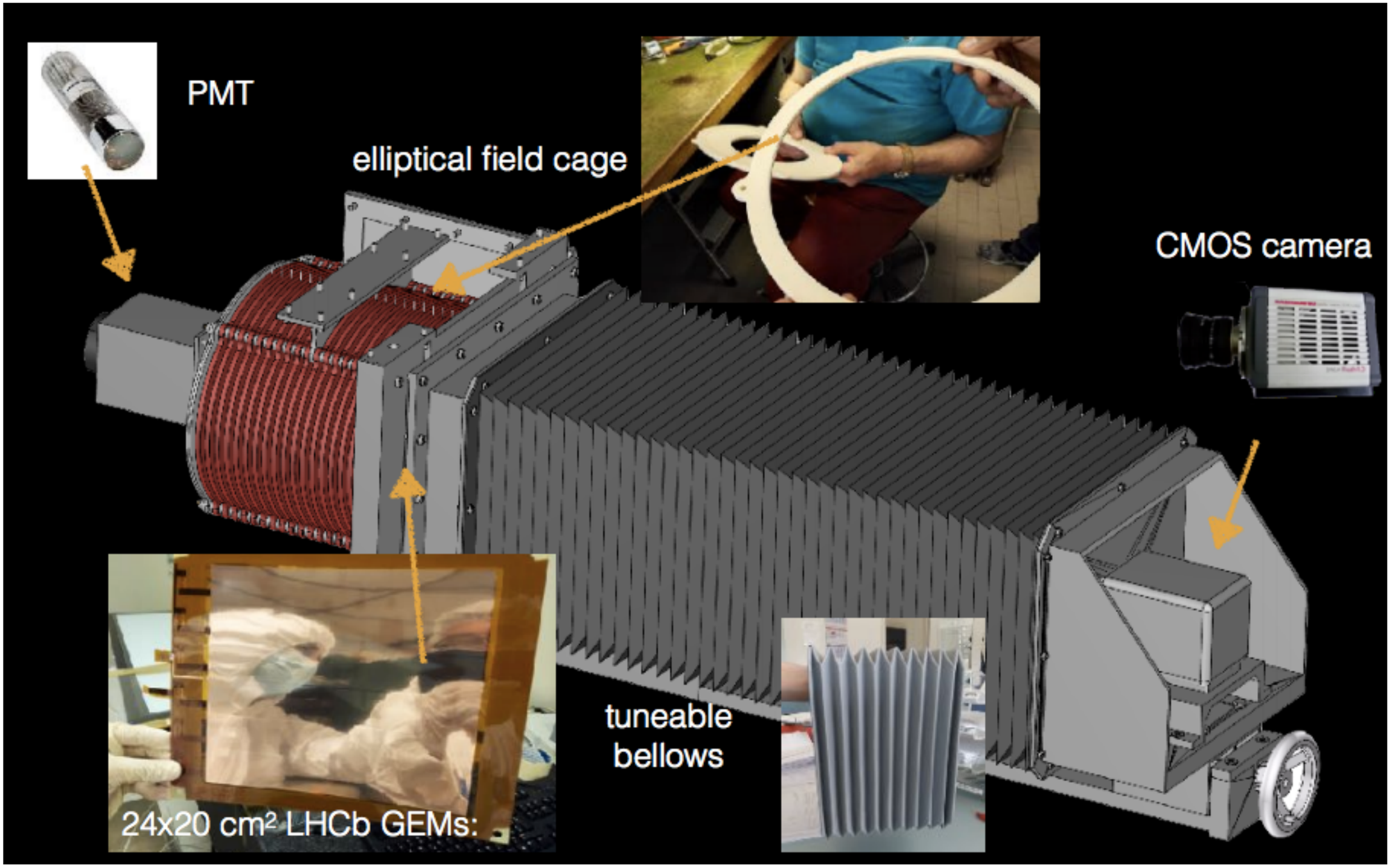
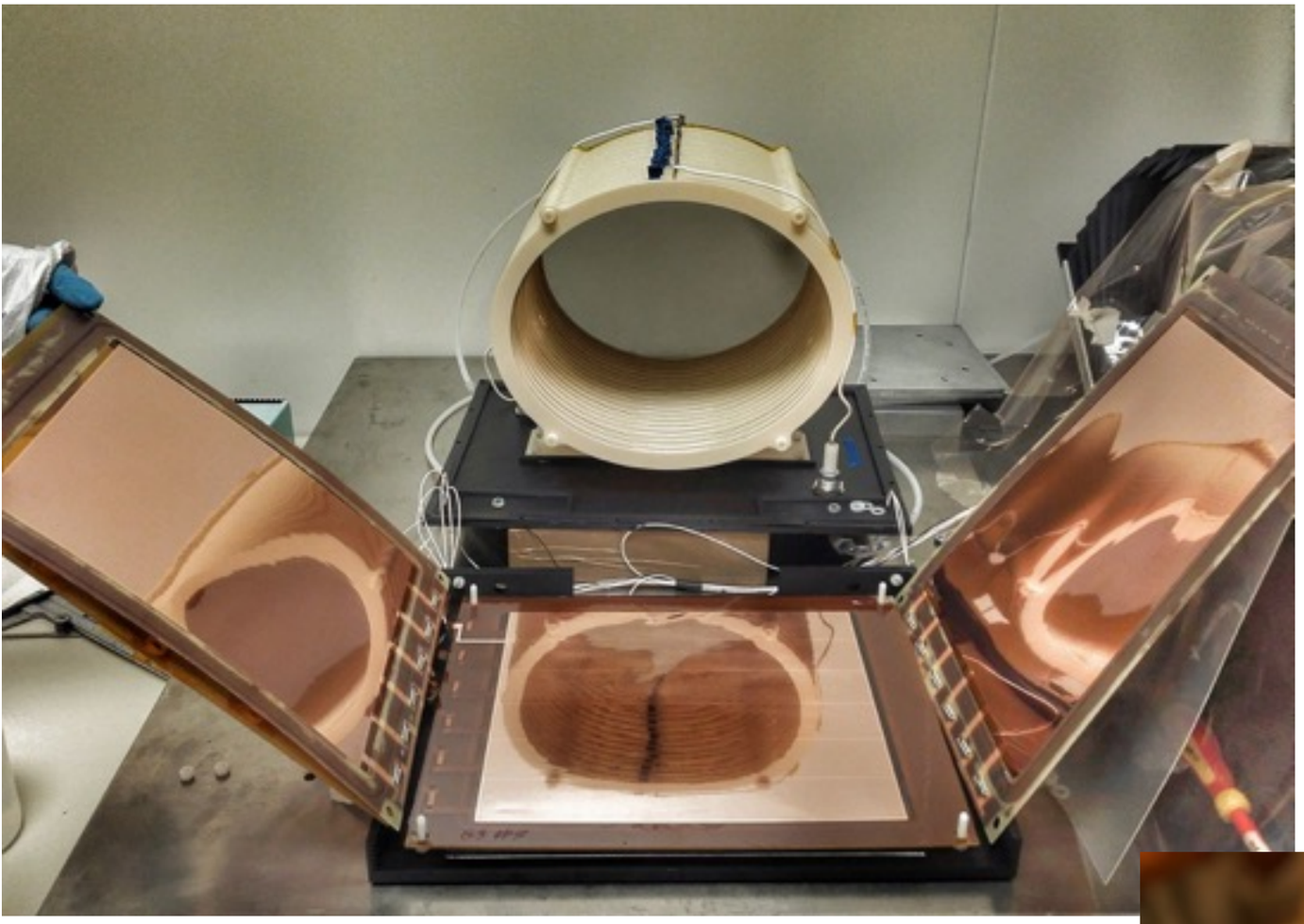
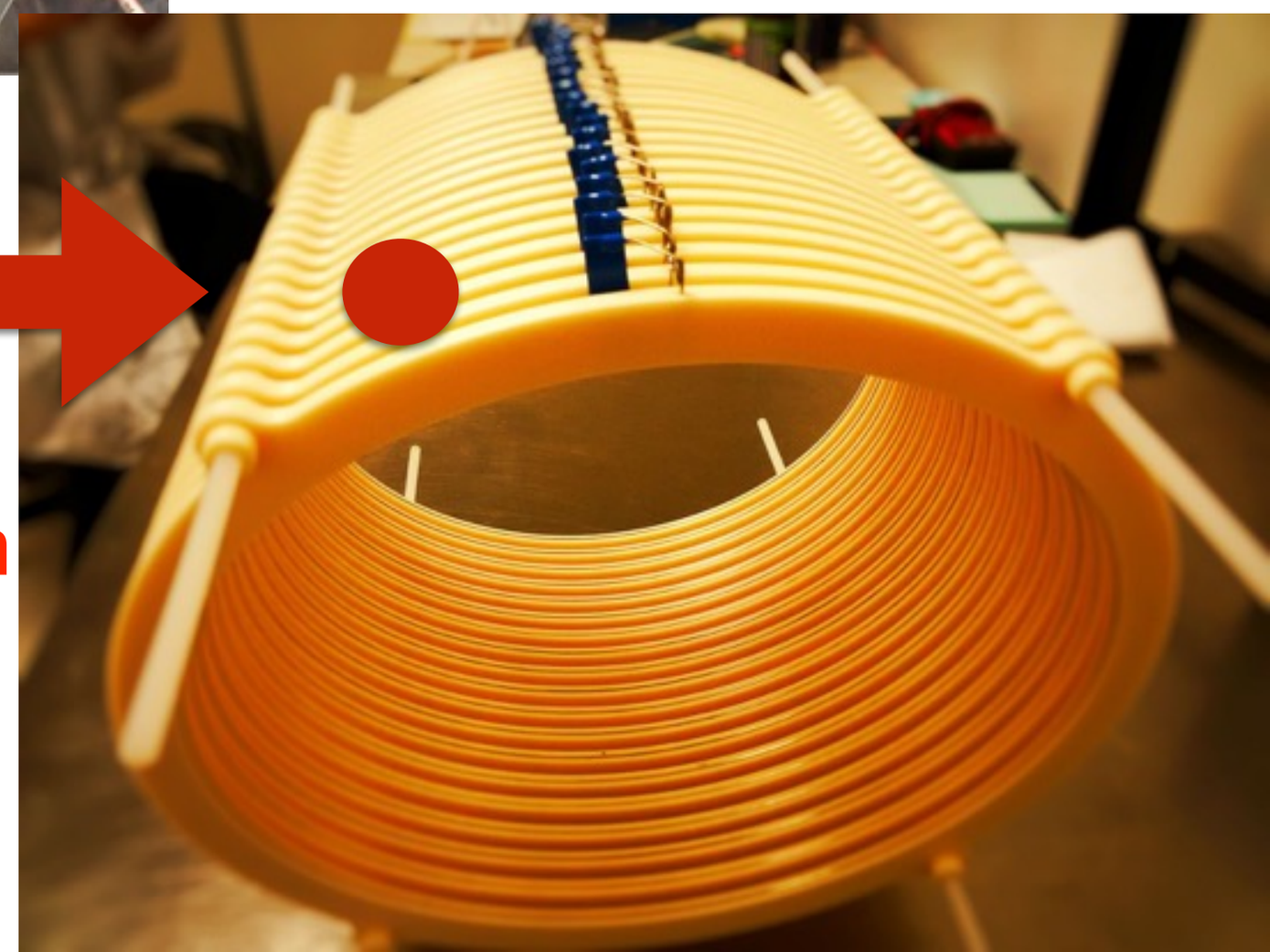
LEMOn: Large Elliptical Module Optically readout



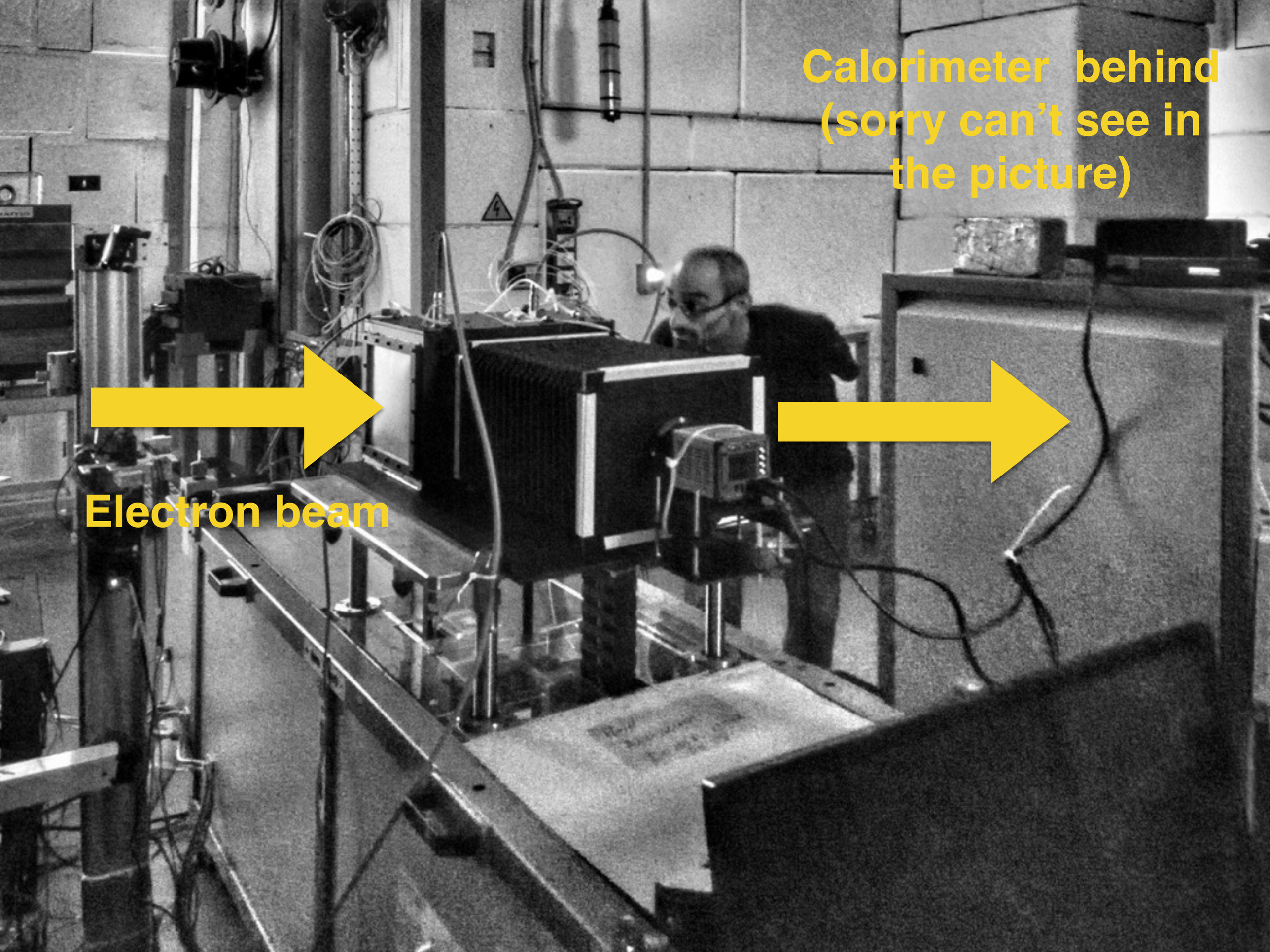
VERY VERY PRELIMINARY



20 cm drift distance



Alpha source (not in the picture)


Calorimeter behind (sorry can't see in the picture)
Electron beam

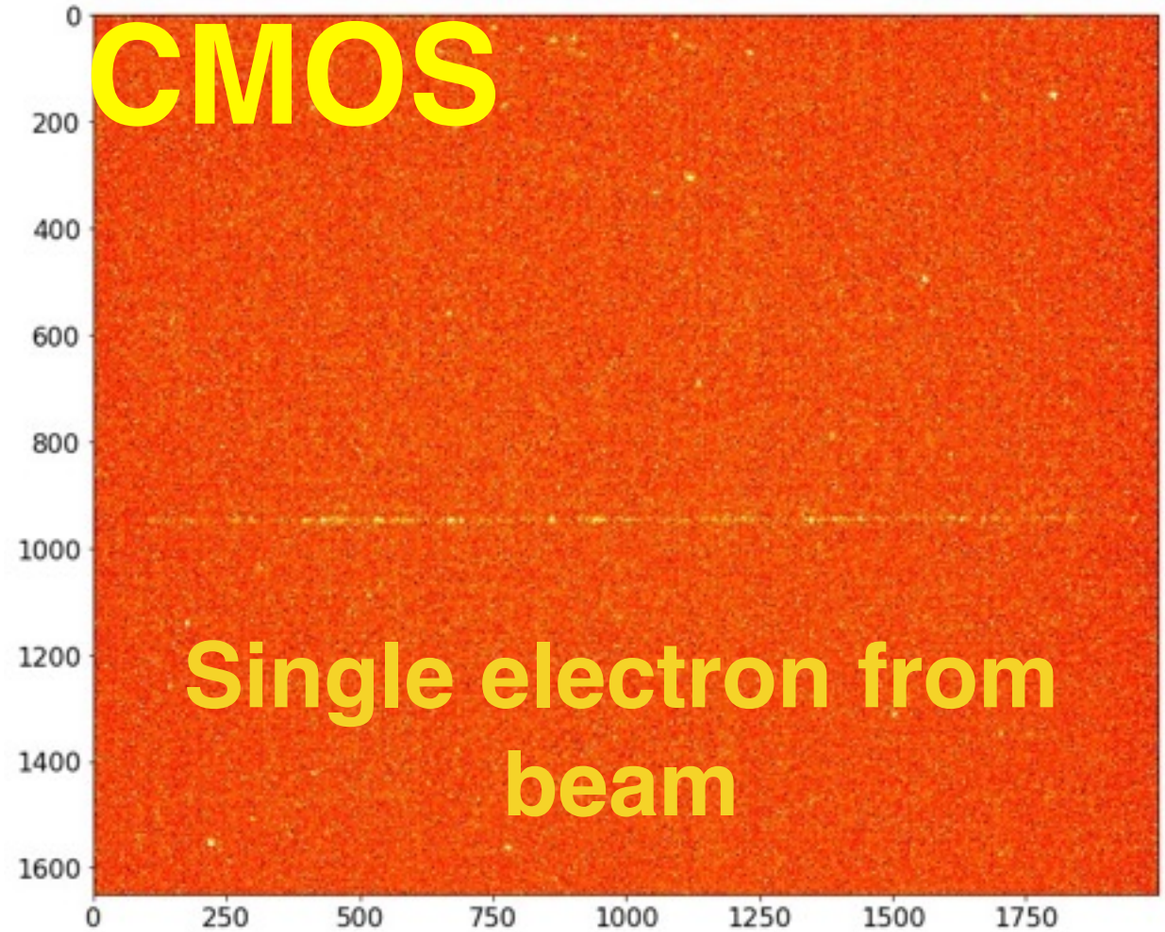
- **Characterisation of the prototype with He:CF4**

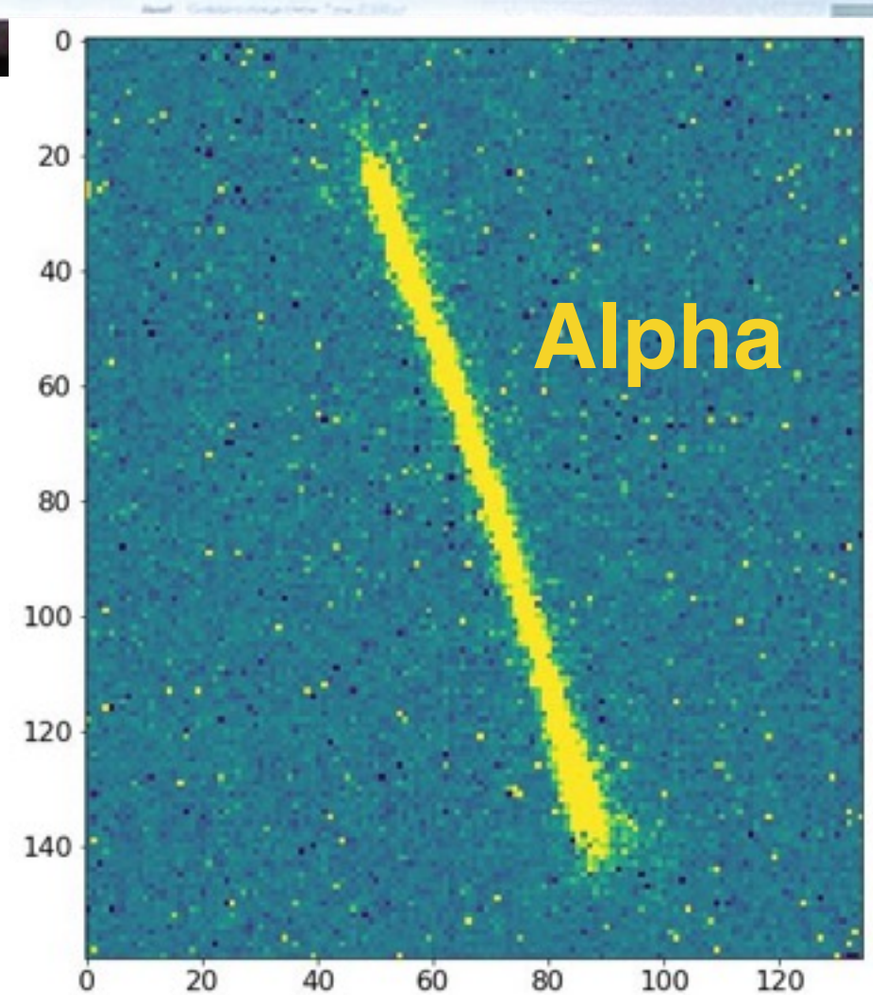
  - ATMOSPHERIC PRESSURE
  - High multiplicity mainly (from ±400 to ±250 electrons), but also single tracks data
  - Drift distance scan
  - X-Y position scan
  - Drift field scan
  - Tilted tracks (single particle), various angles
  - Primary scintillation data with PMT as well
  - Secondary scintillation from GEM amplification as well
    - With one, two and three GEMs ON
    - Secondary scintillation in GEMs seen from PMT comes mainly from first GEM

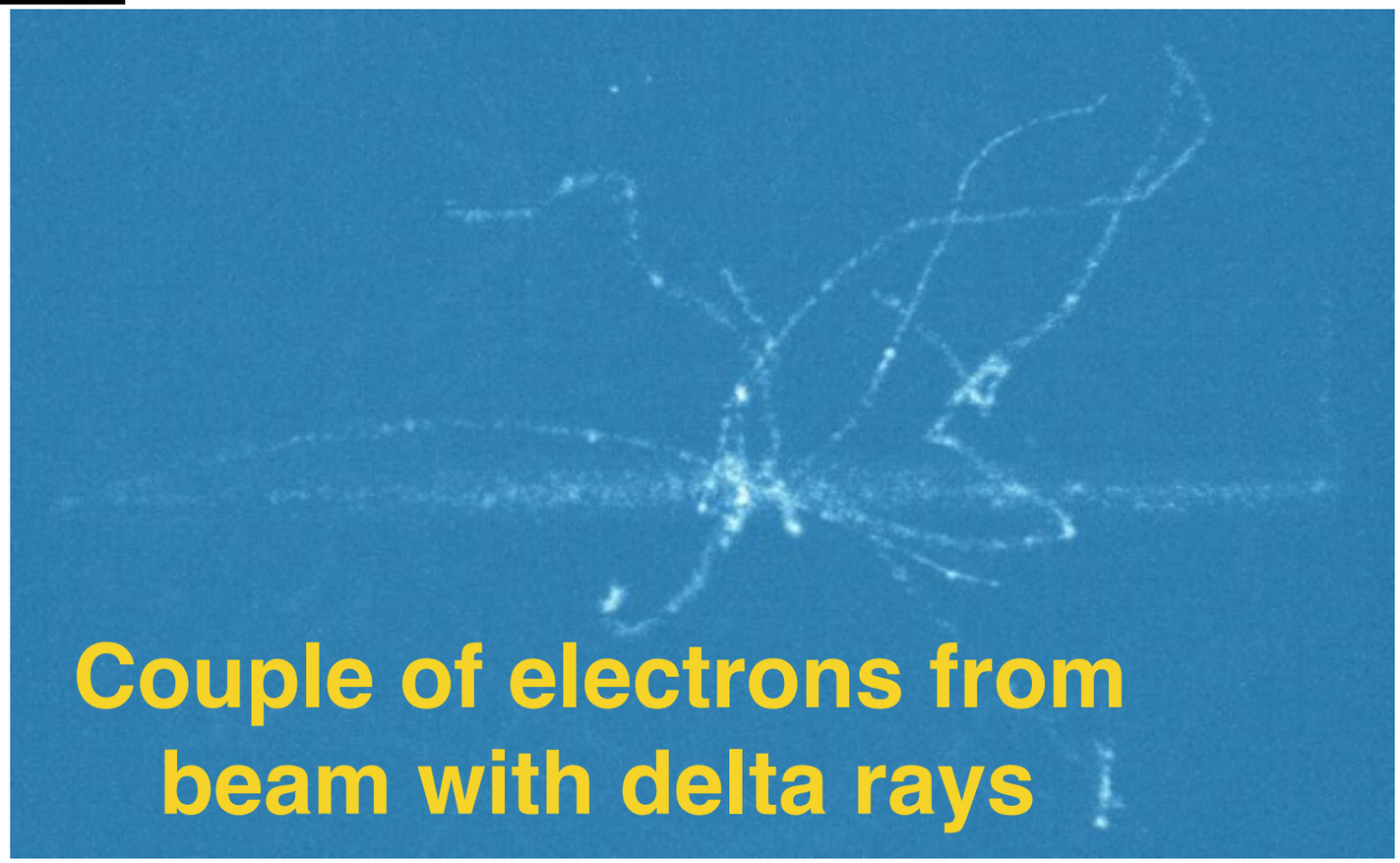
- **DATA ANALYSIS ON GOING**

- **First tests with He:CF4:SF6 (only last day)**
  - ATMOSPHERIC PRESSURE (LEMOn not in the vessel)
  - 0.6% and 1.6% SF6 concentration
  - Could not reach amplification in GEMs due to sparks and broke one GEM
  - Still, we did took some primary scintillation light data with high multiplicity (250 and 400 electrons)
- **DATA ANALYSIS ON GOING**

Cosmic ray


CMOS
Single electron from beam
0
200
400
600
800
1000
1200
1400
1600
0
250
500
750
1000
1250
1500
1750


Alpha
0
20
40
60
80
100
120
140
0
20
40
60
80
100
120


Couple of electrons from beam with delta rays

To do/on going

- Data analysis
- GEM refurbishing
- Perform new test with SF6 at lower pressure inside vessel, with both LEMOn and NITEC