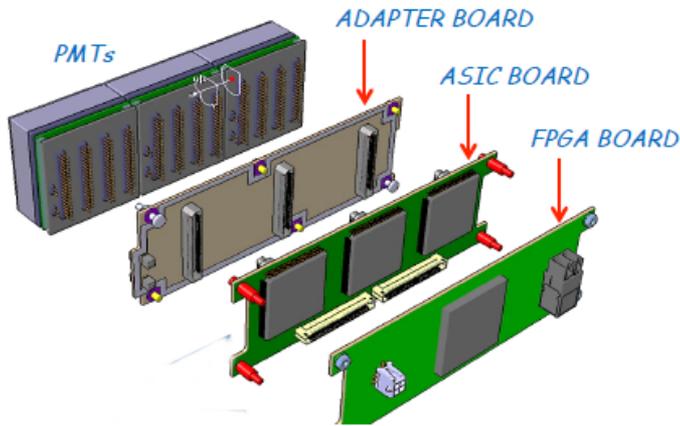


CLAS12 RICH Readout Electronics

- Compact (matches sensor area)
- Modular Front-End (Mechanical adapter, ASIC, FPGA)
- Scalable fiber optic DAQ (TCP/IP or SSP)
- Tessellated (common HV, LV and optical fiber)



Adapter & Asics Boards

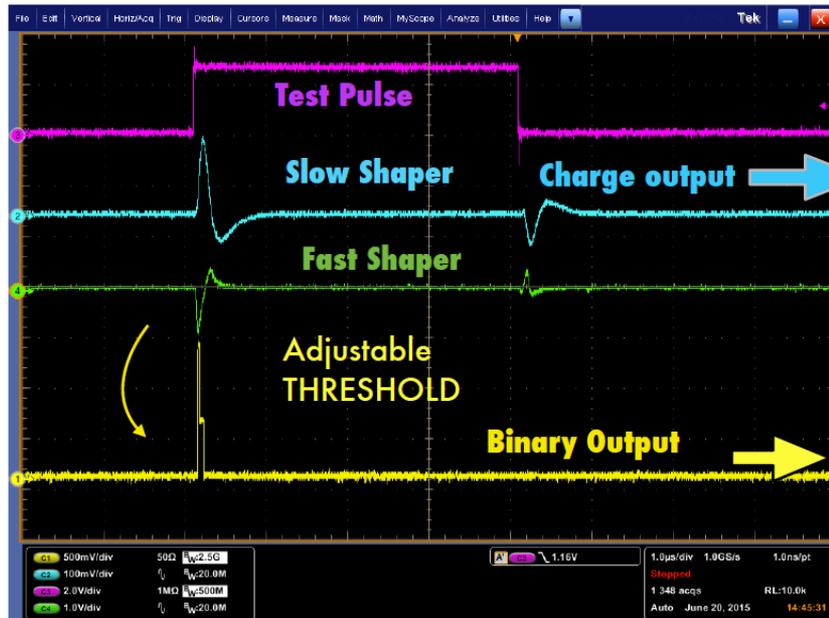


FPGA Board

SSP Fiber-Optic DAQ



example of MAROC signal processing



Single channel response, 1 microsecond/div

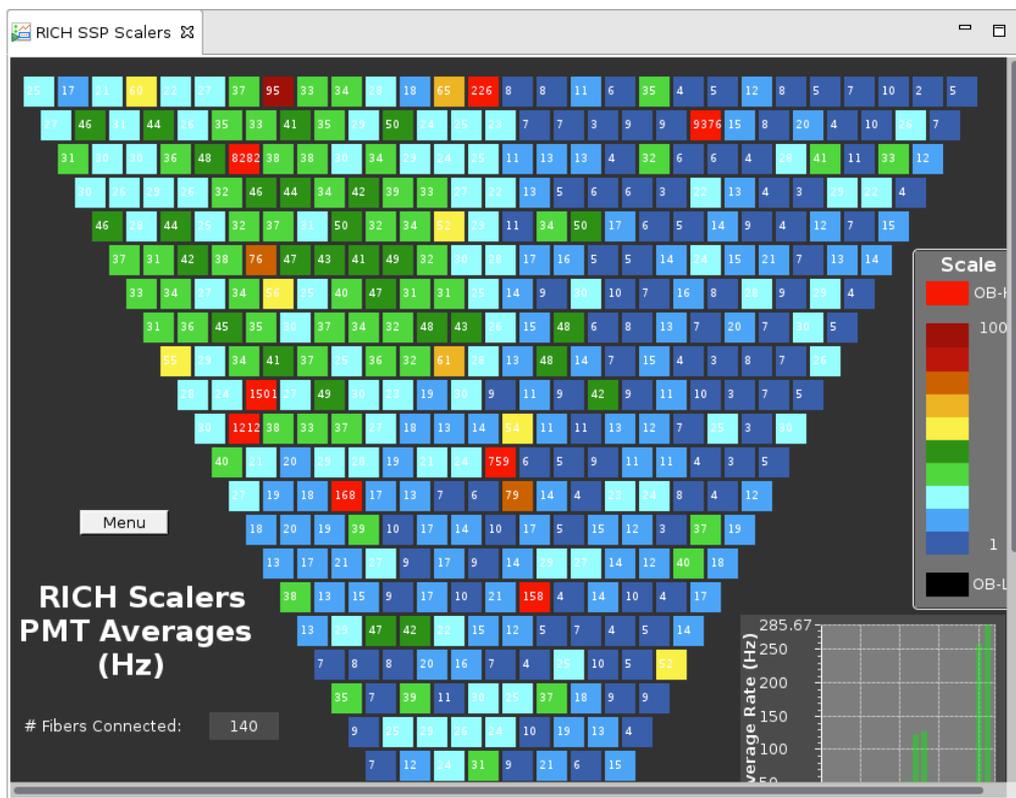
- Analog: Charge (1 fC)
- Digital: Time (1 ns)
- Trigger latency (8 μ s)
- Optical ethernet (2.5 Gbps)
- Trigger: external, internal, self
- On-board pulser

Slow Control

Scalers

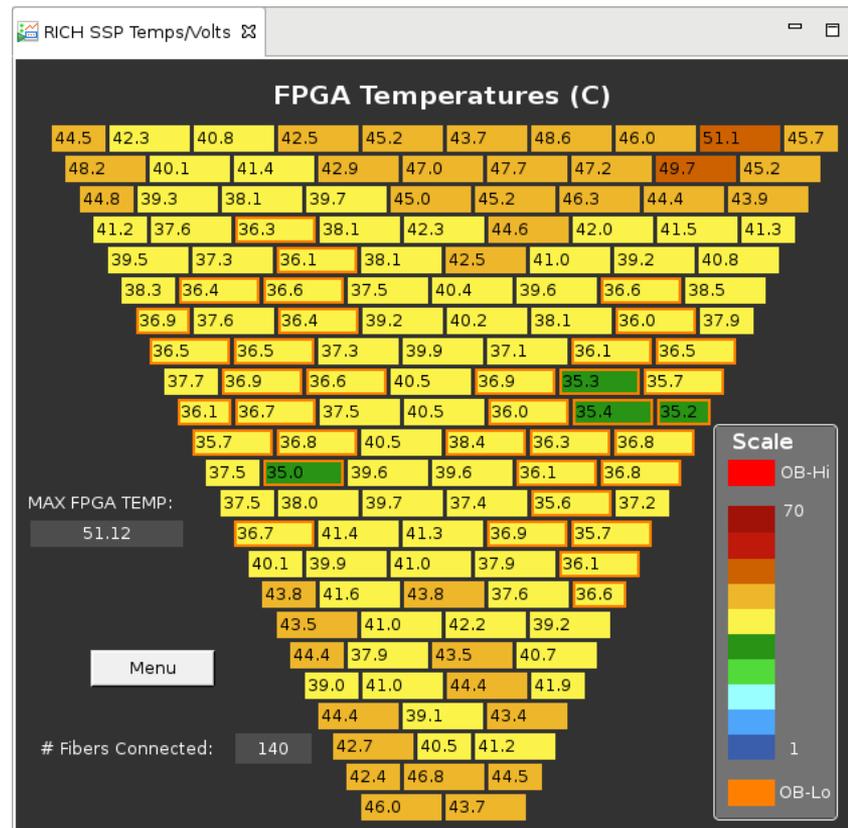
Hot or dead channels

LED single photon illumination



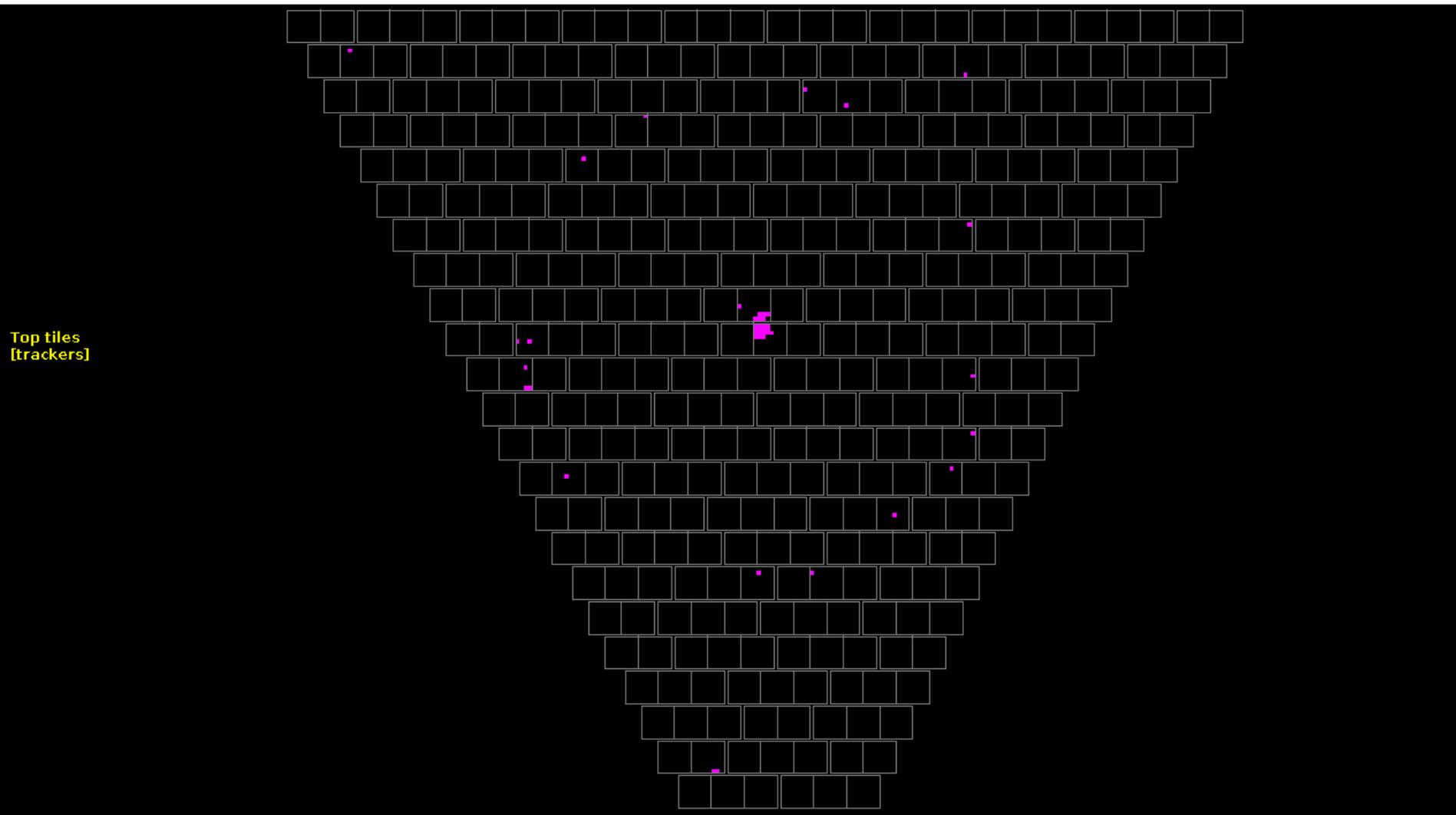
Temperature Map

Upgraded to software interlock



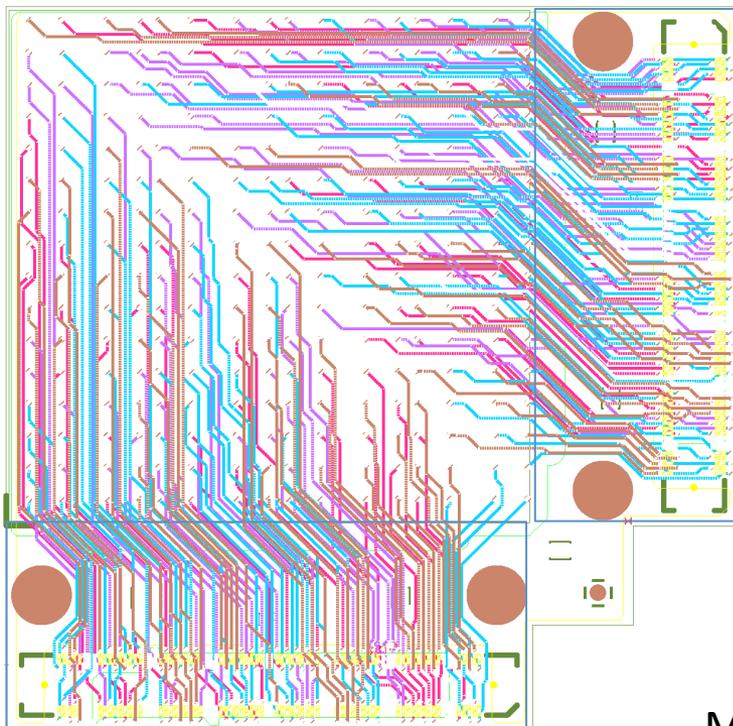
Cosmic Stand

run #011636 / Event #8



Photon Sensor: SiPM

2-side buttable structure,
Suitable for MPPC and SiPM matrices
Sensor backside free for cooling



Adapter to MAROCx2
128 readout channels

Adapter to MAROCx2
128 readout channels

Mechanical support via the adapters
attached to a PVC plate with machined
holes for screw and connectors
(CLAS12 RICH solution)