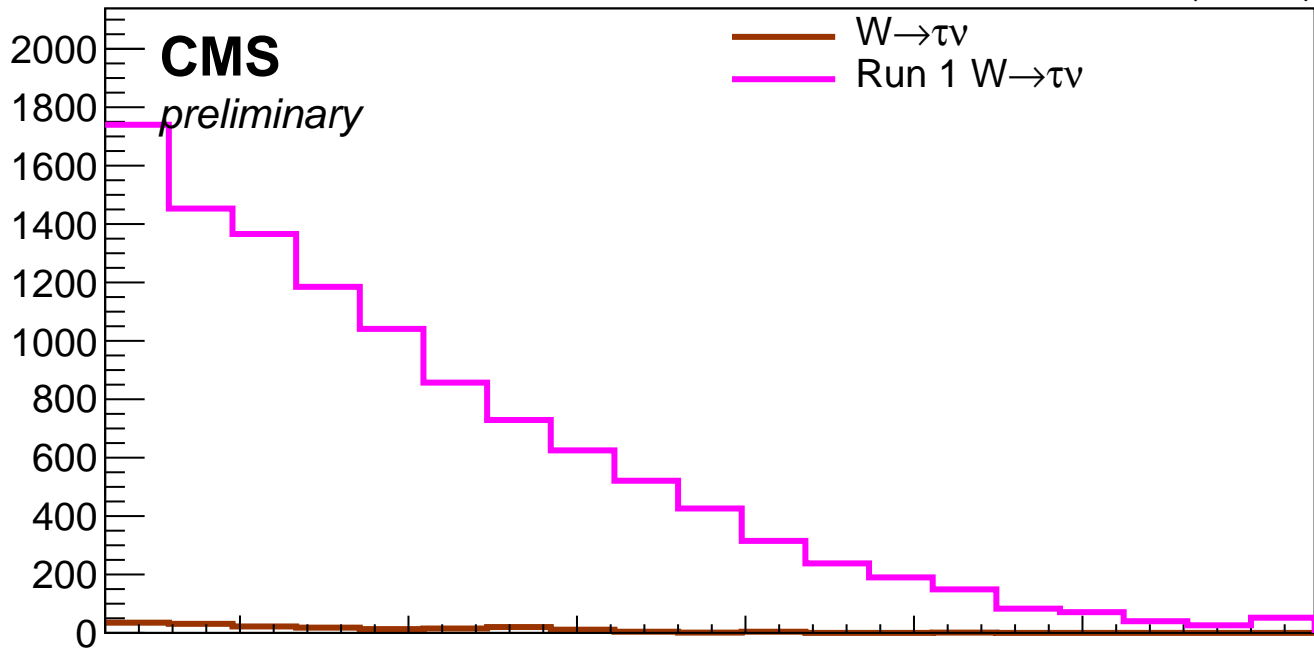
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)



19.2 fb⁻¹ (8 TeV)

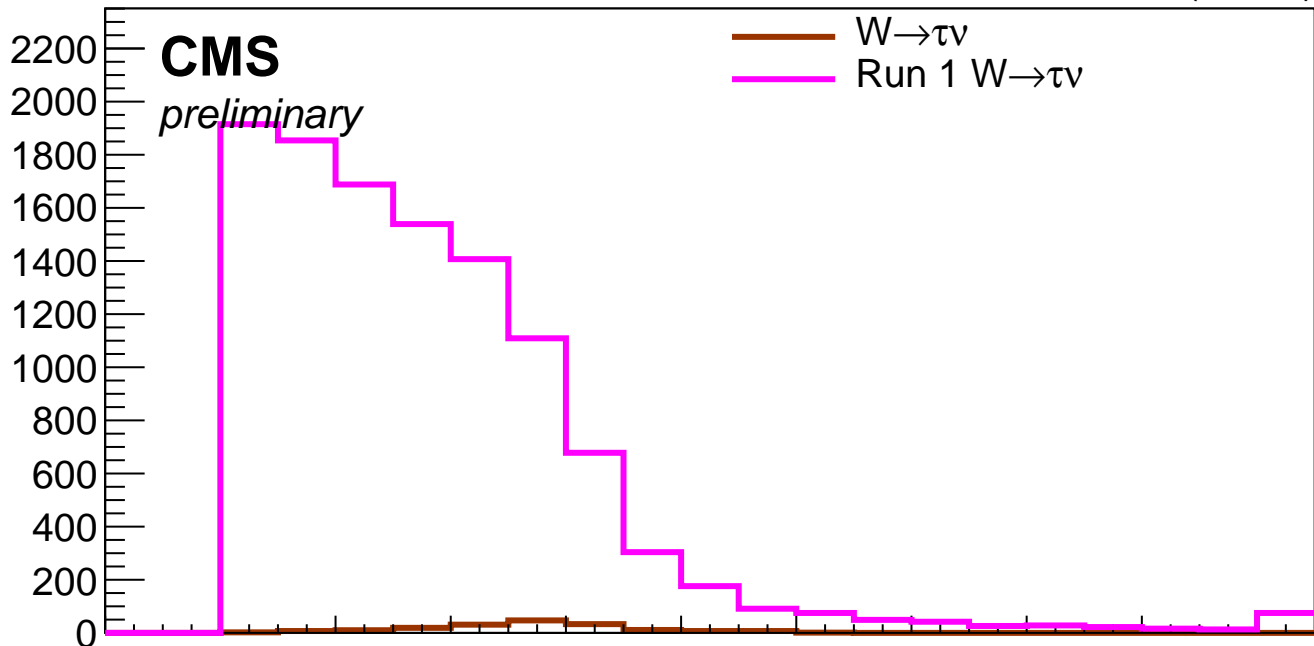
CMS

preliminary

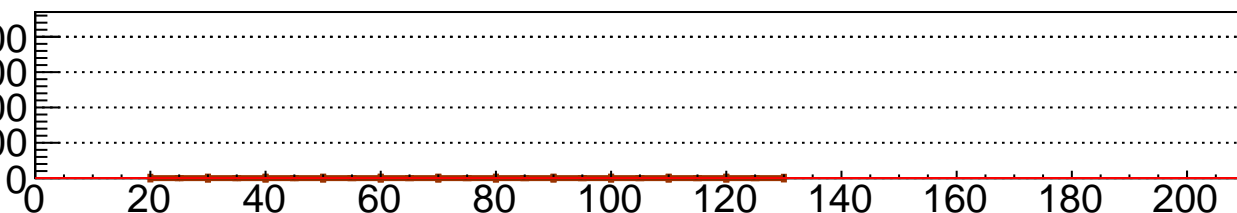
— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg



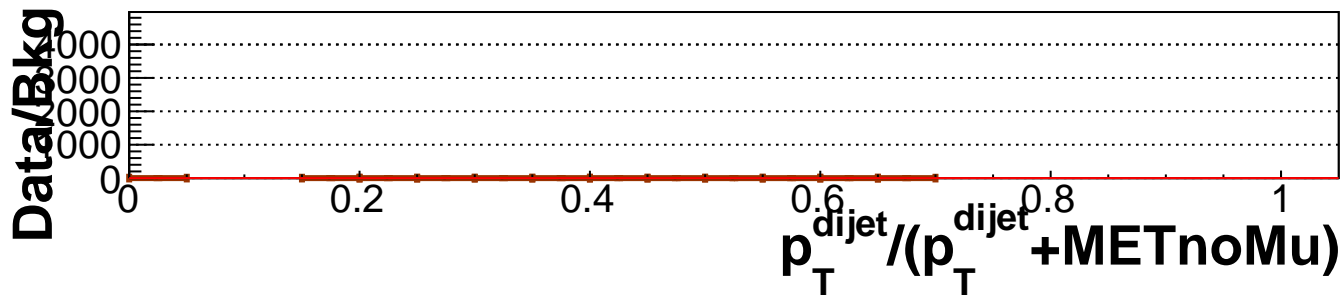
$m_T(\text{lepton} + \text{MET})$ (GeV)



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

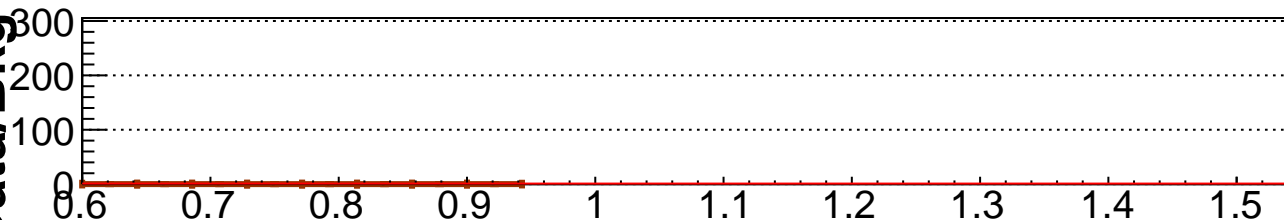
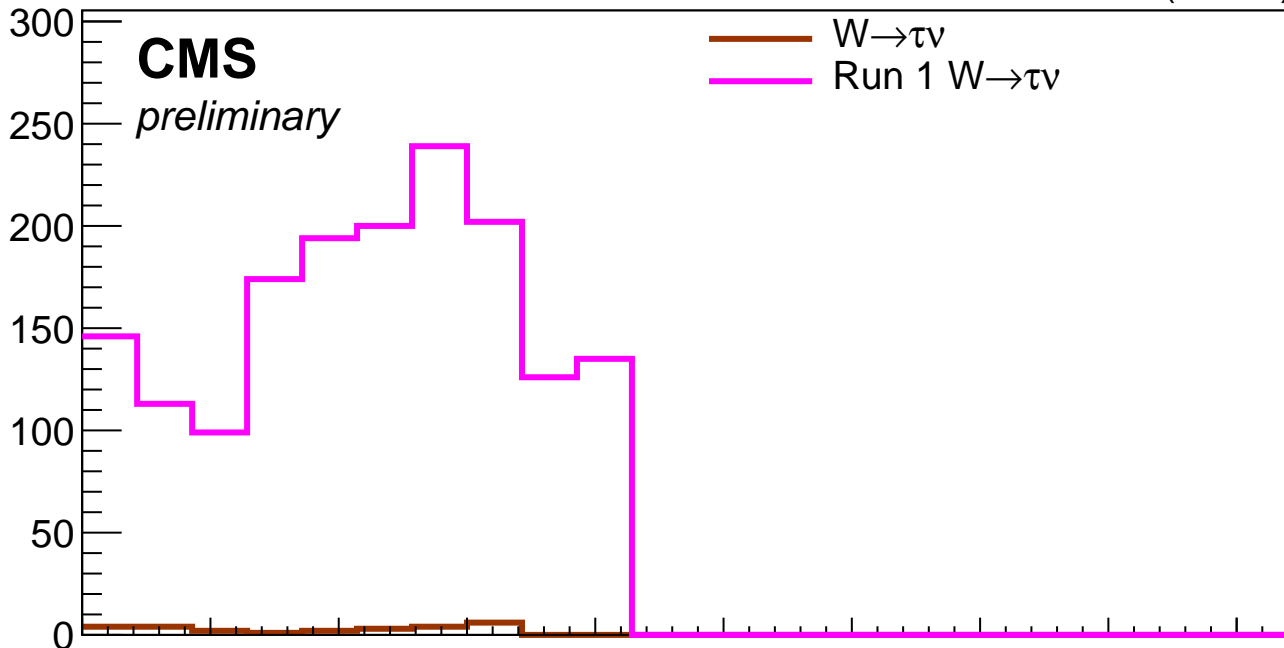
preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

Jet 1 CSV



19.2 fb⁻¹ (8 TeV)

CMS

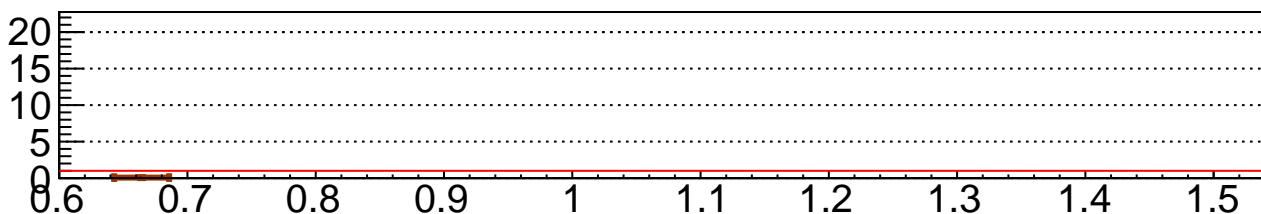
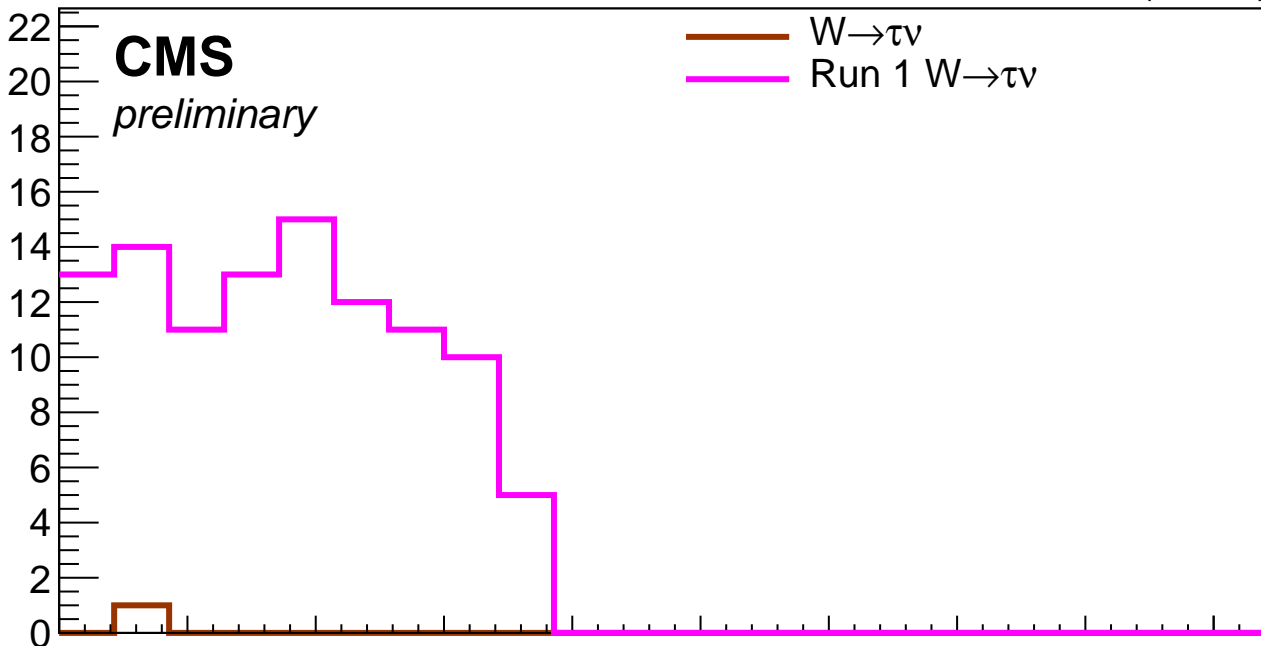
preliminary

W→τν

Run 1 W→τν

Data/Bkg

Jet 2 CSV



19.2 fb⁻¹ (8 TeV)

CMS

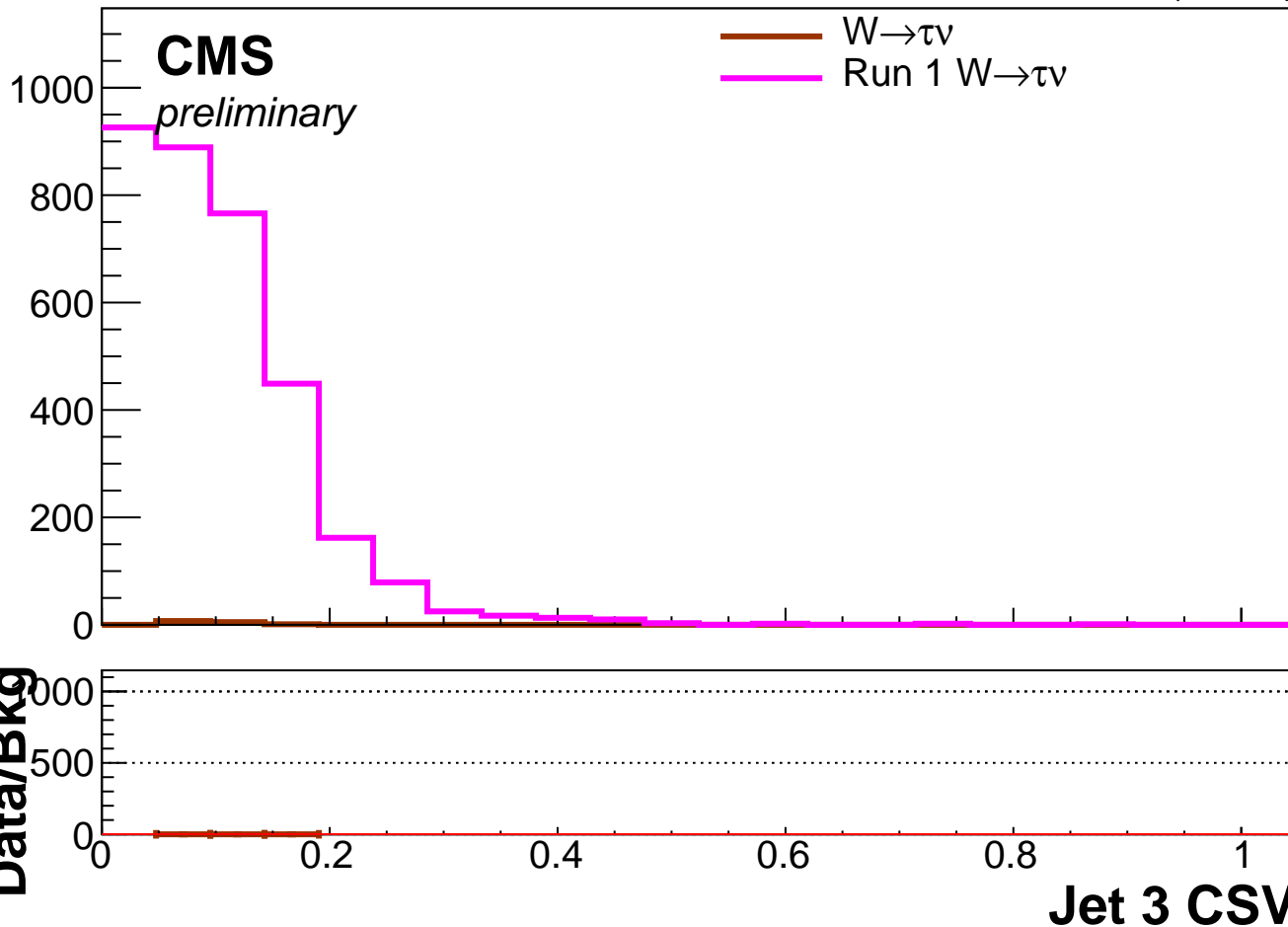
preliminary

W→τν

Run 1 W→τν

Data/Bkg

Jet 3 CSV



19.2 fb⁻¹ (8 TeV)

CMS

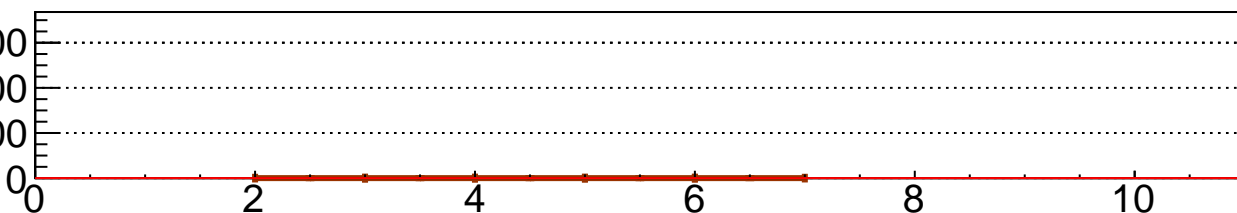
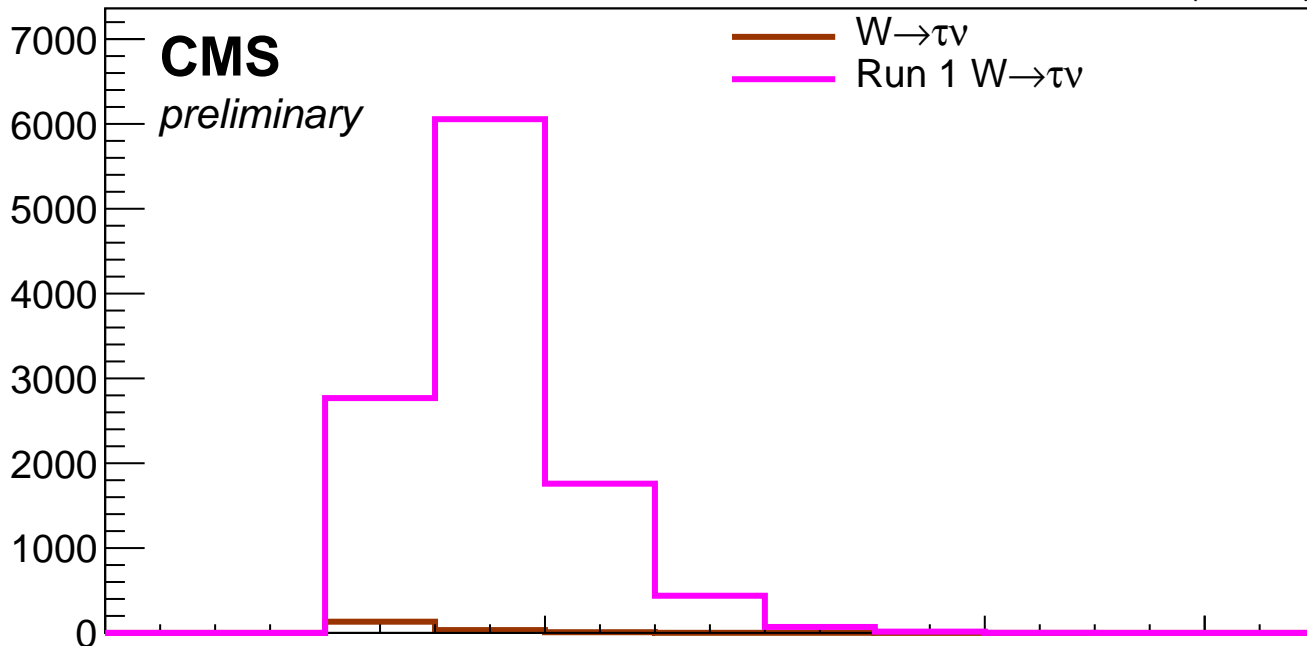
preliminary

W→τν

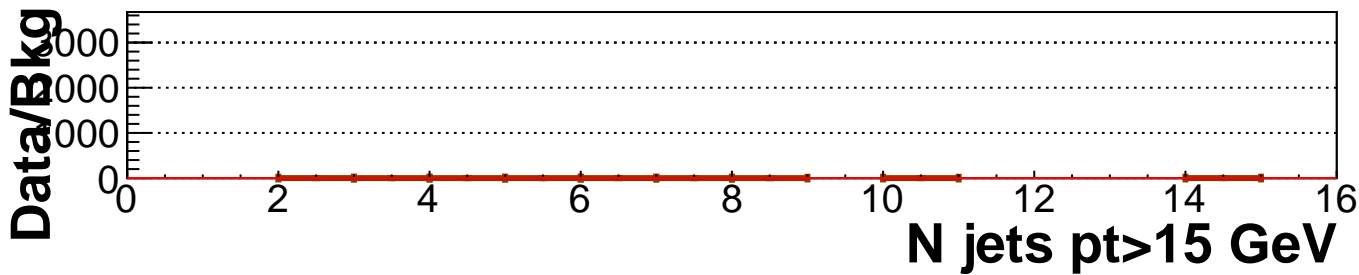
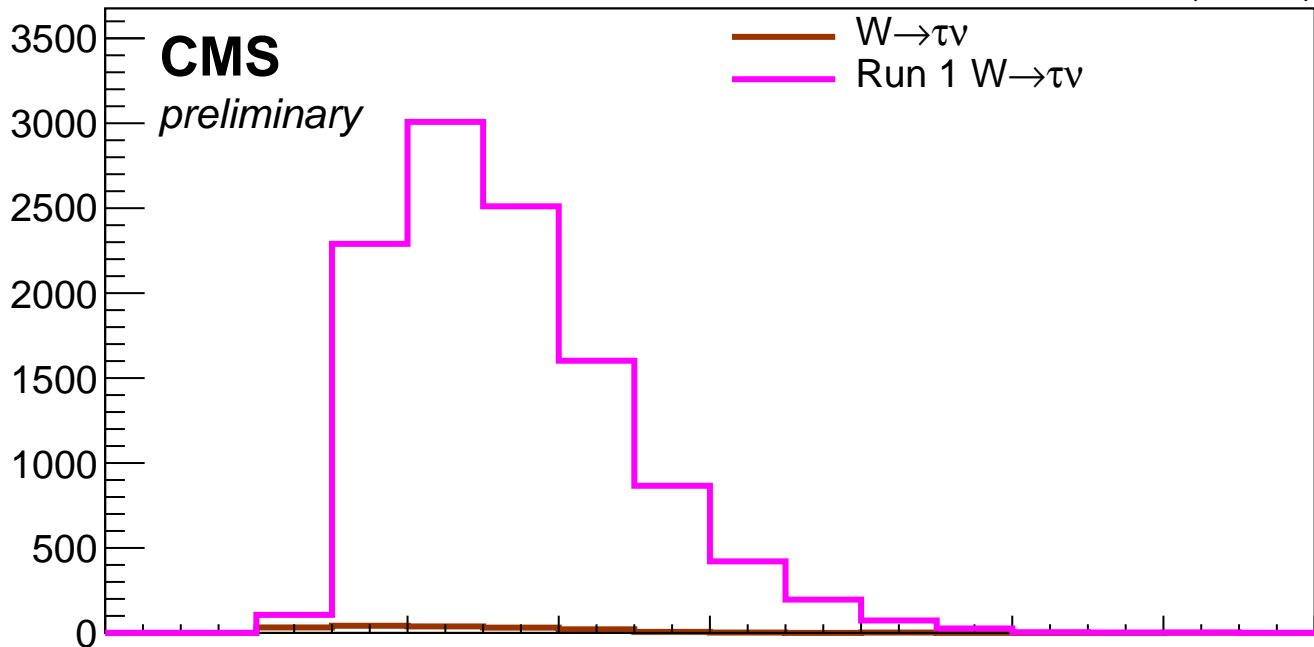
Run 1 W→τν

Data/Bkg

N jets pt>30 GeV



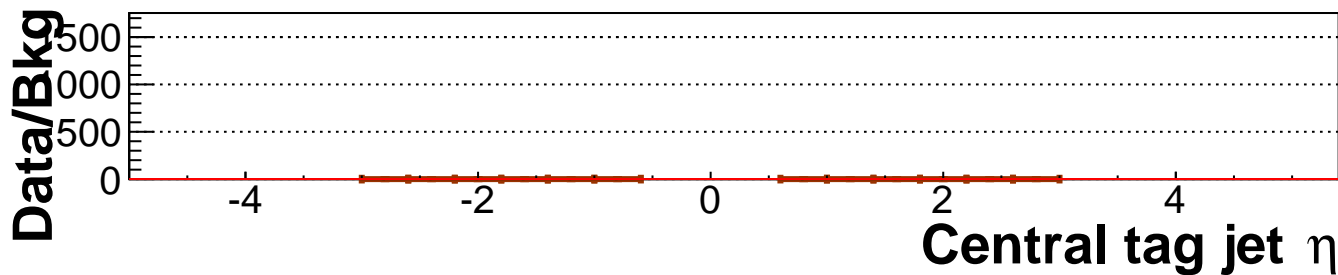
19.2 fb⁻¹ (8 TeV)



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

— $W \rightarrow \tau \nu$
— Run 1 $W \rightarrow \tau \nu$



19.2 fb⁻¹ (8 TeV)

CMS

preliminary

— $W \rightarrow \tau \nu$

— Run 1 $W \rightarrow \tau \nu$

Data/Bkg

Forward tag jet η

