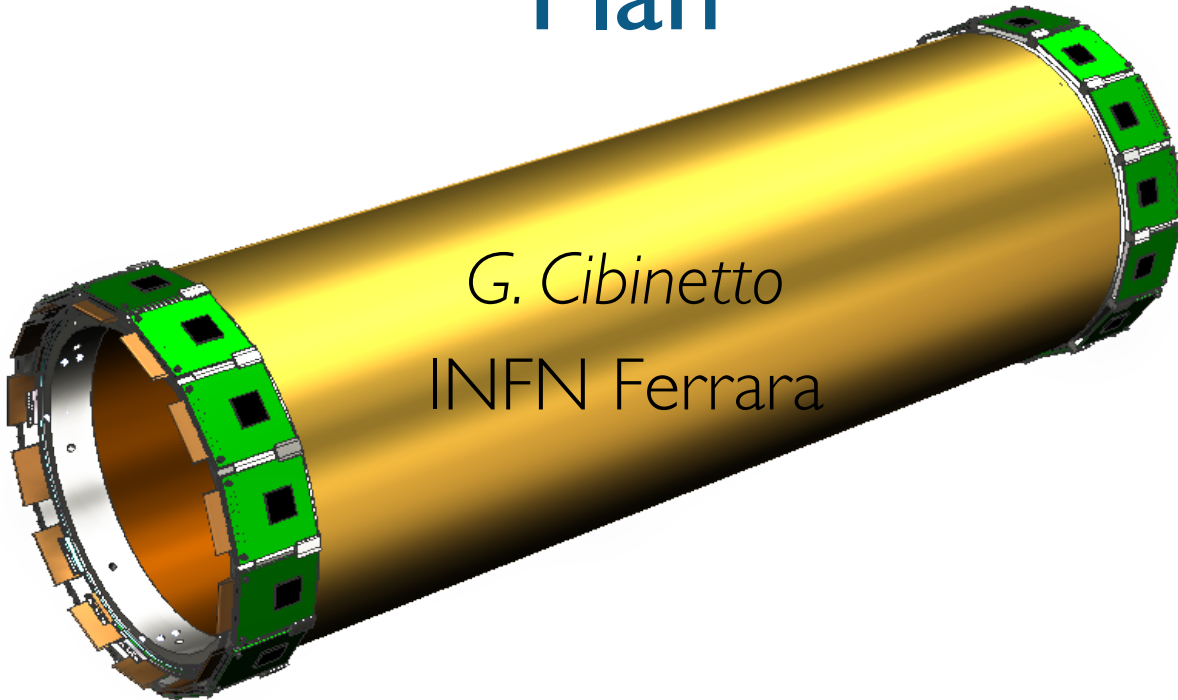




Few words about the Beam Test Plan



G. Cibinetto
INFN Ferrara

Outline

- Why
- What
- Where
- How
- When
- Who



Why

Purpose of beam test(s)

- Validate GEM analog readout in magnetic field.
- Validate Garfield simulation and extract useful information for hit digitization.
- Validate the BESIII anode.

What

Some possible measurements to perform

- Spatial resolution as function of the magnetic field
- Cluster size as function of the magnetic field
- Perform the same measurements at different gain
- Other measurements:
 - efficiency
 - different gas mixture

Where

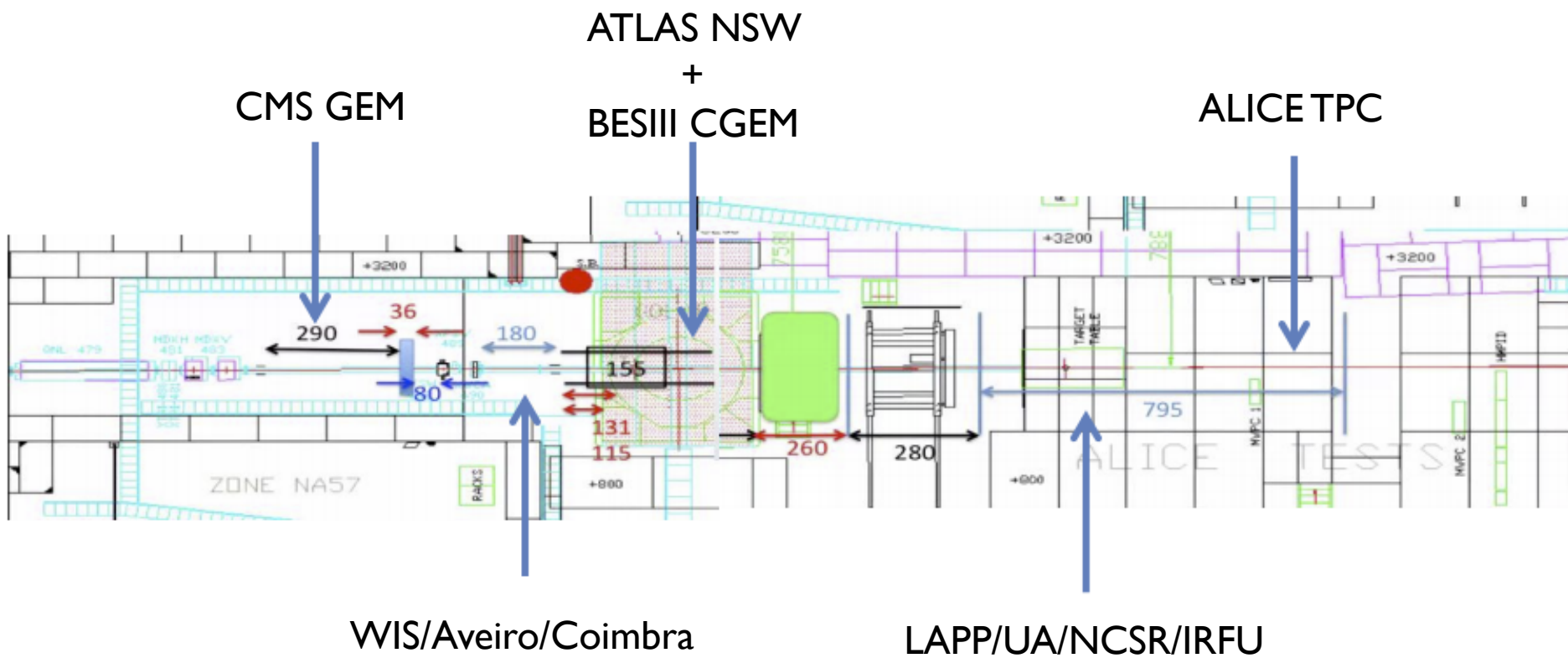
RD51 common test beam infrastructure at H4 CERN beam line

- ☐ In H4 beam line, used a few weeks per year

Common infrastructure in:

- ☐ Support mechanics
- ☐ Large magnet (Goliath)
- ☐ Gas system
- ☐ Cables, trigger
- ☐ Reference tracker
- ☐ HV, Electronics

Preliminary layout



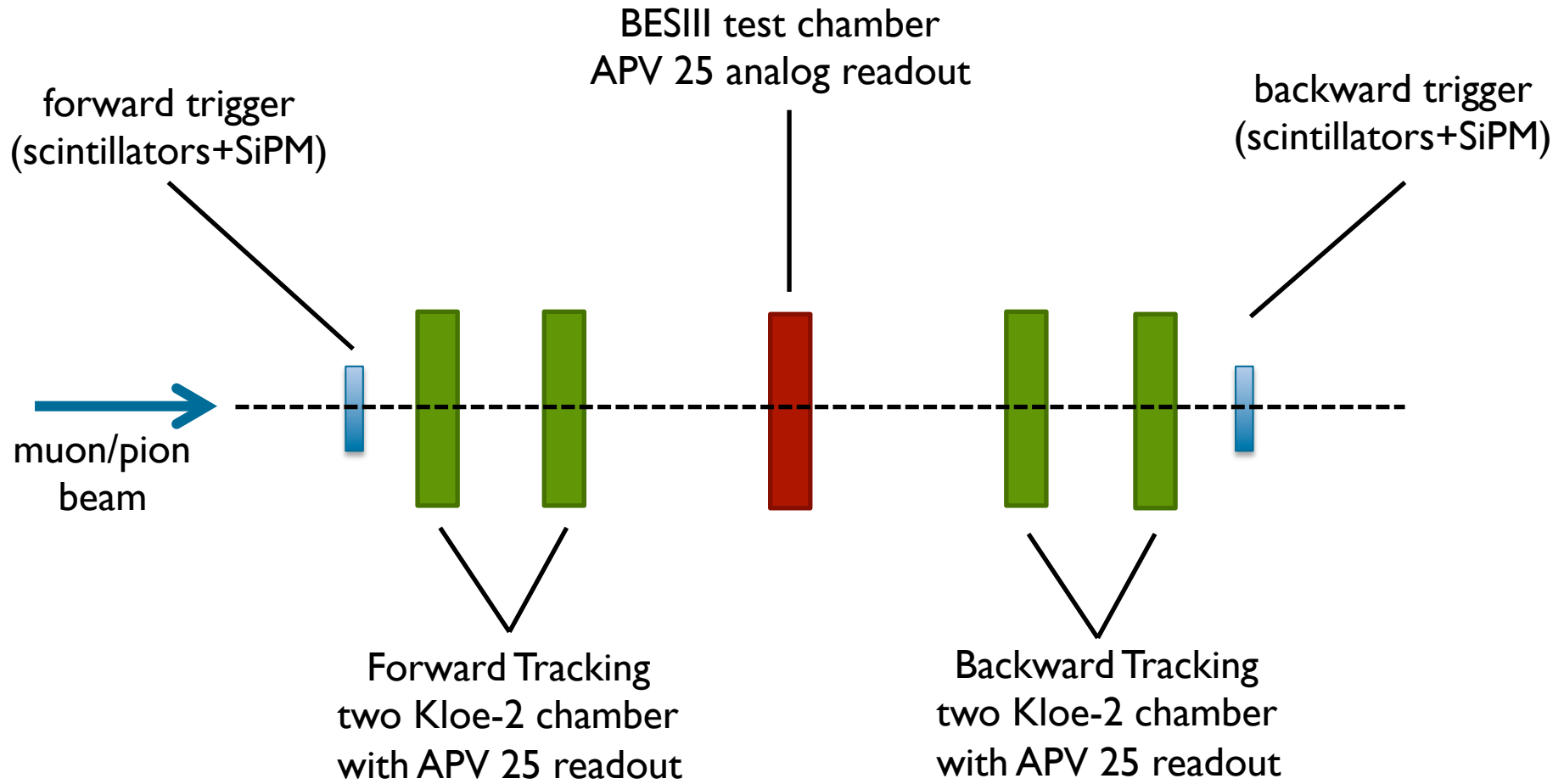
H4 line



How



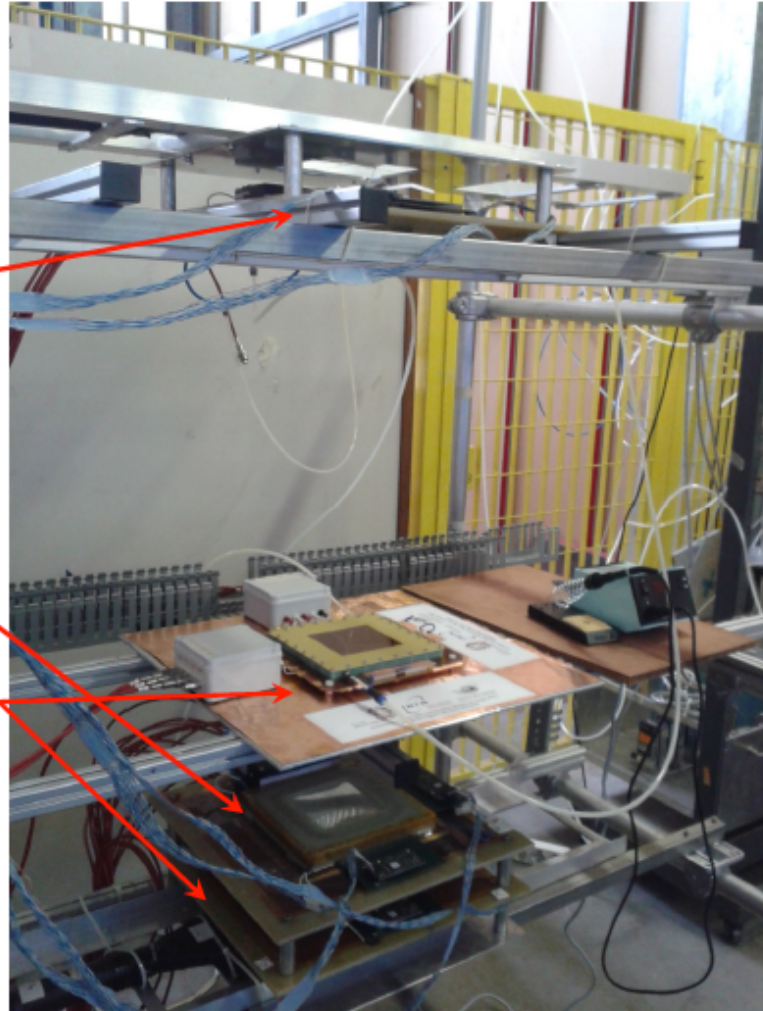
BESIII beam test setup



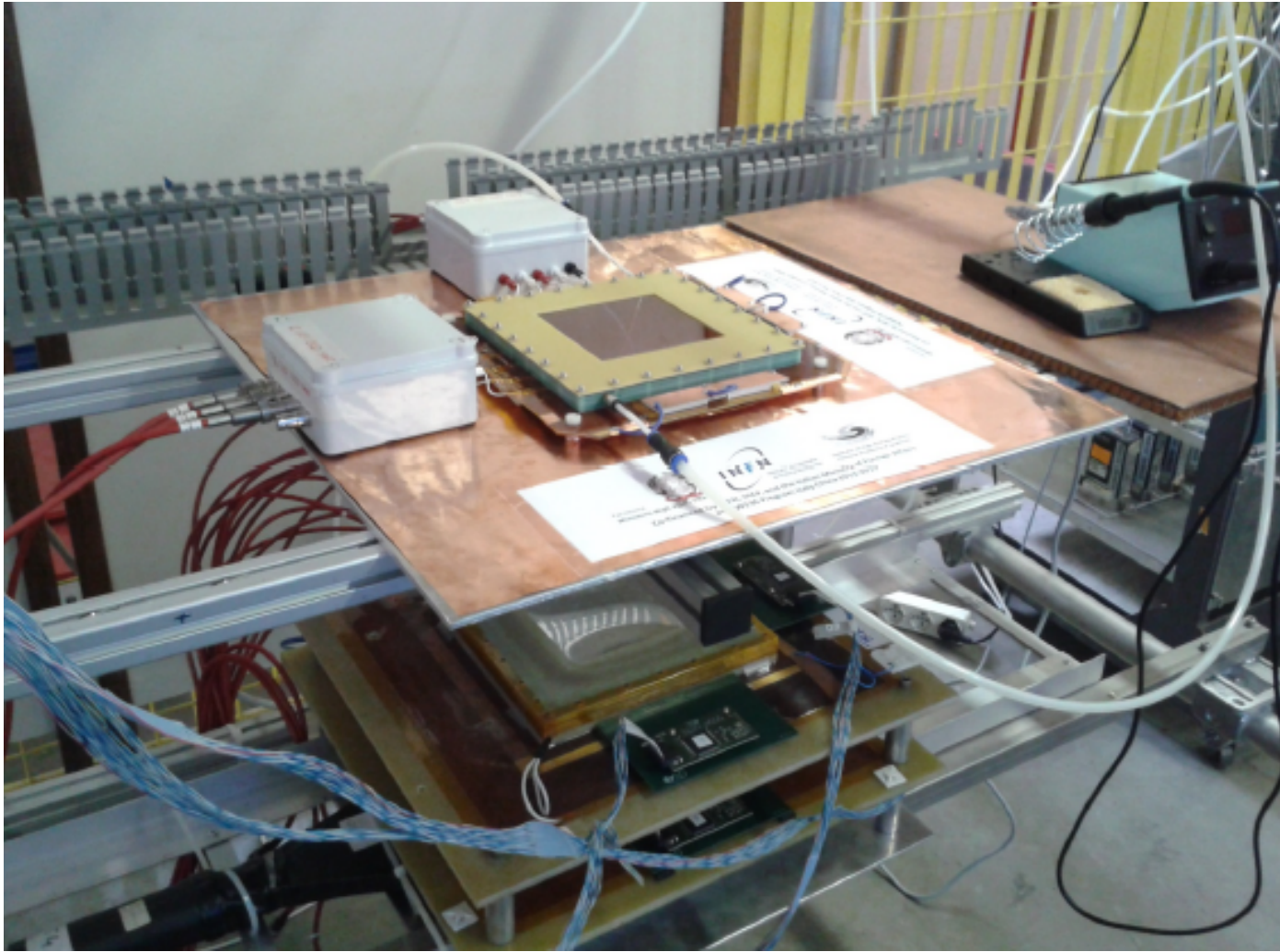
The cosmic setup @ LNF

3 KLOE-type tracking chambers

One BESIII-(COMPASS)-type test chamber

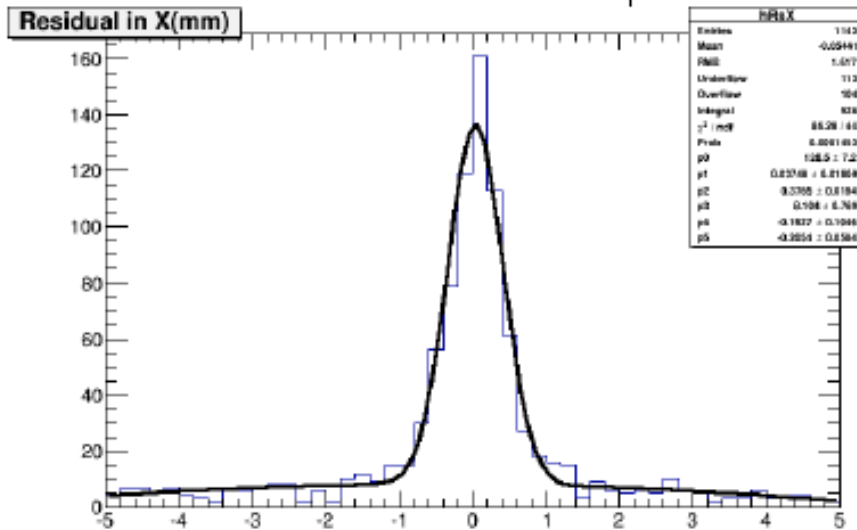


The cosmic setup @ LNF



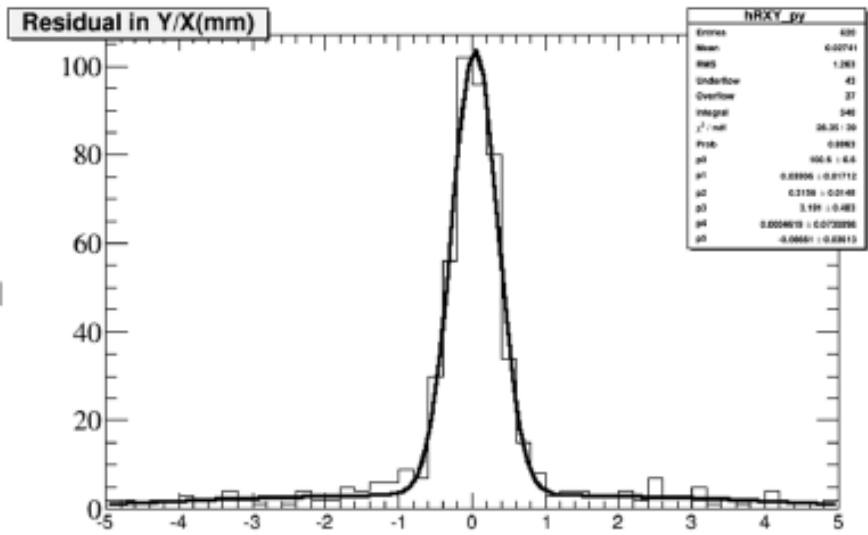
Cosmic data: Spatial resolution

with digital readout



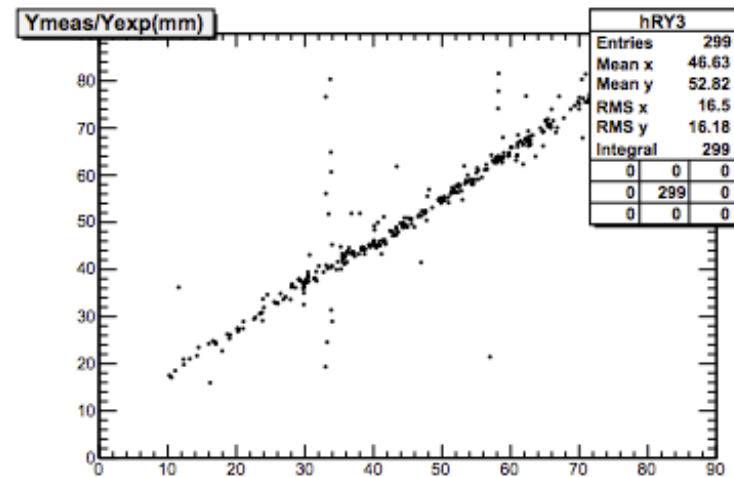
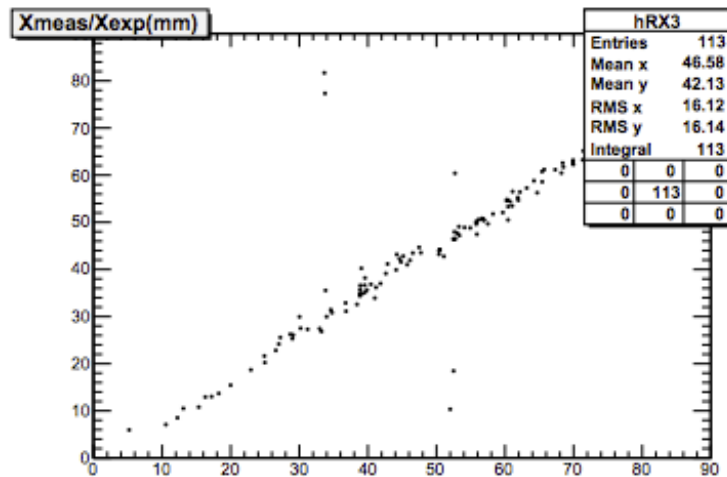
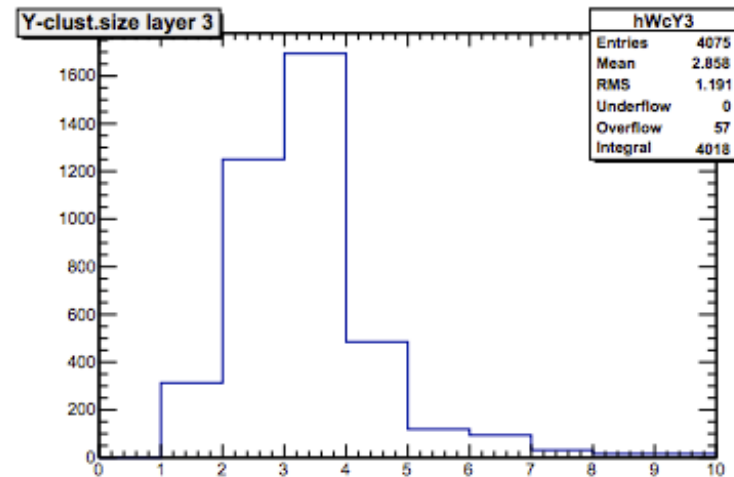
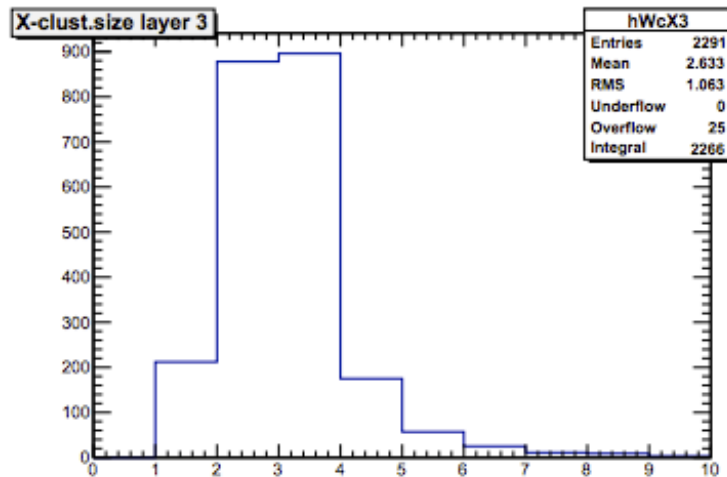
$$\sigma_x = (402 \pm 23) \mu\text{m}$$

$$\sigma_y = (316 \pm 15) \mu\text{m}$$



courtesy of Sandro Calcaterra

Cosmic data: Cluster size



courtesy of Sandro Calcaterra

When/Who

Beam Test Schedule

- Beam test will start on Nov 26 and end on Dec 14.
- Frascati and Ferrara are involved in the installation and data taking.