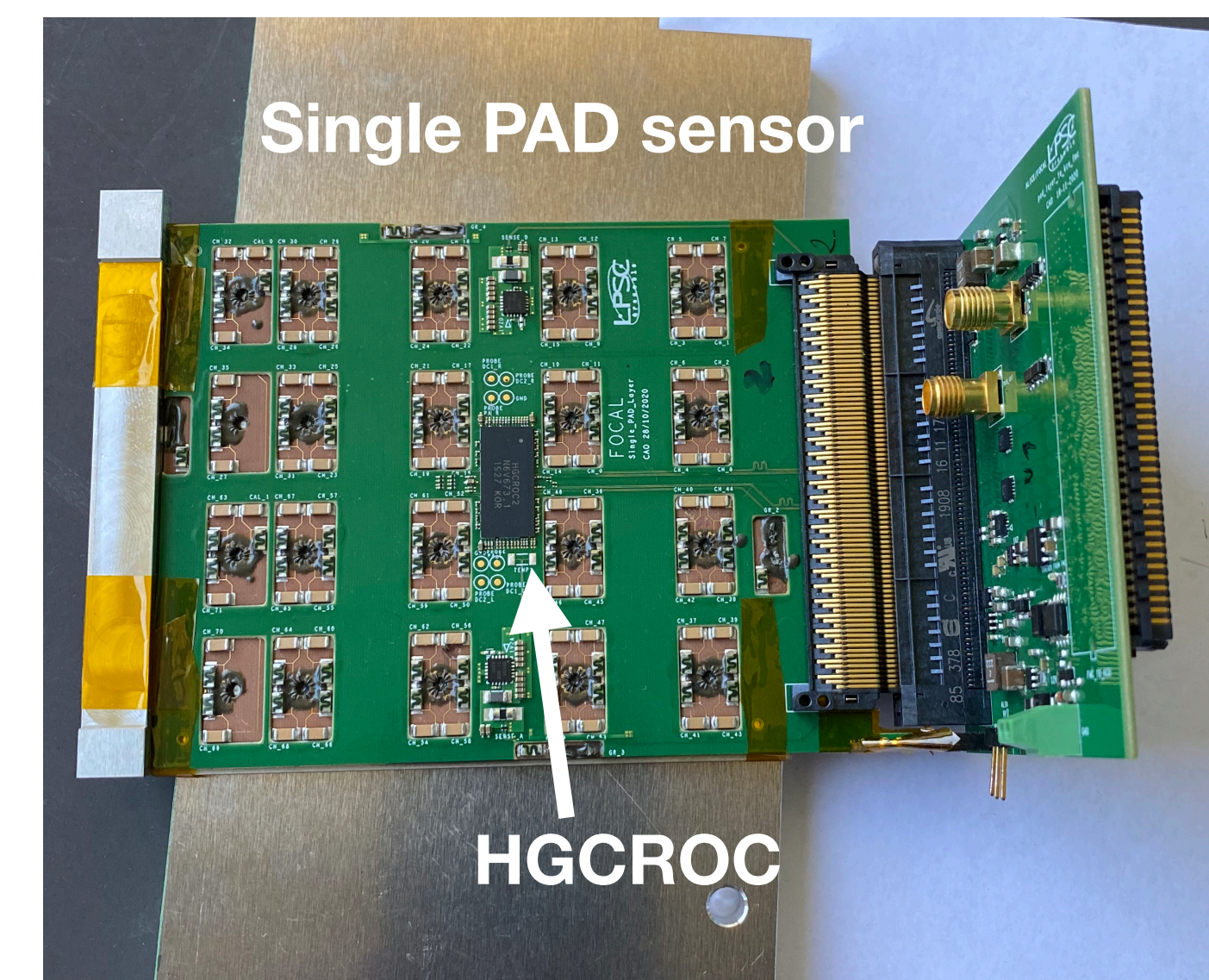
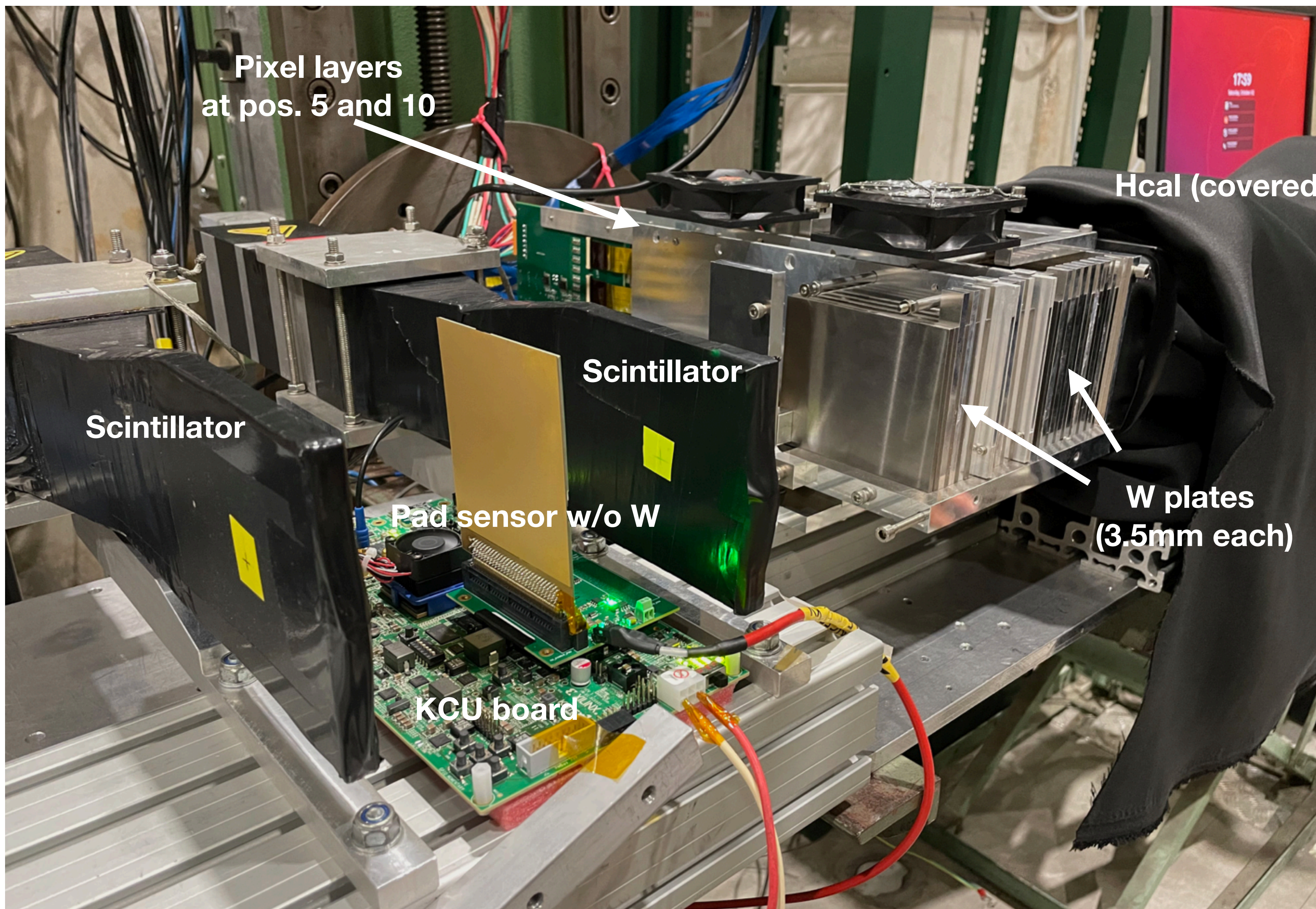


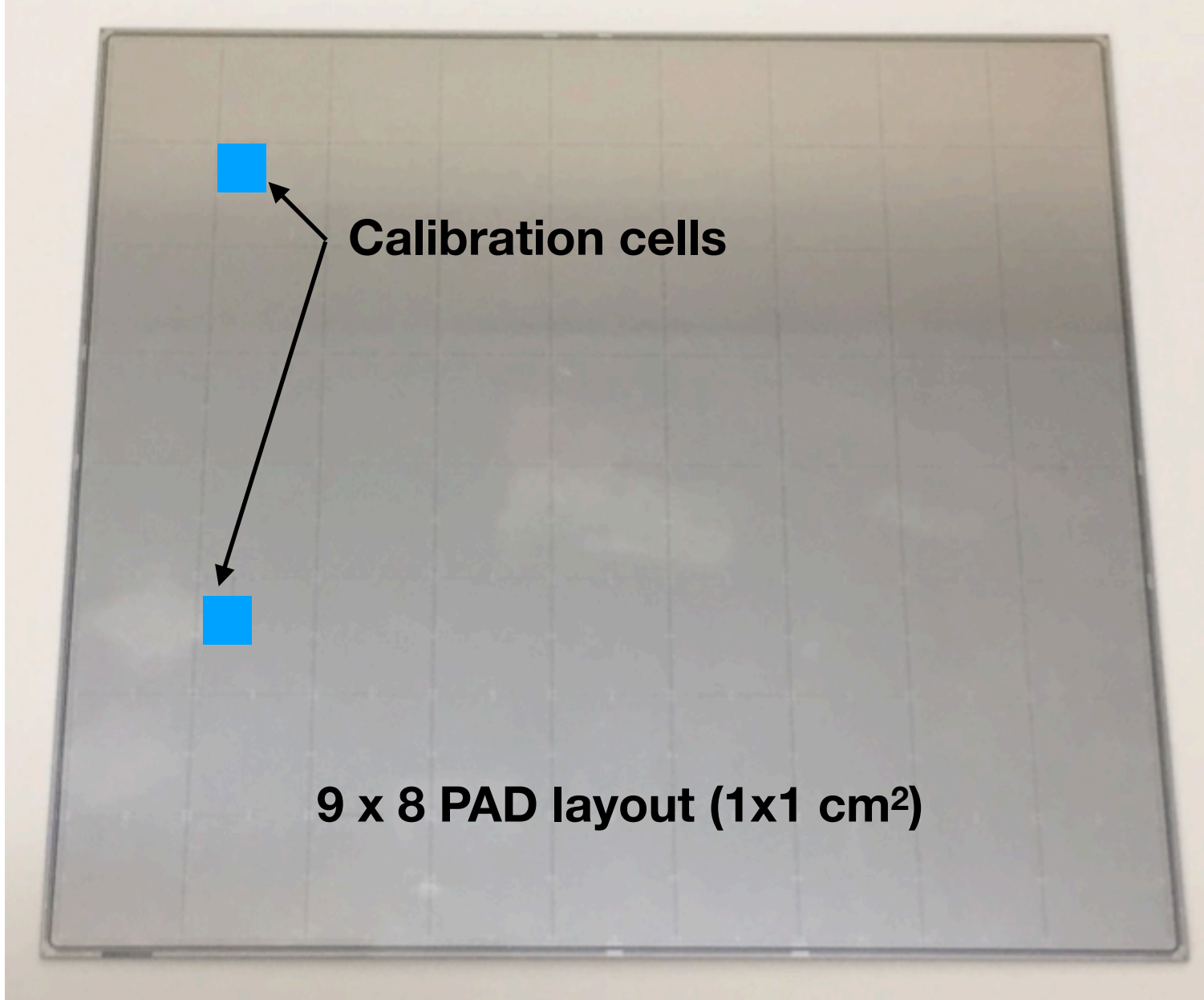
ALICE-FoCal testbeam request at PS

Norbert Novitzky
University of Tsukuba

2021 SPS setup



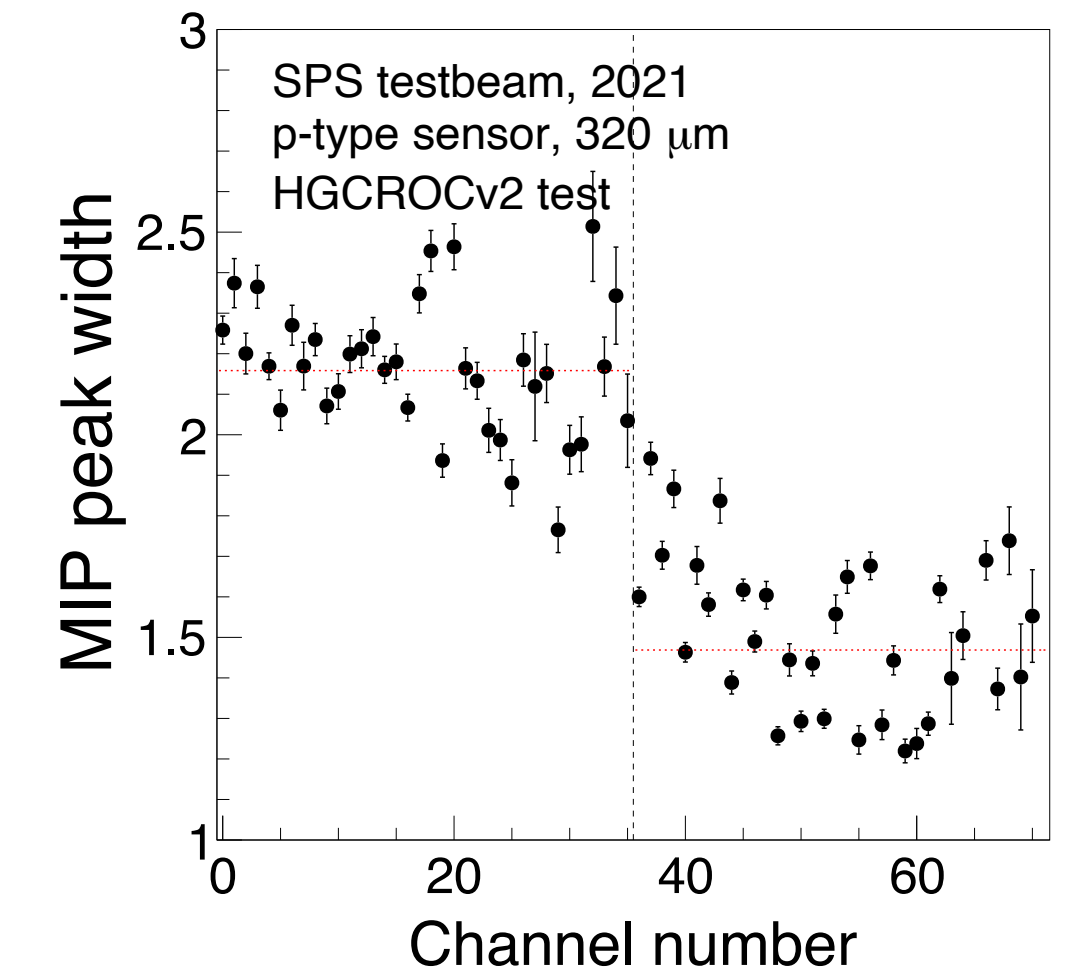
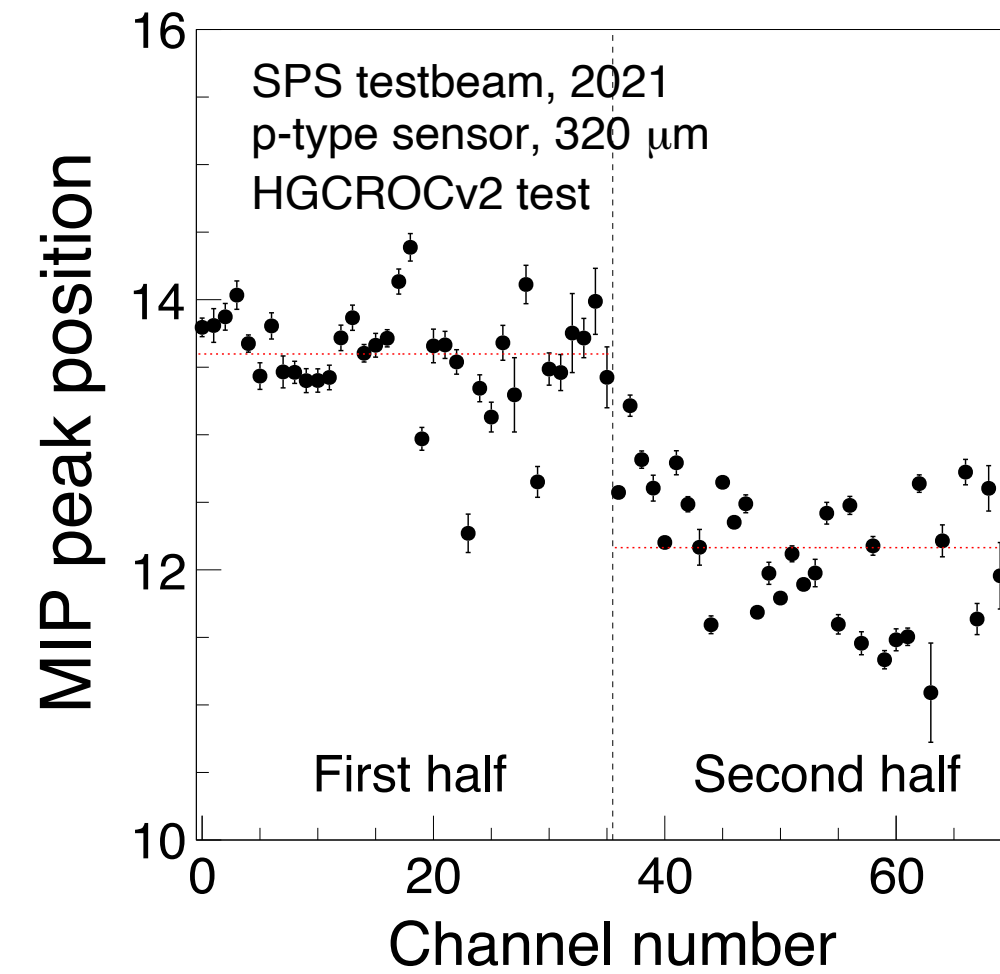
2021 SPS testbeam - MIP peak extraction



First test of p-type (2021) sensor from Hamamatsu (320 μm thickness)

HGCROCV2 readout ASIC:

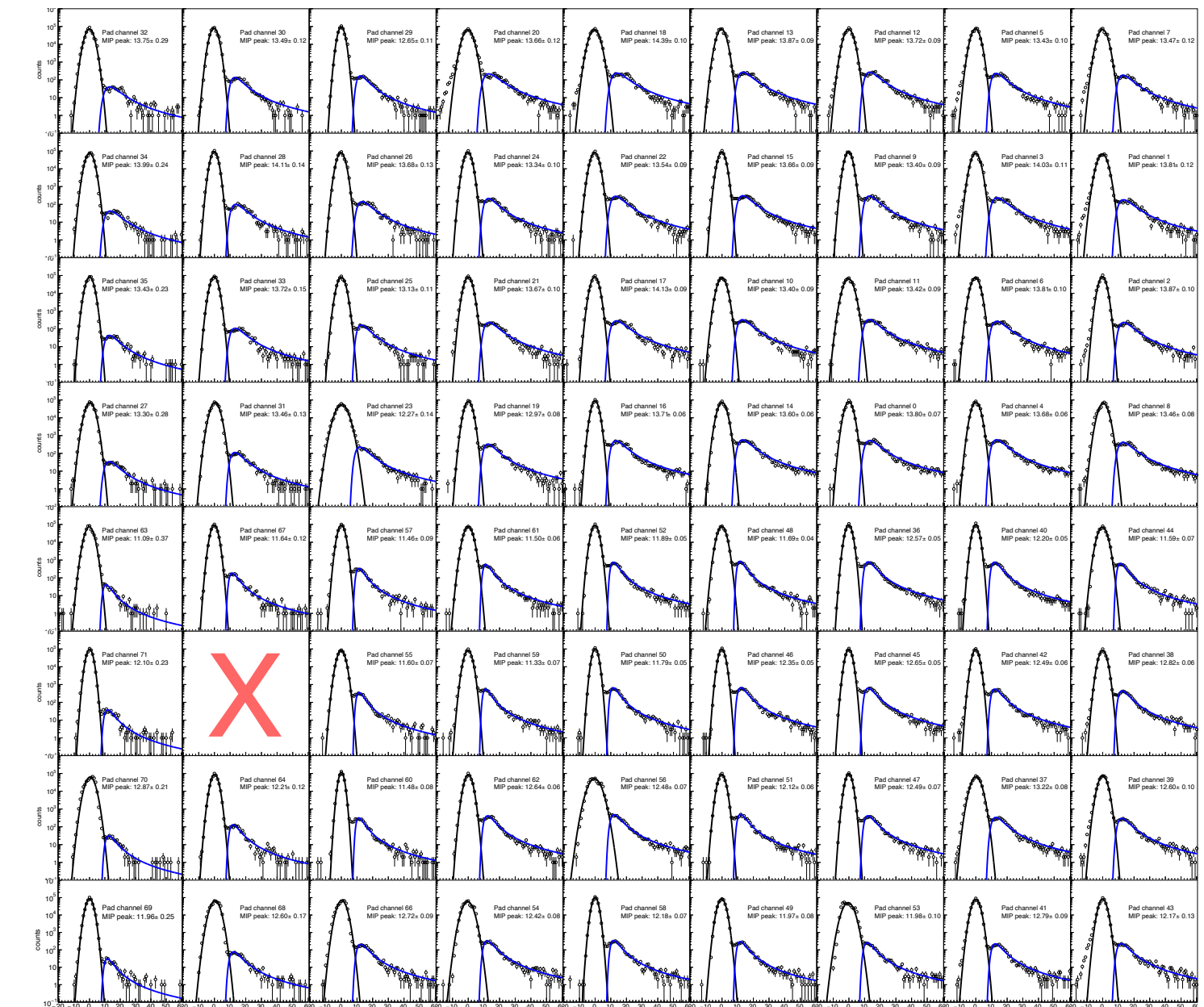
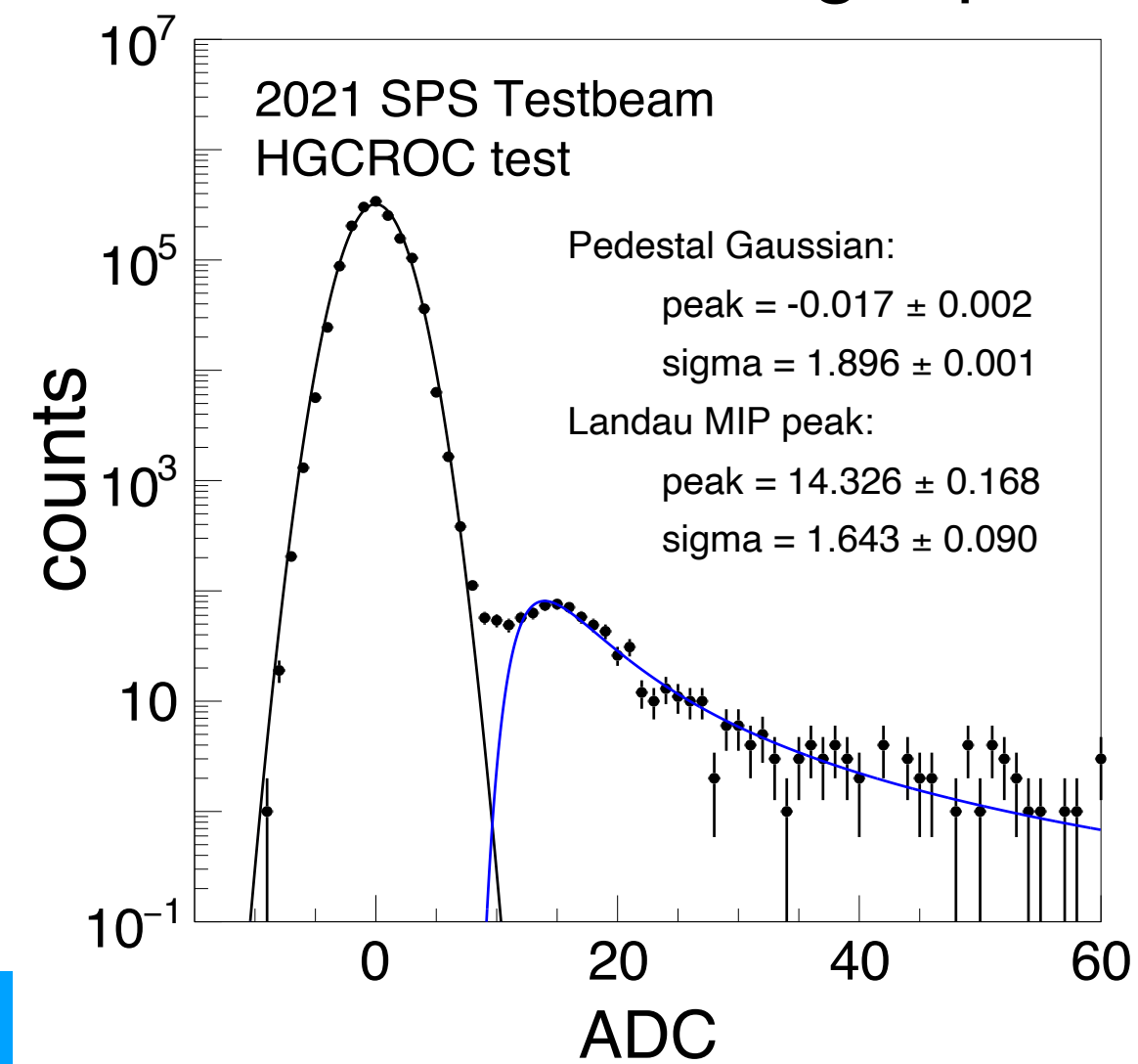
- 72 channels with low noise
- 2 calibration channels



Single particle response:

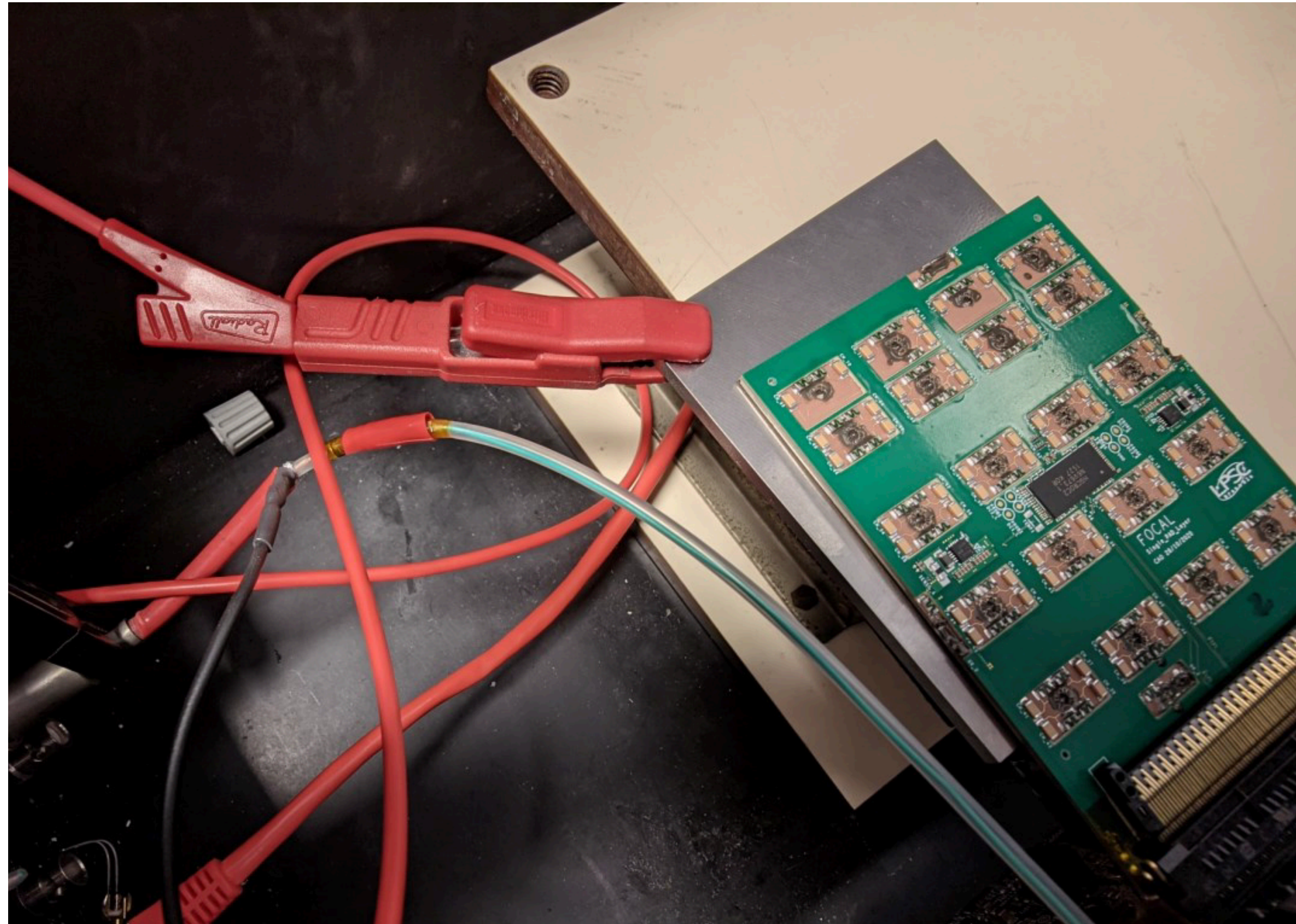
- Determination of the pedestals and sigmas:
 - Pedestal ~15 ADC of 10-bit (1024)
 - Sigma ~2 ADC
- MIP signal response:
 - Two halves of HGCROCV2 work independently
 - MIP response ~13.5 and ~12.0 ADC
 - MIP peak width ~2.15, ~1.5 ADC

Aluminum cover for light protection



Grounding of HGCR0C - solution

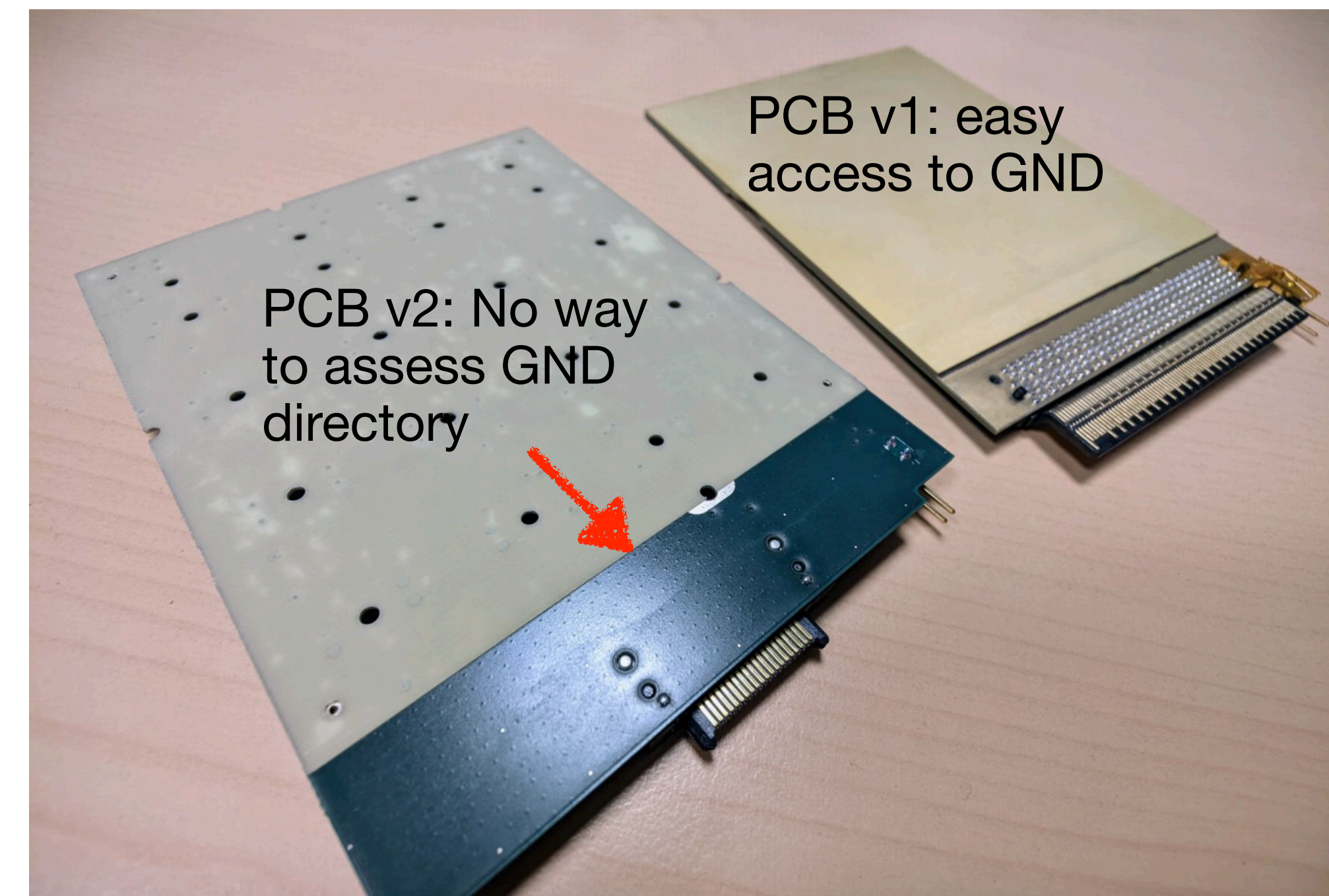
4



Testing PCB v1 after modification of GND.

(Abderrahmane Ghimouz, Fatah Rarbi)

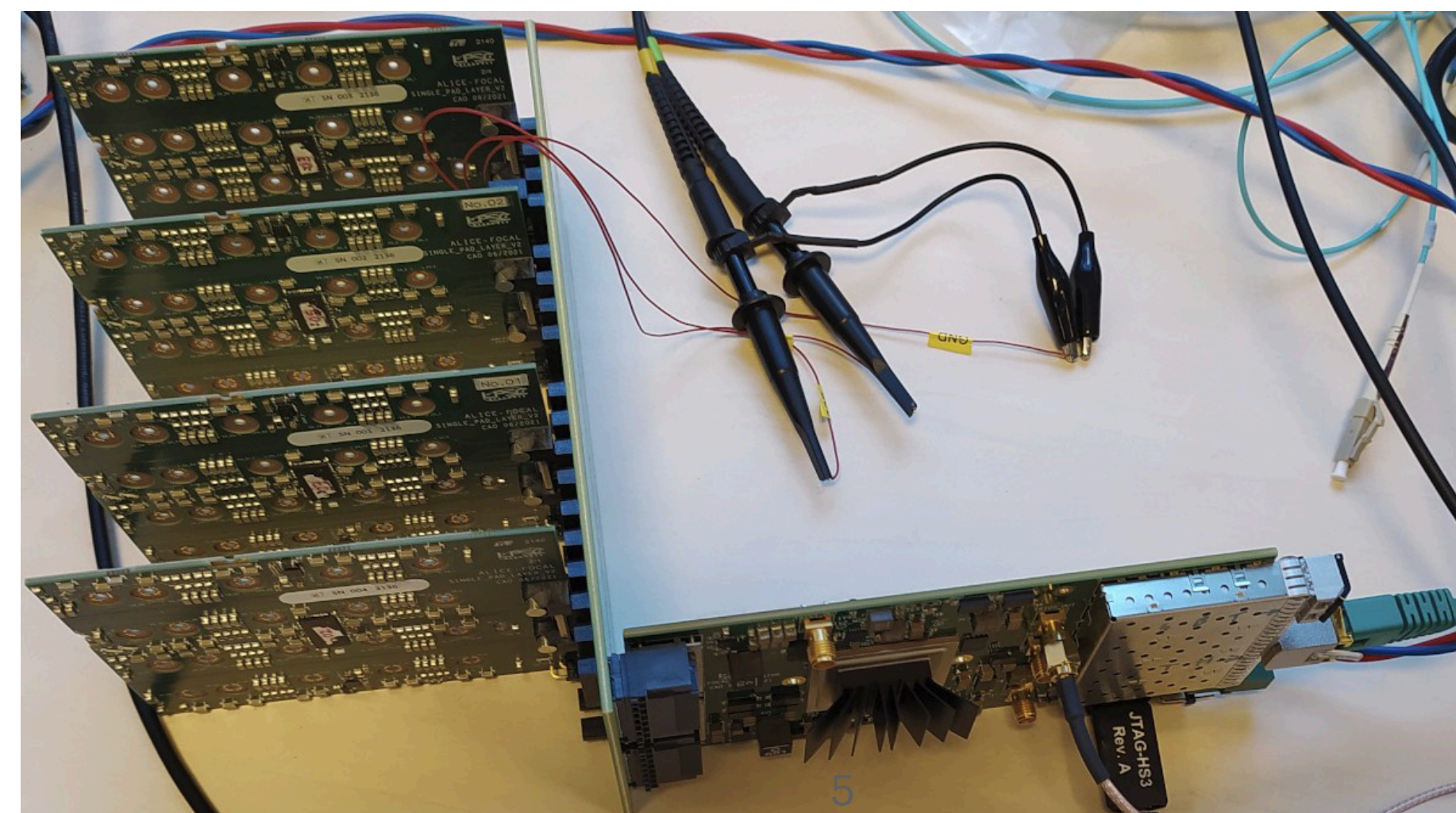
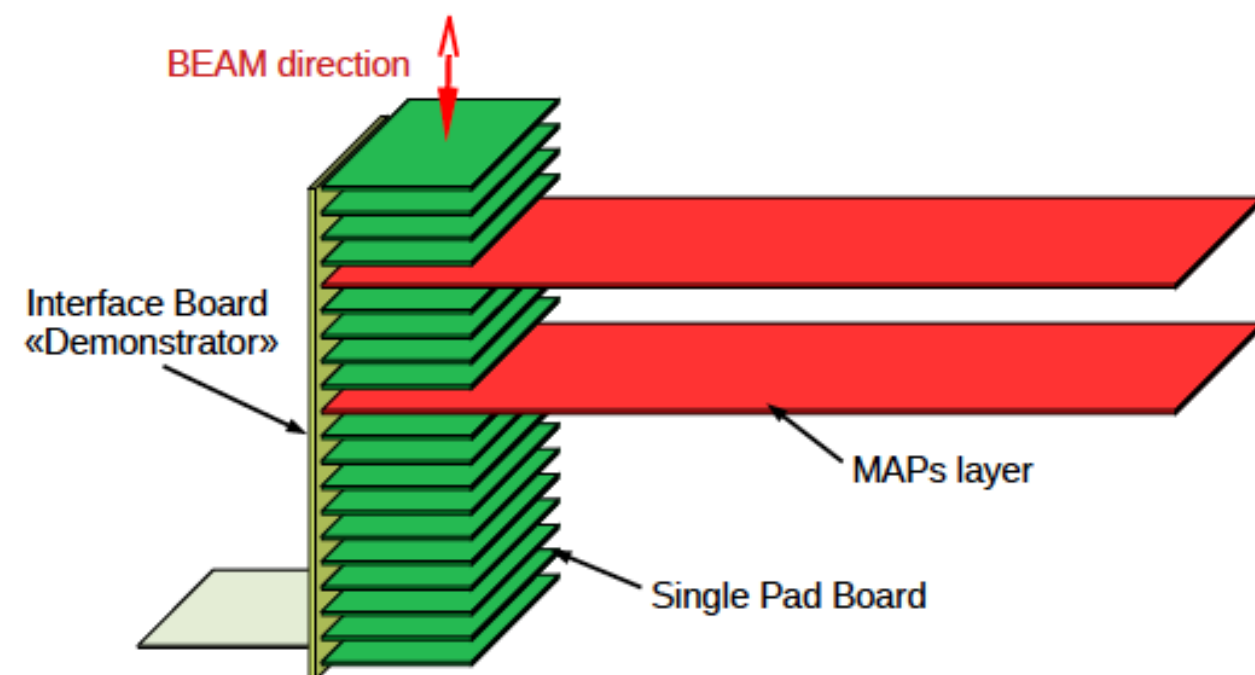
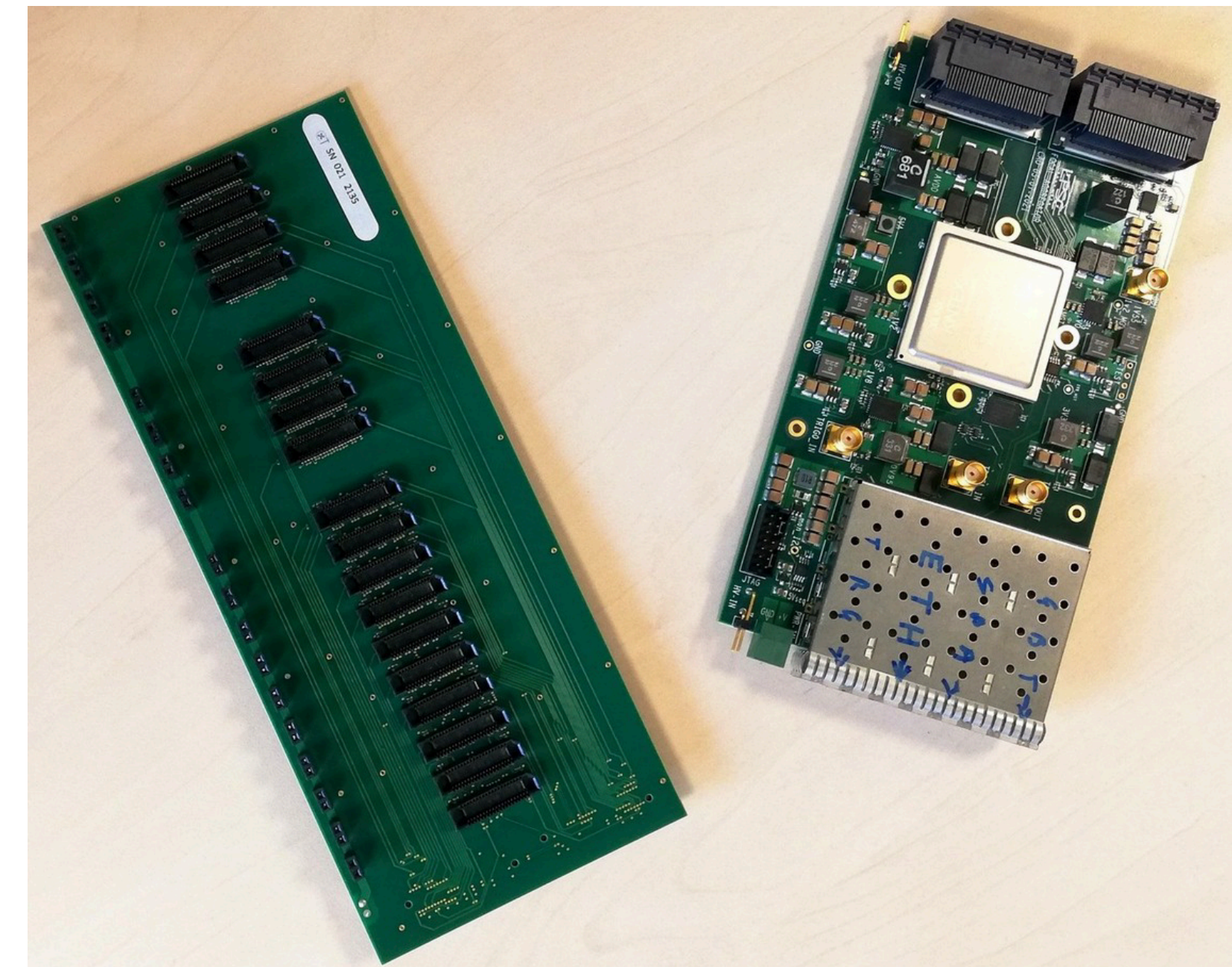
- Worked fine for PCB v1
- For PCB v2, need a mechanical modification to make a good grounding.
- Test is ongoing for PCB v2.



Aggregator and interface boards for 2022

5

- For SPS test beam in 2022, PCB v2, aggregator and interface board have been produced and largely programmed
- Logic tests are ongoing
- Built-up of cosmic test bench in progress
 - Grenoble group is preparing the firmware and online monitoring software



(Olivier Bourrion, Damien Tourres, Fatah Rarbi, Rachid Guernane and Grenoble LPSC CAD team)

(Grenoble)

Requested setups

1. Requested beam: 9 GeV hadron rich beam

~ 5 days

MIP extraction (Sensor tests):

- 1x1 cm² trigger area
- 10,000 events
- 72 channels
- + 2 smaller channels, about 50,000 events
- Additional 10,000 event with a flipped charged sign for cross check negative and positive particle response

Move the setup in the middle of the beam-line to gather enough statistics in each channel

ASIC tests:

- Different gain variations and test the signal/noise
- Phase variations
- Different ASIC parameter setups

2. Requested beam: 3 GeV electron beam

~1-2 days

- Test the electron shower response
- Test the electron-hadron separation