

TOPLHCWG

6TH OPEN SESSION

12-13TH JANUARY 2015

Introduction and coordinates

- Sixth open session of the TOPLHCWG
 - Forum for public discussions (ATLAS+CMS+LHCb+TH) on combination and interpretation of top physics measurements at the LHC
 - Open sessions (twice per year) organized in such a way to have ample time for discussion
- Documentation and coordinates
 - Integrated into the LPCC structure at CERN
 - Agendas available at <https://indico.cern.ch/categoryDisplay.py?categId=4463>
 - Twiki page available at http://lpcc.web.cern.ch/LPCC/index.php?page=top_wg
 - Public notes produced so far also available from that page
 - Please make sure you subscribe to the main open list lhc-toplhwcg@cern.ch
- Welcome to the second late open session of 2014

Contacts: reminder

- Main contacts

- M. Mangano (TH)
- M. Costa (ATLAS), R Chierici (CMS) (M. Mulders replacing Roberto after this WS)

- Conveners

- A. Lister, M. Owen (ATLAS), A. Meyer, A. Giammanco (CMS)

- Contacts for individual subgroups/combinations

- Top pair cross section: L. Shabalina (ATLAS), M. Aldaya (CMS)
- Single top cross section(s): J. Donini, R. Schwienhorst (ATLAS), L. Lista (CMS)
- Top mass: G. Cortiana (ATLAS), S. Wimpenny (CMS)
- W helicity: K. Kroeninger (ATLAS), M. Senghi Soarez (CMS)
- Charge asymmetry: F. Deliot (ATLAS), T. Chwalek (CMS)
- Top pair differential cross sections: F. Spano' (ATLAS), M. Aldaya (CMS)

Recent (EXP) activities

- Combination activities (see presentations today)
 - Single top Wt channel at 8 TeV
 - Top pair cross section at 8 TeV
- Systematic contributions
 - Treatment of JES in analyses
 - Public notes on the agreed recommendations for standard JES splitting available
 - JES/hadronisation double counting: internal discussions to get the different approaches in ATLAS and CMS consistent. Main points of discussion in the mass talks tomorrow
 - Single top modelling systematics
 - t-channel: agreement reached for the general strategy, details to be discussed today
 - Wt: the combination exercise helped in spotting differences in the treatment of these systematics in the experiments. Internal discussions happened since, and residual questions will be presented today to hopefully reach an agreement.
- Ongoing discussions
 - Top mass World Average
 - Cross collider discussions ongoing for establishing the (in)compatibility of the various measurements and think to further tests to be done before updating a WA.
 - Extending the program of the WG
 - Internal discussions for future combination activities, most awaiting for new results by the collaborations: spin correlations, tt+X (X=jets, W, Z, γ), $|V|tb$

Recent (TH) activities

- NNLO
 - Predictions for A_{FB} and A_C
 - Further progress towards differential distributions
- MC
 - New models for colour reconnection in Pythia
 - Matching to shower for NLO production+decay
- Further contributions to this meeting
 - First presentation at TOPLHCWG of TopDiff (=> parton-level differential distributions at NLO+NLL)
 - Principle of maximum conformality for scale setting in top processes: predictions for asymmetries
 - m_{top} from b-jet energy spectrum, update to NLO
- In progress (for presentation at the next mtg):
 - Further progress with single top at NNLO
 - More on single top at NLO in aMC@NLO in the complex mass scheme

Agenda

Top pair production

Theoretical progress
in top pair production
and charge asymmetry

Single top

LHCb report

Top mass

Monday, 12 January 2015

09:00 - 10:30	Top pair production	
09:00	Introduction 20'	
09:20	ATLAS+CMS 8 TeV ttbar XS combination, status and plans for differential distributions 40'	
	Speaker: Maria Aldaya Martin (DESY)	
10:00	ATLAS+CMS top quark pair modelling uncertainties and correlations with single top 30'	
	Speaker: Dominic Hirschbuehl (Bergische Universitaet Wuppertal (DE))	

10:30 - 11:00 coffee break

11:00 - 14:30	Theoretical progress in top pair production and asymmetries	
11:00	Top-pair production and decay at NLO matched with parton showers 30'	
	Speaker: Paolo Nason (Universita & INFN, Milano-Bicocca (IT))	
11:30	topDiff 30'	
	Speaker: Marco Guzzi (Deutsches Elektronen-Synchrotron (DE))	
12:00	Top-Quark Charge Asymmetry at the LHC, with the Principle of Maximum Conformality 30'	
	Speaker: Matjn Mojaza	

12:30 Lunch break 1h30'

14:00	Differential NNLO for ttbar: status and plans (covering also AFB/Ac) 30'	
	Speaker: Alexander Dimitrov Mitov (University of Cambridge (GB))	

14:30 - 15:00	Charge asymmetry	
14:30	ATLAS+CMS Experimental status on charge asymmetry and combinations plans 30'	
	Speaker: Frederic Deliot (CEA-Saclay)	

15:00 - 16:00 Single top

15:00	ATLAS+CMS - Wt cross section combination at 8 TeV and Wt modelling discussion 30'	
	Speaker: Reinhard Schwienhorst (Michigan State University (US))	
15:30	ATLAS+CMS - t-channel predictions and modelling uncertainties 30'	
	Speaker: Benedikt Maier (KIT - Karlsruhe Institute of Technology (DE))	

16:00 - 16:30 LHCb

16:00	Report from LHCb: status and prospect for Run II 30'	
	Speaker: Victor Coco (CERN)	

Tuesday, 13 January 2015

09:00 - 10:30	Top mass	
09:00	ATLAS - New results on top mass 30'	
	Speaker: Fabrice Balli (University of Manchester (GB))	
09:30	CMS- New results on top mass 30'	
	Speaker: Markus Seidel (Hamburg University (DE))	
10:00	CR models for top hadronization and top mass systematics 30'	
	Speaker: Spyridon Argyropoulos (Deutsches Elektronen-Synchrotron (DE))	

10:30 - 11:00 coffee break

11:00 - 12:00	Top mass	
11:00	Top mass via b energy: first NLO results 30'	
	Speaker: Roberto Franceschini (CERN)	
11:30	Top mass and MCs 30'	
	Speaker: Andre Hoang (Vienna University)	