

# Table of Contents

History of LHCTopWG Summary Plots:.....	1
Single Top tW-channel Summary at 7 TeV.....	2
Single Top tW-channel Summary at 8 TeV.....	3
Single Top tW-channel Summary at 13 TeV.....	5

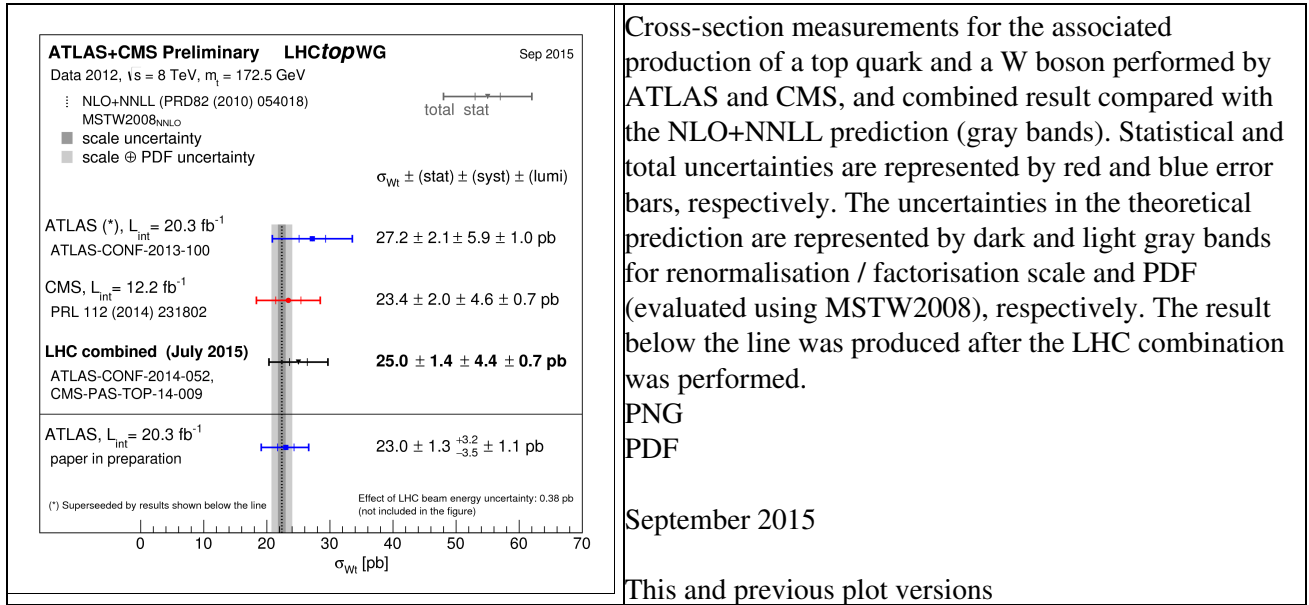
# History of LHCTopWG Summary Plots:

# Single Top tW-channel Summary at 7 TeV

Figure	Description
<p style="text-align: center;"><b>Single Top Quark Production</b></p>	<p>Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS at 7 TeV, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively.</p> <p>PNG PDF</p> <p>September 2019</p>

# Single Top tW-channel Summary at 8 TeV

Figure	Description
<p style="text-align: center;"><b>Single Top Quark Production</b></p> <p><b>ATLAS+CMS Preliminary</b> LHCtopWG September 2019</p> <p>Data 2012, <math>\sqrt{s} = 8</math> TeV, <math>m_t = 172.5</math> GeV : NLO+NNLL (PRD 82 (2010) 054018)</p> <p>■ scale @ PDF @ <math>\alpha_s</math> uncertainty</p> <p>ATLAS, <math>L_{int} = 20.3 \text{ fb}^{-1}</math> JHEP 01 (2016) 064</p> <p>CMS, <math>L_{int} = 12.2 \text{ fb}^{-1}</math> PRL 112 (2014) 231802</p> <p><b>LHC combined</b> JHEP 05 (2019) 088</p> <p><math>\sigma_W \pm (\text{stat.}) \pm (\text{syst.}) \pm (\text{lumi.})</math></p> <p><math>23.0 \pm 1.3^{+3.2}_{-3.5} \pm 1.1 \text{ pb}</math></p> <p><math>23.4 \pm 1.9 \pm 5.0 \pm 0.6 \text{ pb}</math></p> <p><math>23.1 \pm 1.1 \pm 3.3 \pm 0.8 \text{ pb}</math></p> <p><math>\sigma_W</math> [pb]</p>	<p>Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS at 8 TeV, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively.</p> <p>PNG PDF</p> <p>September 2019</p>
<p><b>ATLAS+CMS Preliminary</b> LHCtopWG September 2018</p> <p>Data 2012, <math>\sqrt{s} = 8</math> TeV, <math>m_t = 172.5</math> GeV : NLO+NNLL (PRD82 (2010) 054018) MSTW2008<sub>NNLO</sub></p> <p>■ scale uncertainty ■ scale @ PDF uncertainty</p> <p>ATLAS, <math>L_{int} = 20.3 \text{ fb}^{-1}</math> JHEP01 (2016) 064</p> <p>CMS, <math>L_{int} = 12.2 \text{ fb}^{-1}</math> PRL 112 (2014) 231802</p> <p><b>LHC combined (May 2016)</b> ATLAS-CONF-2016-023, CMS-PAS-TOP-15-019</p> <p><math>\sigma_W \pm (\text{stat.}) \pm (\text{syst.}) \pm (\text{lumi.})</math></p> <p><math>23.0 \pm 1.3^{+3.2}_{-3.5} \pm 1.1 \text{ pb}</math></p> <p><math>23.4 \pm 2.0 \pm 4.6 \pm 0.7 \text{ pb}</math></p> <p><math>23.1 \pm 1.1 \pm 3.3 \pm 0.8 \text{ pb}</math></p> <p>Effect of LHC beam energy uncertainty: 0.38 pb (not included in the figure)</p> <p><math>\sigma_W</math> [pb]</p>	<p>Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively.</p> <p>PNG PDF</p> <p>September 2018</p>
<p><b>ATLAS+CMS Preliminary</b>    LHCtopWG May 2016</p> <p>Data 2012, <math>\sqrt{s} = 8</math> TeV, <math>m_t = 172.5</math> GeV</p> <p>... NLO+NNLL (PRD82 (2010) 054018) MSTW2008<sub>NNLO</sub></p> <p>■ scale uncertainty ■ scale @ PDF uncertainty</p> <p>ATLAS, <math>L_{int} = 20.3 \text{ fb}^{-1}</math> arXiv:1510.03752</p> <p>CMS, <math>L_{int} = 12.2 \text{ fb}^{-1}</math> PRL 112 (2014) 231802</p> <p><b>LHC combined (May 2016)</b> ATLAS-CONF-2016-023, CMS-PAS-TOP-15-019</p> <p><math>\sigma_W \pm (\text{stat.}) \pm (\text{syst.}) \pm (\text{lumi.})</math></p> <p><math>23.0 \pm 1.3 \pm 3.5 \pm 1.1 \text{ pb}</math></p> <p><math>23.4 \pm 2.0 \pm 4.6 \pm 0.7 \text{ pb}</math></p> <p><math>23.1 \pm 1.1 \pm 3.3 \pm 0.8 \text{ pb}</math></p> <p>Effect of LHC beam energy uncertainty: 0.38 pb (not included in the figure)</p> <p><math>\sigma_W</math> [pb]</p>	<p>Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively.</p> <p>PNG PDF</p> <p>May 2016</p>



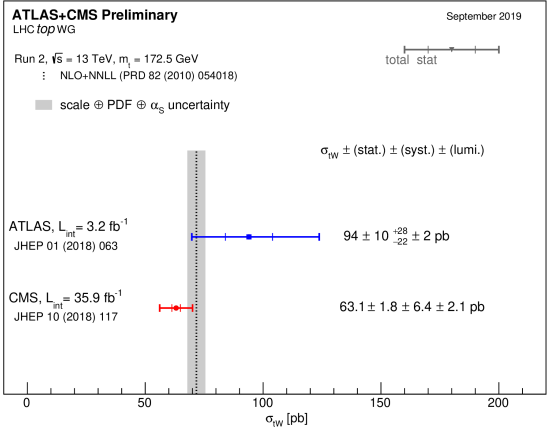
Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively. The result below the line was produced after the LHC combination was performed.

PNG  
PDF

September 2015

This and previous plot versions

# Single Top tW-channel Summary at 13 TeV

Figure	Description
<p style="text-align: center;"><b>Single Top Quark Production</b></p>  <p>ATLAS+CMS Preliminary LHC top WG Run 2, <math>\sqrt{s} = 13</math> TeV, <math>m_t = 172.5</math> GeV : NLO+NNLL (PRD 82 (2010) 054018) scale @ PDF @ <math>\alpha_s</math> uncertainty</p> <p>September 2019</p> <p><math>\sigma_{tW} \pm (\text{stat.}) \pm (\text{syst.}) \pm (\text{lumi.})</math></p> <p>ATLAS, <math>L_{\text{int}} = 3.2 \text{ fb}^{-1}</math> JHEP 01 (2018) 063</p> <p>CMS, <math>L_{\text{int}} = 35.9 \text{ fb}^{-1}</math> JHEP 10 (2018) 117</p> <p><math>94 \pm 10^{+28}_{-22} \pm 2 \text{ pb}</math></p> <p><math>63.1 \pm 1.8 \pm 6.4 \pm 2.1 \text{ pb}</math></p> <p><math>\sigma_{tW} [\text{pb}]</math></p>	<p>Cross-section measurements for the associated production of a top quark and a W boson performed by ATLAS and CMS at 13 TeV, and combined result compared with the NLO+NNLL prediction (gray bands). Statistical and total uncertainties are represented by red and blue error bars, respectively. The uncertainties in the theoretical prediction are represented by dark and light gray bands for renormalisation / factorisation scale and PDF (evaluated using MSTW2008), respectively.</p> <p>PNG PDF</p> <p>September 2019</p>

-- MartijnMulders - 2015-12-04 -- ReinhardSchwienhorst - 2019-11-13

This topic: LHCPhysics > SingleTopWTchannelHistory

Topic revision: r4 - 2019-11-13 - ReinhardSchwienhorst



Copyright &© 2008-2020 by the contributing authors. All material on this collaboration platform is the property of the contributing authors.

or Ideas, requests, problems regarding TWiki? use Discourse or Send feedback