

New Sensors Production

3D - F3E3



A.Gaudiello

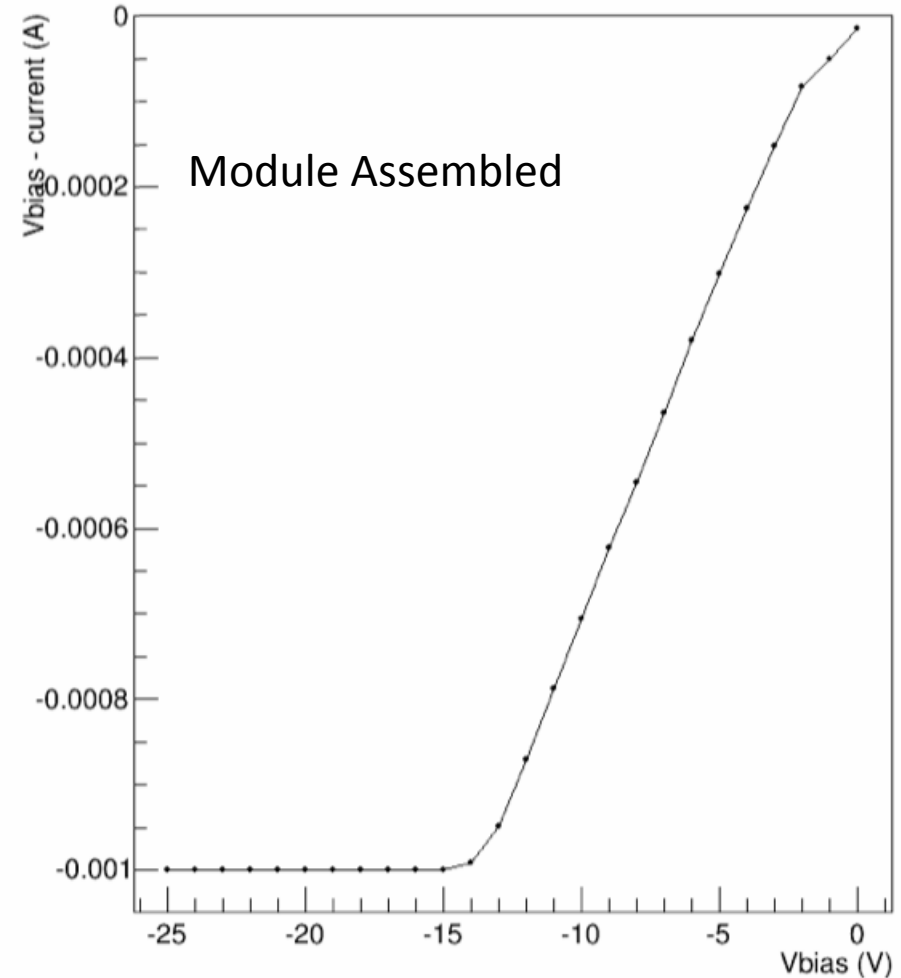
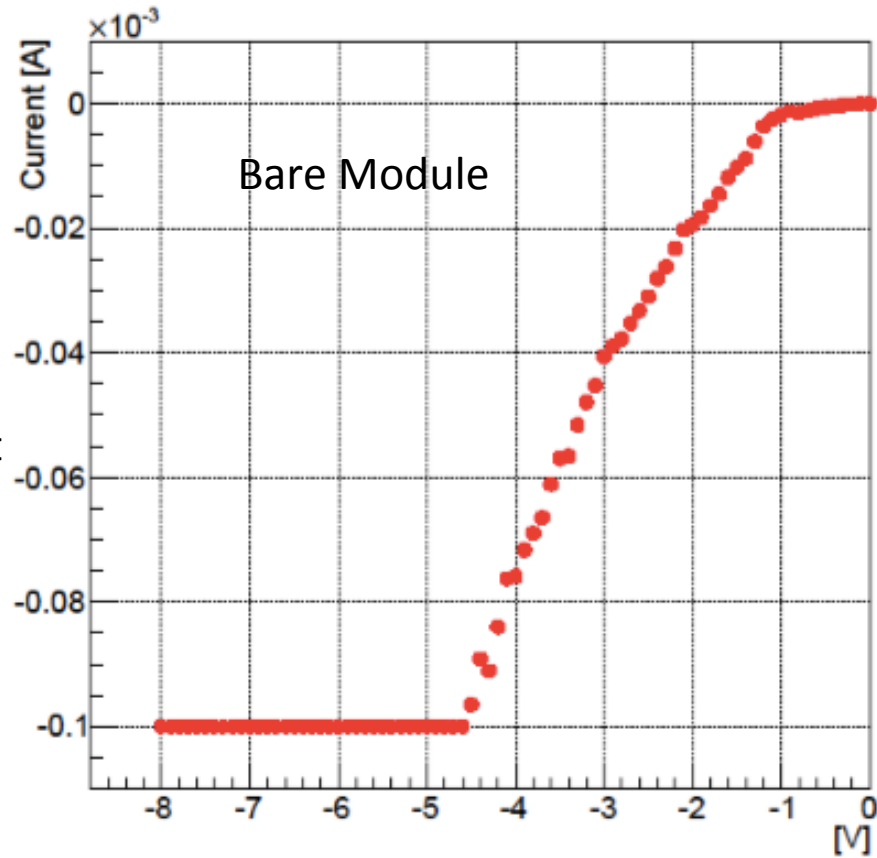
19/10/2015

3D - F3E3 Sensor I-V Curve Before and After Assembly

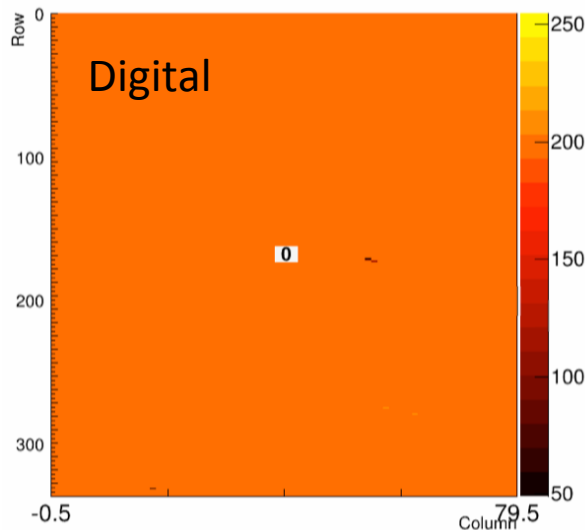
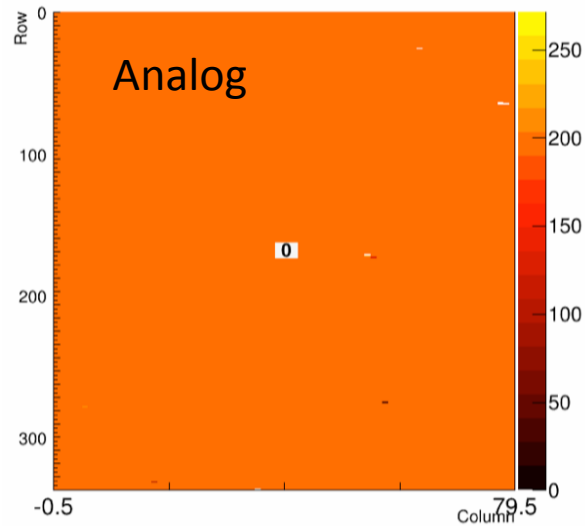
IV_SCAN.
Module "F3E3"

From Giuseppe Measurement

I-V Measure



3D - F3E3 Analog, Digital and Threshold Scan



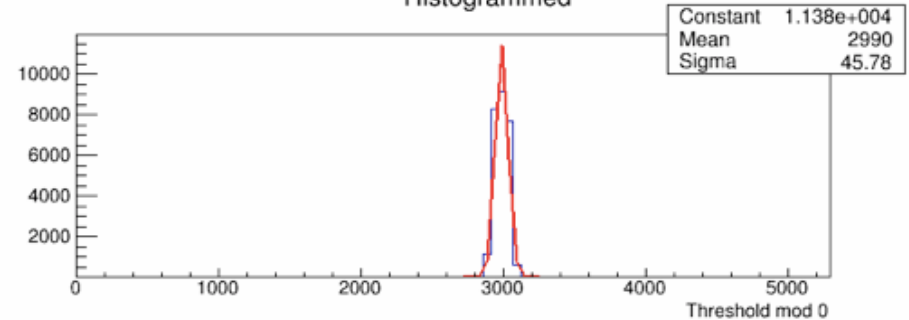
THRESHOLD_SCAN with HV.

Module "F3E3"

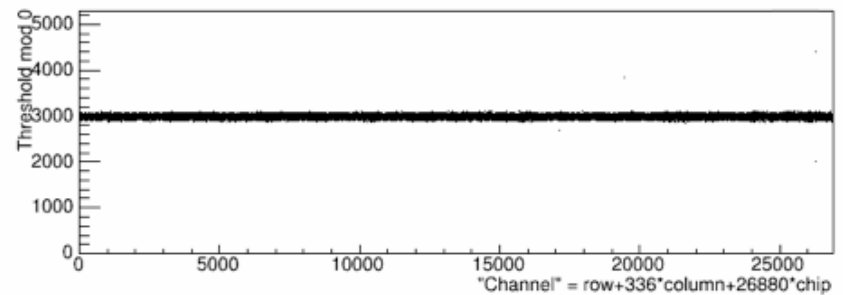
Threshold mod 0



Histogrammed



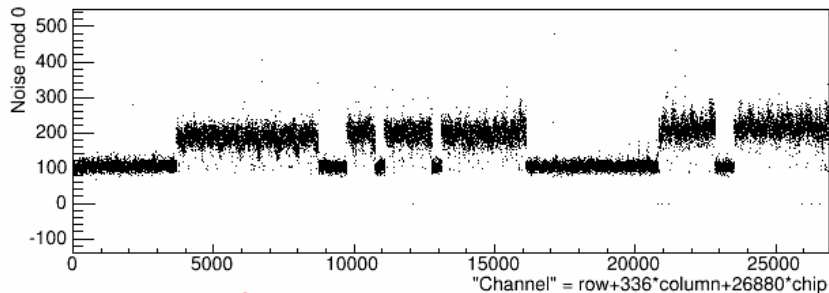
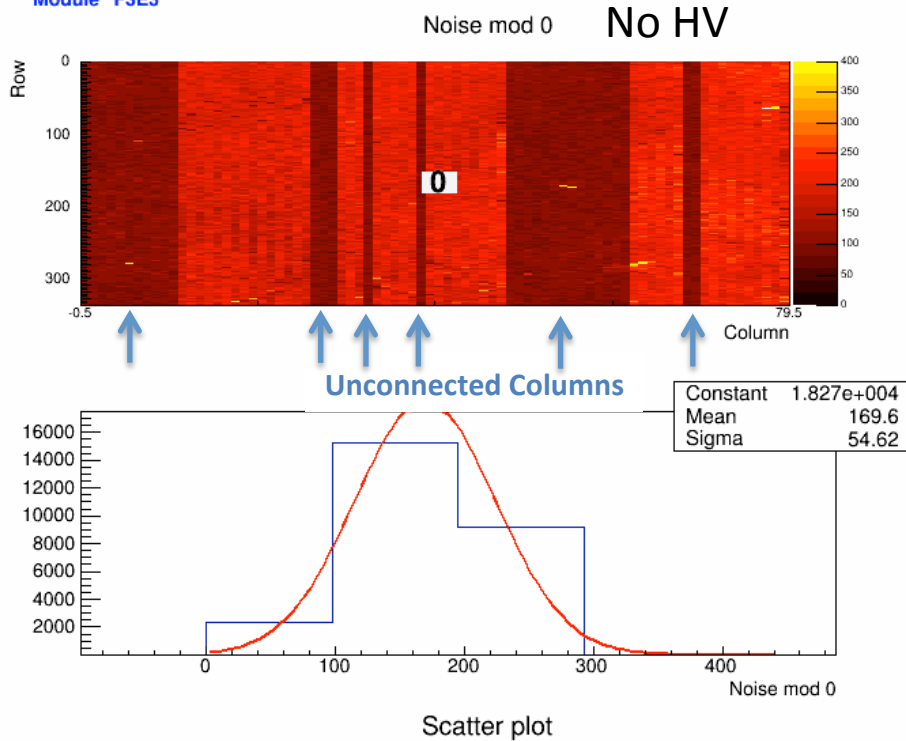
Scatter plot



3D - F3E3 Module Noise

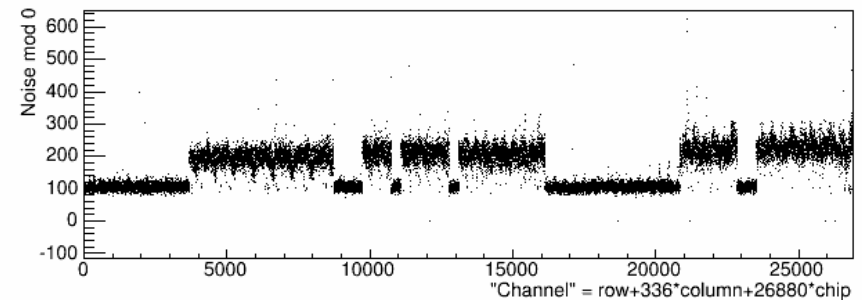
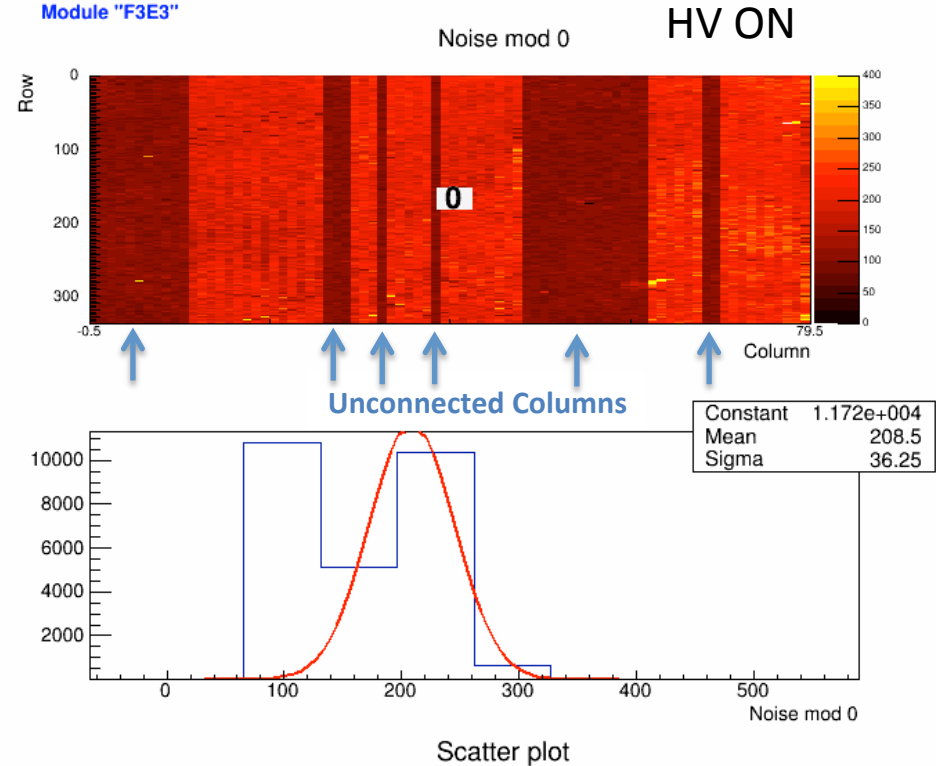
THRESHOLD_SCAN with HV.

Module "F3E3"



THRESHOLD_SCAN no HV.

Module "F3E3"

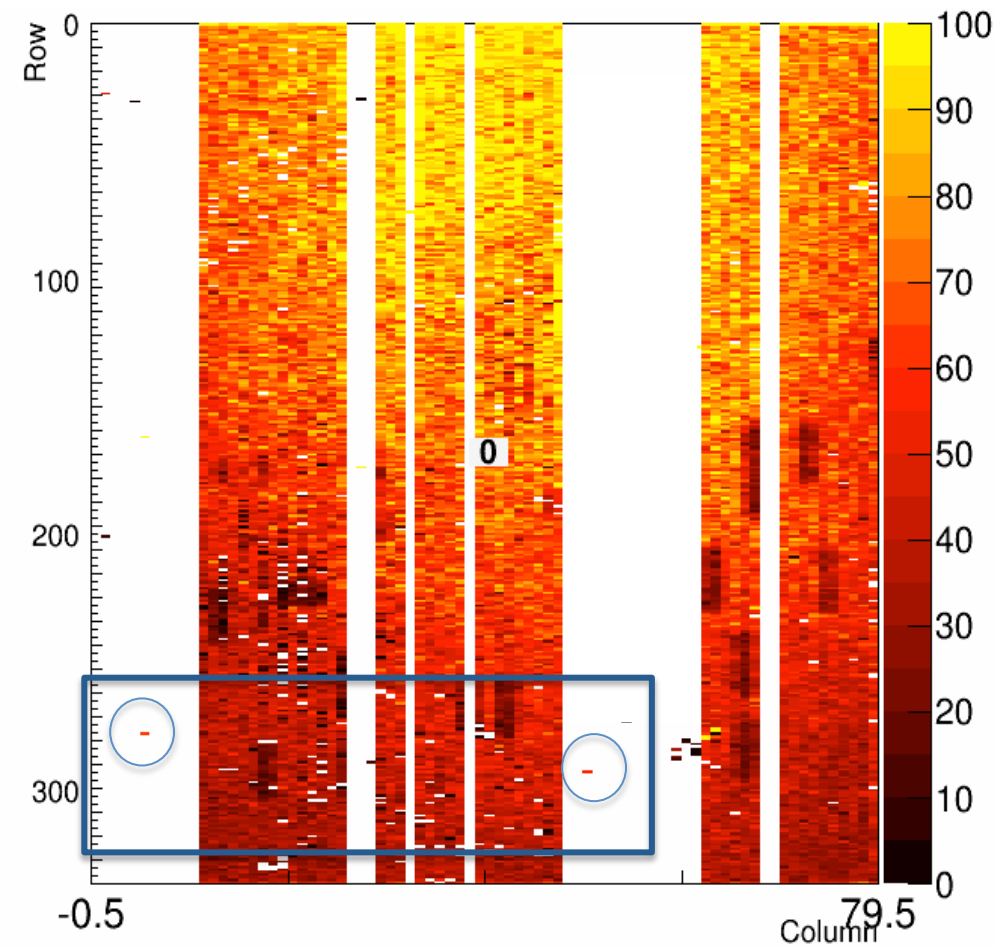


Unconnected Bumps

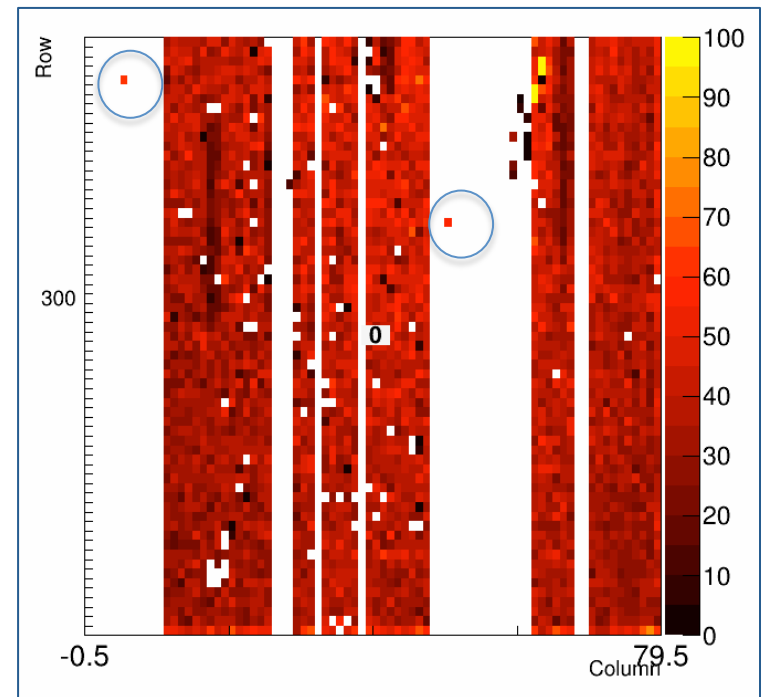
From Δ noise (HV on – HV Off) $\sim 10^4$ Unconnected bumps
(In agreement with expectations)

Δ noise for unconnected bumps ~ 10 e

3D - F3E3 Source Scan



Col 5- Row 292 and Col 50 - Row 292
Connected?

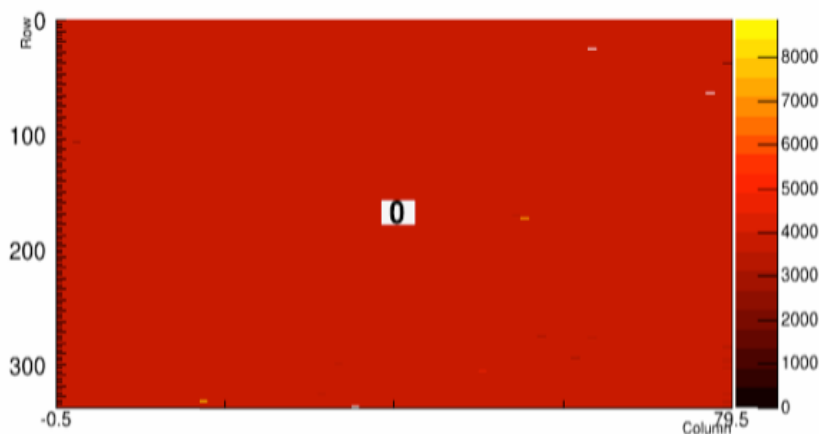


3D - F3E3 Col 5 - Row 277

THRESHOLD_SCAN no hv.

Module "F3E3"

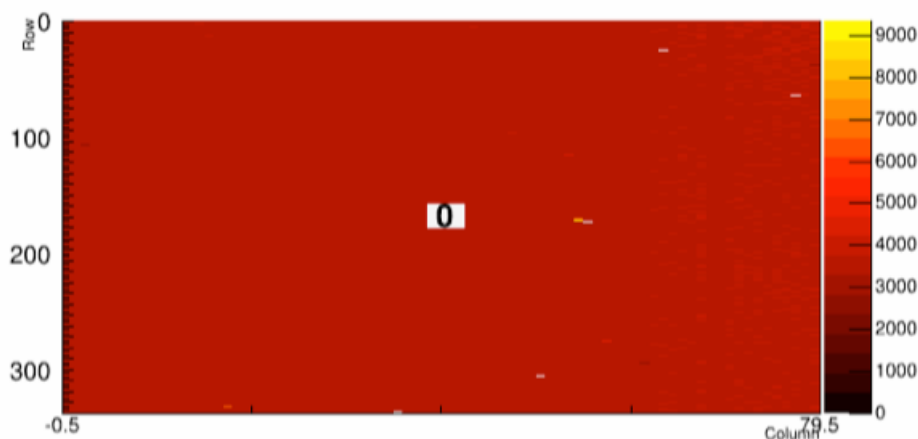
Occupancy mod 0 bin 0 - accumulated No HV



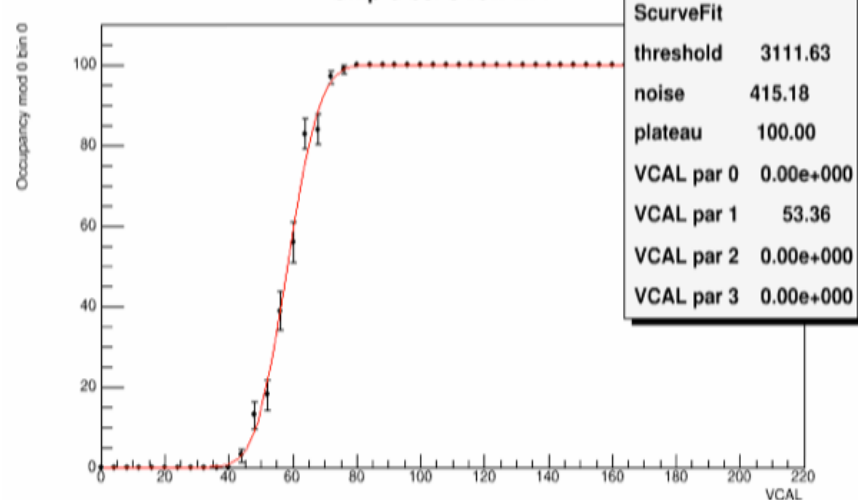
THRESHOLD_SCAN.

Module "F3E3"

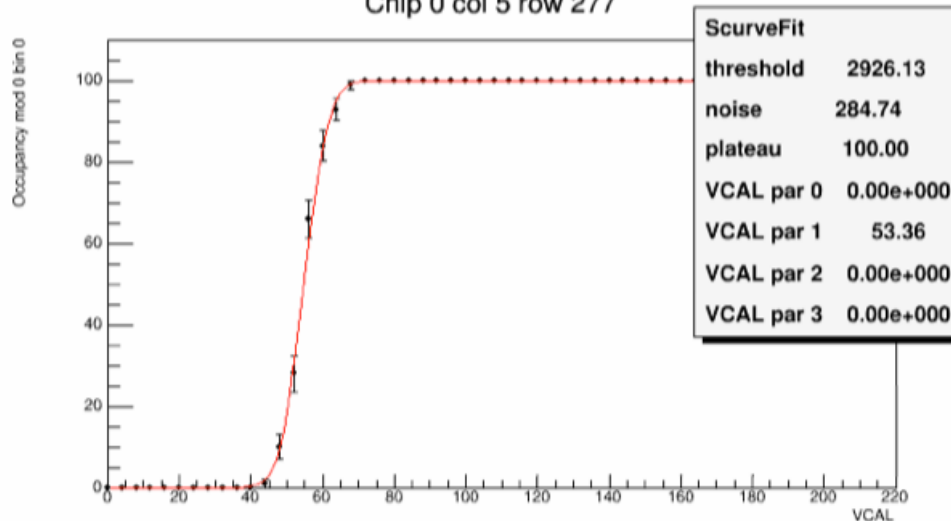
Occupancy mod 0 bin 0 - accumulated HV ON



Chip 0 col 5 row 277



Chip 0 col 5 row 277



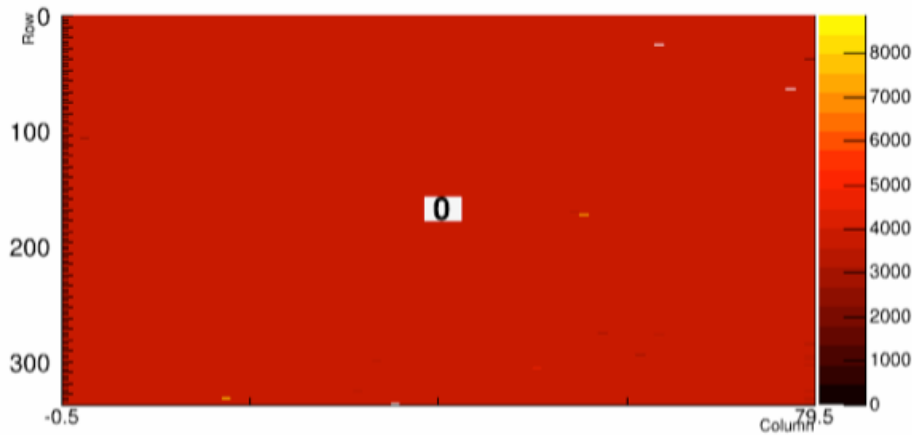
Δ noise ~ 131 e

3D - F3E3 Col 50 – Row 292

THRESHOLD_SCAN no hv.

Module "F3E3"

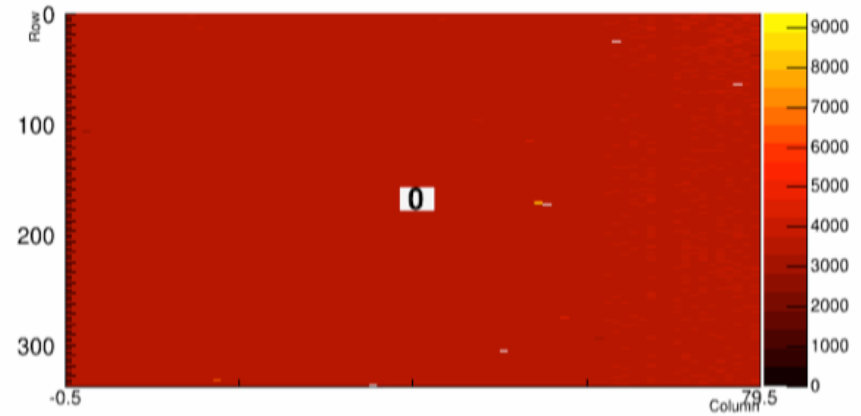
Occupancy mod 0 bin 0 - accumulated No HV



THRESHOLD_SCAN.

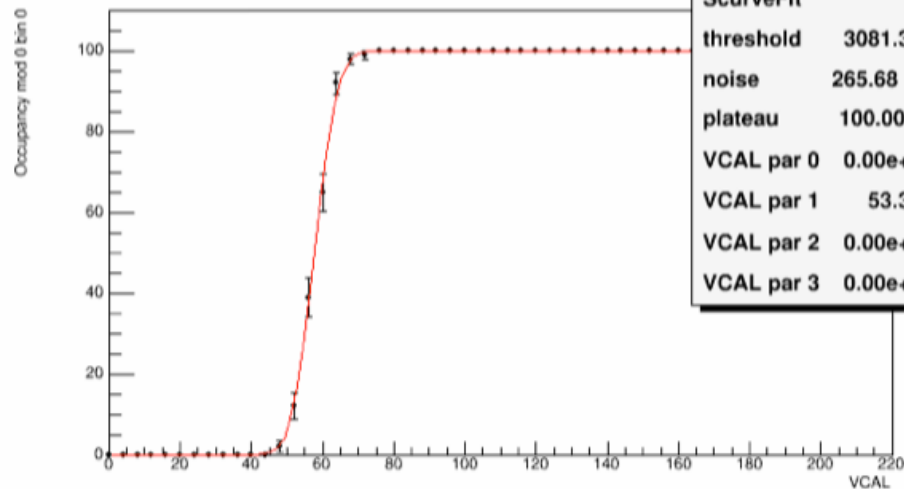
Module "F3E3"

Occupancy mod 0 bin 0 - accumulated HV ON



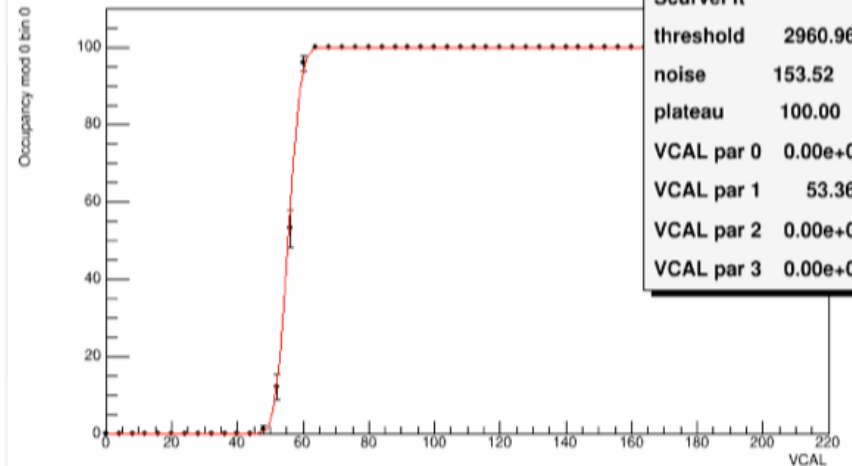
Chip 0 col 50 row 292

ScurveFit	
threshold	3081.30
noise	265.68
plateau	100.00
VCAL par 0	0.00e+000
VCAL par 1	53.36
VCAL par 2	0.00e+000
VCAL par 3	0.00e+000



Chip 0 col 50 row 292

ScurveFit	
threshold	2960.96
noise	153.52
plateau	100.00
VCAL par 0	0.00e+000
VCAL par 1	53.36
VCAL par 2	0.00e+000
VCAL par 3	0.00e+000



Δ noise ~ 113 e