

**CHEP 2023** 



# SHARING ATLAS SCIENCE: COMMUNICATING TO THE PUBLIC

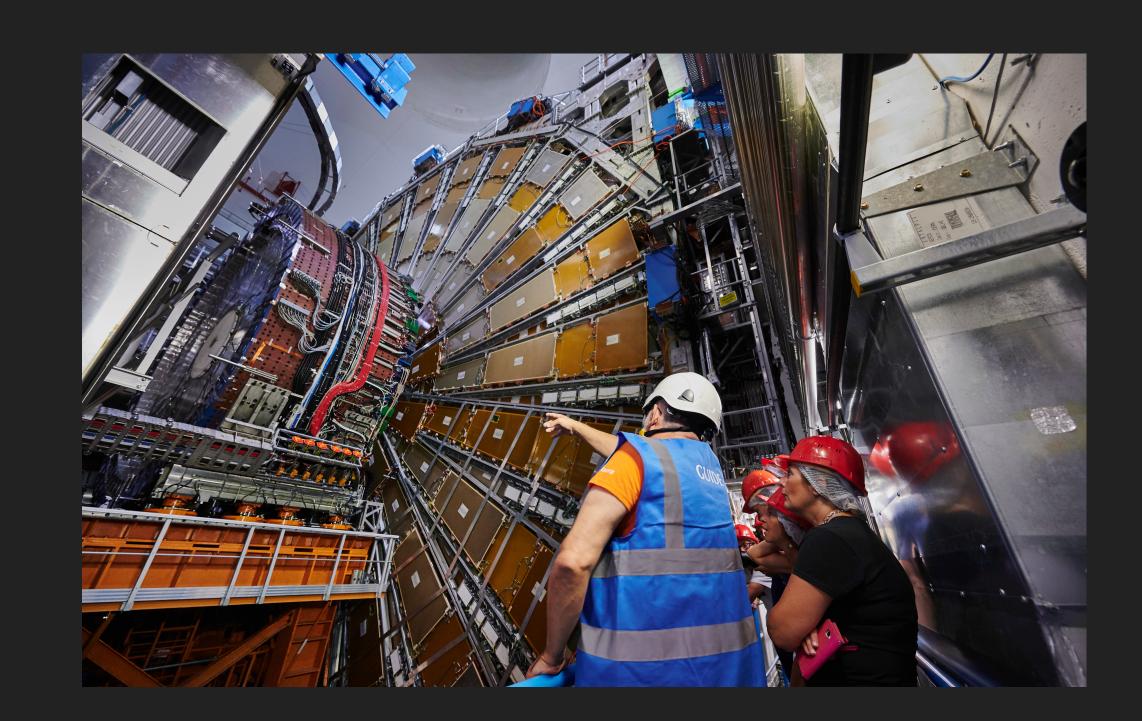
Elise Le Boulicaut (Duke University)
On behalf of the ATLAS Collaboration
May 11, 2023

# WHY SCIENCE COMMUNICATION IS IMPORTANT

- We can share our passion for physics with a wide variety of audiences.
- We can inspire others, especially young students, to pursue particle physics.
- We can educate funding agencies and the general public to gain their support.

# SCIENCE COMMUNICATION IN ATLAS

- Main aim: give public visibility to ATLAS.
- Diversified approach to reach different audiences, tailoring content to multiple platforms.





# ATLAS WEBSITE



Collaboration Site | Physics Results

DISCOVER RESOURCES UPDATES Q SEARCH

- ▶ The ATLAS website has many resources for the general public to learn more about our science and scientists.
  - Broad explanation of the ATLAS detector and Collaboration
  - More detailed information about detector components, physics, ...
  - Resources for outreach (schematics, posters, books, ...)
  - Updates: news, briefings, features, portraits, press statements, blog posts
- Several collaborations with CERN to feature ATLAS news & briefings on home.cern





**Probing fundamental symmetries of** 

nature with the Higgs boson

force, looking for signs of charge-parity symmetry violation

### **Latest News**

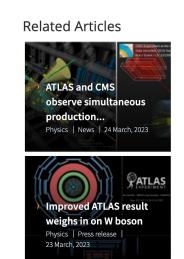


**ATLAS & CMS Physicists Recover Lost** 

**Probing fundamental symmetries of** 

nature with the Higgs boson

Physics Briefing | 31 March 2023









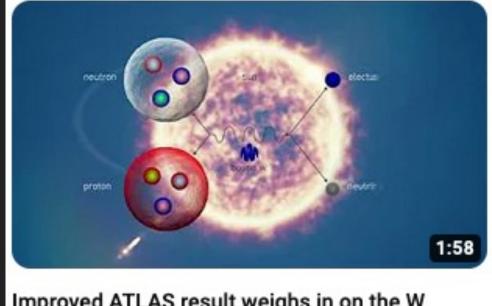
# SOCIAL MEDIA

- Opportunity to reach a wider and more diverse audience via social media.
- Social Media presence:
  - ► Twitter: 98k followers
  - Instagram: 59k followers
  - ► Facebook: 40k followers
  - ► TikTok: 29.4k followers
  - ► Youtube (9k), Linkedin (4.2k)
- Newest releases:
  - Joint live with CERN in ATLAS Control Room
  - New TikTok content following trends (Maxwell the cat)
  - Video and social media collaborations with CERN on W mass measurement press release
  - Physics videos and social media on new results presented at Moriond







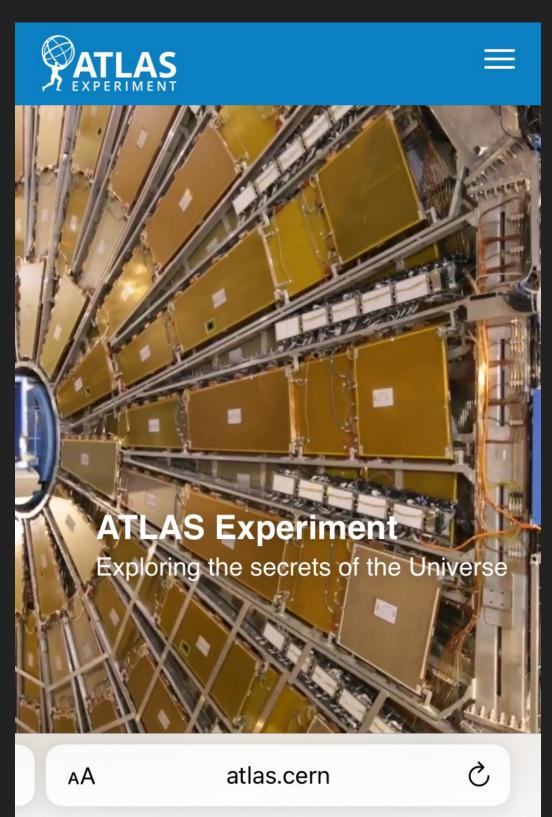


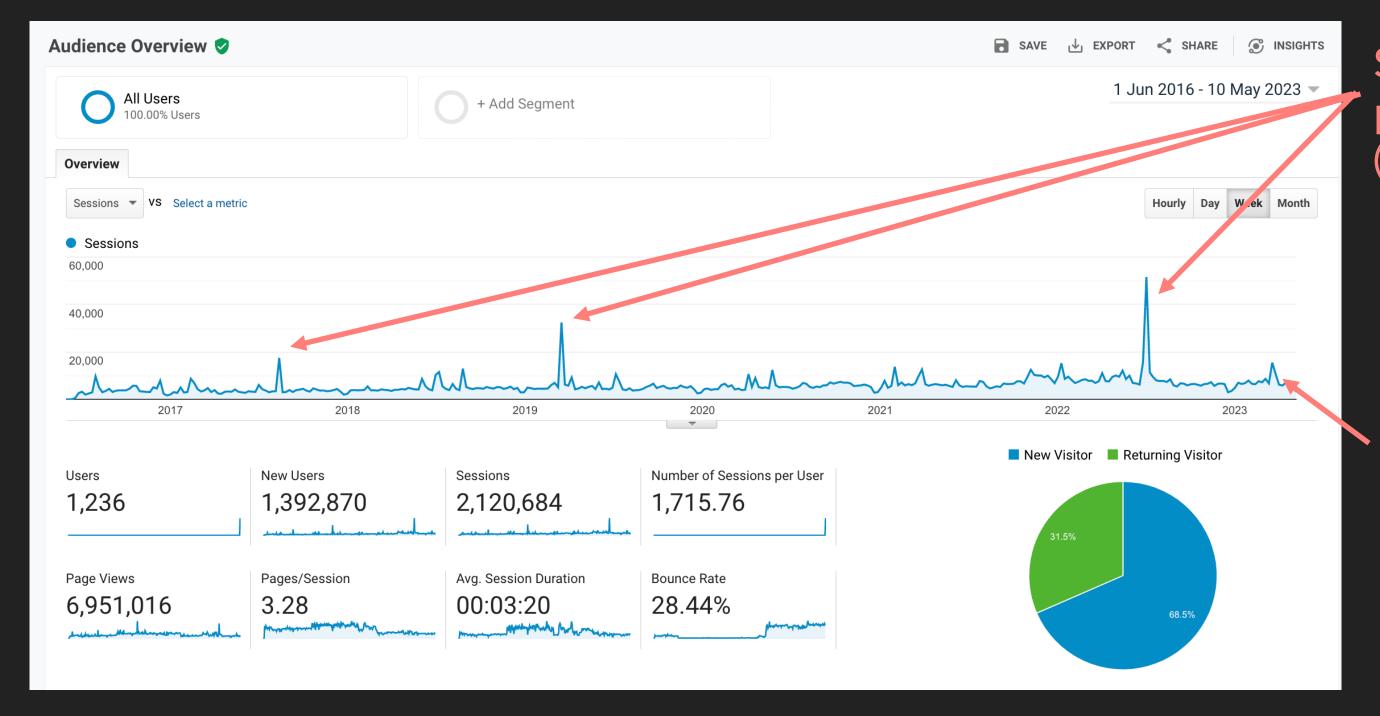
Improved ATLAS result weighs in on the W boson



# WEBSITE INFRASTRUCTURE

- Drupal 9 Content Management System.
- CERN Theme with ATLAS look and feel.
- Supports most devices, platforms, screens.
- Provides access to other communication platforms.





Spikes correspond to publications, events (e.g. run 3 startup)

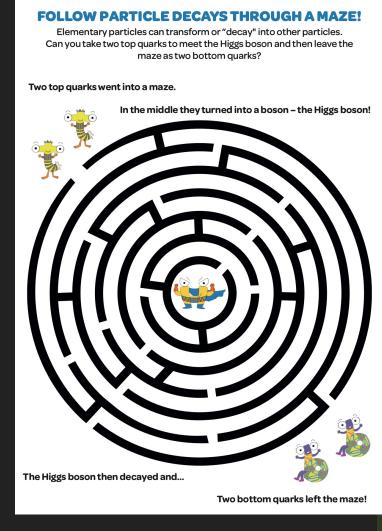
Steady growth over the past 6 years

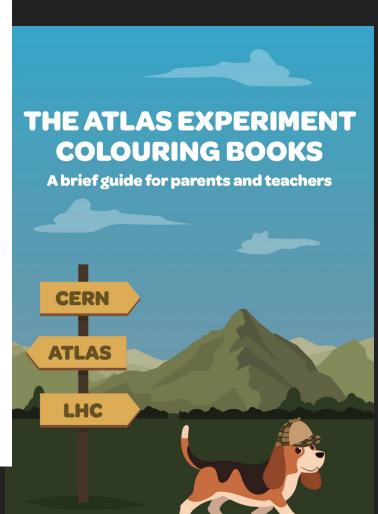


# PRINTABLES (1/2)

- A wide range of educational materials for all ages and levels of expertise.
- ► Resources publicly available on ATLAS website.
- Many of these are aimed at introducing particle physics to children.

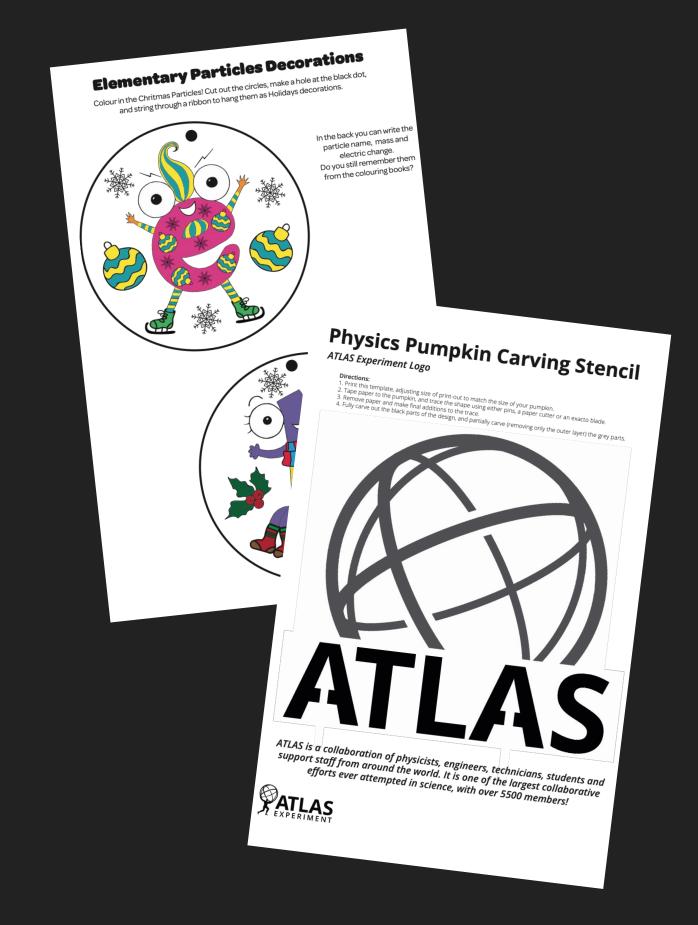






## Coloring books and activity sheets

- 21 languages for "ATLAS Experiment" book
- 11 languages for "Particles of the Universe" book
- 7 languages for activity sheets
- A parent/teacher guide, available in 2 languages





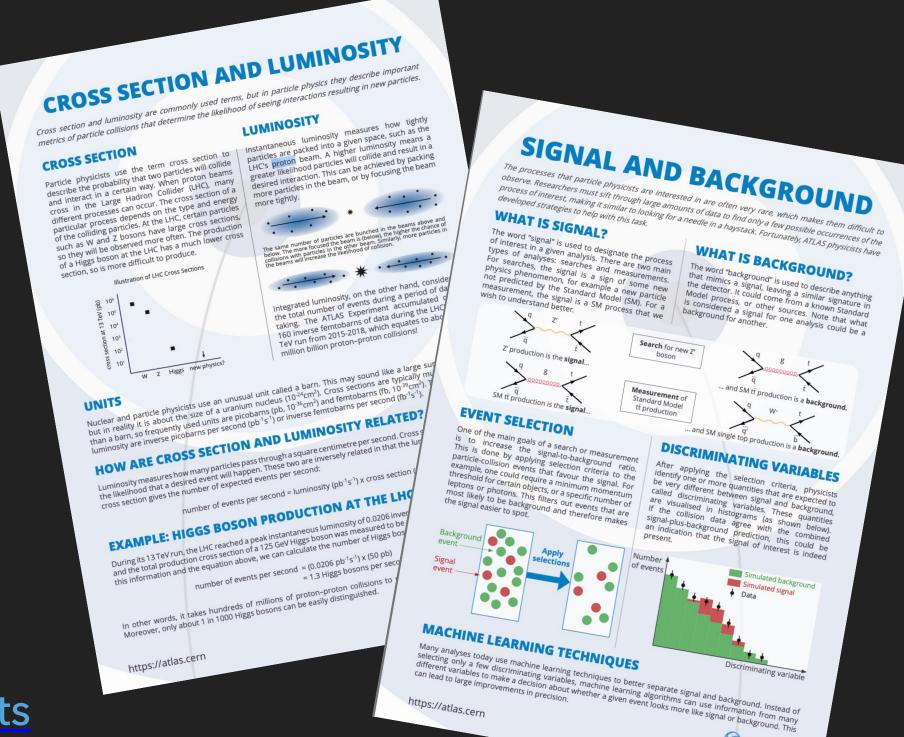


# PRINTABLES (2/2)

More advanced material aims to introduce the general public to ATLAS (fact

sheets) and physics concepts (cheat sheets).

Particularly useful for students and teachers.

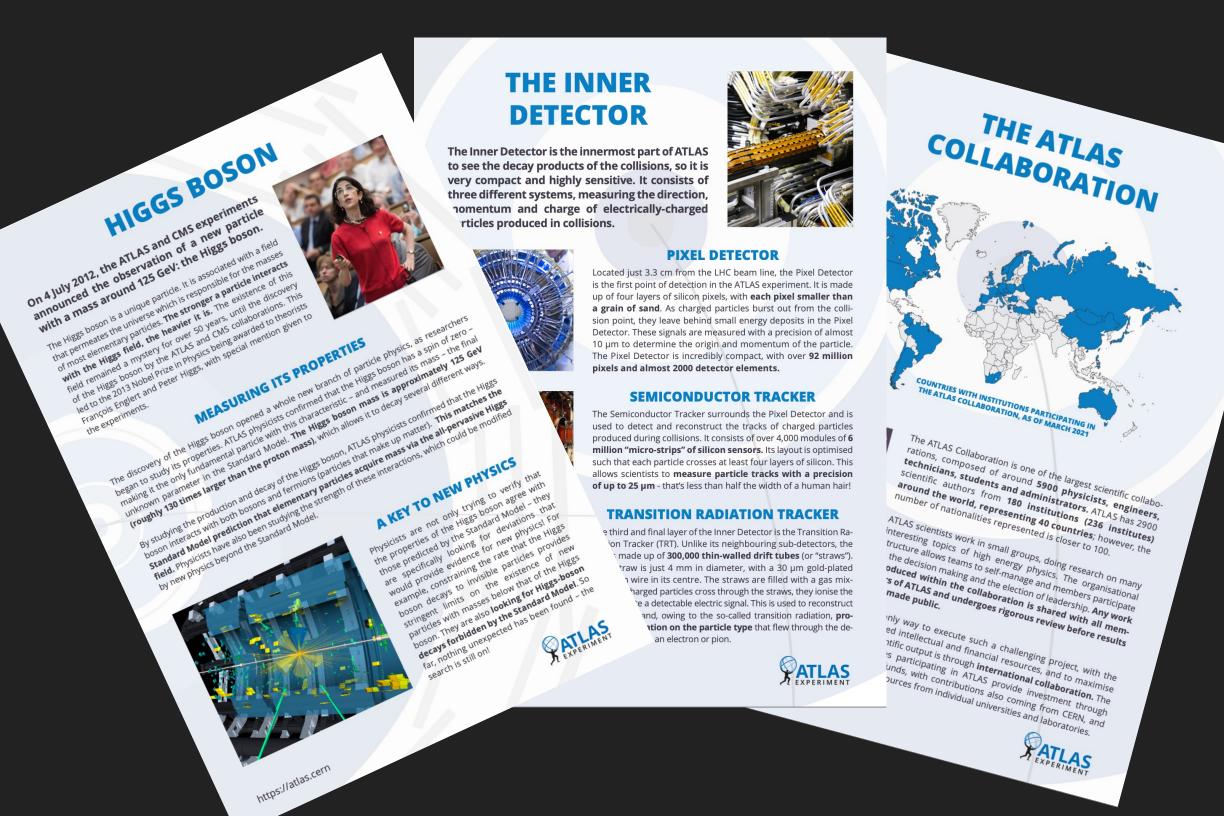


### **Cheat sheets**

5 sheets available

Available in 2-4 languages (depending on the sheet)





### Fact sheets

- ► 10 sheets available
- Available in 4-7 languages (depending on the sheet)

YouTube

# VIRTUAL VISITS

- Aim to bring the excitement of ATLAS into classrooms and other public places around the world.
- Use Zoom (primarily) from the ATLAS cavern or visitor's centre to communicate with remote audiences.
- Provide visits in as many languages as possible.

Regular open visits (where individuals can sign up without a group), 3 of them in

languages other than English.

Some visits livestreamed to TikTok and YouTube.

	Visits	Countries	Languages
2022	121	35	8
2023 (so far)	41	31	9



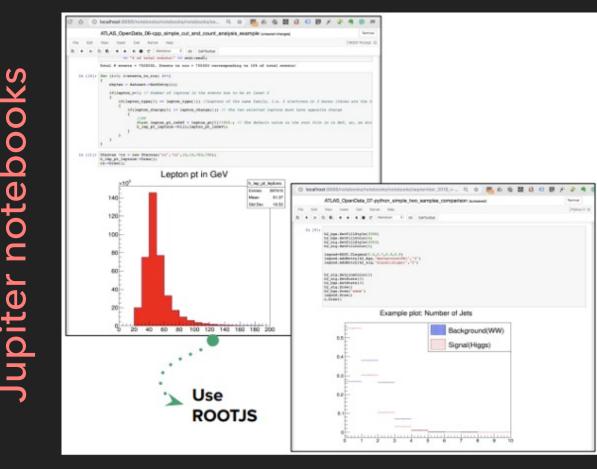


Countries booking Virtual Visits in 2022

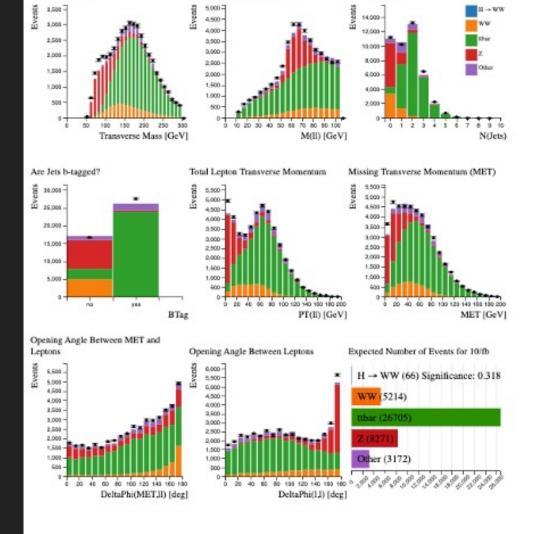
# OPEN DATA

### ATLAS Open Data includes:

- n-tuples datasets: 8 TeV and 13 TeV
- Analysis frameworks: C++ and Python (including online) Jupyter notebooks)
- Interactive web application for cut-and-count analyses: no coding needed!
- Virtual machines with Linux-based OS and ROOT CERN analysis framework.

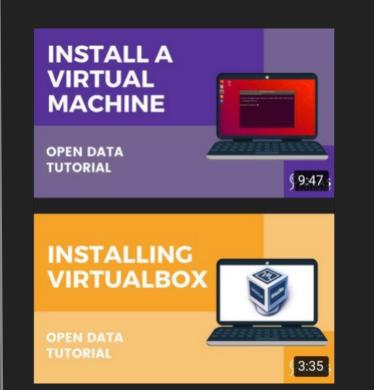


alys Histogr

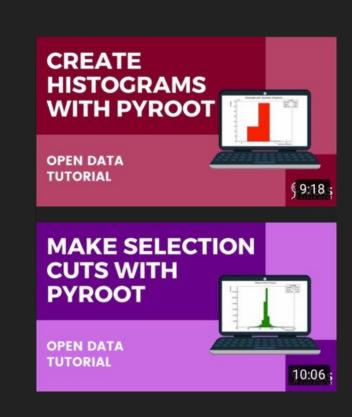


Lots of documentation:

- Public website
- Online documentation
- Github and Gitlab repositories
- Video tutorials on YouTube playlist







Particularly useful for high school or undergraduate labs during the pandemic!

(See <u>Attila Krasznahorkay's talk</u> on May 9)



# CONCLUSION

- Wide variety of communication approaches within ATLAS outreach, to reach all audiences:
  - Website content
  - Social media
  - Printable material
  - Visits & Virtual visits
  - Open data.
- Efforts to make particle physics approachable and fun!

