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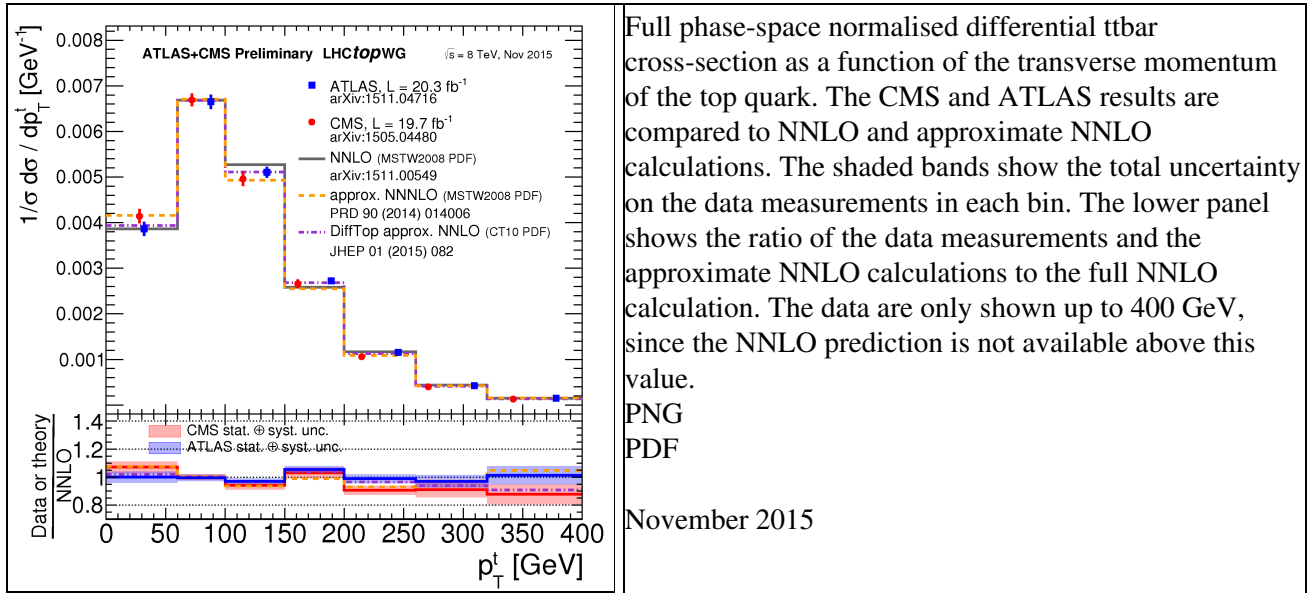
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# History of LHCTopWG Summary Plots:

# Top Pair Differential Distribution of Top $p_T$ at 8 TeV Summary

Figure	Description
<p style="text-align: center;"><b>Pair production differential cross sections</b></p> <p>ATLAS+CMS Preliminary LHCtopWG <math>\sqrt{s} = 8 \text{ TeV, Nov 2017}</math></p> <ul style="list-style-type: none"> <li>■ ATLAS, <math>L = 20.3 \text{ fb}^{-1}</math> EPJC 76 (2016) 538</li> <li>● CMS, <math>L = 19.7 \text{ fb}^{-1}</math> EPJC 75 (2015) 542</li> <li>— NNLO (CT14 PDF) <math>\mu_R = \mu_F = m_T/2, m_{\text{top}} = 173.3 \text{ GeV}</math> arXiv:1606.03350</li> <li>- - - approx. NNNLO (MSTW2008 PDF) <math>\mu_R = \mu_F = m_{\text{top}}, m_{\text{top}} = 173.3 \text{ GeV}</math> PRD 90 (2014) 014006</li> <li>- · - DiffTop approx. NNLO (CT10 PDF) <math>\mu_R = \mu_F = m_{\text{top}}, m_{\text{top}} = 173.3 \text{ GeV}</math> JHEP 01 (2015) 082</li> </ul> <p>Data or theory / NNLO</p> <ul style="list-style-type: none"> <li>■ CMS stat. ⊕ syst. unc.</li> <li>■ ATLAS stat. ⊕ syst. unc.</li> </ul> <p><math>p_T^2 \text{ [GeV]}</math></p>	<p>Full phase-space normalised differential <math>t\bar{t}</math> cross-section as a function of the transverse momentum of the top quark. The CMS and ATLAS results are compared to NNLO and approximate NNLO calculations. The values for the top-quark mass (<math>m_{\text{top}}</math>), the renormalisation (<math>\mu_R</math>) and factorisation (<math>\mu_F</math>) scales, and the choice of the PDF set used in each calculation are provided. The variable <math>m_T</math> is defined as the square root of the sum of the squares of top-quark mass and the transverse momentum of the top quark. Both the CMS and ATLAS measurements are performed assuming a top-quark mass value of 172.5 GeV. The shaded bands show the total uncertainty on the data measurements in each bin. The lower panel shows the ratio of the data measurements and the approximate NNLO calculations to the full NNLO calculation.</p> <p>PNG PDF</p> <p>November 2017</p>

<p>ATLAS+CMS Preliminary LHCtopWG <math>\sqrt{s} = 8 \text{ TeV, Nov 2016}</math></p> <ul style="list-style-type: none"> <li>■ ATLAS, <math>L = 20.3 \text{ fb}^{-1}</math> EPJC 76 (2016) 538</li> <li>● CMS, <math>L = 19.7 \text{ fb}^{-1}</math> EPJC 75 (2015) 542</li> <li>— NNLO (CT14 PDF) <math>\mu_R = \mu_F = m_T/2, m_{\text{top}} = 173.3 \text{ GeV}</math> arXiv:1606.03350</li> <li>- - - approx. NNNLO (MSTW2008 PDF) <math>\mu_R = \mu_F = m_{\text{top}}, m_{\text{top}} = 173.3 \text{ GeV}</math> PRD 90 (2014) 014006</li> <li>- · - DiffTop approx. NNLO (CT10 PDF) <math>\mu_R = \mu_F = m_{\text{top}}, m_{\text{top}} = 173.3 \text{ GeV}</math> JHEP 01 (2015) 082</li> </ul> <p>Data or theory / NNLO</p> <ul style="list-style-type: none"> <li>■ CMS stat. ⊕ syst. unc.</li> <li>■ ATLAS stat. ⊕ syst. unc.</li> </ul> <p><math>p_T^2 \text{ [GeV]}</math></p>	<p>Full phase-space normalised differential <math>t\bar{t}</math> cross-section as a function of the transverse momentum of the top quark. The CMS and ATLAS results are compared to NNLO and approximate NNLO calculations. The values for the top-quark mass (<math>m_{\text{top}}</math>), the renormalisation (<math>\mu_R</math>) and factorisation (<math>\mu_F</math>) scales, and the choice of the PDF set used in each calculation are provided. The variable <math>m_T</math> is defined as the square root of the sum of the squares of top-quark mass and the transverse momentum of the top quark. Both the CMS and ATLAS measurements are performed assuming a top-quark mass value of 172.5 GeV. The shaded bands show the total uncertainty on the data measurements in each bin. The lower panel shows the ratio of the data measurements and the approximate NNLO calculations to the full NNLO calculation.</p> <p>PNG PDF</p> <p>November 2016</p>
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Full phase-space normalised differential ttbar cross-section as a function of the transverse momentum of the top quark. The CMS and ATLAS results are compared to NNLO and approximate NNLO calculations. The shaded bands show the total uncertainty on the data measurements in each bin. The lower panel shows the ratio of the data measurements and the approximate NNLO calculations to the full NNLO calculation. The data are only shown up to 400 GeV, since the NNLO prediction is not available above this value.

PNG  
PDF

November 2015

-- MartijnMulders - 2015-12-04

This topic: LHCPHysics > TtbarDifferential8TeVpTtopHistory

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