

# **Large Area GEM Detectors for Muon Tomography:**

## **Activities at CERN**

# Quick summary

- We (mainly Amilkar) have 3 more detectors assembled to make it 6 total (see pictures next slides)
- We prepared 6 HV divider board, solder the resistors, cleaning and coating for protection. 3 already assembled to 3 detectors (GEM foils strips soldered to the board, see pictures)
- Got the DAQ system in place and start testing both the LabView code and the VME modules (sequencer, C-RAMs etc ...)
- Launch the production of the Panasonic-Samtec adapters
- We damaged 5 foils (2 detectors) and are trying to recover them with the help of Rui

# 6 Assembled GEM Detectors

## 3 first assembled GEMS (06/09):

- Panasonic connectors (06/09)
- Gas connectors and tube (06/09)
- HV boards with soldered GEM foils (10/09)

Ready for X ray source test (thursday)

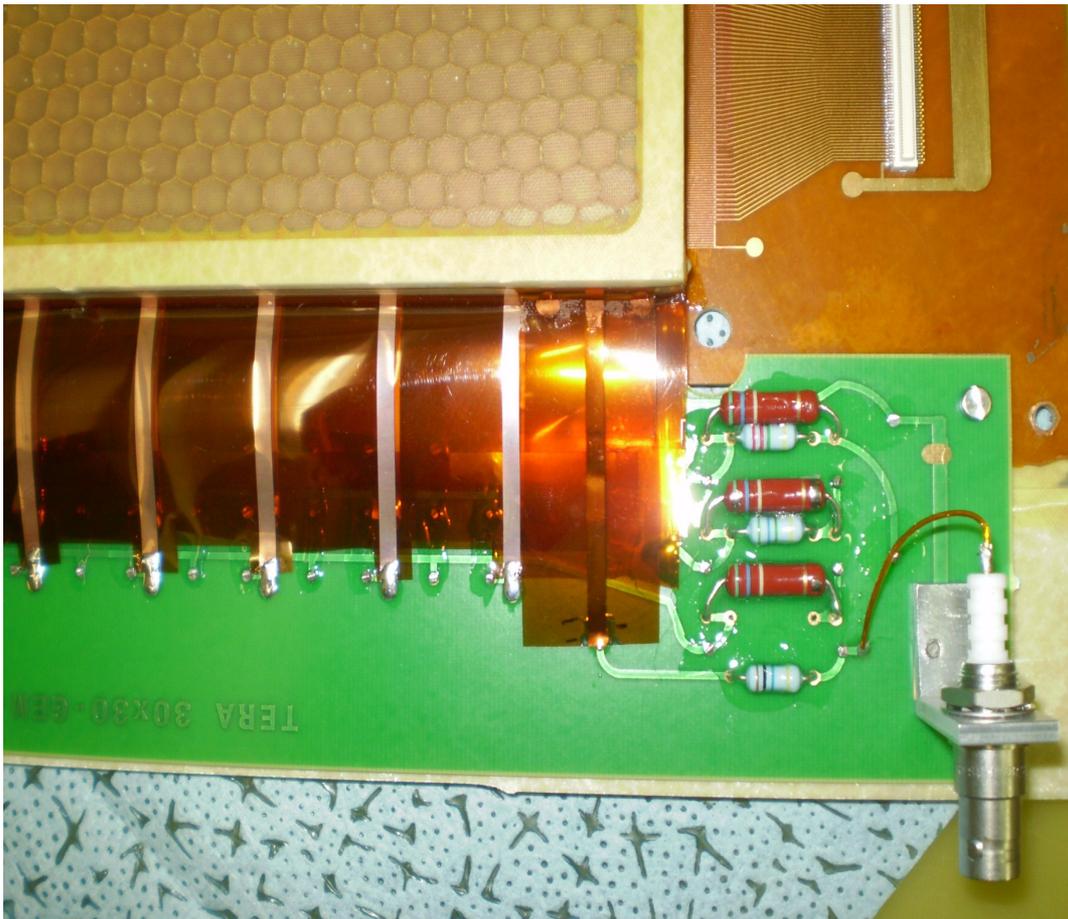
## 3 more assembled GEMS (10/09):

- No Panasonic connectors yet
- Gas connectors and tube (10/09)
- HV boards, foils not soldered yet (10/09)



# Mounted HV board

Close view of segmented foil strips soldered on the HV board, with the HV connectors



Back plane of a chamber showing the resistor divider for the HV and the mechanical attachment of the board on the detectors



# The VME based DAQ

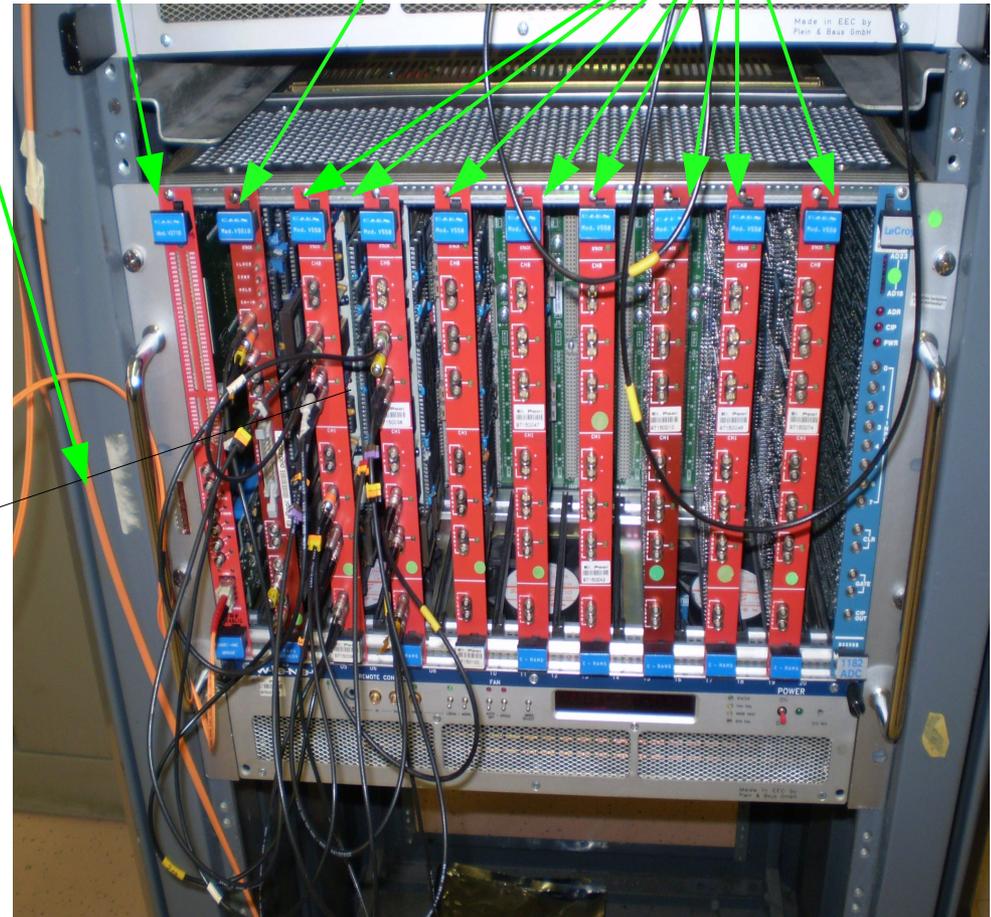
Our setup

Sharing the VME rack with  
RD51 test beam group

Fiber optic cable  
to the Labview PC

8 CRAMs V550

Controller Sequencer V551



## To do this week (and next week?)

- Ship assembly part for 2 detectors to Florida Tech (Tuesday ...)
- Solder the HV to the 3 new chambers (Tuesday)
- Start testing the 3 first chambers under Fe55 and Xray
  - (Wednesday, Thursday ...)
- Send the 3 new chambers to the PCB to solder the P5KS
  - We need to buy more Panasonic connectors
- Make progress in the Labview code debugging and DAQ testing
- Check with Rui if he manage to recover the 5 damage foils
  - If so, will assembly one more triple GEM and one double GEM
- Change my flight to stay one more week here to complete the job