# Project meeting 2

M. Bezak

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LUT University

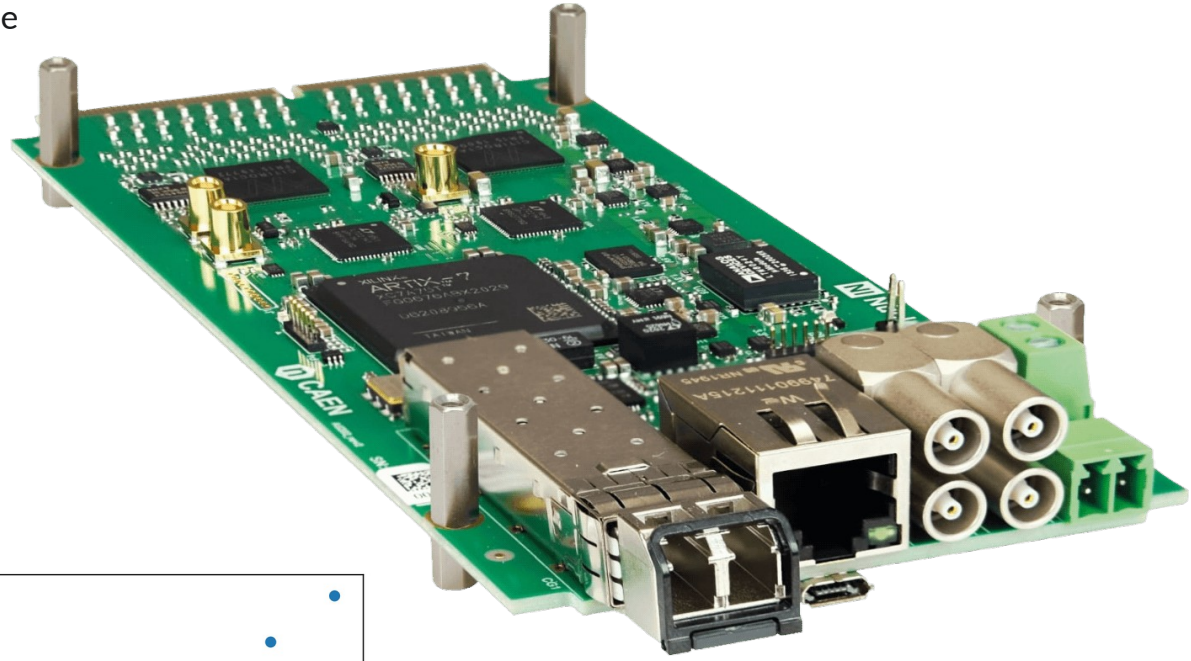
HELSINKI INSTITUTE OF PHYSICS

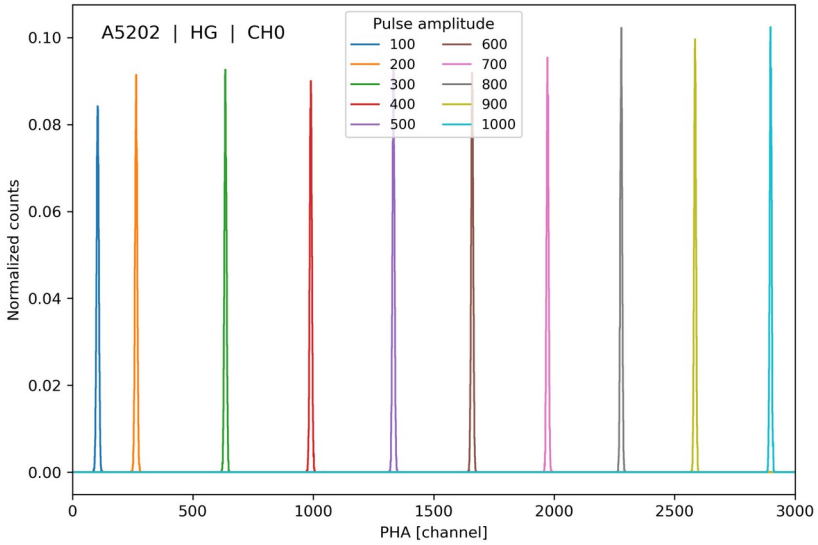
UNIVERSITY OF HELSINKI

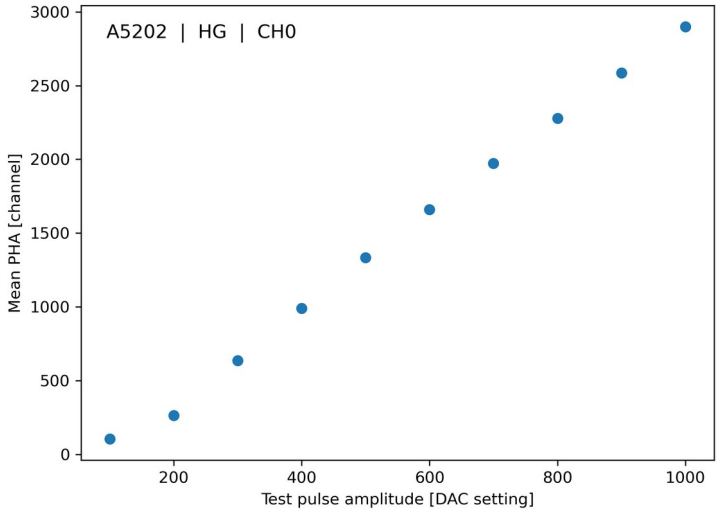
# BLM

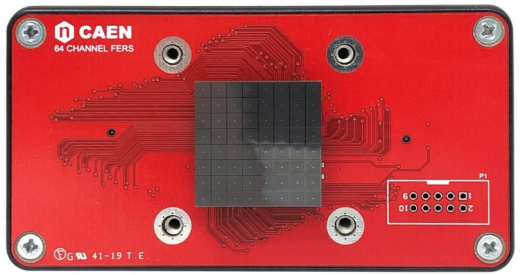
A5202 is the 64-channel front-end board used in the FERS-5200 system for SiPM-style charge and timing readout

Easy tests:
the internal test-pulse path
high-gain PHA chain
ADC conversion
USB readout and JANUS file output





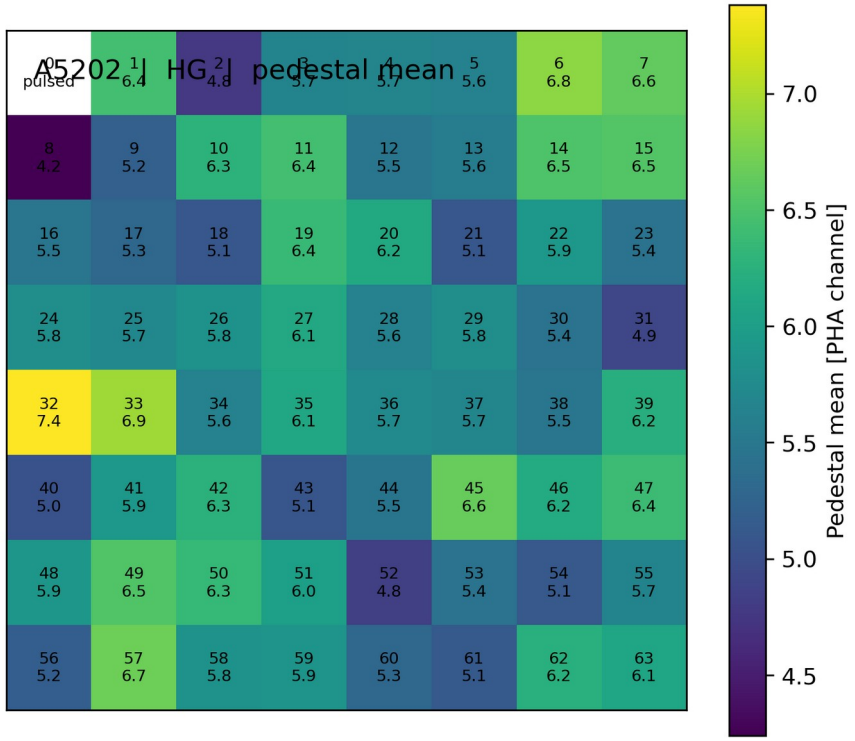



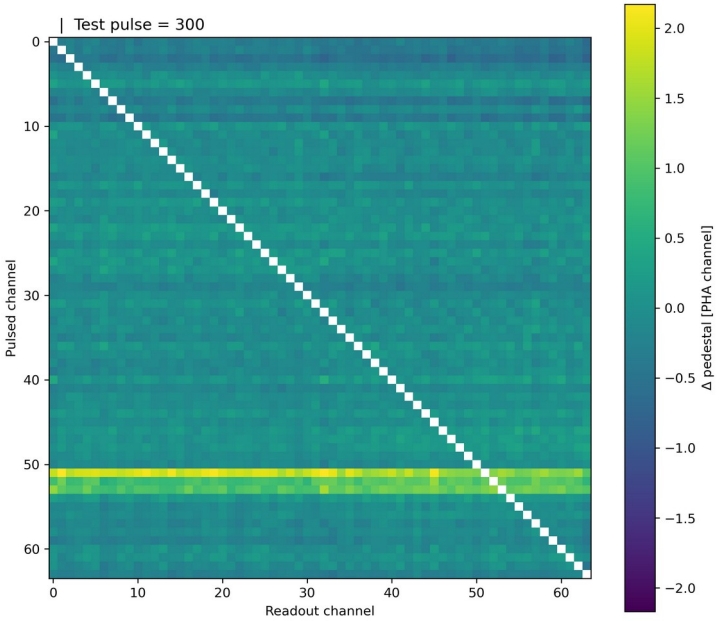

**A5251** - MPPC header adapter for A5202/DT5202 (optional)

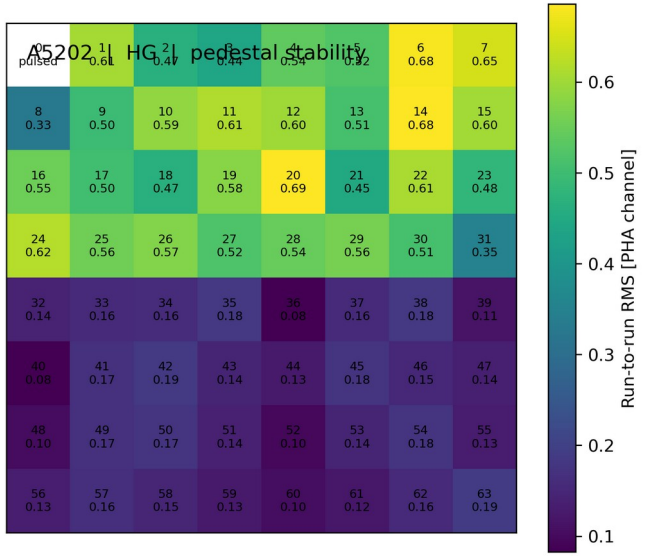
# BLM

A5202 is the 64-channel front-end board used in the FERS-5200 system for SiPM-style charge and timing readout

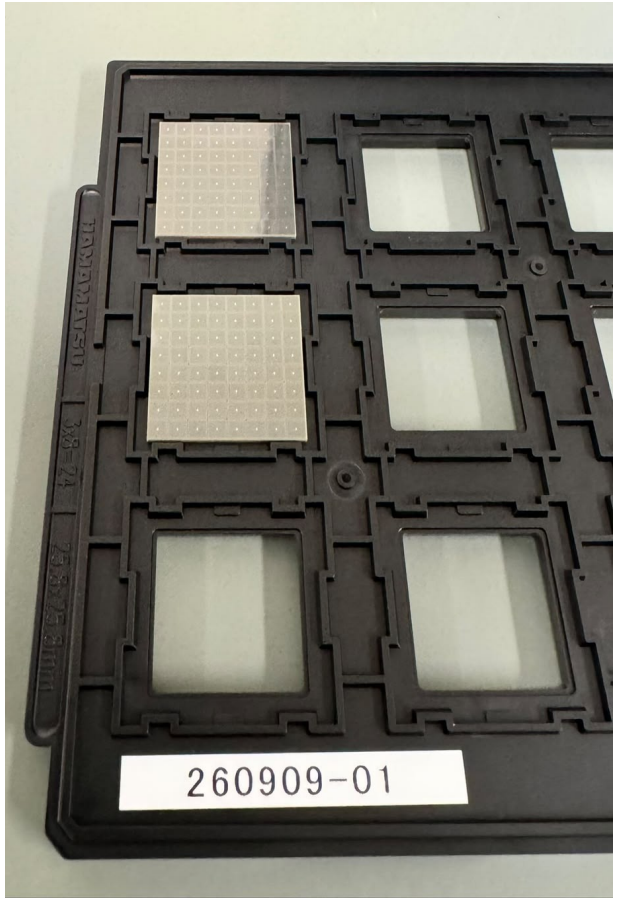
diagonal response = channel-by-channel uniformity test • off-diagonal matrix checks if pulsing one channel moves others • visible chip/channel structures become follow-up checks, not detector effects



# BLM - TBC

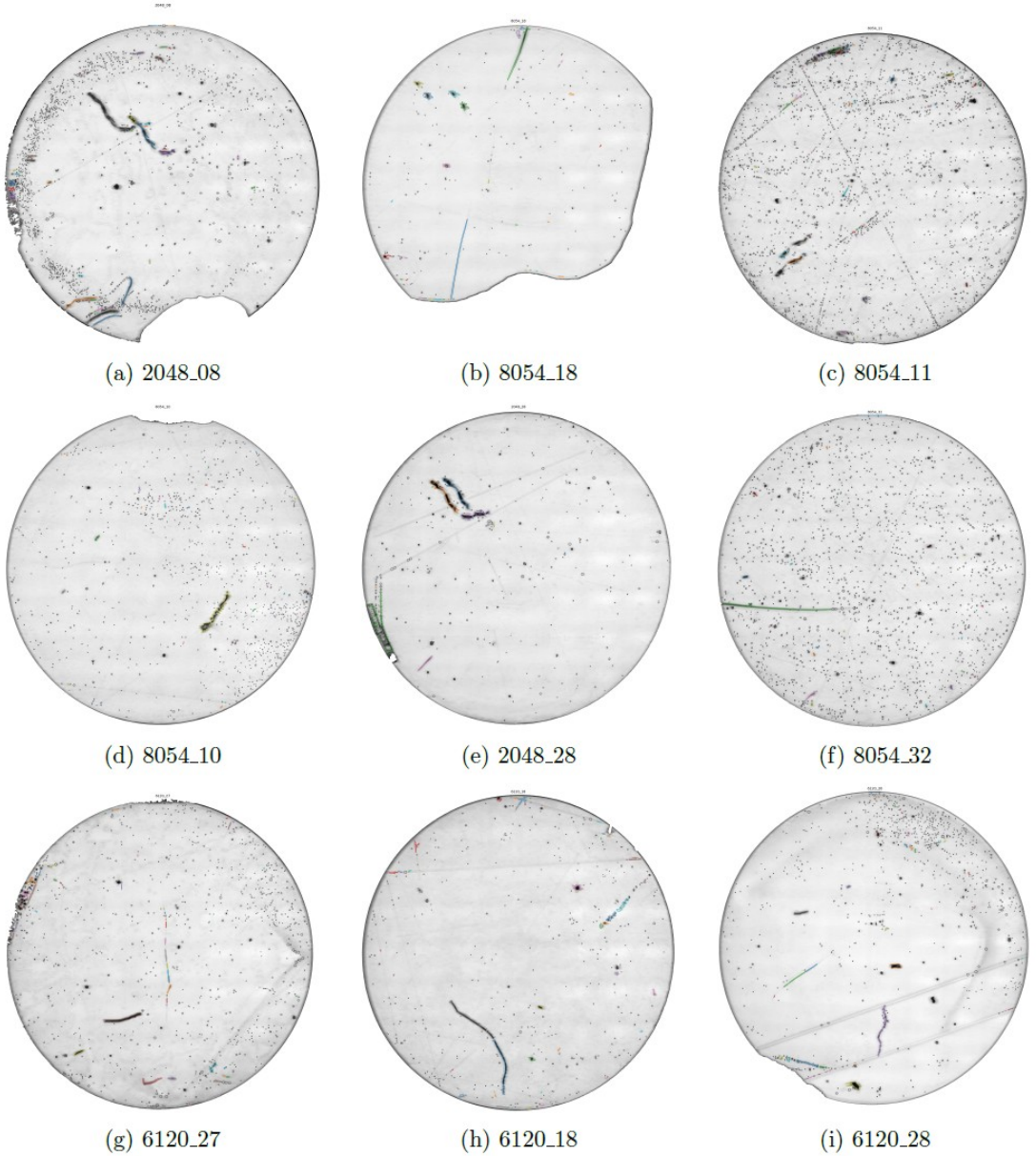

260909-01


Precaution for handling the tray
If the device pops out from the tray,
it makes impossible to know Serial No. of the device.
Please pay attention the following point.
●Please be greatly careful at removing of binding tape from the tray.
We recommend to fix the tray and cut the tape like a cutter.
●Please do not give a shock the tray.

# Detection Technology - DT

Table 1.1: IR scan summary for batch 3

| box | name | scanning | start_date | start_time | end_date | end_time | ID |
|---|---|---|---|---|---|---|---|
| #1 | 2048_08 | done | 10.3.2026 | 10:10:00 | 10.3.2026 | 19:46:00 | 05_01 |
| | 8054_18 | done | 9.3.2026 | 18:59:00 | 10.3.2026 | 04:14:00 | 04_02 |
| | 8054_11 | done | 9.3.2026 | 09:22:00 | 9.3.2026 | 18:37:00 | 04_01 |
| | 8054_10 | done | 8.3.2026 | 15:04:00 | 9.3.2026 | 00:19:00 | 03_02 |
| #2 | xxxx_xx | missing | | | | | |
| | 2048_28 | done | 3.3.2026 | 15:40:00 | 4.3.2026 | 00:55:00 | 01_01 |
| | 8054_32 | done | 4.3.2026 | 10:26:00 | 4.3.2026 | 19:41:00 | 01_02 |
| #3 | 6120_27 | done | 5.3.2026 | 09:30:00 | 5.3.2026 | 18:42:00 | 02_01 |
| | 6120_18 | done | 6.3.2026 | 09:20:00 | 6.3.2026 | 18:35:00 | 02_02 |
| | 6120_28 | done | 7.3.2026 | 15:35:00 | 8.3.2026 | 00:50:00 | 03_01 |

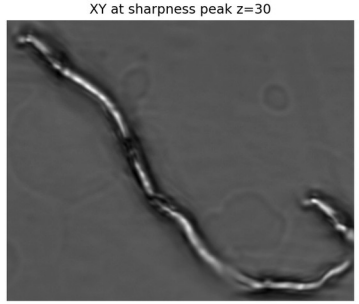


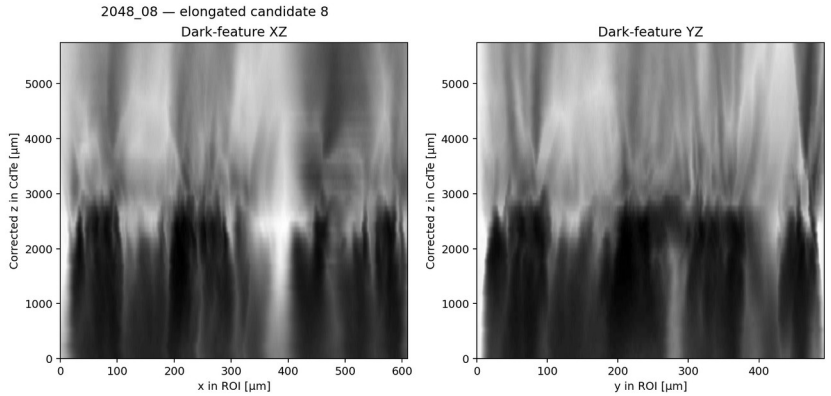
(a) 2048_08 (b) 8054_18 (c) 8054_11

(d) 8054_10 (e) 2048_28 (f) 8054_32

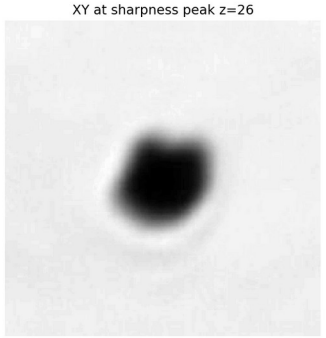
(g) 6120_27 (h) 6120_18 (i) 6120_28

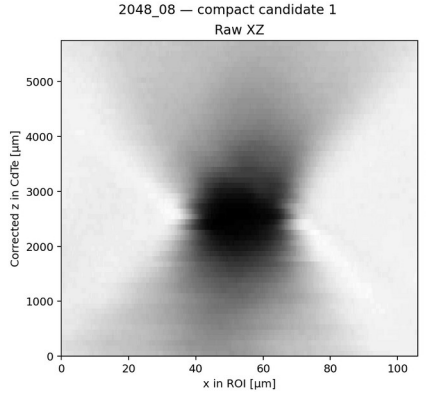
Figure 5.2: Detected compact and elongated features for all samples.

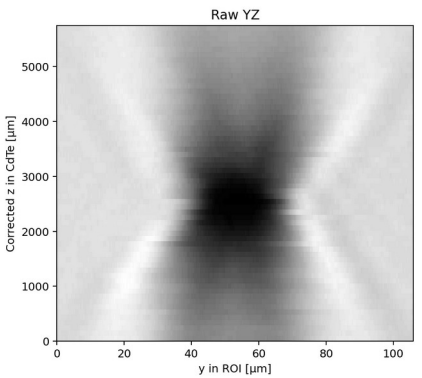

XY at sharpness peak z=30

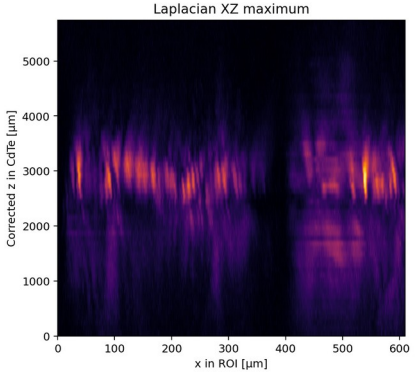

2048_08 — elongated candidate 8
Dark-feature XZ
Corrected z in CdTe [µm]
x in ROI [µm]

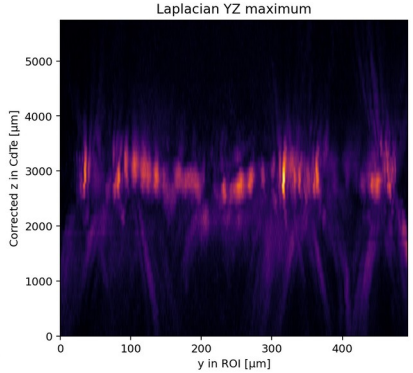

Dark-feature YZ
Corrected z in CdTe [µm]
y in ROI [µm]

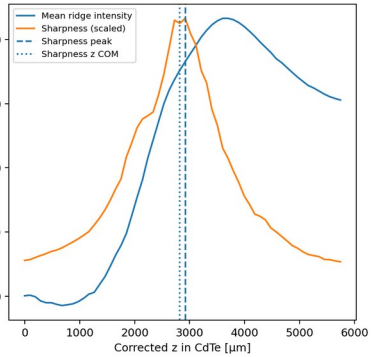

XY at sharpness peak z=26

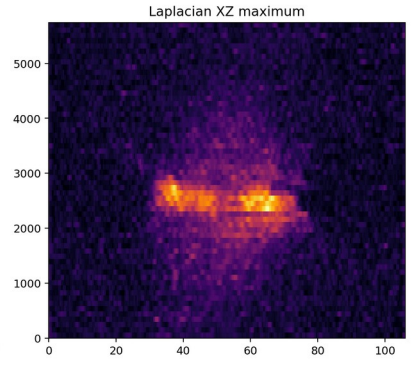

2048_08 — compact candidate 1
Raw XZ
Corrected z in CdTe [µm]
x in ROI [µm]

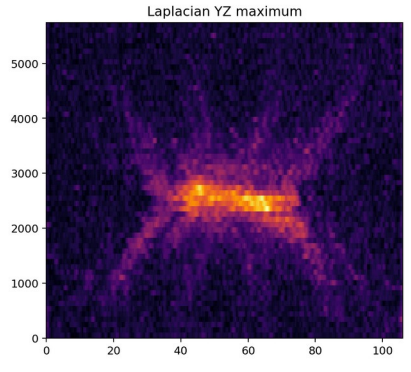

Raw YZ
Corrected z in CdTe [µm]
y in ROI [µm]

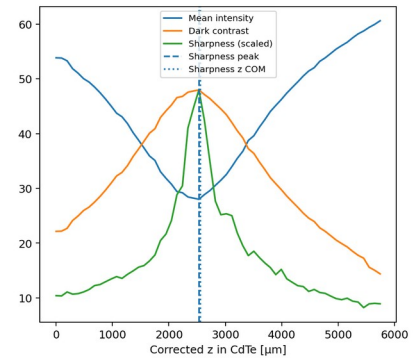

Laplacian XZ maximum
Corrected z in CdTe [µm]
x in ROI [µm]

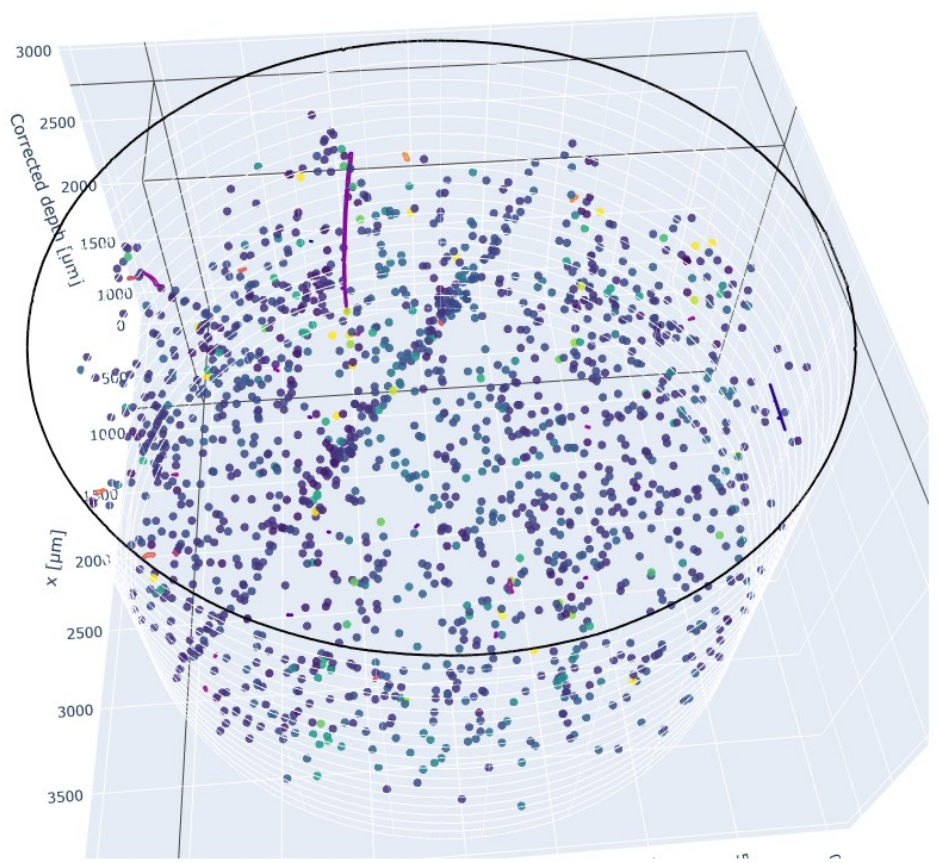

Laplacian YZ maximum
Corrected z in CdTe [µm]
y in ROI [µm]

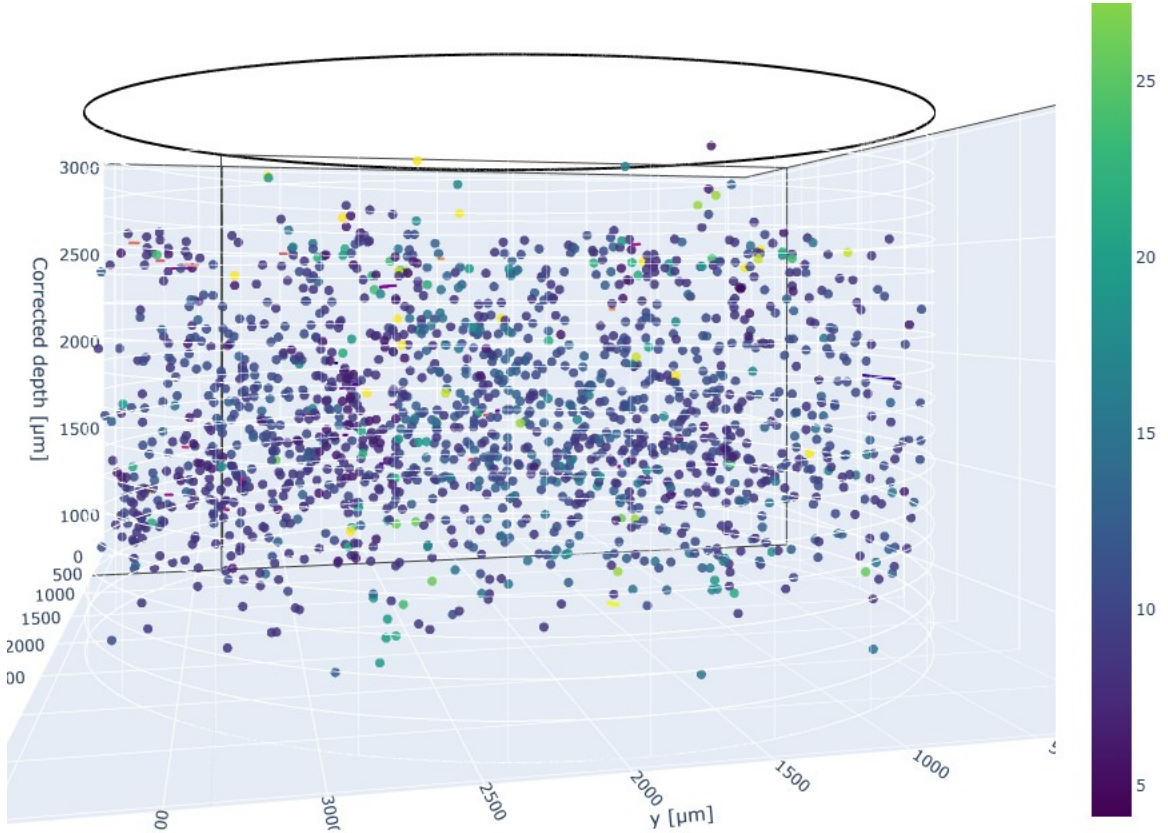

Mean ridge intensity
Sharpness (scaled)
Sharpness peak
Sharpness z COM
Corrected z in CdTe [µm]


Laplacian XZ maximum

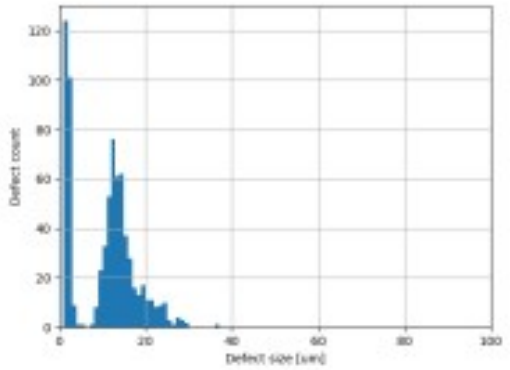

Laplacian YZ maximum


Mean intensity
Dark contrast
Sharpness (scaled)
Sharpness peak
Sharpness z COM
Corrected z in CdTe [µm]

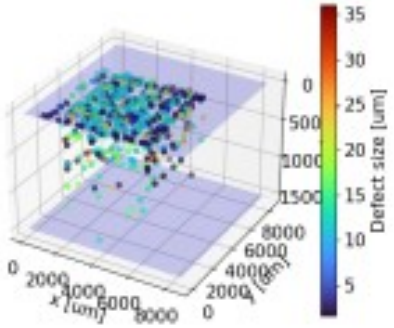

Corrected depth [µm]
x [µm]
3000
2500
2000
1500
1000
0
500
1000
1500
2000
2500
3000
3500


Corrected depth [µm]
y [µm]
3000
2500
2000
1500
1000
0
500
1000
1500
2000
2500
1500
1000
25
20
15
10
5

#### 4.2.1 Sample 1

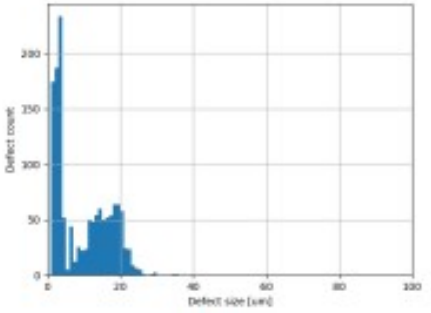



(a)

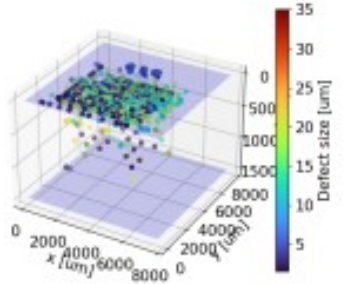



(b)

#### 4.2.3 Sample 3




(a)




(b)