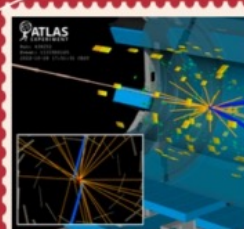
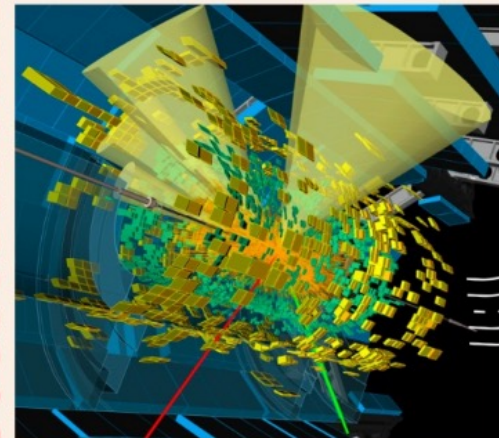


# Meeting di Gruppo ATLAS Milano

18 Dicembre 2024



**About the photos - Cover:** A visit from Santa in the ATLAS cavern. **Interior (right):** Operations team at Point 1, ITk Strip barrel shell insertions into outer cylinder, and Best Higgs-top coupling measurement to date from  $mH(bb)$ . **Back:** (left to right, top to bottom): Candidate top quark pair production in lead-lead collisions, Visit to Phase-II Muon upgrade facility at CERN, Candidate exotic event with two displaced electrons, Visit to HGTD facility at CERN, ATLAS Week celebrations in Thessaloniki, and Celebrations at the disabling of the L1Calo legacy system.





# ATLAS NEWS

Ultimo weekly meeting dell'anno e' stato molto speciale, slides e registrazione :

- Un talk completamente in rima (Adriana Milic)!!
- Dal talk di Reina sui risultati di fisica del 2024:

<https://indico.cern.ch/event/1484265/>

Dear mom, dad, funding agency,  
(write your recipient here!)

We've had a very good year in ATLAS! Let us tell you more about it. We have released:

- 117 papers
- 16 CONF notes
- 23 PUB notes
- 11 summary plots
- 25 physics briefings

Our members participated in:

- 113 conferences
- Gave 606 conference talks\*
- Hosted 122 virtual visits from 31 countries

Huge challenge for PC, PubCom, Speakers Committee, Outreach team and all reviewers to make all the pieces to converge. Thanks a ton! There were several challenges, doing our best to learn from them and have great plans for 2025!

*\*Reviewed by the Speakers Committee (see backup for more details)  
More cool stats from PubCom*

**ATLAS Submitted Papers**

Year	Run 1	Run 2 (Full)	Run 2 (Partial)	Run 3	Total
2012	0	0	0	0	0
2013	0	0	0	10	10
2014	0	0	0	22	22
2015	0	0	0	37	37
2016	0	0	0	54	54
2017	0	0	0	73	73
2018	0	0	0	96	96
2019	0	0	0	121	121
2020	0	0	0	150	150
2021	0	0	0	181	181
2022	0	0	0	214	214
2023	0	0	0	250	250
2024	0	0	0	293	293
<b>Total</b>	<b>614</b>	<b>131</b>	<b>132</b>	<b>1343</b>	<b>1343</b>

<https://atlas.cern/Updates/Briefing>

# ATLAS NEWS

## B-Physics and Standard Model: shooting at precision

Reina's talk

- First measurement of the W-boson width at the LHC using Run-1 data. The most precise single-experiment measurement to date!

*ATLAS Physics Briefing*

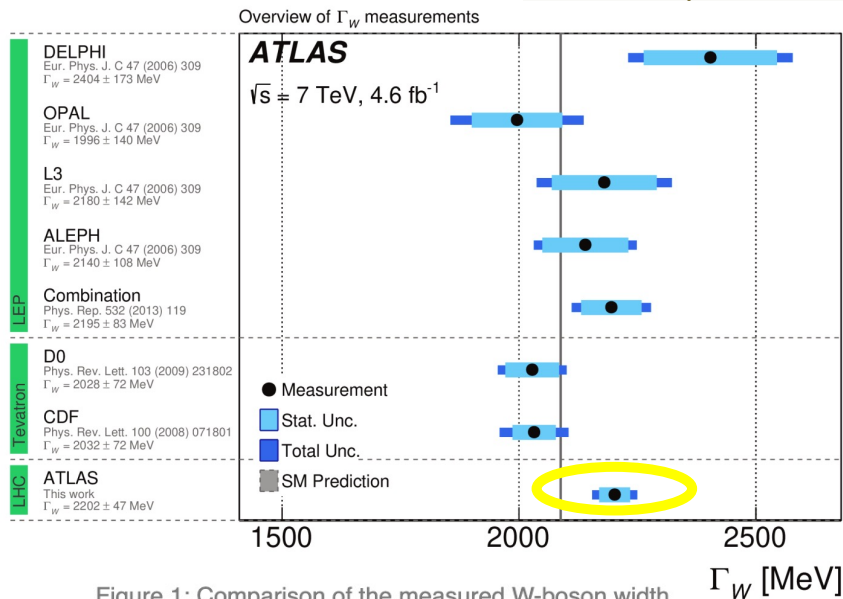


Figure 1: Comparison of the measured W-boson width with the Standard-Model predictions derived from a global electroweak fit, as well as with measurements from the LEP and Tevatron colliders. The vertical grey band illustrates the Standard-Model prediction, while the black dots and their associated horizontal bands represent the published experimental results. (Image: ATLAS Collaboration/CERN)

- Most precise  $B^0 \rightarrow J/\psi K^{*0}$  measurements of lifetime and decay width using Run-2 data

*ATLAS Physics Briefing*

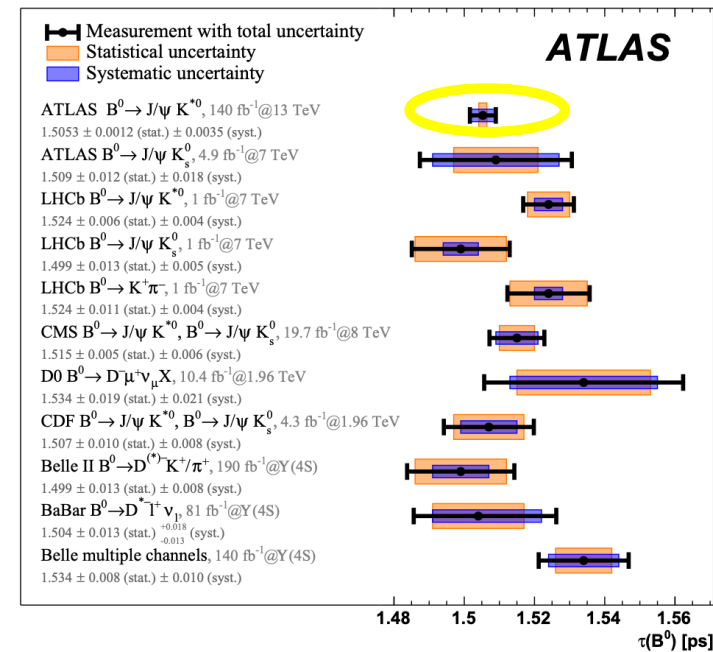


Figure 1: A comparison of the new ATLAS result for the  $B^0$  lifetime with the previous ATLAS result, as well as results from the LHCb, CMS, D0, CDF, Belle II, BaBar and Belle experiments. (Image: ATLAS Collaboration/CERN)

# ATLAS NEWS

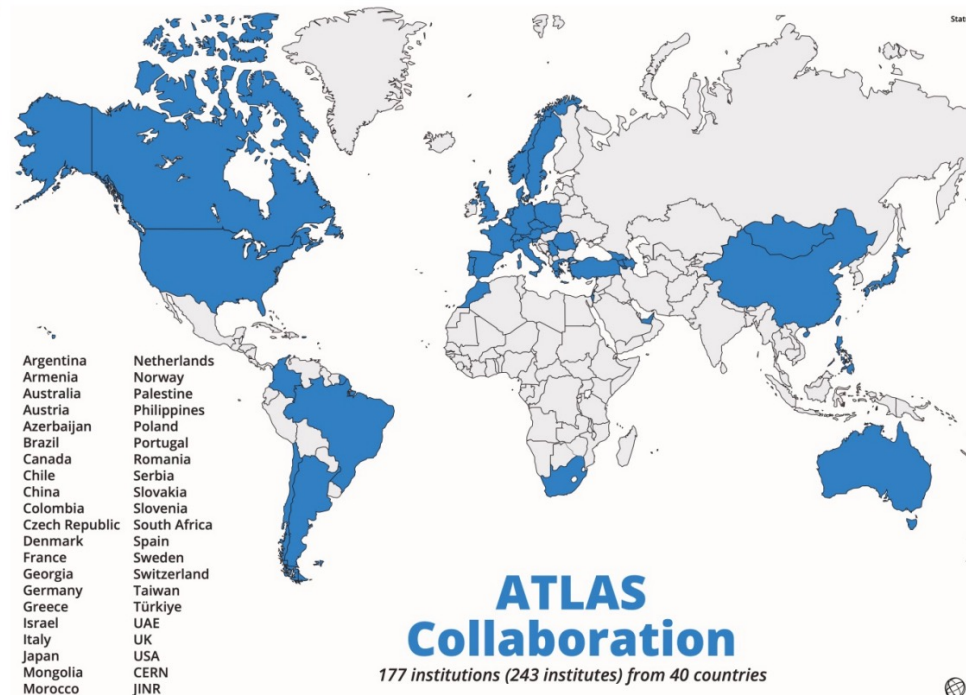
Dal talk di Maria Costa:



## Welcome to the new institutes joining in 2024!

We also said goodbye and thanked our colleagues from **Russia and Belarus** for more than 30 years of contributions to ATLAS.

- **Technical Associate Institutes:**
  - Youngstown State University, USA
  - Munster Technological University, Ireland
- **Full ATLAS member and clustered institutions:**
  - Institute of High Energy Physics (IHEP), Beijing and Tsinghua University, Beijing (from the splitting of the China IHEP-NJU-THU-SYSU cluster)
  - University of Science and Technology of China (USTC), Hefei and the Shanghai Jiao Tong University (SJTU) together with Tsung-Dao Lee Institute (TDLI), Shanghai (from the splitting of the China USTC-SDU-SJTU-ZZU cluster)
- **New cluster members:** Khalifa University of Science and Technology (United Arab Emirates)



- ~6000 active members
- 2875 ATLAS authors
- ~1200 physics PhD students
- ~450 physics masters/ diploma students
- ~450 undergraduate/ summer students
- ~100 engineering students

ATLAS is composed by 177 Institutions (243 Institutes) and 15 Technical Associate Institutes



# ATLAS NEWS



- At the end of February 2025, **Andreas Hoecker** will end his mandate as ATLAS Spokesperson. The new Spokesperson will be **Stéphane Willocq**
- We propose to make a book for Andreas with greeting cards from all Institutions with your messages and signatures, in the spirit of the ones made for Peter Jenni (2009), Fabiola Gianotti (2013), Dave Charlton (2017), and Karl Jakobs (2021).
- The idea is that you can, for example, write a message on behalf of your team, insert pictures, add the signatures of your team members, etc. Please feel free to personalise the page to your pleasure, including hand-written and scanned messages and/or drawings.

**Please return the Powerpoint file to Martine Desnyder-Ivesdal by email, by Wednesday 18 December at the latest.**

*INFN Milano and Università di Milano,  
Dipartimento di Fisica*



# INFN Milano and Università di Milano, Dipartimento di Fisica

Qui mettiamo la foto

Qui e negli altri spazi  
bianchi mettiamo le  
firme



Dear Andreas,

many of us know you well before you became spokesperson and always worked with you with real pleasure. We have greatly appreciated your capable guidance of the Collaboration in the last years. Thank you very much for steering us through all the ordinary and exceptional challenges we have faced and solved together to reach many important results.

We wish you a future full of exciting work and success.  
The Milano Group



# Proposal of HMBS+Exotics workshop in Milano



Abbiamo dato la disponibilita' di ospitare il primo workshop HMBS+Exotics a Milano (idea suggerita da Tommaso)

- This meeting will be important to discuss goals, activities and milestones for the remainder of Run-3, as well as for strengthening the links between the different members of our communities.
- The venue should have a room capable of hosting around **180-200 participants**, with a **stable zoom connection** to enable remote participation. We'd prefer to hold the **workshop end of June, July, September or October**.
- We would then like to have **a more complete proposal by January 20th**, with the details:
  - Venue location and room sizes
  - Proposed week(s) to host the workshop (if proposing dates outside the preferred months, please justify)
  - Workshop dinner & lunch options
  - Rough price (fees, lodging options, meals, travel options)
- **Chi vuol far parte del comitato organizzativo (anche dottorande/i) ci contatti cosi' vi aggiungiamo alla chat per discutere tutti i dettagli.**

# CONCORSI/BORSE

- **Bandi Concorso da Ricercatore INFN (terzo livello):**
  - 2 BANDI: <https://jobs.dsi.infn.it/index.php?tipo=Tempo%20Indeterminato>
  - 40 posti «sperimentali», 10 posti «teorici»
  - Le sedi di lavoro di prima assegnazione saranno stabilite dal Consiglio Direttivo dell'INFN tenuto conto della Struttura INFN indicata come preferita dai candidati in fase di domanda di partecipazione.
  - **Scadenza: 09-01-2025**
- **Bando per per assegniste/i, dottorande/i, borsiste/i promettenti laureate/i ed esperte/i esterne/i per l'affidamento di attività didattica integrativa extracurriculare e attività di orientamento e tutorato.**
  - Link: <https://www.unimi.it/it/ateneo/lavora-con-noi/didattica-integrativa-art-45/bandi-selezioni-art45/albo-del-dipartimento-di-fisica-pontremoli-I>
  - **Scadenza: 3 gennaio 2025**
- **Borse CSN1 in laboratori stranieri** (CERN, DESY, FNAL...) da sfruttarsi da Maggio 2025
  - laureandi/laureati triennali (magistrali) - borse di 1 mese (3 mesi)
  - Raccolti i programmi di ricerca: **Leonardo e Ruggero** hanno sottomesso 2 argomenti.
  - Bando a Gennaio



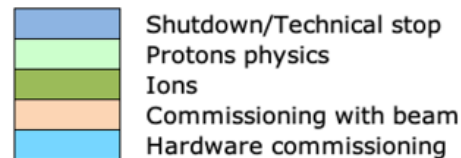
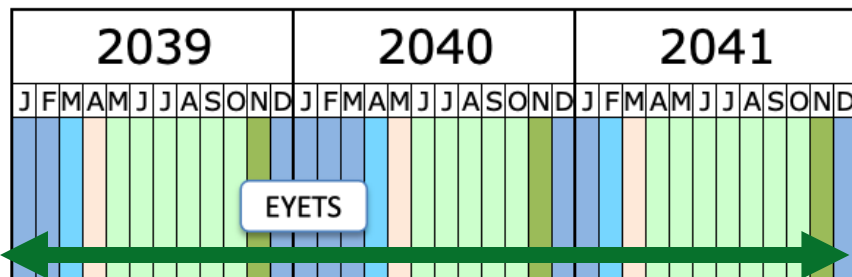
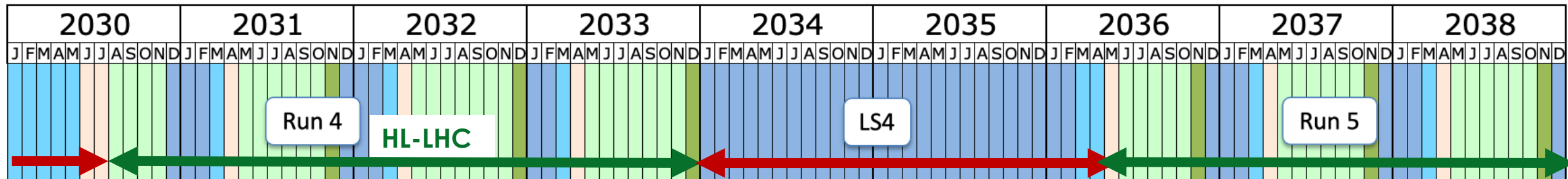
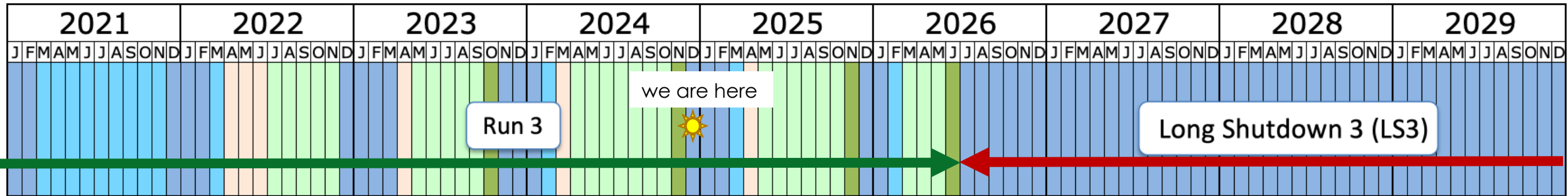
# EVENTI

- **Discussione tesi dottorato di Elena:** domani, 19 dicembre alle 14.30, Aula Caldirola
- **Workshop on FCC-ee and lepton colliders dell' INFN 22-24 Gennaio, Lab. Nazionali di Frascati (LNF):** <https://agenda.infn.it/event/43779/>
- **Workshop dell' INFN dedicato alla presentazione ed alla discussione dell' Input alla prossima European Strategy for Particle Physics,** presso l' Università di Milano Bicocca, 4 Febbraio 2025 (agenda tbd)
- **ATLAS week, 17-21 Febbraio 2025, CERN:** <https://indico.cern.ch/event/1483514/>
  - Registration for the February 2025 ATLAS Week is now open!
  - **Please register by Friday 7 February, in particular, if you want to visit the ATLAS experiment**
  - Deadline for lightning talk proposals is 15 January, deadline for poster proposals is 12 February
- **Incontri di Fisica delle Alte Energie (IFAE), 9-11 Aprile, Cagliari:** <https://agenda.infn.it/event/44314/>
  - **È incentivata la presentazione di abstract da parte di dottorandi e neo-dottori di ricerca.**
  - ai relatori si richiedono presentazioni in lingua italiana
  - Piu' info su scadenze per abstract ecc.. nel prossimo bollettino



# BACK-UP

# LHC NEWS



Nuova scheda prevede un anno aggiuntivo prima della fase HL\_LHC:  
 => **Run 3 esteso fino a giugno 2026**  
 => **Partenza HL-LHC: estate 2030**  
 Siamo nel YETS che durerà 19 settimane,  
**La presa dati ripartirà a maggio 2025**



# In which group am I?

## HMBS



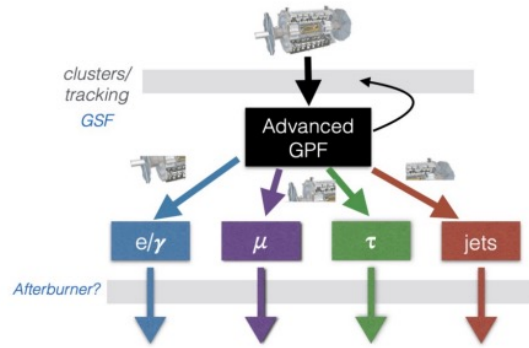
Higgs, Multi-Boson and SUSY searches\*

## HIGP



Higgs and Di-Higgs Physics (HIGP)

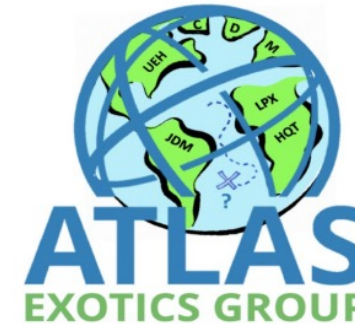
## GPFR



Global Performance  
Exploring different ATLAS's approaches to advanced particle flow



## Exotics



All LLP searches collaborating within EXOT

<https://indico.cern.ch/event/1484265/>

## THE ATLAS COLLABORATION

- ~6000 active members
- 2875 ATLAS authors
- ~1200 physics PhD students
- ~450 physics masters/ diploma students
- ~450 undergraduate/ summer students
- ~100 engineering students

