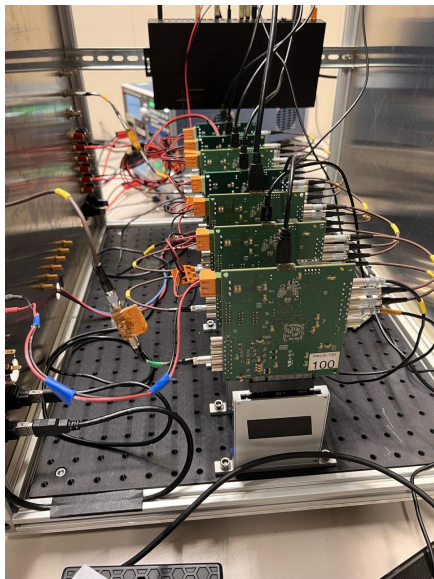


# NA60+: plan of the measurements

- ❑ Install Monday morning → **DONE**
- ❑ Set-up of ALPIDE with Pb beam → **DONE**
- ❑ Study of beam optics w/o microcollimator (with H8 people) → **~DONE**
- ❑ Wed → installation of microcollimator on the beam line → **DONE**
- ❑ Further studies with microcollimator in (with H8 people) → **IN PROGRESS**
- ❑ Measurement of the charged multiplicity in Pb-Pb collisions at 150 GeV/c (no B-field) → **TO BE DONE**
- ❑ Include dipole magnet in the set-up → **TO BE DONE**

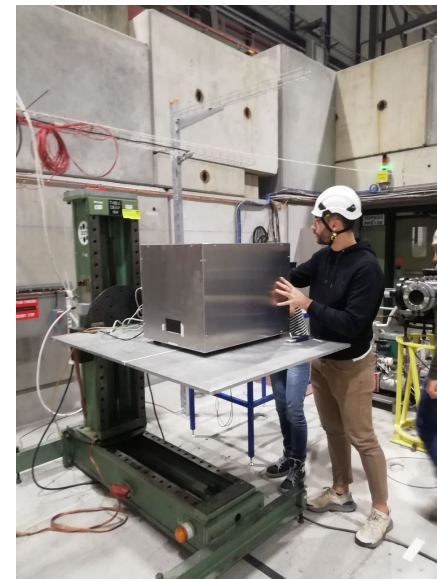
# Installed set-up in PPE138 (Mon)



Box with 7 ALPIDE planes and trigger scintillator

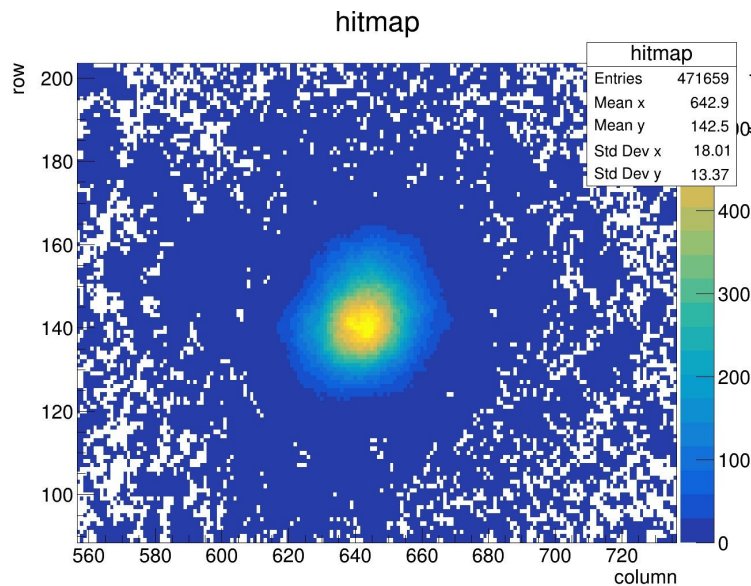


Power supplies



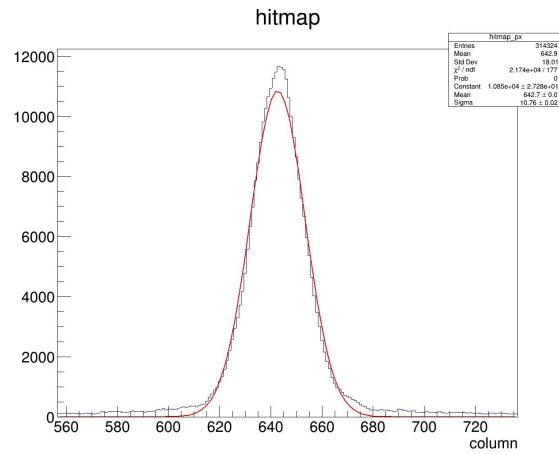
Box on DESY table

# Measurement of Pb beam profiles in PPE138 (Tue)

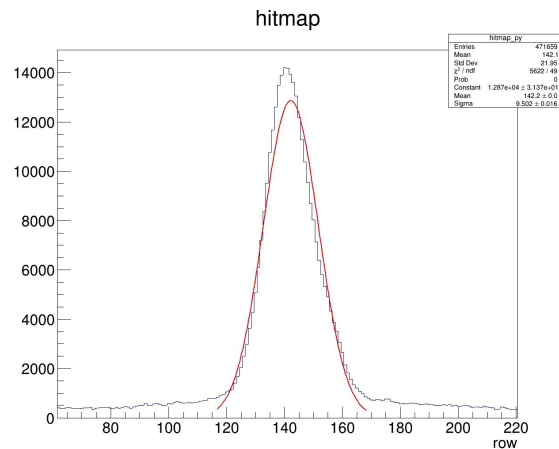


Pixel size: 28  $\mu\text{m}$

Spill up to  $\sim 5 \cdot 10^4$  Pb ions  
Good SPS efficiency!



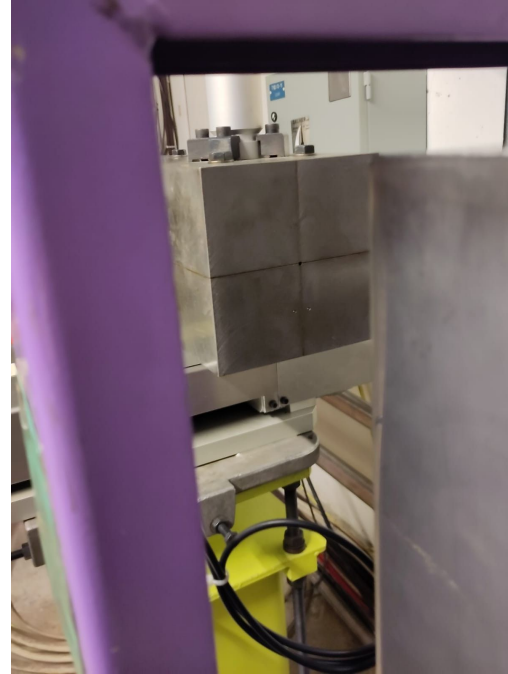
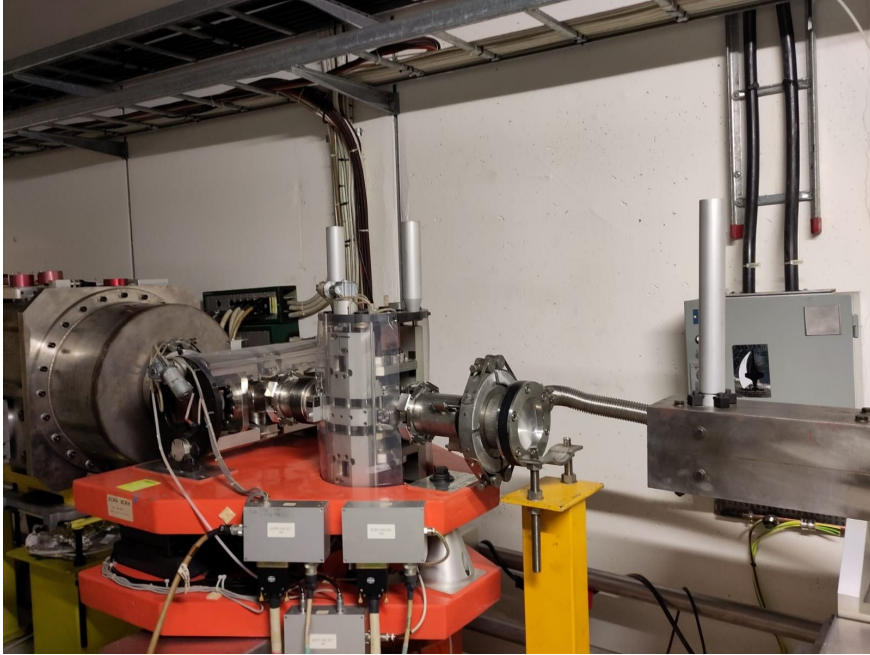
$\sigma_x \sim 300 \mu\text{m}$



$\sigma_y \sim 270 \mu\text{m}$

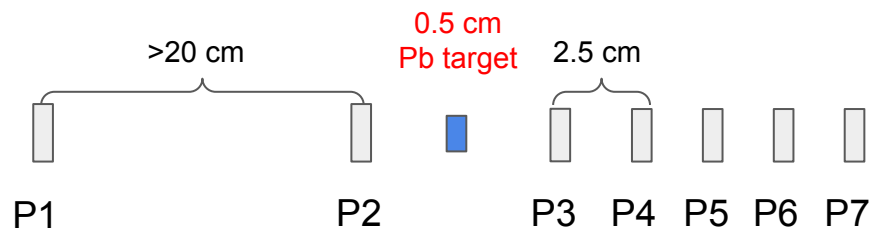
Thanks to Anna, Maarten, Johannes, Dipanwita and Alex!

## Installation of microcollimator (Wed)

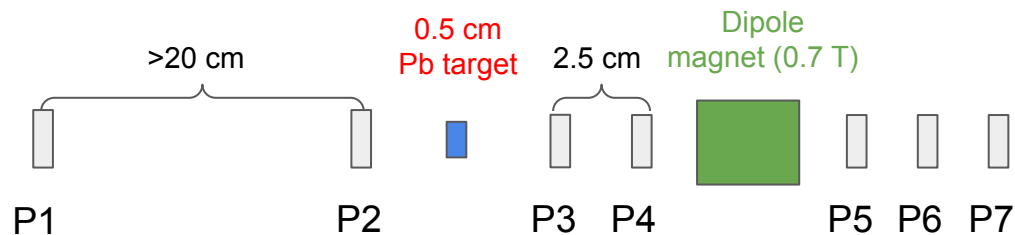


Studies with microcollimator optics started, beam unstable

# Measurement of charged hadron multiplicity



Set-up 1  
No magnetic field

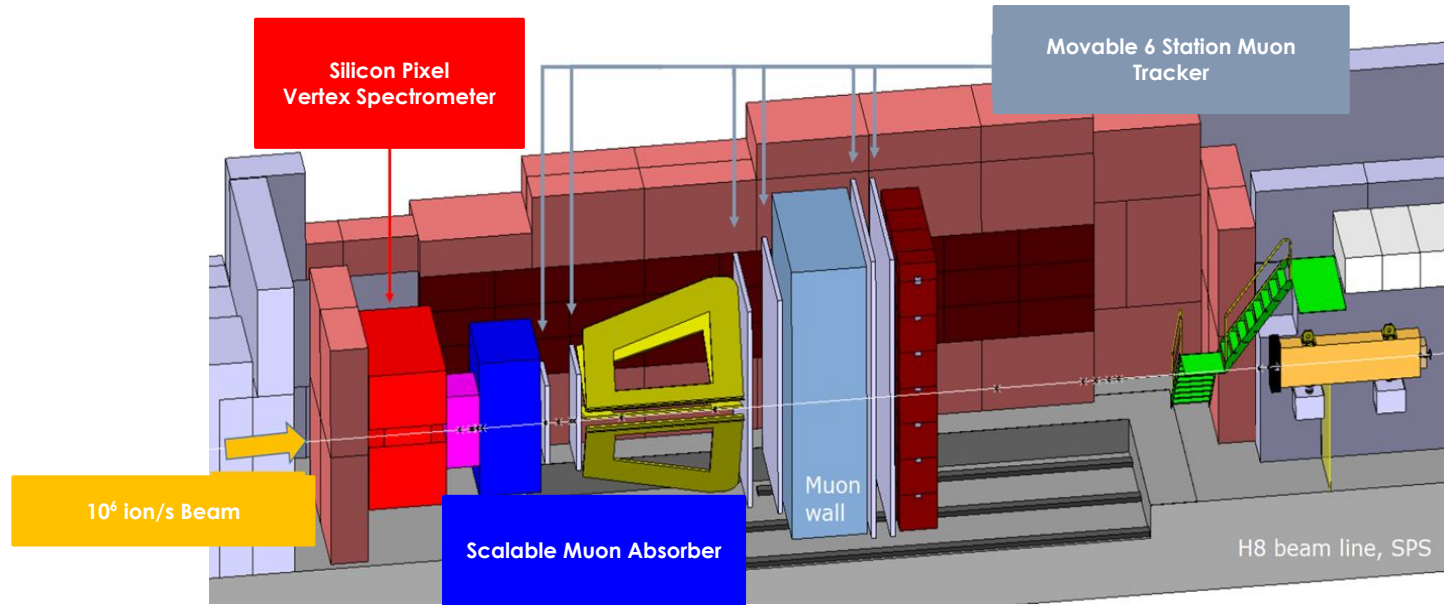


Set-up 1  
With magnetic field

Start when done with beam optics test, until the end of the period

Backup

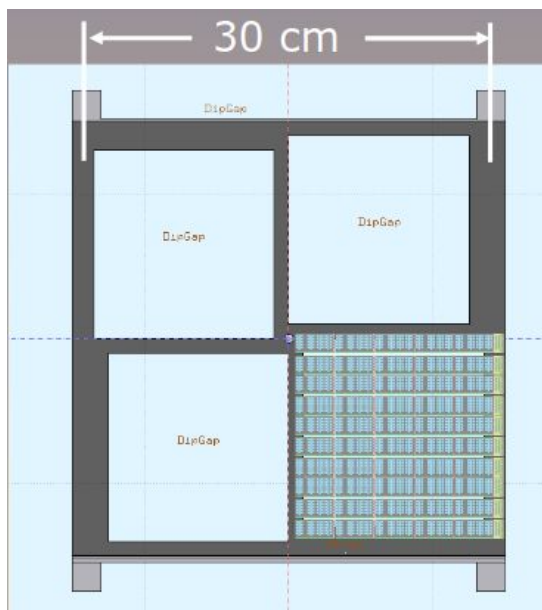
# The NA60+ project



- ❑ New SPS experiment studying e.m. and hard processes in Pb-Pb and p-A collisions with an energy scan
- ❑ Letter of Intent will be submitted to SPSC by the end of the year
- ❑ Project followed by PBC → integration and beam studies performed for installation in PPE138 (H8)

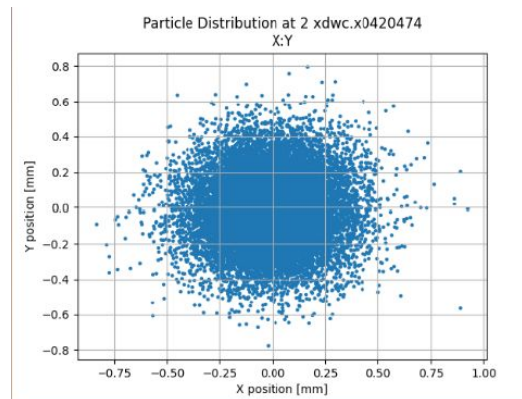
# Aim of the test beam in week 47

Vertex spectrometer → 5 planes of large MAPS detectors  
Each plane has a central square hole  $6 \times 6 \text{ mm}^2$   
→ Need a sub-mm ion beam



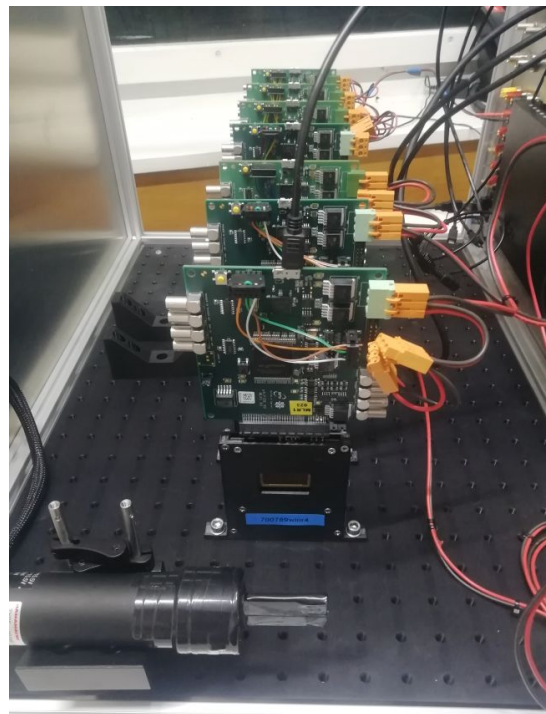
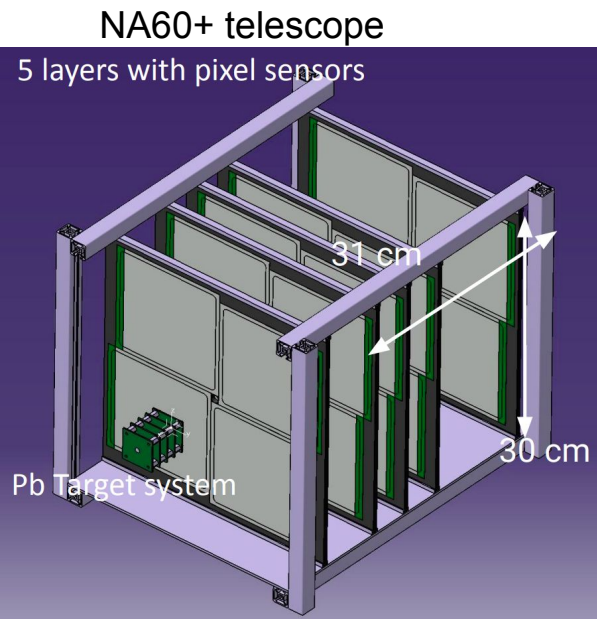
Perform a first test of beam optics that were prepared in 2021 (A. Gerbershagen)

Parameter in zone 138	160 GeV/c	30 GeV/c
$\sigma_x$ (mm)	0.19	0.33
$\sigma_y$ (mm)	0.19	0.36
Transmission from T4 (%)	32.43	23.5





# Layout for the test (being prepared)



Box 45x60x45 cm<sup>3</sup>, containing  
7 planes of ALPIDE Si sensors 3x1.5 cm<sup>2</sup>  
1 plastic scintillator for triggering

Eventually  
1 Pb target 0.5 cm thick  
1 small dipole magnet  
for a measurement of the charged multiplicity in  
Pb-Pb

