



CERN Beam User Day, 10/07/2026

**EIC/ePIC:
BIC, dRICH, pfRICH,
LFHCAL, MPGD**

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U.S. DEPARTMENT
of **ENERGY**

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ePIC 2026 CERN Beam Time Allocation

- Various ePIC subsystems requested (and received!) CERN beam time in 2026
 - This was the last chance for hadron beams for many ePIC systems before start of construction and assembly
 - The ePIC collaboration is **incredibly thankful** for the allotted beam times and the **phenomenal support** we received from CERN.
- Total of 4 weeks of dedicated PS time
- Total of 2 weeks of dedicated SPS time
 - (one extra night for dRICH/pfRICH)
- ePIC MPGDs participated in joint DRD1 SPS runs

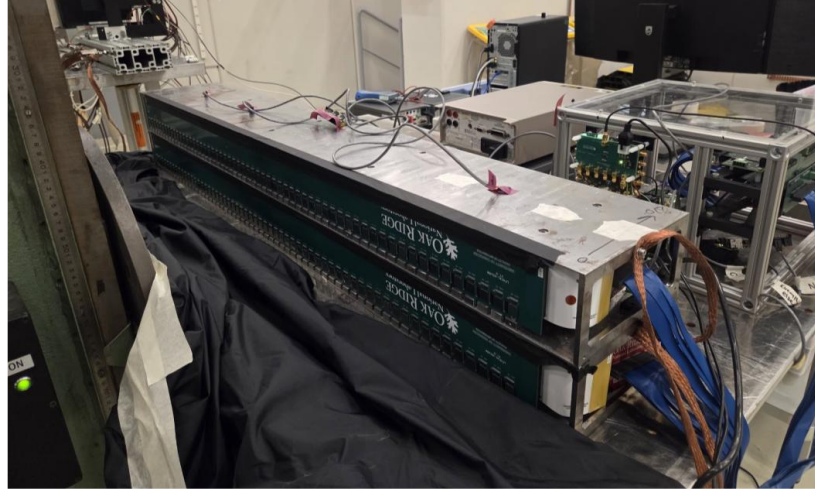
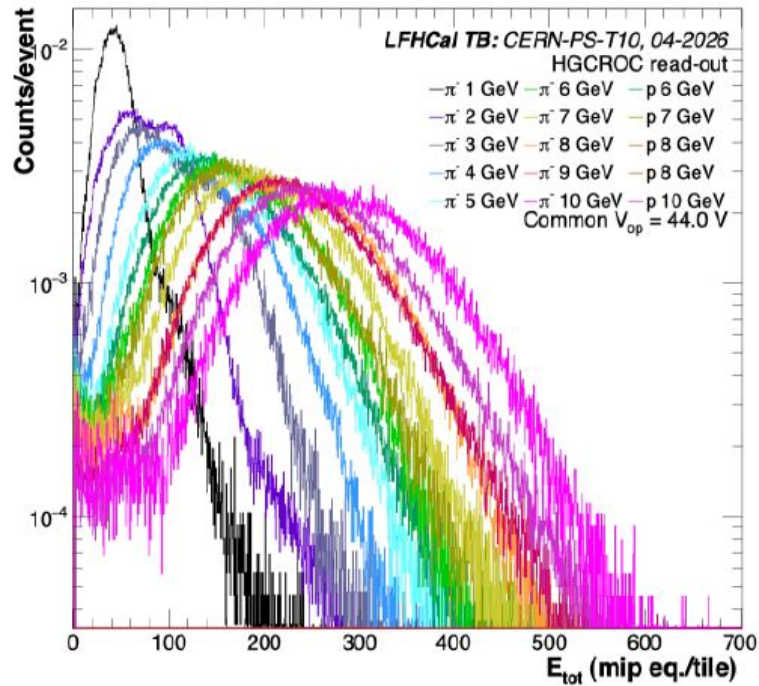
System	PS	SPS
LFHCAL (forward HCAL)	1wk (75M trgs)	1wk (93M trgs)
pfRICH (backward RICH)	2wks (3.2M trgs)	1.5wks
dRICH (forward RICH)	2wks (20M trgs)	1.5wks
BIC (barrel ECAL)	1wk (8M trgs)	
uRWell MPGD (gas tracking)		2wks (36M trgs)

shared

>235M trgs

ePIC LFHCAL

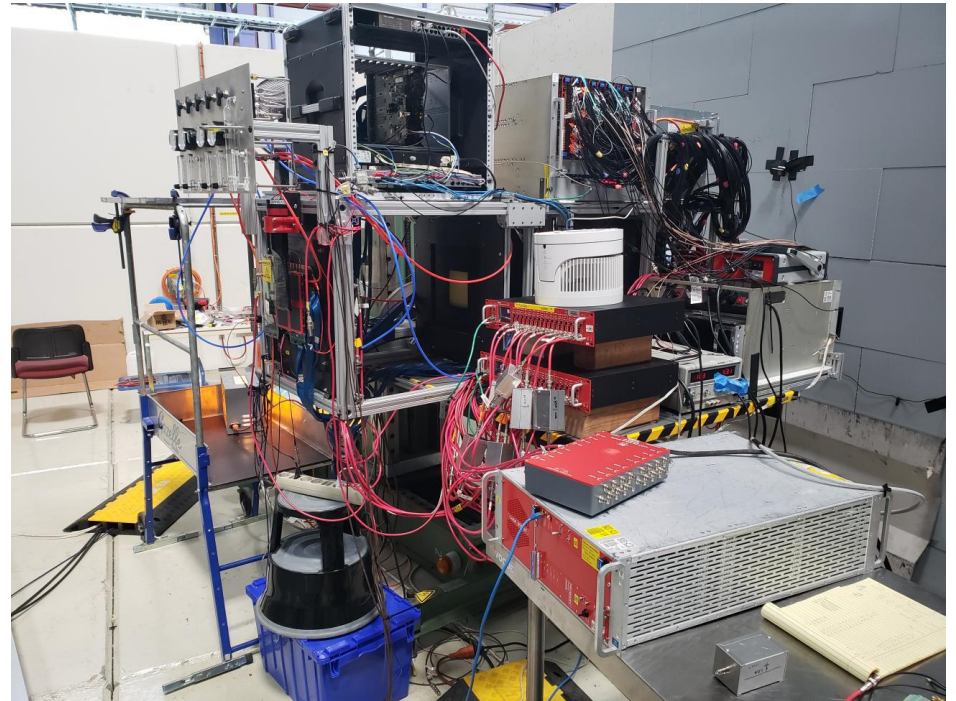
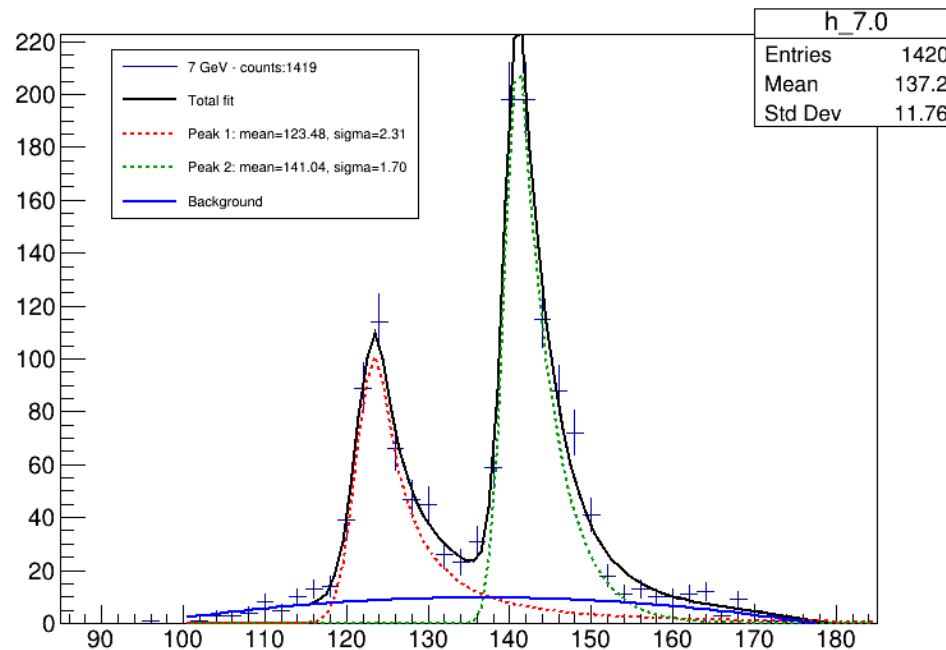
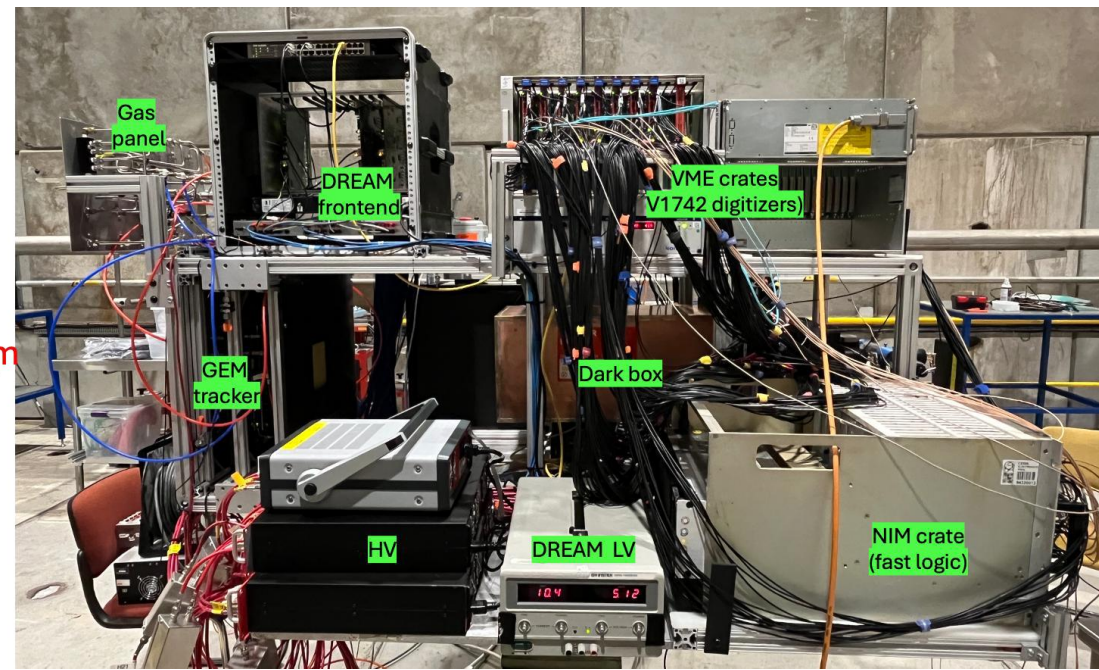
- Steel/Scintillator/SiPM HCAL
 - ePIC forward (hadron going)
- Final hadron beam before module production start
- Full beam details: [wiki](#)



ePIC pfRICH

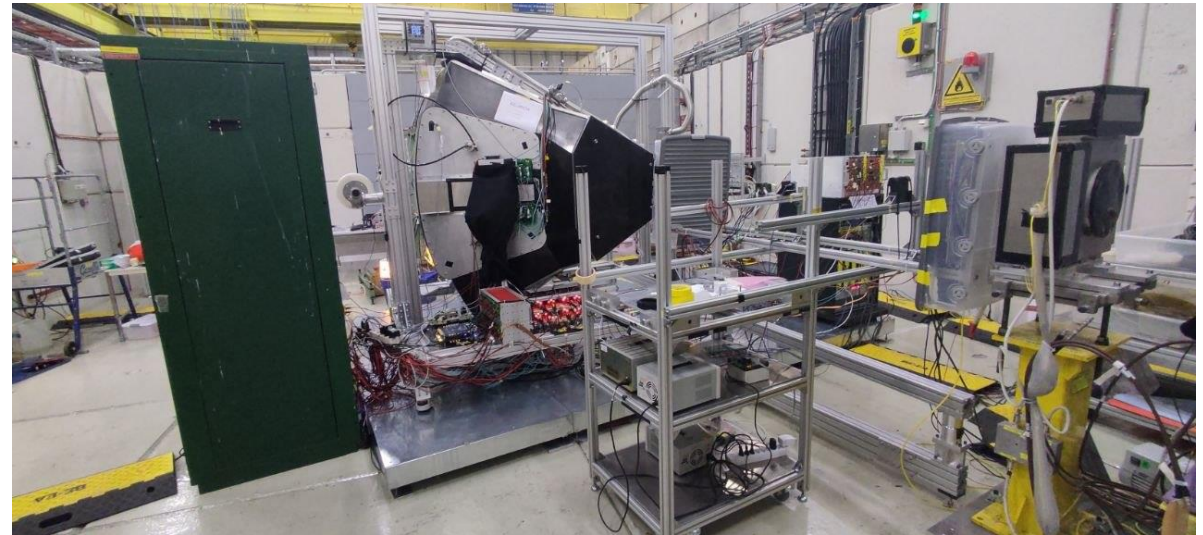
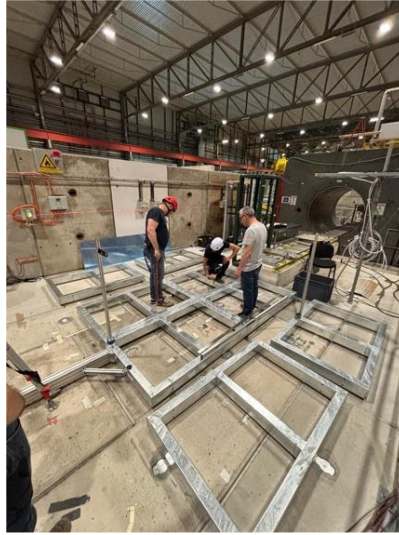
- Proximity focusing aerogel RICH
 - ePIC backward (electron-going) region
- Joint beam time with ePIC dRICH
 - SPS “commissioning” with saturated Cherenkov rings
 - PS runs for e/ π /K separation studies

SPS beam
→



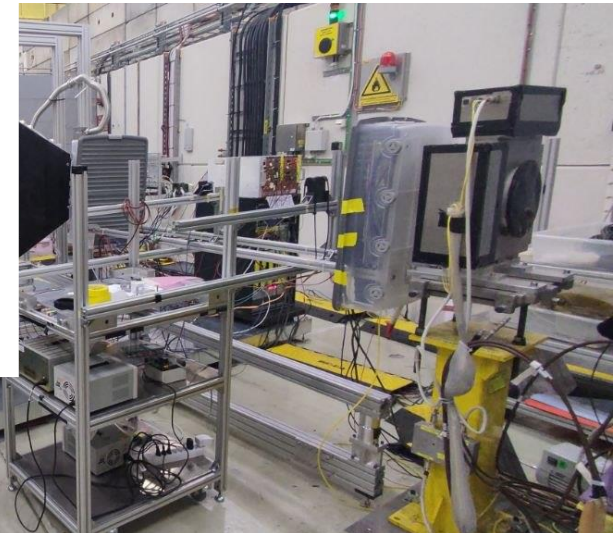
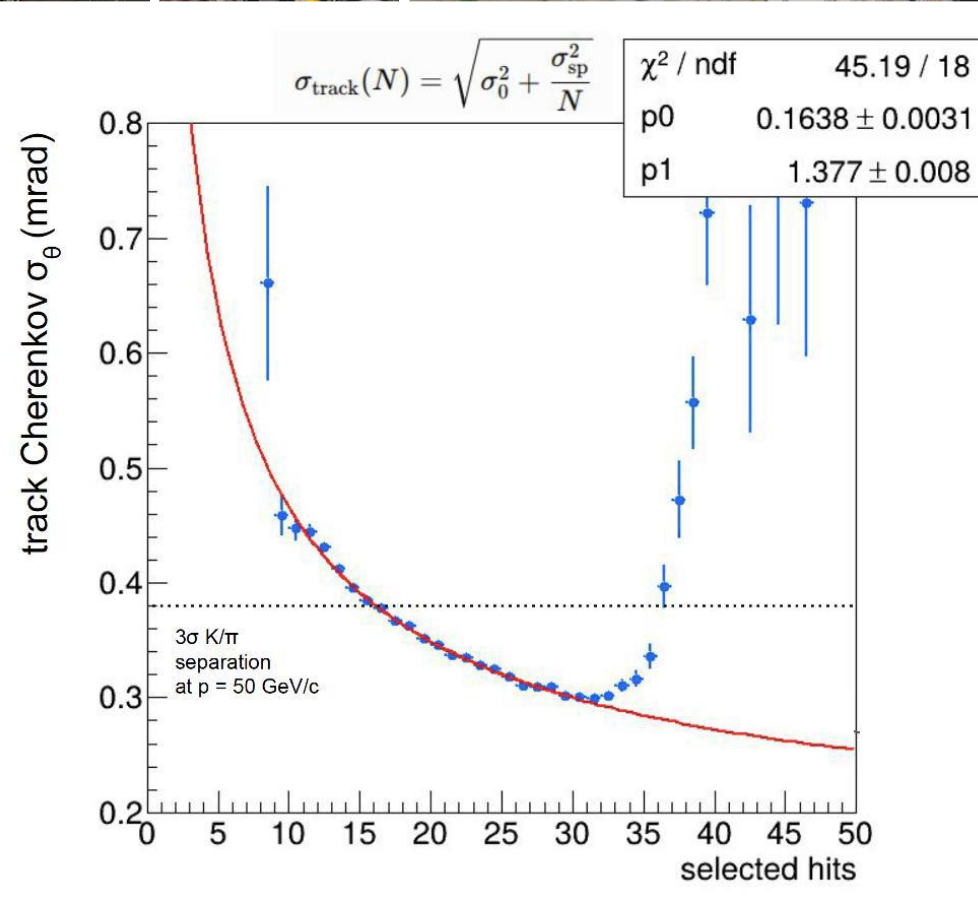
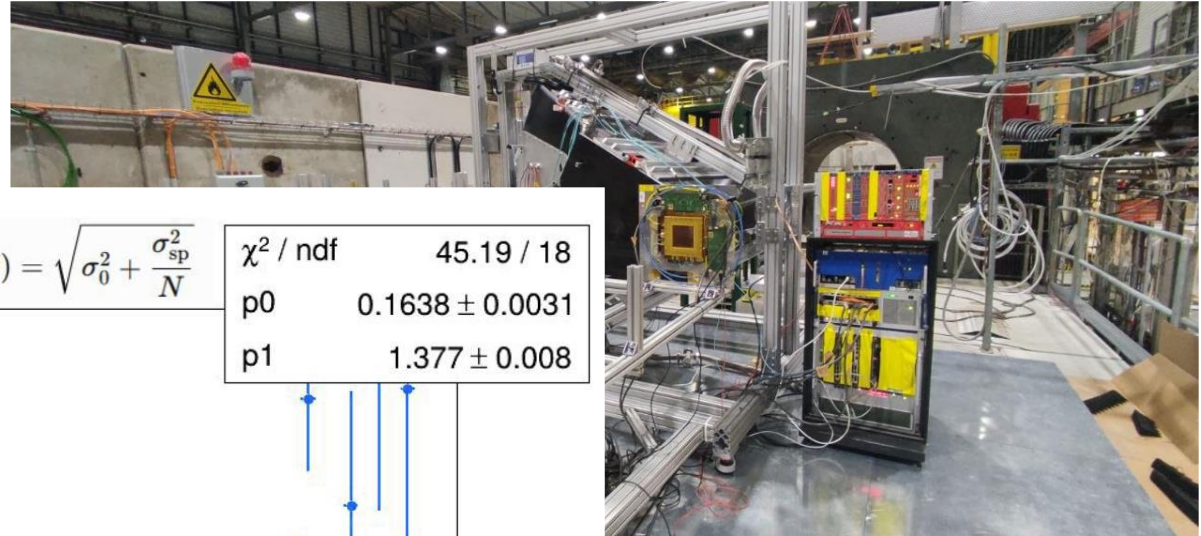
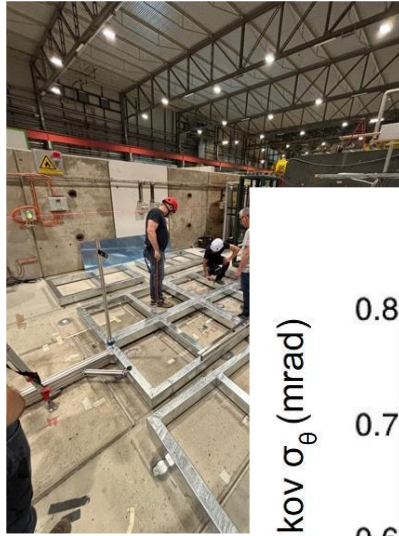
ePIC dRICH

- Gas/aerogel dual radiator RICH
 - Forward (hadron going)
- PS/SPS covers full momentum region
- Very complex setup

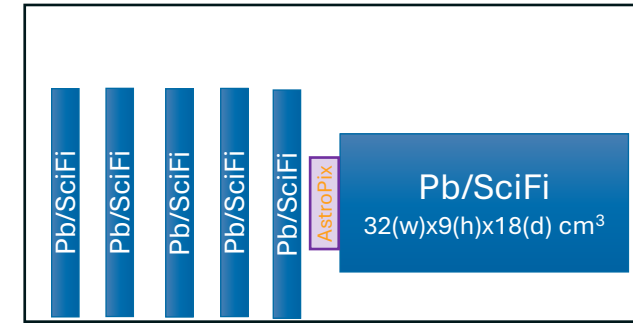
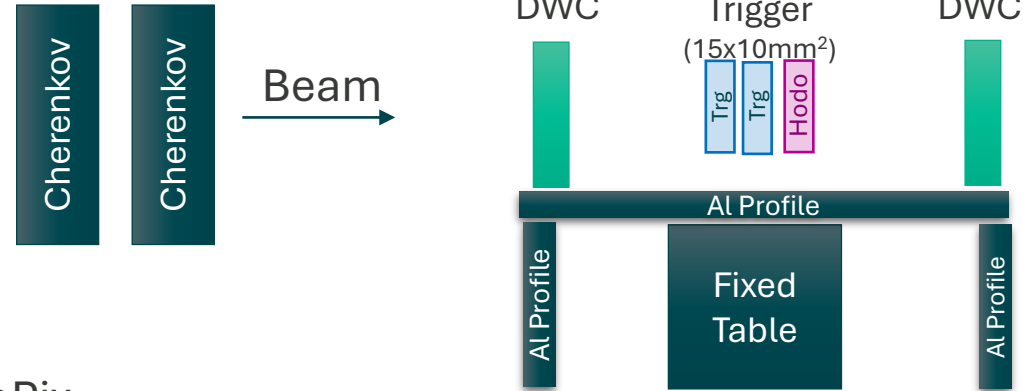


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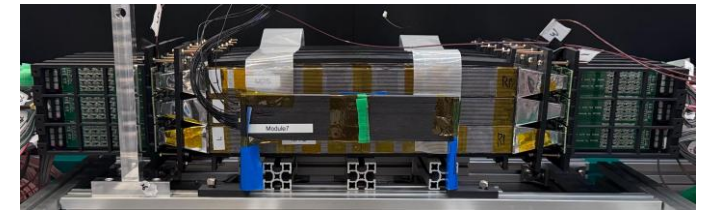
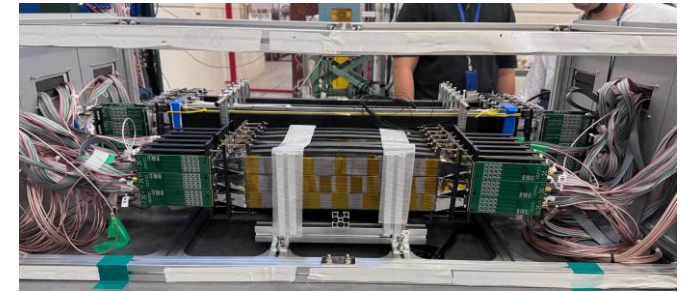


ePIC BIC



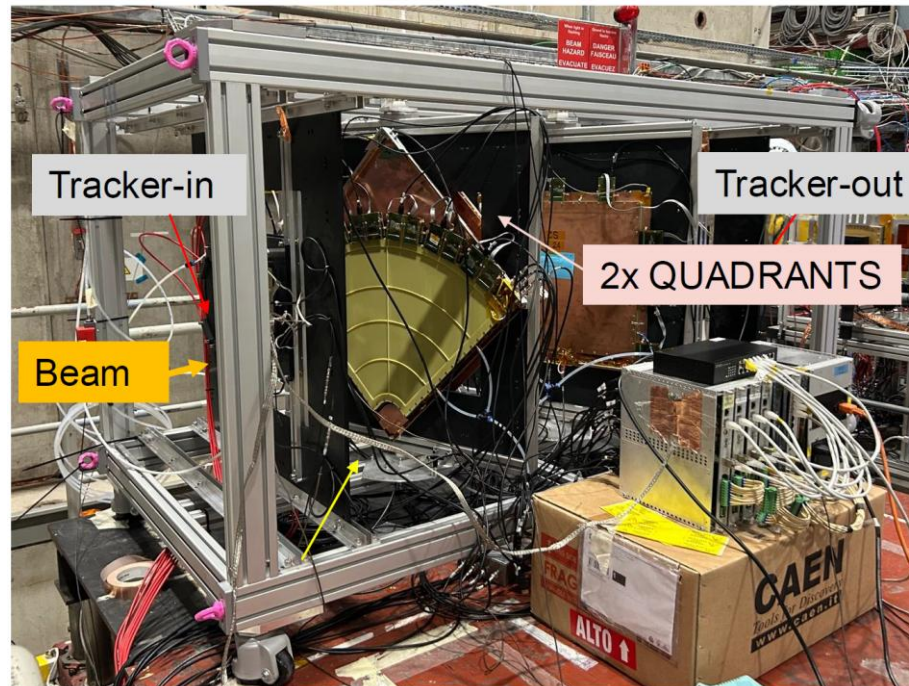
Desy table

- Lead/SciFi ECAL
 - Interleaved AstroPix silicon tracking layers
- Electron/pion separation is a key performance metric for BIC
- Close-to-final readout electronics



ePIC Multi Pattern Gas Detectors

- Several ePIC MPGD groups participated in joint DRD1 beam campaign
 - DRD1 is the most impressive joint beam time project I have ever seen



Feedback Questions

- Operation aspects:
 - Overall excellent operation. Thank you all **so much** again!
 - Documentation on cesar/accessing timber could be improved
 - Add temperature sensors (ambient + some user accessible) to beam areas and make accessible via timber?
- Beam Request:
 - Beam requests via ASM were generally highly appreciated.
 - Always got immediate and perfect support from Silvia when initial glitches appeared
 - New test beam page is excellent. Could add pictures of responsible crews for easy identification for newcomers?

Feedback Questions II

- Infrastructure:
 - Overall excellent infrastructure support from CERN teams!
 - Moving tables (DESY, XFCE) are scarce, could add a few to inventory?
 - (big moving table in SPS H2 not remotely accessible – I understand this is a safety issue)
- Communication with infrastructure team and beamline physicists:
 - Excellent communication and support in general.
 - (n.b.: every time I come to a CERN beam, I feel like I tripled my understanding of the beamline)
 - Can add permanent screens with phone numbers of responsible parties (both CERN and users)?
 - During LFHCAL installation in PS, infrastructure people and me missed each other for about an hour.

Feedback Questions III

- Installation/de-installation
 - On-site transport can be a bit confusing for outsiders, especially when external shipment comes in
 - LFHCAL module shipment was “lost” on site, but everyone was extremely helpful in finding it and transporting it to PS on time
 - Expectations for start of installation (incoming) and end of de-installation (outgoing) not always 100% clear
 - Usually this is solved by discussing with previous/next group in the days before
 - One case of complex de-installation caused some friction with incoming group who wished de-installation was quicker.
- Future beamtime request:
 - TBD. RICH detectors certainly are interested in 2028+ PS beam time

THANK YOU CERN

for >235M beam particles recorded

