

SF6 tracking test @Wellesley '20

Miki Nakazawa @ Kobe.U

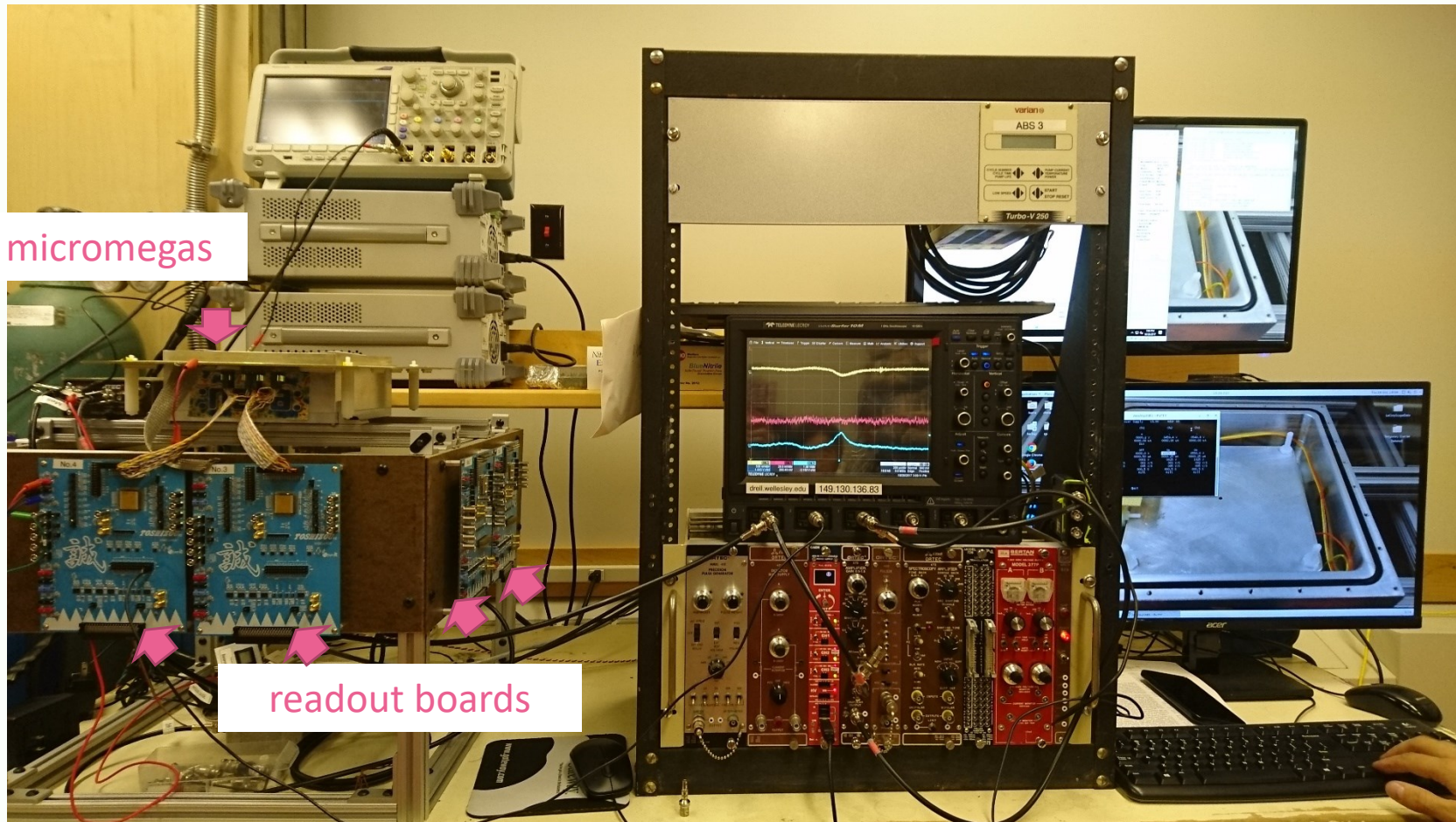
for

James Battat (Wellesley college)

Hirohisa Ishiura (Kobe)

2017 Nov 8th CYGNUS gas meeting

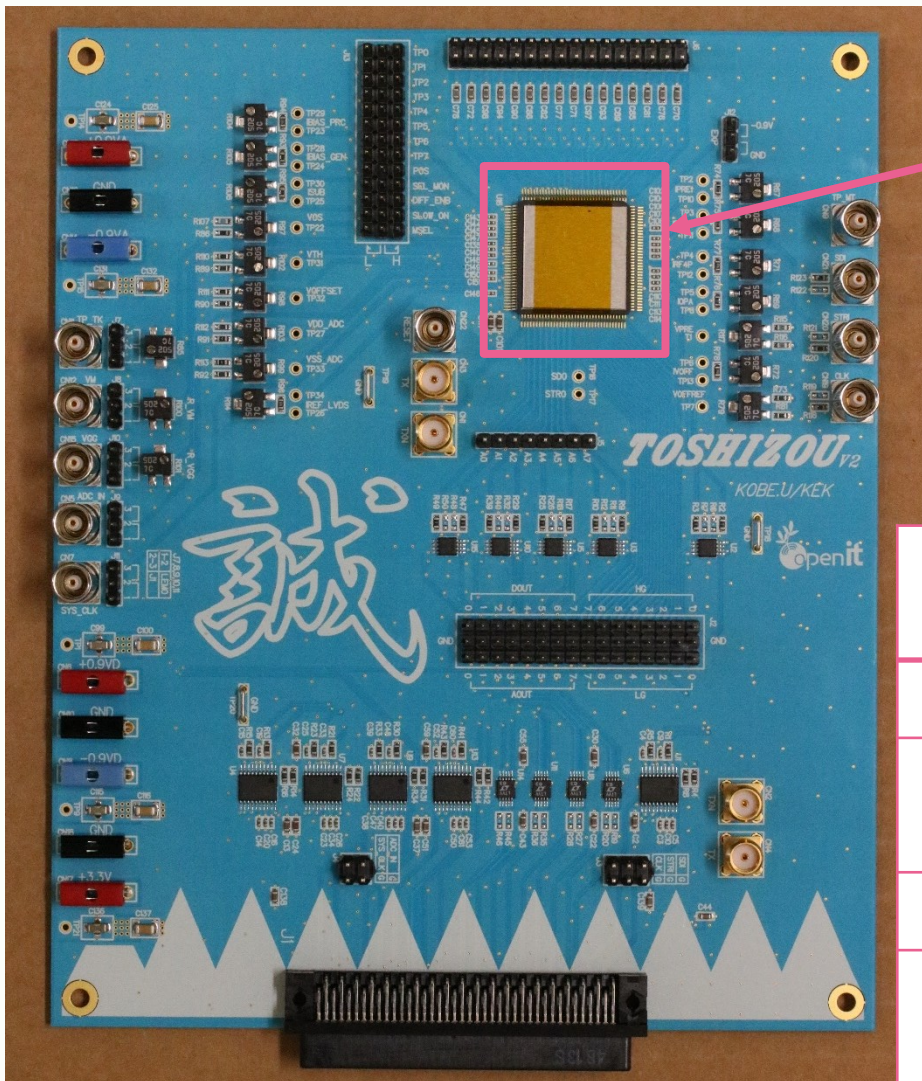
Set Up



Micromegas

CERN, 256 μ m gap, 10 \times 10cm² resistive strips on top
200 μ m pitch 2D readout (induced charge readout)
SF6 60torr, gas gain \sim 300?

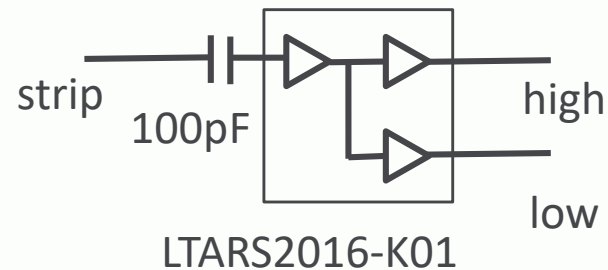
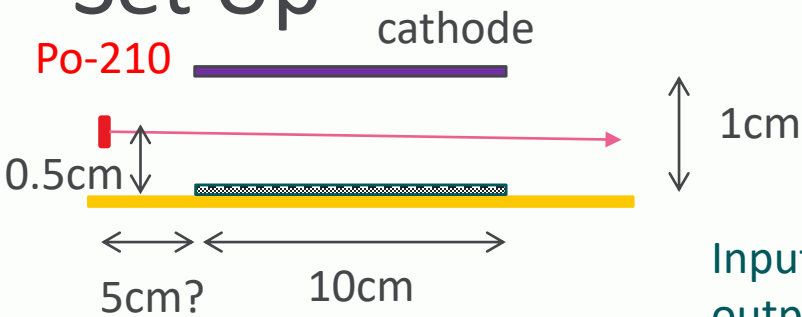
TOSHIZOUv2 (testboard)



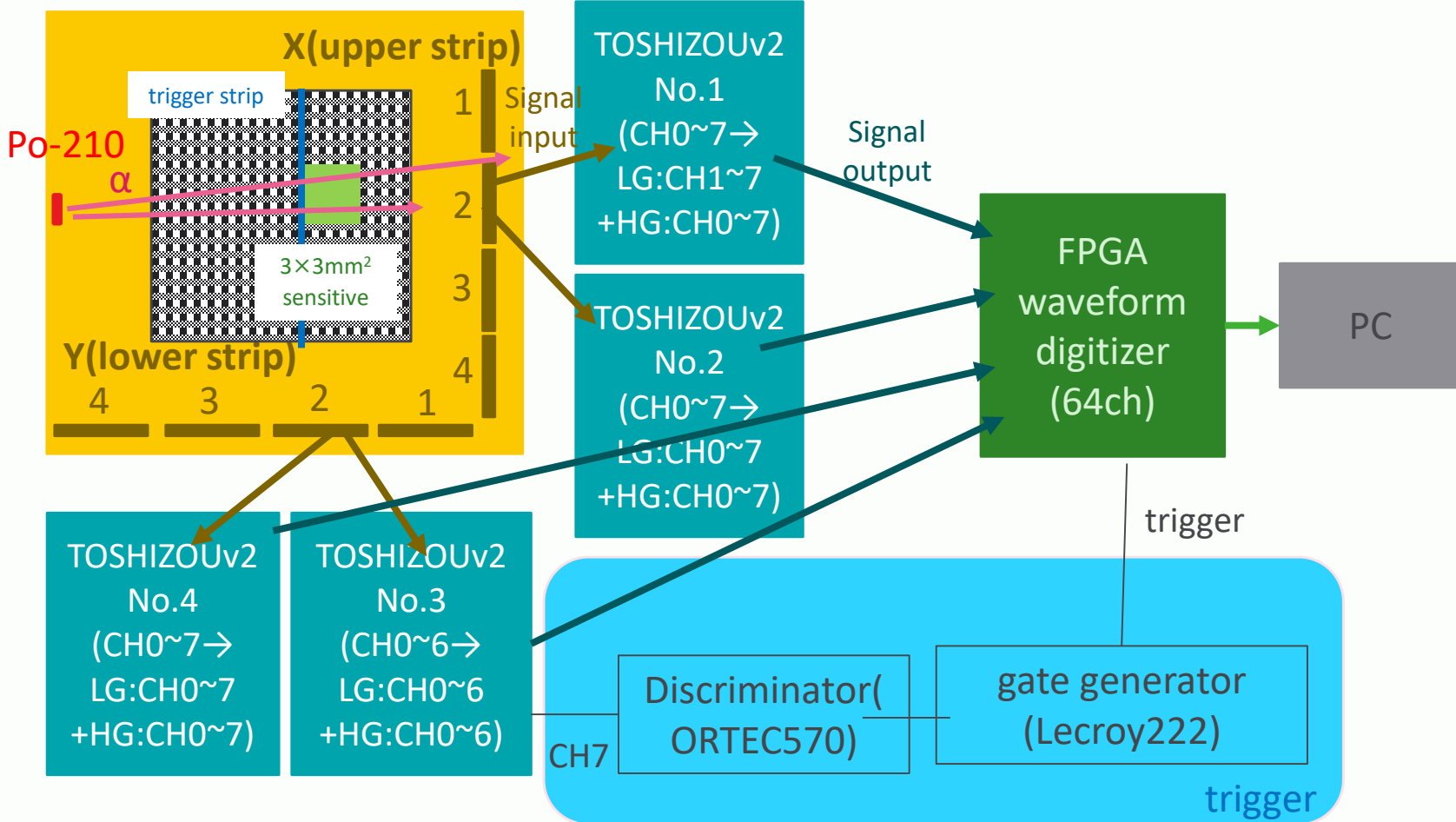
NEW ASIC(LTARS2016_K01)
Developed by Kobe.U & KEK

	Minority peak (High Gain)	Main peak (Low Gain)
ENC	6000@300pF	7000@300pF
Dynamic range	-80fc~80fc	-1000fc~1000fc
Gain	11mV/fC	0.5mV/fC
Shaping time	4μs/1μs (selectable)	

Set Up

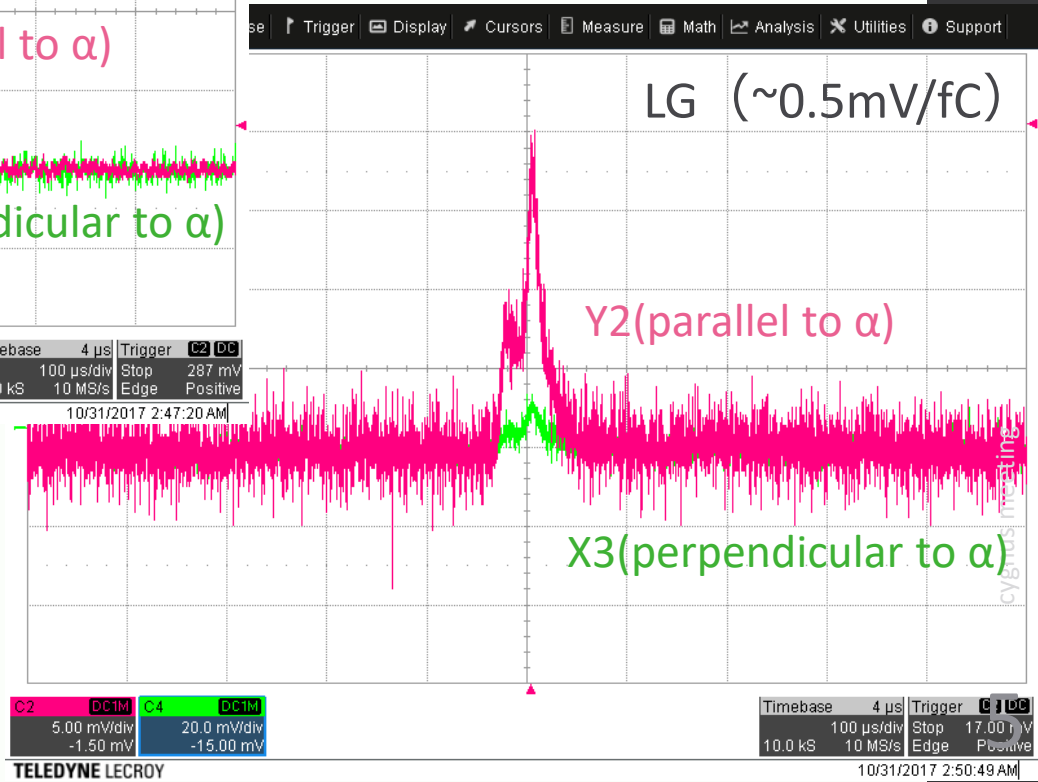
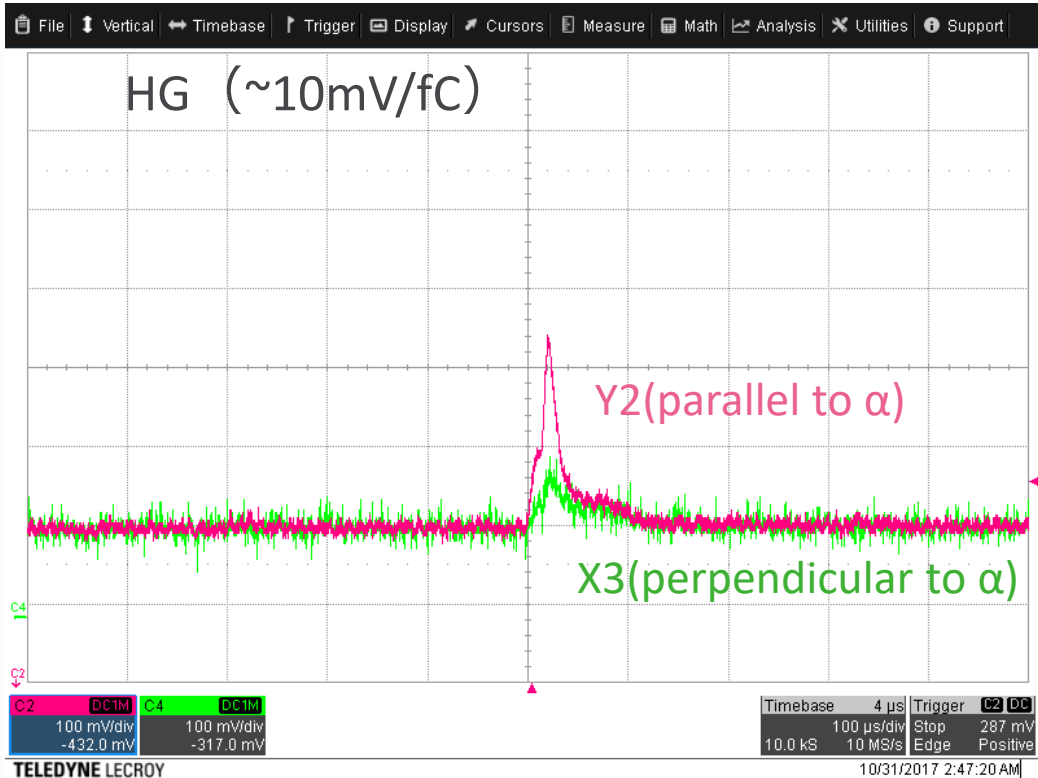


Input : 1ch →
output : 2ch (Low Gain/High Gain)

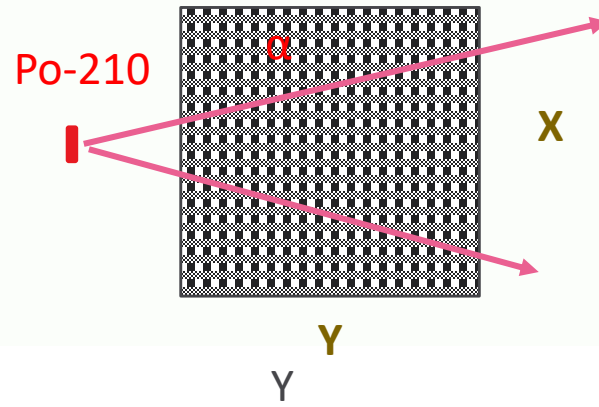


1strip signal

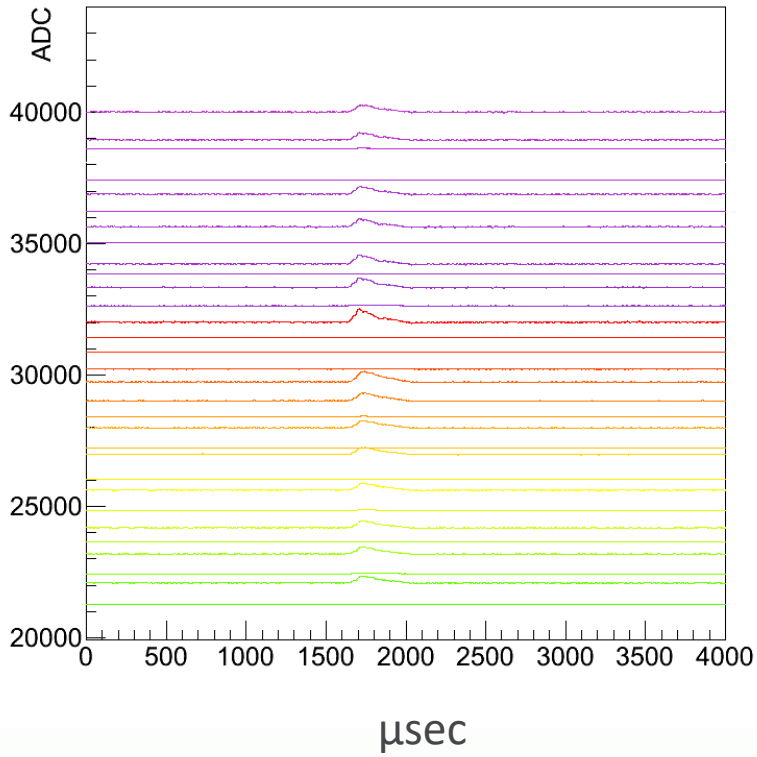
60Torr@SF6
 Mesh:625V
 Drift:1625V
 Source: Po-210
 Y2→TOSHIZOUv2 No.3
 X3→TOSHIZOUv2 No.4



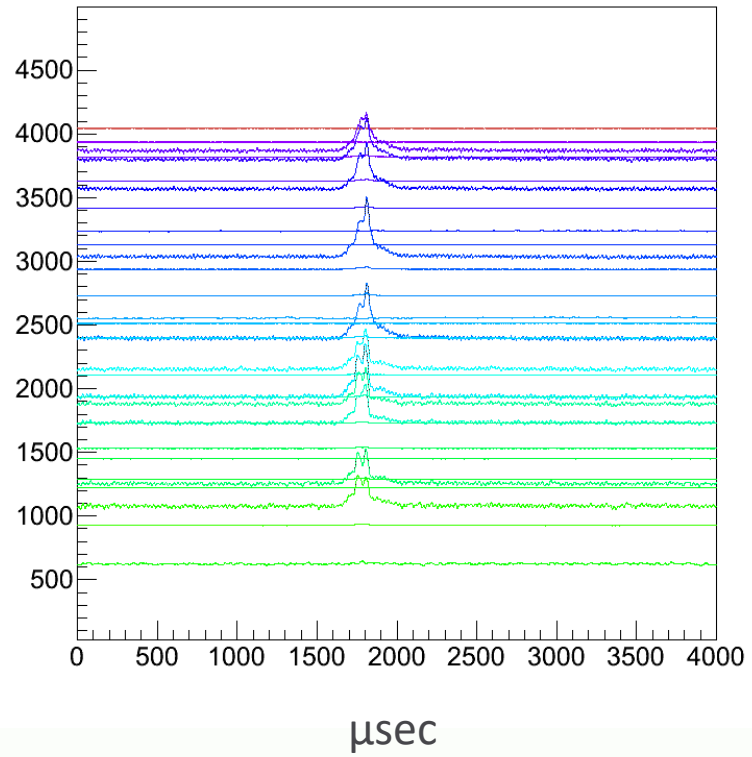
Event display



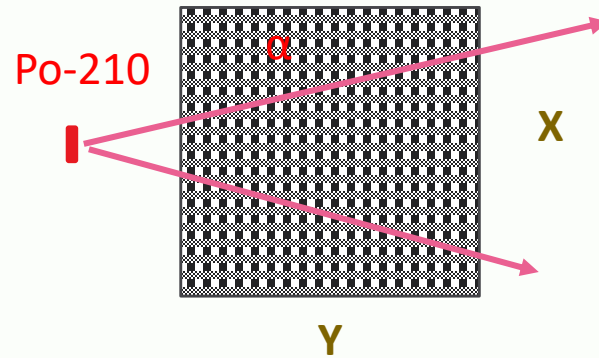
X



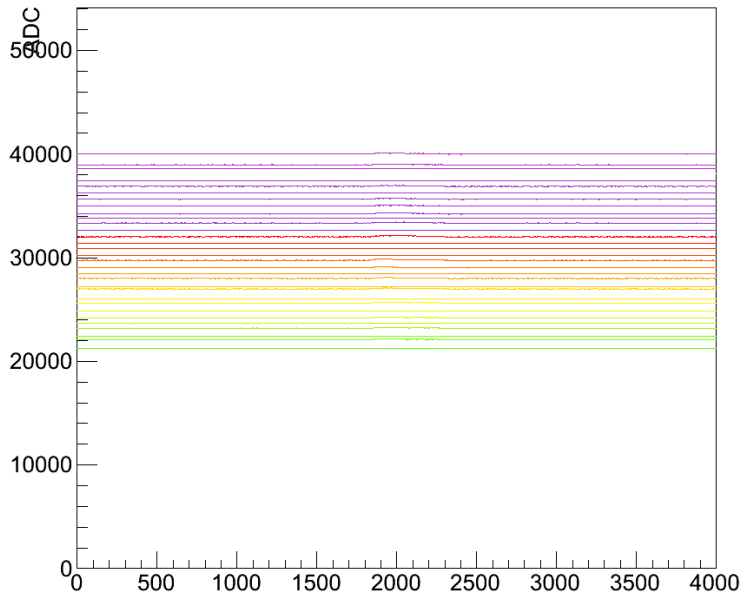
Y



Event display

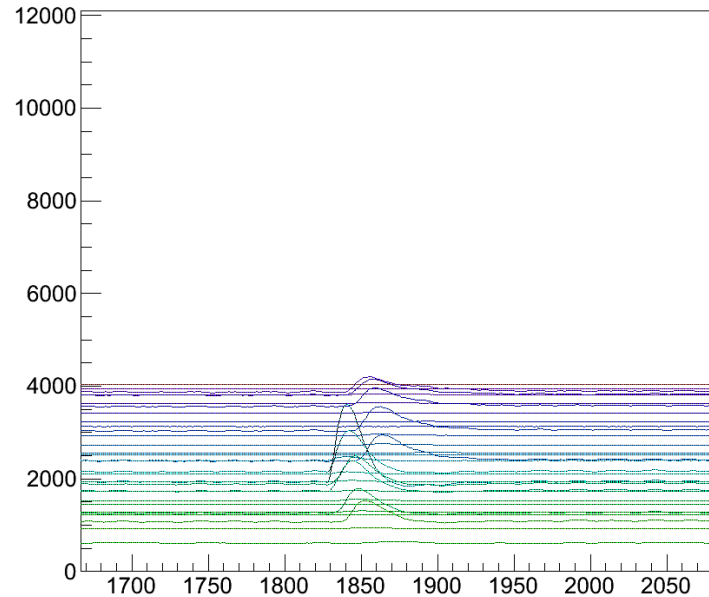


X



μsec

Y



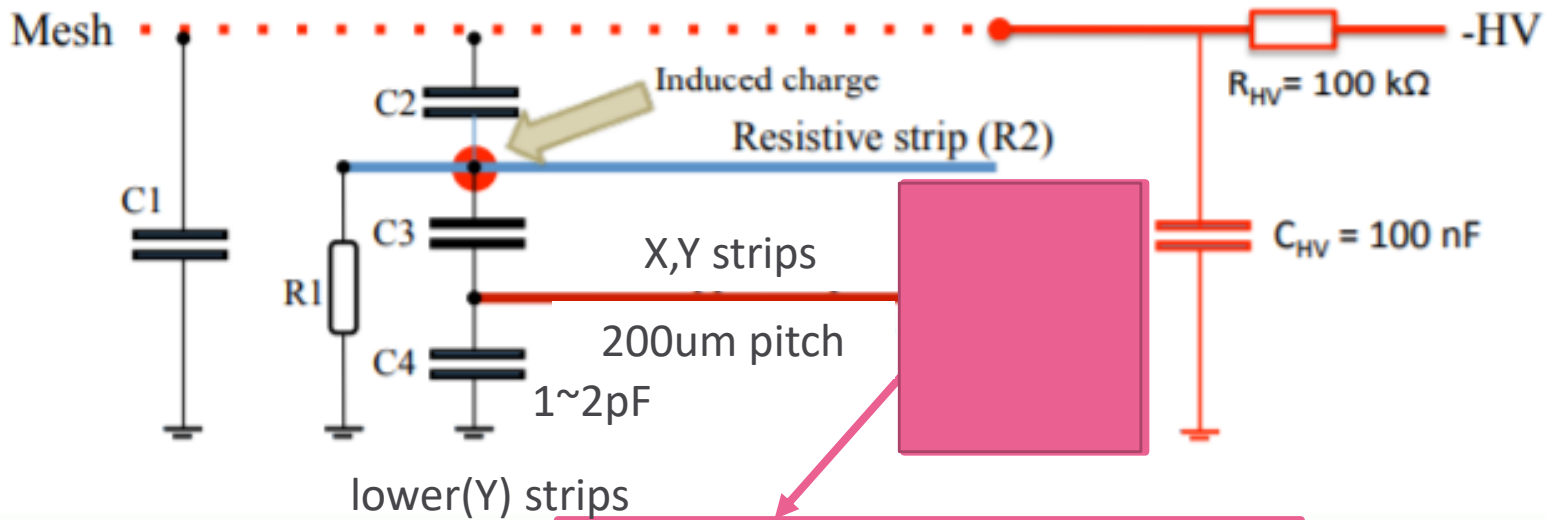
μsec

analysis(position resolution) is on going

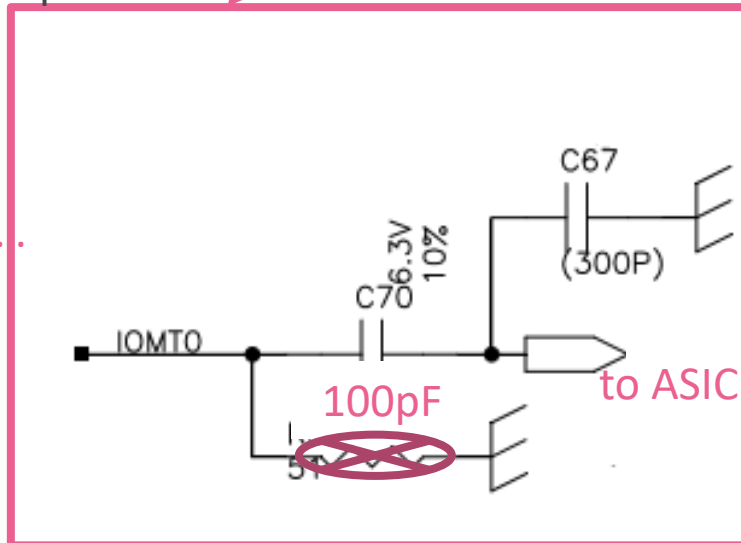
backup

Micro-megas and readout

CERN, 256um gap, $10 \times 10 \text{cm}^2$
200um 2D readout



0pF was best..



Trigger to FPGA

