

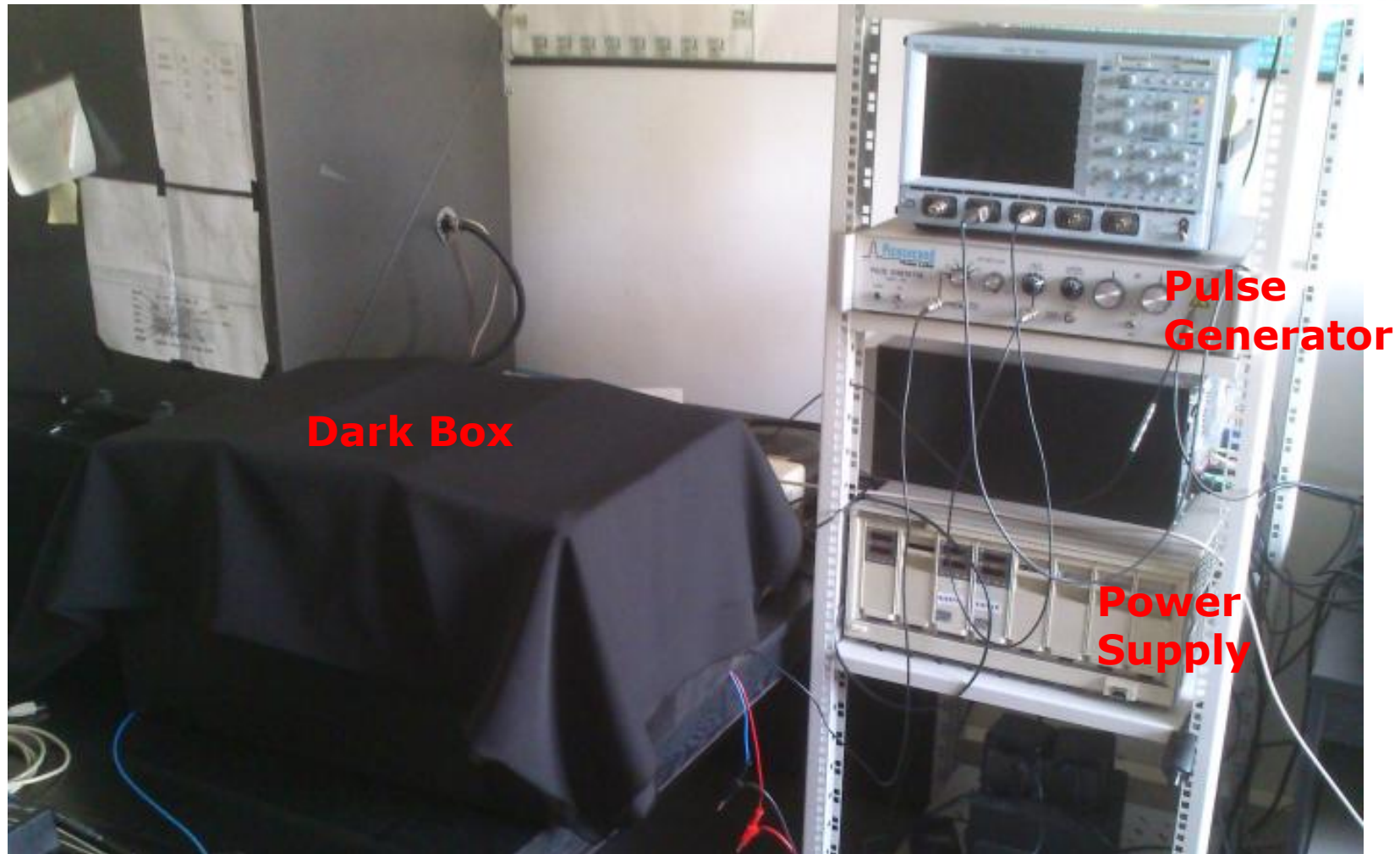


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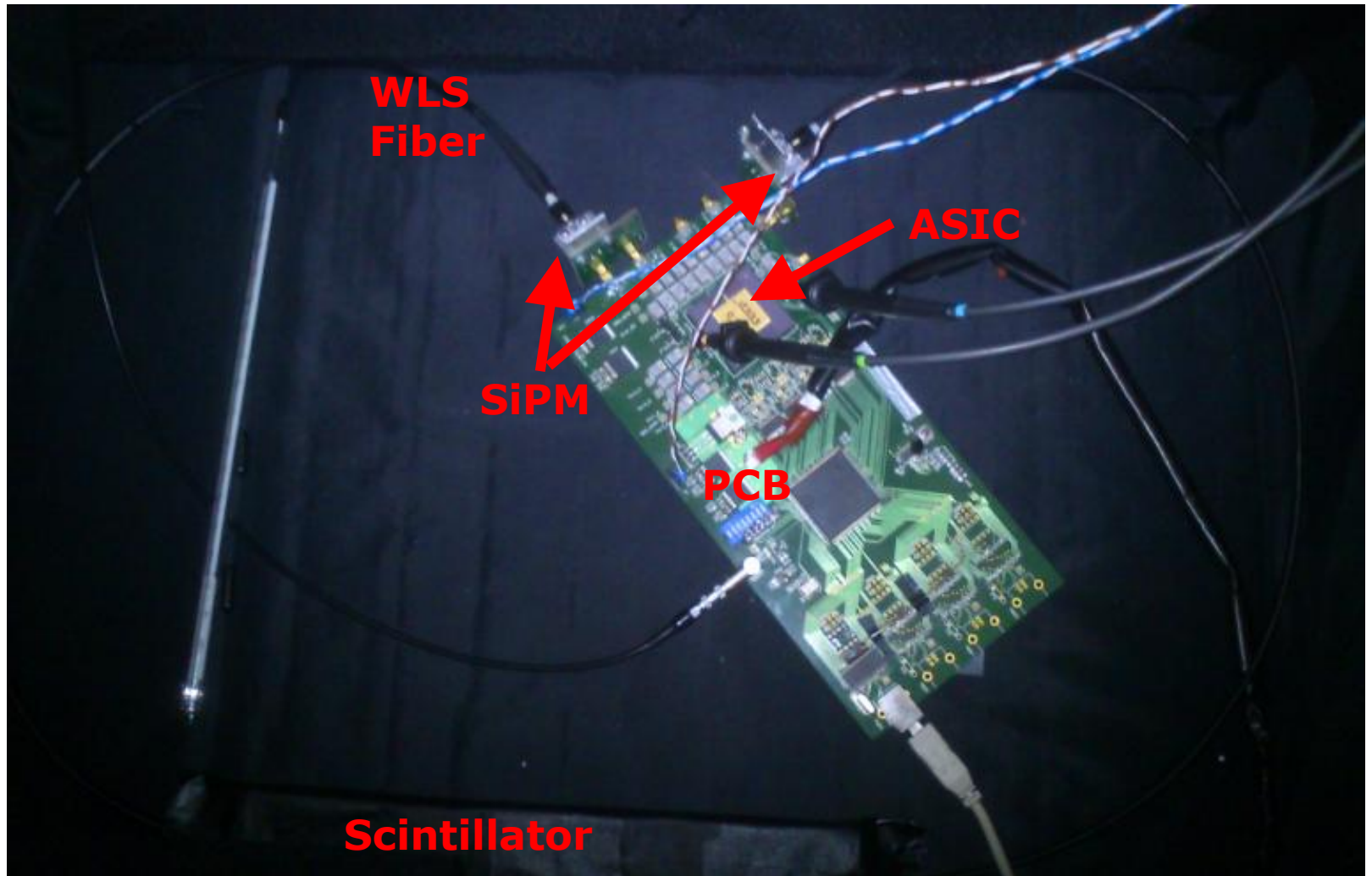
Acquisition System for Cosmic Ray Measurements

Mateusz Baszczyk, Piotr Dorosz, Bartłomiej Rachwał
On behalf of AGH University of Science and Technology

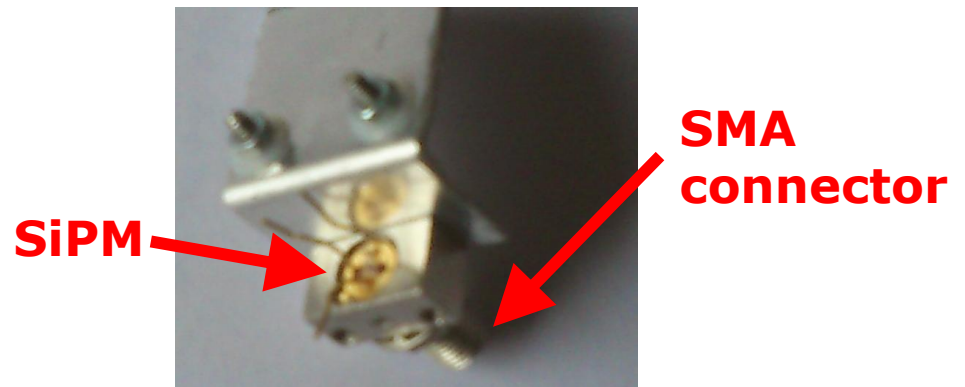
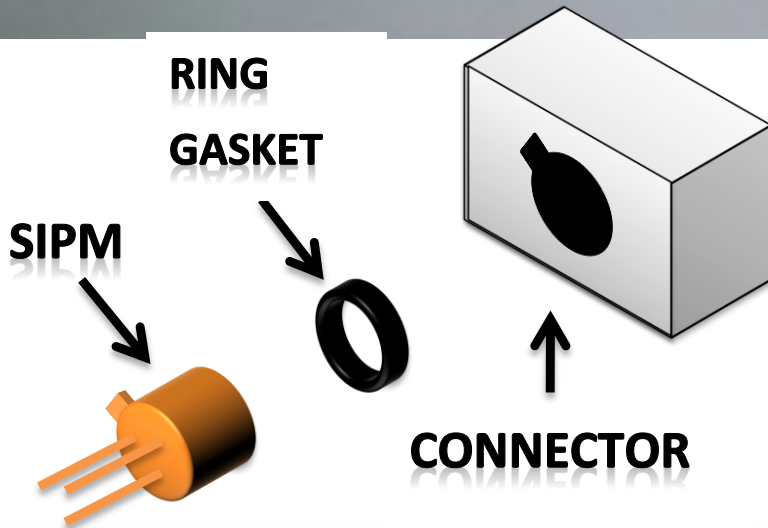
Measurement system



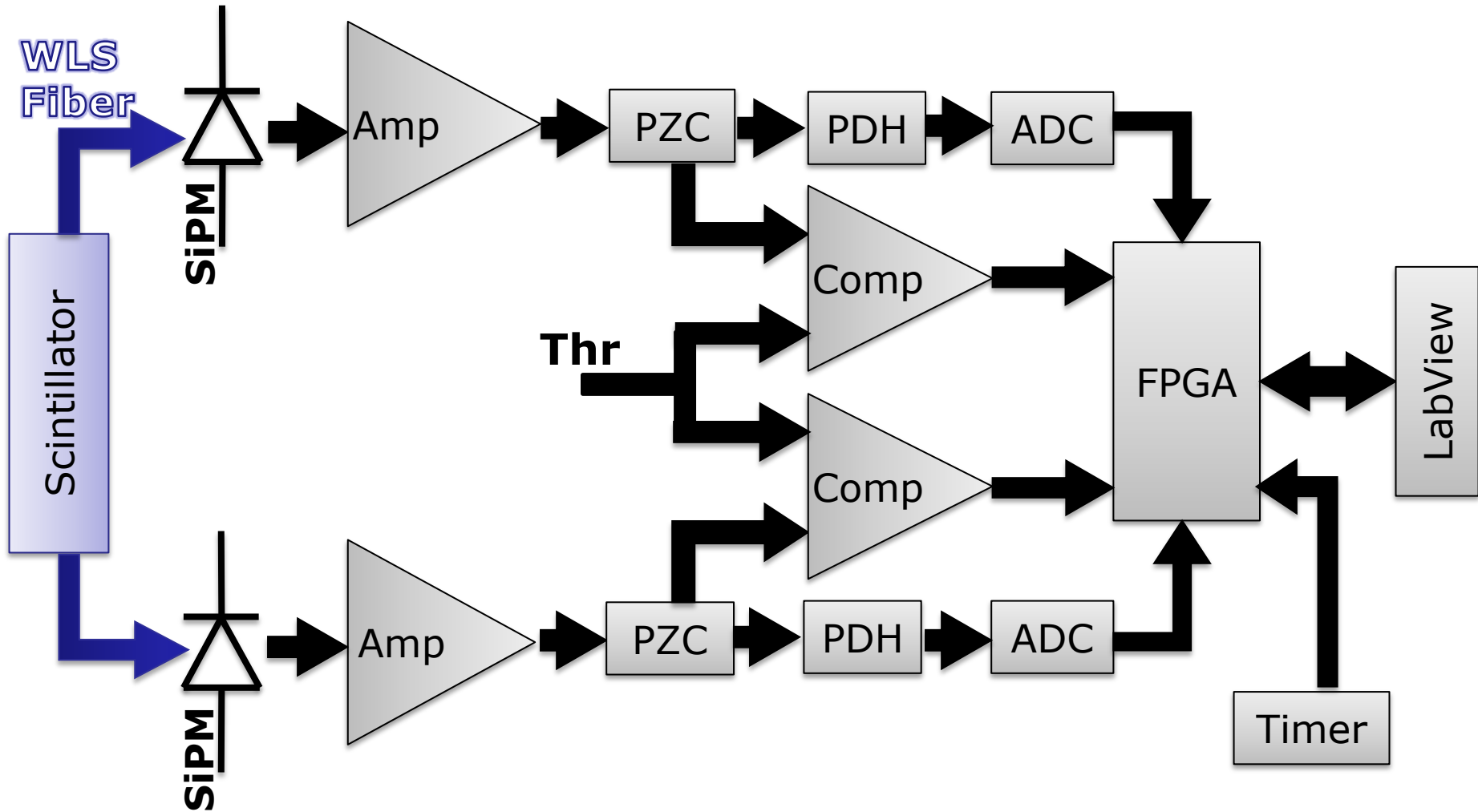
Dark Box



Scintillators and WLS Fiber



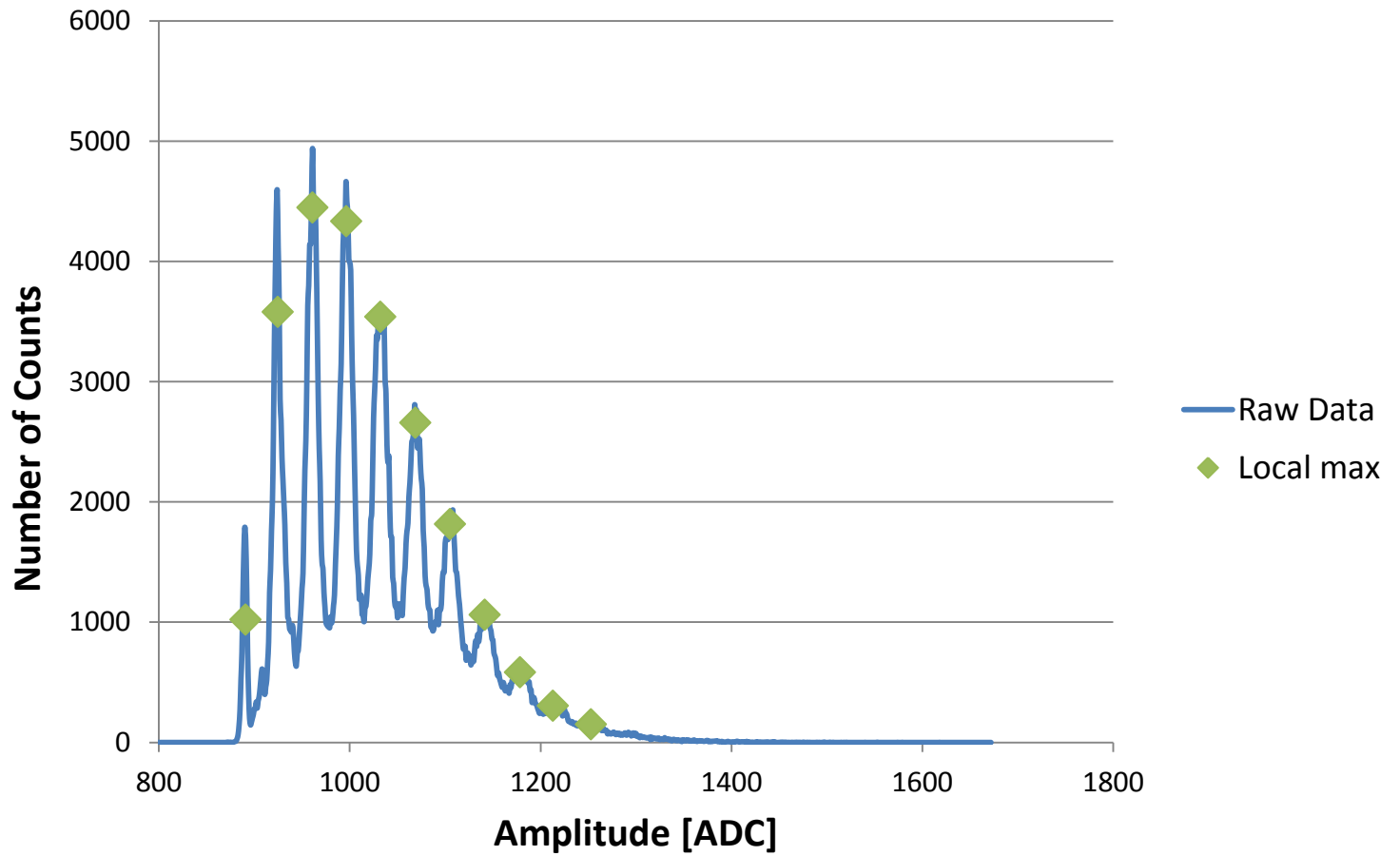
Data Acquisition System



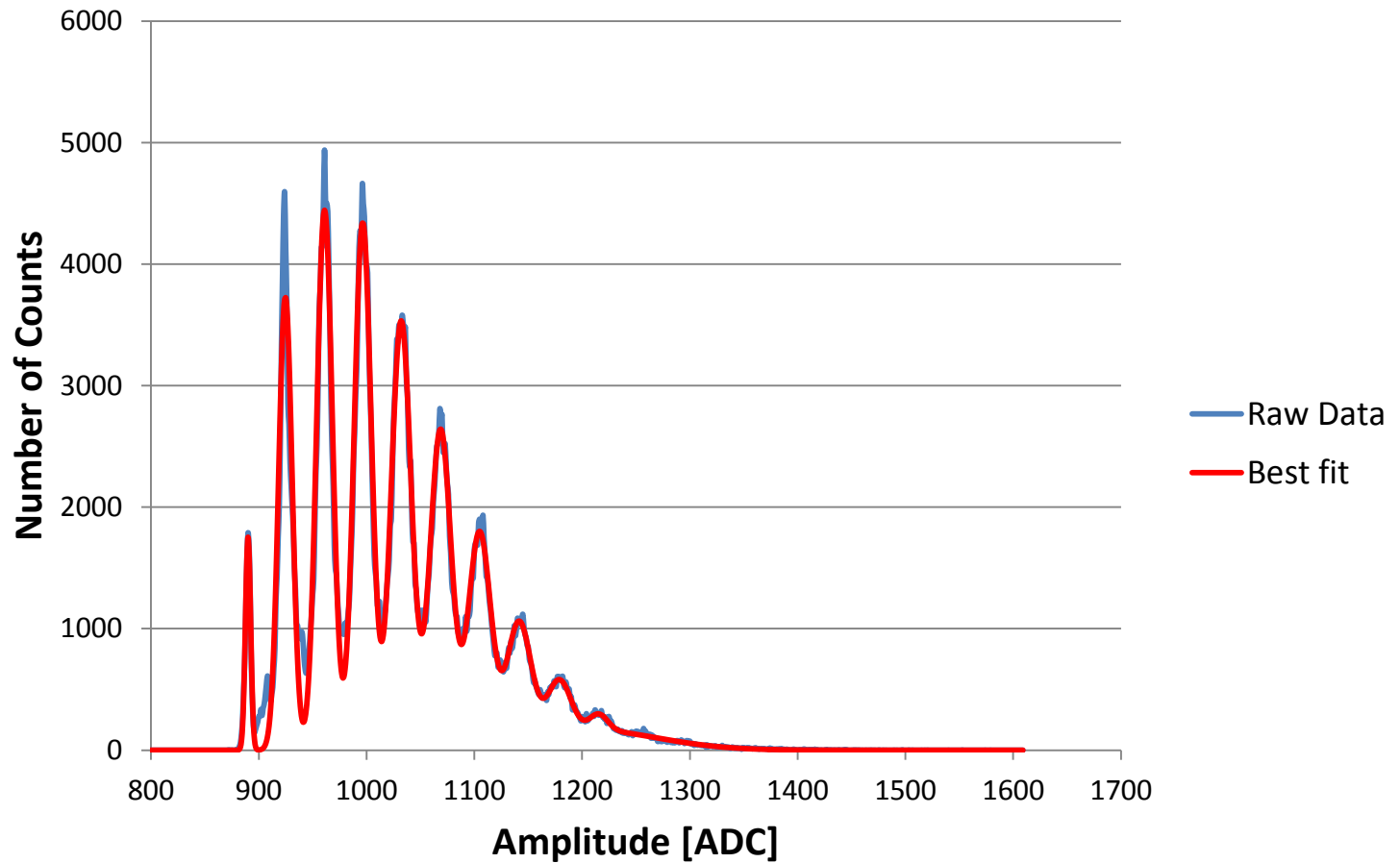
Parameter	S10362-11		Unit
	-50U	-100U	
Effective active area	1 x 1		mm
Number of pixels	400	100	-
Pixel Size	50 x 50	100 x 100	um
Photon Detection Efficiency	50	65	%



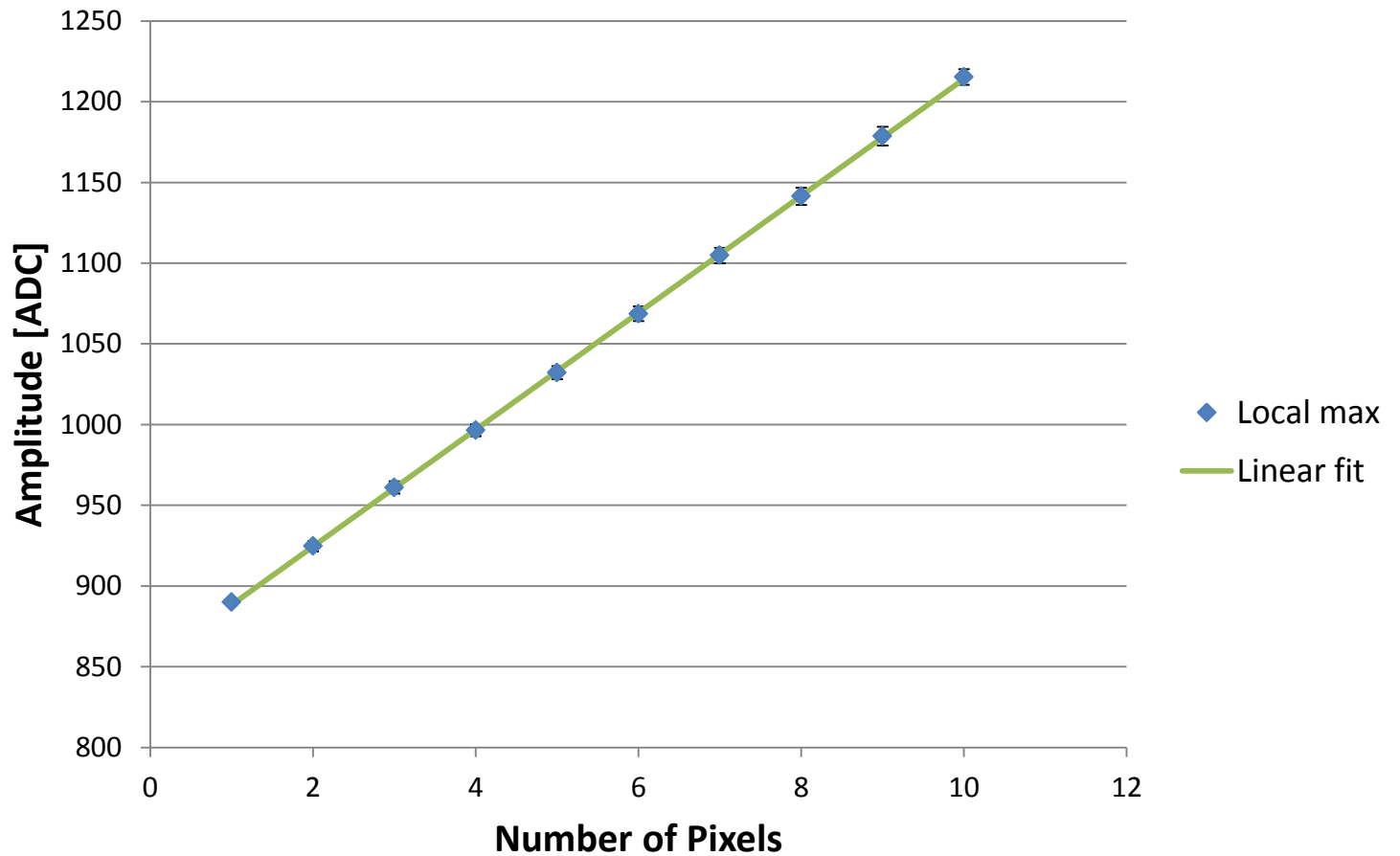
LED Calibration - CH1



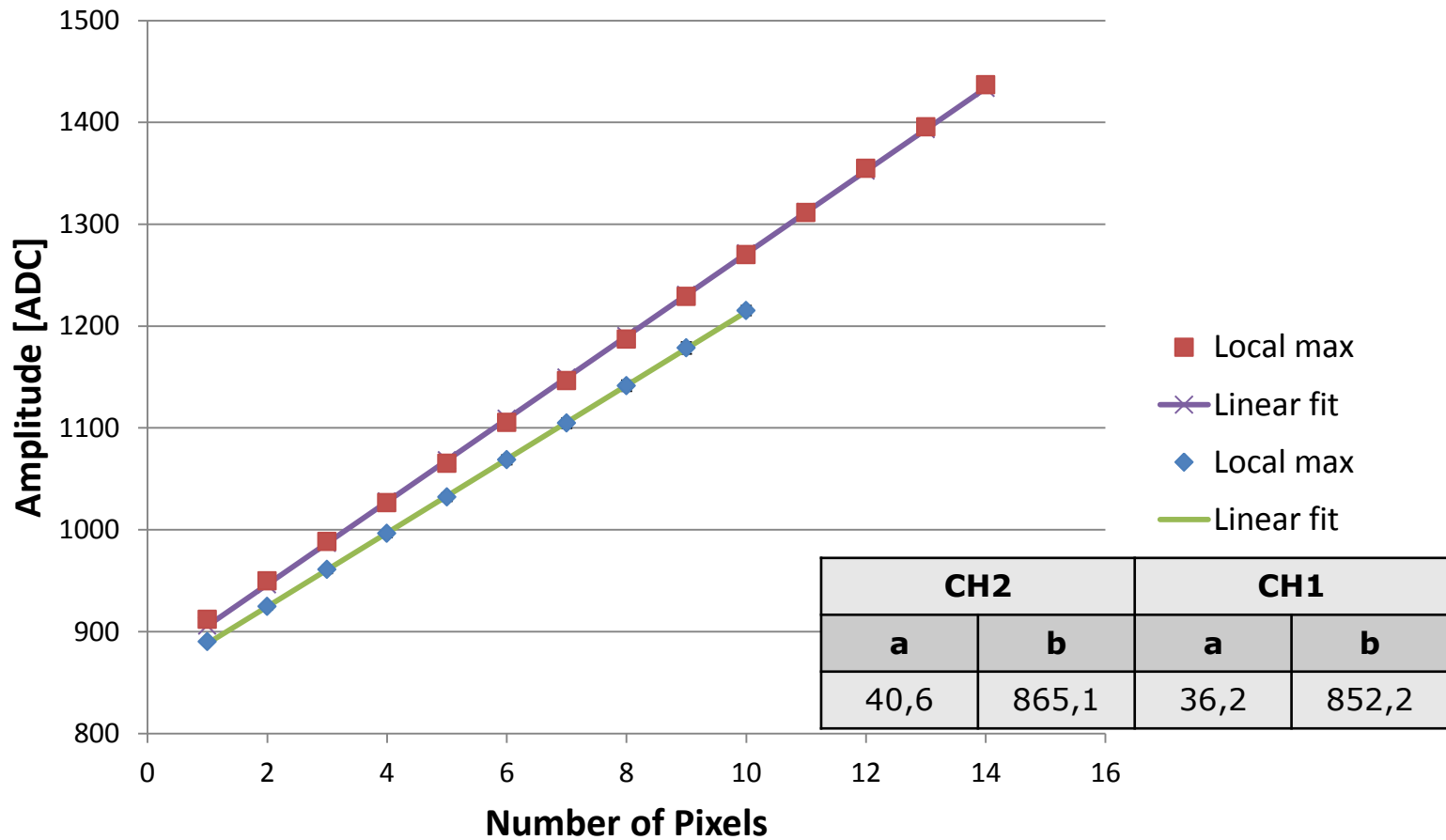
LED Calibration, nonlinear fit – CH1



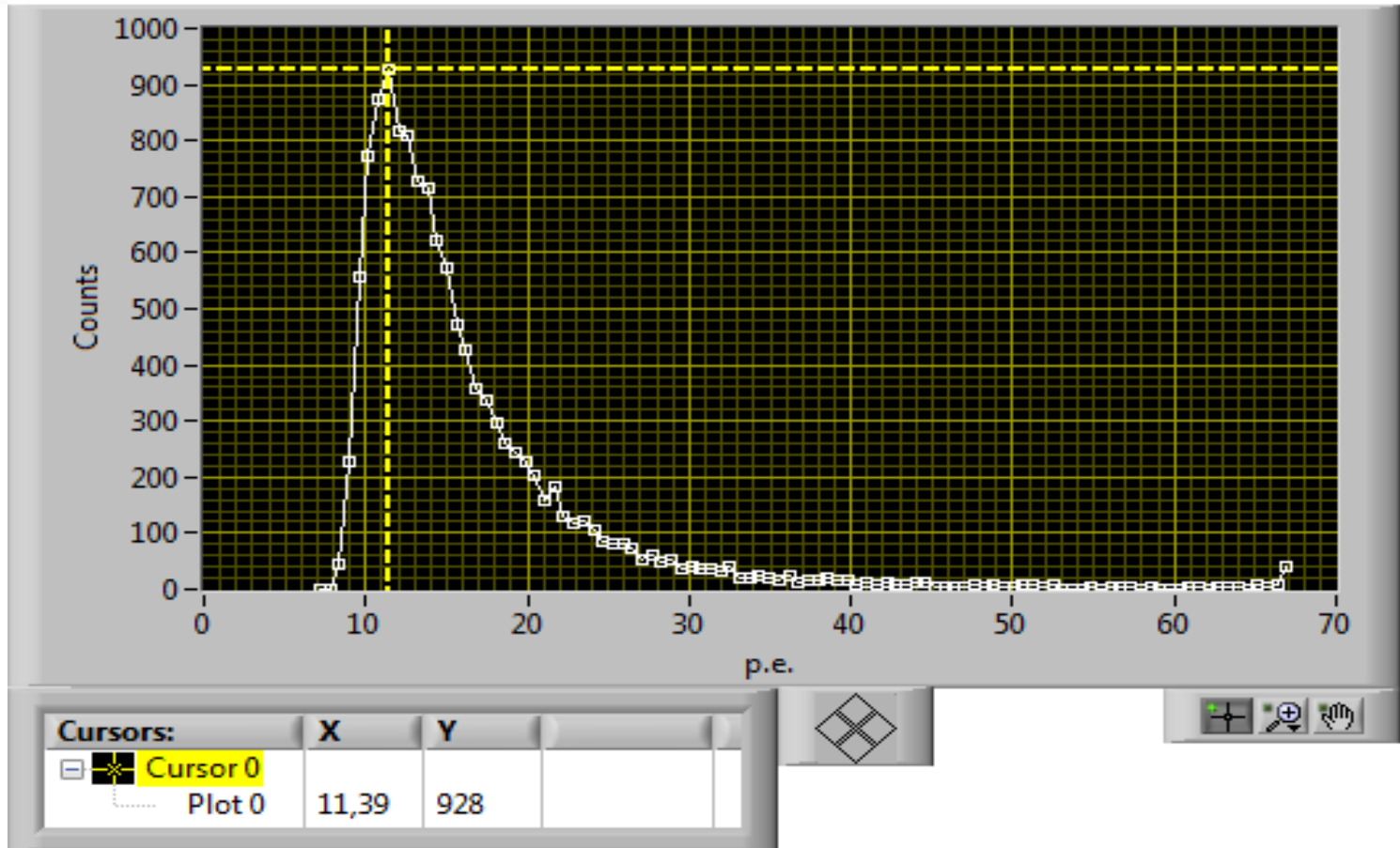
LED Calibration, gain - CH1



LED Calibration , gain – CH1 + CH2



First Measurements



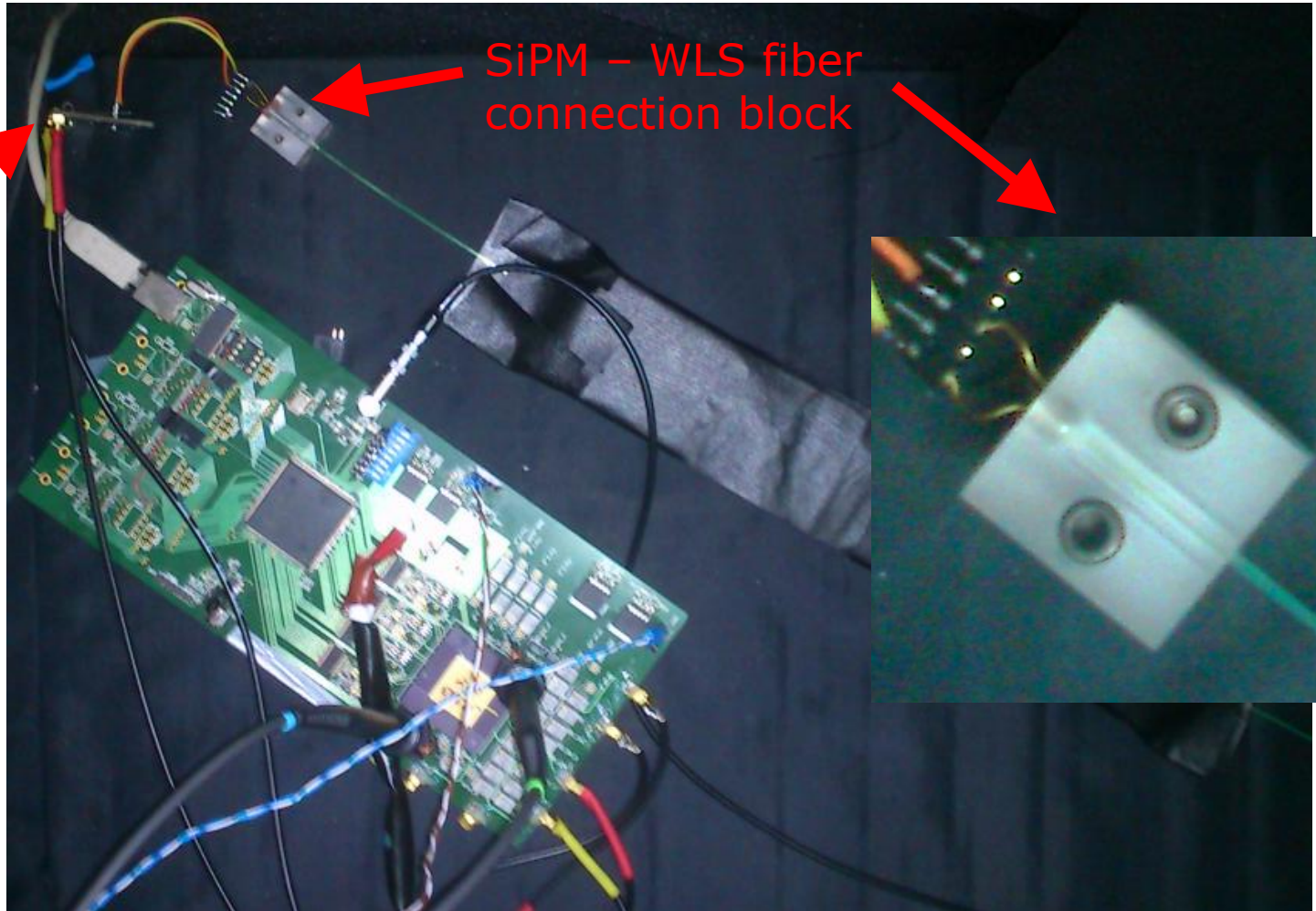
Thr=3p.e.

- Bending diameters of WLS fibre could be too small – small radius.
- SiPM – WLS fiber connection block - distance between Fiber and SiPM was further too large.

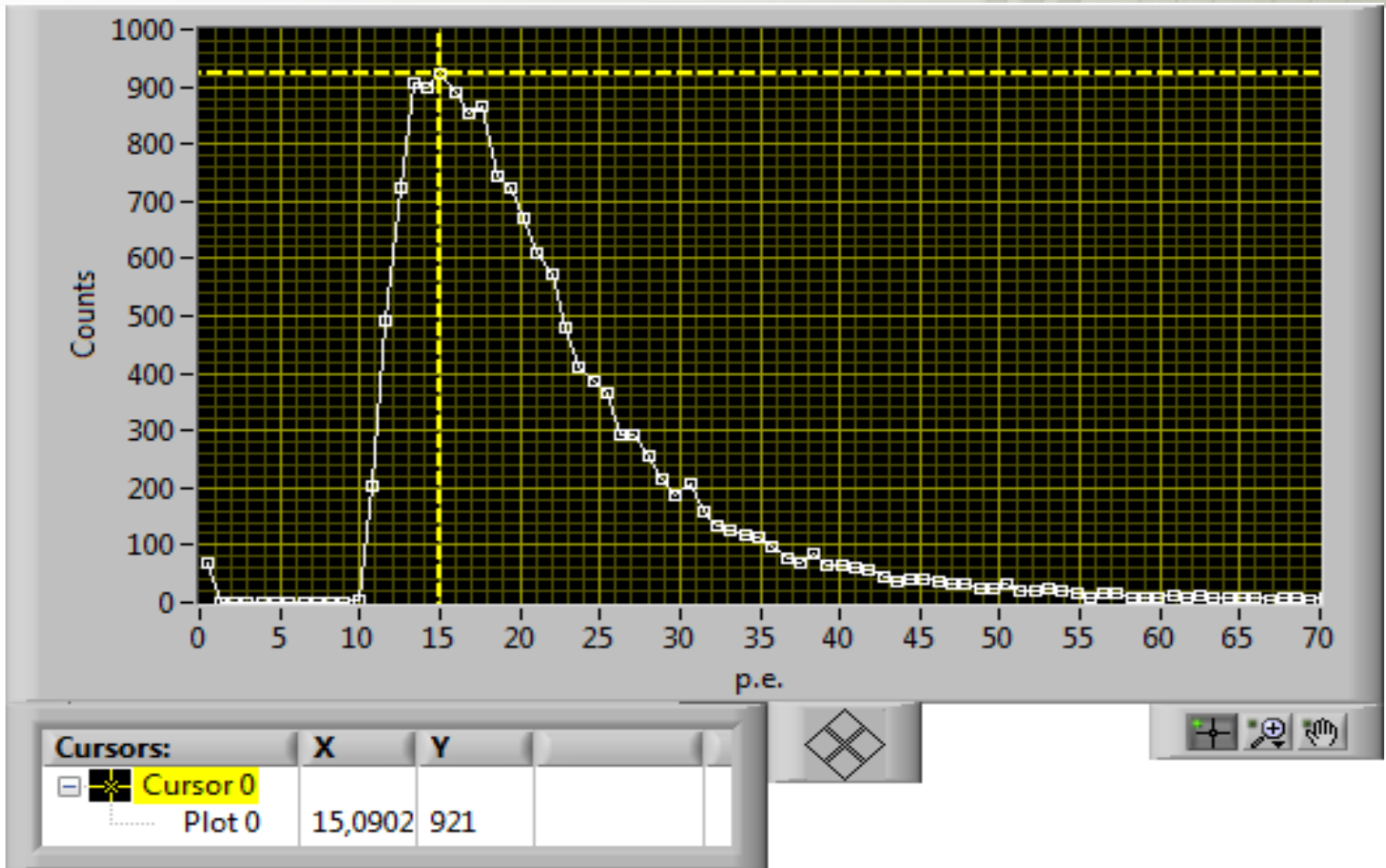
Dark Box

Cabels from
SiPM to PCB
Board
(minimum
bending
diameter)

SiPM – WLS fiber
connection block



First Measurements



Thr=3p.e.

Further Steps

- More accurate SiPM – WLS fiber connection block.
- Check SiPM S10362-11-50C with ceramic package – have no isolating glass before active area.

