

## D0 paper

Value &	0.533586 //
Stat &	12.5988 //
ElecResol &	2 //
ElecScale &	16.1238 //
ElecEff &	1.2476 //
ElecSM &	4.2476 //
ElecEL &	4 //
Recoil &	4.95889 //
ElecBkg &	2 //
ptWmodel &	2.3714 //
EWK_Weak &	7 //
PDF &	11 //
\hline	
Total &	25.7395 //

Shift wrt to measured value



## D0 our pdf cteq6.6

Value &	3.48716 //
Stat &	12.9321 //
ElecResol &	2 //
ElecScale &	16.0183 //
ElecEff &	1.03663 //
ElecSM &	4.03663 //
ElecEL &	4 //
Recoil &	4.98778 //
ElecBkg &	2 //
ptWmodel &	2.05495 //
EWK_Weak &	7 //
PDF &	14.1004 //
\hline	
Total &	27.2418 //

$$M_W = 80.367 \pm 0.013(\text{stat.}) \pm 0.022(\text{syst.}) \text{ GeV}$$

$$= 80.367 \pm 0.026 \text{ GeV.}$$

## D0 CT10

Source	$\Delta M_W(\text{MeV})$		
	$m_T$	$p_T^0$	$E_T$
Electron energy calibration	16	17	16
Electron resolution model	2	2	3
Electron shower modeling	4	6	7
Electron energy loss model	4	4	4
Hadronic recoil model	5	6	14
Electron efficiencies	1	3	5
Backgrounds	2	2	2
Experimental subtotal	18	20	24
PDF	11	11	14
QED	7	7	9
Boson $p_T$	2	5	2
Production subtotal	13	14	17
Total	22	24	29

Value &	-2.80447 //
Stat &	13.2062 //
ElecResol &	2 //
ElecScale &	15.9485 //
ElecEff &	0.897009 //
ElecSM &	3.89701 //
ElecEL &	4 //
Recoil &	5.02628 //
ElecBkg &	2 //
ptWmodel &	1.84551 //
EWK_Weak &	7 //
PDF &	15.761 //
\hline	
Total &	28.1927 //

## CDF paper

$\backslash$ hline $\backslash$ hline	
Value &	-0.279322 $\backslash\backslash$
Stat &	11.6088 $\backslash\backslash$
LeptonScale &	5 $\backslash\backslash$
ElecResol &	1.73235 $\backslash\backslash$
ElecScale &	3.30957 $\backslash\backslash$
MuonRes &	0.617832 $\backslash\backslash$
MuonScale &	3.02738 $\backslash\backslash$
MuonEff &	0.352252 $\backslash\backslash$
ElecEff &	0.472807 $\backslash\backslash$
LeptonTR &	1.70246 $\backslash\backslash$
ElecTR &	0.706042 $\backslash\backslash$
MuonTR &	0 $\backslash\backslash$
RecoilScale &	3.79935 $\backslash\backslash$
RecoilRes &	3.84884 $\backslash\backslash$
ElecBkg &	1.39411 $\backslash\backslash$
MuonBkg &	2.46795 $\backslash\backslash$
ptWmodel &	4.99822 $\backslash\backslash$
EWK_Weak &	4 $\backslash\backslash$
PDF &	9.85123 $\backslash\backslash$
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Total &	19.0347 $\backslash\backslash$
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$$M_W = 80387 \pm 12_{\text{stat}} \pm 15_{\text{syst}} \text{ MeV} = 80387 \pm 19 \text{ MeV},$$

Source	Uncertainty
Lepton energy scale and resolution	7
Recoil energy scale and resolution	6
Lepton tower removal	2
Backgrounds	3
PDFs	10
$p_T(W)$ model	5
Photon radiation	4
Statistical	12
Total	19

## CDF our pdf cteq6.6

$\backslash$ hline $\backslash$ hline	
Value &	1.65245 $\backslash\backslash$
Stat &	11.6707 $\backslash\backslash$
LeptonScale &	5 $\backslash\backslash$
ElecResol &	1.75778 $\backslash\backslash$
ElecScale &	3.30381 $\backslash\backslash$
MuonRes &	0.618497 $\backslash\backslash$
MuonScale &	3.03064 $\backslash\backslash$
MuonEff &	0.345322 $\backslash\backslash$
ElecEff &	0.44875 $\backslash\backslash$
LeptonTR &	1.86336 $\backslash\backslash$
ElecTR &	0.783829 $\backslash\backslash$
MuonTR &	0 $\backslash\backslash$
RecoilScale &	3.73381 $\backslash\backslash$
RecoilRes &	3.96768 $\backslash\backslash$
ElecBkg &	1.41752 $\backslash\backslash$
MuonBkg &	2.44339 $\backslash\backslash$
ptWmodel &	4.66993 $\backslash\backslash$
EWK_Weak &	4 $\backslash\backslash$
PDF &	10.8262 $\backslash\backslash$
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Total &	19.5413 $\backslash\backslash$

## CDF CT10

$\backslash$ hline $\backslash$ hline	
Value &	-5.23821 $\backslash\backslash$
Stat &	11.7451 $\backslash\backslash$
LeptonScale &	5 $\backslash\backslash$
ElecResol &	1.73645 $\backslash\backslash$
ElecScale &	3.29843 $\backslash\backslash$
MuonRes &	0.619119 $\backslash\backslash$
MuonScale &	3.03368 $\backslash\backslash$
MuonEff &	0.305555 $\backslash\backslash$
ElecEff &	0.383076 $\backslash\backslash$
LeptonTR &	1.94089 $\backslash\backslash$
ElecTR &	0.820874 $\backslash\backslash$
MuonTR &	0 $\backslash\backslash$
RecoilScale &	3.89113 $\backslash\backslash$
RecoilRes &	4.13435 $\backslash\backslash$
ElecBkg &	1.43845 $\backslash\backslash$
MuonBkg &	2.37177 $\backslash\backslash$
ptWmodel &	4.35106 $\backslash\backslash$
EWK_Weak &	4 $\backslash\backslash$
PDF &	15.9592 $\backslash\backslash$
$\backslash$ hline	
Total &	22.8181 $\backslash\backslash$

### ATLAS paper

$\backslash$ hline $\backslash$ hline	
Value &	-11.578 //
Stat &	6.80604 //
MUON_ &	6.58312 //
ELEC_ &	6.42669 //
RECOIL_ &	2.92207 //
BKG_ &	4.53073 //
QCD_ &	8.34568 //
EWK_ &	5.48092 //
PDF_ &	8.12342 //
$\backslash$ hline	
Total &	18.0474 //

Shift due to blinding



### ATLAS our CT10 (no pTZ)

Value &	-9.57322 //
Stat &	7.30969 //
MUON_ &	6.48621 //
ELEC_ &	6.70851 //
RECOIL_ &	2.59546 //
BKG_ &	4.64268 //
QCD_ &	8.27016 //
EWK_ &	5.62387 //
PDF_ &	10.221 //
$\backslash$ hline	
Total &	19.3207 //

### ATLAS CTEQ6.6 (no pTZ)

Value &	-8.15737 //
Stat &	7.09144 //
MUON_ &	6.40204 //
ELEC_ &	6.35353 //
RECOIL_ &	2.6895 //
BKG_ &	4.53809 //
QCD_ &	8.24757 //
EWK_ &	5.58748 //
PDF_ &	8.35418 //
$\backslash$ hline	
Total &	18.1247 //

No change with pTZ constraint

$$m_W = 80369.5 \pm 6.8 \text{ MeV (stat.)} \pm 10.6 \text{ MeV (exp. syst.)} \pm 13.6 \text{ MeV (mod. syst.)}$$

$$= 80369.5 \pm 18.5 \text{ MeV,}$$

Combined categories	Value [MeV]	Stat. Unc.	Muon Unc.	Elec. Unc.	Recoil Unc.	Bckg. Unc.	QCD Unc.	EWK Unc.	PDF Unc.	Total Unc.	$\chi^2/\text{dof}$ of Comb.
$m_T\text{-}p_T^\ell, W^\pm, e\text{-}\mu$	80369.5	6.8	6.6	6.4	2.9	4.5	8.3	5.5	9.2	18.5	29/27