

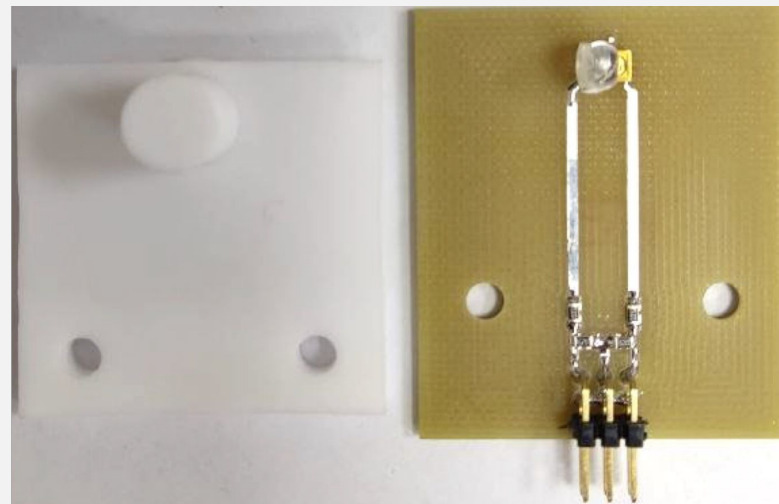
# LED Calibration, Trigger and DAQ

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Livio Calivers (LHEP)

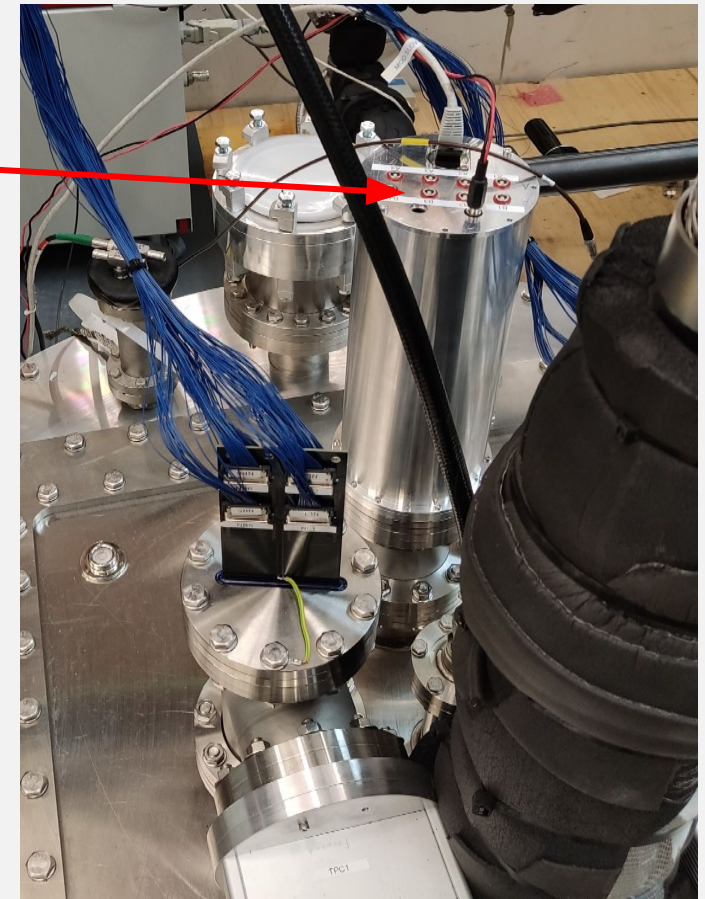
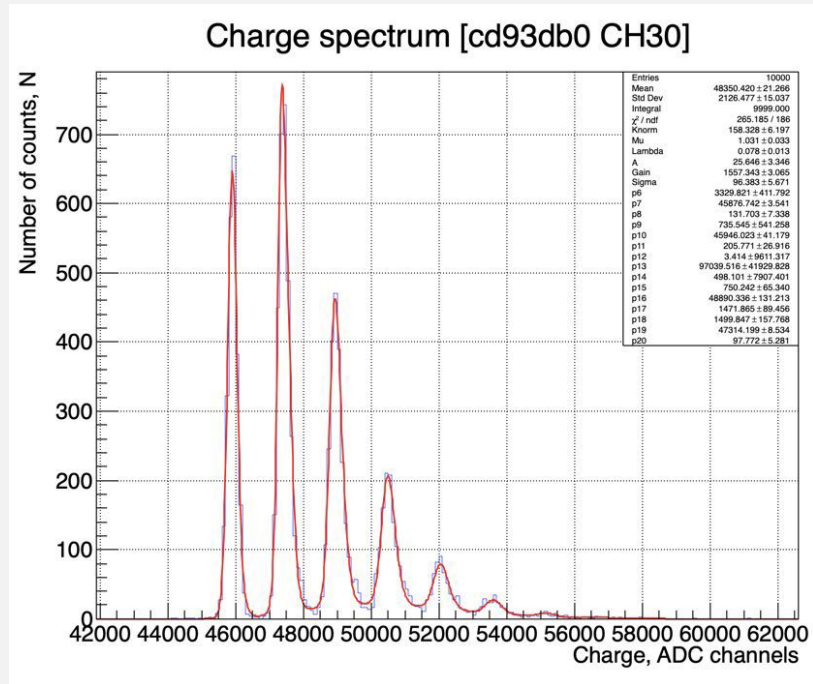
# LED calibration

- 2 LEDs (blue and UV) each at 4 positions per module
- PTFE diffuser
- Feedthrough via RTD FT
- 50 $\Omega$  impedance matched

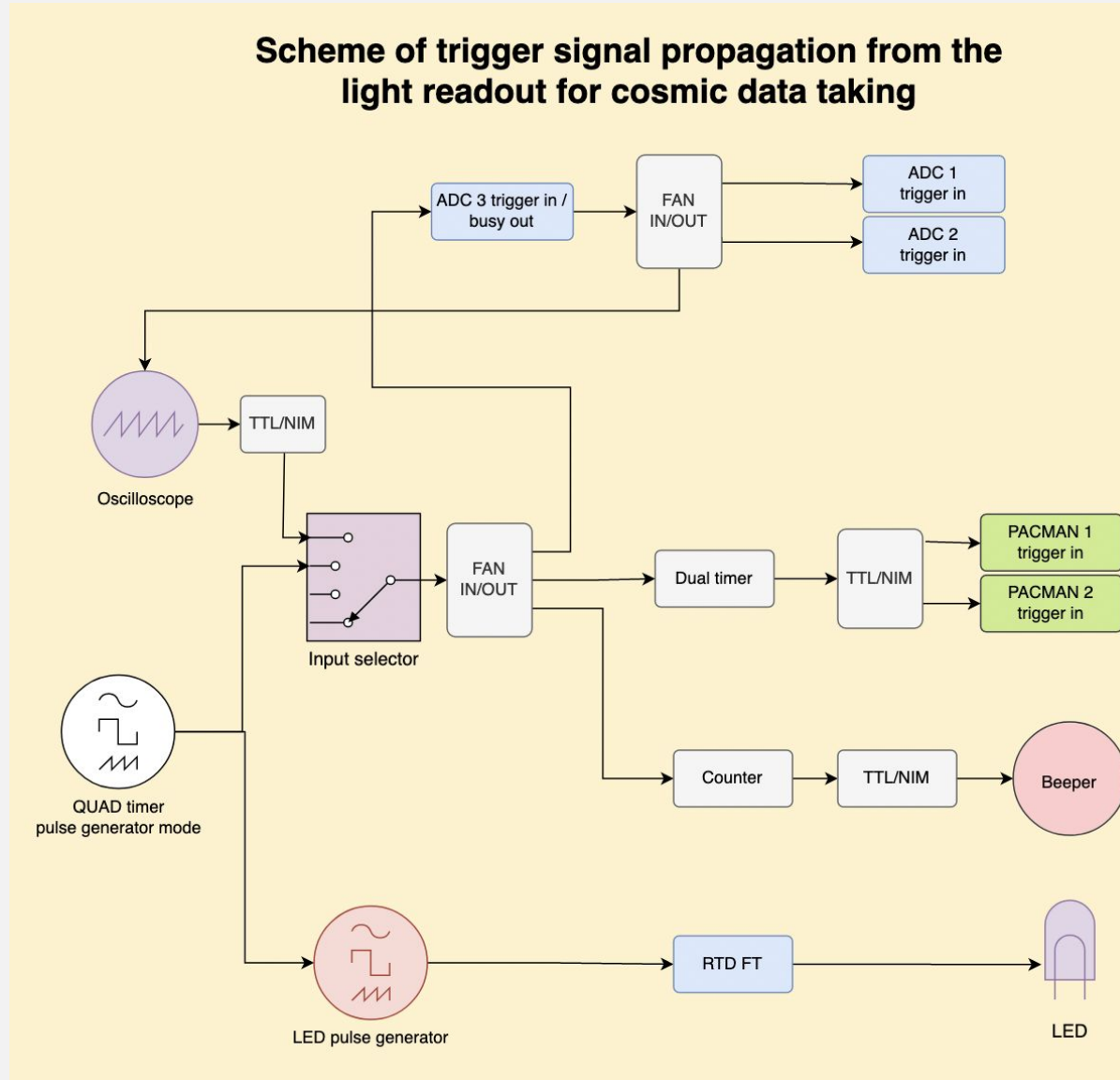


# LED calibration

- 2 LEDs (blue and UV) each at 4 positions per module
- PTFE diffuser
- Feedthrough via RTD FT
- $50\Omega$  impedance matched



# Trigger @ Bern

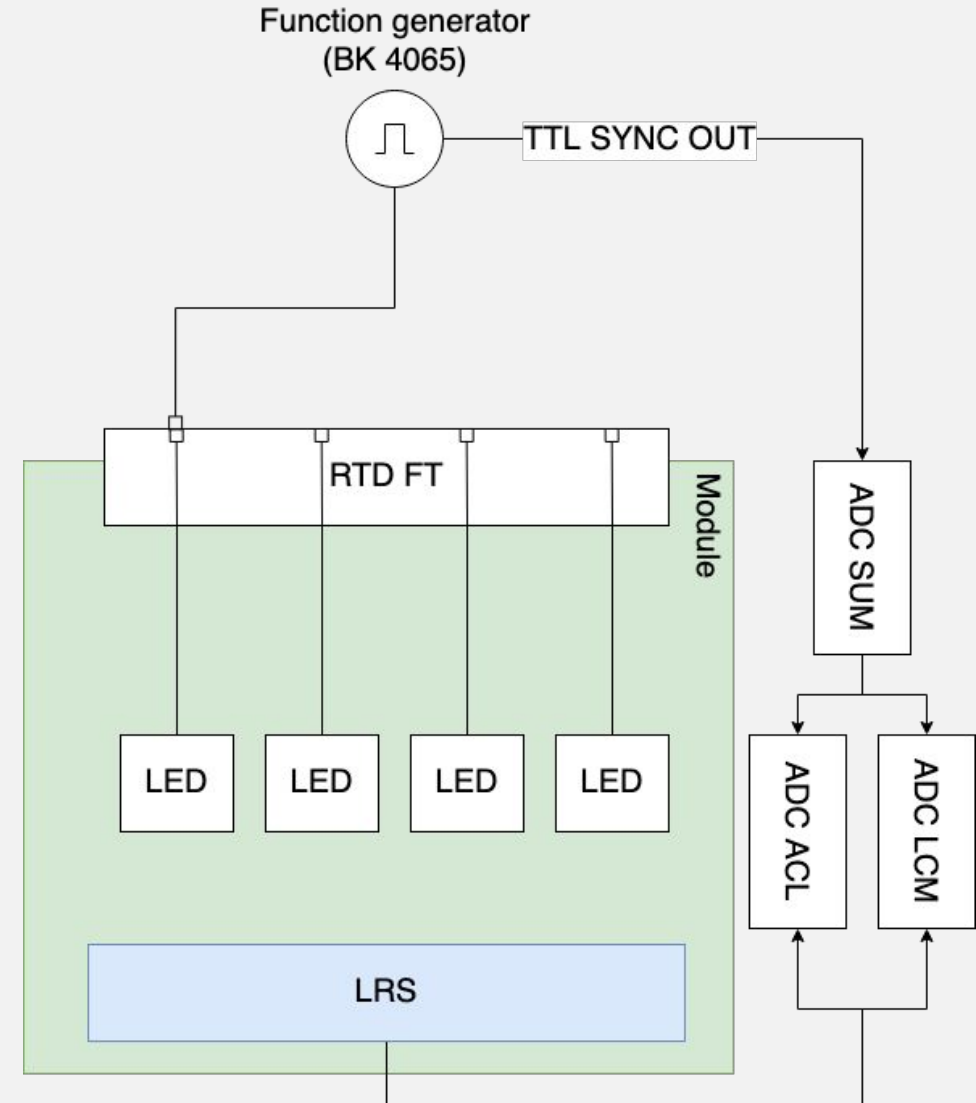


Schematic: Saba Parsa (LHEP)



# Trigger for QA/QC

- No combined LRS and CRS runs
- CRS
  - Only pedestal runs
  - No external trigger needed
- LRS
  - LED calibration runs
  - 4 blue LEDs mounted in TPC structure
  - Feedthrough via RTD feedthrough
  - Send ~25ns LED pulse @~1kHz
  - TTL trigger OUT of function generator to trigger ADCs



# Trigger for 2x2

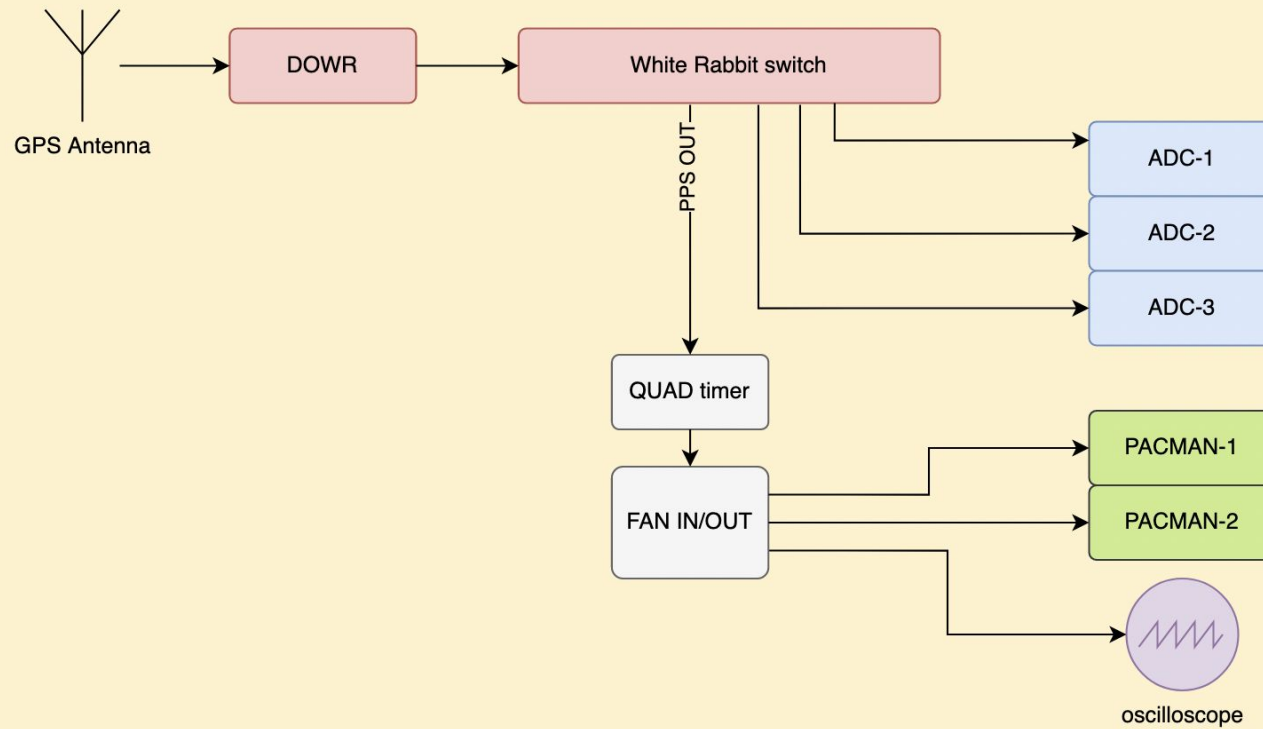
NOT ELABORATED YET!

To do:

- Include beam trigger
- Include minerva
- ...

To be discussed in the consortium

## Scheme of PPS signal distribution



Schematic: Saba Parsa (LHEP)

# LRS DAQ

- 448kB data flow per event from single module
- FIFO buffer on ADC side
- Reference software for QA/QC
- Data run start/stop controlled by CRS DAQ software
- CRS - LRS event matching offline
- Software is under development for 2x2 DAQ

