INFN Rome Silicon microstrip Detector for SBS

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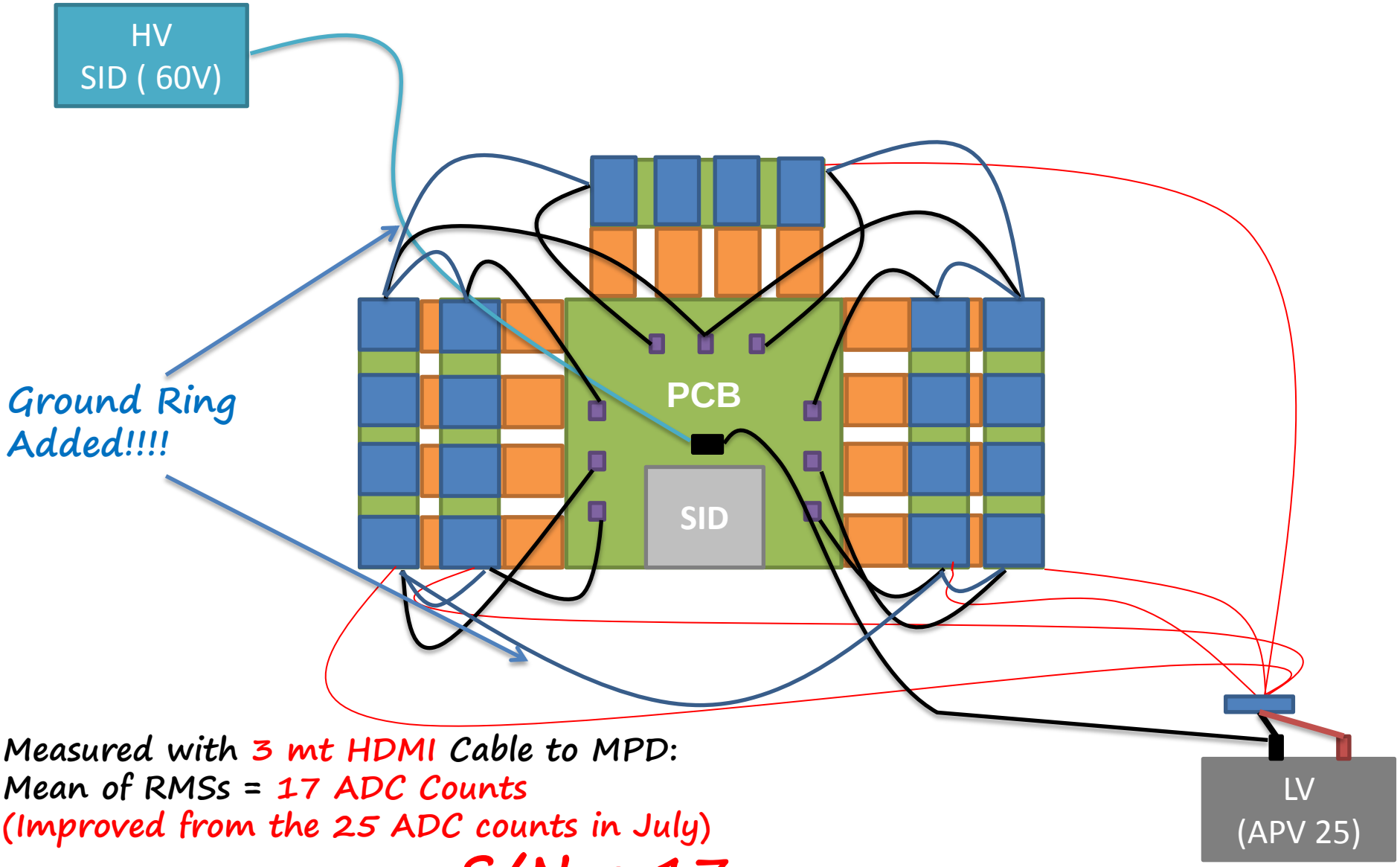
Ground Improvement
Part 2

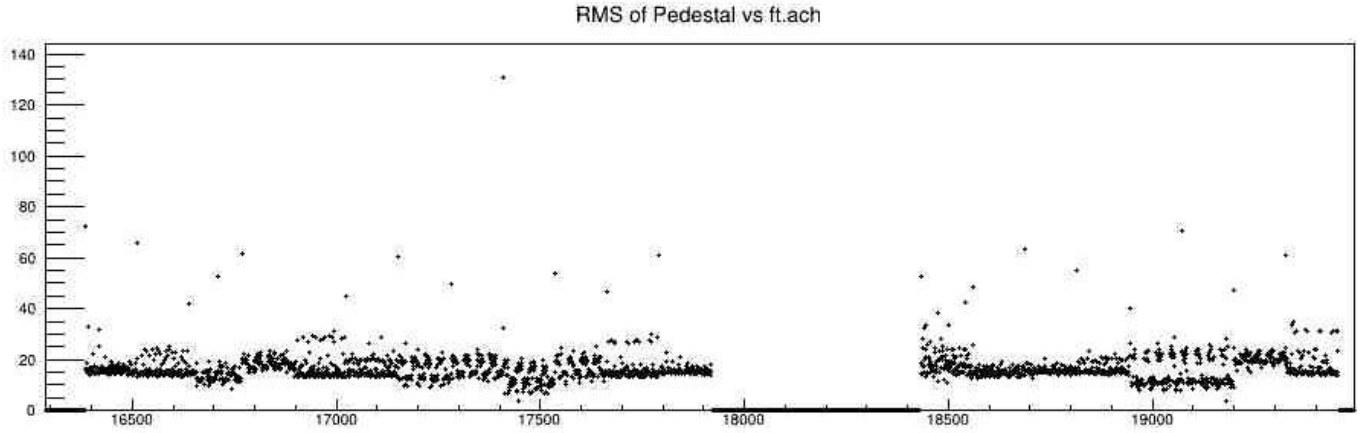
Improved Ground System (Star + Ring)



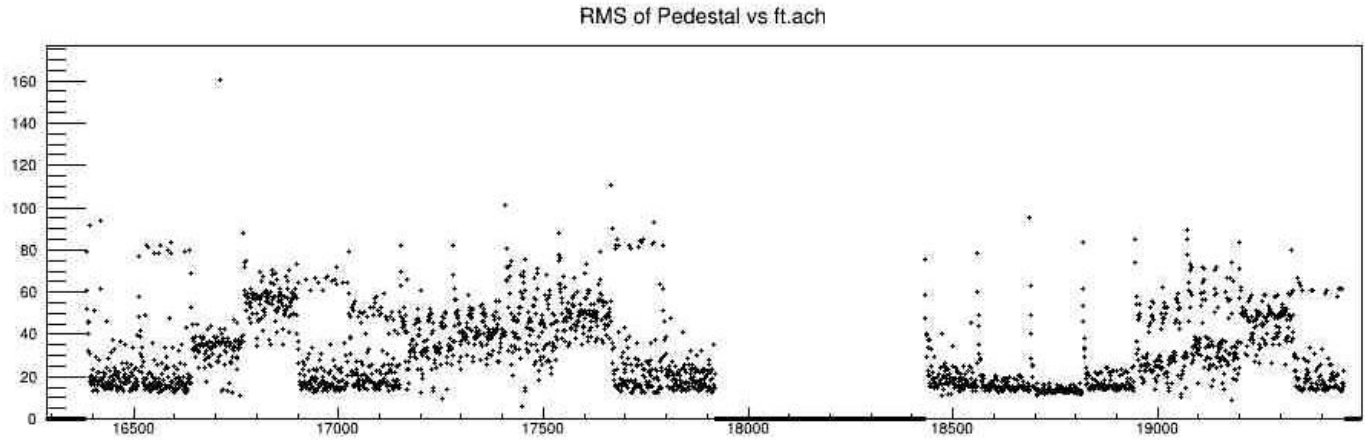
Measured with 3 mt HDMI Cable to MPD:
Mean of RMSs = 17 ADC Counts
(Improved from the 25 ADC counts in July)

S/N = 17

AVP25 to MPD : 3 m HDMI Cable vs 23 m HDMI Cable



3 m HDMI Cable
Mean of RMSs =
17 ADC Counts
S/N = 17



23 m HDMI Cable
Mean of RMSs =
30 ADC Counts
S/N = 10
(40 ADC Sounts in July)

Pulse Laser Test

Pulse Laser Test Station

A dedicated test System will generate some pseudo-mip inside the SiD using a pulse laser and one optical fiber located over the SiD.

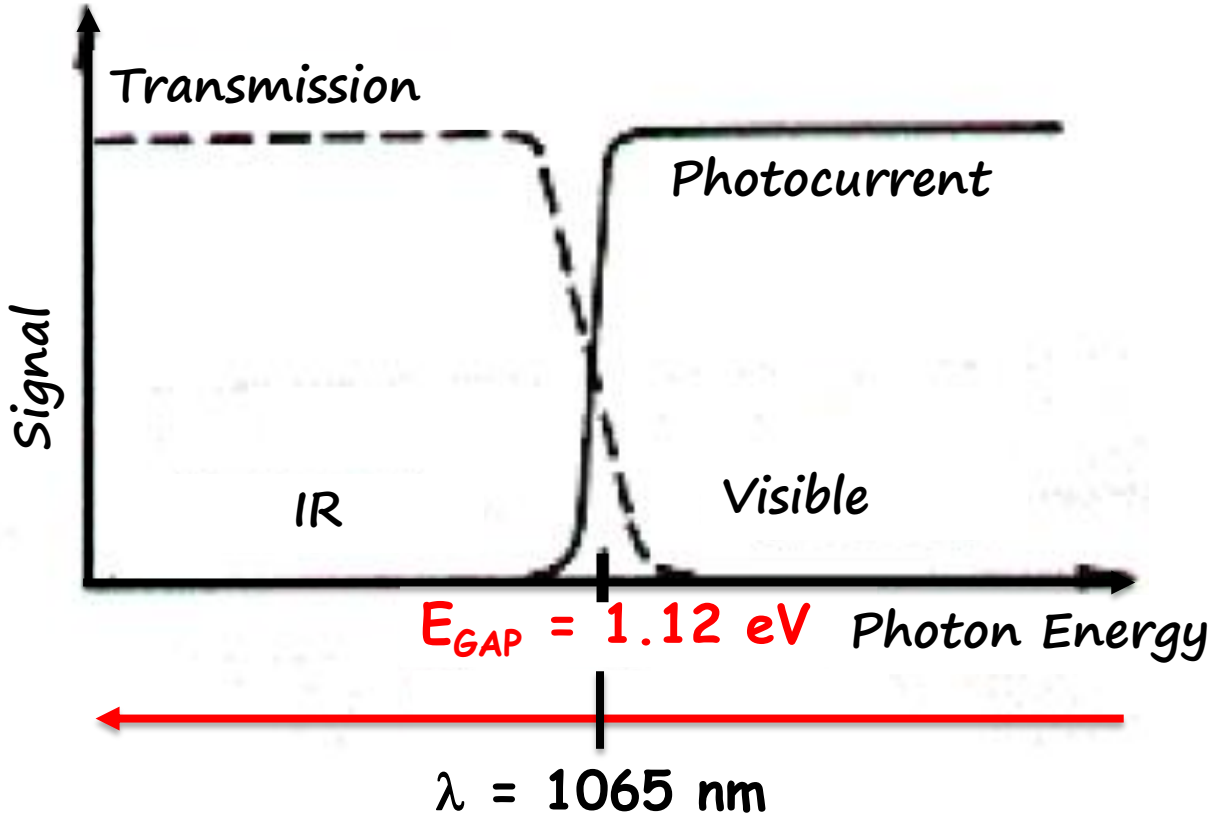
This system will:

- Test SiD efficiency (Good channels/Bad Channels)
- Test Read-Out electronics
- Measure SiD S/N Ratio
- Be always avaible (Test Beam is not always avaible!!!)

Hardware features:

- XYZ motorized 5 μm step stage for fiber positioning
- Θ manual adjustement
- SMJ 5-125 Optical Fiber
- Pulsed Laser ($\lambda \approx 1065$ μm, near-IR)
- Camera for SiD alignment with the system

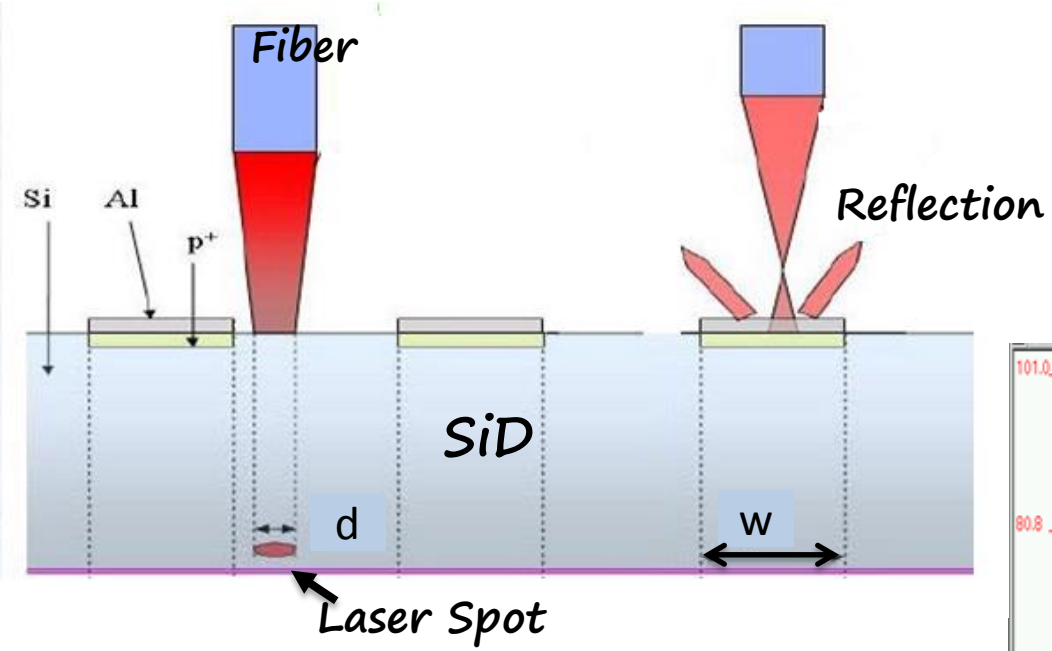
Wavelength choice



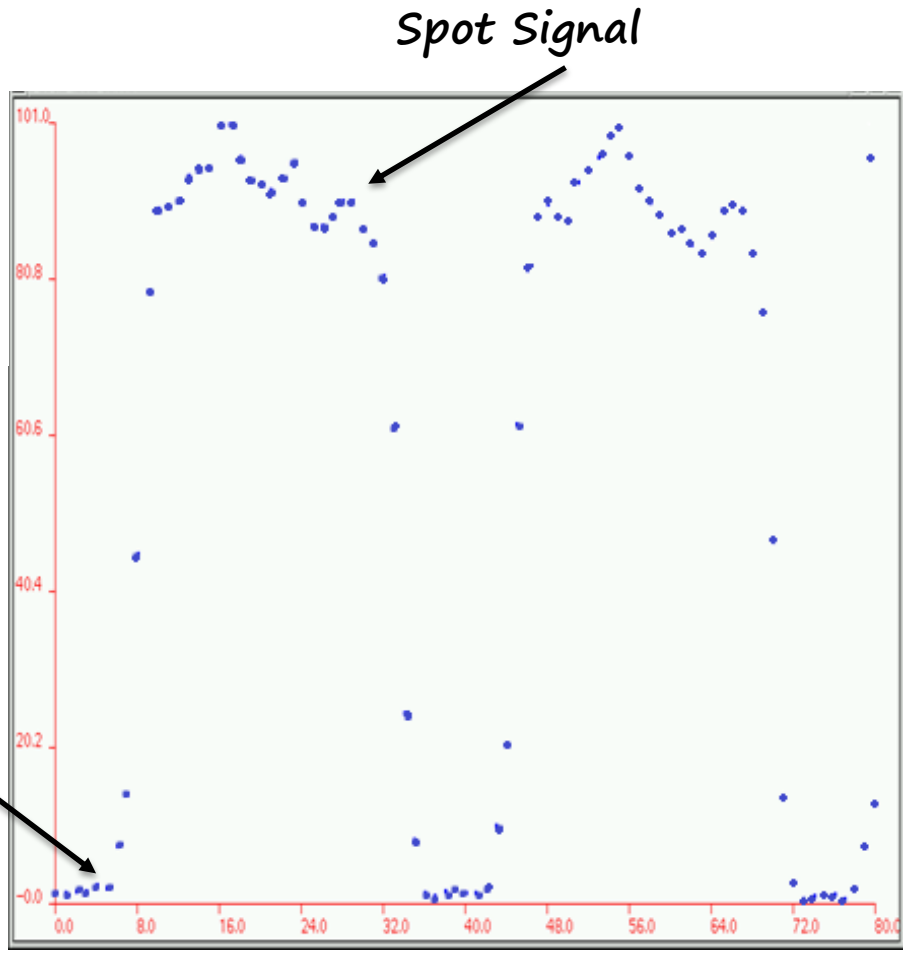
High number of photons goes through SiD without interaction!

BUT a small amount generate Signal !!!!!!!!!!!!!!!!!

How it works



Laser Spot must be smaller that SiD half Pitch (5µm vs 25 µm)



Is possible to measure d, w, pitch and efficiency