



13th Open LHCtopWG Meeting

15-16 May 2018

Introduction

Michelangelo Mangano (CERN)
Martijn Mulders (CERN)
Mark Owen (Glasgow)

LHCtopWG: Introduction

- 13th open session of the LHC Top Working Group
 - Forum for public discussions (ATLAS+CMS+LHCb+TH) on combination and interpretation of top physics measurements at the LHC.
 - Open sessions (twice per year) - aim always to allow time for discussion.
- Documentation and coordinates:
 - Integrated in the LPCC structure at CERN: <http://lpcc.web.cern.ch/lhc-working-groups>
 - Agendas available at <https://indico.cern.ch/categoryDisplay.py?categId=4463>
 - Public summary plots at <https://twiki.cern.ch/twiki/bin/view/LHCPhysics/LHCtopWGSummaryPlots>
 - Subscribe to main open mailing list lhc-toplhwcwg@cern.ch.
- Welcome to the first open session of 2018!

LHCtopWG contacts

- Theory: Michelangelo Mangano
- ATLAS: Mark Owen
- CMS: Martijn Mulders
- LHCb: Steve Farry

- Contacts for combinations / working groups:
 - Top pair cross section: Veronique Boisvert (ATLAS), Jan Kieseiler (CMS)
 - Single top cross sections: Carlos Escobar (ATLAS), Jeremy Andrea (CMS)
 - Top mass: Mark Owen (ATLAS), Steve Wimpenny (CMS)
 - Charge asymmetry: Frederic Deliot (ATLAS), Thorsten Chwalek (CMS)
 - ttV : Markus Cristinziani (ATLAS), Andrew Brinkerhoff (CMS)
 - Top pair differential cross sec. 8 TeV: Francesco Spanò (ATLAS), Maria Aldaya (CMS)
 - Top pair differential cross sec. 13 TeV: James Howarth (ATLAS), Otto Hindrichs (CMS)
 - W helicity: Mohammad Kareem (ATLAS), Mara Senghi (CMS)
 - EFT: Nuno Castro and Johannes Erdmann (ATLAS), Nadjieh Jafari and Alexander Groshjean (CMS)
- Also contacts for dedicated topics as needed (JES, b-tagging, generators, pseudo-top, etc)

First ATLAS+CMS top paper

[JHEP 04 \(2018\) 033](#)




[Journal of High Energy Physics](#)

April 2018, 2018:33 | [Cite as](#)

Combination of inclusive and differential $t\bar{t}$ charge asymmetry measurements using ATLAS and CMS data at $\sqrt{s} = 7$ and 8 TeV

[Authors](#)

[Authors and affiliations](#)

The ATLAS collaboration , M. Aaboud, G. Aad, B. Abbott, O. Abdinov, B. Abeloos, S. H. Abidi, O. S. AbouZeid, N. L. Abraham, H. Abramowicz, H. Abreu, Y. Abulaiti, B. S. Acharya, S. Adachi, L. Adamczyk, [show 5085 more](#)

[Open Access](#) | Regular Article - Experimental Physics

First Online: [09 April 2018](#)

22

Downloads

- Nice milestone for the group.
- Congratulations & thanks to all those involved!

Ongoing Combinations

- Ongoing combinations which are under review within the collaborations:
 - Single top cross-sections 7 & 8 TeV + V_{tb} extraction.
 - Top quark pair cross-section 7 & 8 TeV.
- Planned combinations that are a bit further away:
 - Top mass: preparatory discussions and studies ongoing.
 - Differential $t\bar{t}$ distributions.
 - W helicity measurement.

EFT Document & Follow-up

- Following the presentation & feedback from the last sessions, the EFT document is released on arXiv:

High Energy Physics – Phenomenology

Interpreting top–quark LHC measurements in the standard–model effective field theory

J. A. Aguilar Saavedra, C. Degrande, G. Durieux, F. Maltoni, E. Vryonidou, C. Zhang (editors), D. Barducci, I. Brivio, V. Cirigliano, W. Dekens, J. de Vries, C. Englert, M. Fabbrichesi, C. Grojean, U. Haisch, Y. Jiang, J. Kamenik, M. Mangano, D. Marzocca, E. Mereghetti, K. Mimasu, L. Moore, G. Perez, T. Plehn, F. Riva, M. Russell, J. Santiago, M. Schulze, Y. Soreq, A. Tonerio, M. Trott, S. Westhoff, C. White, A. Wulzer, J. Zupan

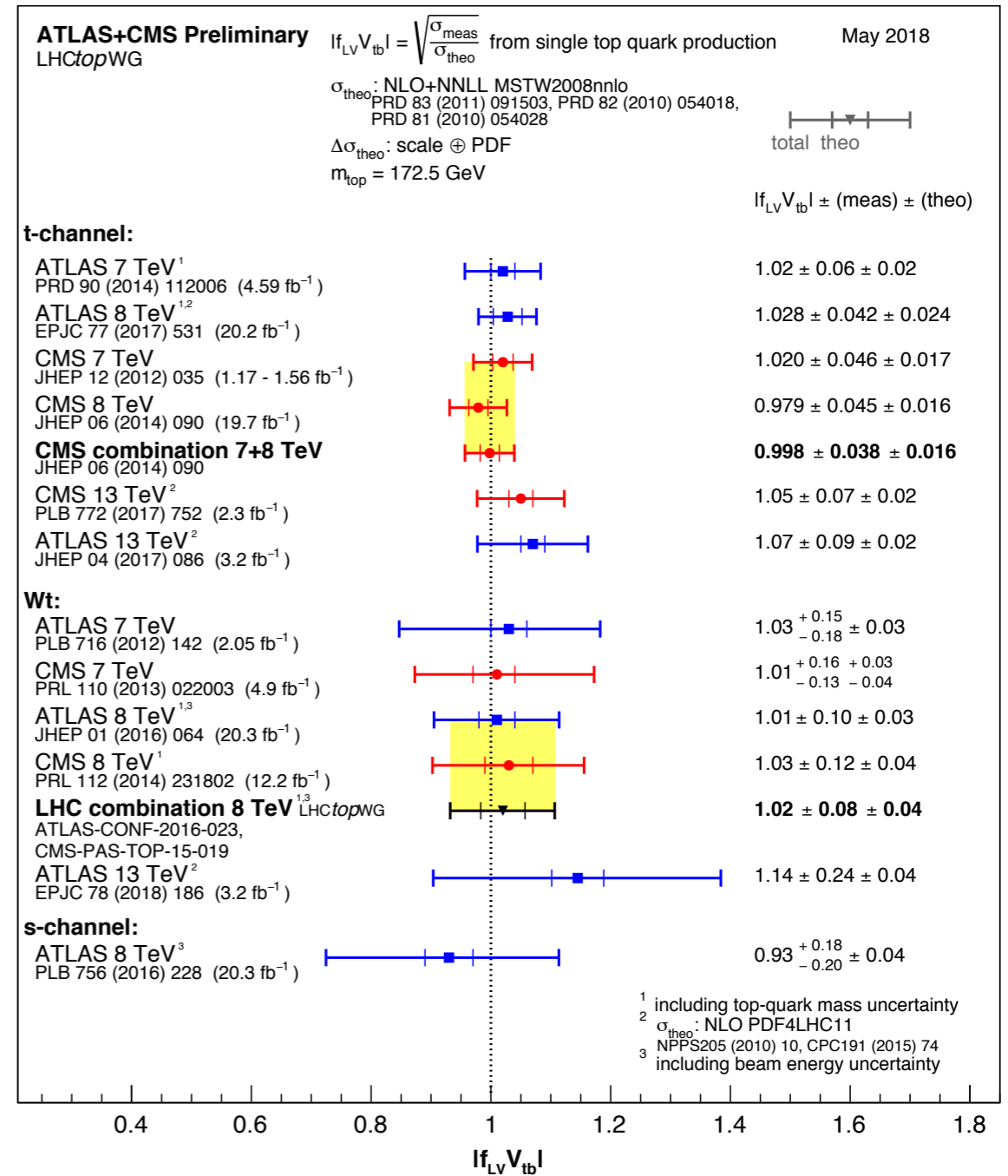
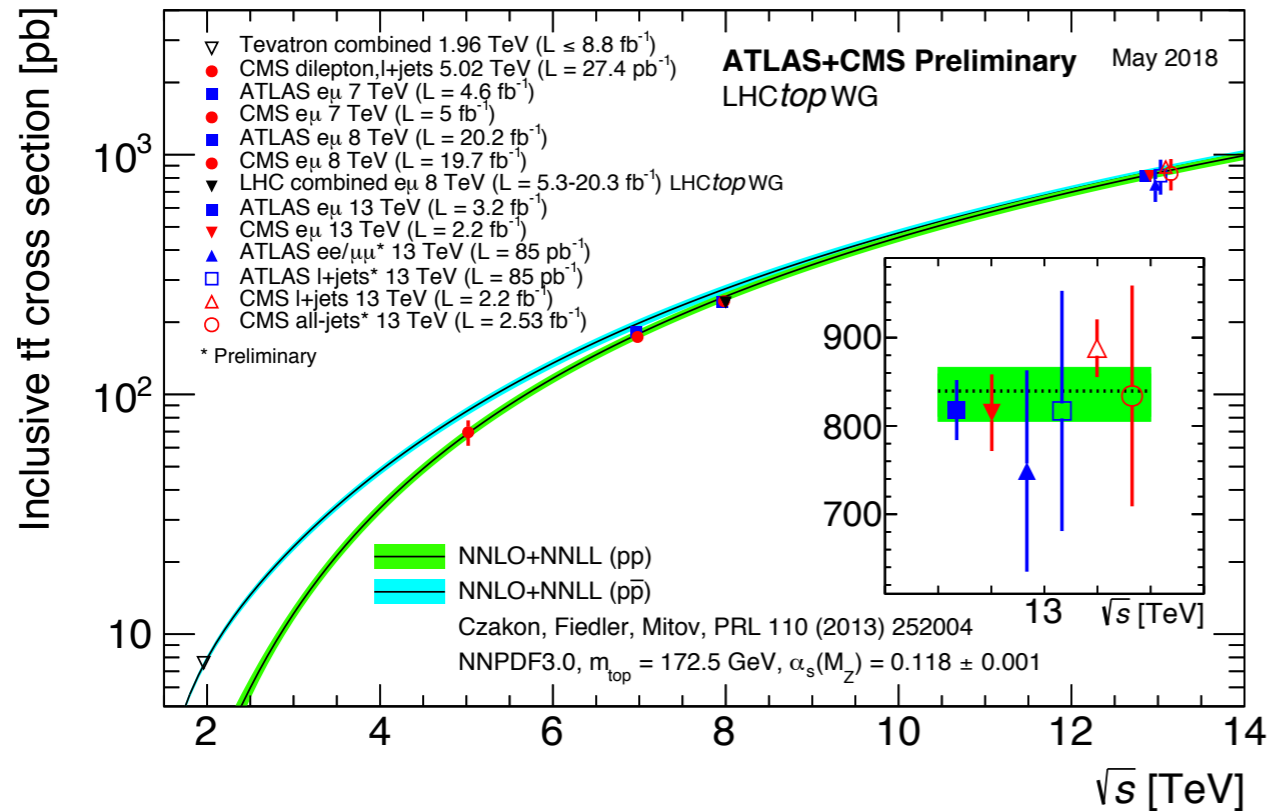
(Submitted on 20 Feb 2018)

This note proposes common standards and prescriptions for the effective–field–theory interpretation of top–quark measurements at the LHC.

- Further discussion tomorrow afternoon.

Summary plots

- Updated 9 of the summary plots (new results / updated references), e.g.:



- Plots will appear on the webpage soon.

<https://twiki.cern.ch/twiki/bin/view/LHCPhysics/LHCTopWGSummaryPlots>