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# All hadronic ttbb analysis

## Theory information

- <https://arxiv.org/pdf/1610.07922.pdf> - LHC Higgs Cross-Section WG Yellow Report
- <https://indico.cern.ch/event/669831/> - Theory: Common meeting on tt+b-jet backgrounds to ttH(bb)
- <https://indico.cern.ch/event/686494/contributions/3040042/attachments/1669643/2677951/HEHL-Higgs.pdf> - Fabrizio Caola's talk at the workshop HL-HE LHC
- <https://arxiv.org/abs/1010.0632> - Improved iterative Bayesian unfolding -G. D'Agostini

## Papers and other publications

## Papers and other publications

- <https://arxiv.org/pdf/hep-ph/0202174.pdf> - Adam K. Leibovich and David Rainwater -- Increased Yield oft ttbb at Hadron Colliders in Low-EnergySupersymmetry
- <https://arxiv.org/abs/1701.04427> -- ttbb as a probe of New Physics at the LHC
- [https://www.uzh.ch/cmsssl/physik/dam/jcr:063755ac-e64a-4270-b209-5190b653a7d5/10\\_poster.pdf](https://www.uzh.ch/cmsssl/physik/dam/jcr:063755ac-e64a-4270-b209-5190b653a7d5/10_poster.pdf) -- Poster -- conf. note ttbb measurements in the all-hadronic channel in CMS
- <https://arxiv.org/pdf/1909.05306.pdf> -- paper ttbb measurements in the all-hadronic channel in CMS
- <https://link.springer.com/content/pdf/10.1007%2FJHEP04%282019%29046.pdf> - ATLAS ttbb publication at 13 TeV
- <http://cds.cern.ch/record/2675029/files/TOP-18-011-pas.pdf> - CMS all-had ttbb publication at 13 TeV
- <https://arxiv.org/pdf/1910.14535v1.pdf> - Identification of additional jets in the t-tbar b-bbar events using neural network
- <https://cds.cern.ch/record/2214130/files/ATL-PHYS-PROC-2016-137.pdf> - Charged Higgs boson searches in ATLAS and CMS
- <https://arxiv.org/pdf/1005.4409.pdf> - Long-lived charged Higgs at LHC as a probe of scalarDark Matter
- <https://cds.cern.ch/record/1644428> - CDS page internal note on the all-had. top quark measurements at 8 TeV in ATLAS
- <https://cds.cern.ch/record/2125782> - CDS page, Tom's Thesis all-had. top quark measurements at 8 TeV in ATLAS
- <https://publications.mppmu.mpg.de/2009/MPP-2009-132/FullText.pdf> - MPP page, E. Rauter's thesis "Top Quark Mass Measurement" With matching information

## ATLAS information

- <https://indico.cern.ch/event/684782/> -Top Workshop 17-19 April 2018 : On the way to high precision
- See talk of U. de Sanctis  
<https://indico.cern.ch/event/684782/contributions/2953729/attachments/1634778/2608155/BfragmentationTop>  
and Andrea Knue  
[https://indico.cern.ch/event/684782/contributions/2953731/attachments/1634972/2608075/TopWorkshop\\_MC](https://indico.cern.ch/event/684782/contributions/2953731/attachments/1634972/2608075/TopWorkshop_MC)
- PMG page with MC information:  
<https://twiki.cern.ch/twiki/bin/view/AtlasProtected/CentralMC16ProductionList>
- PMG page with MC generation info  
[https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/PmgMcSoftware#Versions\\_release\\_21\\_6\\_AthGenerat](https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/PmgMcSoftware#Versions_release_21_6_AthGenerat)
- Internal note ttH

<https://gitlab.cern.ch/atlas-physics-office/SUSY/ANA-SUSY-2018-38/ANA-SUSY-2018-38-INT1/blob/master>

## KL Fitter information

- KL Fitter documentation - <https://github.com/KLFitter/KLFitter/blob/master/doc/WhatIsKLF.md>
- Twiki page - <https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/KLFitter>
- KL Fitter mailing list - [KLFitter-Users@cern.NOSPAMPLEASE.ch](mailto:KLFitter-Users@cern.NOSPAMPLEASE.ch)

## Monte Carlo samples:

\*mc16\_13TeV.411068.PhPy8EG\_A14NNPDF23\_NNPDF30ME\_ttbb4F\_PhOL\_hdampHThalf\_semilep.deriv.DAOD\_T

\*mc16\_13TeV.411069.PhPy8EG\_A14NNPDF23\_NNPDF30ME\_ttbb4F\_PhOL\_hdampHThalf\_dilep.deriv.DAOD\_T

\*mc16\_13TeV.411070.PhPy8EG\_A14NNPDF23\_NNPDF30ME\_ttbb4F\_PhOL\_hdampHThalf\_allhad.deriv.DAOD\_T

## Monte Carlo samples request:

- See ATLAS Top WG twiki page:  
[https://twiki.cern.ch/twiki/bin/view/Sandbox/MCrequestHowTo#Make\\_your\\_case\\_as\\_a\\_requester](https://twiki.cern.ch/twiki/bin/view/Sandbox/MCrequestHowTo#Make_your_case_as_a_requester)
- See ATLMCPROD page:  
<https://its.cern.ch/jira/projects/ATLMCPROD/issues/ATLMCPROD-8060?filter=alopenissues>
- See request made for the new POWHEG ttbb l+jets samples:  
<https://its.cern.ch/jira/browse/ATLMCPROD-9179?jql=text%20~%20%22ttbb%22>

## Git repository analyses code and internal Note

- Gitlab Margherita's

repository (see also for documentation): [https://gitlab.cern.ch/mspalla/analysis\\_ttbballhad/tree/master](https://gitlab.cern.ch/mspalla/analysis_ttbballhad/tree/master)

- New Gitlab repository: <https://gitlab.cern.ch/MPP-HEC/allhadttbb>
- Gitlab old ttbar top mass measurement repository: <https://gitlab.cern.ch/MPP-HEC/allhadttbar>
- New Gitlab repository for our intnote <https://gitlab.cern.ch/MPP-HEC/intallhadttbb>

## List of meetings at MPP

| Date | Indico link

18/06/2021	<a href="https://indico.mpp.mpg.de/event/8260/">https://indico.mpp.mpg.de/event/8260/</a>	ABDC and new sample mj - MC studies
02/06/2021	<a href="https://indico.cern.ch/event/1023083/">https://indico.cern.ch/event/1023083/</a>	Status report talk given in the top XS meeting in ATLAS
22/04/2021	<a href="https://indico.cern.ch/event/1029834/">https://indico.cern.ch/event/1029834/</a>	1T KLfitter and Chi2 results presented in the top reco meeting in ATLAS
17/03/2021	<a href="https://indico.mpp.mpg.de/event/8030/">https://indico.mpp.mpg.de/event/8030/</a>	1T KLfitter results (Margherita) - Comparison of correction ratios-values(Nina)
03/03/2021	<a href="https://indico.mpp.mpg.de/event/8000/">https://indico.mpp.mpg.de/event/8000/</a>	ATLAS style macro, ABCD/BDT methods (Nina)
24/02/2021	<a href="https://indico.mpp.mpg.de/event/7917/">https://indico.mpp.mpg.de/event/7917/</a>	MadGraph (teresa), Status 1T +Uncertainty on the efficiency (Margherita) ABCD distributions (Nina)
17/02/2021	<a href="https://indico.mpp.mpg.de/event/7953/">https://indico.mpp.mpg.de/event/7953/</a>	ABCD distributions (Nina)

10/02/2021	<a href="https://indico.mpp.mpg.de/event/7918/">https://indico.mpp.mpg.de/event/7918/</a>	MadGraph Stsudies (teresa), ABCD studies (Nina)	
03/02/2021	<a href="https://indico.mpp.mpg.de/event/7917/">https://indico.mpp.mpg.de/event/7917/</a>	Status 1T KLfitter (Margherita), ABCD distributions (Nina)	
27/01/2021	<a href="https://indico.mpp.mpg.de/event/7897/">https://indico.mpp.mpg.de/event/7897/</a>	ABCD studies (Nina)	
20/01/2021	<a href="https://indico.mpp.mpg.de/event/7866/">https://indico.mpp.mpg.de/event/7866/</a>	-	
13/01/2021	<a href="https://indico.mpp.mpg.de/event/7848/">https://indico.mpp.mpg.de/event/7848/</a>	-	
18/12/2020	<a href="https://indico.mpp.mpg.de/event/7826/">https://indico.mpp.mpg.de/event/7826/</a>	Margherita: single-T results; Nina: ttbar background-studies and TOPQ4 derivation	
04/12/2020	<a href="https://indico.mpp.mpg.de/event/7757/">https://indico.mpp.mpg.de/event/7757/</a>	Margherita: single T results; Nina: pt cut studies and continuous btagging	
26/11/2020	<a href="https://indico.mpp.mpg.de/event/7718/">https://indico.mpp.mpg.de/event/7718/</a>	Meeting with Mike Fenton	
25/11/2020	<a href="https://indico.mpp.mpg.de/event/7756/">https://indico.mpp.mpg.de/event/7756/</a>	-	
18/11/2020	<a href="https://indico.mpp.mpg.de/event/7698/">https://indico.mpp.mpg.de/event/7698/</a>	-	
11/11/2020	<a href="https://indico.mpp.mpg.de/event/7697/">https://indico.mpp.mpg.de/event/7697/</a>	Margherita: bug fix; Nina: et_truthParton studies	first ABCD bckg studies
28/10/2020	<a href="https://indico.mpp.mpg.de/event/7664/">https://indico.mpp.mpg.de/event/7664/</a>	Nina: jet_truthParton studies	
21/10/2020	<a href="https://indico.mpp.mpg.de/event/7663/">https://indico.mpp.mpg.de/event/7663/</a>	-	
14/10/2020	<a href="https://indico.mpp.mpg.de/event/7646/">https://indico.mpp.mpg.de/event/7646/</a>	-	
02/10/2020	<a href="https://indico.mpp.mpg.de/event/7599/">https://indico.mpp.mpg.de/event/7599/</a>	-	
23/09/2020	<a href="https://indico.mpp.mpg.de/event/7598/">https://indico.mpp.mpg.de/event/7598/</a>	-	
16/09/2020	<a href="https://indico.mpp.mpg.de/event/7572/">https://indico.mpp.mpg.de/event/7572/</a>	-	
09/09/2020	<a href="https://indico.mpp.mpg.de/event/7571/">https://indico.mpp.mpg.de/event/7571/</a>	-	
02/09/2020	<a href="https://indico.mpp.mpg.de/event/7559/">https://indico.mpp.mpg.de/event/7559/</a>	-	
31/07/2020	<a href="https://indico.mpp.mpg.de/event/7535/">https://indico.mpp.mpg.de/event/7535/</a>	-	
24/07/2020	<a href="https://indico.mpp.mpg.de/event/7525/">https://indico.mpp.mpg.de/event/7525/</a>	-	
14/07/2020	<a href="https://indico.mpp.mpg.de/event/7497/">https://indico.mpp.mpg.de/event/7497/</a>	-	
29/06/2020	<a href="https://indico.mpp.mpg.de/event/7467/">https://indico.mpp.mpg.de/event/7467/</a>	-	
22/06/2020	<a href="https://indico.mpp.mpg.de/event/7456/">https://indico.mpp.mpg.de/event/7456/</a>	-	
12/06/2020	<a href="https://indico.mpp.mpg.de/event/7429/">https://indico.mpp.mpg.de/event/7429/</a>	-	
29/05/2020	<a href="https://indico.mpp.mpg.de/event/7407/">https://indico.mpp.mpg.de/event/7407/</a>	Sven's talk on the production of Multi-b background events	
20/05/2020	<a href="https://indico.mpp.mpg.de/event/7389/">https://indico.mpp.mpg.de/event/7389/</a>	-	
13/05/2020	<a href="https://indico.mpp.mpg.de/event/7373/">https://indico.mpp.mpg.de/event/7373/</a>	-	
06/05/2020	<a href="https://indico.mpp.mpg.de/event/7344/">https://indico.mpp.mpg.de/event/7344/</a>	-	
27/04/2020	<a href="https://indico.mpp.mpg.de/event/7328/">https://indico.mpp.mpg.de/event/7328/</a>	-	
15/04/2020	<a href="https://indico.mpp.mpg.de/event/7300/">https://indico.mpp.mpg.de/event/7300/</a>	-	
06/04/2020	<a href="https://indico.mpp.mpg.de/event/7285/">https://indico.mpp.mpg.de/event/7285/</a>	Margherita: full stat. KLfitter vs Chi2 studies - Nina: full stat. Chi2 studies and initial comparison with Margherita	
30/03/2020	<a href="https://indico.mpp.mpg.de/event/7274/">https://indico.mpp.mpg.de/event/7274/</a>	Margherita: sigma over RMT in chi2 studies	
23/03/2020	<a href="https://indico.mpp.mpg.de/event/7259/">https://indico.mpp.mpg.de/event/7259/</a>	Margherita: further chi2 studies - Nina: initial chi2 studies	
18/03/2020	<a href="https://indico.mpp.mpg.de/event/7248/">https://indico.mpp.mpg.de/event/7248/</a>	Margherita: KLfitter 408 vs 3210 thruth comparisons and initial chi2 studies	
10/03/2020	<a href="https://indico.mpp.mpg.de/event/7230/">https://indico.mpp.mpg.de/event/7230/</a>	Margherita: KLfitter efficiency/purity studies - Nina: KLfitter option definitions	
25/02/2020	<a href="https://indico.mpp.mpg.de/event/7214/">https://indico.mpp.mpg.de/event/7214/</a>	time consumption, trigger, KLfitter	
18/02/2020	<a href="https://indico.mpp.mpg.de/event/7205/">https://indico.mpp.mpg.de/event/7205/</a>	KLfitter, b-jet investigations	

04/02/2020	<a href="https://indico.mpp.mpg.de/event/7183/">https://indico.mpp.mpg.de/event/7183/</a>	-
20/01/2020	<a href="https://indico.mpp.mpg.de/event/7152/">https://indico.mpp.mpg.de/event/7152/</a>	-
10/01/2020	<a href="https://indico.mpp.mpg.de/event/7127/">https://indico.mpp.mpg.de/event/7127/</a>	-
04/11/2019	<a href="https://indico.mpp.mpg.de/event/6987/">https://indico.mpp.mpg.de/event/6987/</a>	-
23/10/2019	<a href="https://indico.mpp.mpg.de/event/6920/">https://indico.mpp.mpg.de/event/6920/</a>	KL Fitter, Multijet-Bkg
02/10/2019	<a href="https://indico.mpp.mpg.de/event/6895/">https://indico.mpp.mpg.de/event/6895/</a>	Data-MC comparison
25/09/2019	<a href="https://indico.mpp.mpg.de/event/6885/">https://indico.mpp.mpg.de/event/6885/</a>	Data-MC comparison
10/09/2019	<a href="https://indico.mpp.mpg.de/event/6846/">https://indico.mpp.mpg.de/event/6846/</a>	Update: Status report at Top XS-Meeting
08/07/2019	<a href="https://indico.mpp.mpg.de/event/6538/">https://indico.mpp.mpg.de/event/6538/</a>	Status report at Top XS-Meeting
28/06/2019	<a href="https://indico.mpp.mpg.de/event/6534/">https://indico.mpp.mpg.de/event/6534/</a>	Cutflow plots
31/05/2019	<a href="https://indico.mpp.mpg.de/event/6508/">https://indico.mpp.mpg.de/event/6508/</a>	mass resolution, leptonic ttbb talk, mistagging
10/05/2019	<a href="https://indico.mpp.mpg.de/event/6482/">https://indico.mpp.mpg.de/event/6482/</a>	KL Fitter, truth matching, purity
03/05/2019	<a href="https://indico.mpp.mpg.de/event/6477/">https://indico.mpp.mpg.de/event/6477/</a>	KL Fitter
15/04/2019	<a href="https://indico.mpp.mpg.de/event/6407/">https://indico.mpp.mpg.de/event/6407/</a>	--
12/03/2019	<a href="https://indico.mpp.mpg.de/event/6353/">https://indico.mpp.mpg.de/event/6353/</a>	-
18/02/2019	<a href="https://indico.mpp.mpg.de/event/6323/">https://indico.mpp.mpg.de/event/6323/</a>	Trigger comparison
04/02/2019	<a href="https://indico.mpp.mpg.de/event/6299/">https://indico.mpp.mpg.de/event/6299/</a>	Trigger comparison
28/01/2019	<a href="https://indico.mpp.mpg.de/event/6289/">https://indico.mpp.mpg.de/event/6289/</a>	Trigger efficiency
18/01/2019	<a href="https://indico.mpp.mpg.de/event/6269/">https://indico.mpp.mpg.de/event/6269/</a>	Trigger efficiency
14/12/2018	<a href="https://indico.mpp.mpg.de/event/6181/">https://indico.mpp.mpg.de/event/6181/</a>	Trigger efficiency
27/11/2018	<a href="https://indico.mpp.mpg.de/event/6141/">https://indico.mpp.mpg.de/event/6141/</a>	Update: Trigger, derivaions
12/10/2018	<a href="https://indico.mpp.mpg.de/event/6081/">https://indico.mpp.mpg.de/event/6081/</a>	Trigger, derivations
03/08/2018	<a href="https://indico.mpp.mpg.de/event/6005/">https://indico.mpp.mpg.de/event/6005/</a>	Summary talk Top X-Sec Meeting
27/06/2018	<a href="https://indico.mpp.mpg.de/event/5820/">https://indico.mpp.mpg.de/event/5820/</a>	-
19/06/2018	<a href="https://indico.mpp.mpg.de/event/5920/">https://indico.mpp.mpg.de/event/5920/</a>	Sven: Comparison Sherpa and Powhel, Interfacing Powhel with EvtGen +Pythia8
18/05/2018	<a href="https://indico.mpp.mpg.de/event/5881/">https://indico.mpp.mpg.de/event/5881/</a>	Meeting with the PowHel people
07/05/2018	<a href="https://indico.mpp.mpg.de/event/5869/">https://indico.mpp.mpg.de/event/5869/</a>	Update: Powheg vs. Sherpa at central eta
30/04/2018	<a href="https://indico.mpp.mpg.de/event/5862/">https://indico.mpp.mpg.de/event/5862/</a>	Powheg vs. Sherpa at central eta
16/04/2018	<a href="https://indico.mpp.mpg.de/event/5835/">https://indico.mpp.mpg.de/event/5835/</a>	Sherpa, Sherpa vs. Powheg+Pythia8
27/03/2018	<a href="https://indico.mpp.mpg.de/event/5811/">https://indico.mpp.mpg.de/event/5811/</a>	Sherpa Update
20/03/2018	<a href="https://indico.mpp.mpg.de/event/5800/">https://indico.mpp.mpg.de/event/5800/</a>	Sherpa Update
09/03/2018	<a href="https://indico.mpp.mpg.de/event/5782/">https://indico.mpp.mpg.de/event/5782/</a>	Plots with Sherpa Sample
02/03/2018	<a href="https://indico.mpp.mpg.de/event/5767/">https://indico.mpp.mpg.de/event/5767/</a>	MC Generator record

## Link to the MPP Twiki page

\* The link to the MPP Twiki page is: <https://twiki.mpp.mpg.de/bin/view/Main/Barilla>

-- TeresaBarillari - 2021-05-17

This topic: Sandbox > AllHadttbb

Topic revision: r26 - 2021-08-04 - TeresaBarillari



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