

19.2 fb⁻¹ (8 TeV)

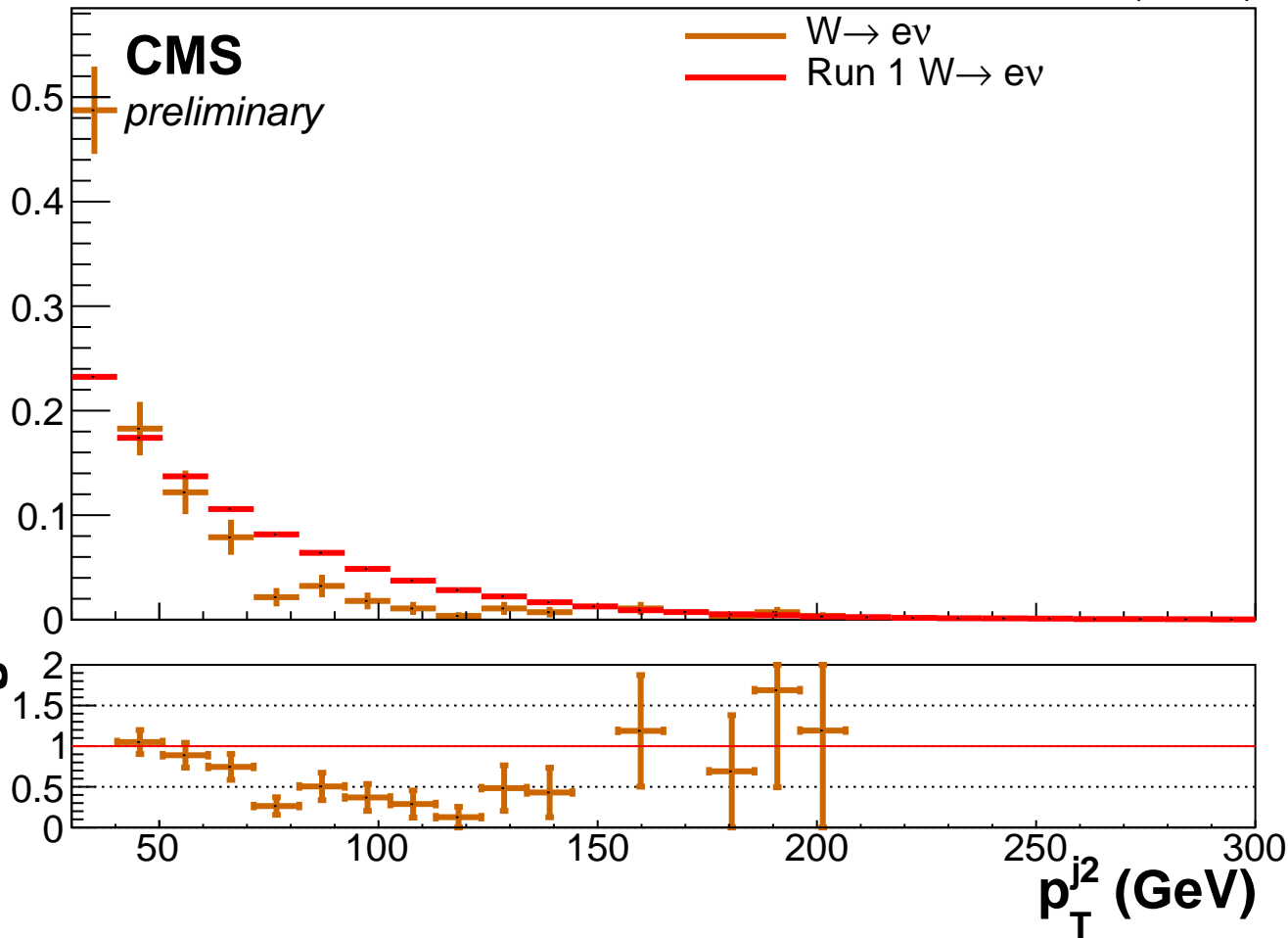
CMS

preliminary

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

Data/Bkg

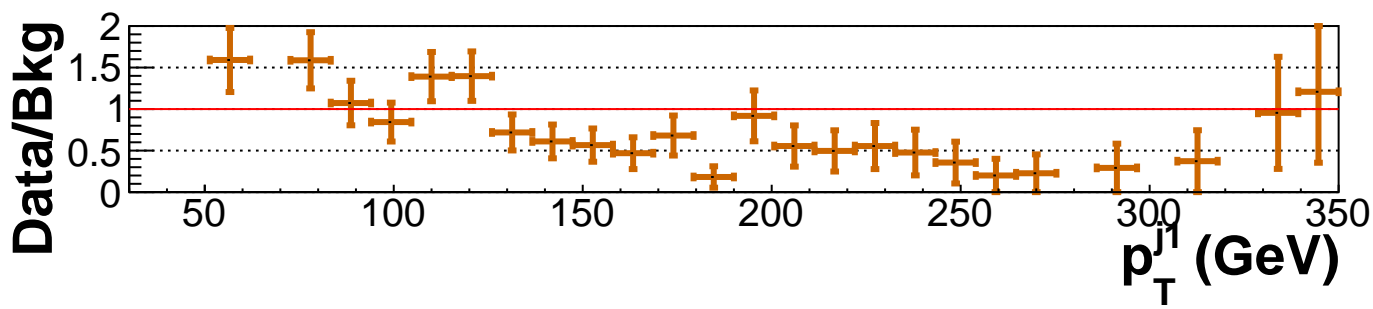
p_T^{j2} (GeV)



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

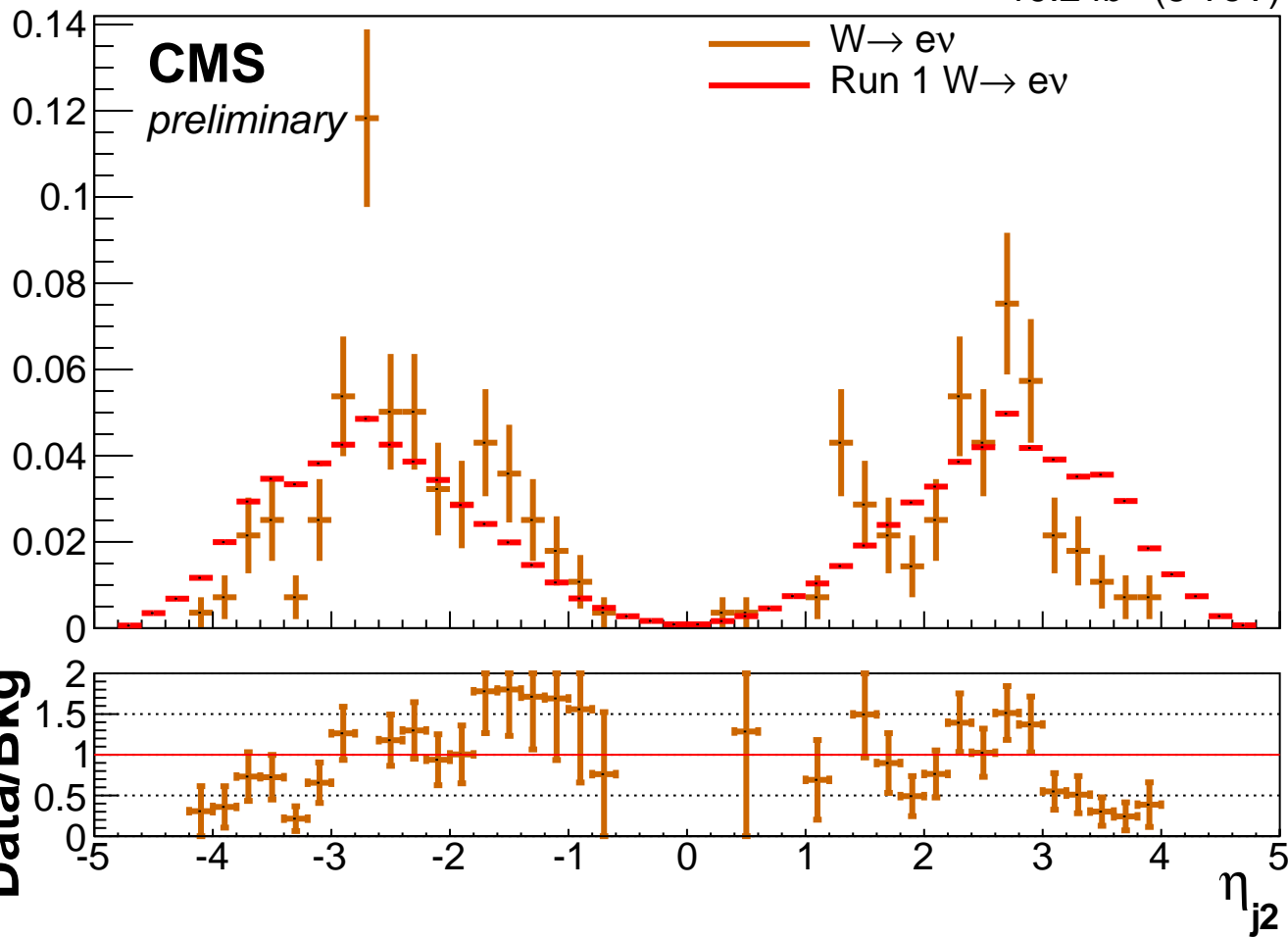


19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

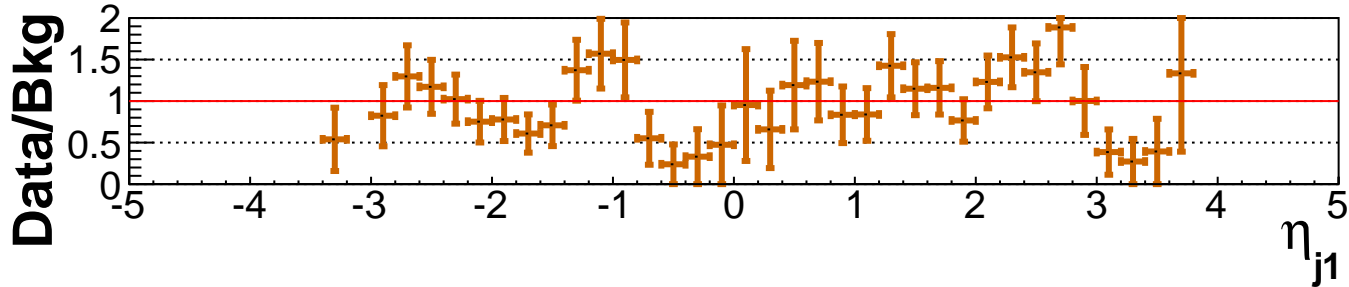
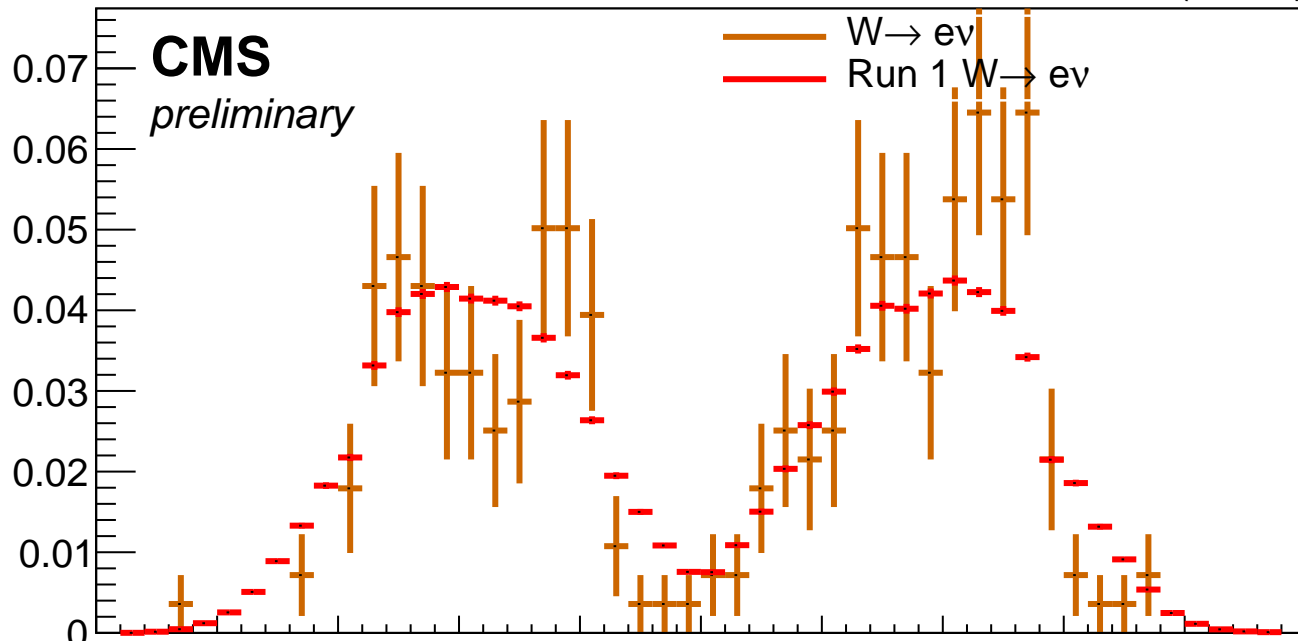
Data/Bkg



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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



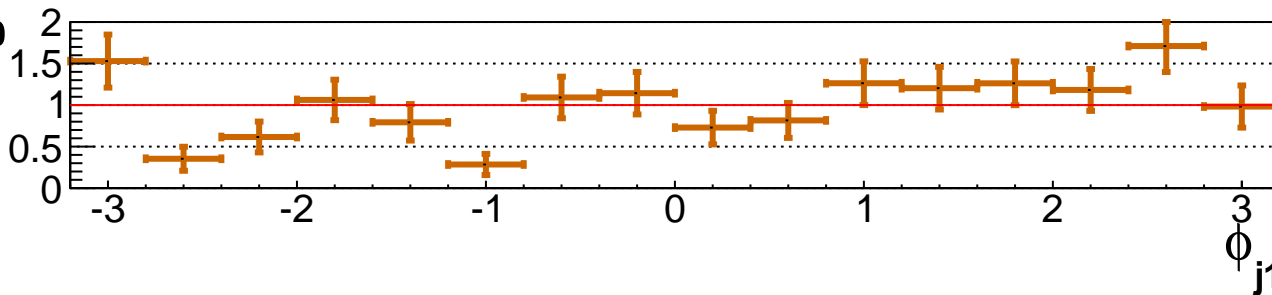
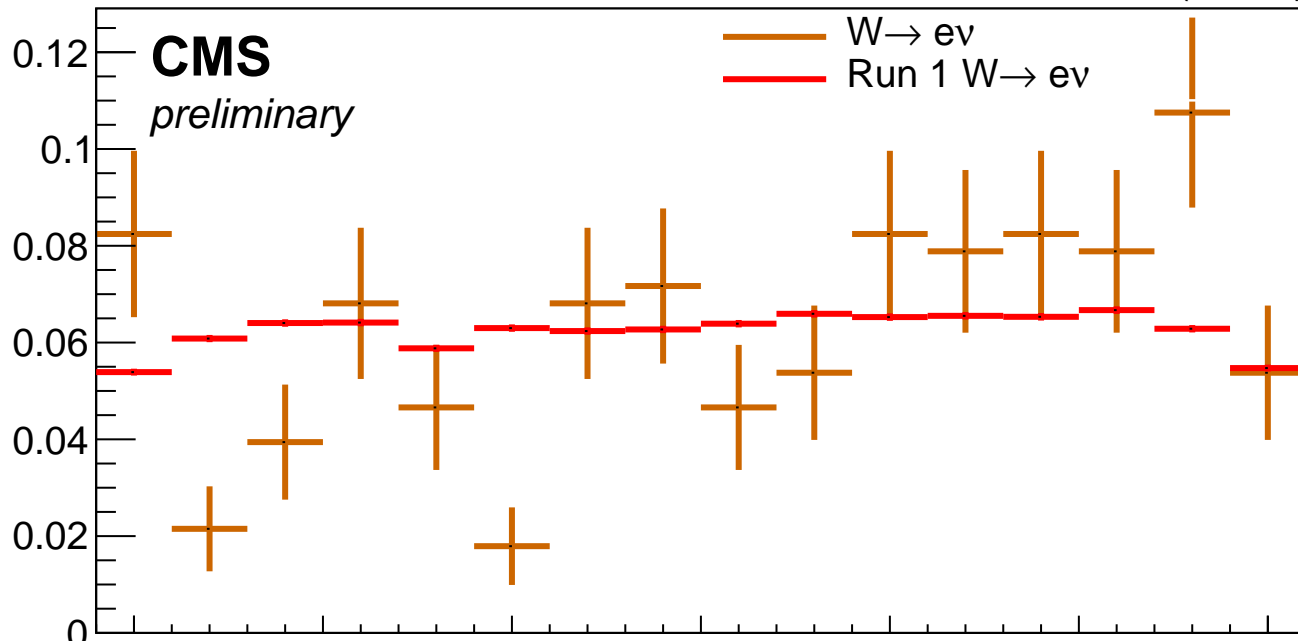
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

ϕ_{j1}



19.2 fb⁻¹ (8 TeV)

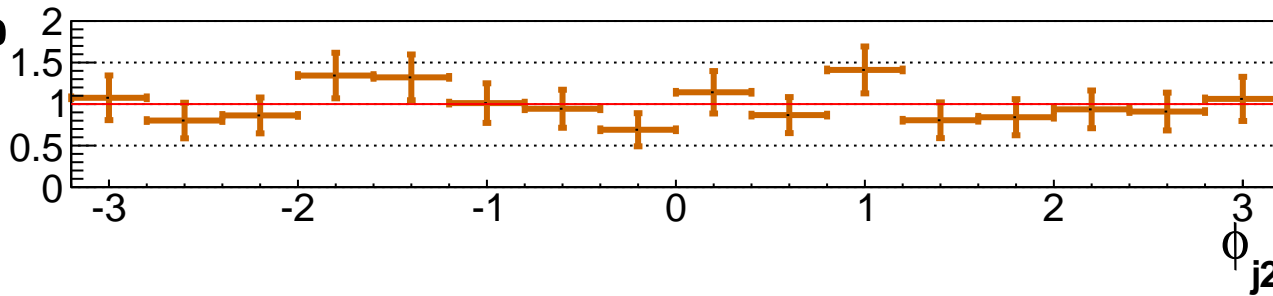
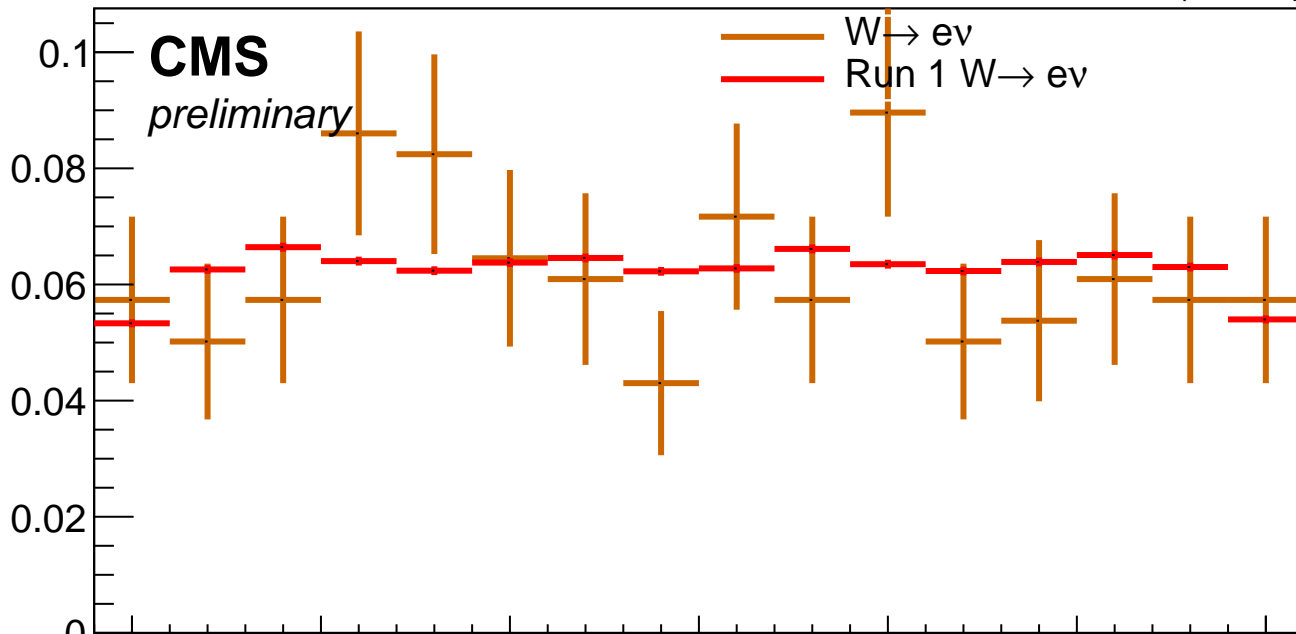
CMS

preliminary

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

Data/Bkg

ϕ_{j2}



19.2 fb⁻¹ (8 TeV)

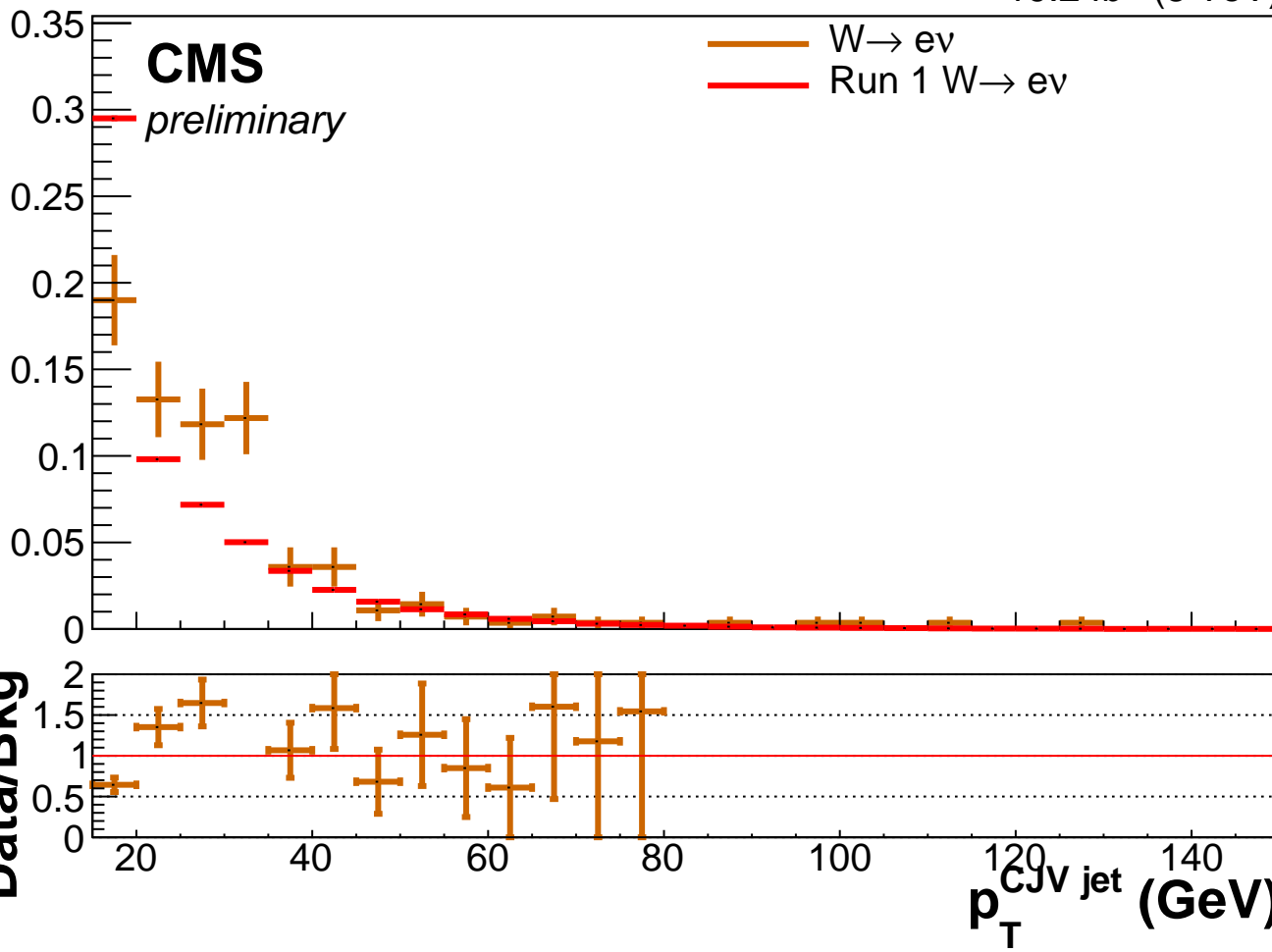
CMS

preliminary

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

Data/Bkg

$p_T^{CJ\nu \text{ jet}}$ (GeV)



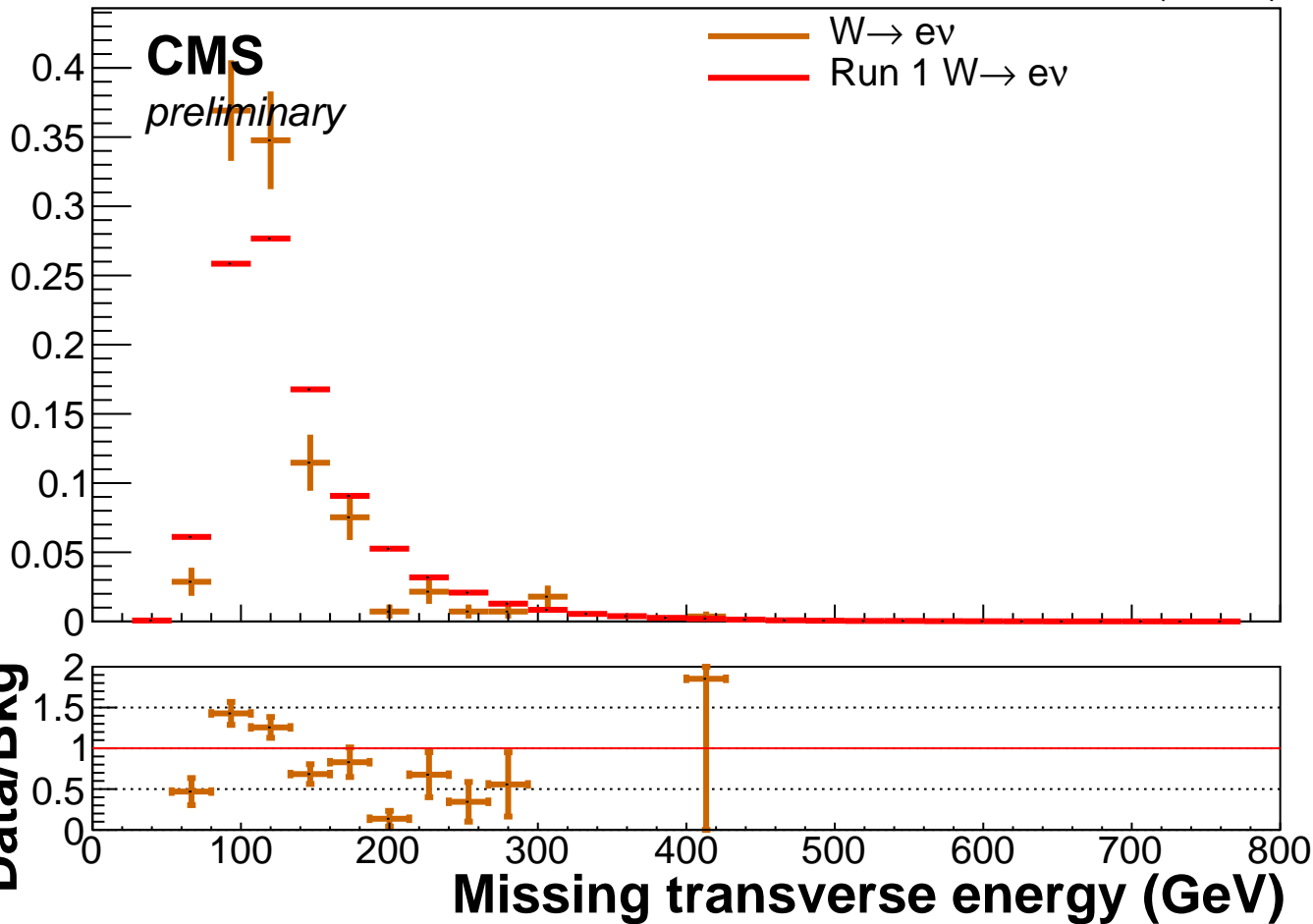
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

Missing transverse energy (GeV)



19.2 fb⁻¹ (8 TeV)

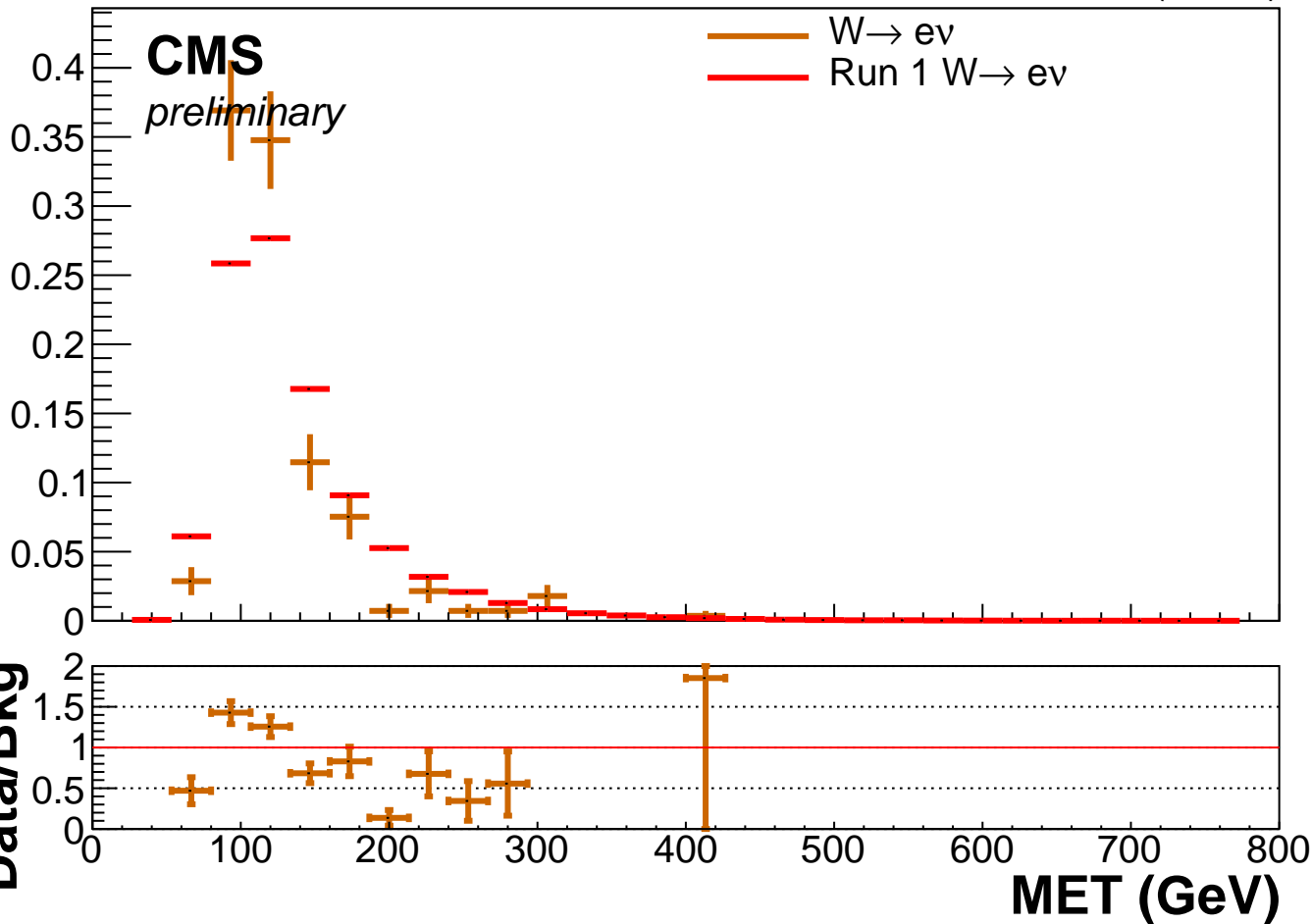
CMS

preliminary

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

Data/Bkg

MET (GeV)



19.2 fb⁻¹ (8 TeV)

CMS

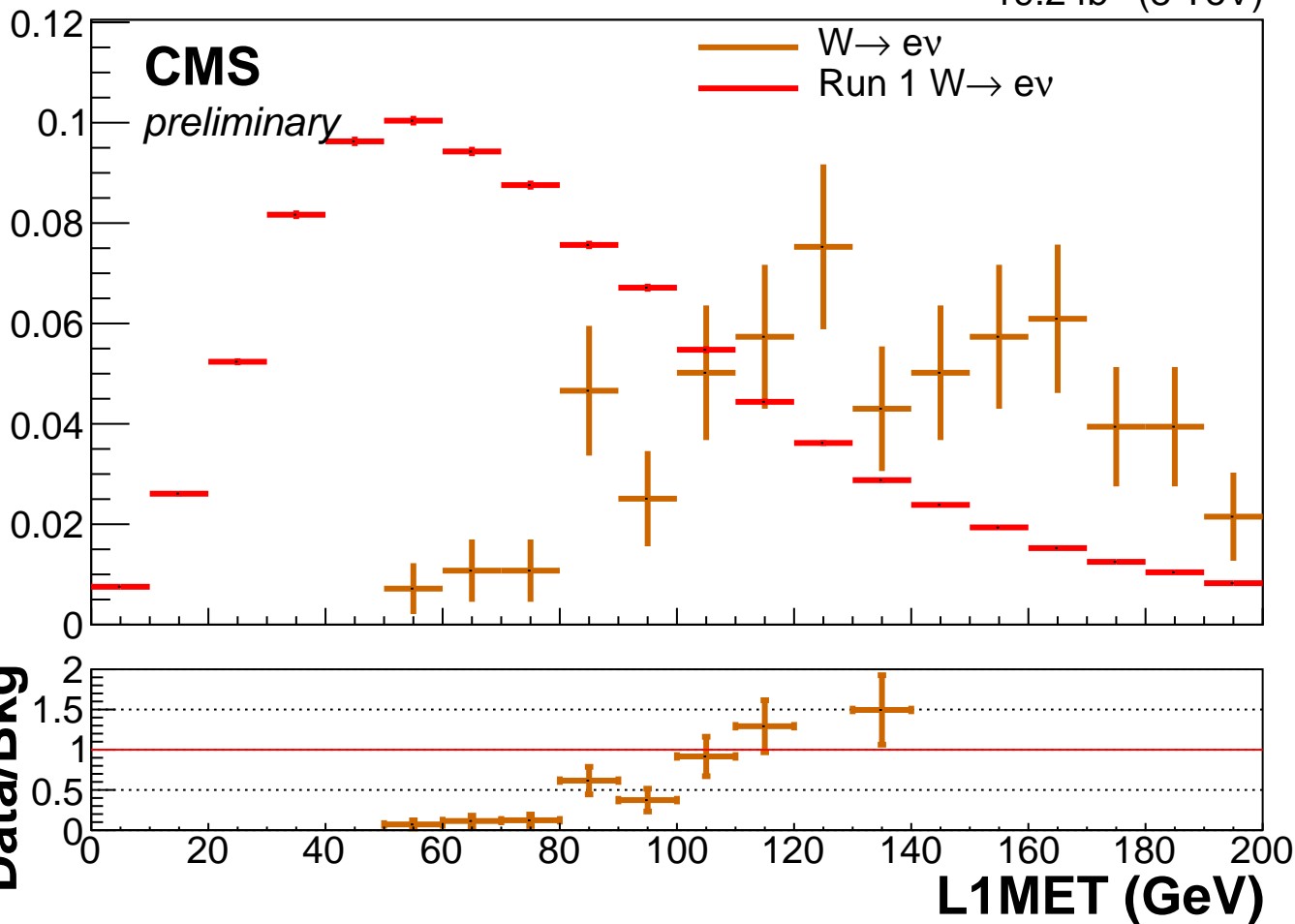
preliminary

— $W \rightarrow e\nu$

— Run 1 $W \rightarrow e\nu$

Data/Bkg

L1MET (GeV)



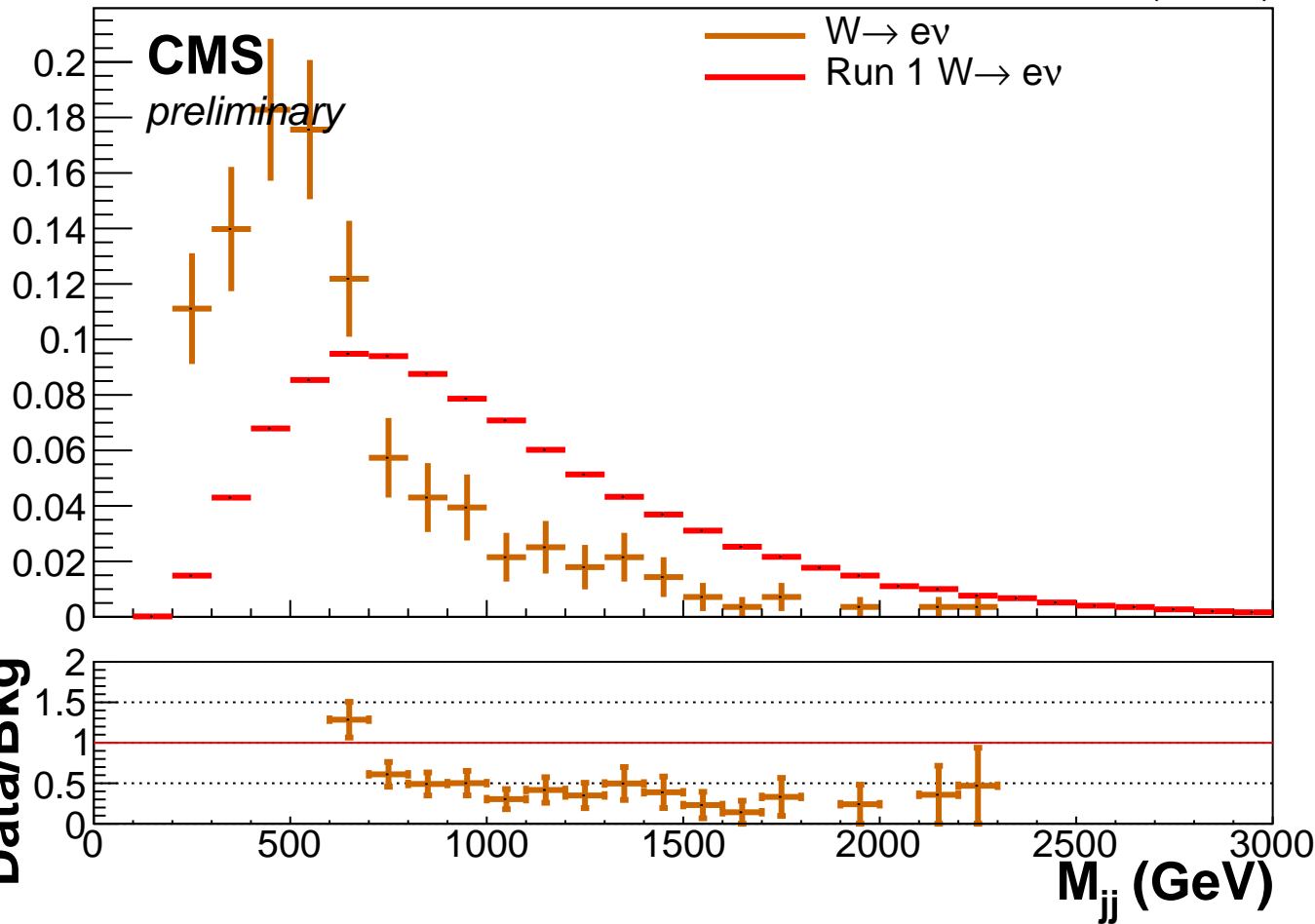
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

M_{jj} (GeV)

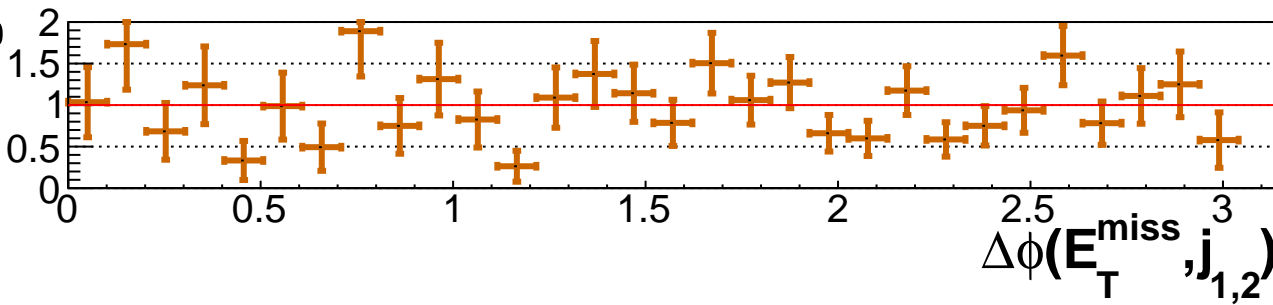
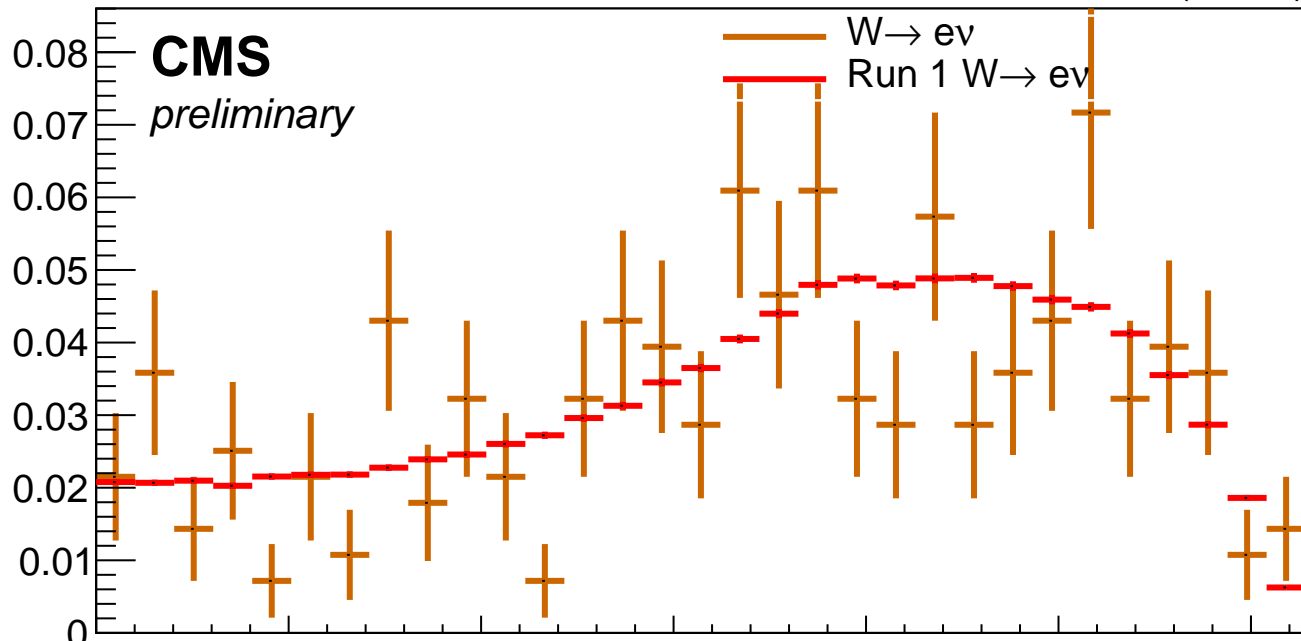


19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

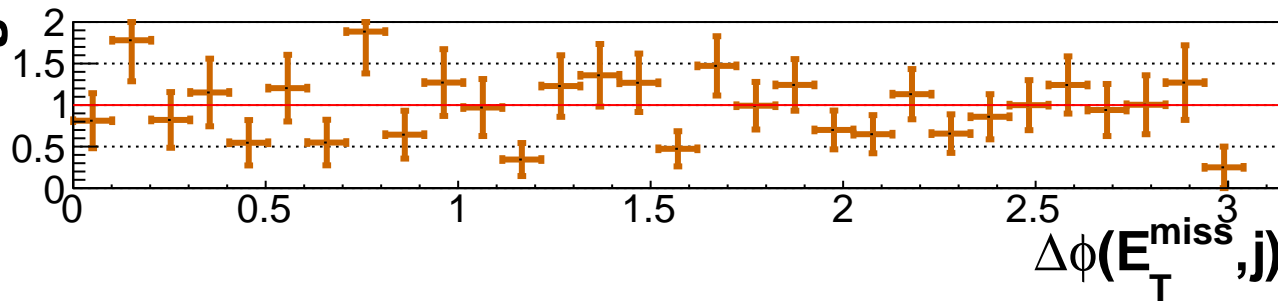
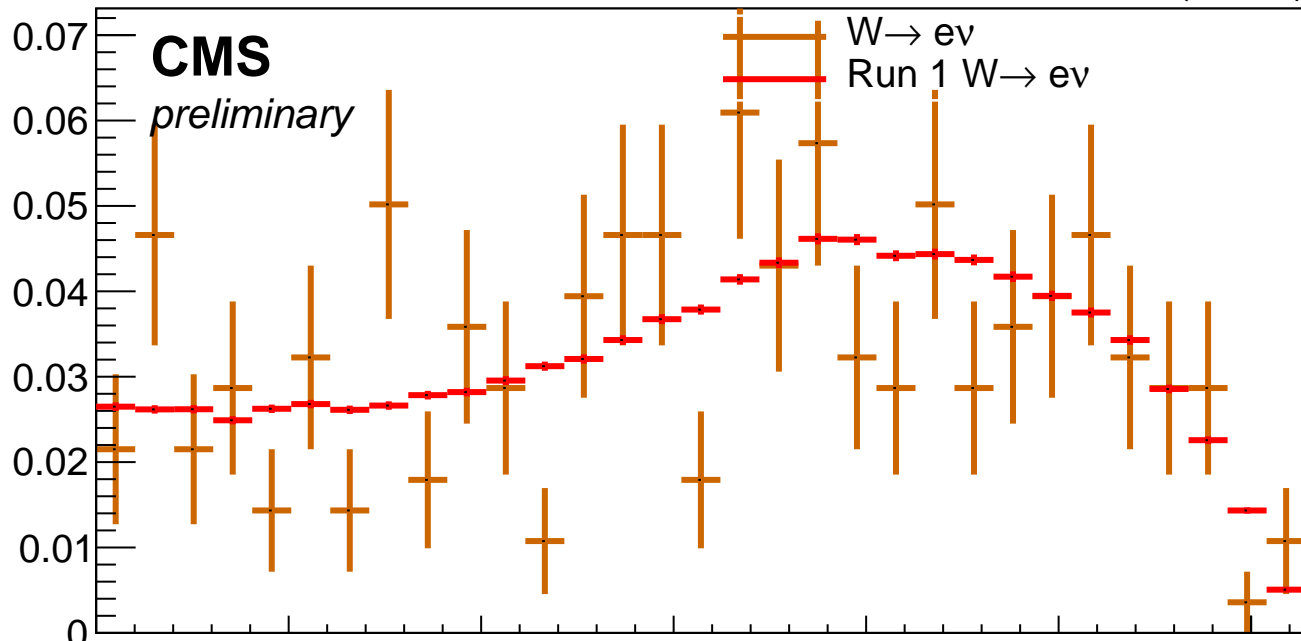


19.2 fb⁻¹ (8 TeV)

CMS
preliminary

W → eν
Run 1 W → eν

Data/Bkg



19.2 fb⁻¹ (8 TeV)

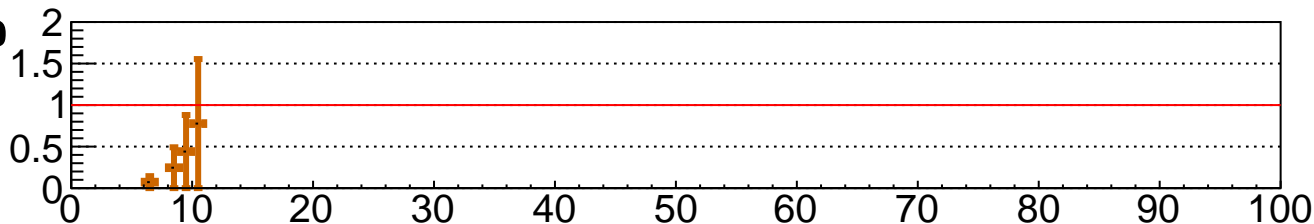
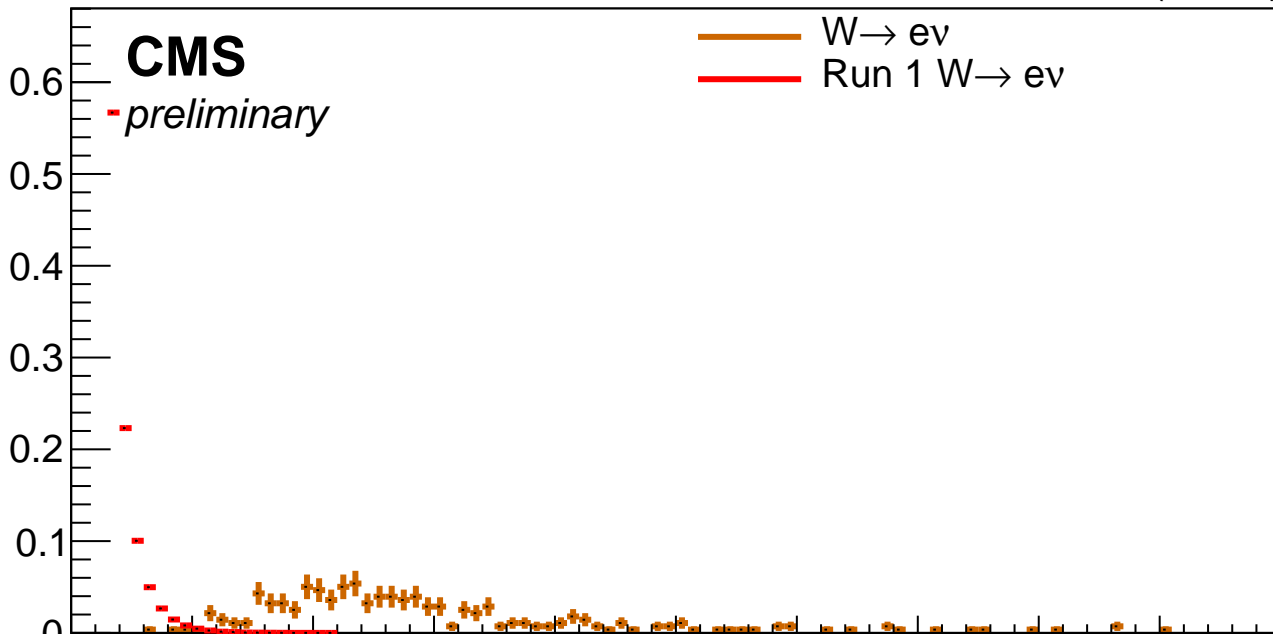
CMS

- preliminary

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

Data/Bkg

S



19.2 fb⁻¹ (8 TeV)

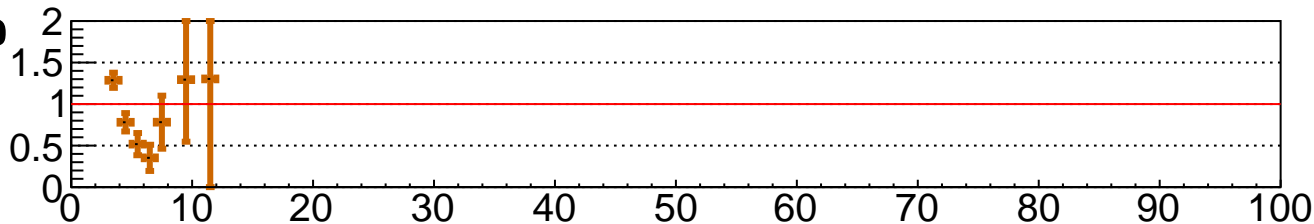
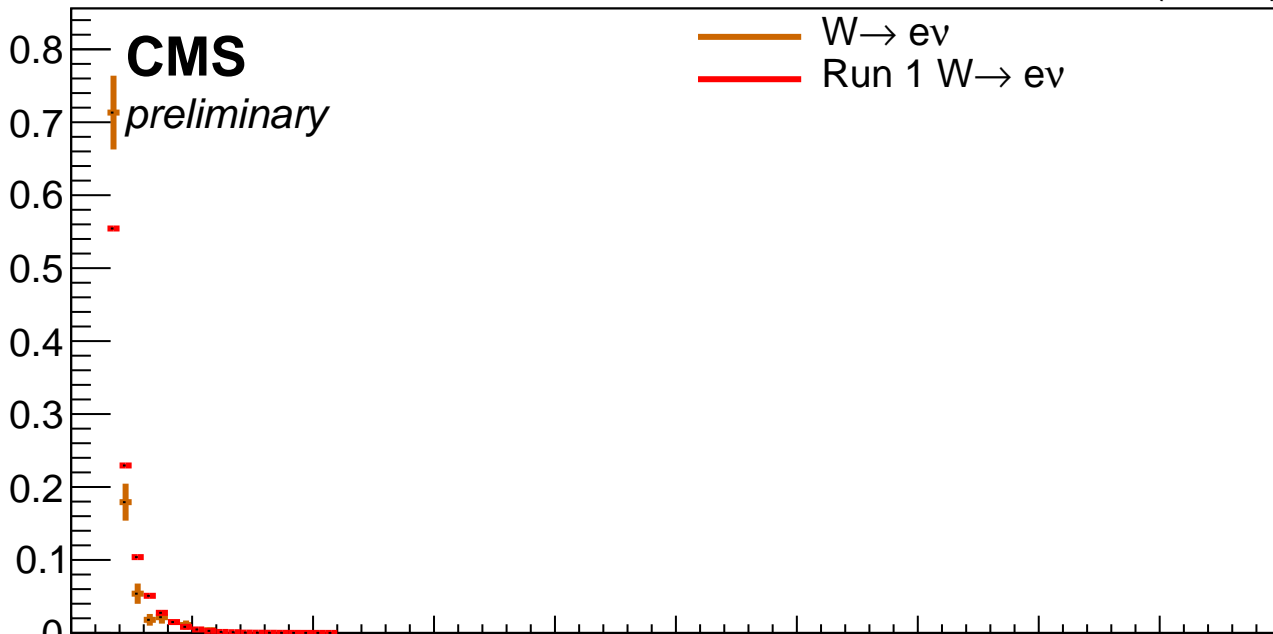
CMS

preliminary

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

Data/Bkg

Run 1 S



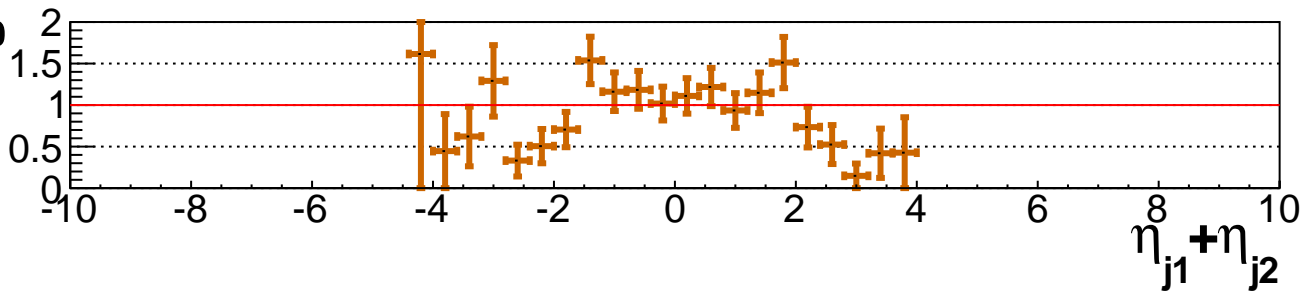
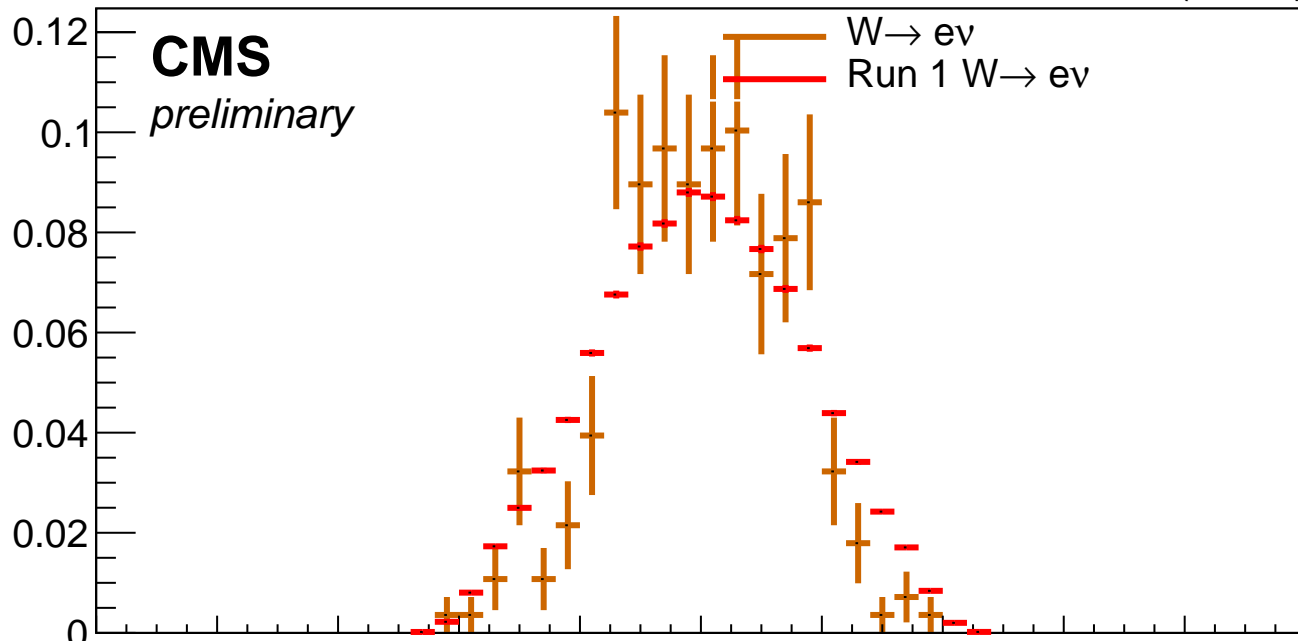
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

W → eν
Run 1 W → eν

Data/Bkg

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



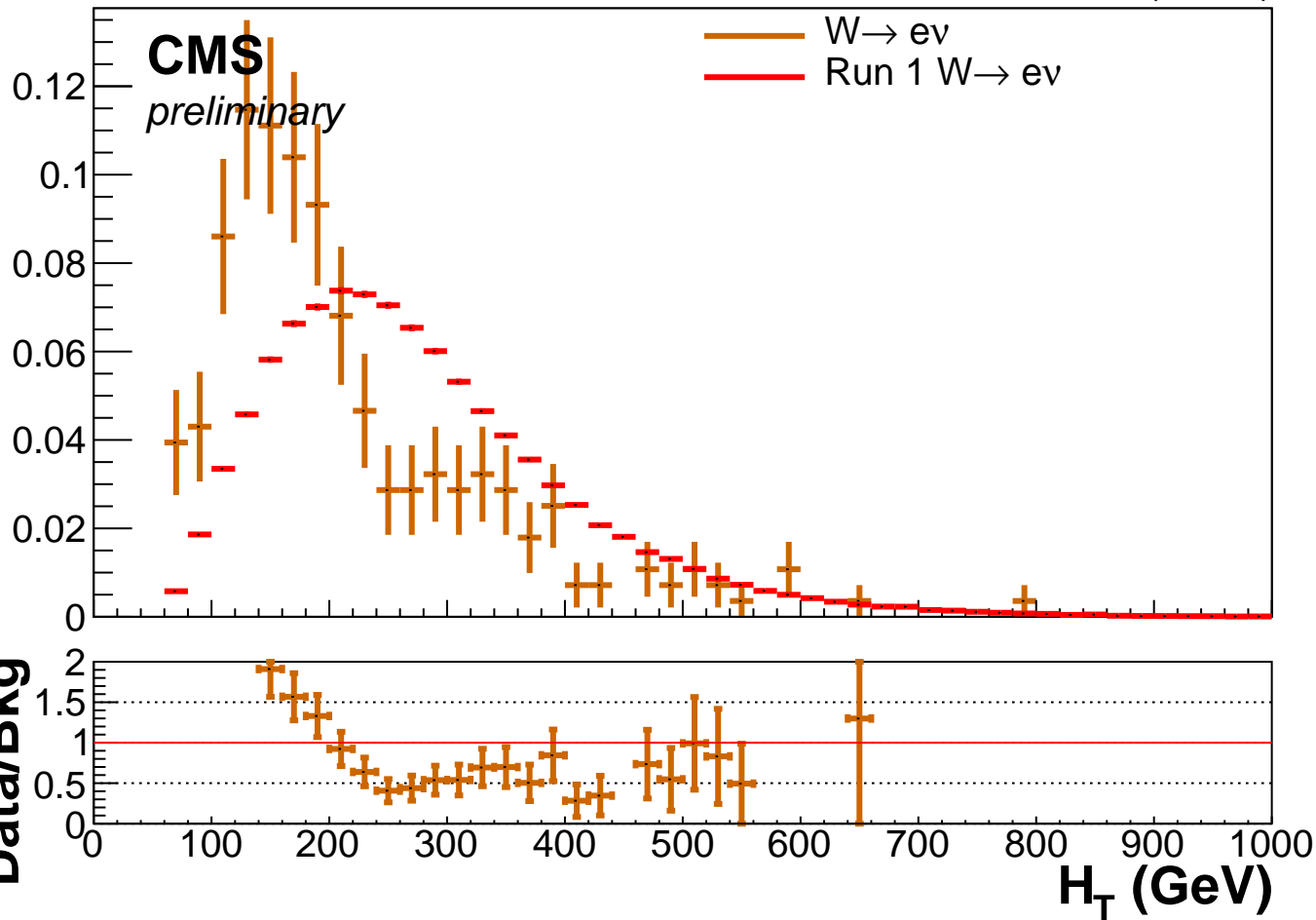
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

H_T (GeV)



19.2 fb⁻¹ (8 TeV)

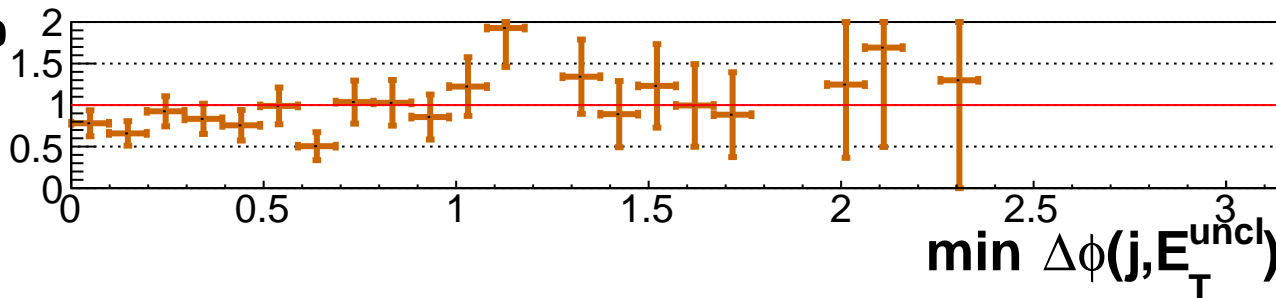
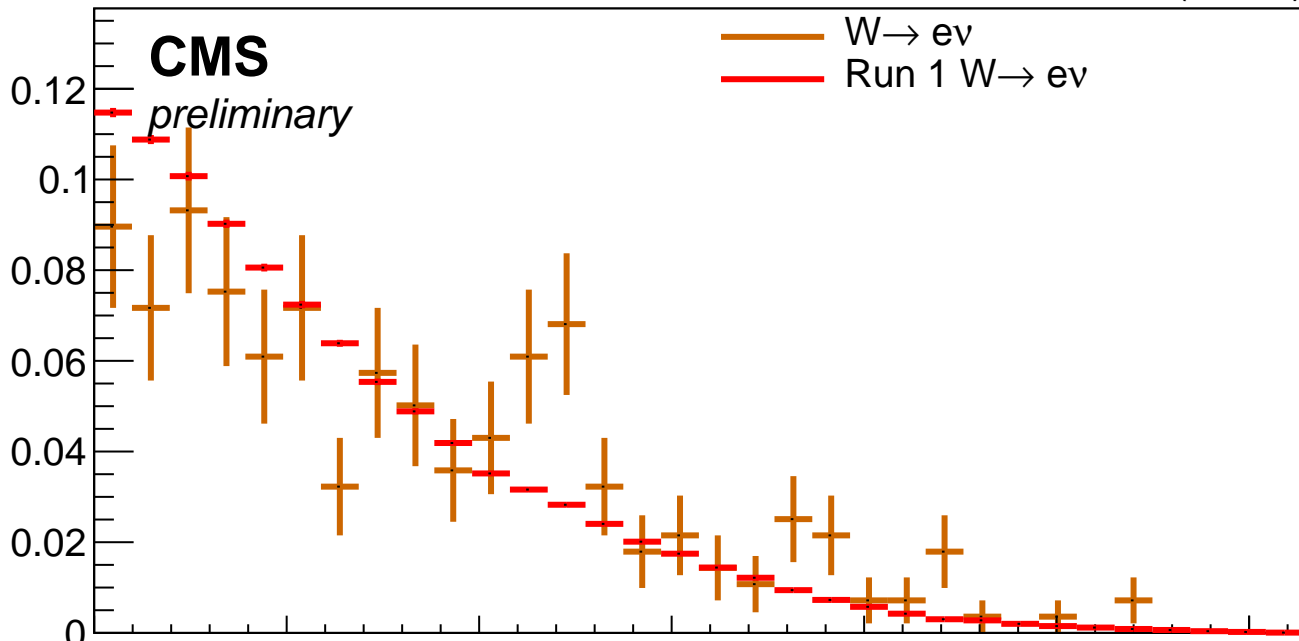
CMS

preliminary

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

Data/Bkg

min $\Delta\phi(j, E_T^{\text{uncl}})$



19.2 fb⁻¹ (8 TeV)

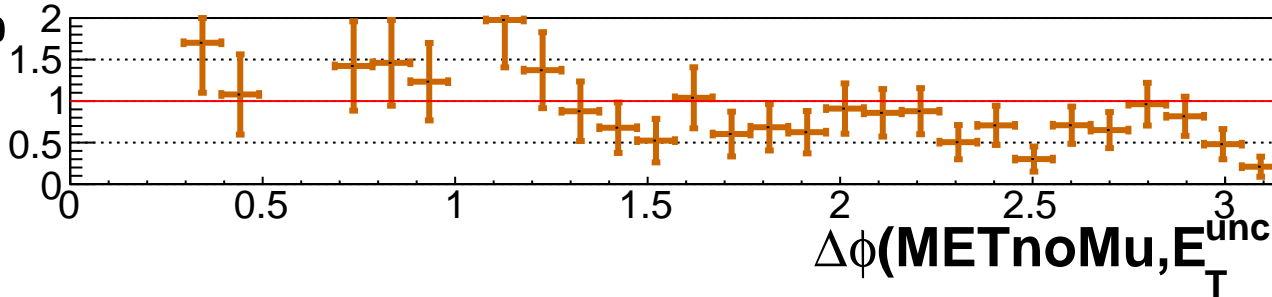
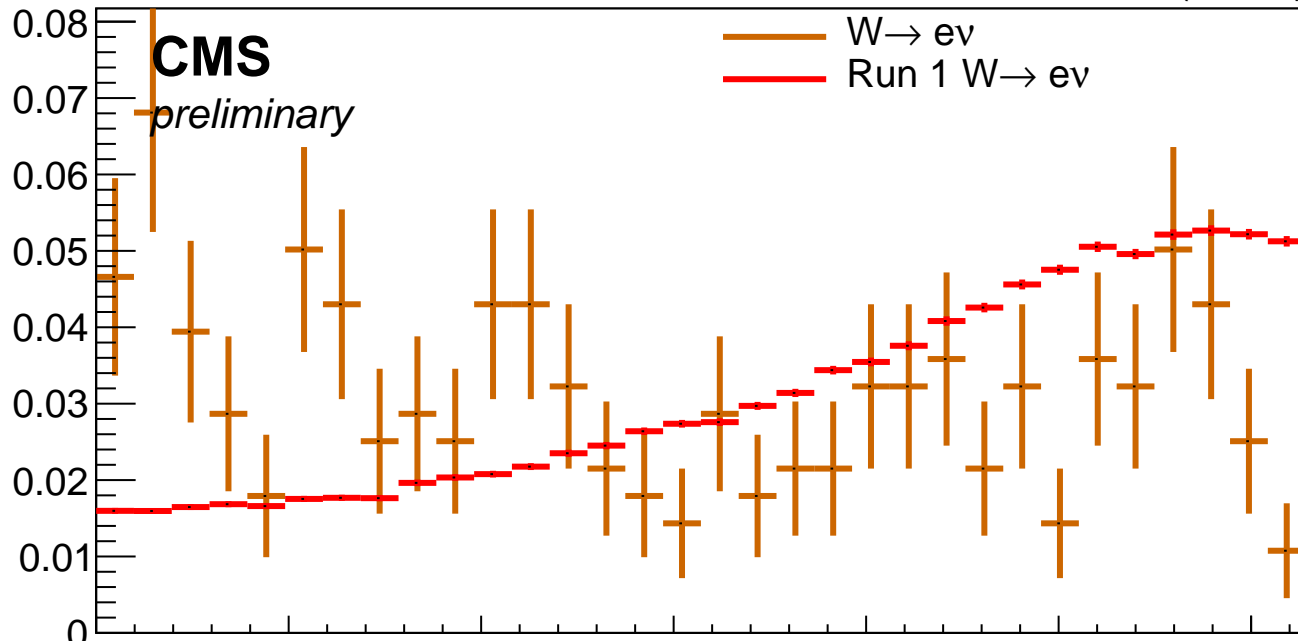
CMS

preliminary

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

Data/Bkg

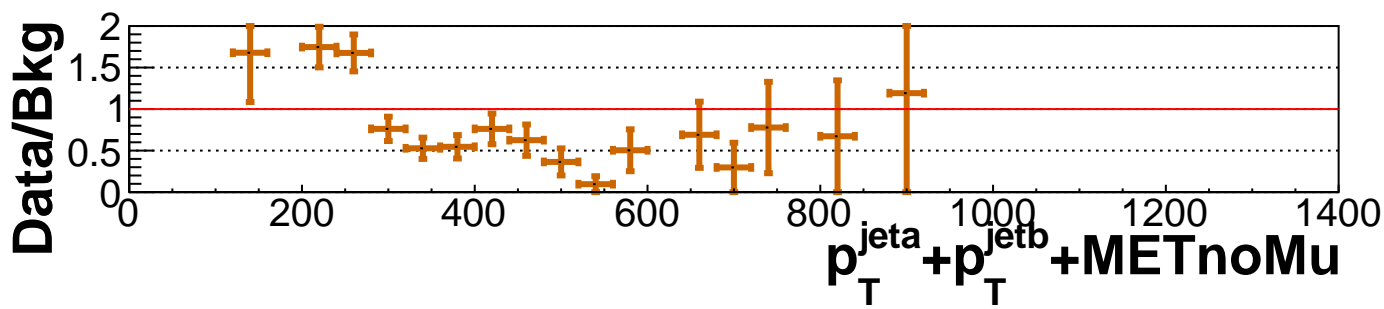
$\Delta\phi(\text{METnoMu}, E_T^{\text{uncl}})$



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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



19.2 fb⁻¹ (8 TeV)

CMS

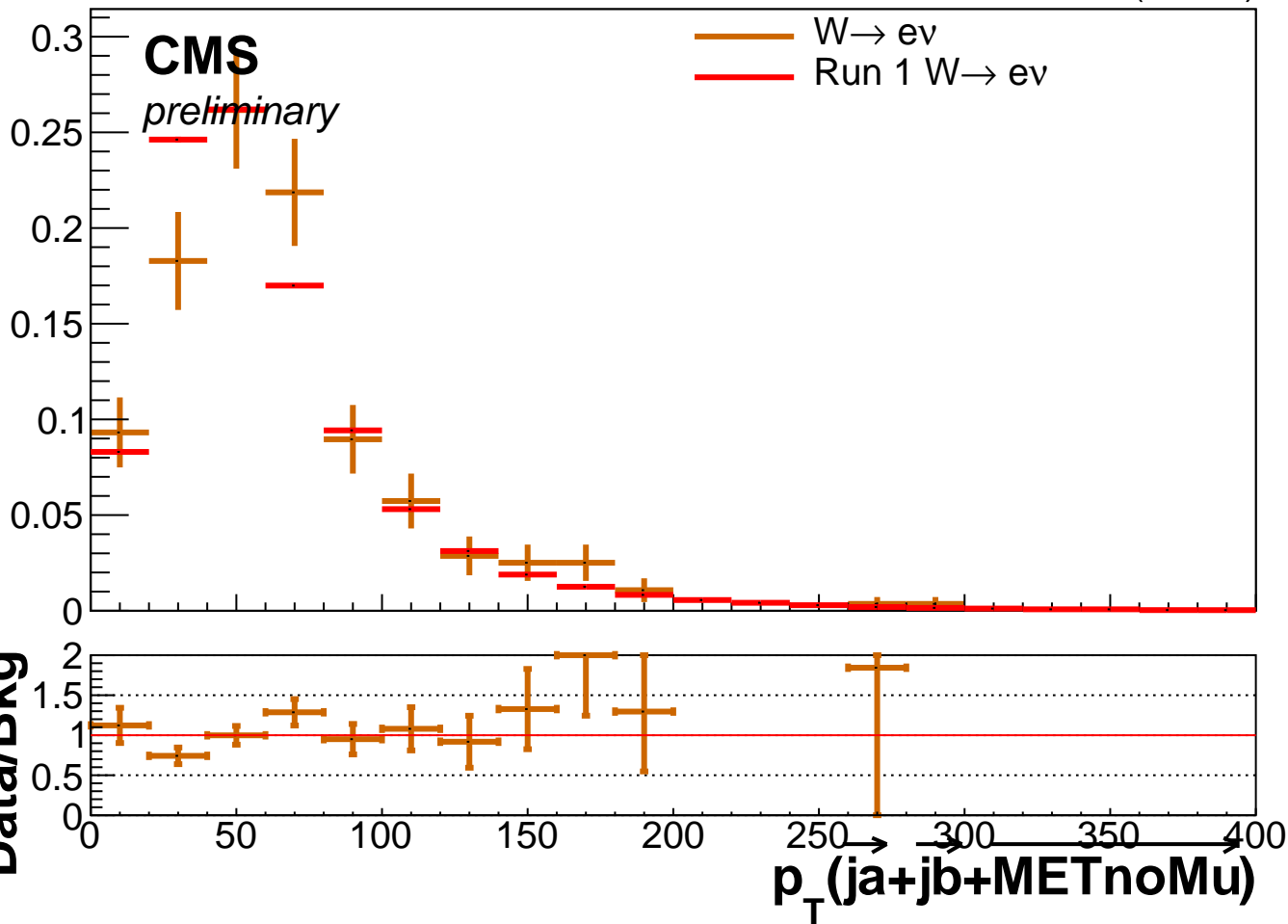
preliminary

— $W \rightarrow e\nu$

— Run 1 $W \rightarrow e\nu$

Data/Bkg

p_T (ja+jb+METnoMu)



19.2 fb⁻¹ (8 TeV)

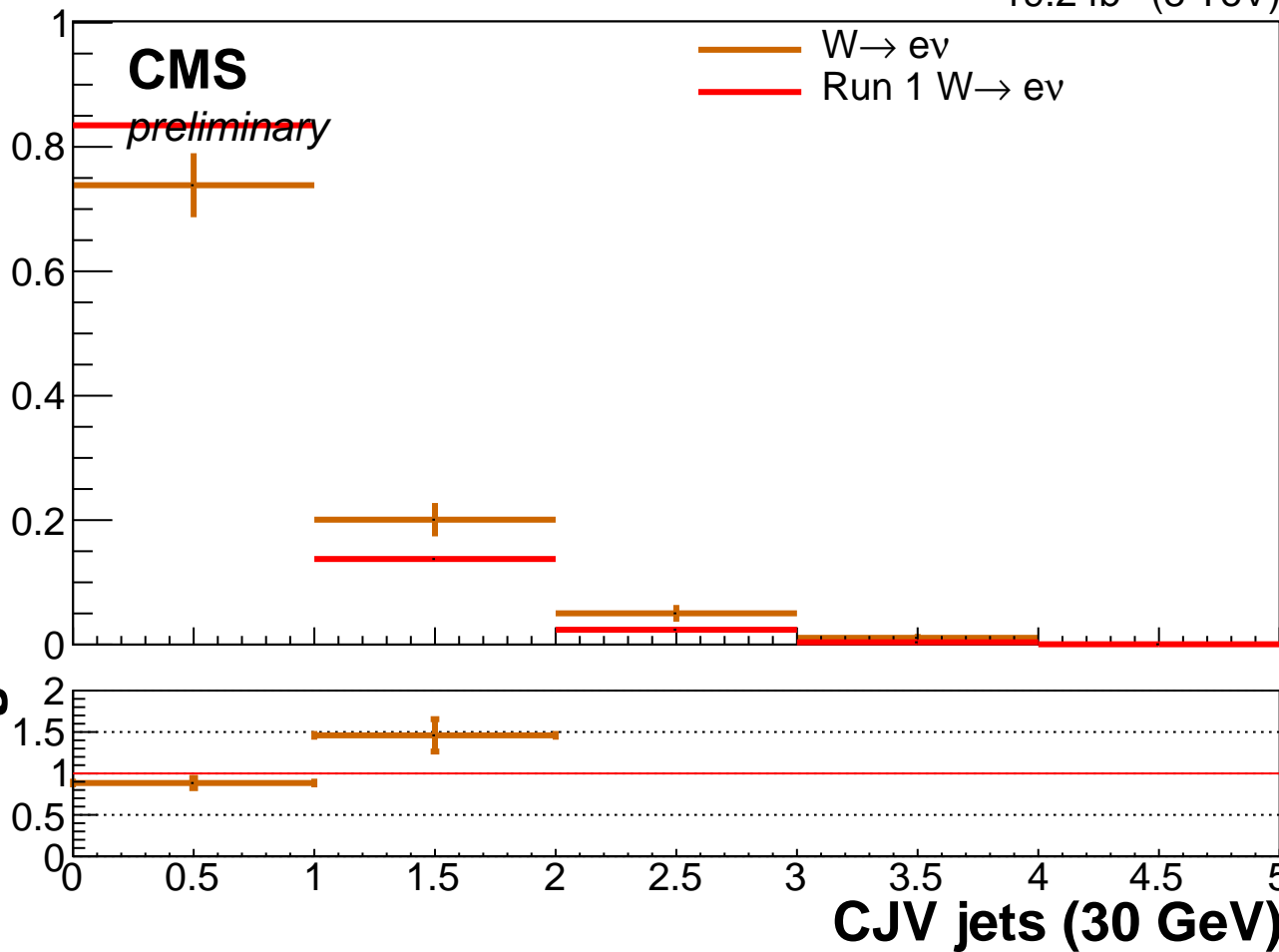
CMS

preliminary

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

Data/Bkg

CJV jets (30 GeV)



19.2 fb⁻¹ (8 TeV)

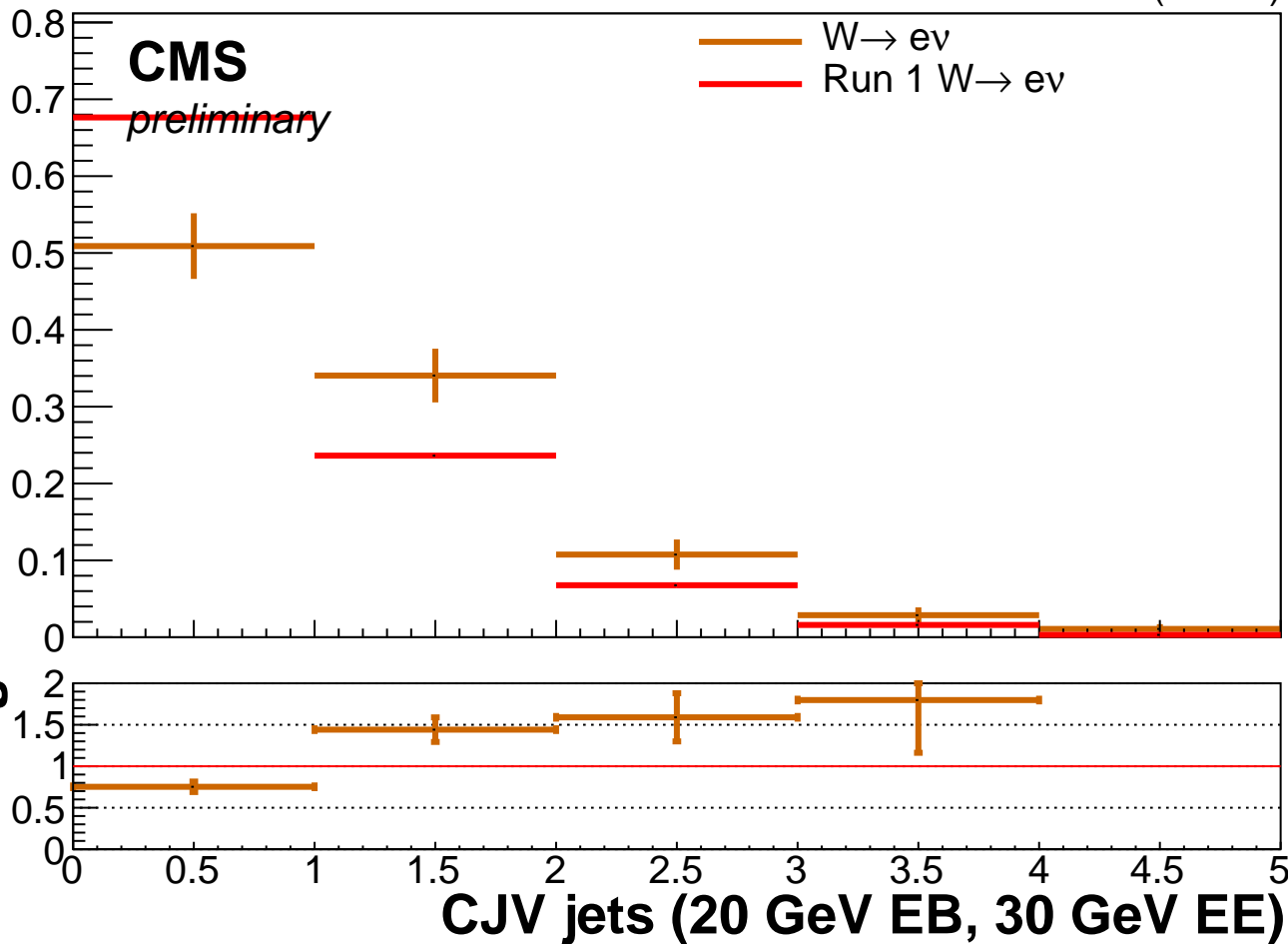
CMS

preliminary

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

Data/Bkg

CJV jets (20 GeV EB, 30 GeV EE)



19.2 fb⁻¹ (8 TeV)

CMS

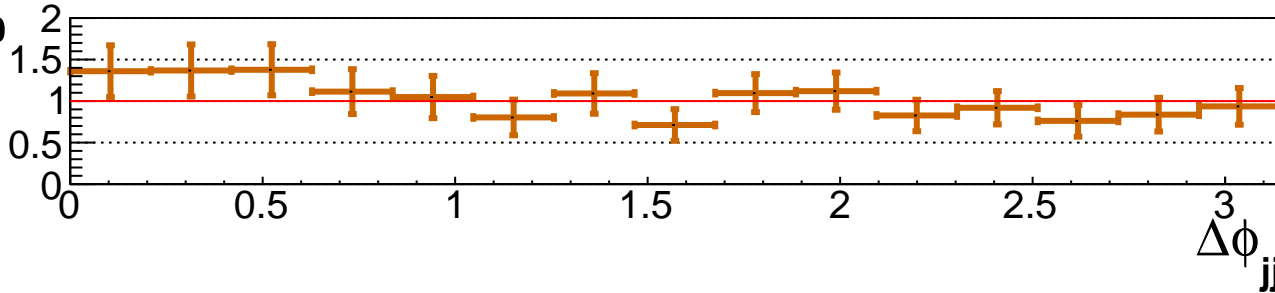
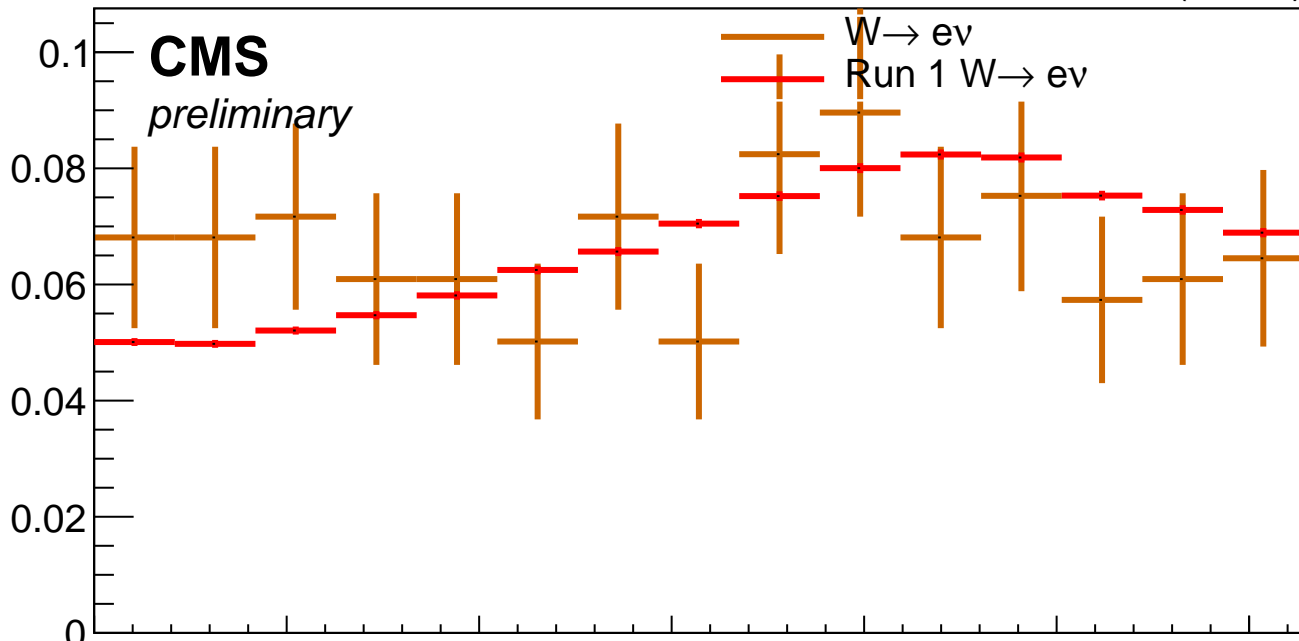
preliminary

W → eν

Run 1 W → eν

Data/Bkg

$\Delta\phi_{jj}$



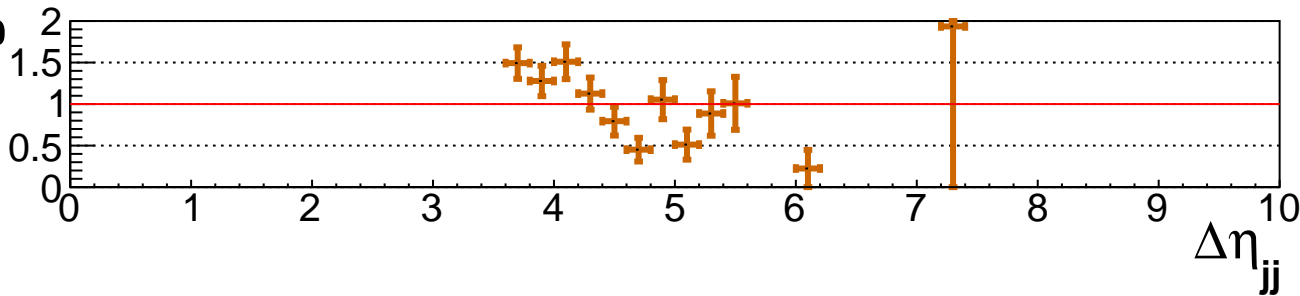
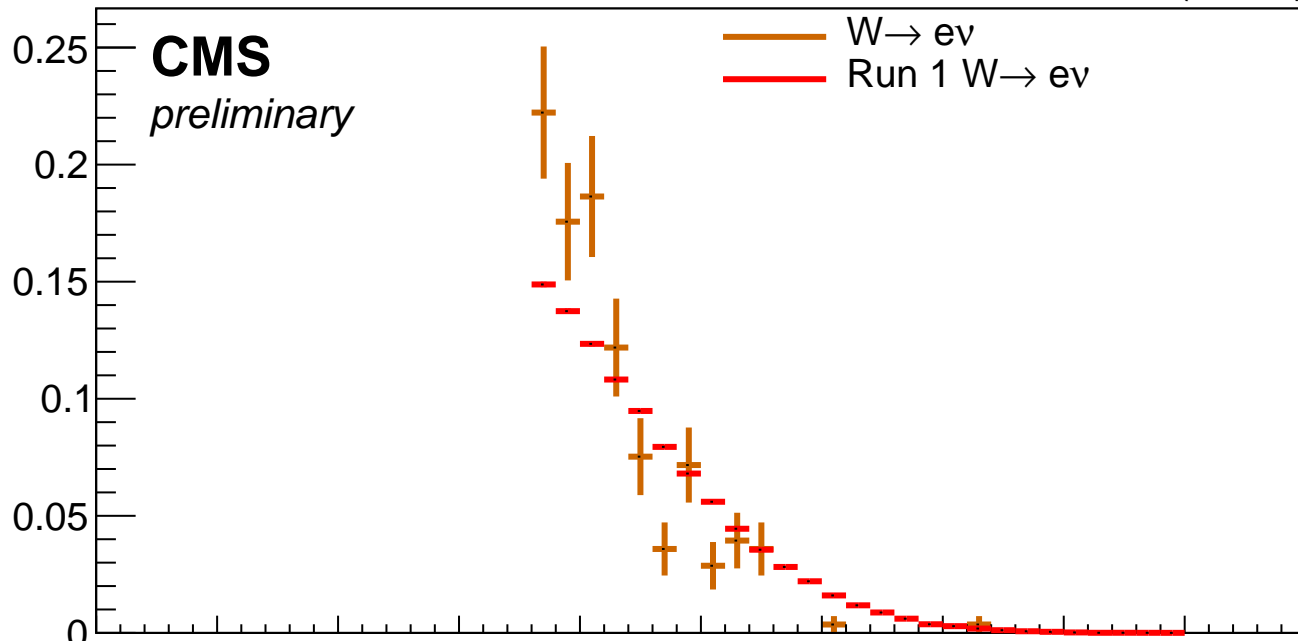
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

$\Delta\eta_{jj}$

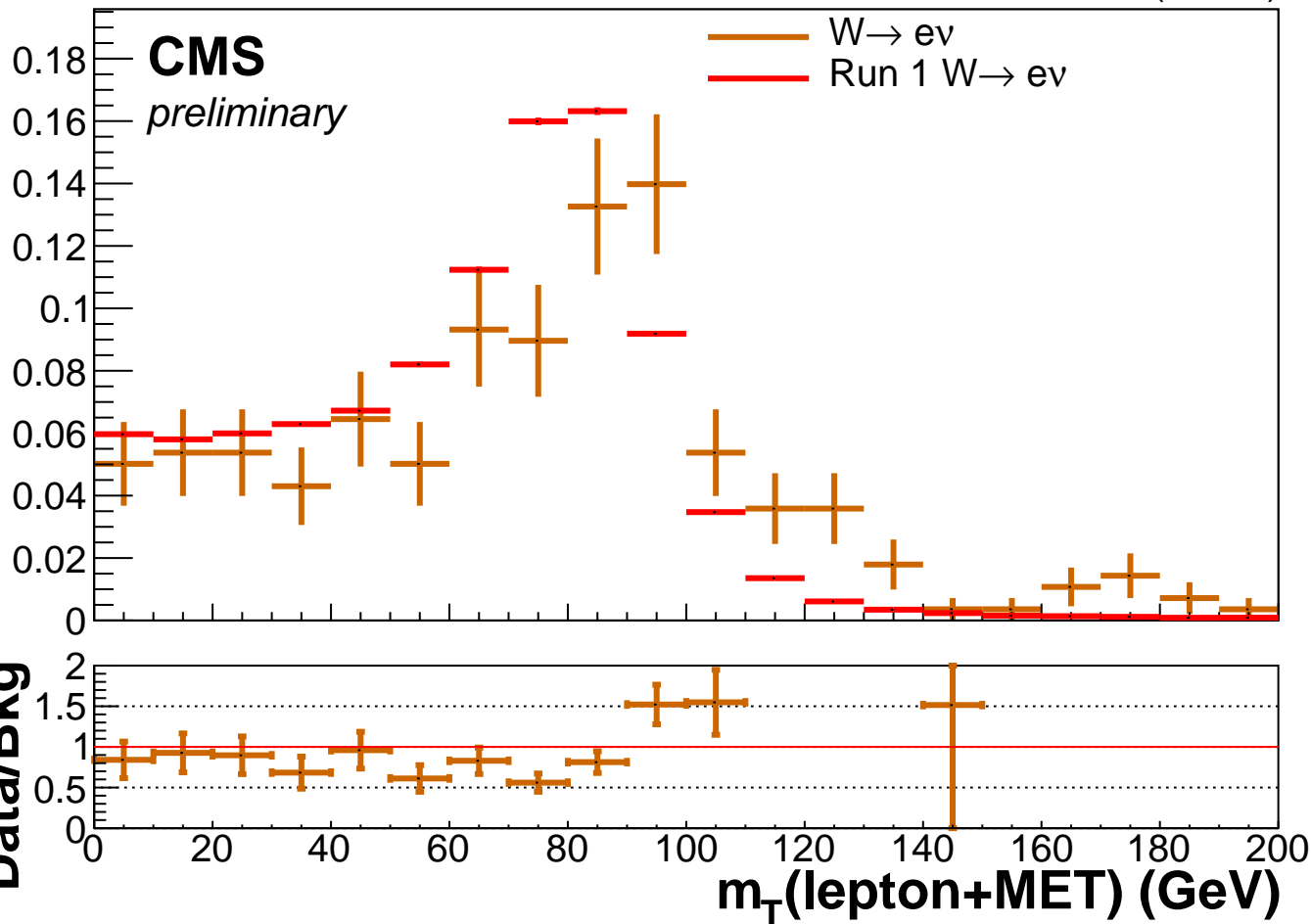


19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg



19.2 fb⁻¹ (8 TeV)

CMS

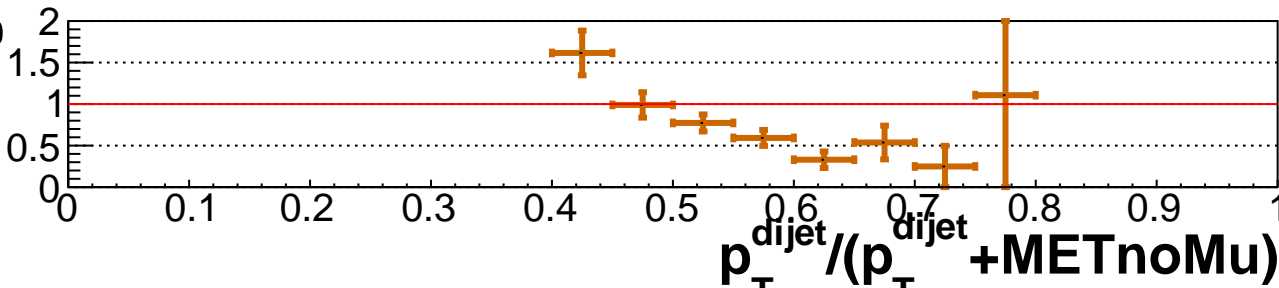
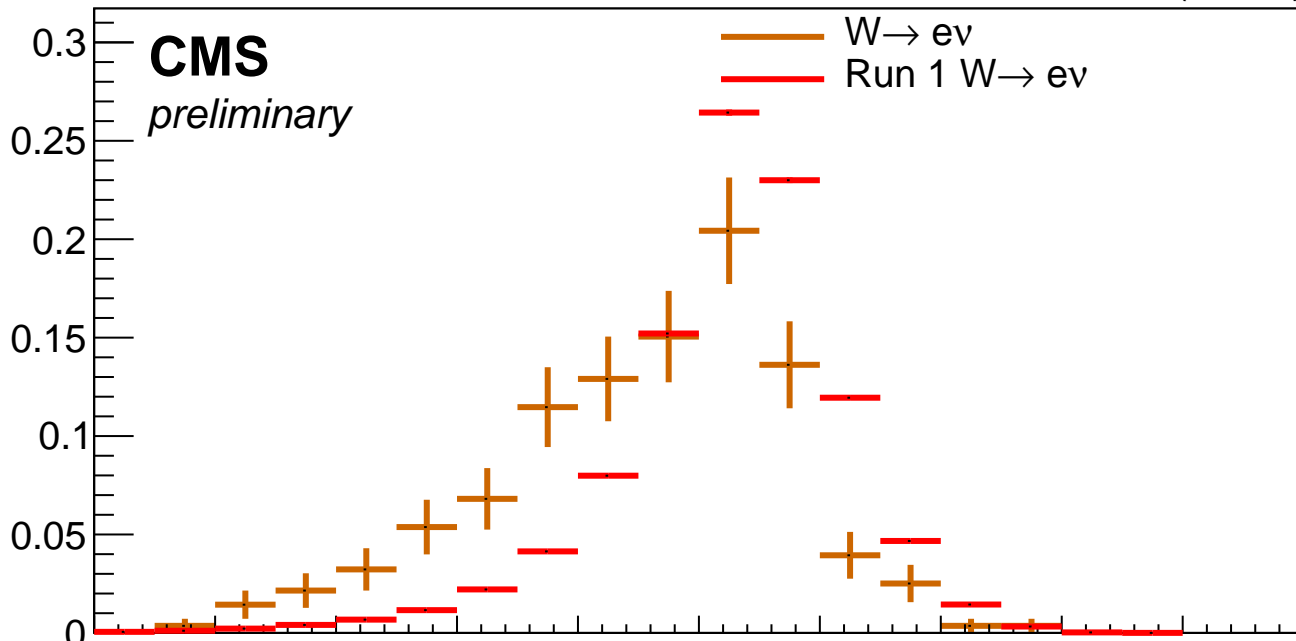
preliminary

W → eν

Run 1 W → eν

Data/Bkg

$p_T^{\text{dijet}} / (p_T^{\text{dijet}} + \text{MET}_{\text{noMu}})$



19.2 fb⁻¹ (8 TeV)

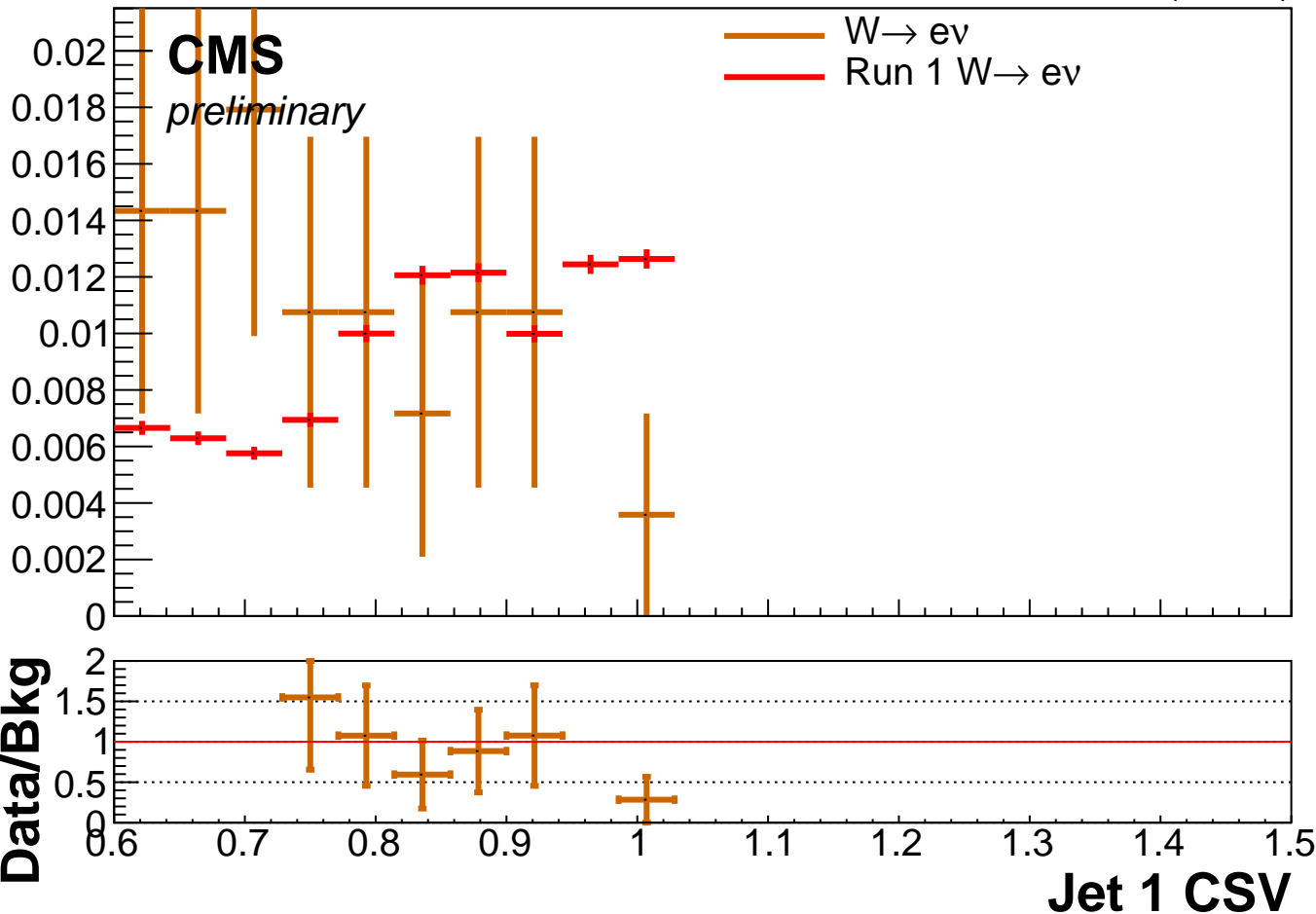
CMS

preliminary

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

Data/Bkg

Jet 1 CSV

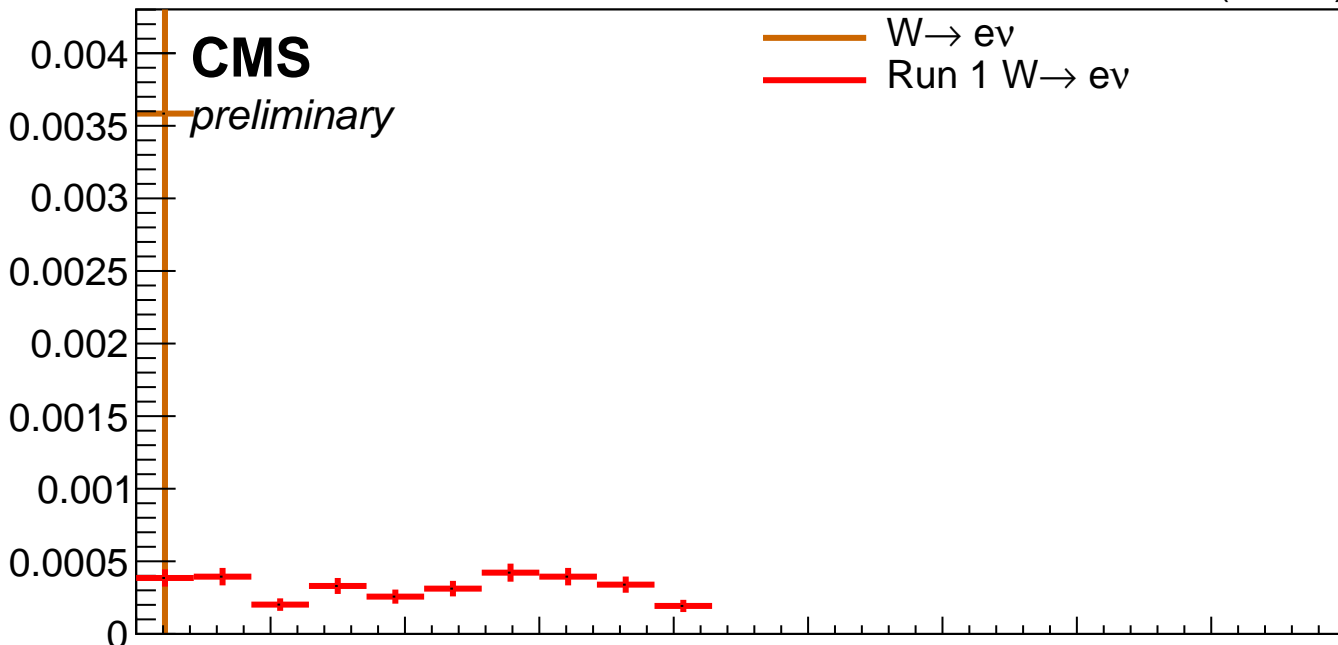


19.2 fb⁻¹ (8 TeV)

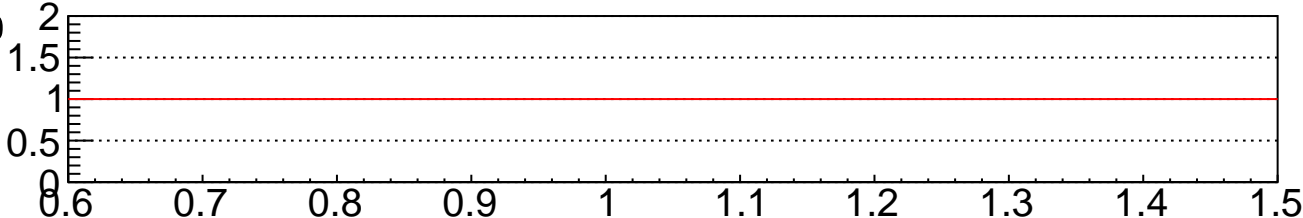
CMS

preliminary

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



Data/Bkg



Jet 2 CSV

19.2 fb⁻¹ (8 TeV)

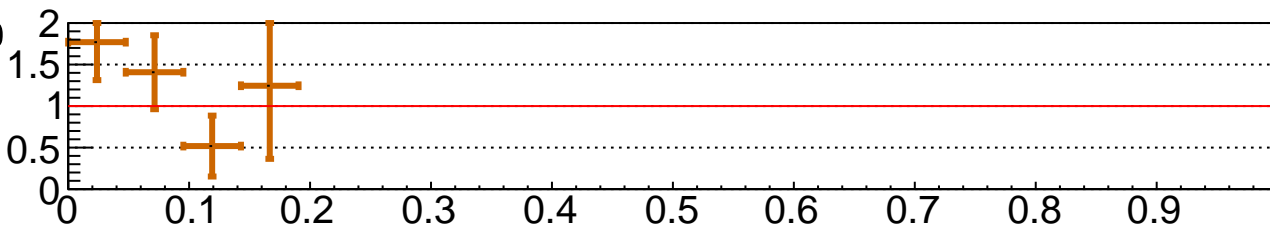
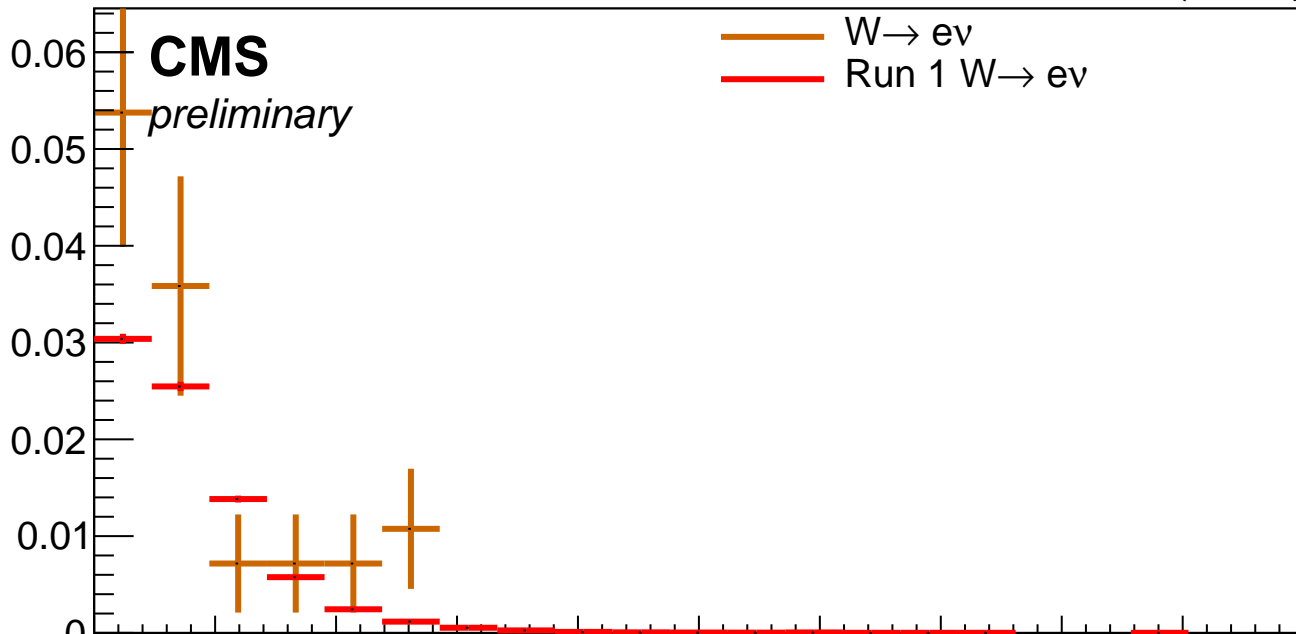
CMS

preliminary

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

Data/Bkg

Jet 3 CSV



19.2 fb⁻¹ (8 TeV)

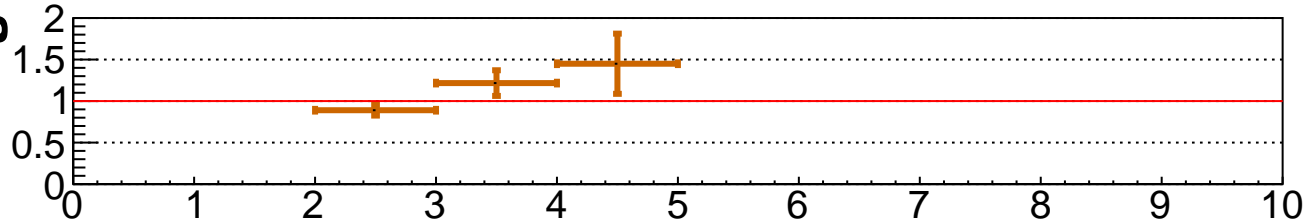
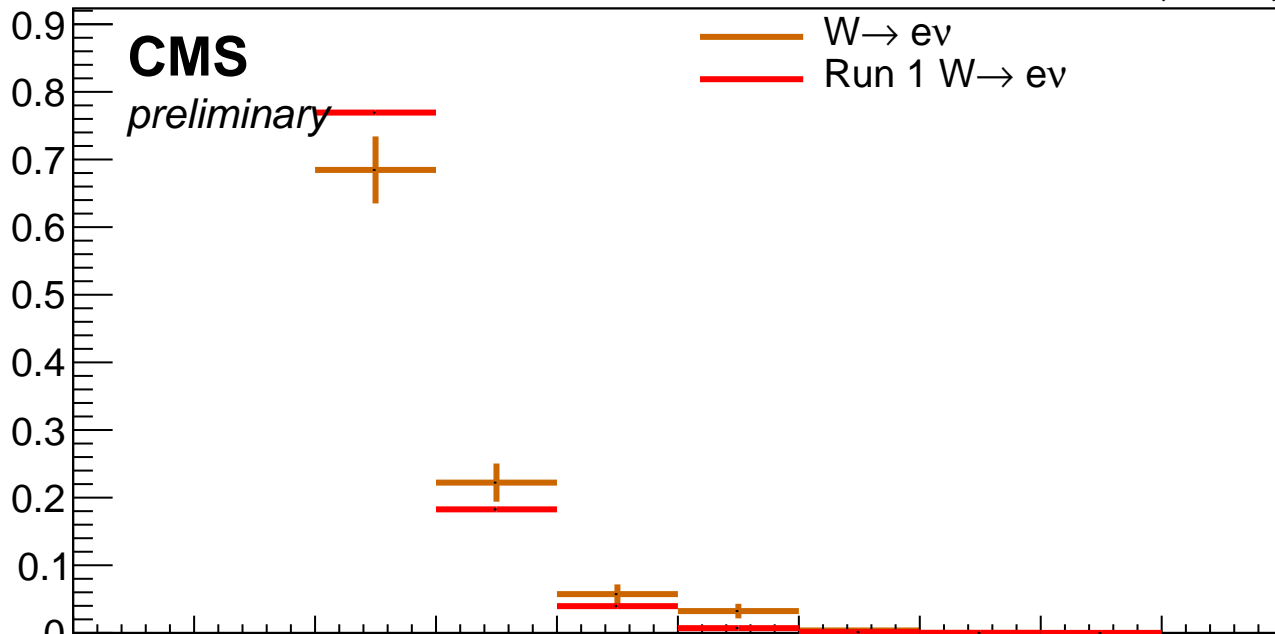
CMS

preliminary

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

Data/Bkg

N jets pt>30 GeV



19.2 fb⁻¹ (8 TeV)

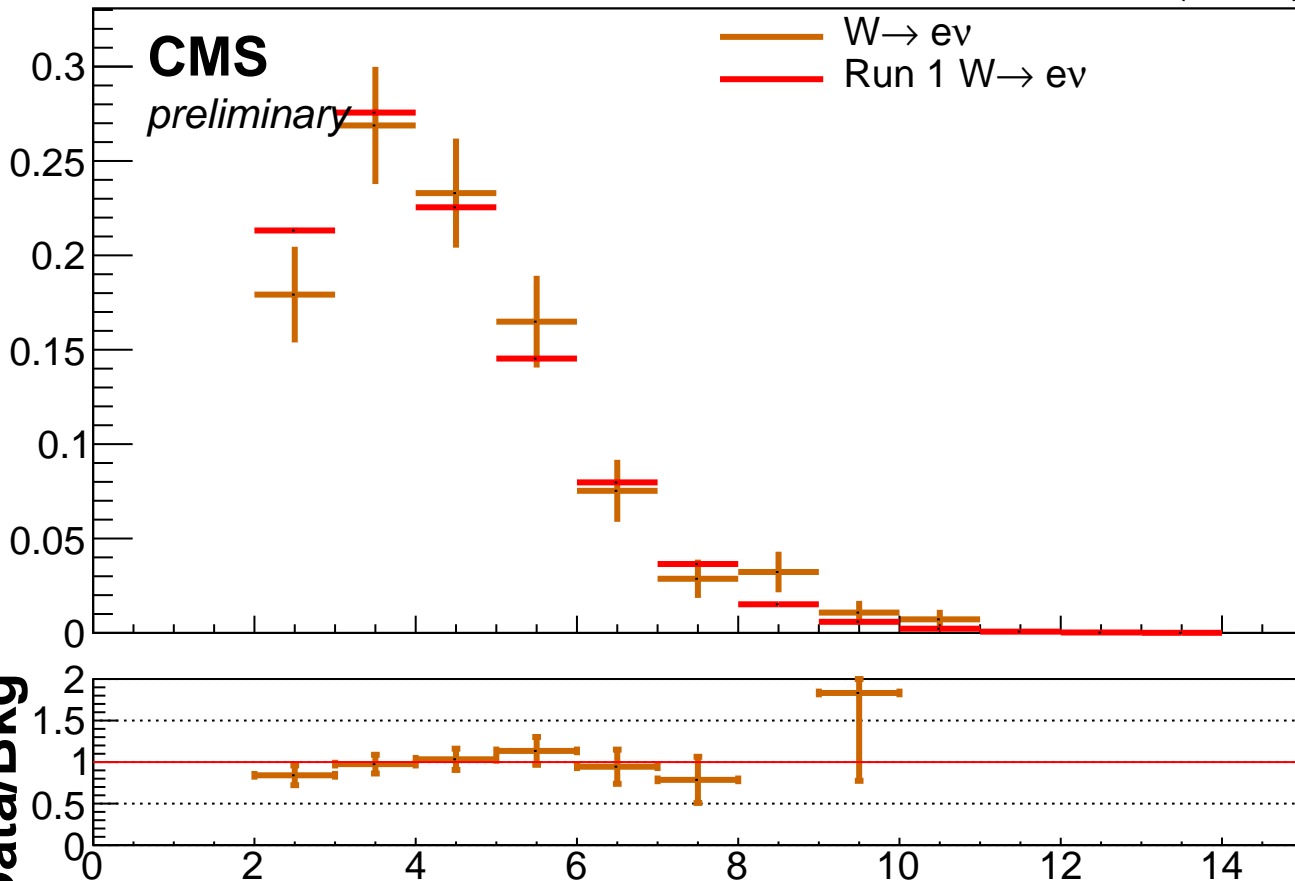
CMS

preliminary

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

Data/Bkg

N jets pt>15 GeV



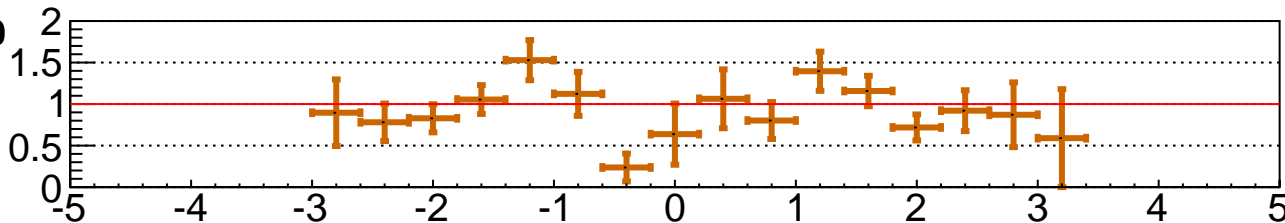
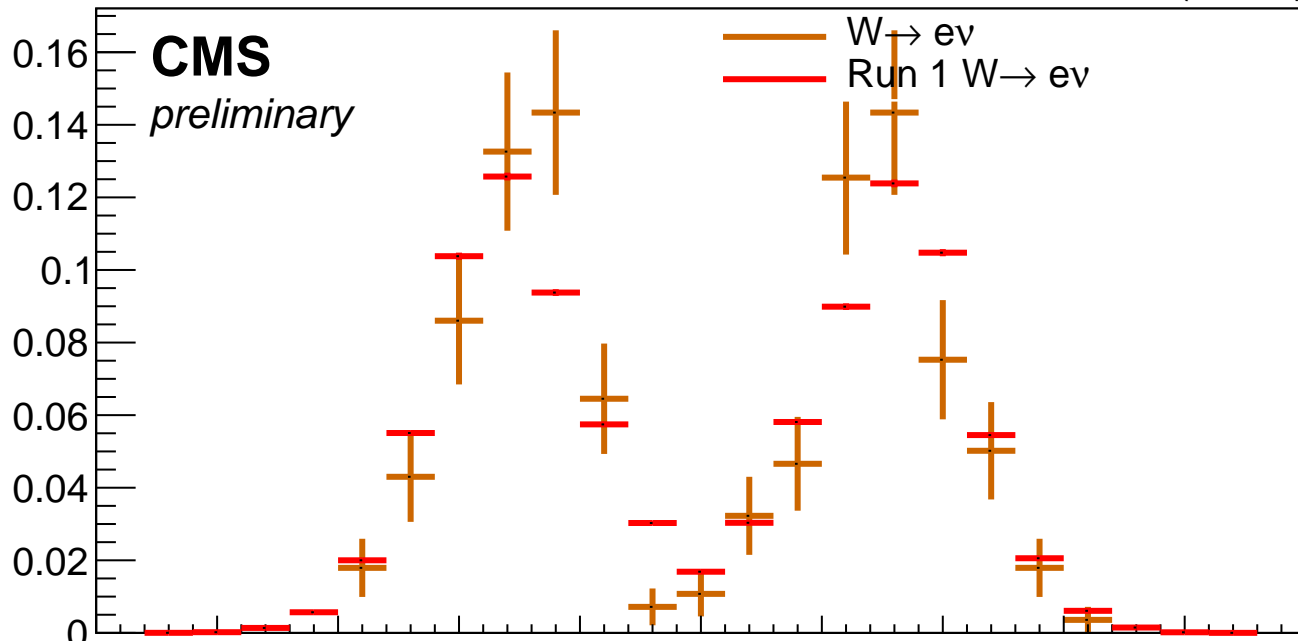
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

Central tag jet η



19.2 fb⁻¹ (8 TeV)

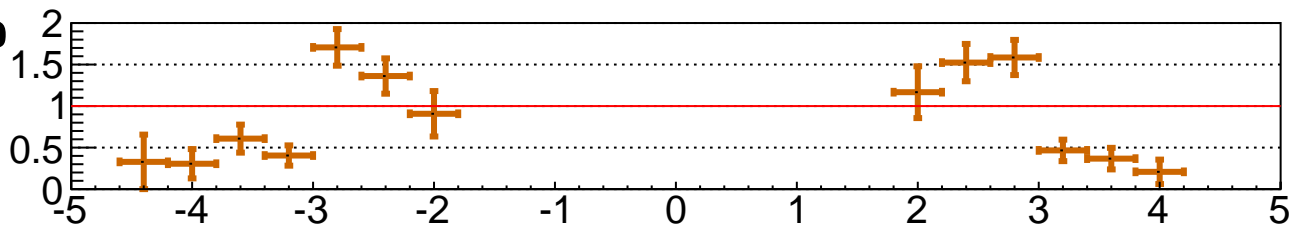
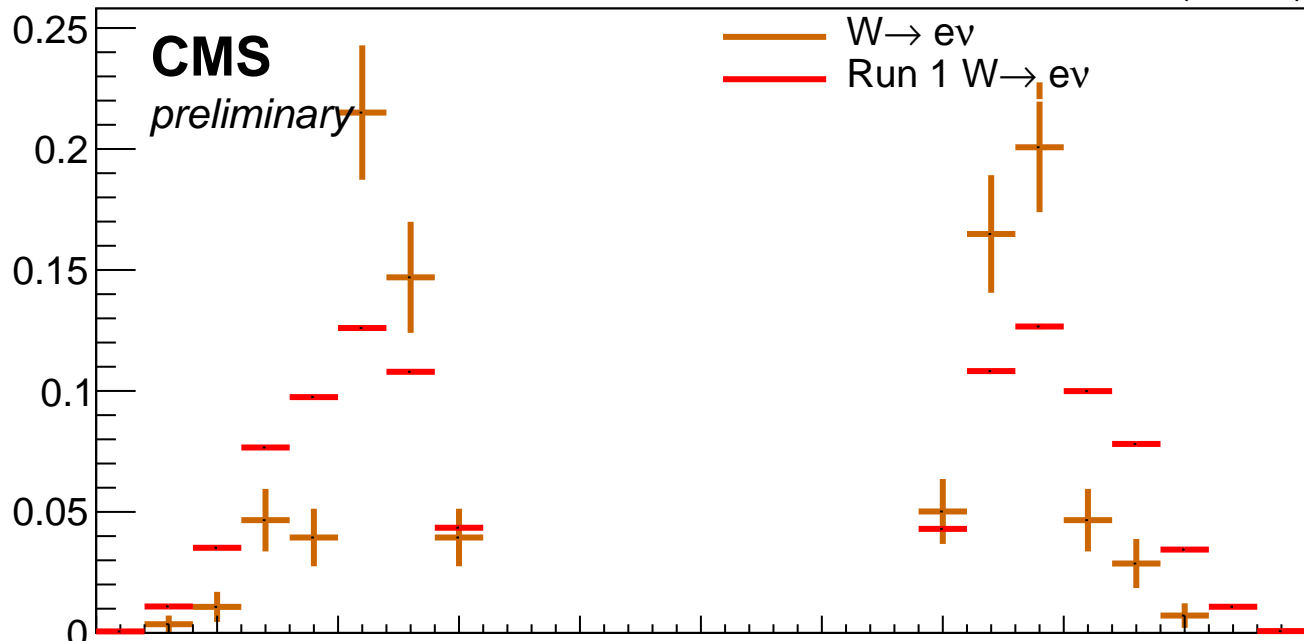
CMS

preliminary

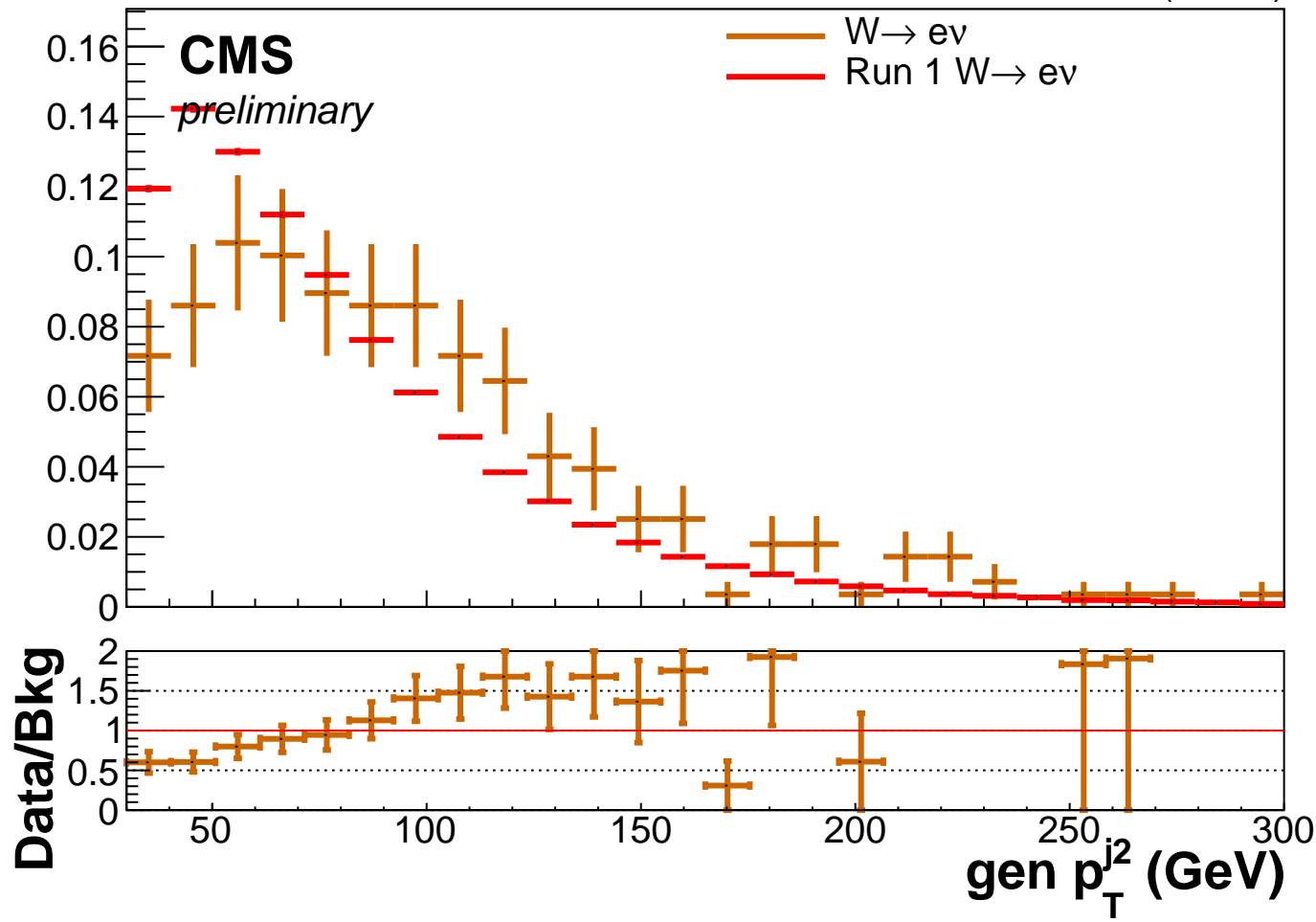
— $W \rightarrow e\nu$
— Run 1 $W \rightarrow e\nu$

Data/Bkg

Forward tag jet η



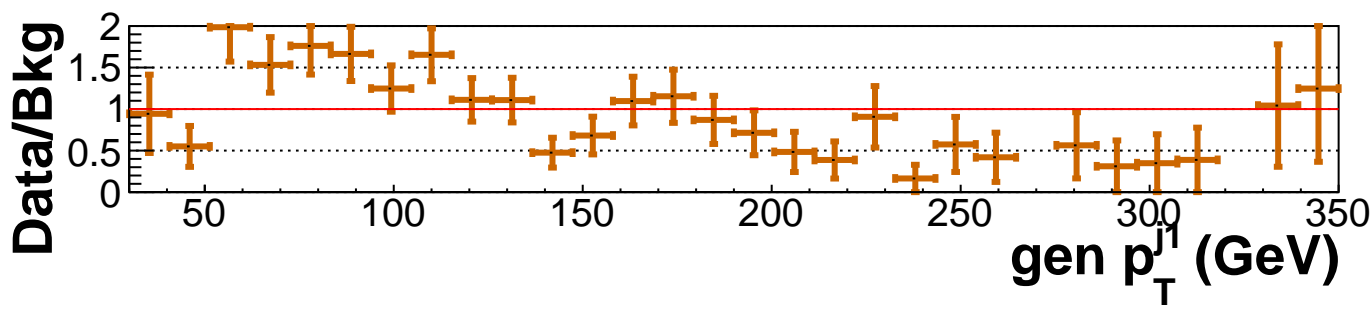
19.2 fb⁻¹ (8 TeV)



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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



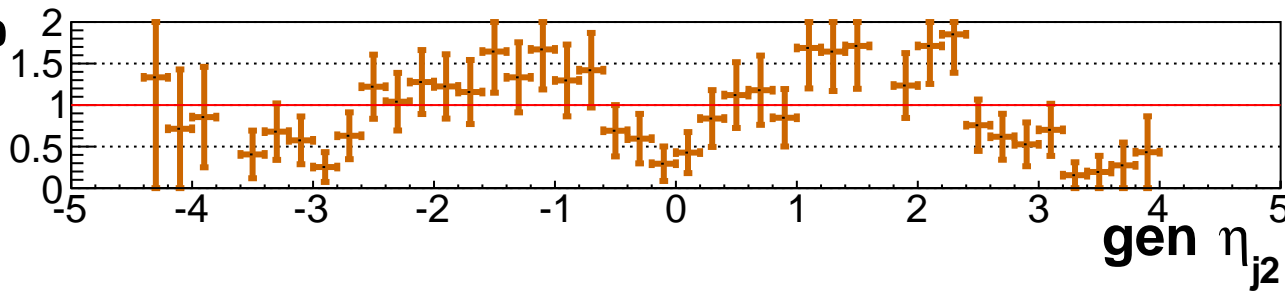
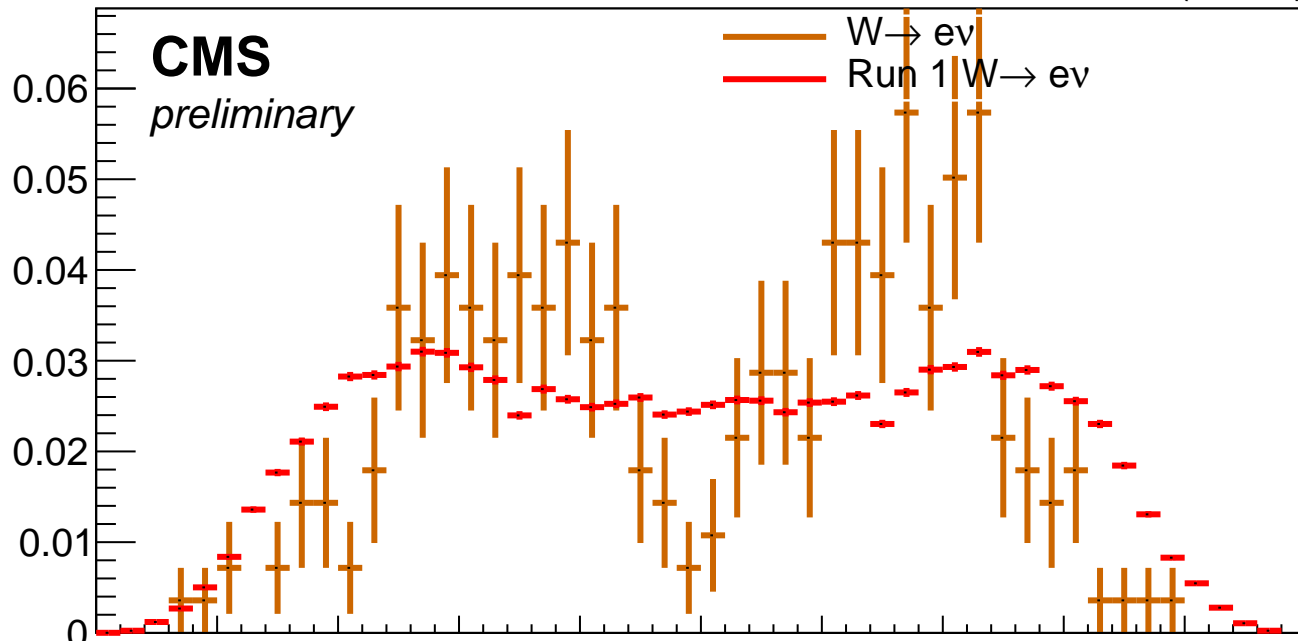
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

gen η_{j2}



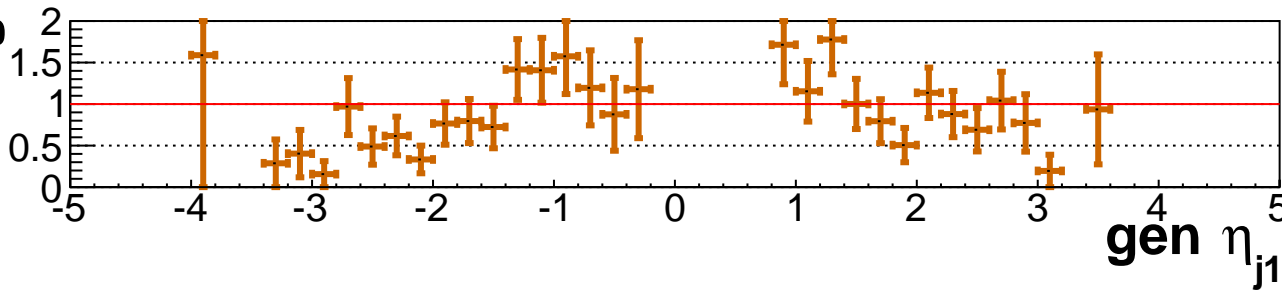
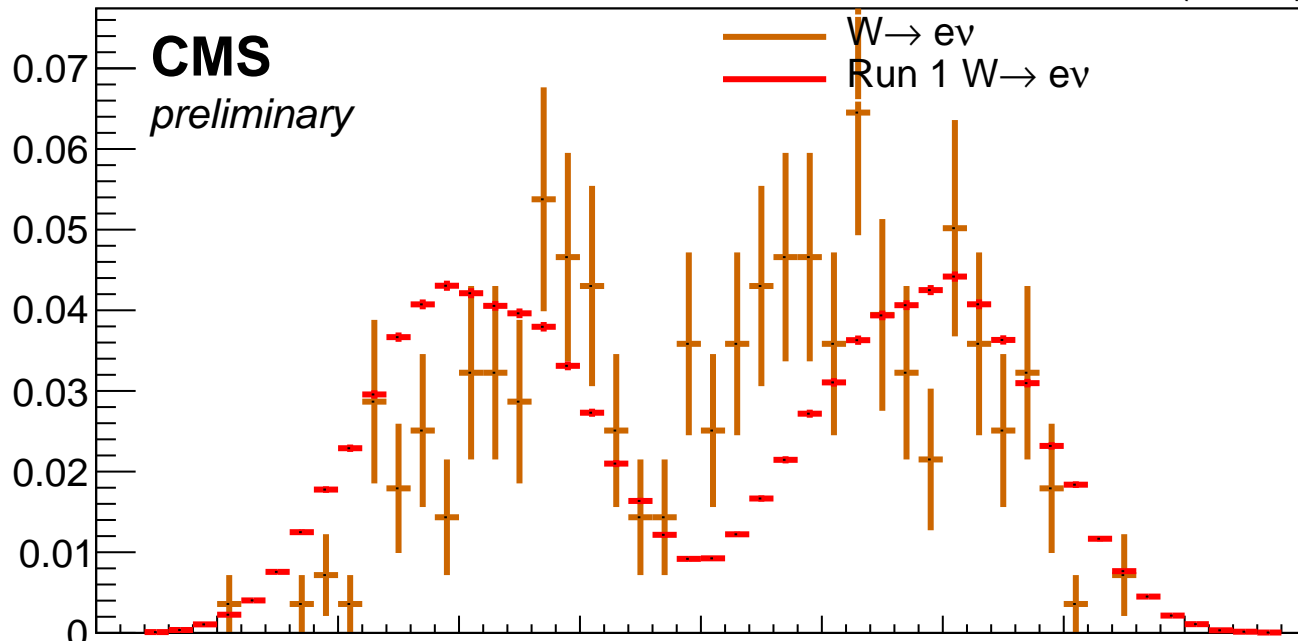
19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

gen η_{j1}



19.2 fb⁻¹ (8 TeV)

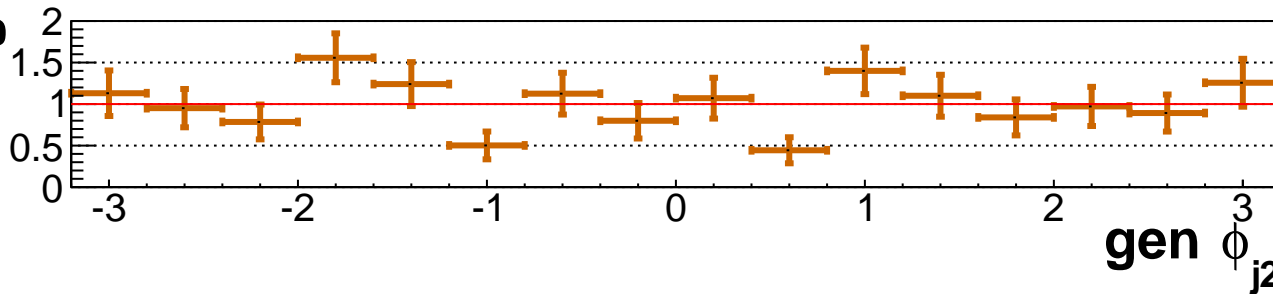
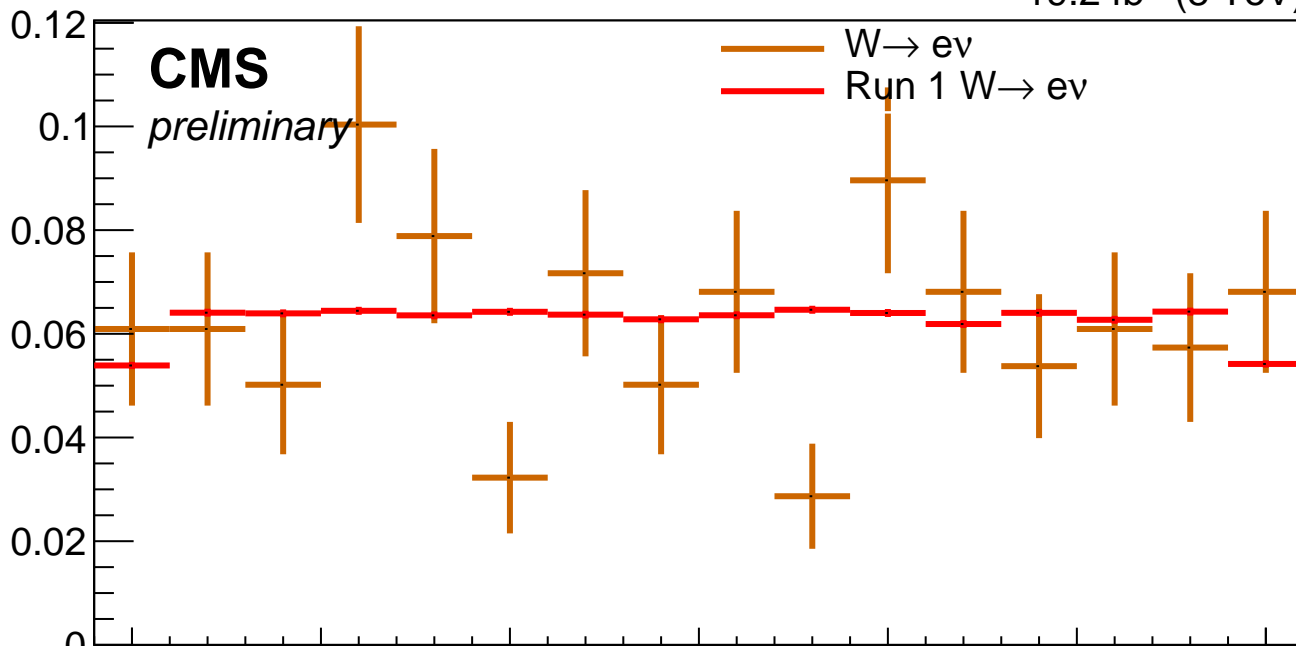
CMS

preliminary

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

Data/Bkg

gen ϕ_{j2}



19.2 fb⁻¹ (8 TeV)

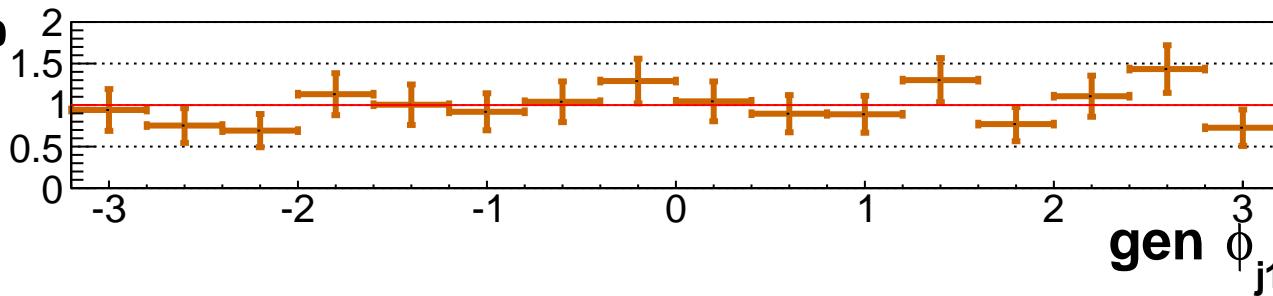
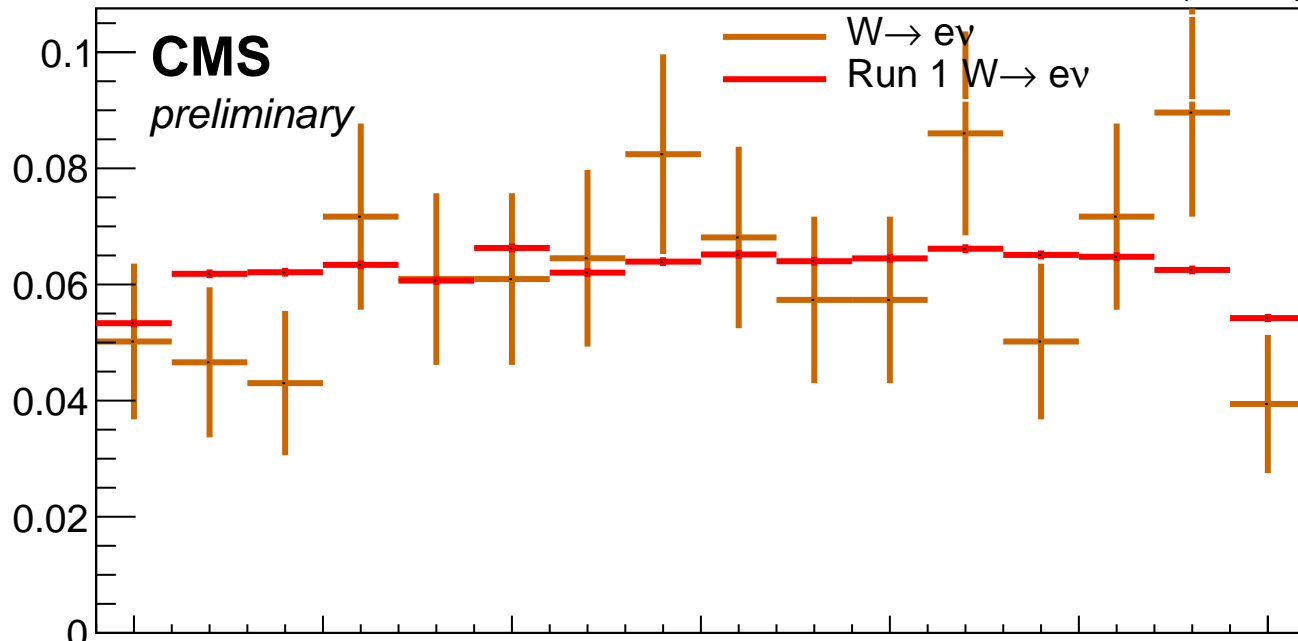
CMS

preliminary

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

Data/Bkg

gen ϕ_{j1}



19.2 fb⁻¹ (8 TeV)

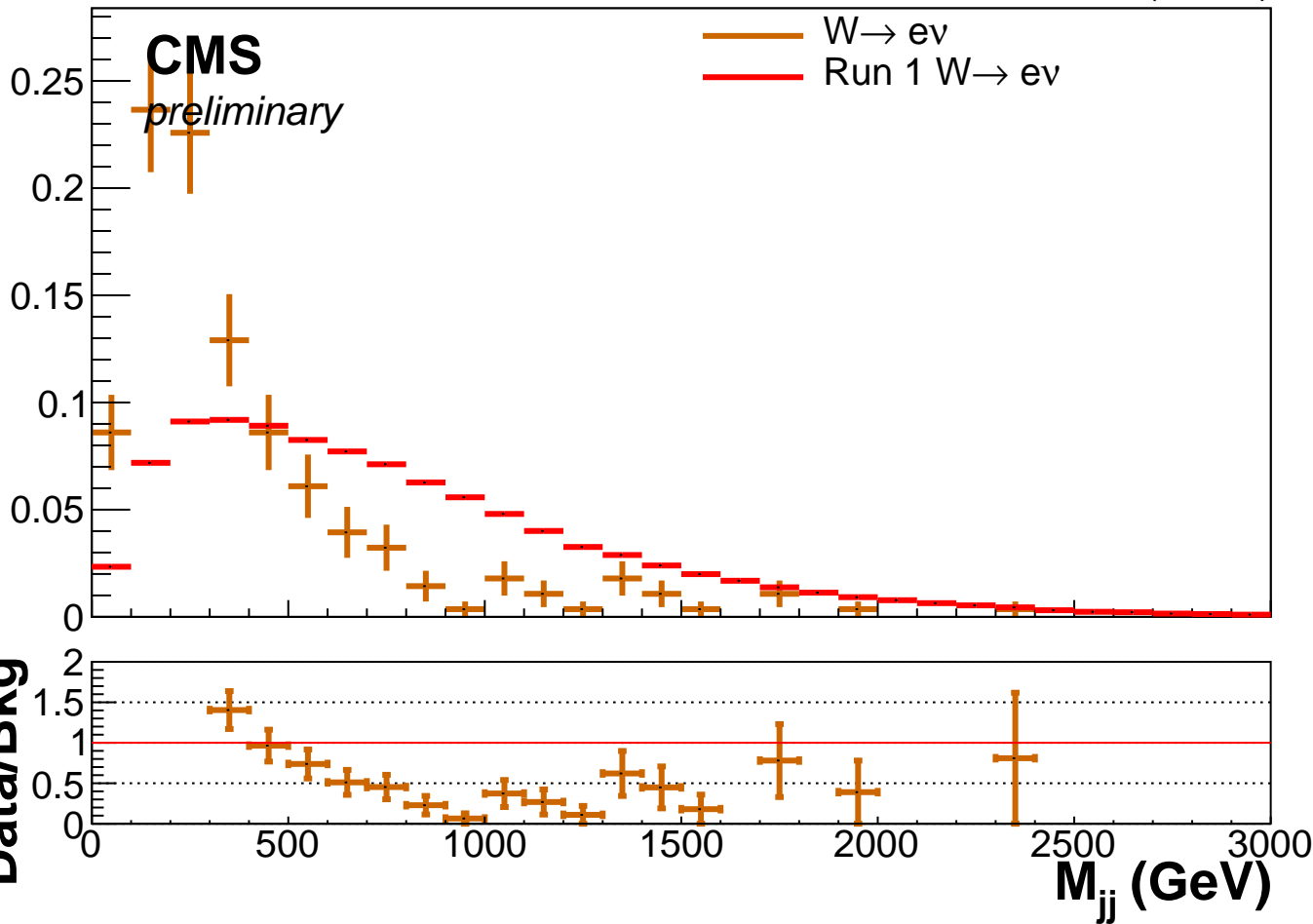
CMS

preliminary

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

Data/Bkg

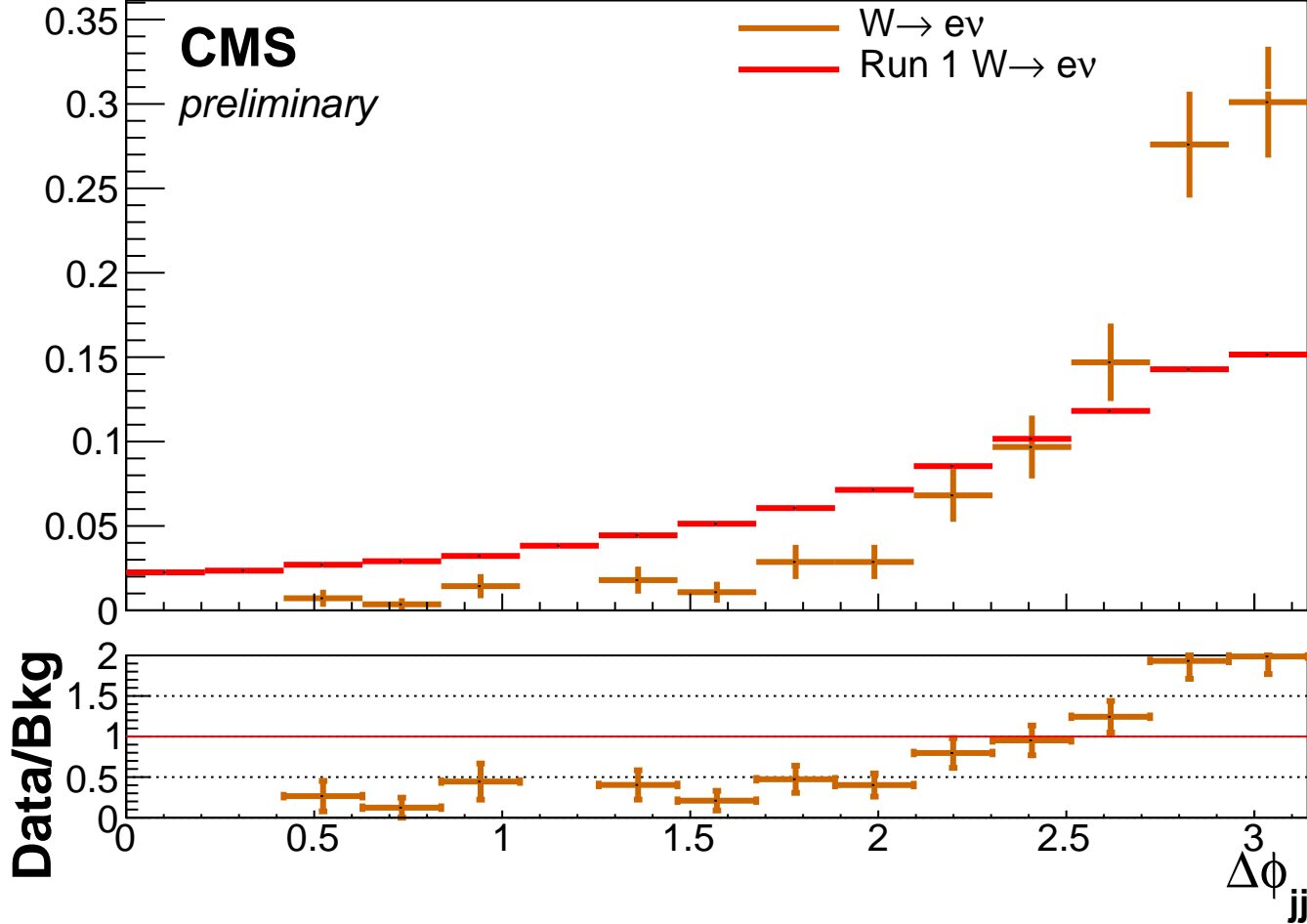
M_{jj} (GeV)



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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



19.2 fb⁻¹ (8 TeV)

CMS
preliminary

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

Data/Bkg

$\Delta\eta_{jj}$

