MaPSA-Light test beam

Kevin Nash

The System

MAPSALight Assembly (6MPALight on a sensor) bonded to the carrier board

Test board

The GLIB

Communicates with IP bus

Ethernet Cable

FMC Breakout card to bring the trigger and 53MHz clock
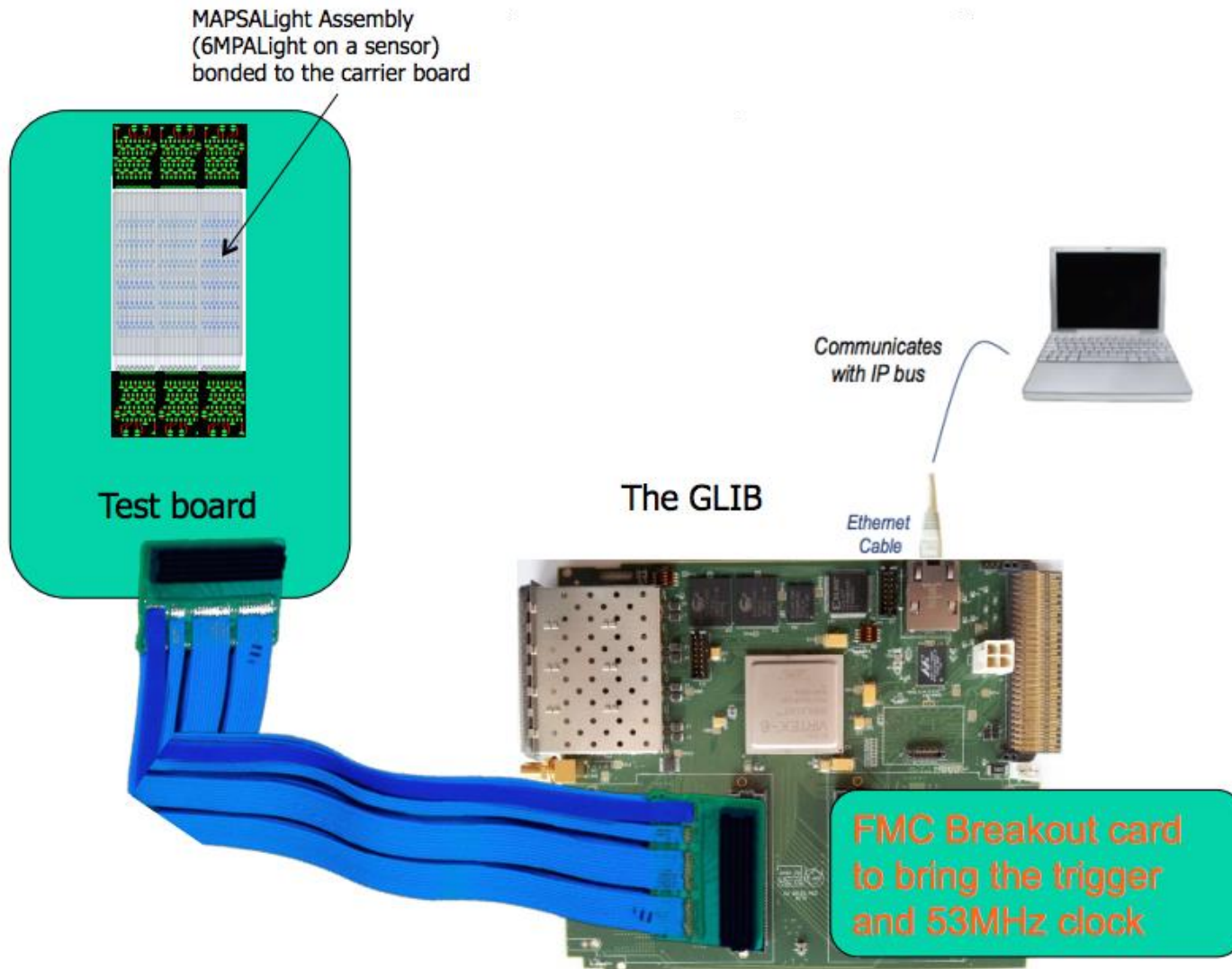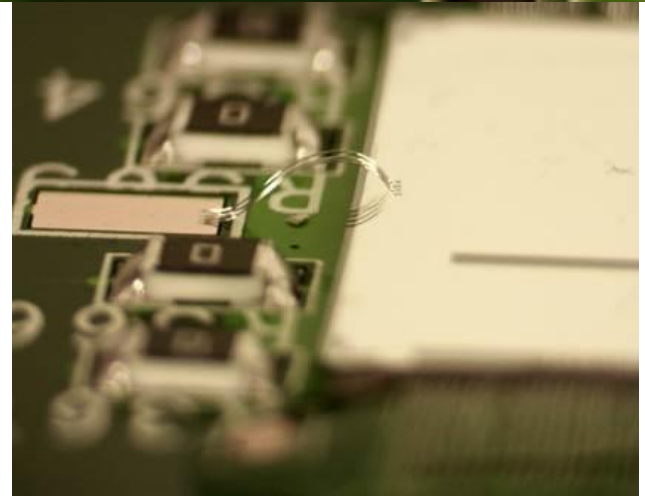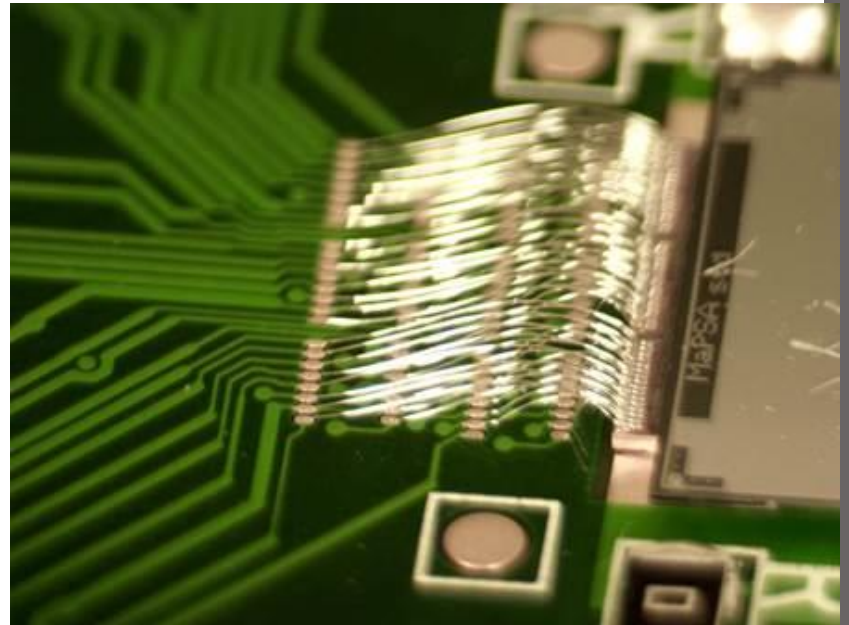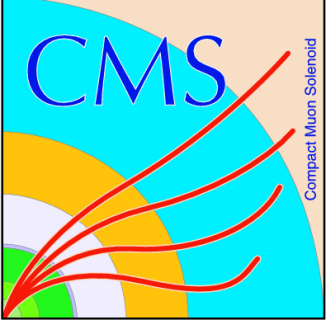
The System

Test Board
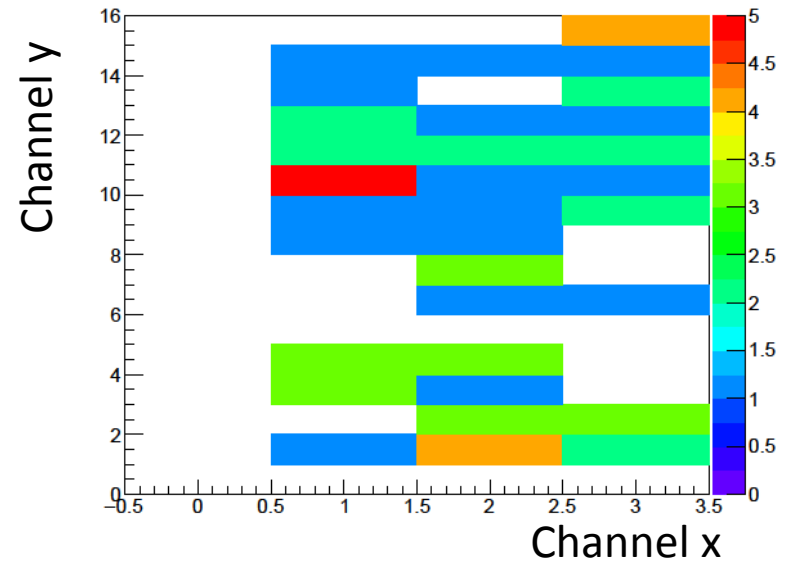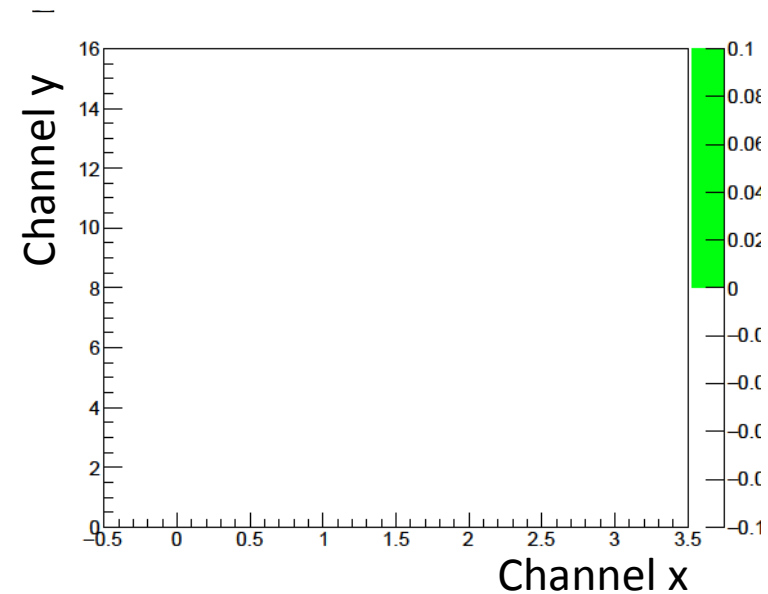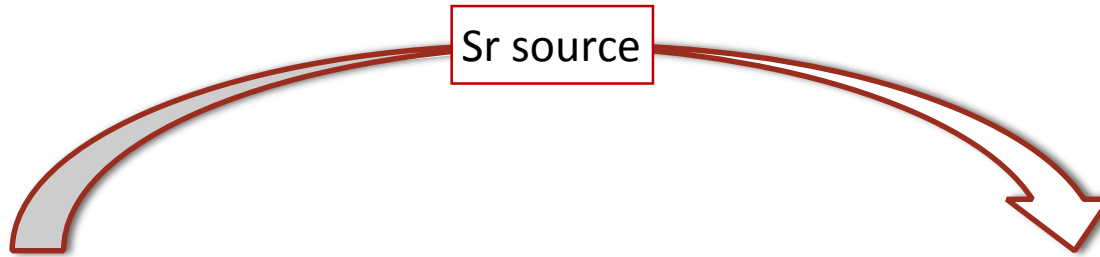and
Carrier Board
from Cornell
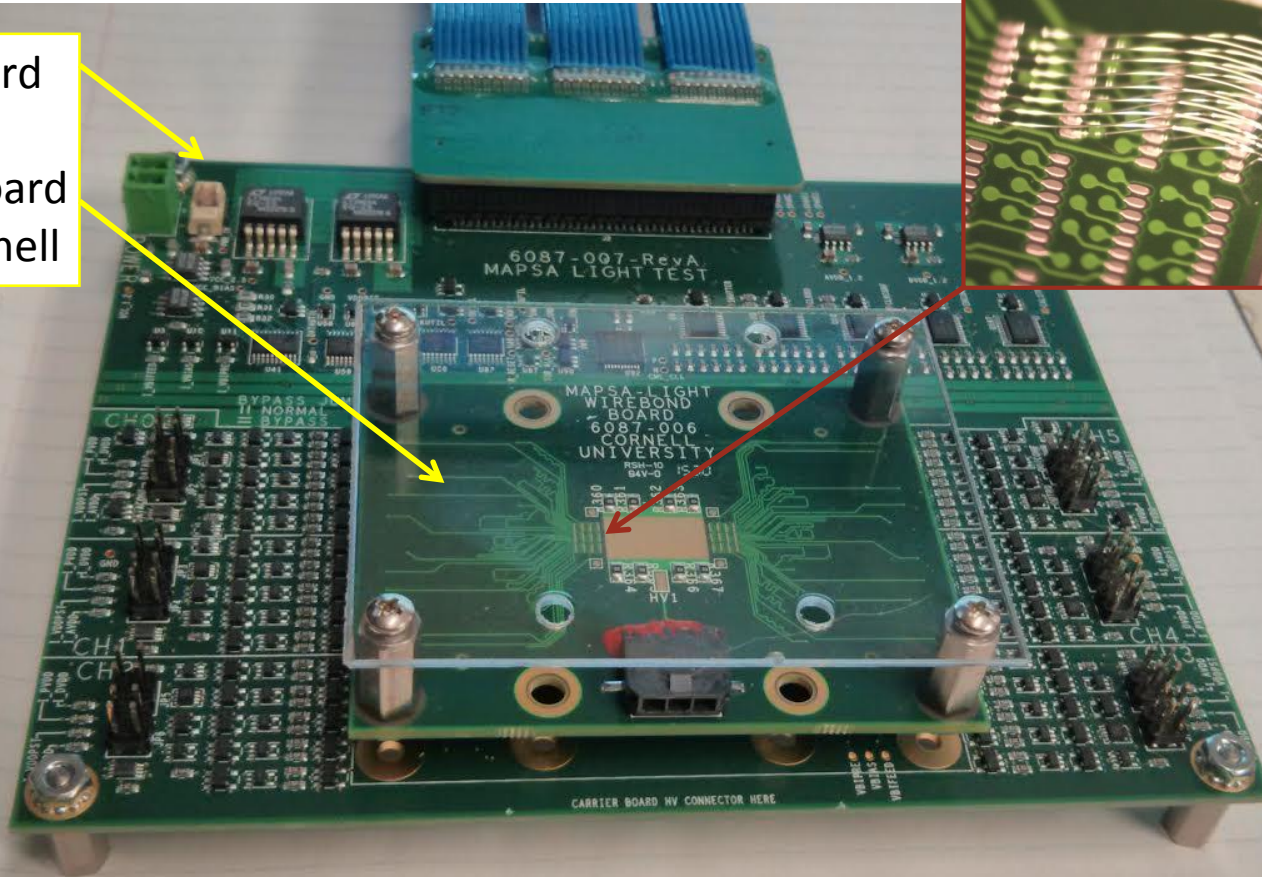
Hardware

- 10/21/15
- Bonded MaPSA-light to carrier board
  - Thanks to Bert Harrop at Princeton
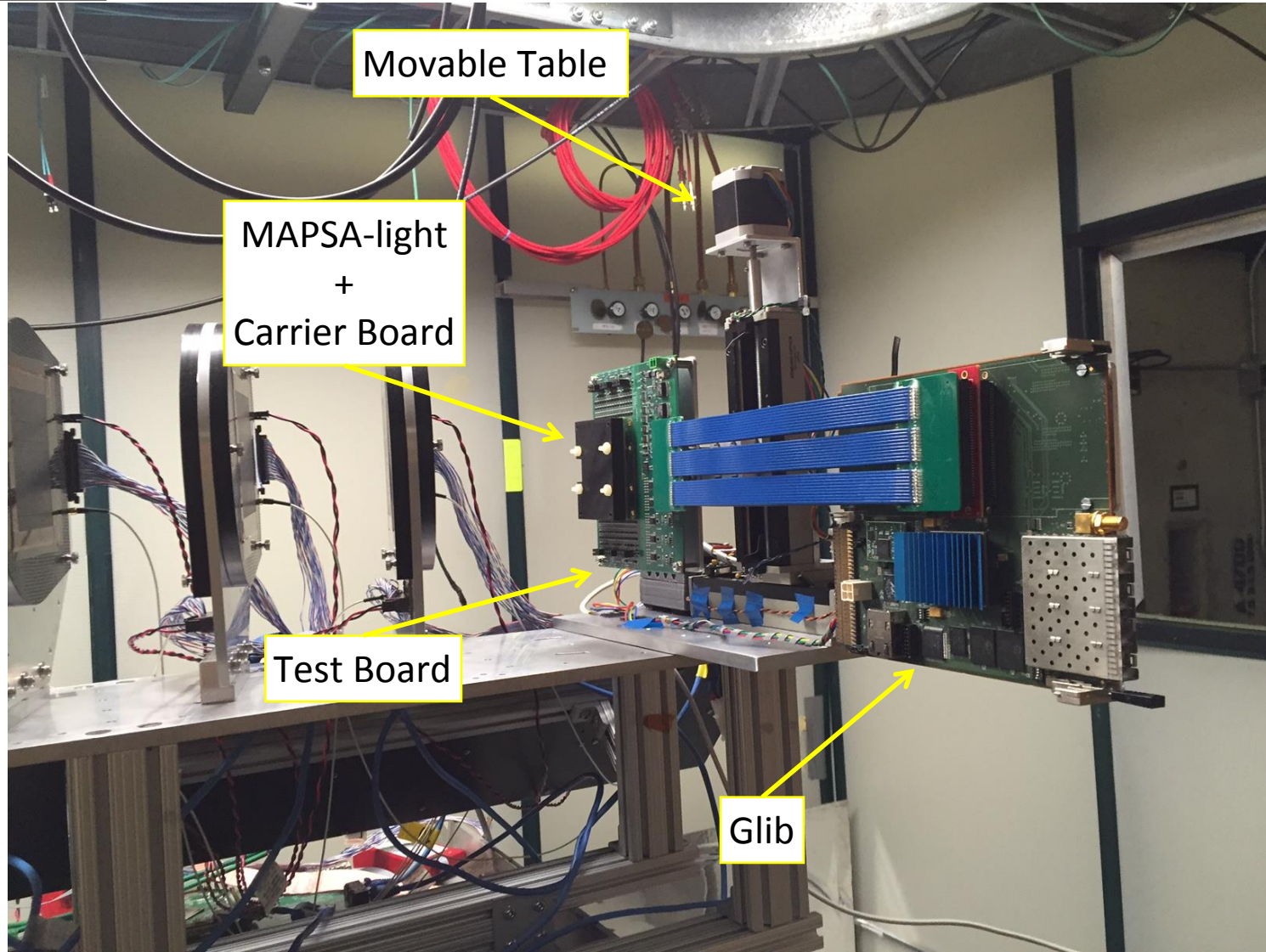- Bonded one from Novapack and one from Aemtec

4

Testing

- 10/23/15
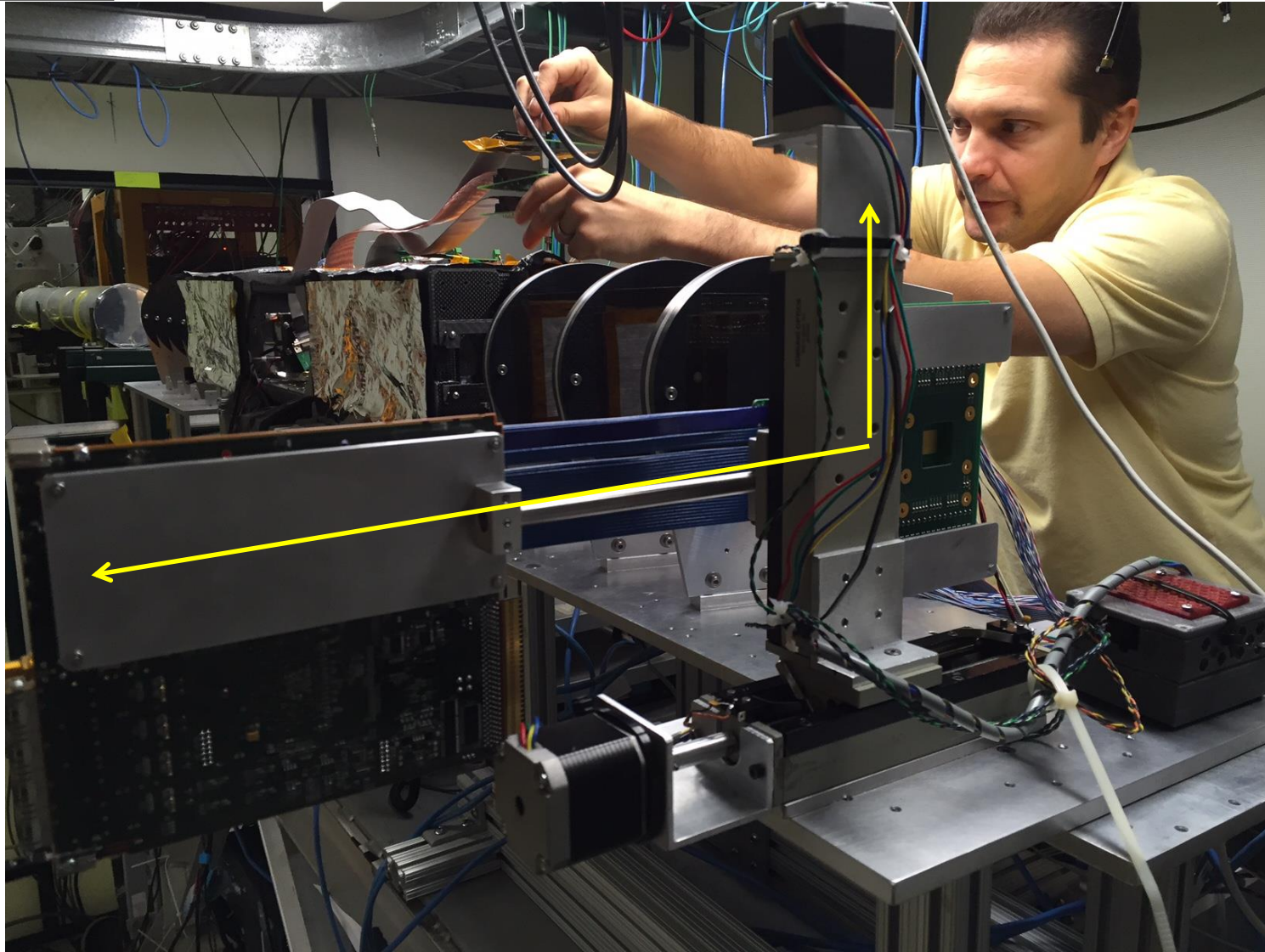
- First counts from MaPSA-light sensor

Test Beam

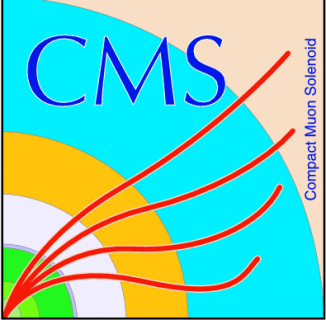Movable Table

MAPSA-light
+
Carrier Board

Test Board

Glib

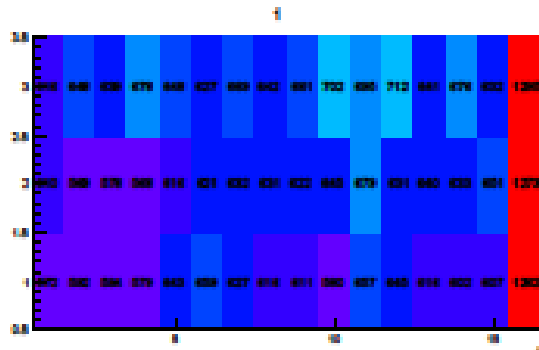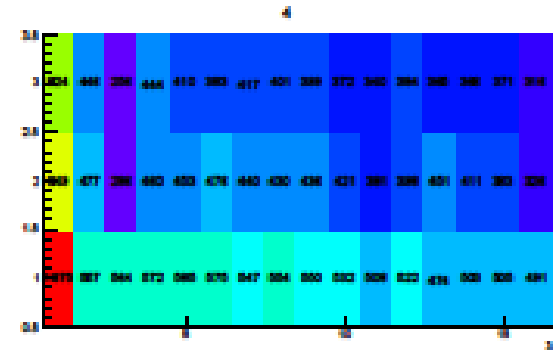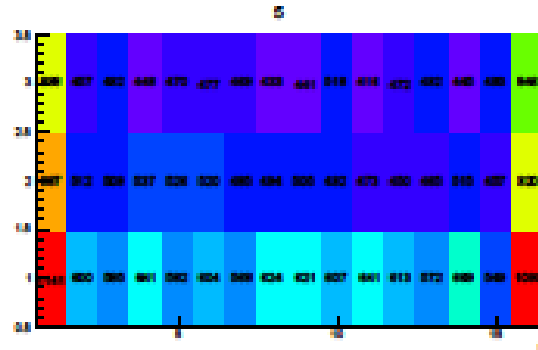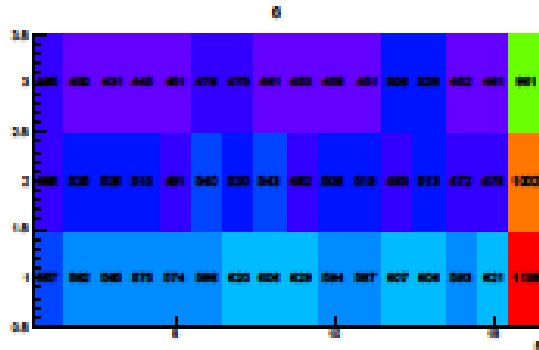# Test Beam

Test Beam

- Plots are very recent
  - No time to digest results
- Plotting macros thanks to Otto Hindrichs
- For each of the two assemblies there is one unresponsive MPA
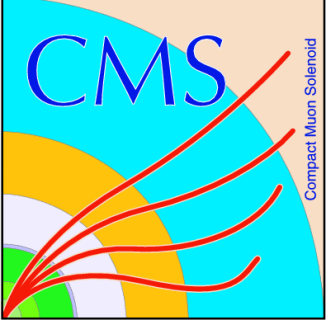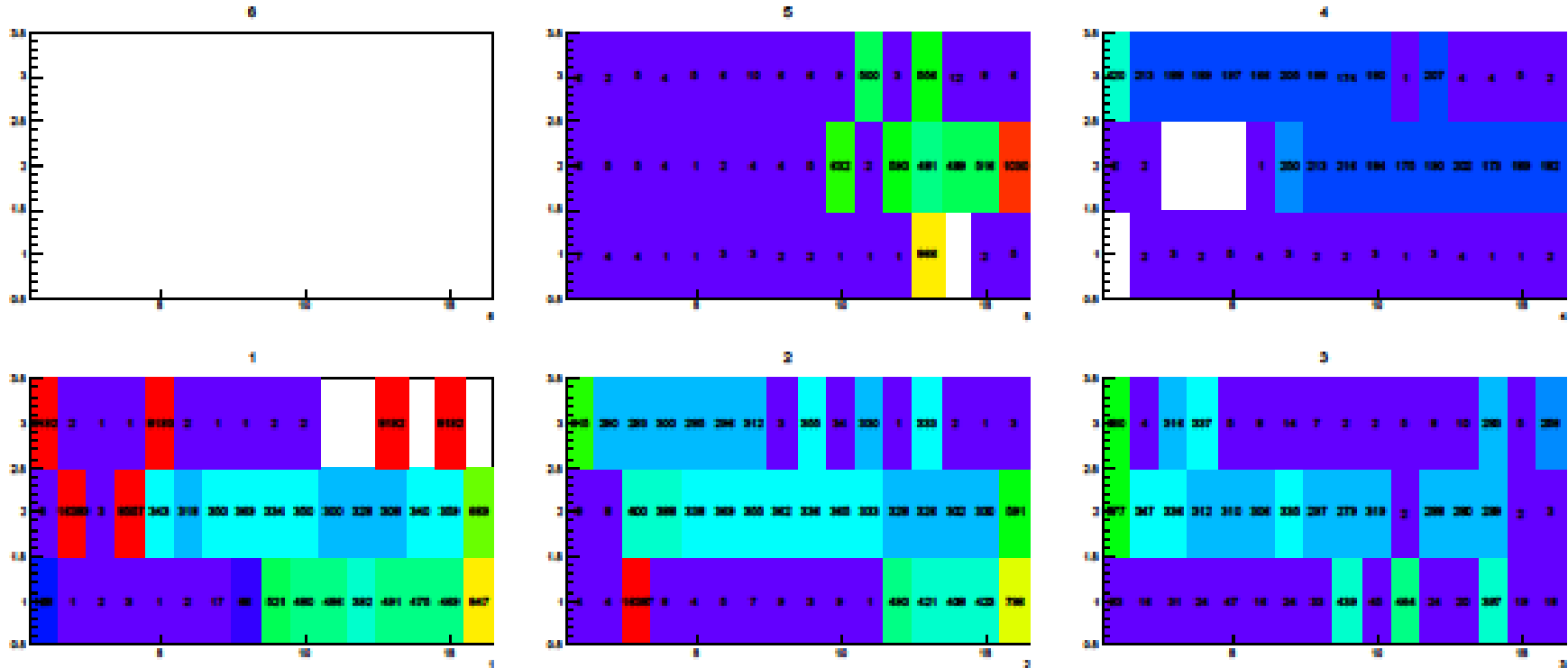 - Probably a wire bonding issue

Test Beam
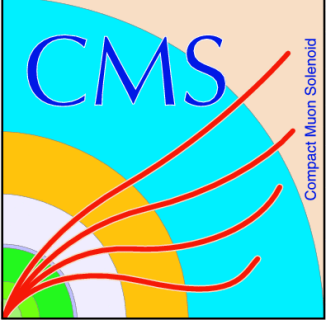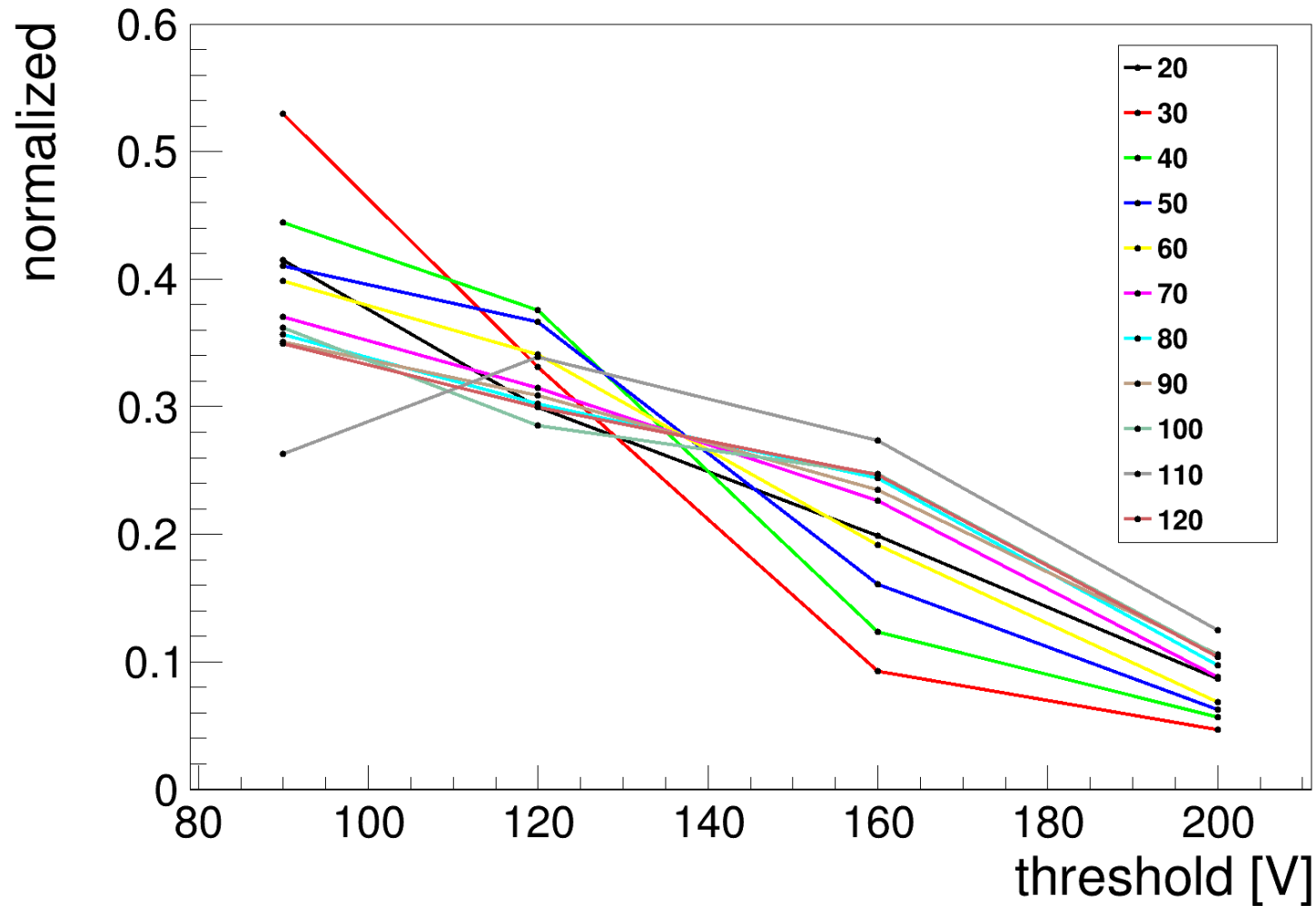
Novapack
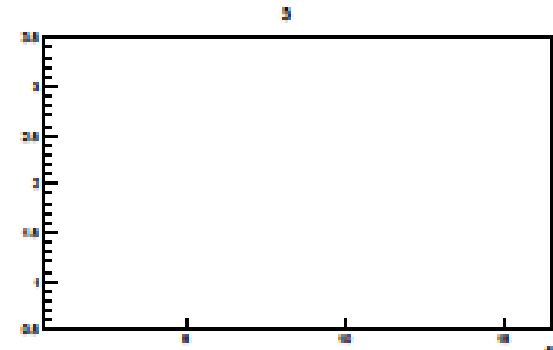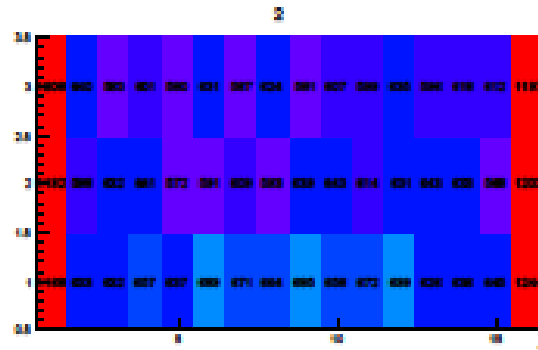
Test Beam

Aemtec

Test Beam

- Voltage scan
  - Change bias voltage from 20 to 120 S
  - Scan the threshold from 90 to 200
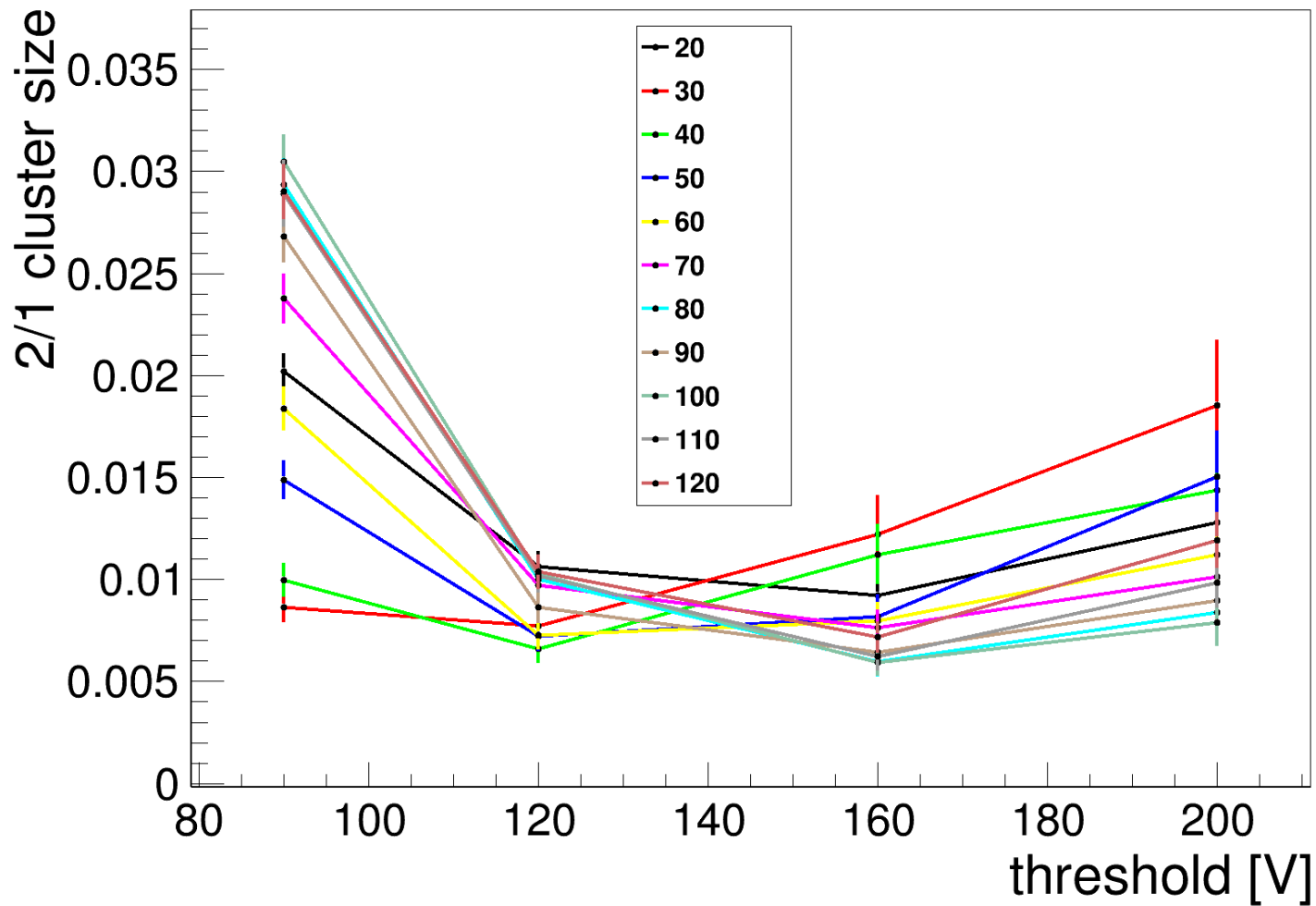- Plot counts (normalized)
- Plot cluster 2 to 1 ratio
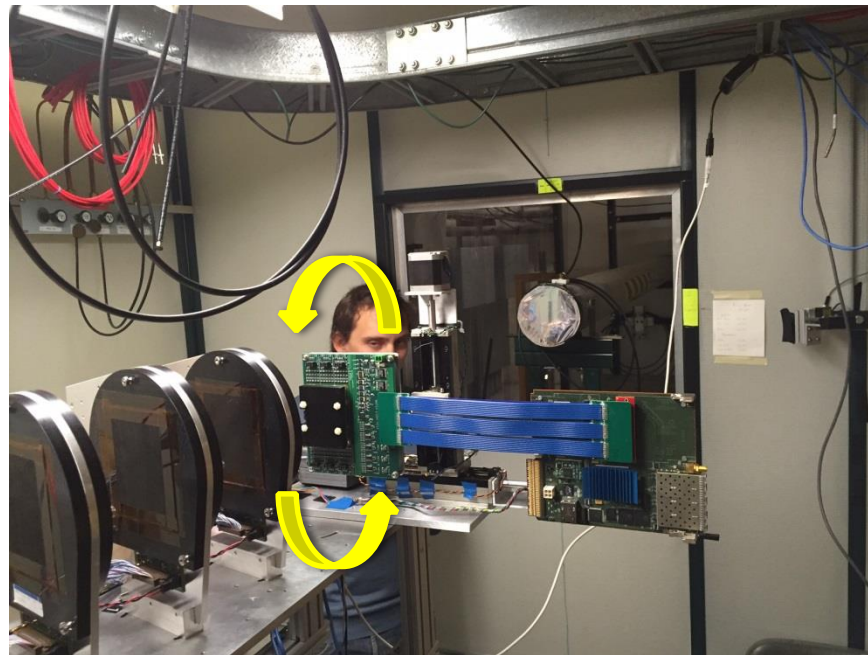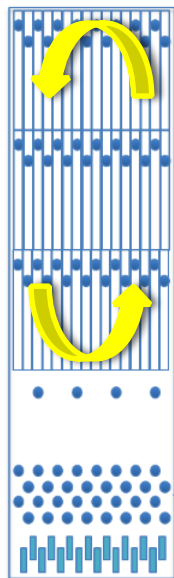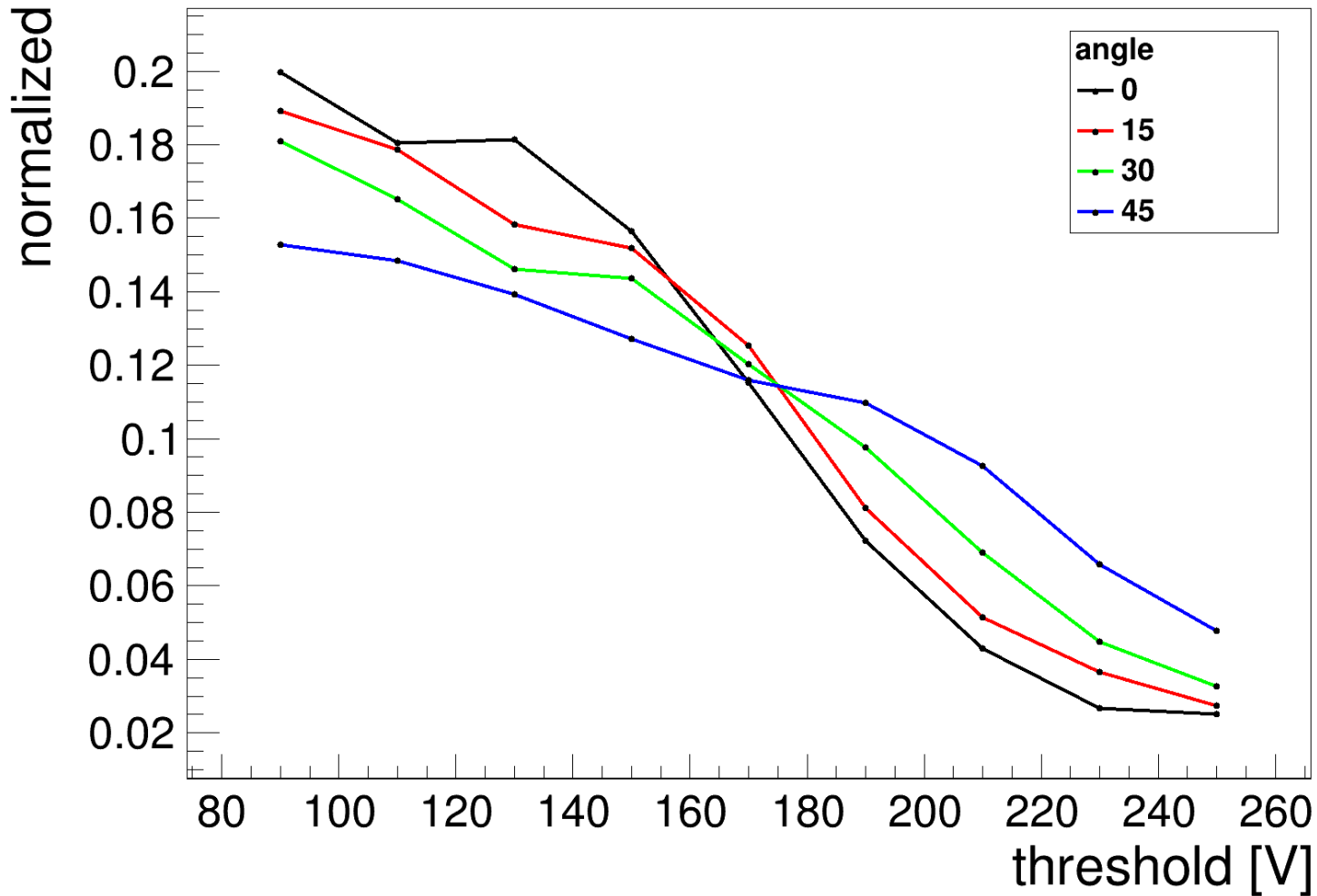
Test Beam

Test Beam

Test Beam

- Angle scan (vertical)
  - Change angle vertically and perform threshold scan
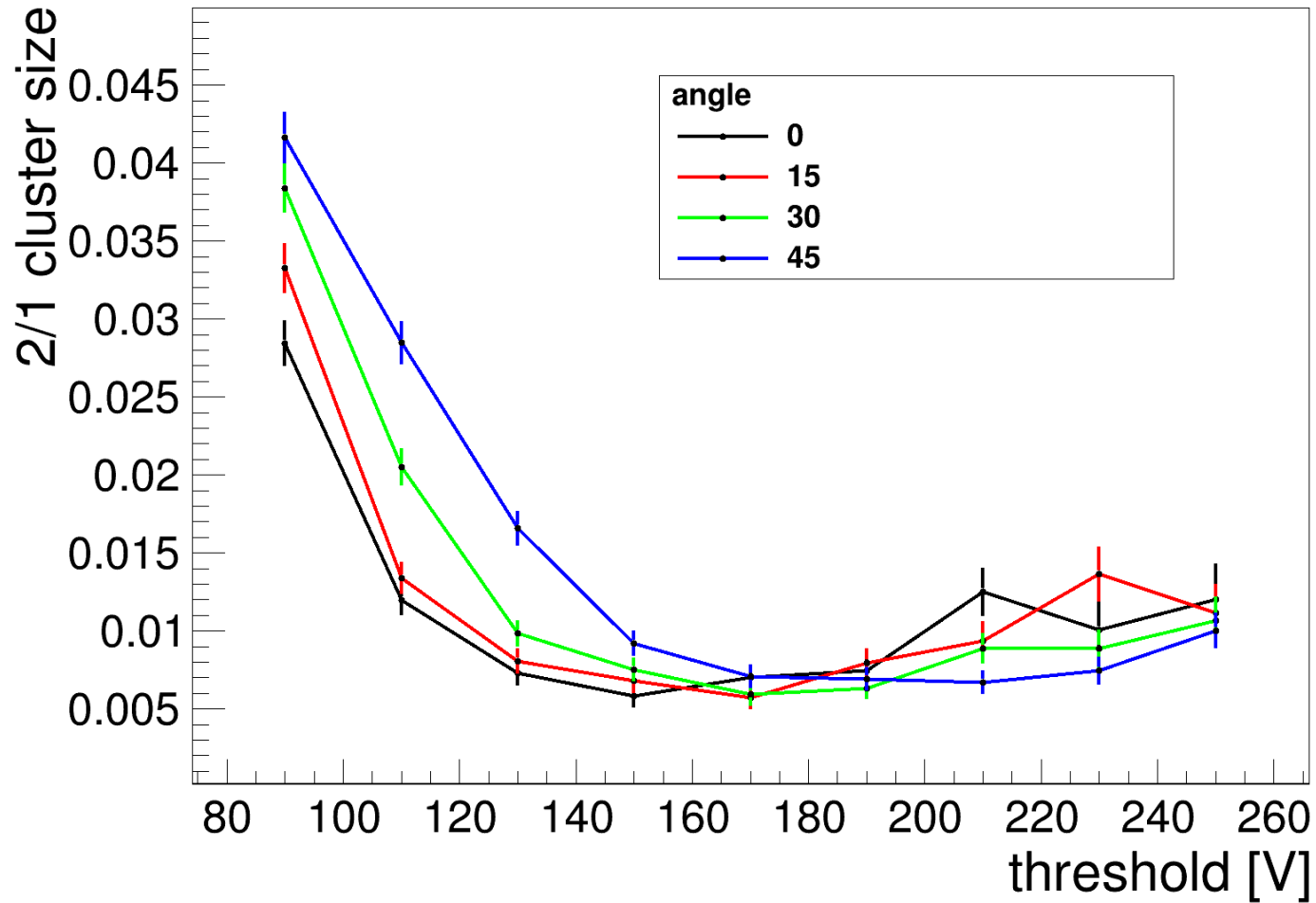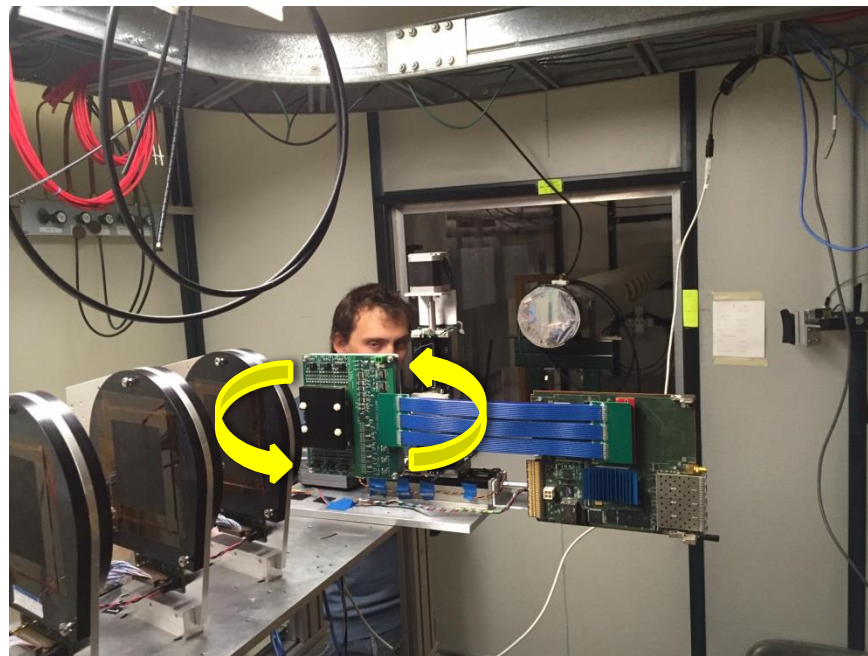- Plot counts (normalized)
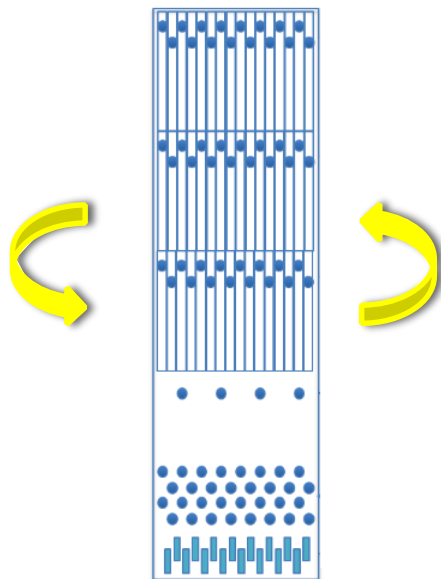- Plot cluster 2 to 1 ratio
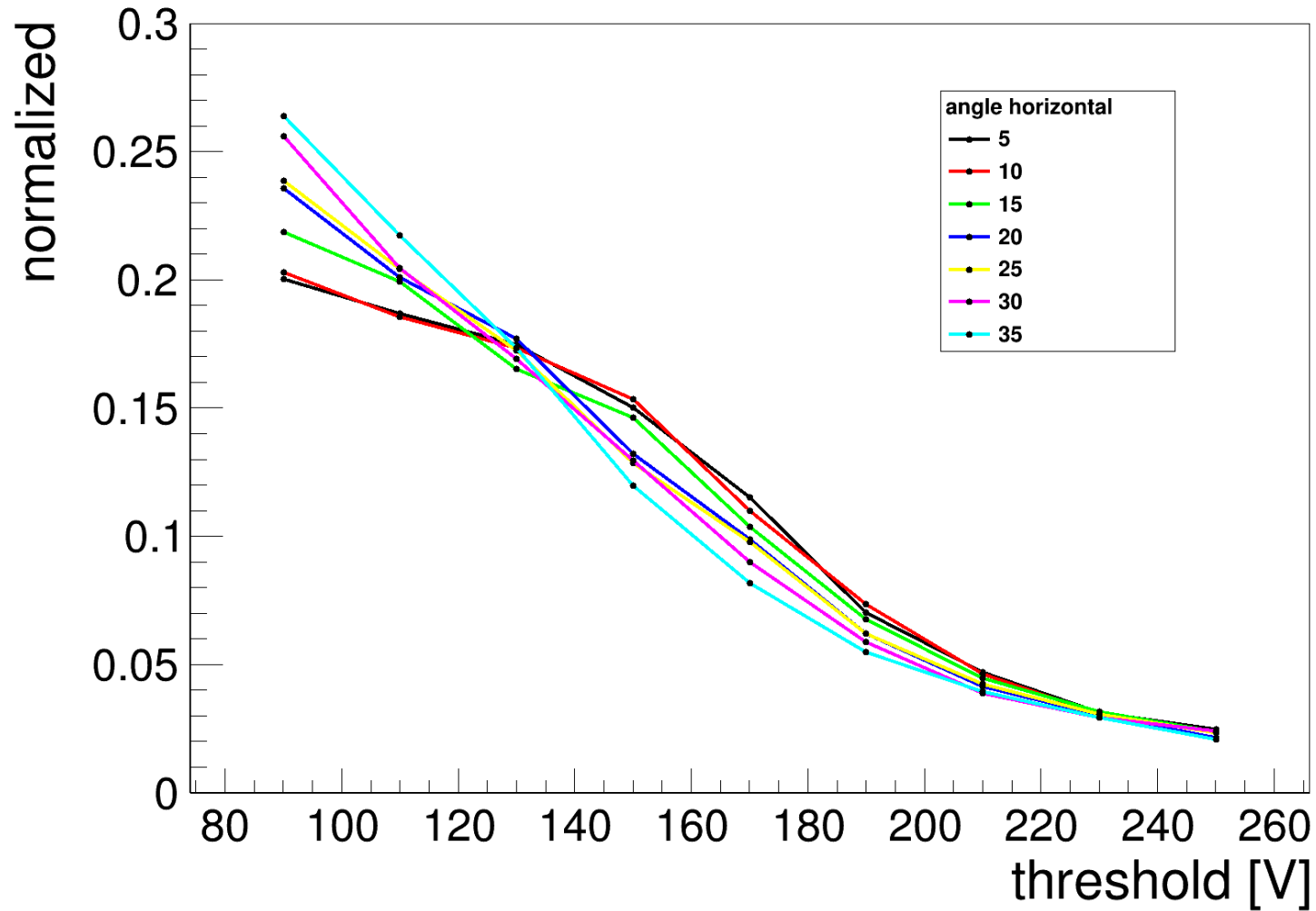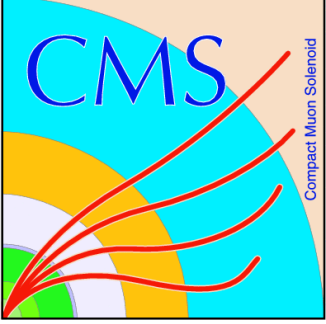
Test Beam

Test Beam

Test Beam

- Angle scan (horizontal)
  - Change angle horizontally and perform threshold scan
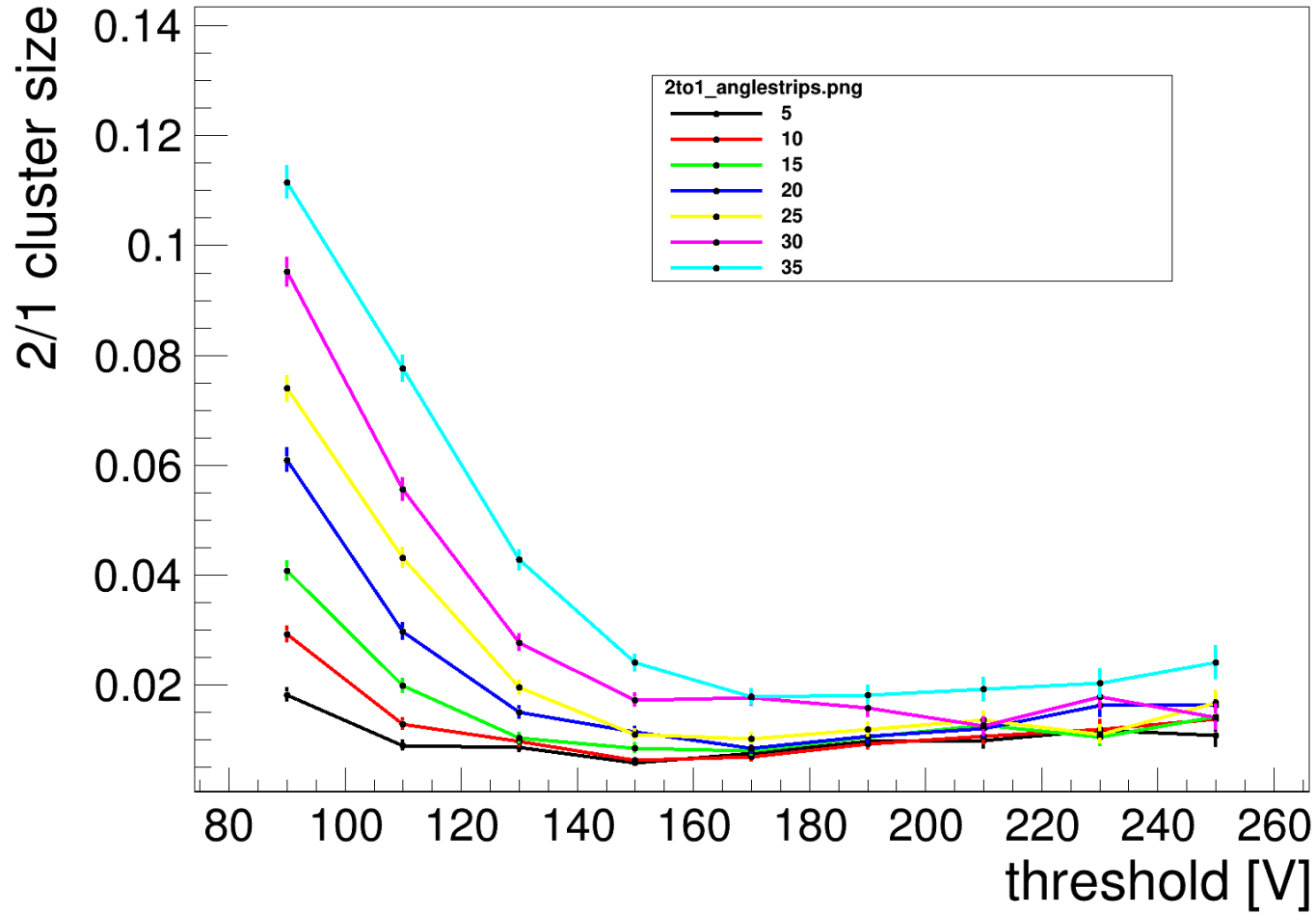- Plot counts (normalized)
- Plot cluster 2 to 1 ratio

Test Beam

Test Beam

Test Beam

- Work on the MI likely to be performed Monday and Tuesday
  - Only a few days left
- Three more sensors arriving tonight
  - Will repeat tests (depending on time)
- Trying to record triggers from the pixel telescope.
  - Need firmware updates