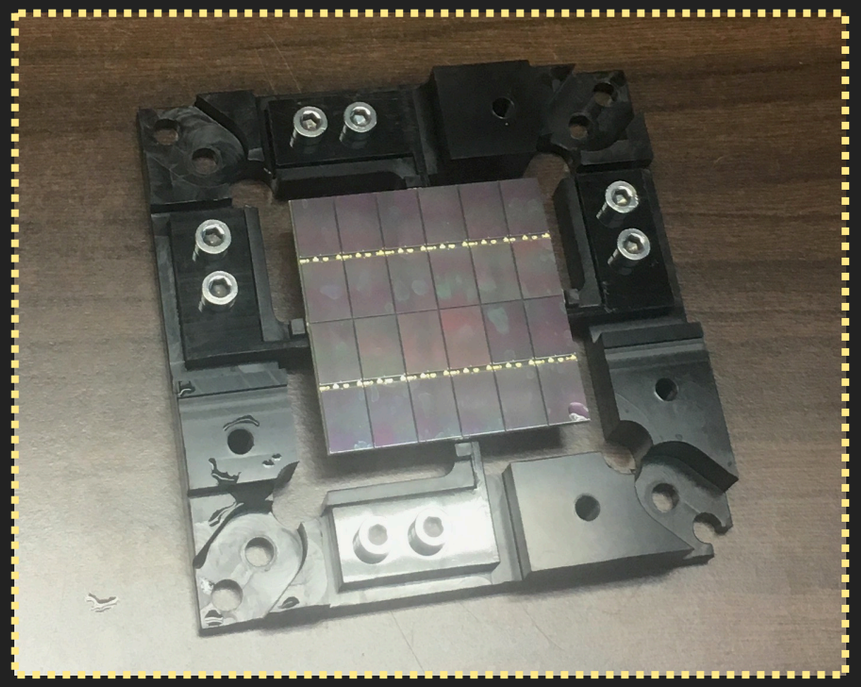
Bianca Bottino - for the veto group

VETO FEB TESTS

16 - 09 - 2019

OUR TILE

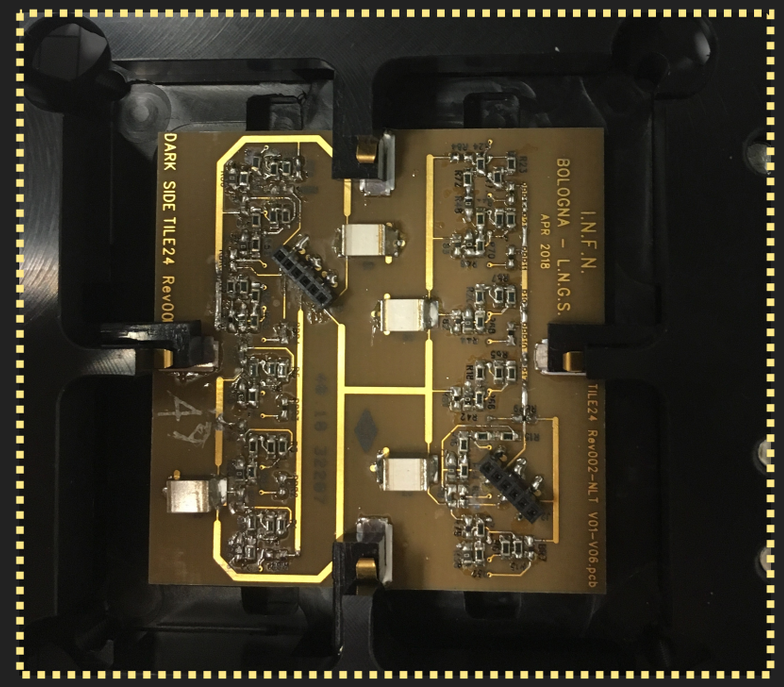


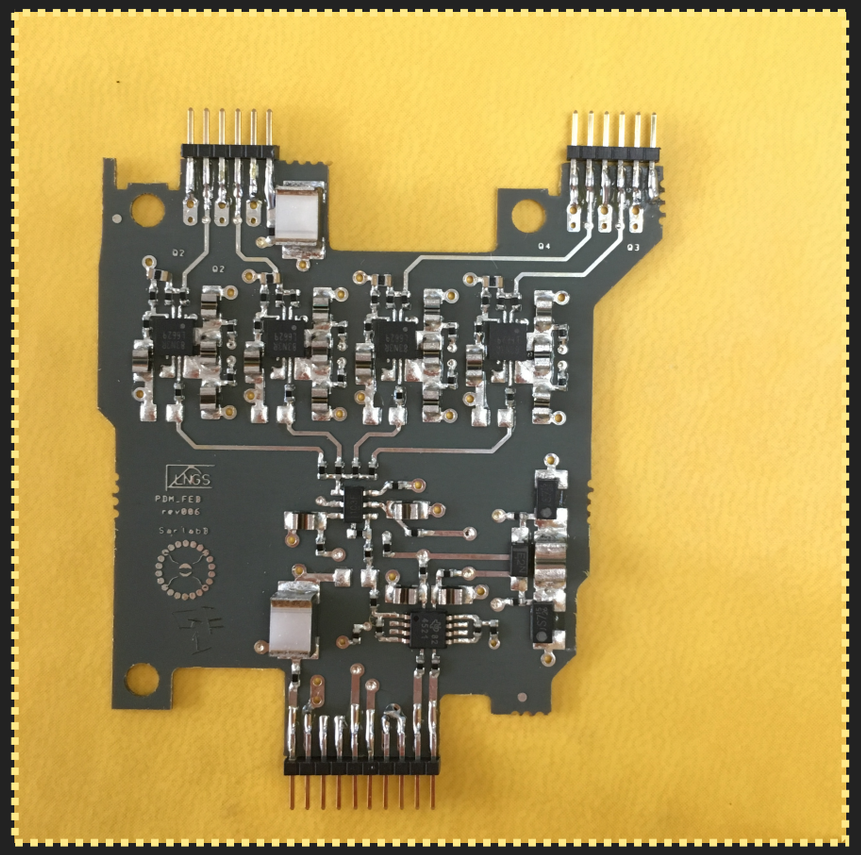
Tile 49

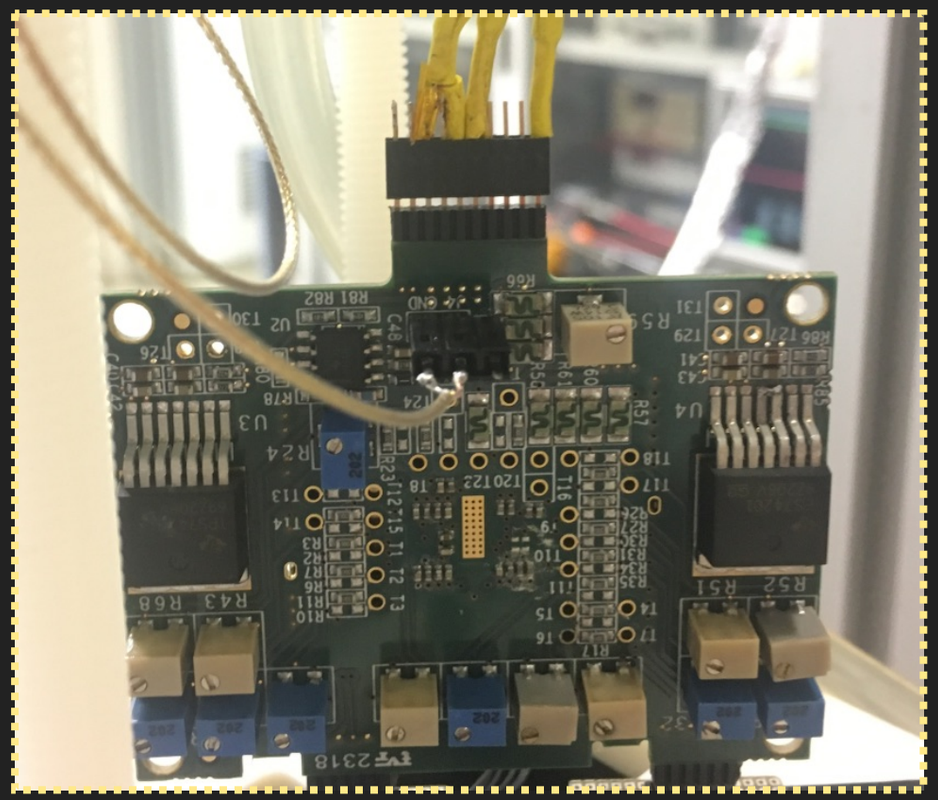
Single doping tile

25 um cell

Rq = 10 MOhm



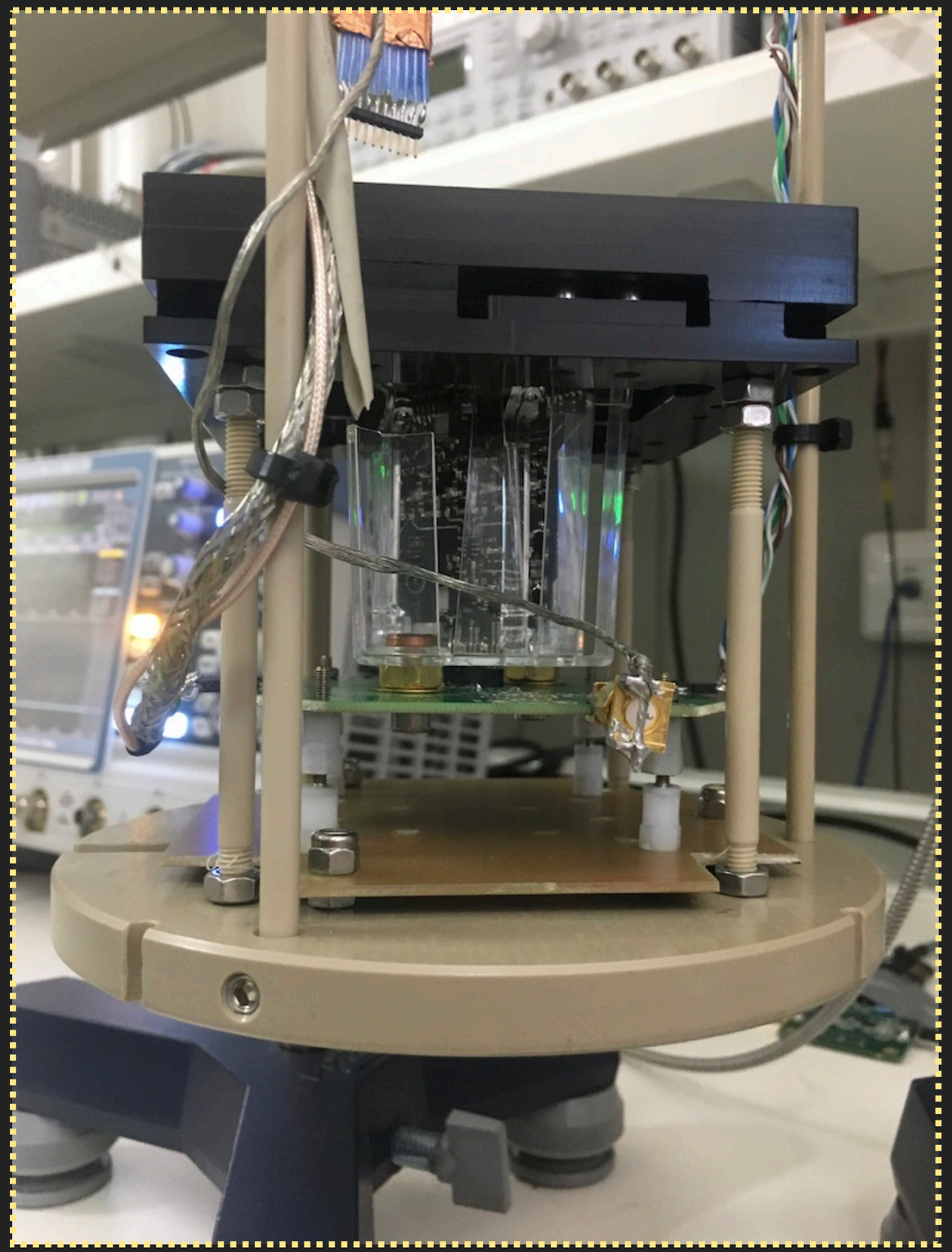




LNGS TESTS

Tile 49 mounted with the “test FEB” used at LNGS for tests.

- FFT at warm and in liquid nitrogen
- IV curves at warm and in liquid nitrogen, using the LED matrix
- Laser runs

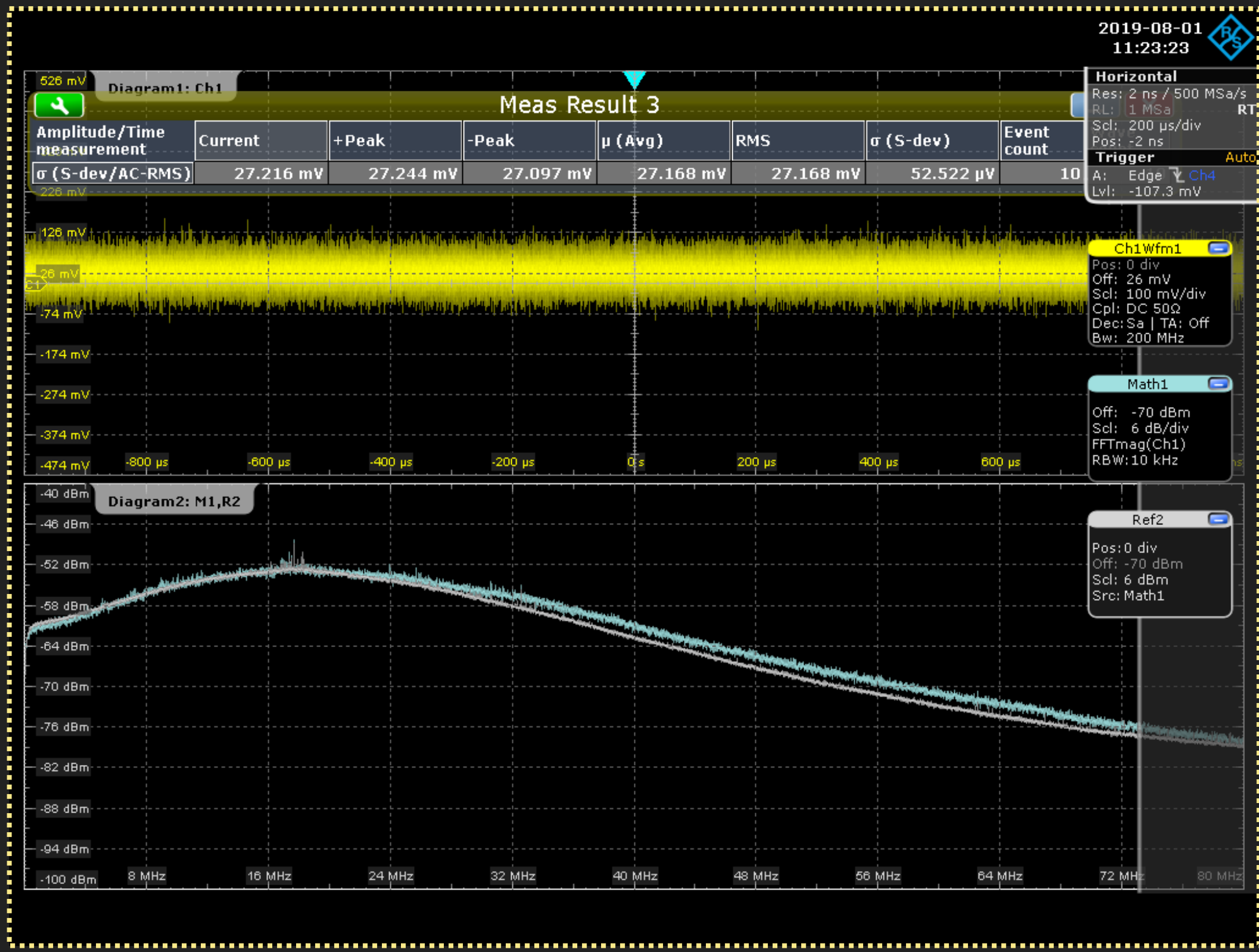


FFT

V bias = 20 V

Liquid nitrogen

Comparison between our tile (azure) and tile 44 for reference (white)

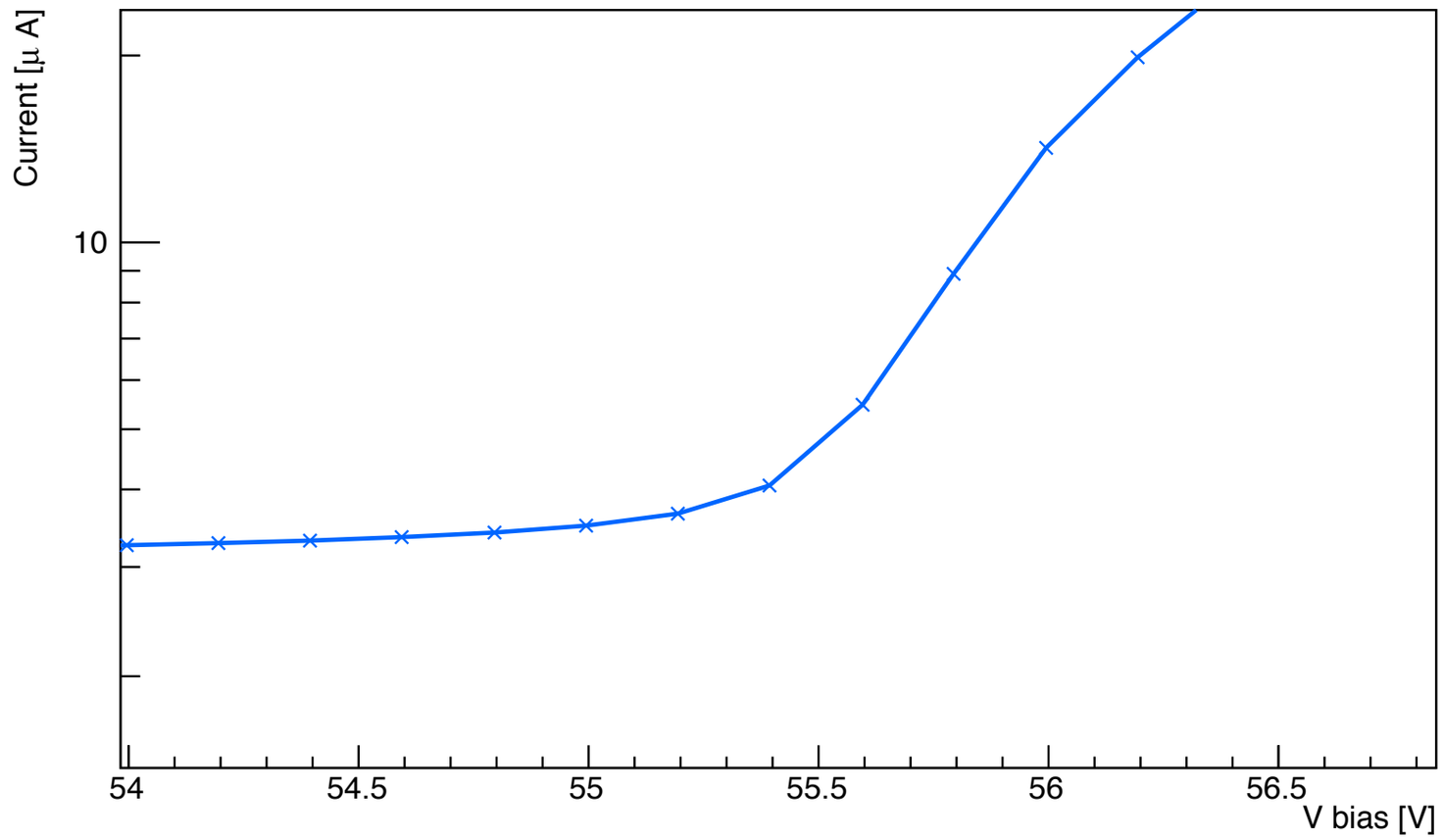


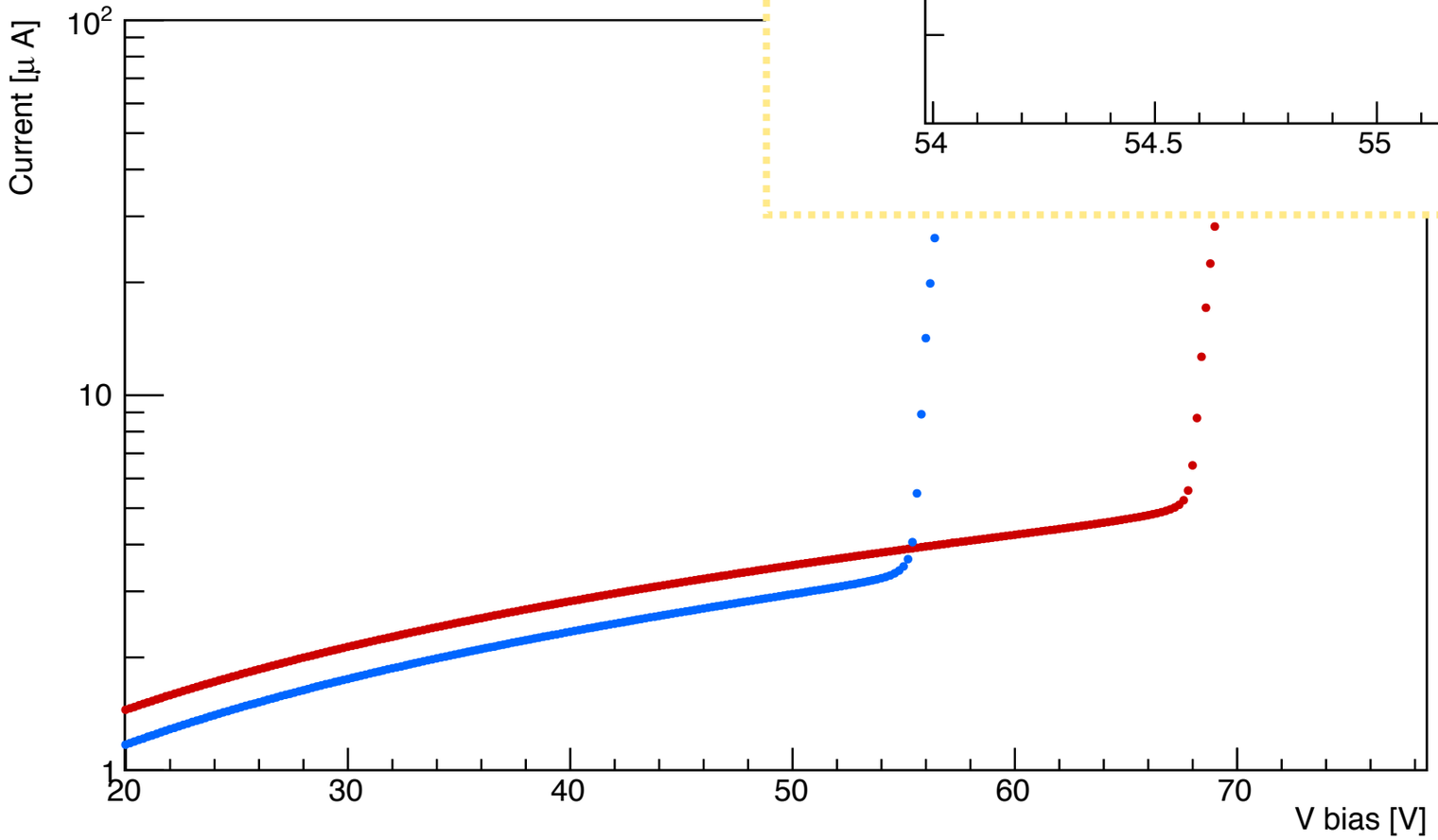
Thanks to Davide and George…as usual! :)

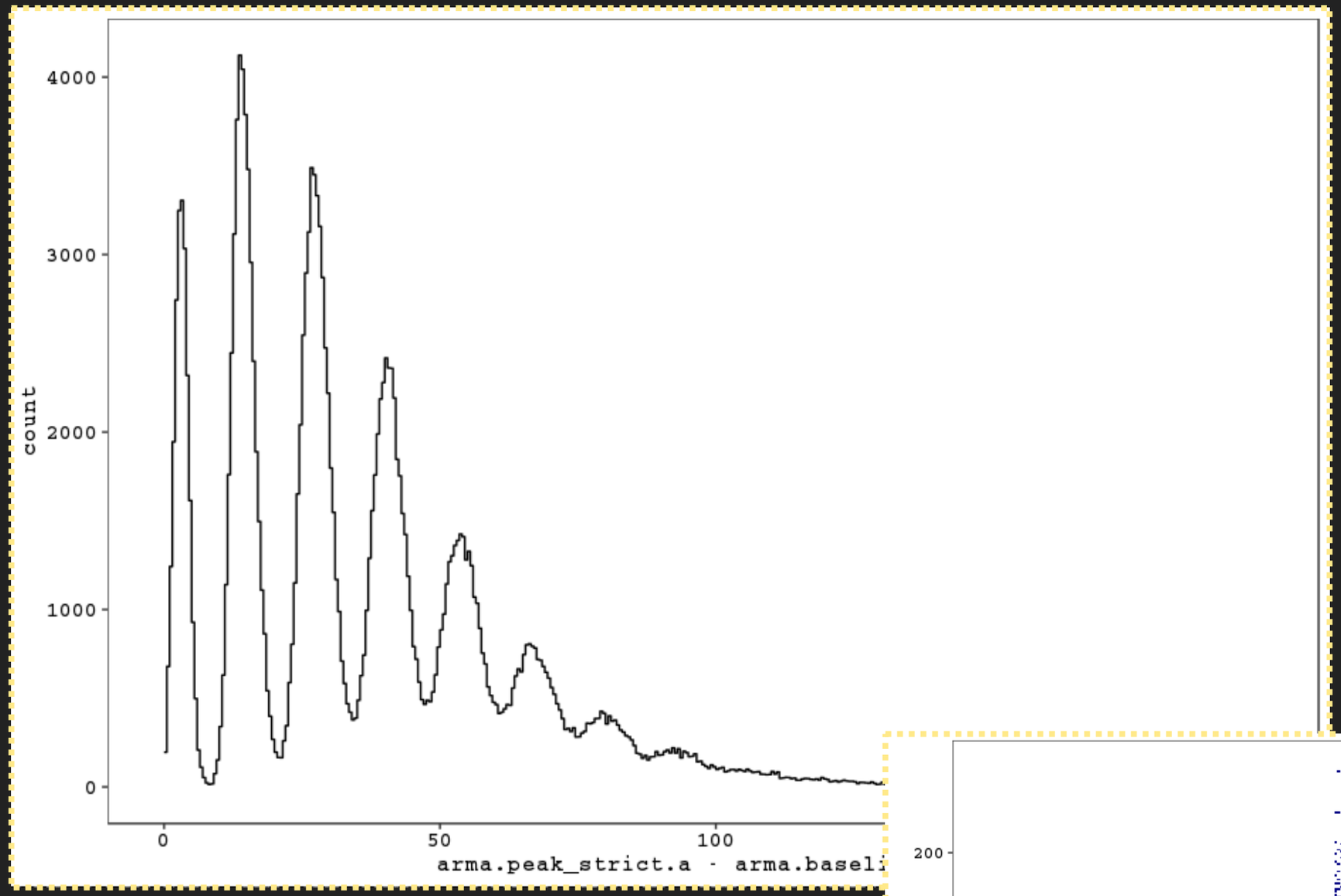
IV CURVES

V break down = 27.7 V

Since the maximum OV with single doping tiles is 5 V, we use as **maximum bias 65 V.**

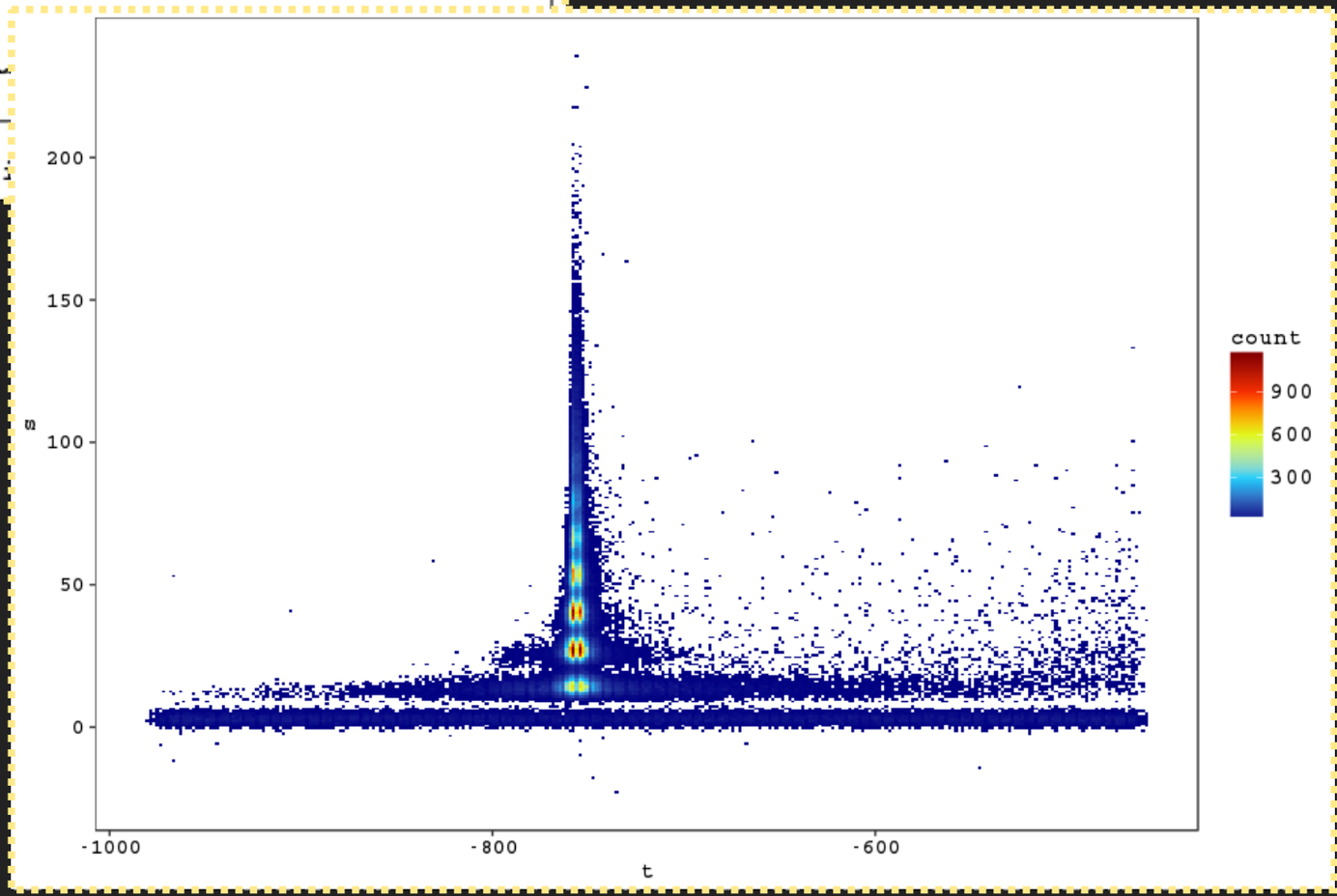






Laser runs with “test FEB”

Our tile works fine, it has performances in line with the others single doping tiles.



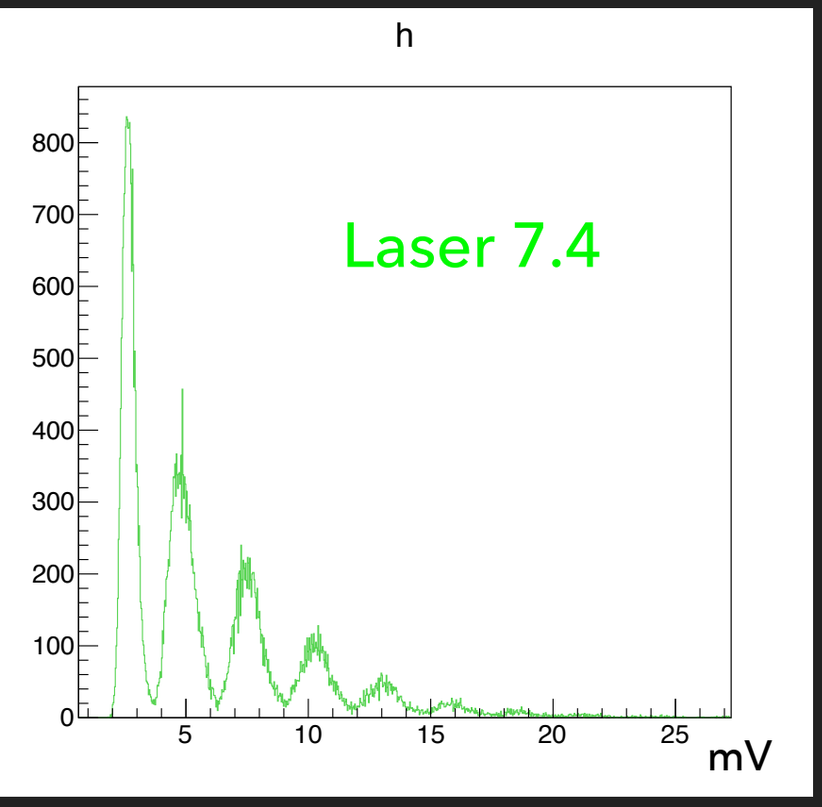
Thanks to Alessandro for the code and the help!

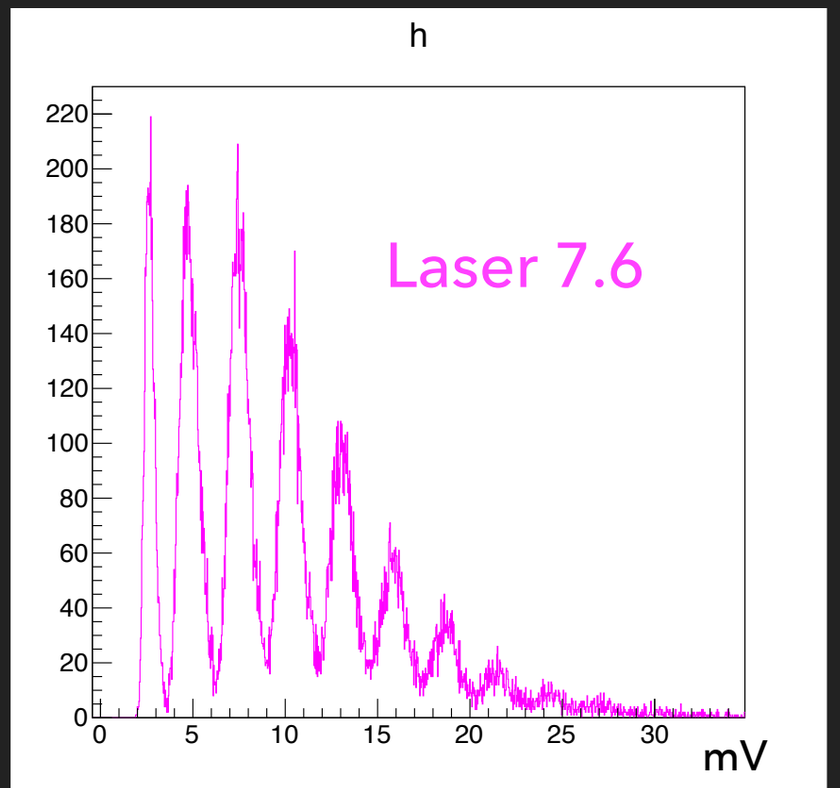
TESTS WITH INTEGRATED ELECTRONICS

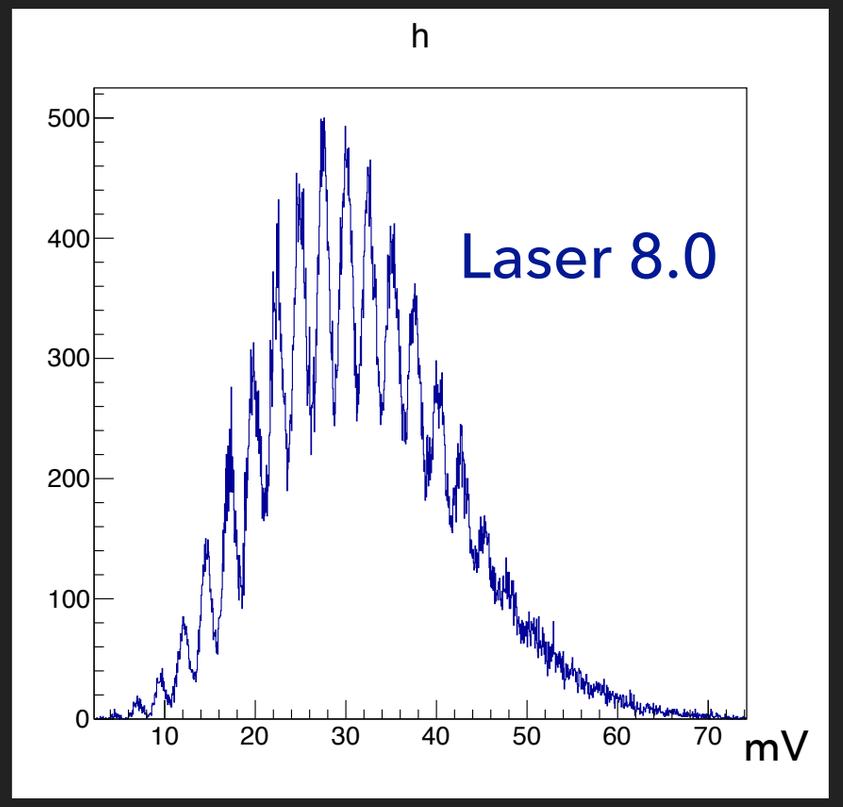
Scan increasing the laser intensity.

No filter

Able to distinguish and fit up to 15 PE







We need more light to explore all the range of the FEB and reach saturation, that is expected to be around 700 mV.

ON GOING TESTS

New shipping box part, with bigger holes.

Tests at cold of the 3D printed components.

Change of the piece…thanks Iza!!

First quick and dirty test: seen saturation around 800 mV.

Ongoing systematic tests to perform a full scan, from 1 PE to saturation of the FEB.