# Logbook data-taking

## Mask noisy pixels

**18:00** We have first masked all noisy pixels. Noisy pixel with only a few times the ‘signal’ number of hits were not masked.

## Z-scan

**19:00** Then we found the anode by scanning in z in small steps and checking the number of hits on F09. The anode is at approximately ~136.8 as measured with the steel block from the stage base.

**20:00** We will do a scan at different z-heights, because the beam size is ~5mm in sigma or more, it is chosen to do this in steps of 5 mm. At each height we should measure at a high and low drift velocity to be able to determine z0 more precisely.

**21:00** In trying to raise the drift voltage to 450 V/cm, we found that beyond 400 V/cm the guard cage voltage does not match the required voltage (also this voltage seems to be lower than at 280 V/cm?). We continue with the max drift voltage at 400 V/cm

22:00 At some point turned reference block: i.e. changed reference from 45.2 mm to 90.0 mm.

**23:27** Started a noise scan, because beam was off

|  |  |
| --- | --- |
| (Mean noise 350) was 416 | J10 |
| (Mean noise 319) was 386 | I06 |
| (Mean noise 328) was 394 | L05 |
| (Mean noise 253) was 327 | F09 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of packages | | |  |
| Threshold | chip0 | chip1 | chip2 | chip3 |
| 650e | 5347 | 14405 | 9140 | 17461 |
| 600 e | 35599 | 16607 | 479267 | 58241 |
| 550 e | 353737 | 80028 | 2745549 | 293735 |

Concluded that we can run at noise + 55 counts, with only 1% of noise data in the total stream

00:30 We stop ramp down the HV on the Quad (main HV control)

10:00 Machine is ramping up again. Took measurements of setup:

Plane1 – 4.7 mm – plane2 – 4.2 mm – plane3 – 142 mm - center of chamber – 201 mm – plane 4 – 4.2 mm – plane 5 – 4.6 mm – plane 6

After the beam returned the rate is back between 3.9 KHz – 4 kHz.

11:30 RH is 15.0 %

12:15 lower threshold was found not to have a large effect on file size, so we continue at lower threshold.

13:00 Stopped to install new quad in detector. Accelerator shut down

16:00 Accelerator restarted. Back 3 planes of telescope need to be realigned.

Noisy pixels, threshold 1E4 for 30s run. Threshold is at 55 counts

|  |  |  |  |
| --- | --- | --- | --- |
| CHIP 0 G09 | CHIP 1 J09 | CHIP 2 G10 | CHIP3 K06 |
| col, row: 0, 141  col, row: 10, 38  col, row: 10, 71  col, row: 10, 86  col, row: 10, 87  col, row: 10, 102  col, row: 10, 134  col, row: 10, 151  col, row: 10, 183  col, row: 10, 230  col, row: 10, 231  col, row: 10, 246  col, row: 18, 103  col, row: 18, 249  col, row: 51, 112  col, row: 99, 169  col, row: 105, 92  col, row: 130, 175  col, row: 136, 42  col, row: 225, 154  col, row: 229, 174  col, row: 254, 106 | Col, row: 13, 143  col, row: 16, 228  col, row: 21, 223  col, row: 60, 216  col, row: 134, 163  col, row: 199, 68  col, row: 216, 148  col, row: 229, 215  col, row: 230, 113  col, row: 231, 114  col, row: 232, 243  col, row: 56, 168  col, row: 225, 174 | col, row: 12, 244  col, row: 70, 183  col, row: 109, 13  col, row: 123, 128  col, row: 147, 178  col, row: 157, 179  col, row: 171, 35  col, row: 195, 3  col, row: 248, 203 | col, row: 35, 169  col, row: 49, 118  col, row: 65, 7  col, row: 82, 195  col, row: 113, 38  col, row: 126, 38  col, row: 133, 145  col, row: 137, 79  col, row: 197, 150  col, row: 209, 197  col, row: 215, 225  col, row: 231, 226  col, row: 198, 150 |

23:00 RH is 16.7%