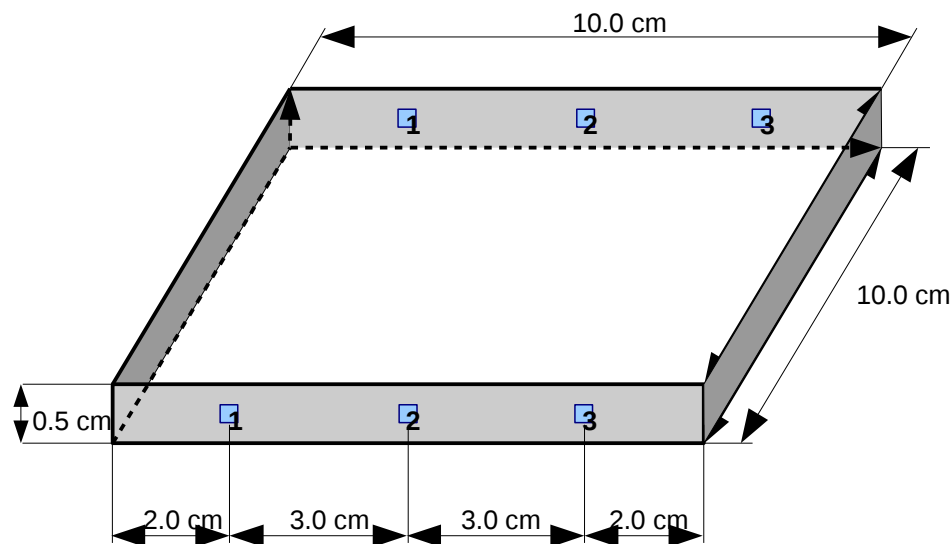


Test on different tile configurations

P.W.Cattaneo, M. Prata, G.L. Raselli, A. Rappoldi, M. Rossella

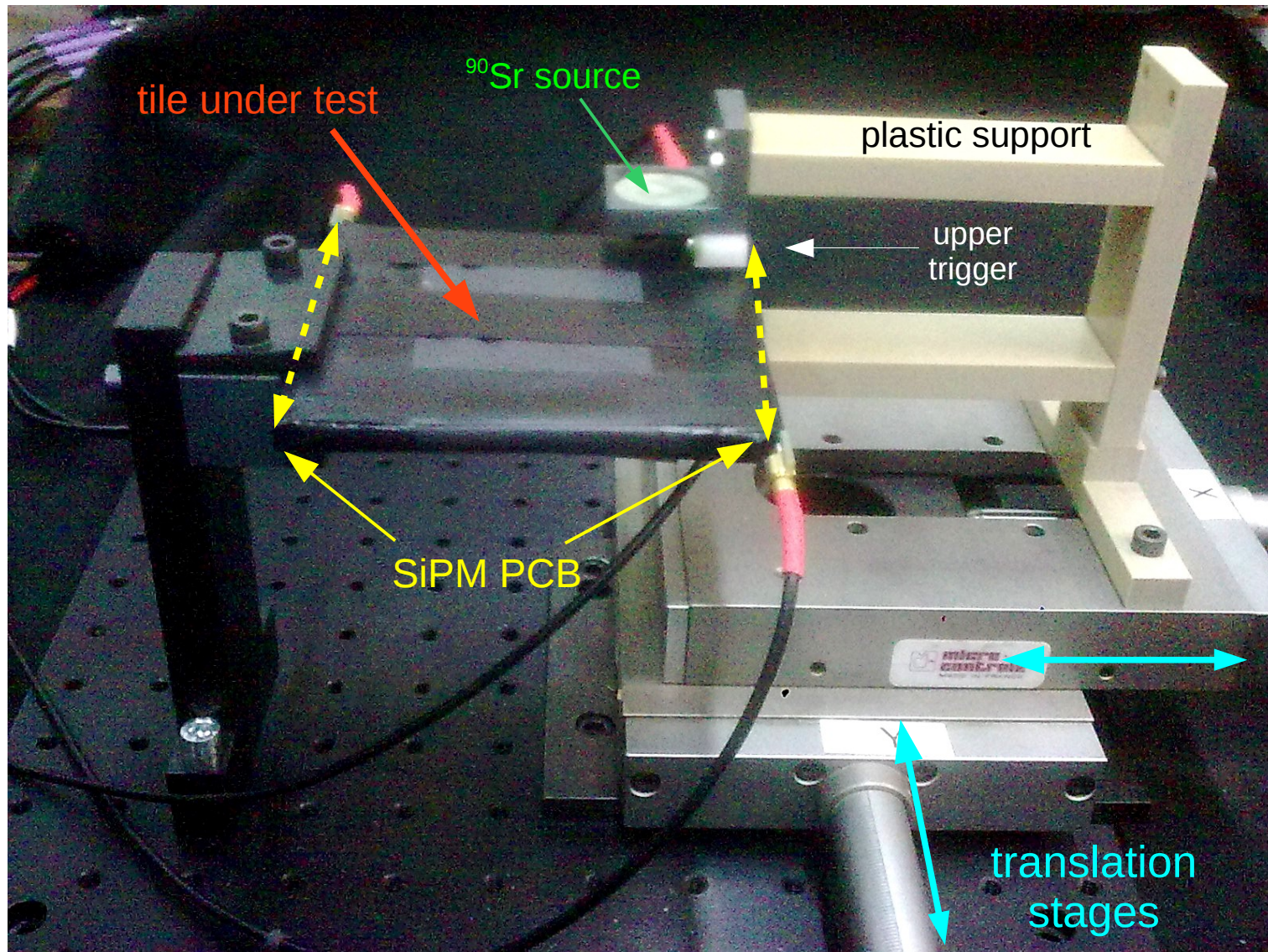


Test performed on a $10 \times 10 \times 0.5 \text{ cm}^3$ plastic scintillator tile (EJ200 type)

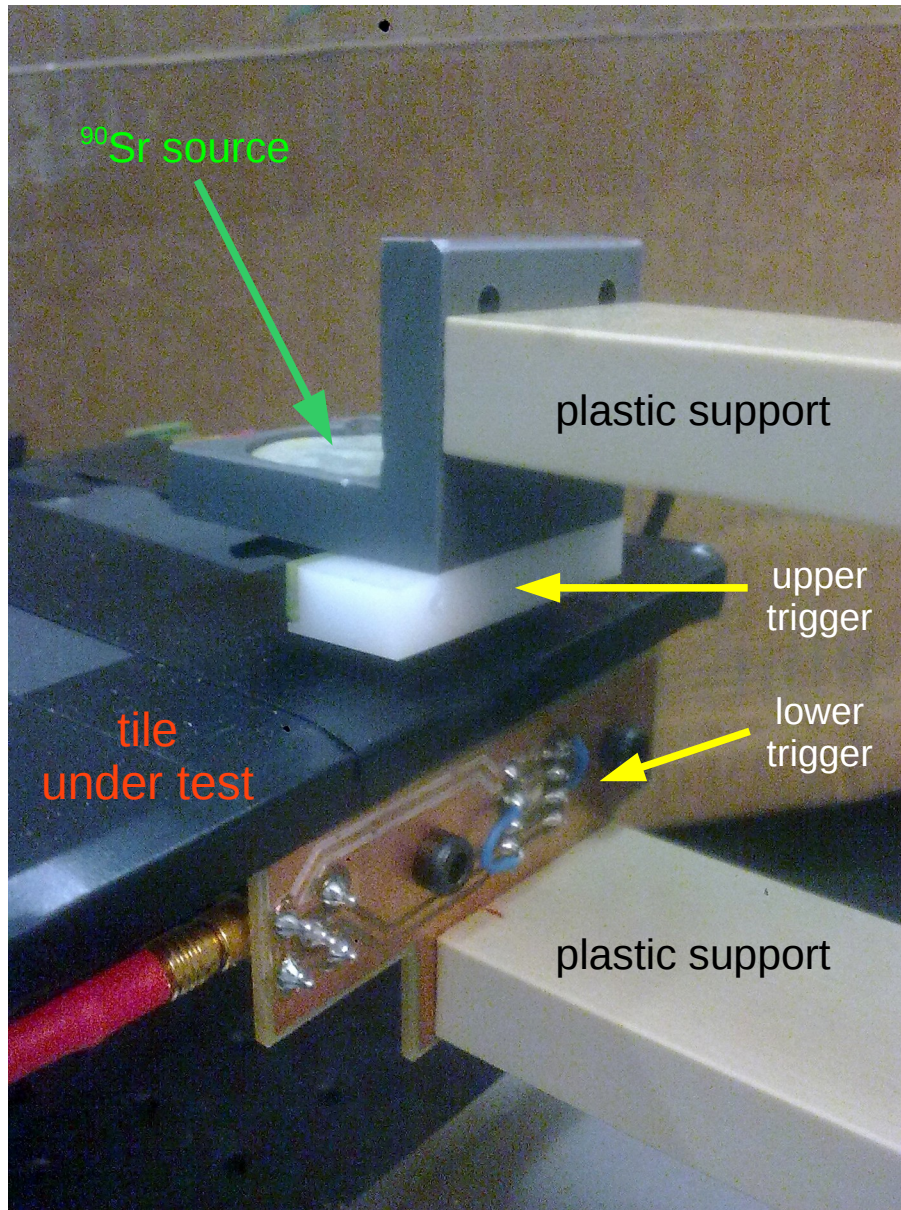
Equipped with 6 Ham. S12572 SiPMs, $50 \mu\text{m}$, $3 \times 3 \text{ mm}^2$ (mounted on 2 PCB, placed on opposite edges)

The SiPM signals are acquired with a Tektronix MSO64 oscilloscope without amplification

Test performed with a ^{90}Sr source



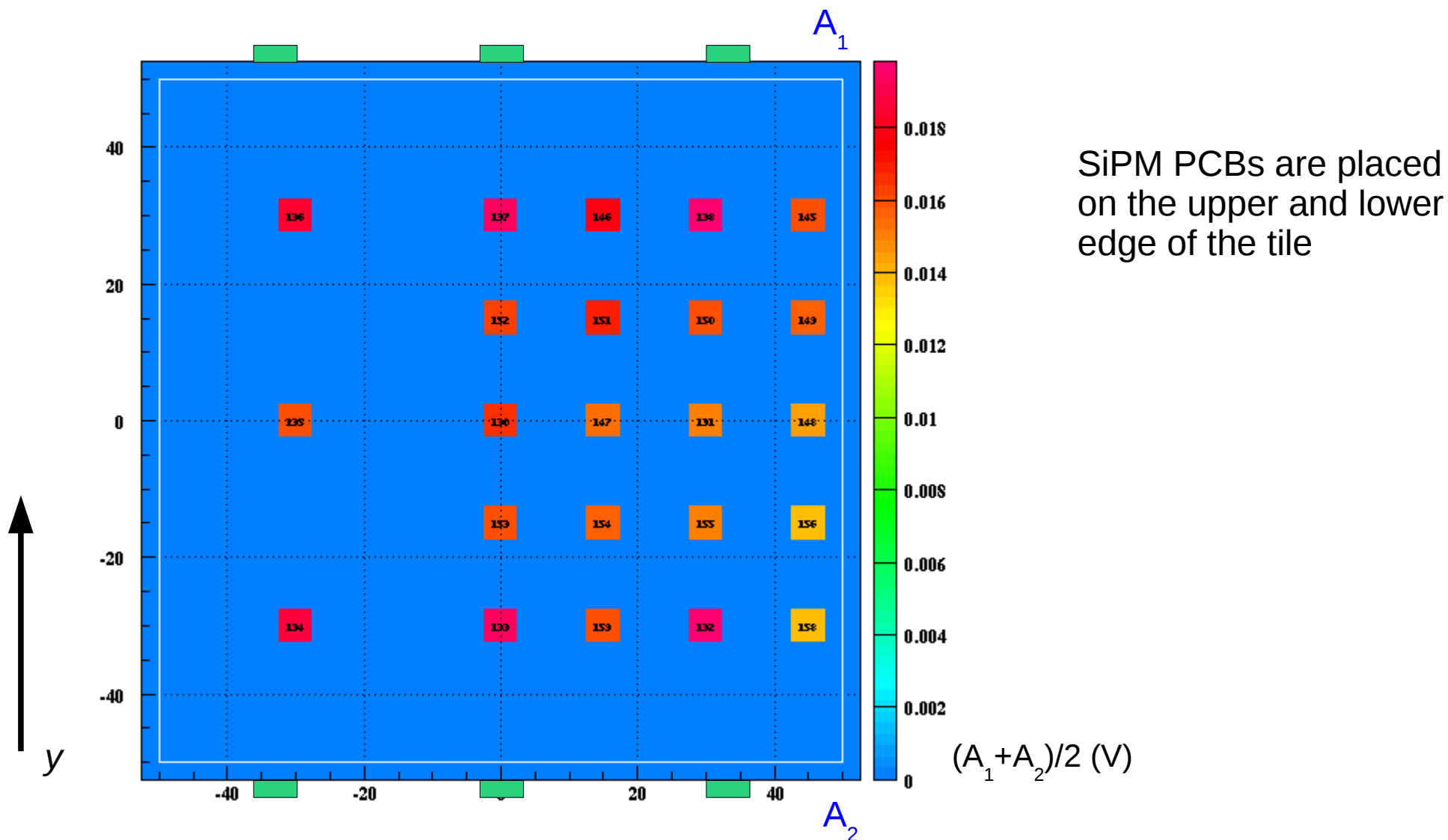
Test performed with a ^{90}Sr source



the trigger is given by
a small telescope

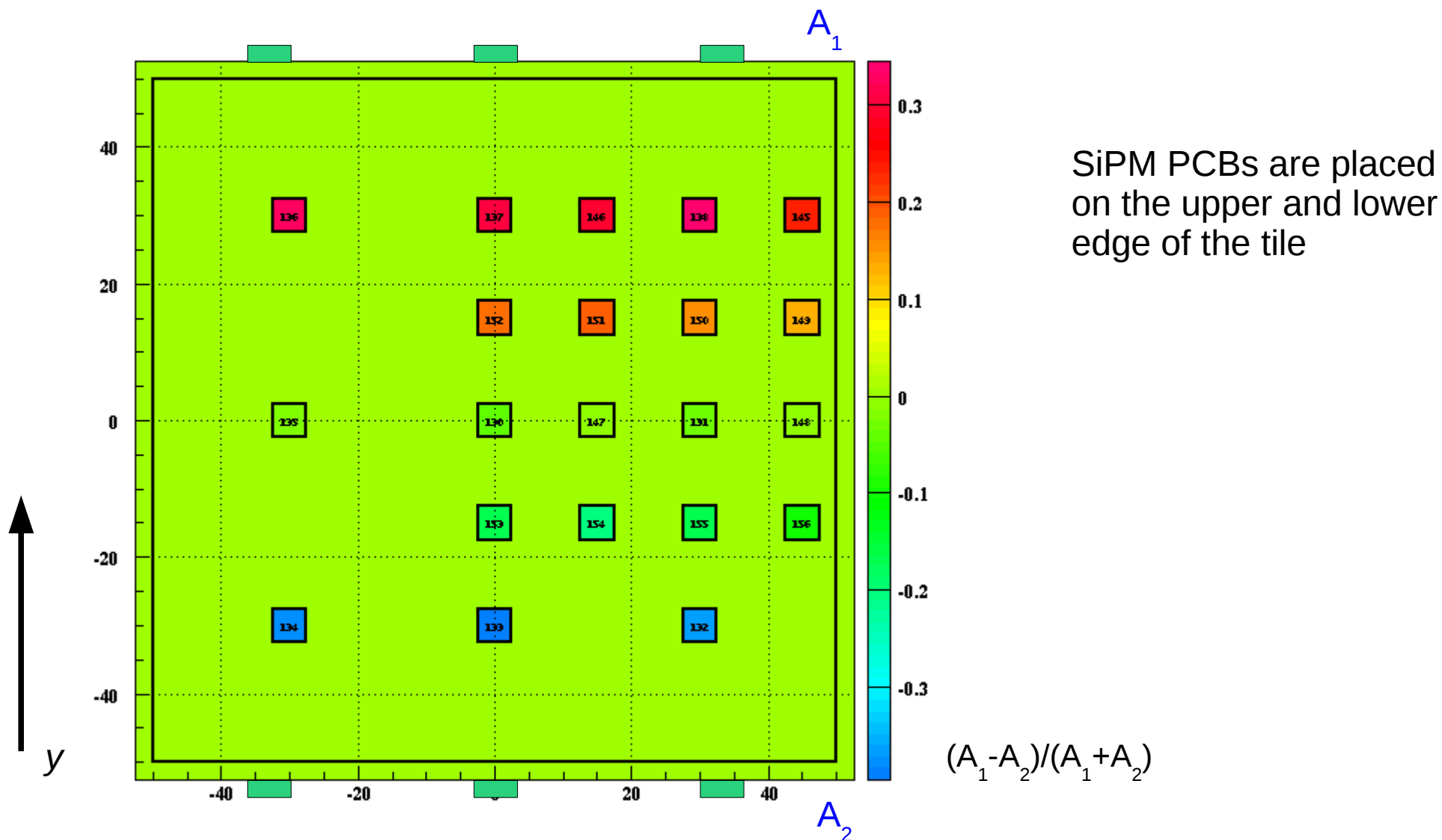
Signal amplitude uniformity

The mean of the signals of the two side $(A_1 + A_2)/2$ is considered
A good uniformity is observed (within 10-20 %)

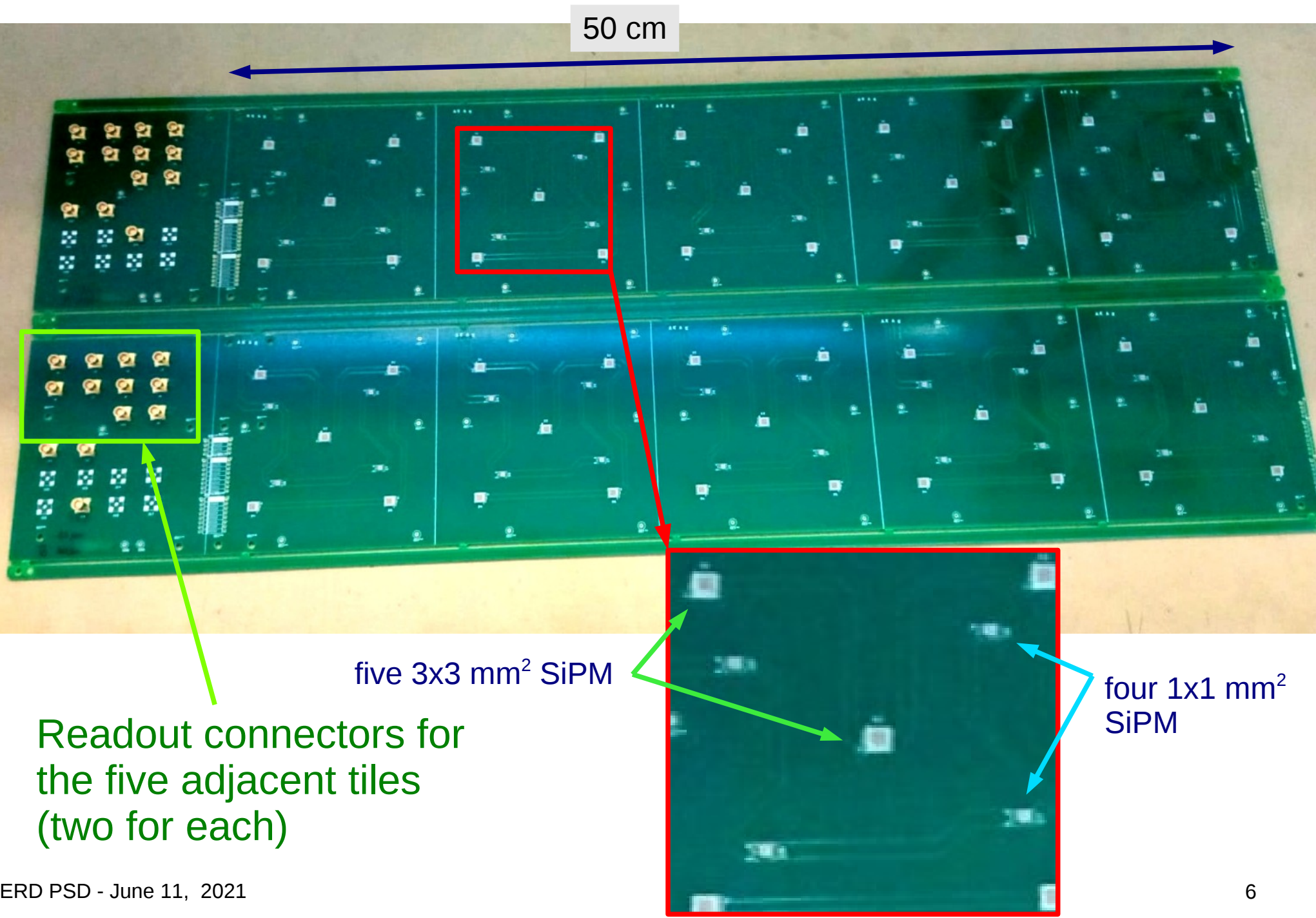


Signal amplitude asymmetry

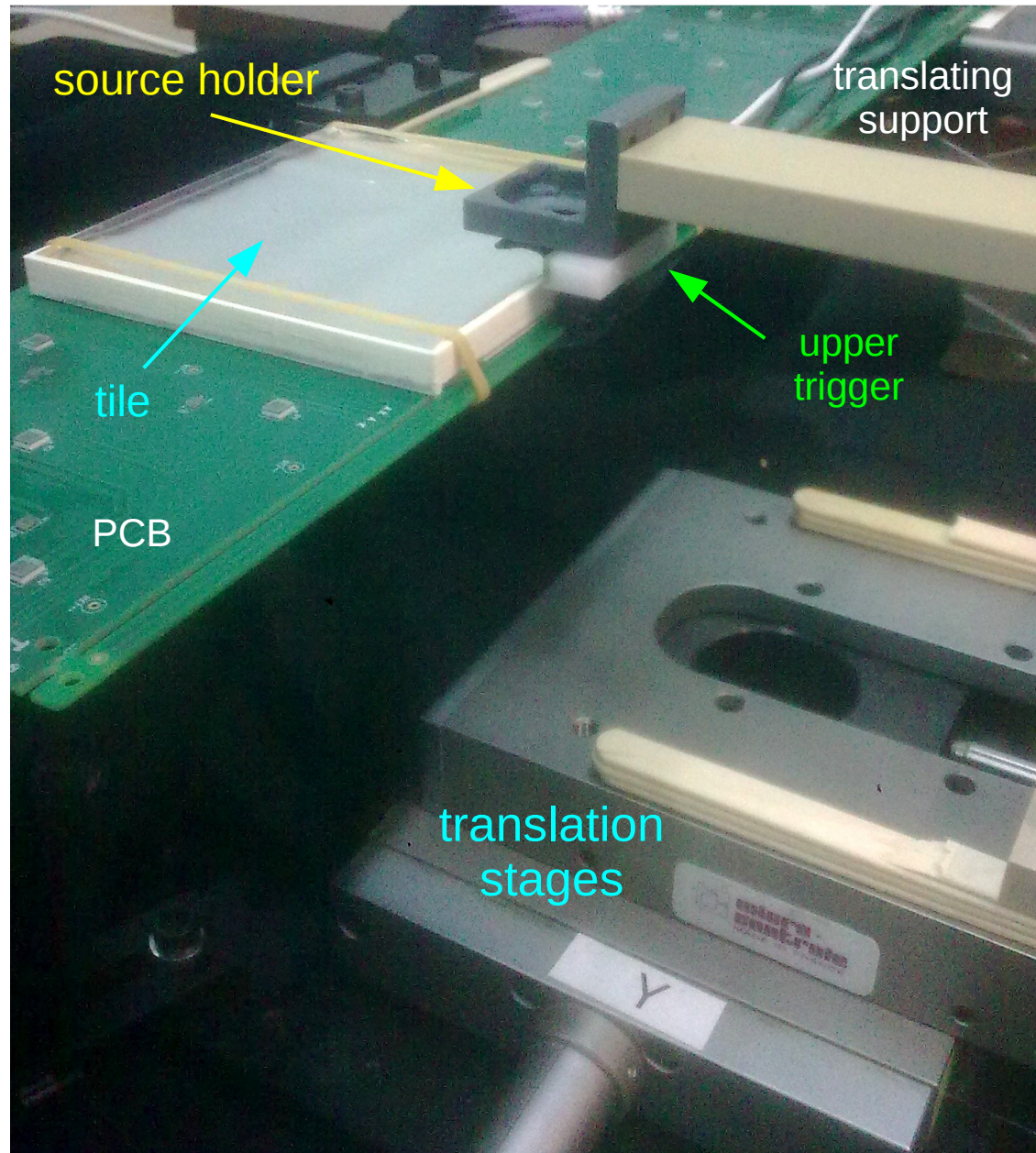
Considering the asymmetry parameter $(A_1 - A_2)/(A_1 + A_2)$
a regular dependence from the y (only) coordinate is observed



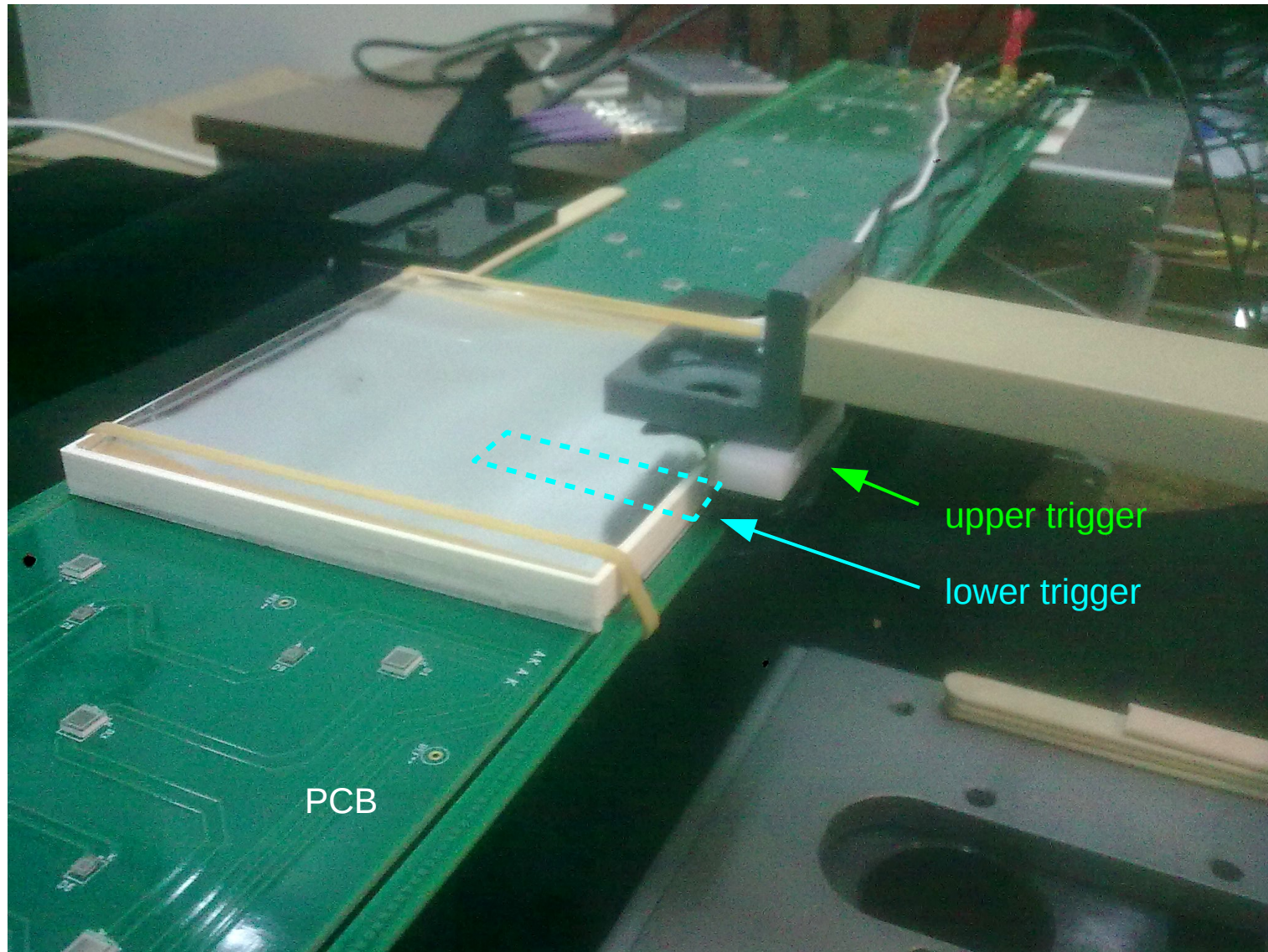
Half-meter long PCB with dual-size SiPMs



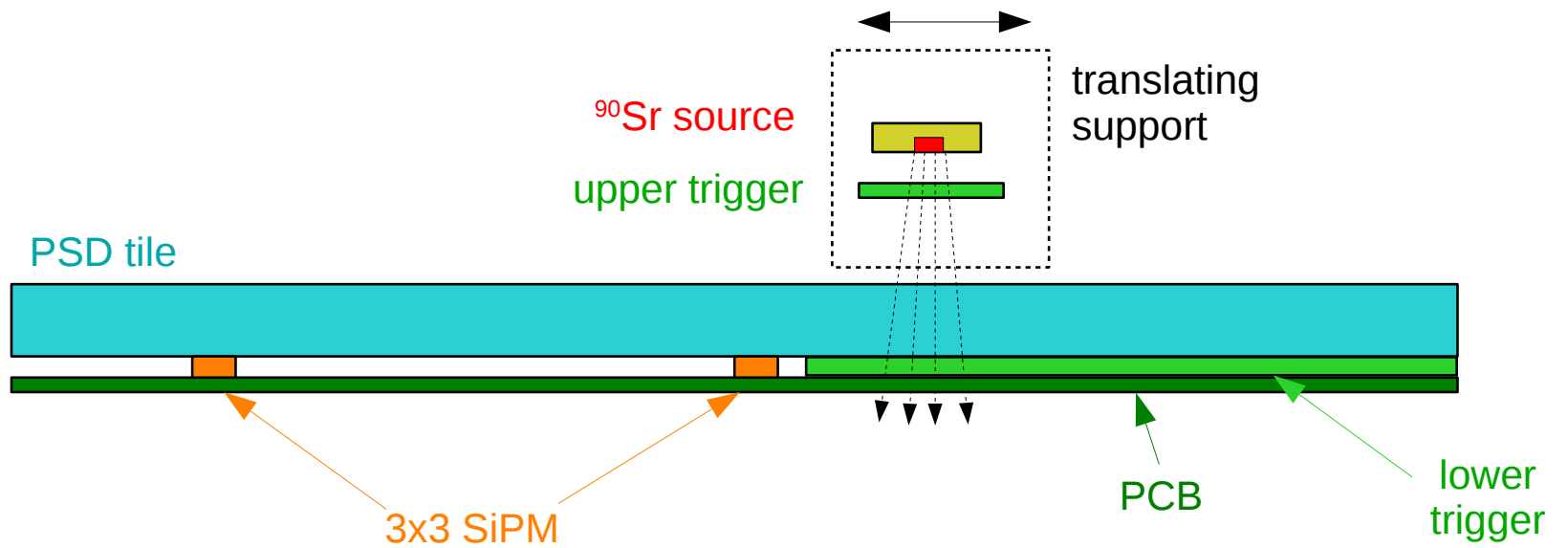
Testing the half-meter PCB



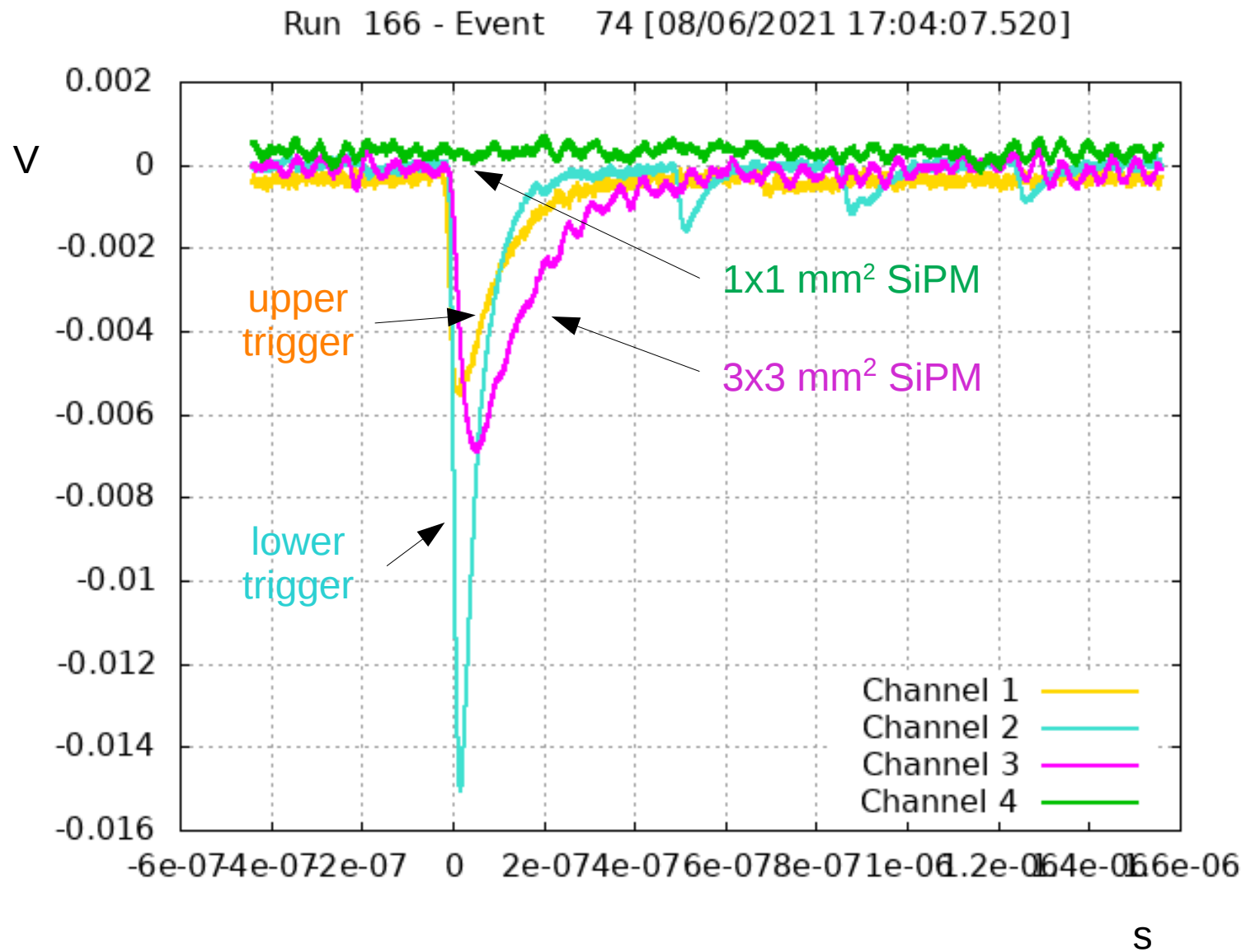
Testing the half-meter PCB



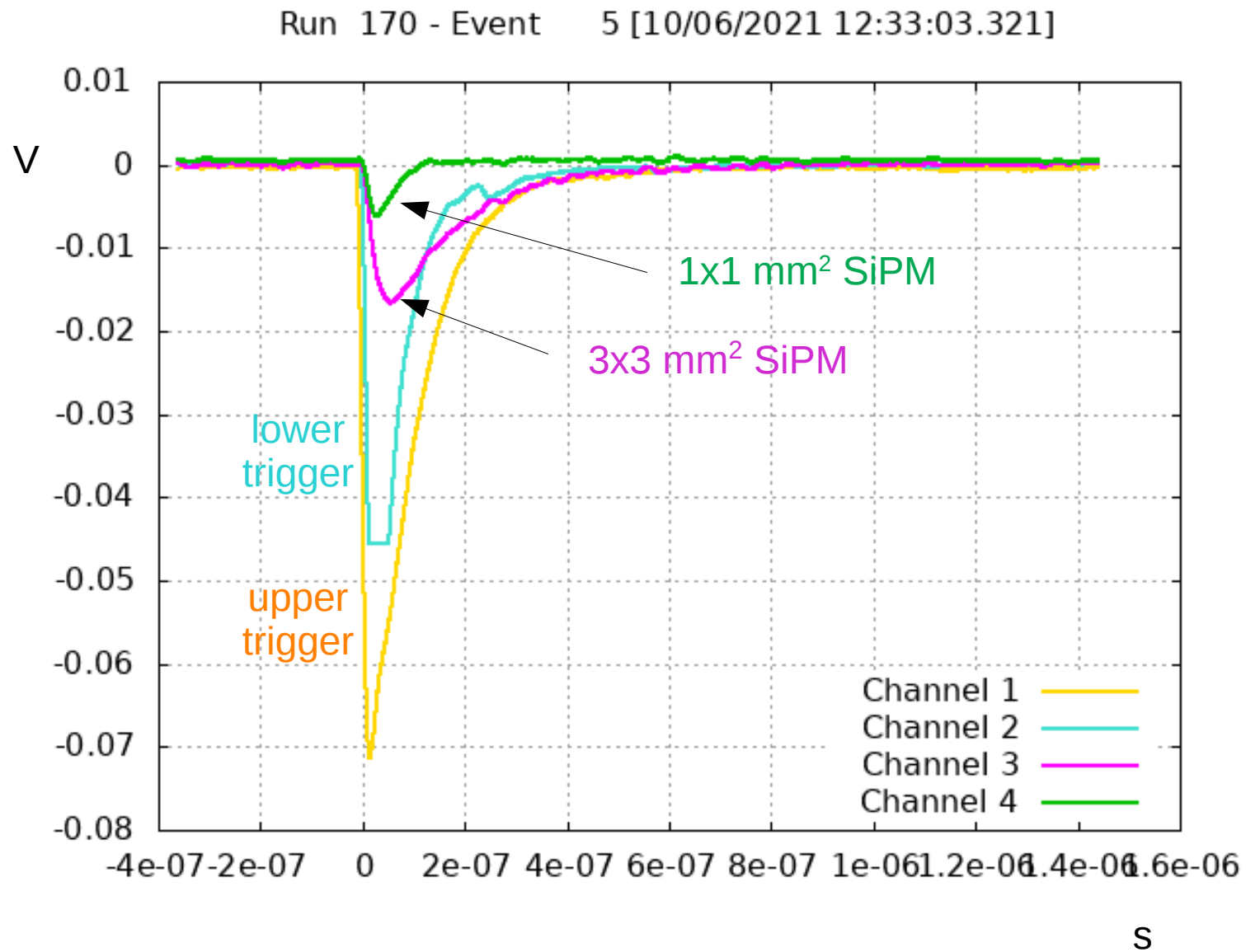
Trigger telescope



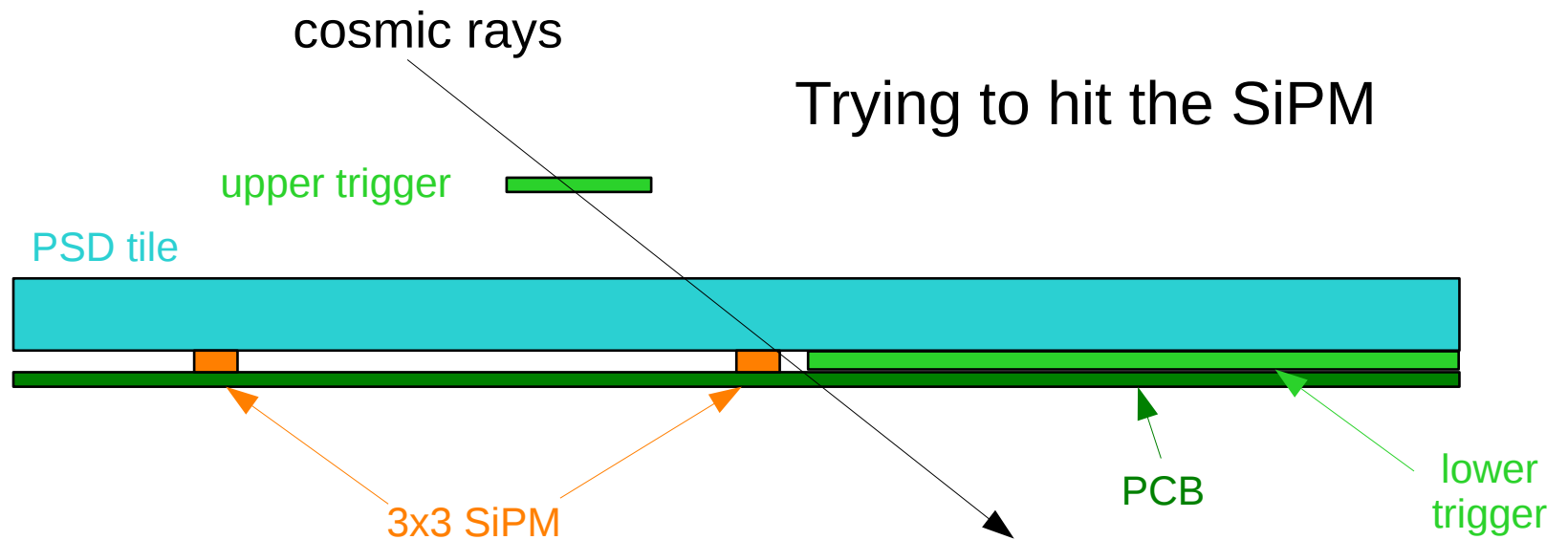
^{90}Sr source signals



Cosmic ray signals



Looking for particle crossing the SiPM



Note:

the lower trigger cannot be put below the SiPM
the source cannot be used (too short range)

=> Use oblique cosmic rays... with very low rate (~ 1 mHz)

Thanks !