

A high precision measurement of the W mass at CMS

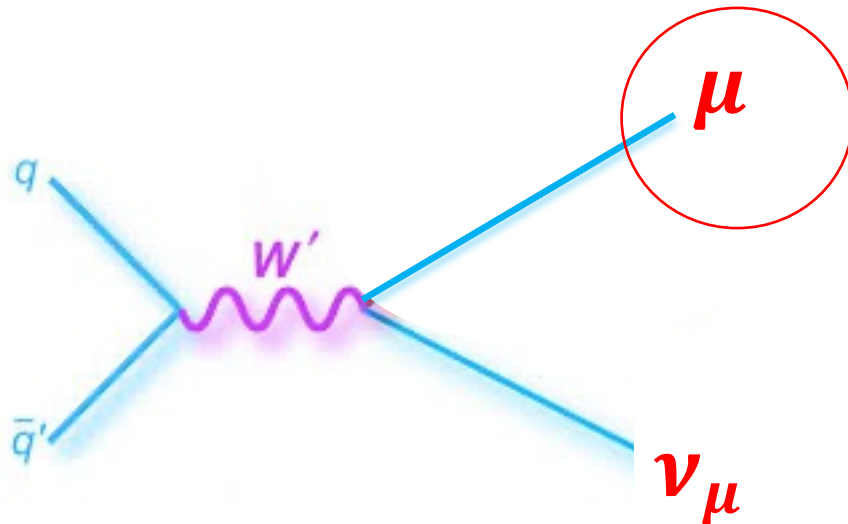
W mass:
80360.2 ± 9.9 MeV

CERN seminar:

<https://indico.cern.ch/event/1441575/>

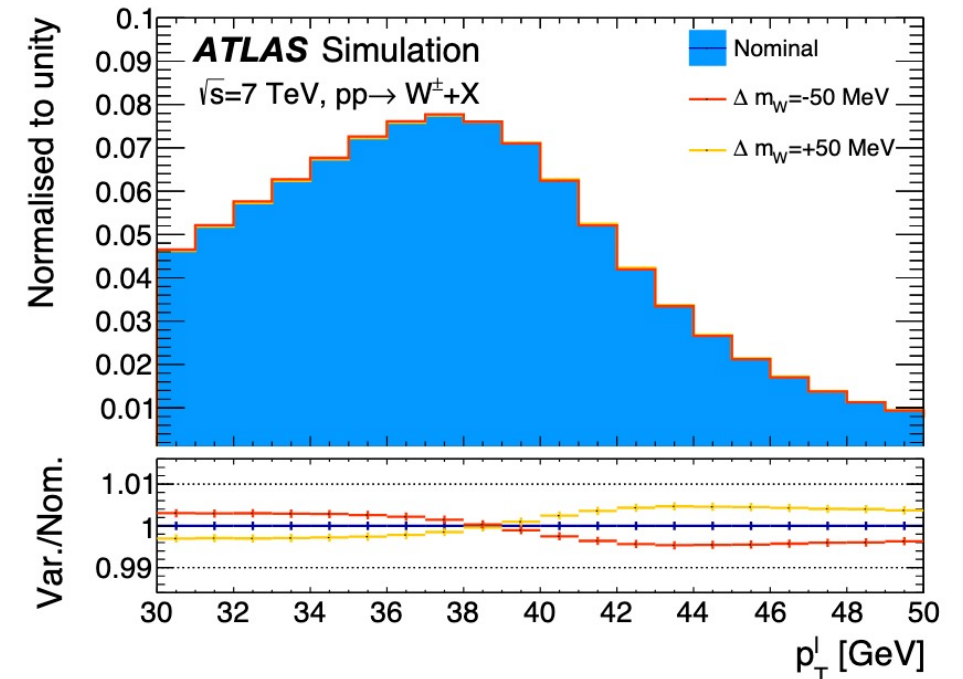
CERN press release:

m_W is sensitive to 0.1% level variations in templates



Need to measure precisely → complex calibration techniques

Extreme control needed over all experimental and theoretical aspects



CMS Preliminary

LEP combination
Phys. Rep. 532 (2013) 119

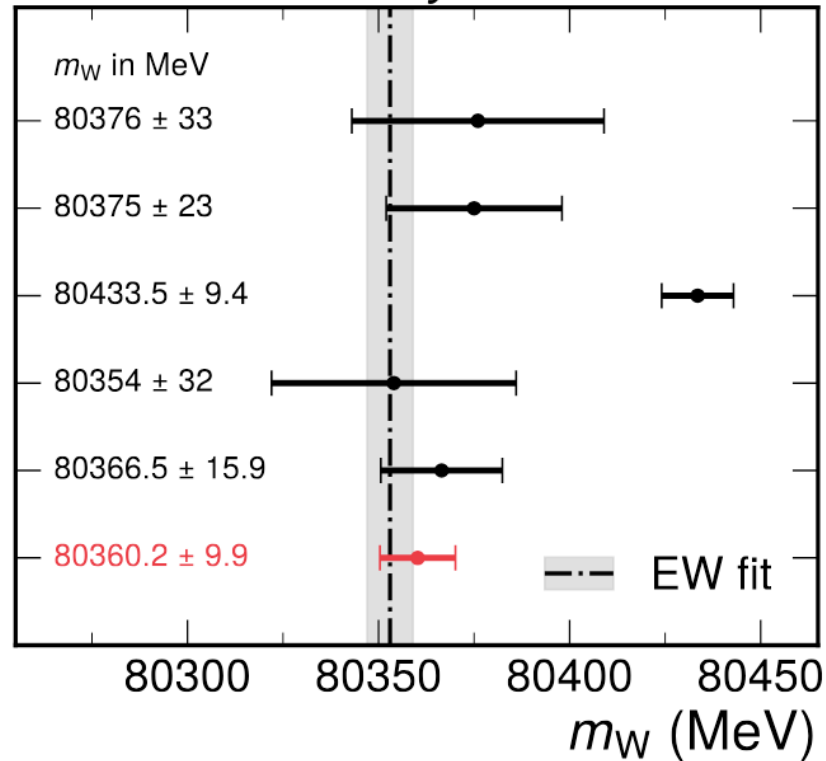
D0
PRL 108 (2012) 151804

CDF
Science 376 (2022) 6589

LHCb
JHEP 01 (2022) 036

ATLAS
arxiv:2403.15085, subm. to EPJC

CMS
This Work



- This is the first m_W measurement from CMS
- Measurement is performed with $\sim 10\%$ of Run 2 data
- Major advances in experimental and theoretical techniques form the basis for further improved precision and additional measurements in the future



17th International Workshop on Top Quark Physics

September 22 to 27
Saint-Malo, France

Sep 22 – 27, 2024
Saint-Malo, Brittany, France
Europe/Paris timezone

Overview

[Conference programme](#)

[Social programme](#)

[Timetable](#)

[Registration](#)

[Conference fees](#)

[Submit theory abstract
for posters/YSF](#)

[Contribution List](#)

[Proceedings](#)

[Book of Abstracts](#)

Welcome to the 17th International Workshop on Top Quark Physics (TOP2024)

The 17th International Workshop on Top Quark Physics (TOP2024) will be held in person, from **September 22 to 27, 2024, in Saint-Malo, Brittany, France.**

TOP2024 brings together experimentalists and theorists to present and discuss the latest developments in top-quark physics. Young scientists are especially encouraged to participate.



Starts Sep 22, 2024, 5:00 PM

Ends Sep 27, 2024, 2:00 PM

Europe/Paris



Saint-Malo, Brittany, France

Palais des congrès, Le Grand Large

Le Grand Large

Palais des Congrès

1, quai Duguay-Trouin - B.P.109

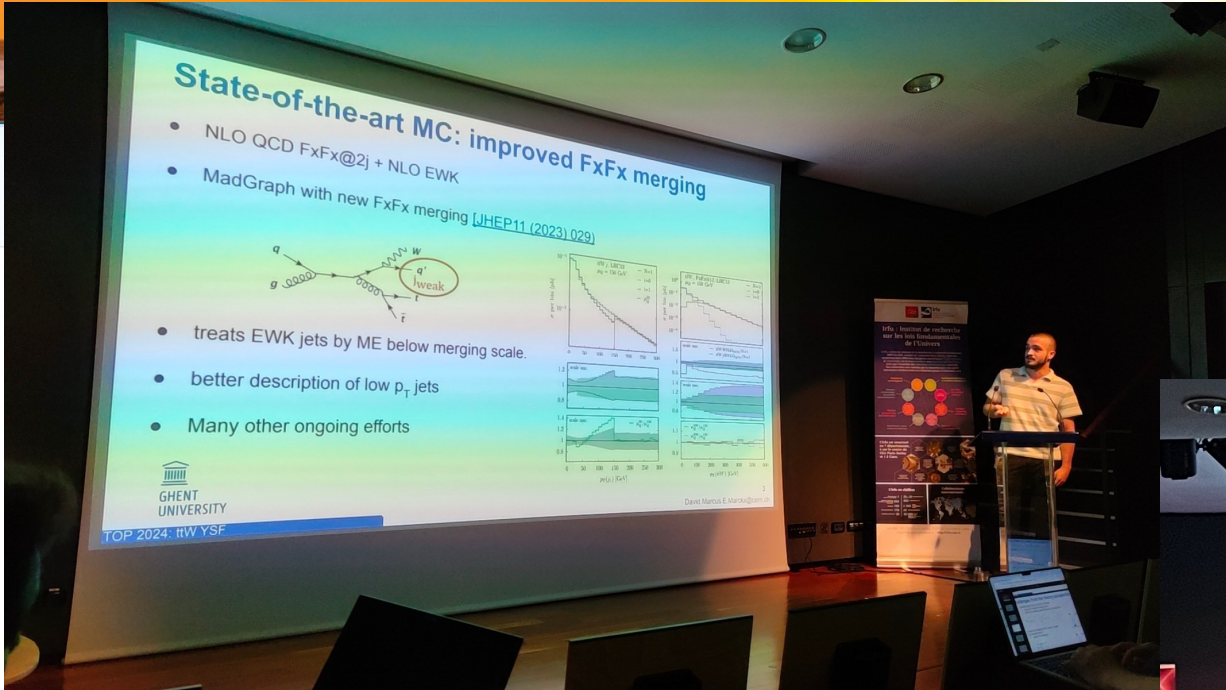
35407 Saint-Malo Cedex

[Go to map](#)



17th International Workshop on Top Quark Physics

September 22 to 27
Saint-Malo, France



State-of-the-art MC: improved FxFx merging

- NLO QCD FxFx@2j + NLO EWK
- MadGraph with new FxFx merging [JHEP11.(2023)029]



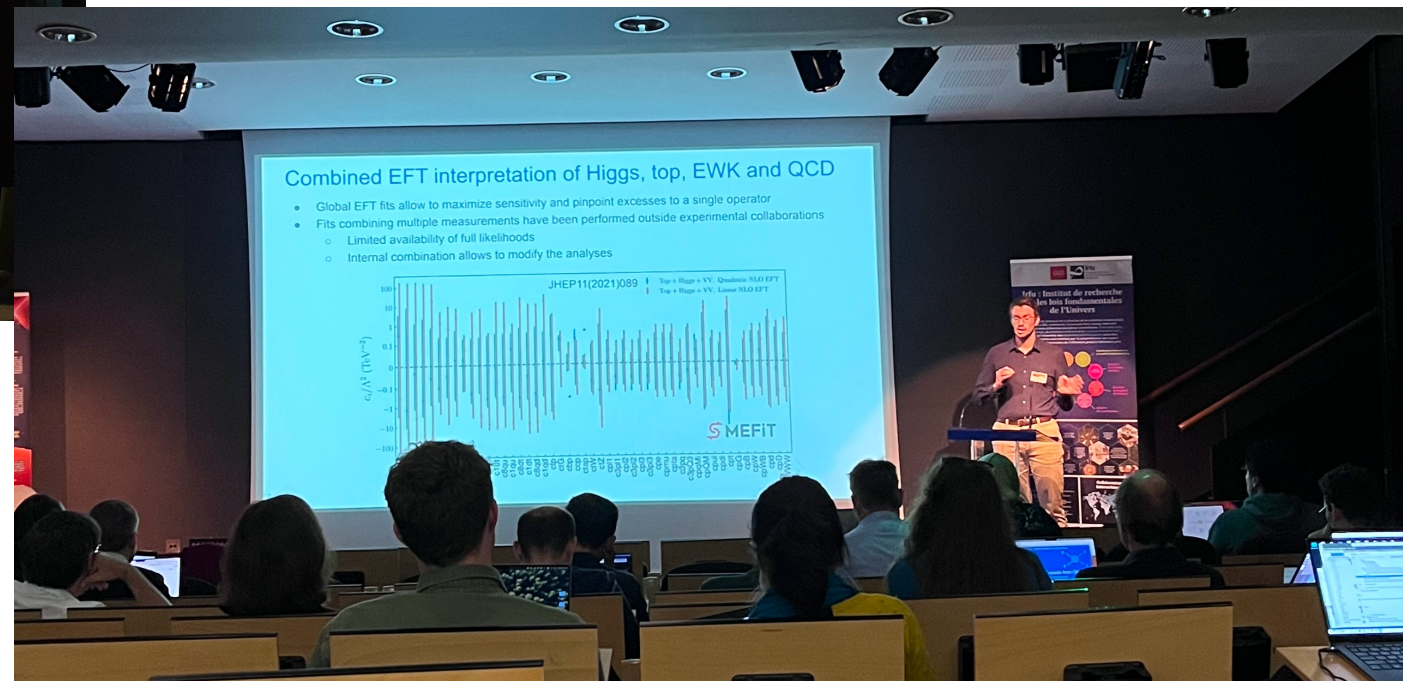
- treats EWK jets by ME below merging scale.
- better description of low p_T jets
- Many other ongoing efforts



TOP 2024: HW YSF

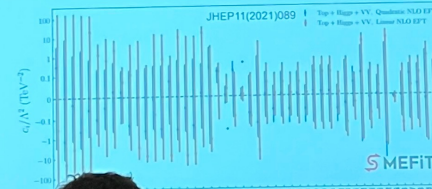
International Workshop on Top Quark Physics (TOP2024)

International Workshop on Top Quark Physics (TOP2024) will be held in person, from



Combined EFT interpretation of Higgs, top, EWK and QCD

- Global EFT fits allow to maximize sensitivity and pinpoint excesses to a single operator
- Fits combining multiple measurements have been performed outside experimental collaborations
 - Limited availability of full likelihoods
 - Internal combination allows to modify the analyses



[Contribution List](#)

[Proceedings](#)

[Book of Abstracts](#)

17th International Workshop on Top Quark Physics

September 22 to 27
Saint-Malo, France

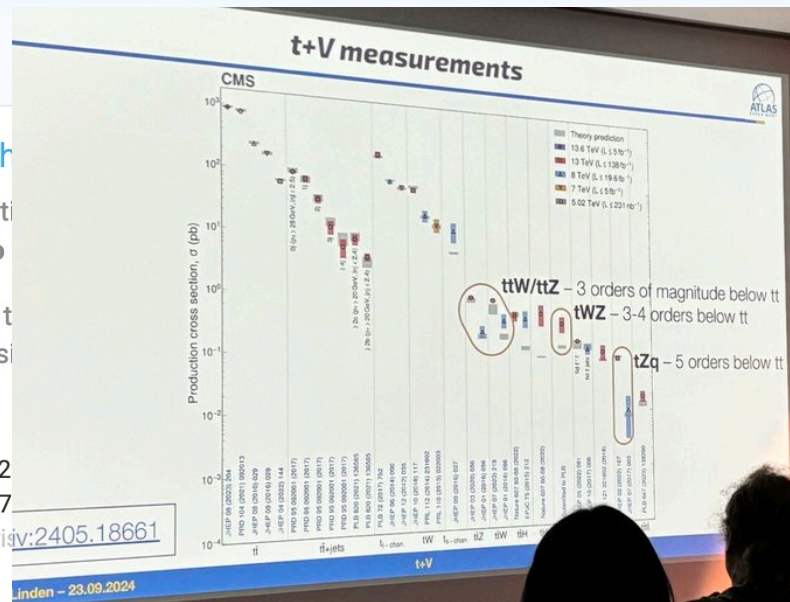
ance

Welcome to the

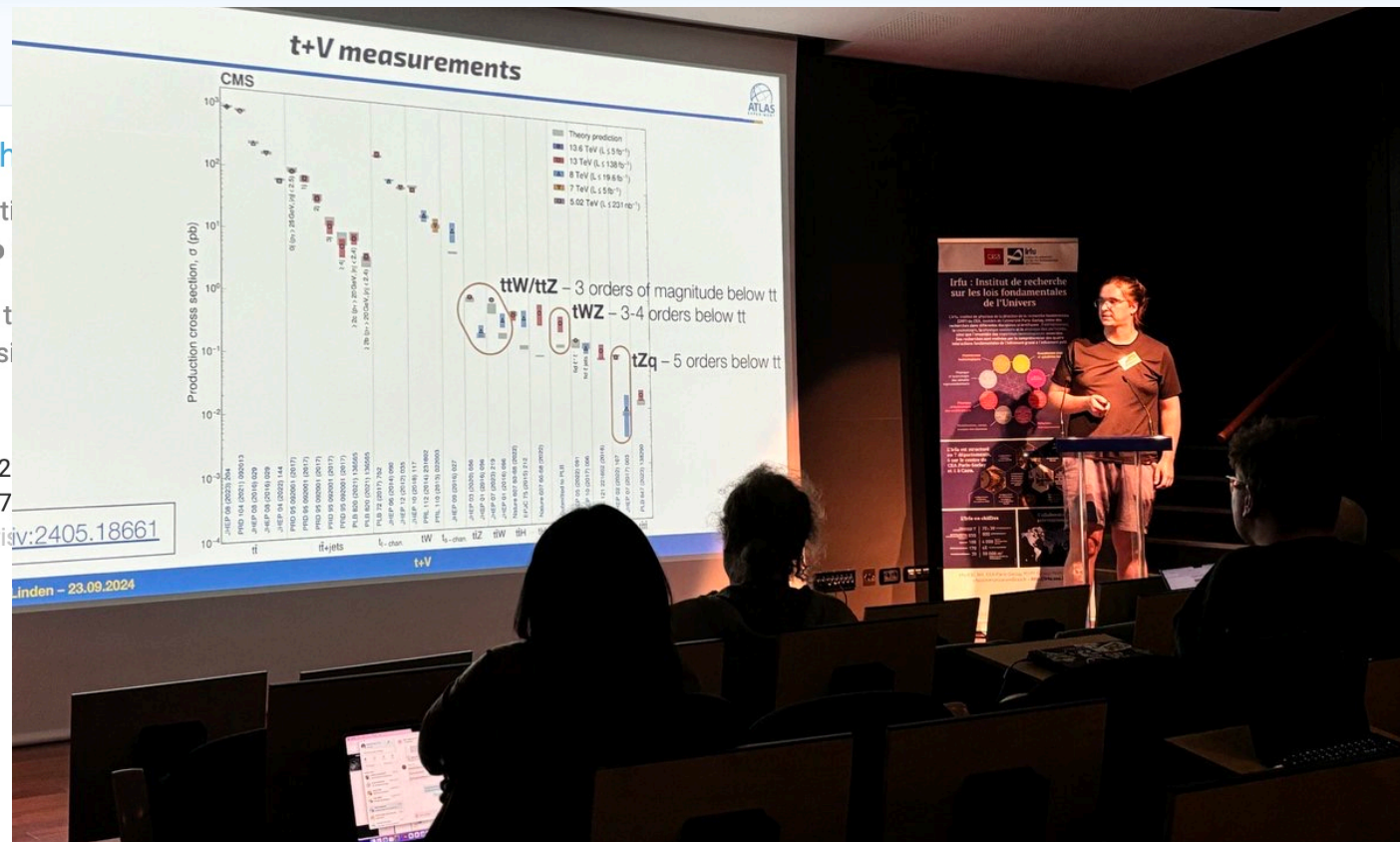
The 17th International
September 22 to

TOP2024 brings top quark physics
in top-quark physics

Starts Sep 22
Ends Sep 27
Europe/Paris: 2405.18661



Linden – 23.09.2024



cmsexperiment 1 m

EPPB ugent_eppg

David Kavtaradze

TOP2024

@datiarived



Flavour tagging at
CMS

@cmsexperiment

@ugent

Ajouter à votre story >

Envoyer un message...





17th International Workshop on Top Quark Physics

September 22 to 27
Saint-Malo, France



International
Workshop on Top
in Saint-Malo
Experimentalist
scientists are

10 PM
11 PM

