

The Wire Wizards Project

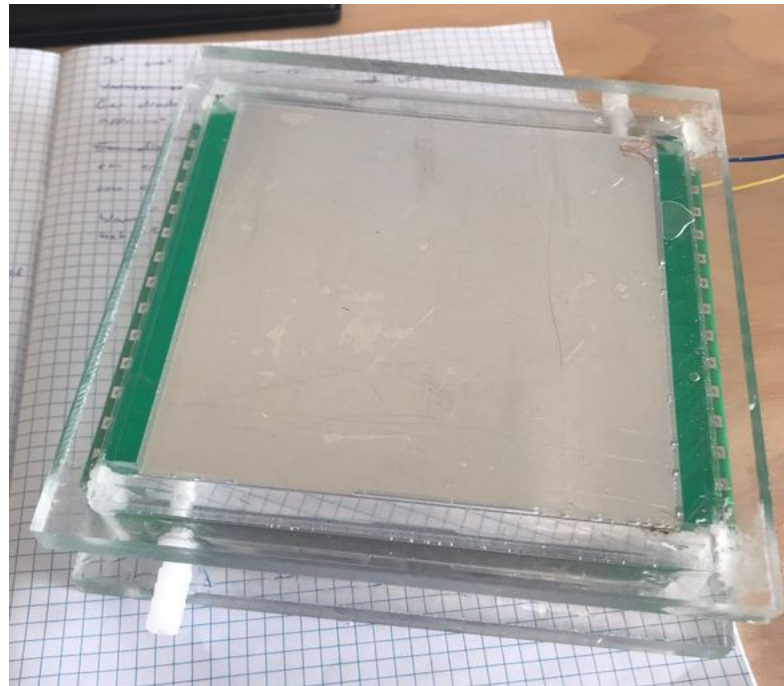
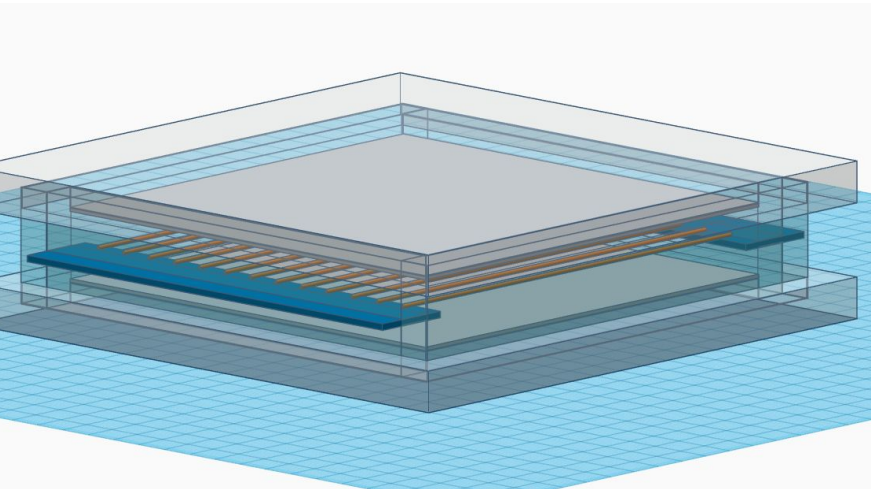
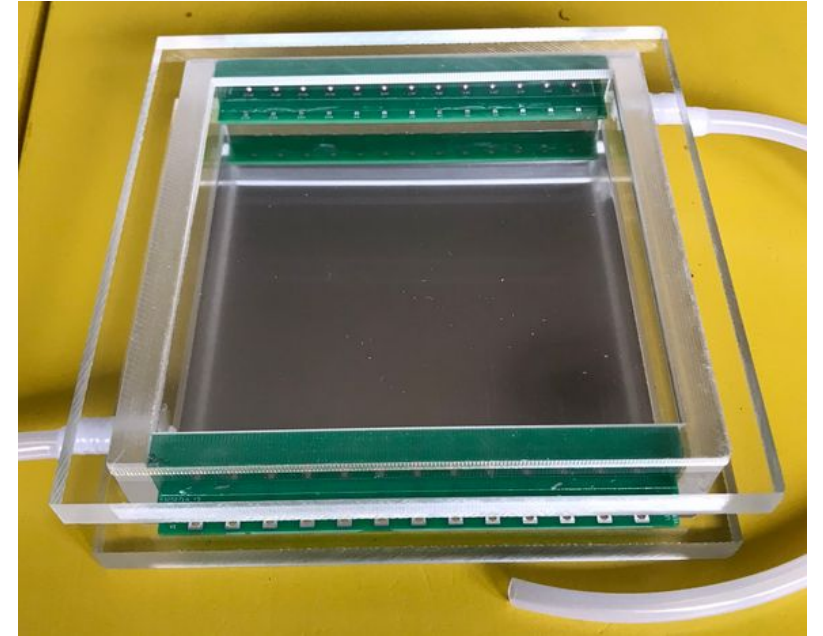
Leon Verreijt

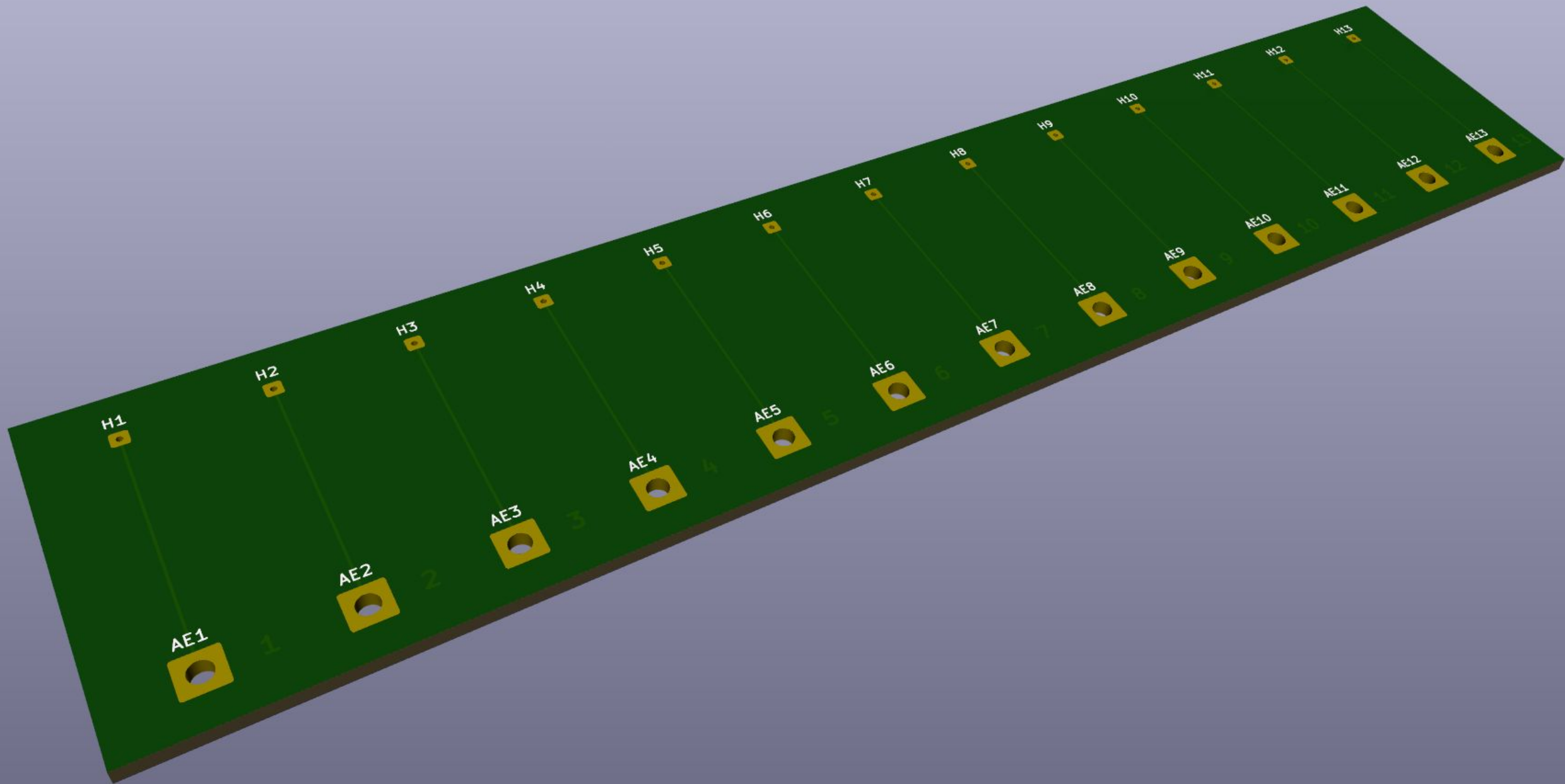
Start of the project

- 10 November: Proposed to teacher

First version

- 13 wires
- Acrylic





H1

H2

H3

H4

H5

H6

H7

H8

H9

H10

H11

H12

H13

AE1

AE2

AE3

AE4

AE5

AE6

AE7

AE8

AE9

AE10

AE11

AE12

AE13

1

2

3

4

5

6

7

8

9

10

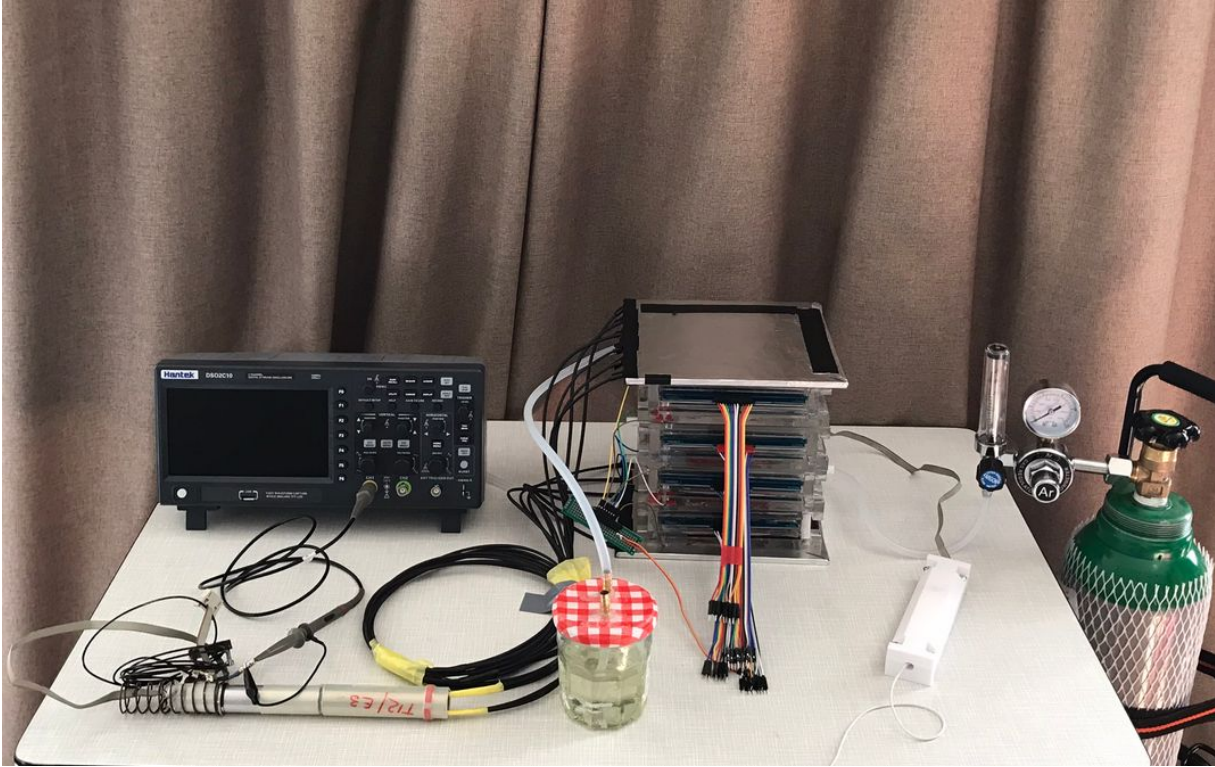
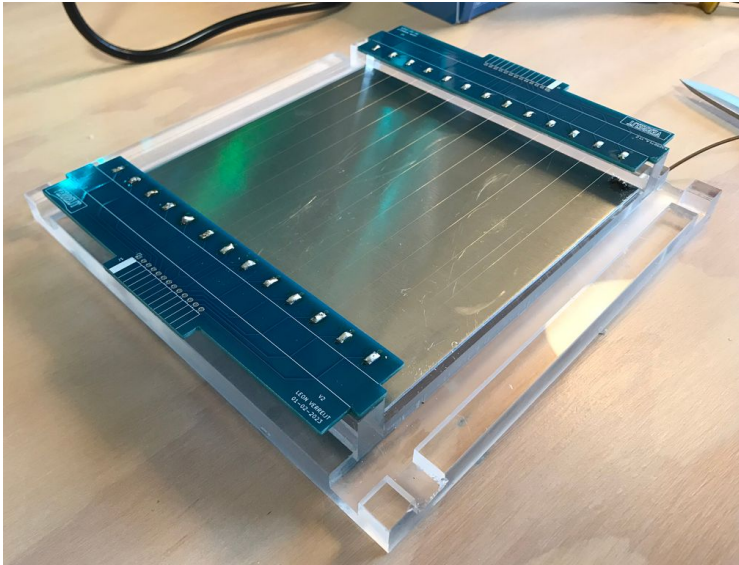
11

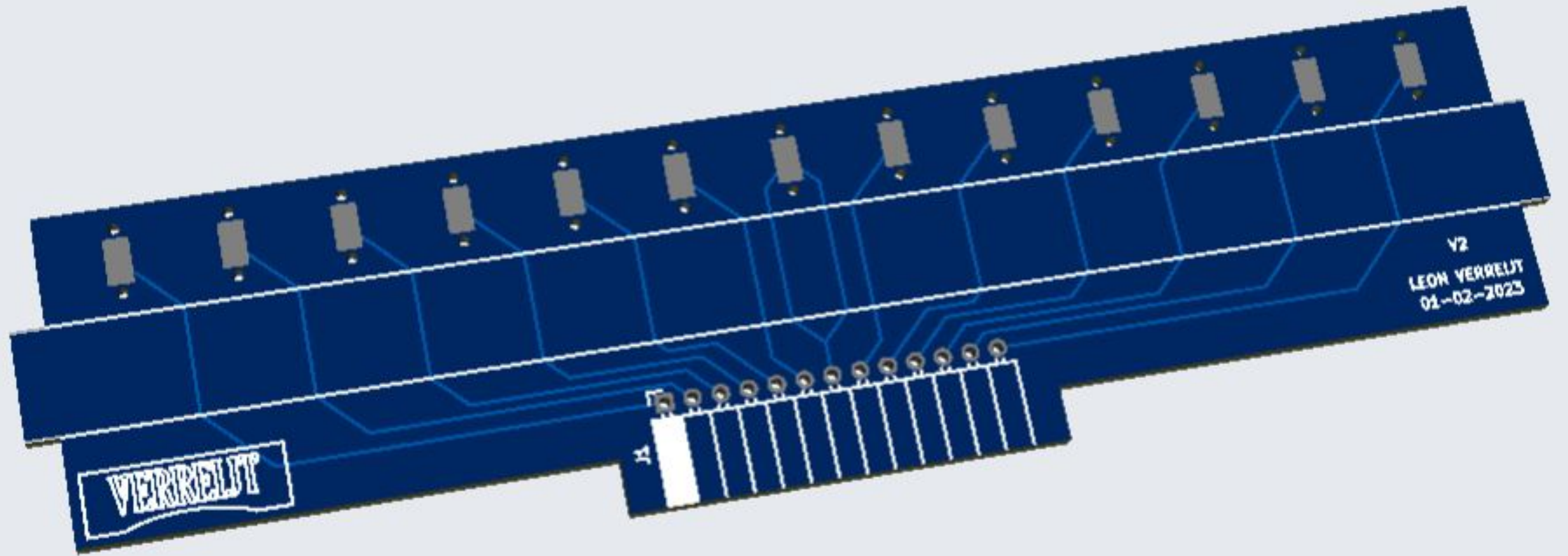
12

13

Second version

- Improvement! But still kind of shit





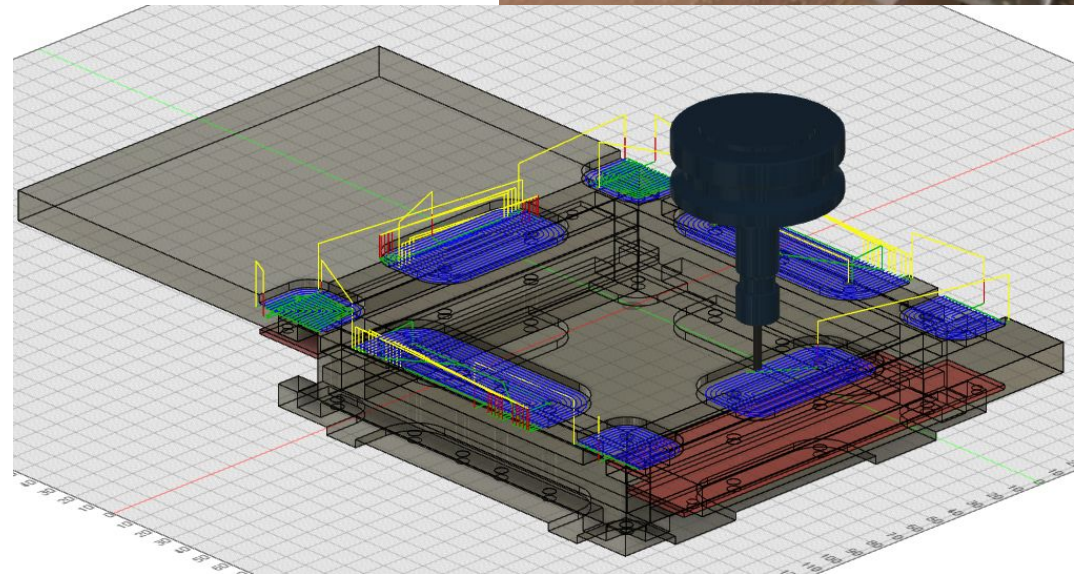
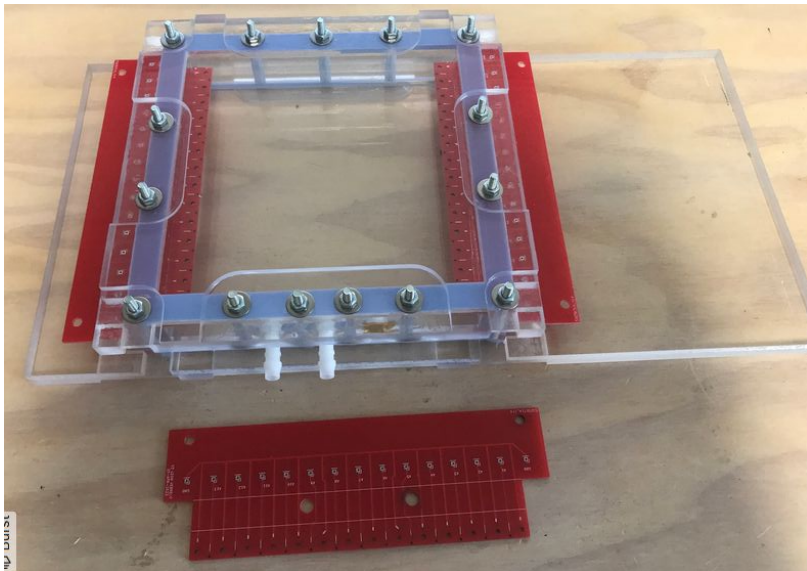
VERRELT

14

V2
LEON VERRELT
01-02-2023

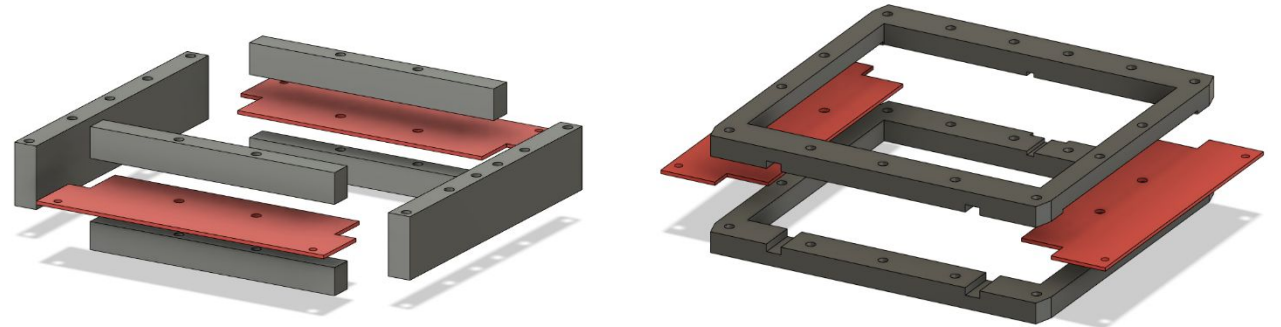
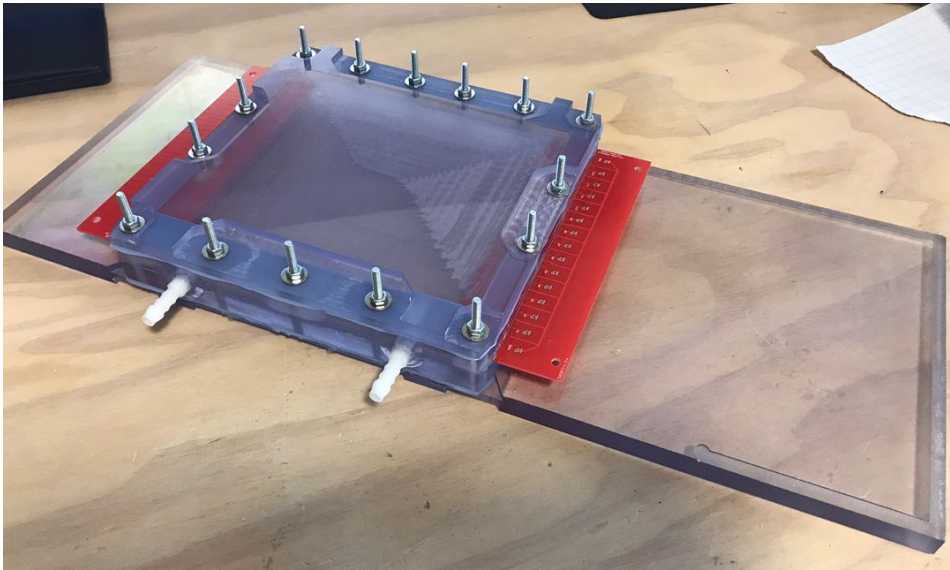
Third version

- We're getting serious now!
- Sealed by bolts instead of glue

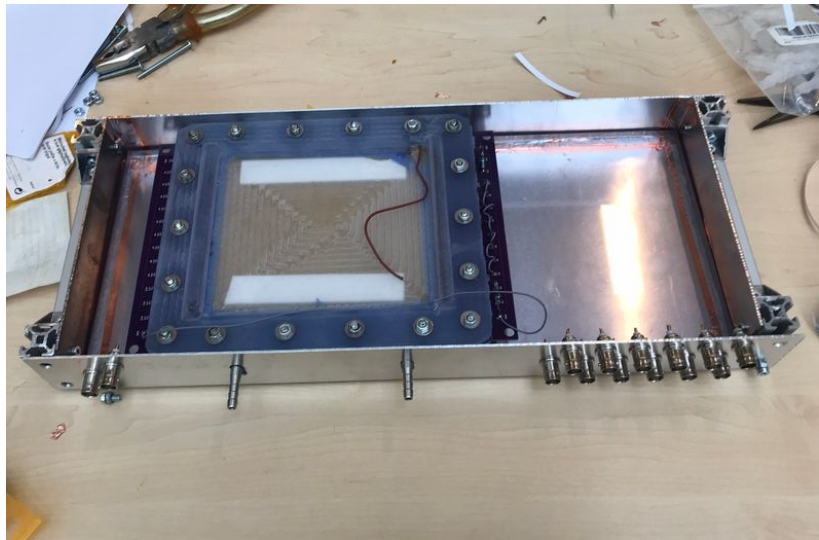
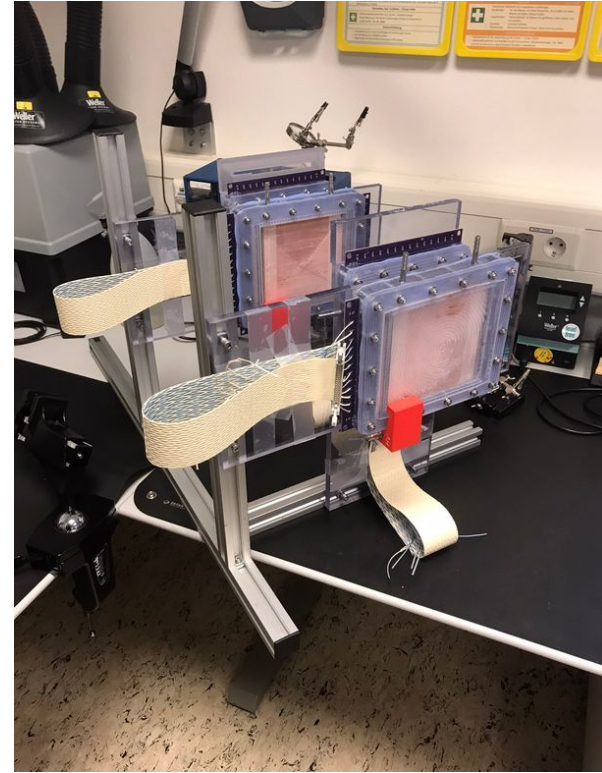
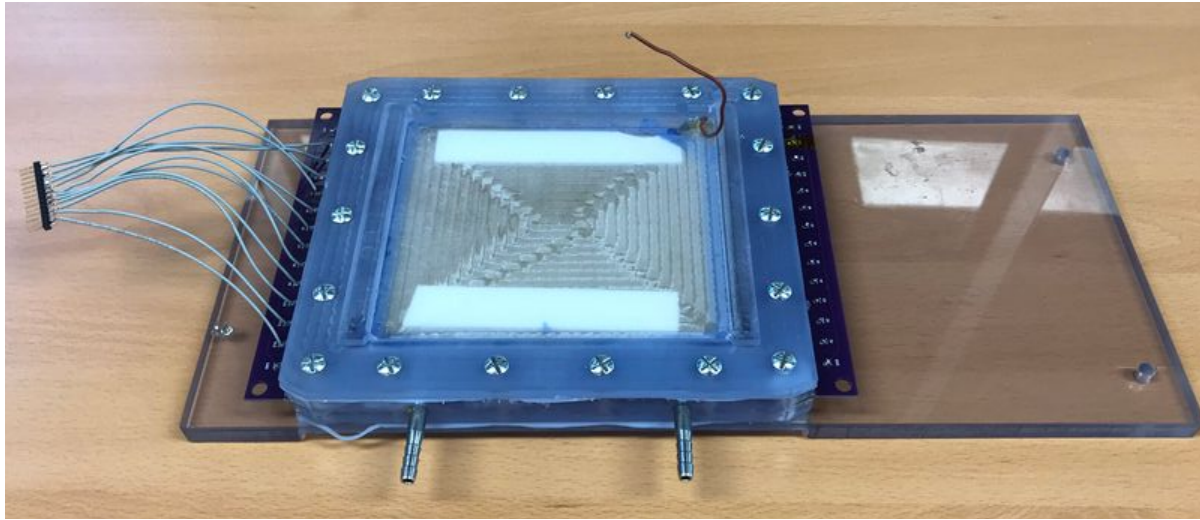


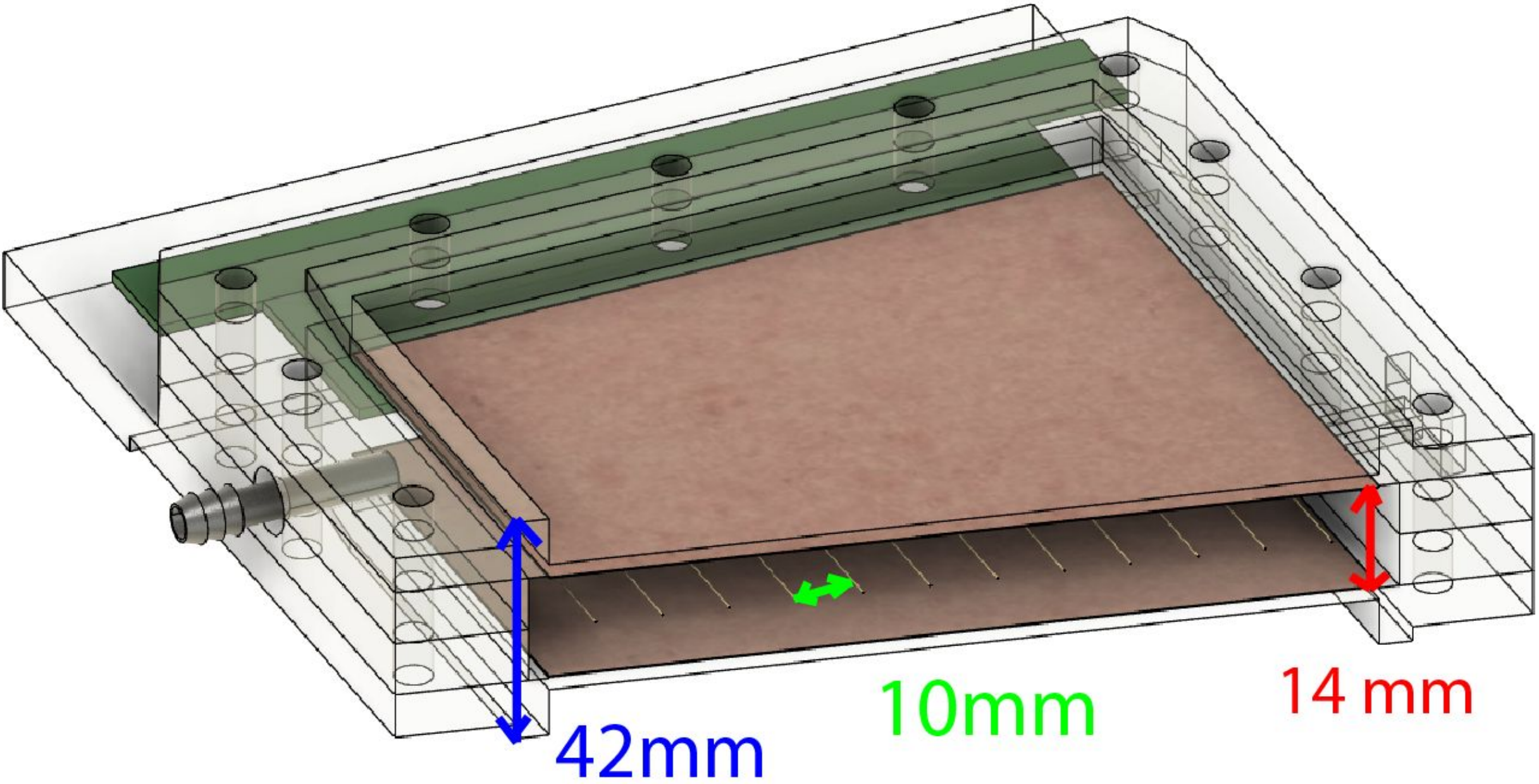
Fourth version

- Almost there



Final version

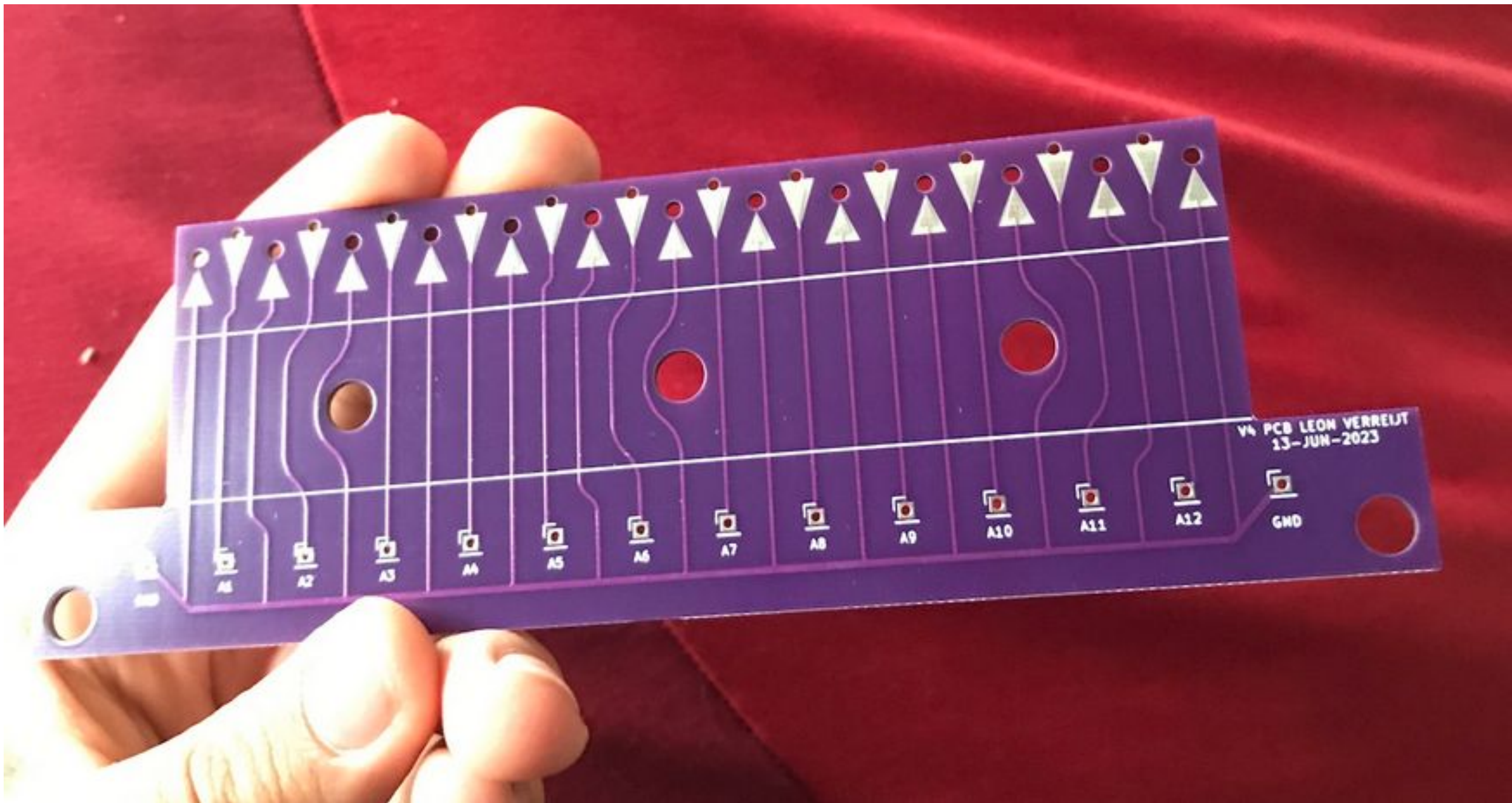




42mm

10mm

14mm



V4 PCB LEON VERREIJT
13-JUN-2023

A1

A2

A3

A4

A5

A6

A7

A8

A9

A10

A11

A12

GND

Hut

HV unit

MWPC's

Scintillator
Coincidence
trigger

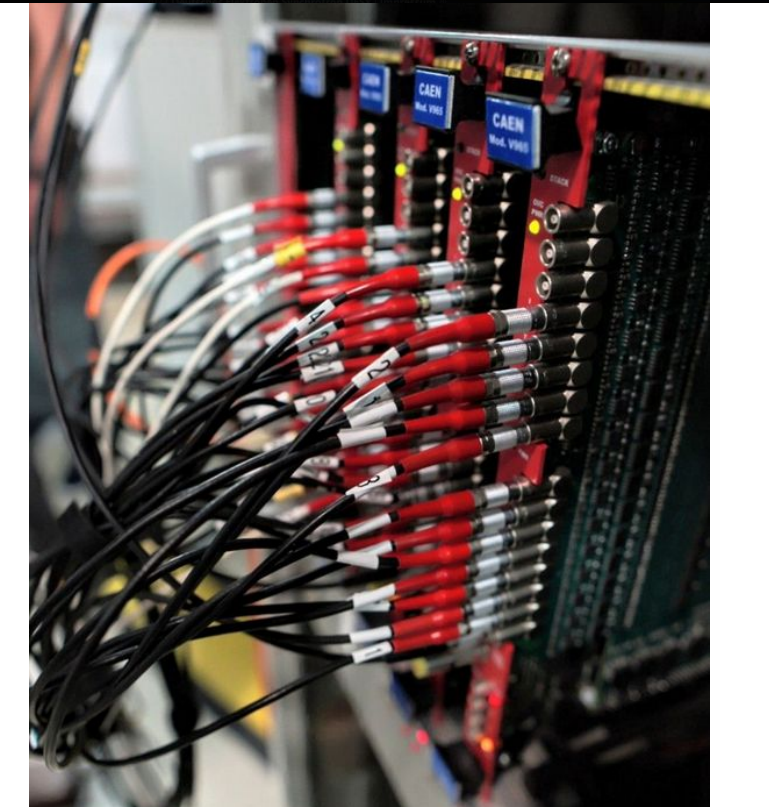
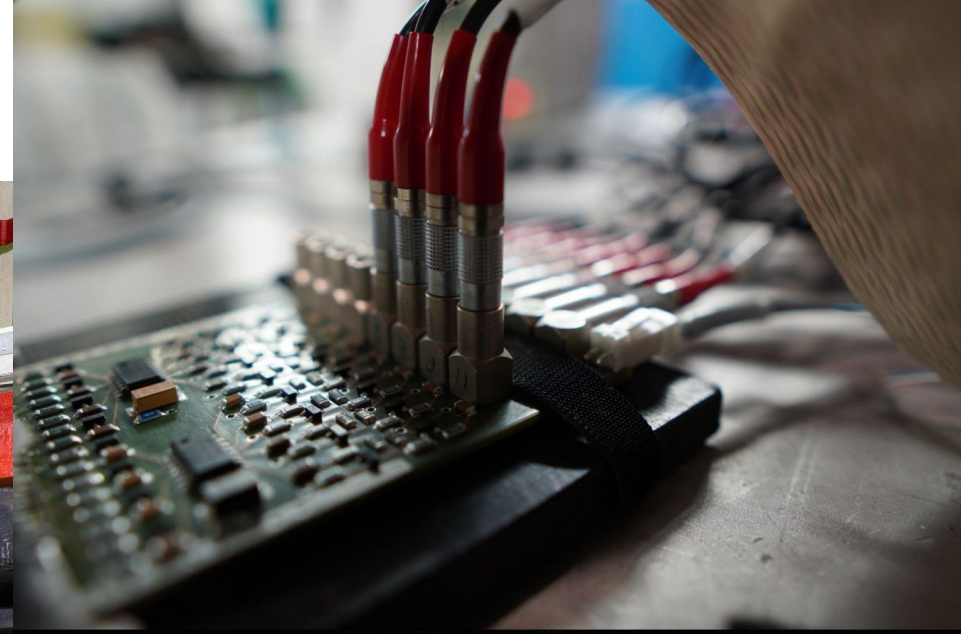
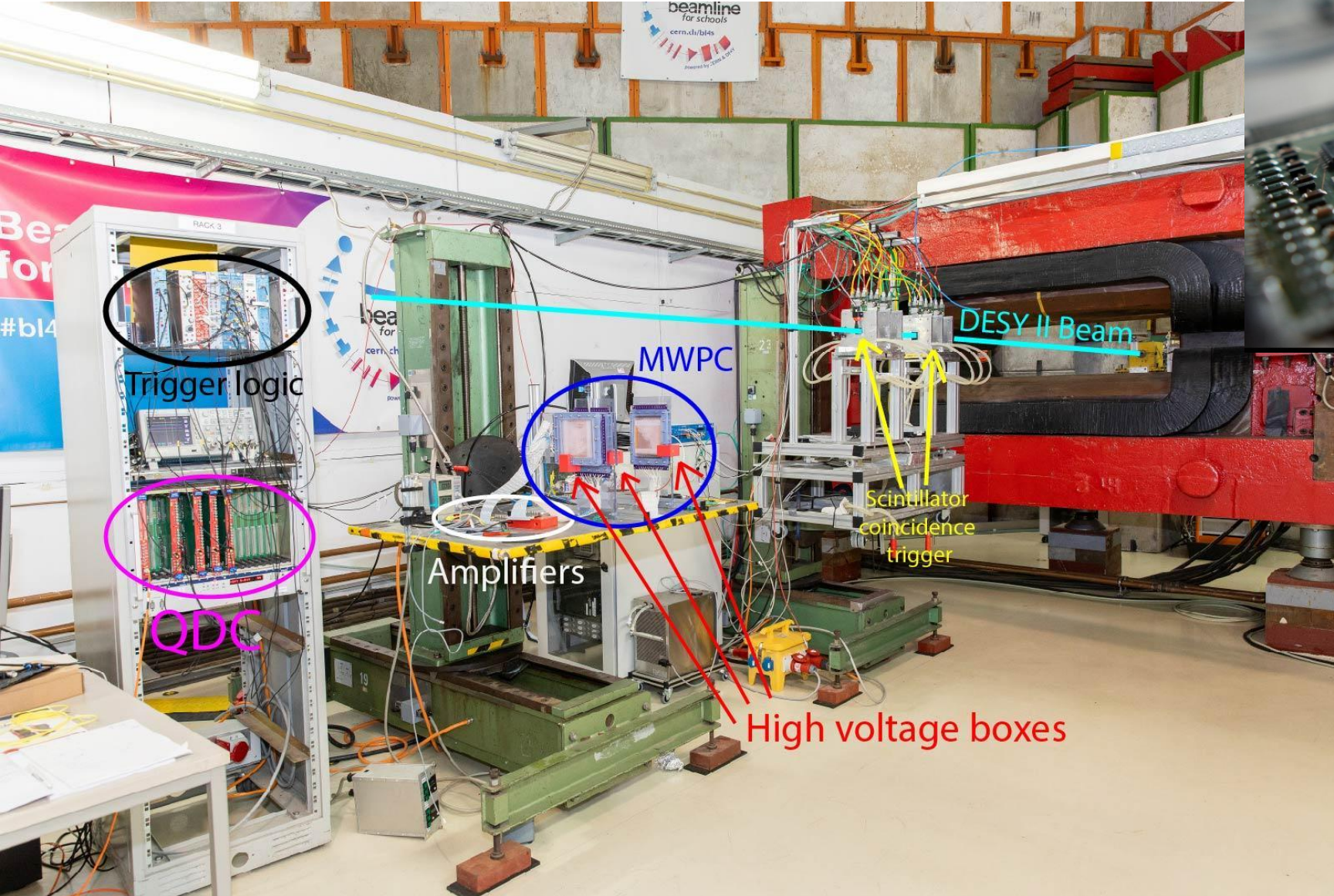
DESY II
Beamline

Computer

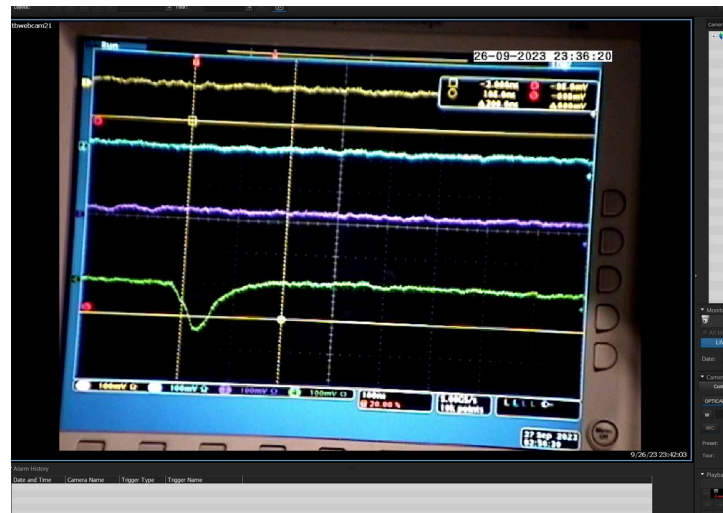
Preamplifiers

QDC

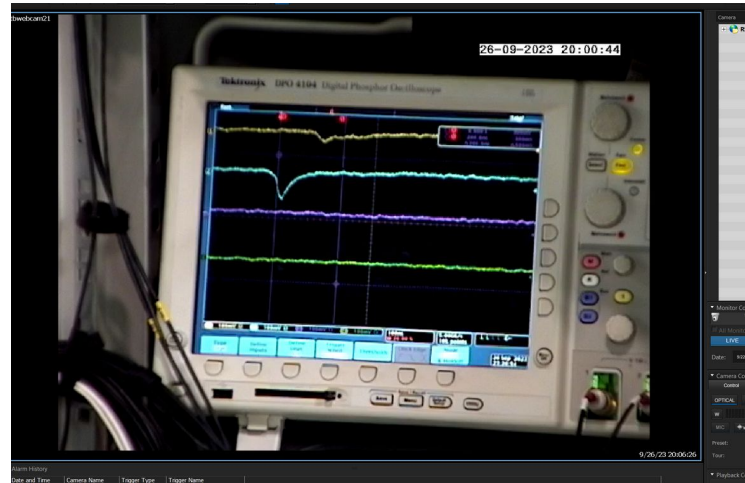
AND



Data!!!



Beam, Ar:CO2 93:7, voltage unknown



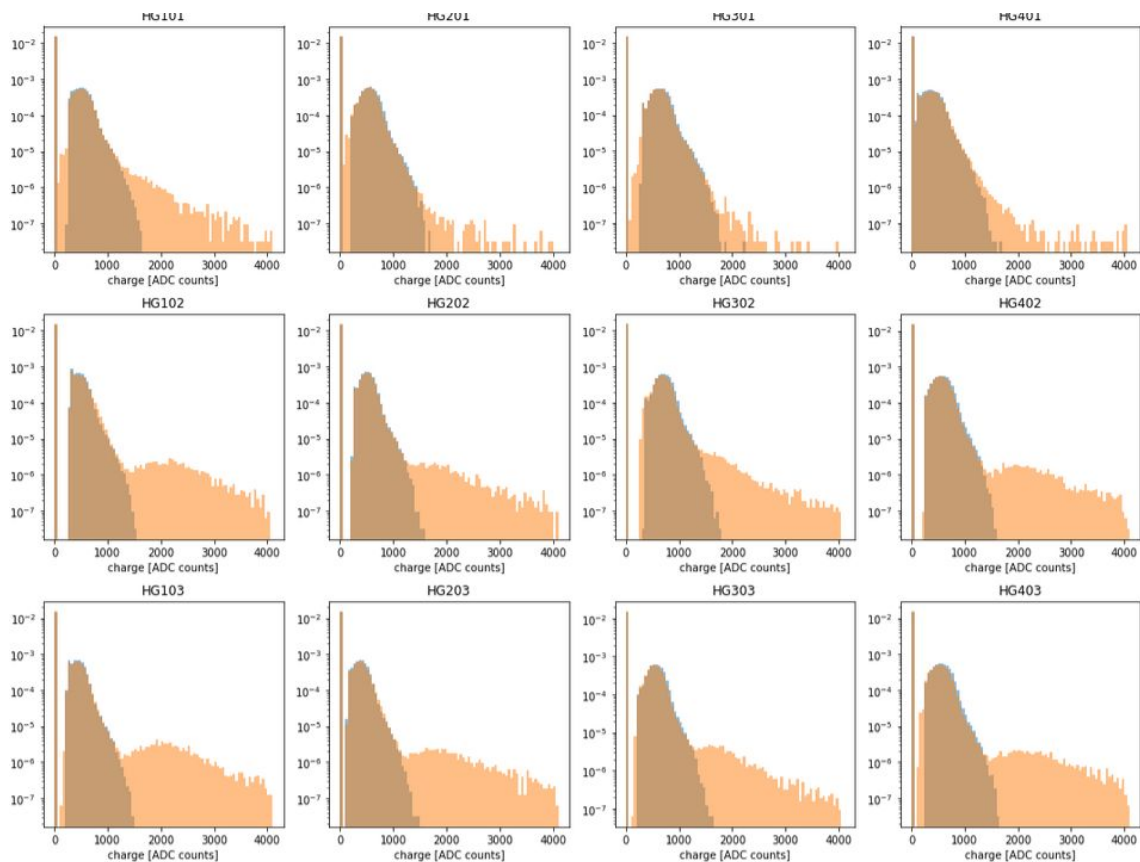
Cosmics, P5, voltage unknown



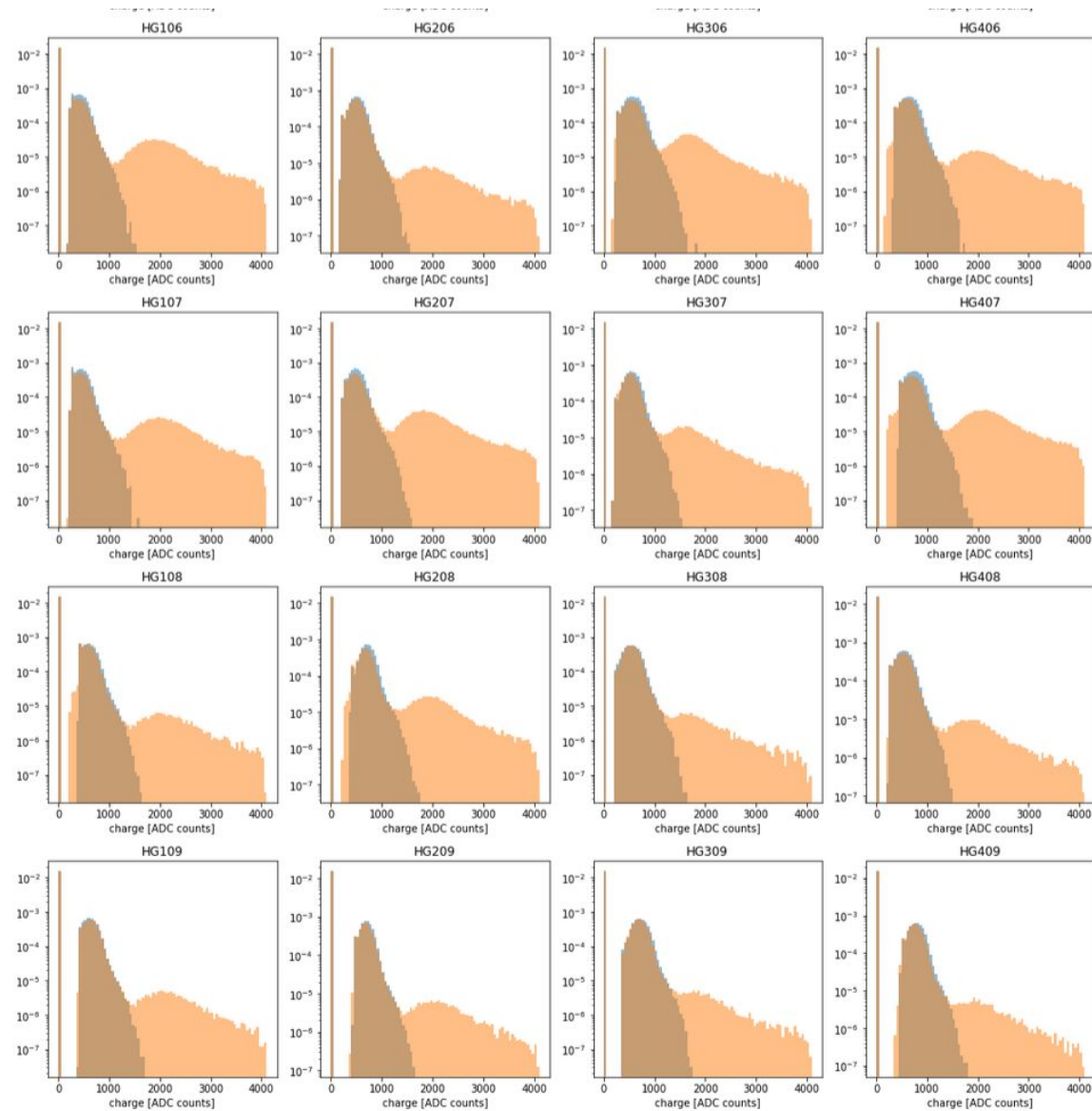
Cosmics, Ar:CO2 93:7, voltage unknown

Data!!!

Ar:CO2 80:20 / 2200V / 6GeV
No ground wires



Edge

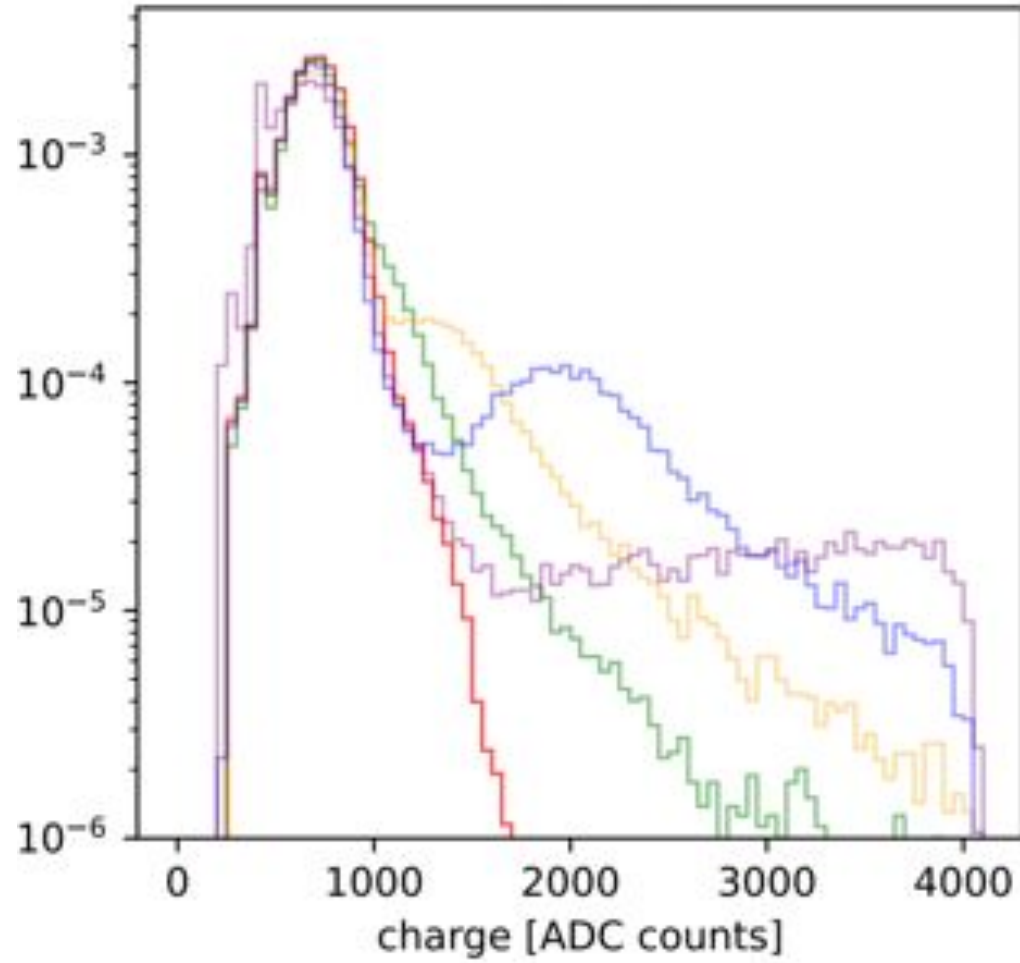


Middle

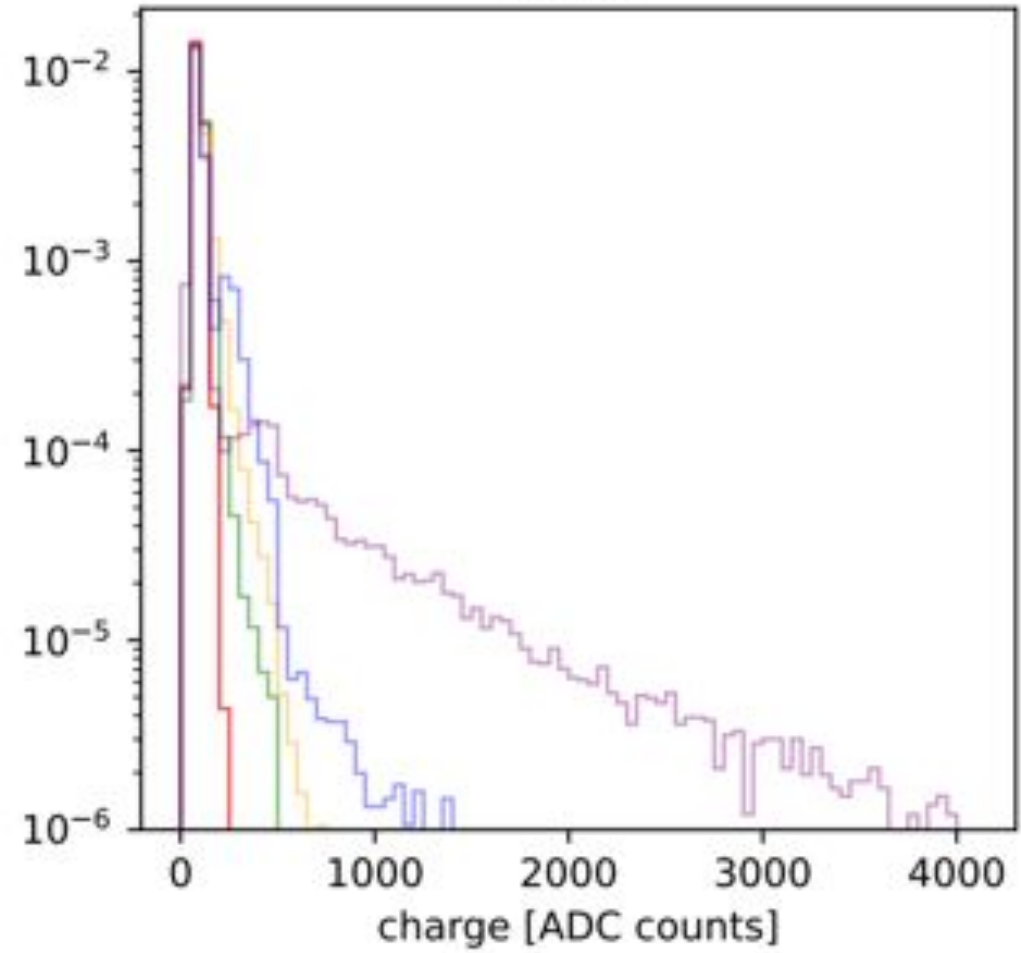
Pedestal run and beam run

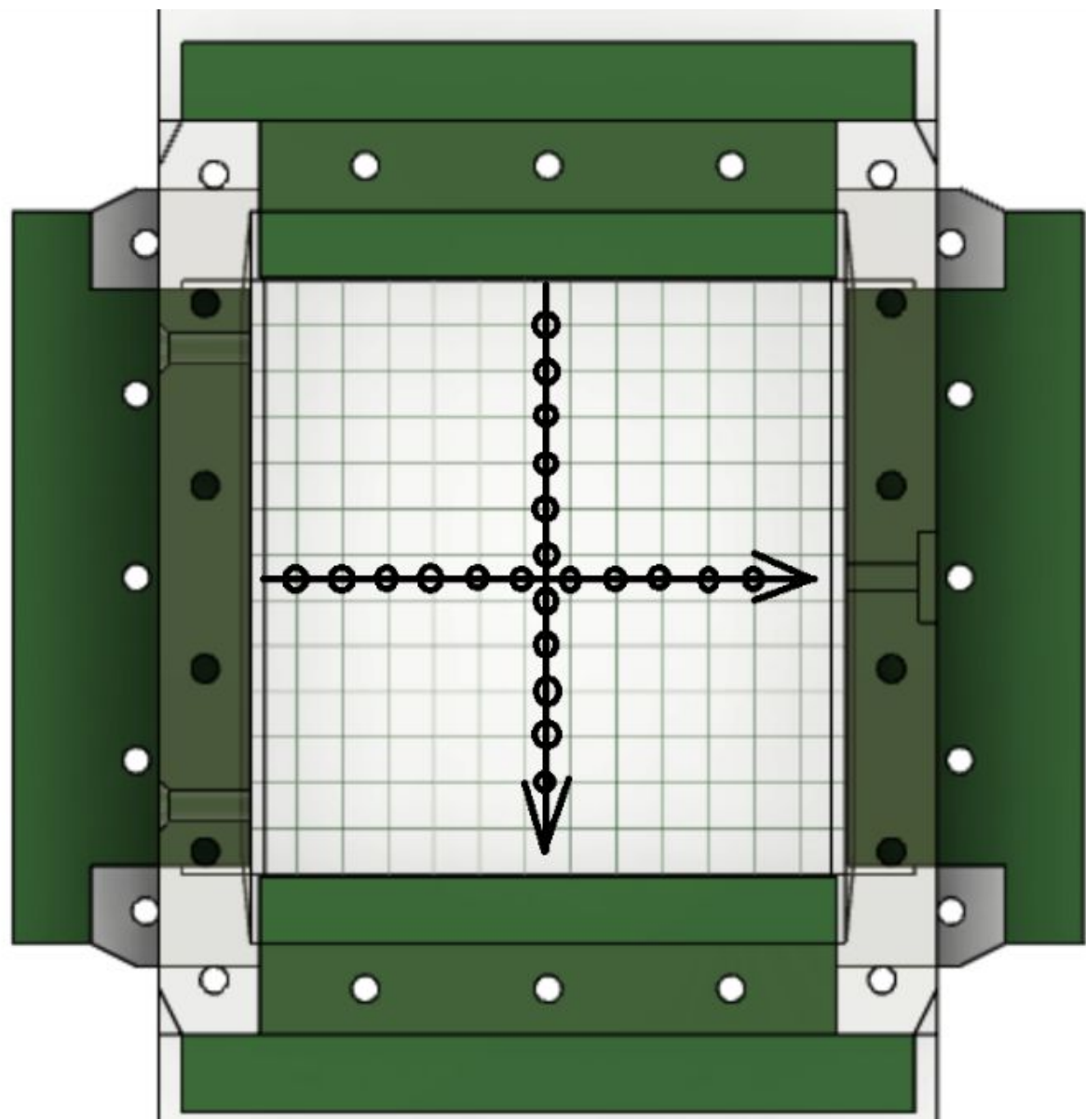
Difference in voltage, exact parameters unknown

HG208



LG208

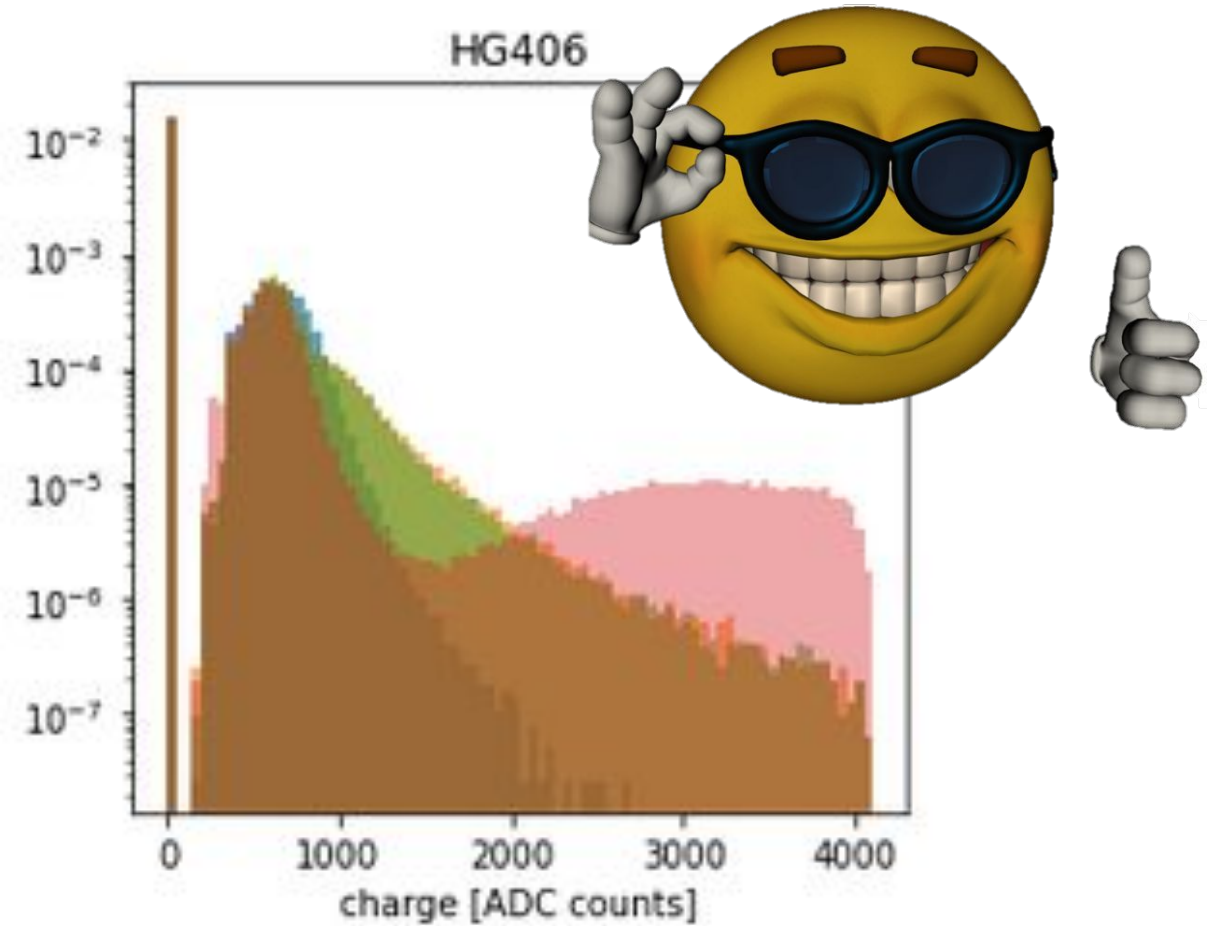
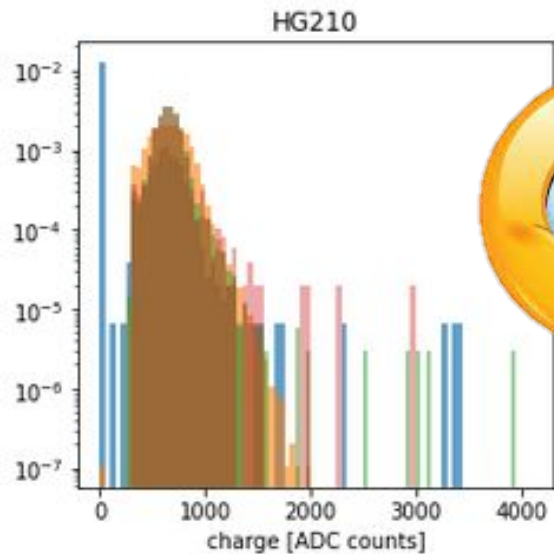


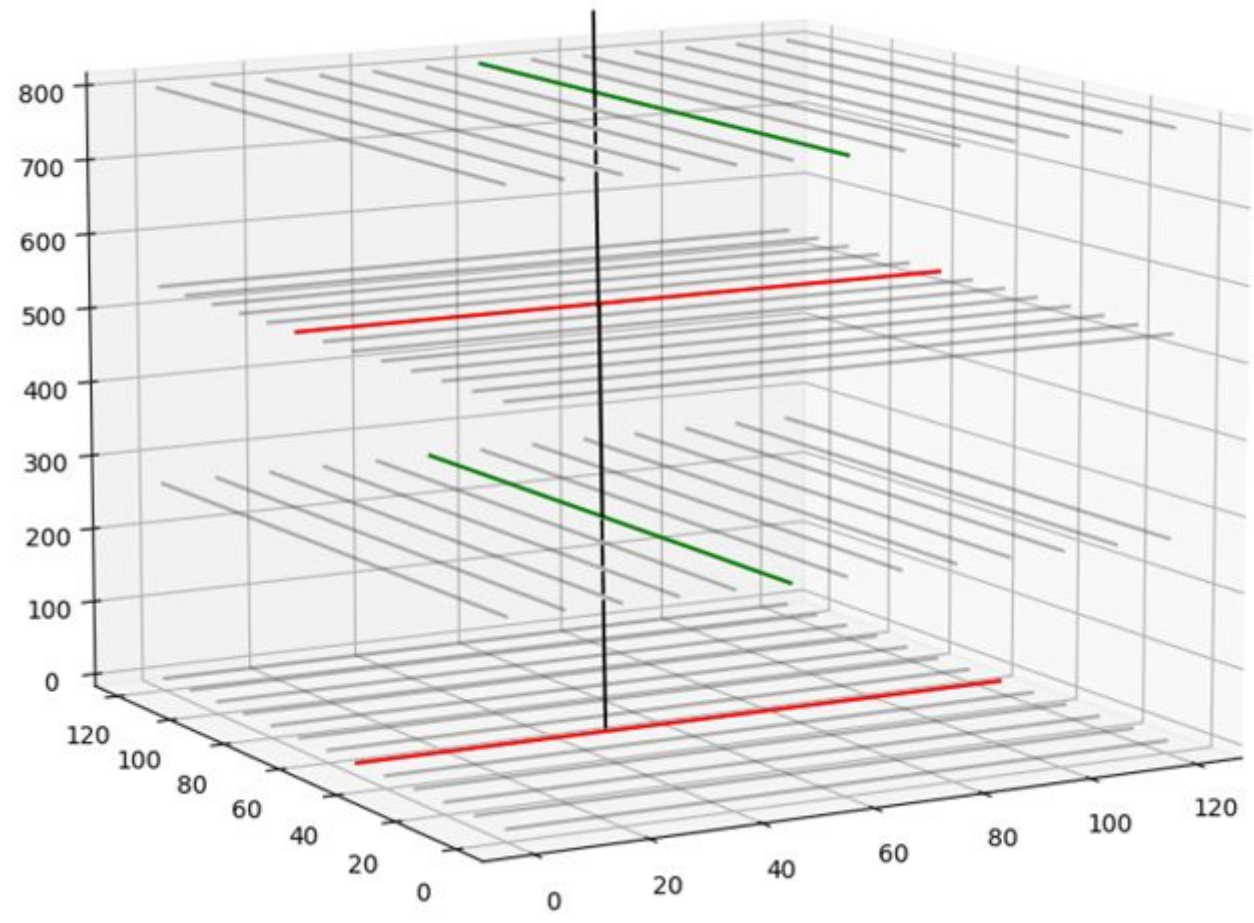


Data!!!

Ar:CO2 93:7 / 6 GeV

Voltages: 1600 / 1800 / 2000 / 2200



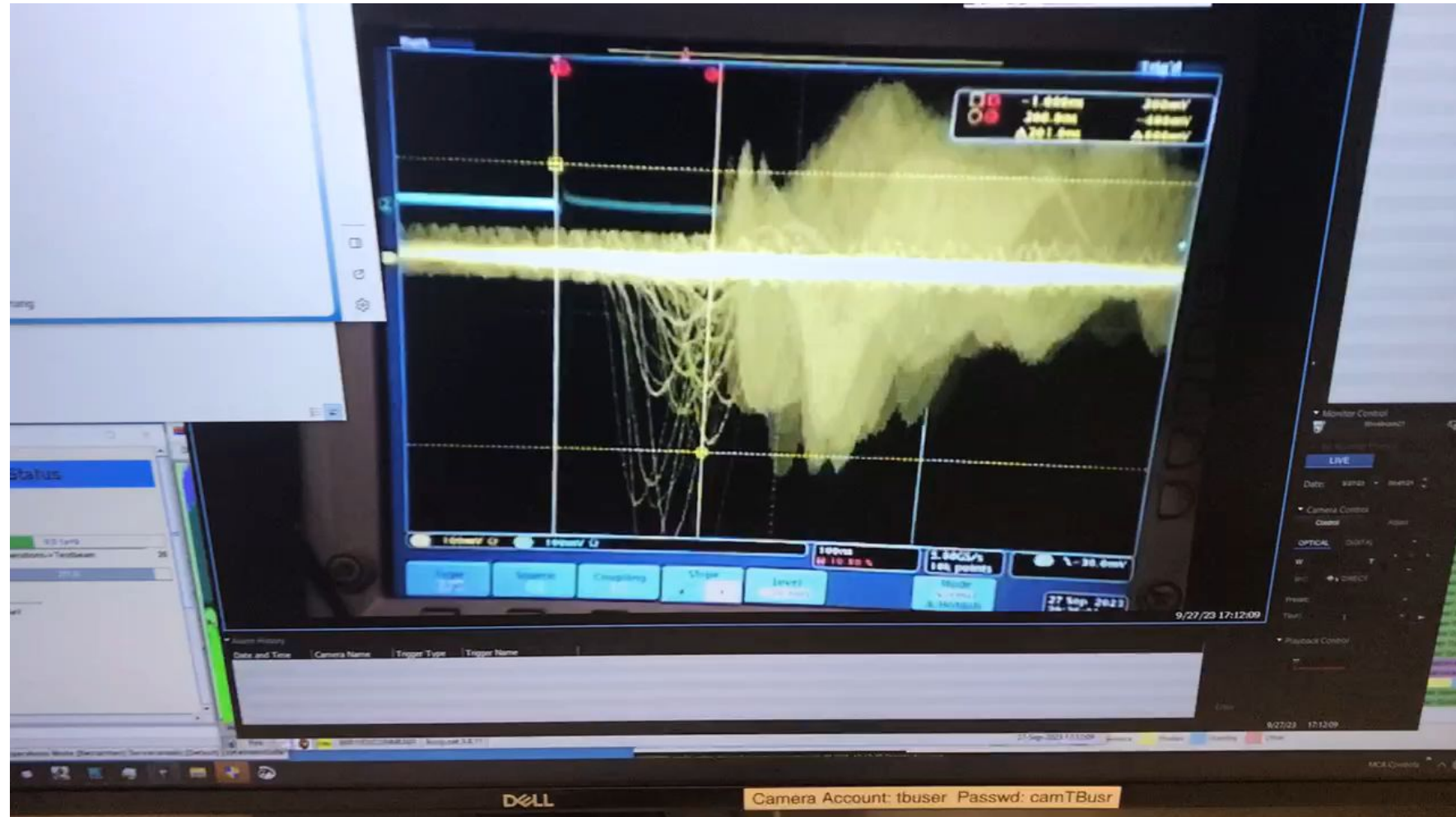


OPA694 quick test at the end

(4 GeV & 1900V & P5 (Ar:CH4 95:5))

FEATURES

- UNITY GAIN STABLE BANDWIDTH: 1.5GHz
- HIGH GAIN OF 2V/V BANDWIDTH: 690MHz
- LOW SUPPLY CURRENT: 5.8mA
- HIGH SLEW RATE: 1700V/ μ sec
- HIGH FULL-POWER BANDWIDTH: 675MHz
- LOW DIFFERENTIAL GAIN/PULSE: 0.03%/0.015°



Problems and discussion

- Gate timing
- Light voltage sparking
- Electric field communication between different chambers

Future for the project

- Completing OPA694 circuit
- Small measurements
- muuuch writing