

Micromegas TPC: Plans for the next two years

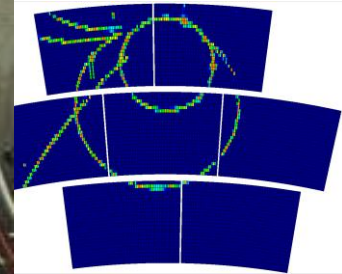
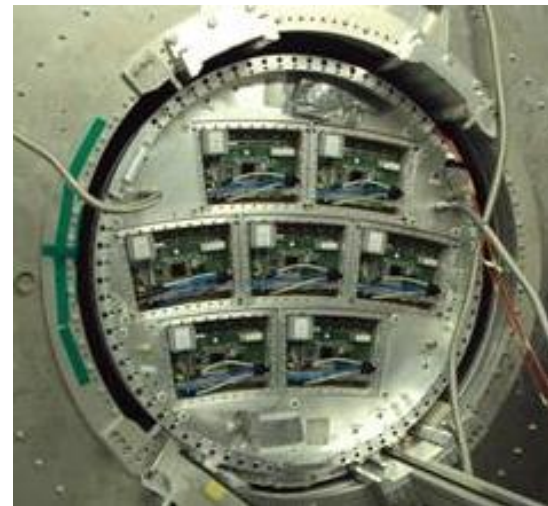
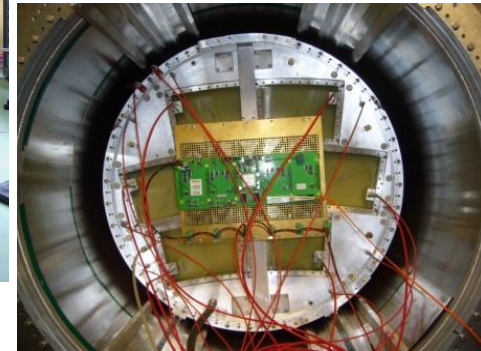
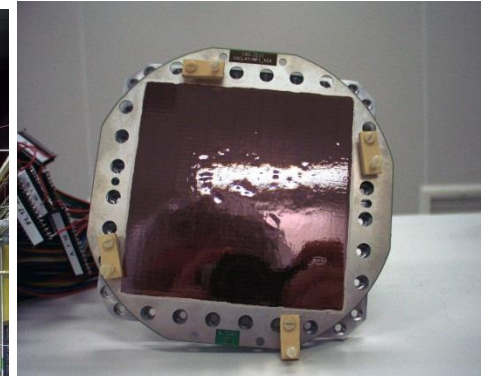
Paul Colas

2002-2005 : feasibility study, 1000 channel TPC in 2T at Saclay

2005-2007: beam tests at KEK, with and without resistive foil

2008-2011: Large Prototype, 1 module at a time at the center

2012-2013: 6 and 7 modules covering the TPC.



February 2014: 2-phase CO₂ cooling (see D. Attié's talk)

Improved pad connection

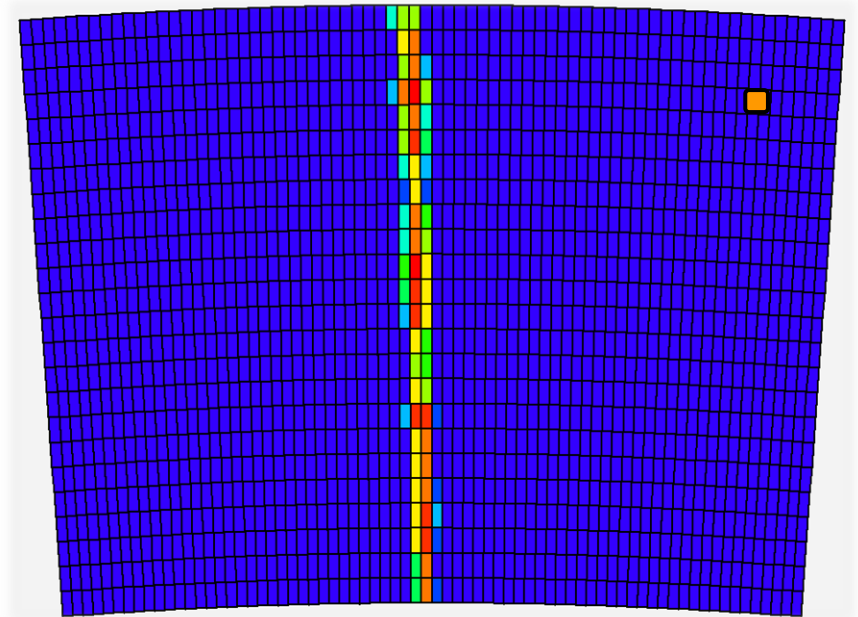
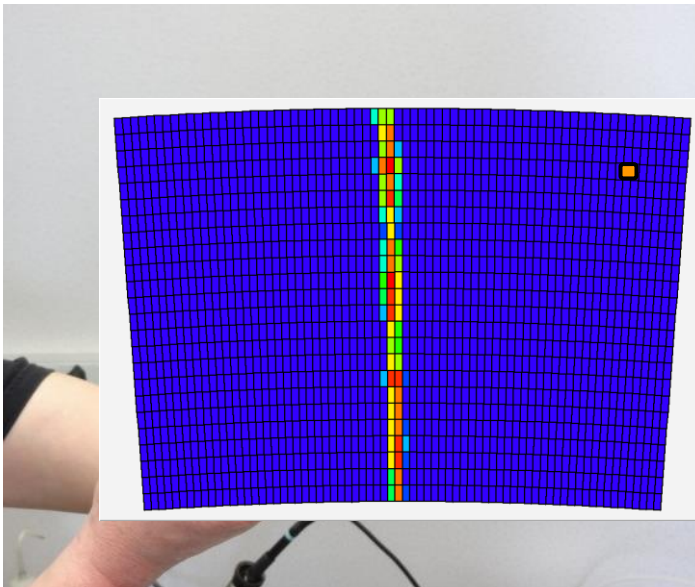
Improved zero suppression

Module size: 22 cm × 17 cm

24 rows × 72 columns

Readout: 1726 Pads

Pad size: ~3 mm × 7 mm



Longer term

- Prepare for the technology choice in 2-3 years (Micromegas / double GEM / triple GEM...)
- Simulations for the case: 2-track separation, pad size optimization, effect of resistive foil
- Complement ILD design
- Continue R&D toward other resistive coatings, make a larger prototype with smaller pads (but with which electronics?)
- prepare for an ion backflow distortion test (UV lamp with nominal time structure)
- Work on ILD TPC electronics design (65 nm?)