

ATLAS+CMS Preliminary LHC *top*WG

$\sigma_{t\bar{t}}$ summary, $\sqrt{s} = 8$ TeV

May 2016

NNLO+NNLL PRL 110 (2013) 252004
 $m_{\text{top}} = 172.5$ GeV, $\alpha_s(M_Z) = 0.118 \pm 0.001$

■ scale uncertainty
 ■ scale \oplus PDF \oplus α_s uncertainty

total stat
 $\sigma_{t\bar{t}} \pm (\text{stat}) \pm (\text{syst}) \pm (\text{lumi})$

ATLAS, lepton+jets

PRD 91 (2015) 112013, $L_{\text{int}} = 20.3 \text{ fb}^{-1}$

$260 \pm 1^{+22}_{-23} \pm 8 \text{ pb}$

CMS, lepton+jets

arXiv:1602.09024, $L_{\text{int}} = 19.6 \text{ fb}^{-1}$

$228.5 \pm 3.8 \pm 13.7 \pm 6.0 \text{ pb}$

CMS, lepton+ τ_h

PLB 739 (2014) 23, $L_{\text{int}} = 19.6 \text{ fb}^{-1}$

$257 \pm 3 \pm 24 \pm 7 \text{ pb}$

ATLAS, dilepton $e\mu$

EPJ C74 (2014) 3109, $L_{\text{int}} = 20.3 \text{ fb}^{-1}$

$242.4 \pm 1.7 \pm 5.5 \pm 7.5 \text{ pb}$

CMS, dilepton ($ee, \mu\mu, e\mu$)

JHEP 02 (2014) 024, $L_{\text{int}} = 5.3 \text{ fb}^{-1}$

$239.0 \pm 2.1 \pm 11.3 \pm 6.2 \text{ pb}$

LHC combined $e\mu$ (Sep 2014)

ATLAS-CONF-2014-053, CMS-PAS TOP-14-016,

$L_{\text{int}} = 5.3 - 20.3 \text{ fb}^{-1}$

$241.5 \pm 1.4 \pm 5.7 \pm 6.2 \text{ pb}$

CMS, dilepton $e\mu$

arXiv:1603.02303, $L_{\text{int}} = 19.7 \text{ fb}^{-1}$

$244.9 \pm 1.4^{+6.3}_{-5.5} \pm 6.4 \text{ pb}$

CMS, all jets

EPJ C76 (2016) 128, $L_{\text{int}} = 18.4 \text{ fb}^{-1}$

$275.6 \pm 6.1 \pm 37.8 \pm 7.2 \text{ pb}$

NNPDF3.0 JHEP 04 (2015) 040

MMHT14 EPJ C75 (2015) 5

CT14 PRD 93 (2016) 033006

ABM12 PRD 89 (2015) 054028

$[\alpha_s(M_Z) = 0.113]$

Effect of LHC beam energy uncertainty: 4.2 pb (not included in the figure)

