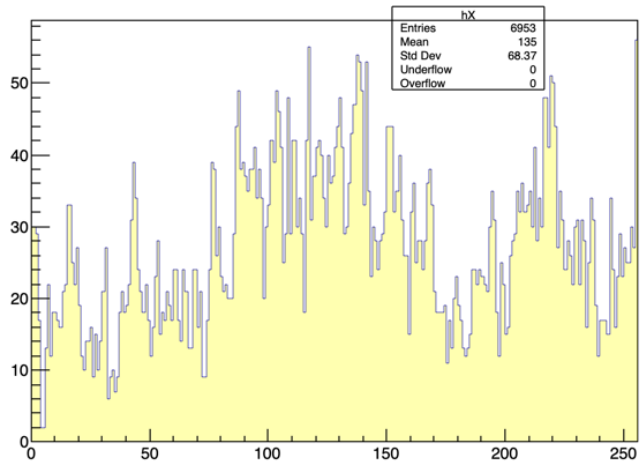


Timepix3 performance in the first runs of 2024 test beam

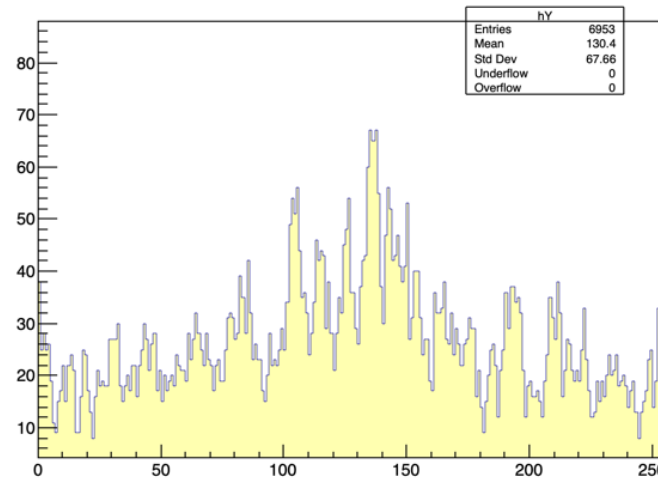
S.Smirnov

Run 304 (15-Jul-2024 07:55)

Pixel X coord

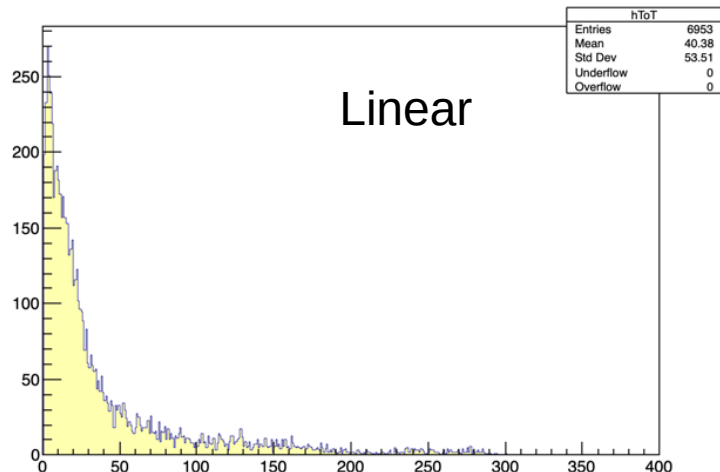


Pixel Y coord

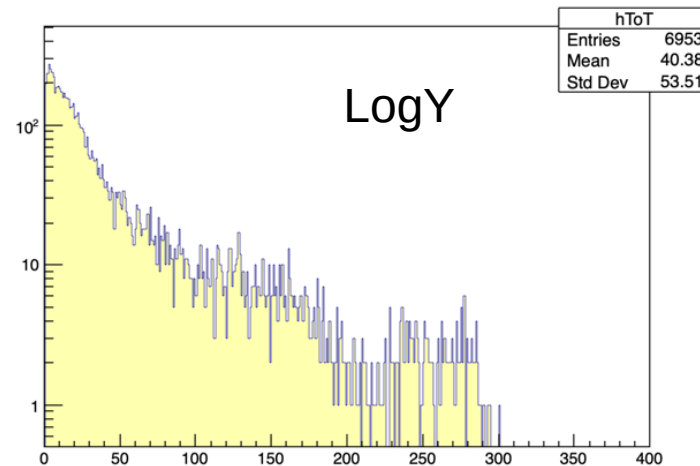


Sensor: 42 °C
Readout: 53.1 °C

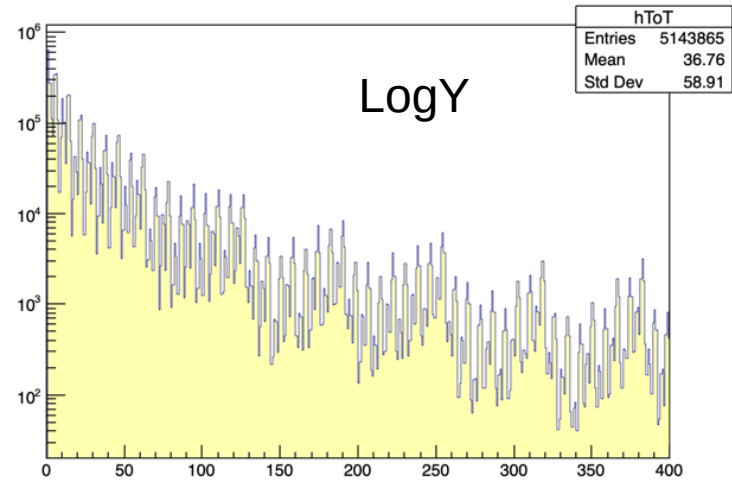
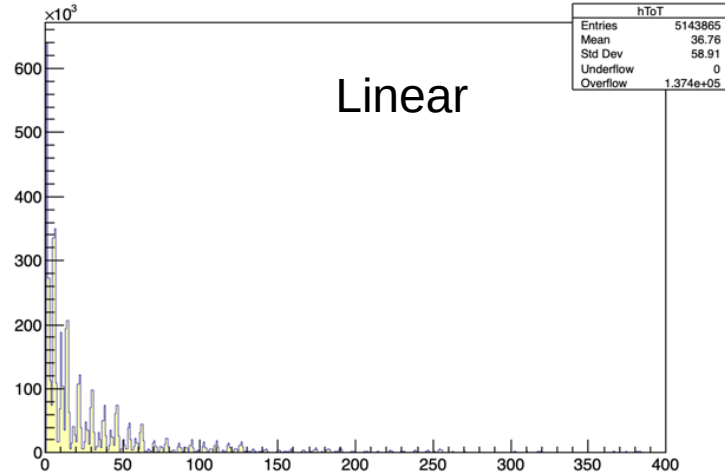
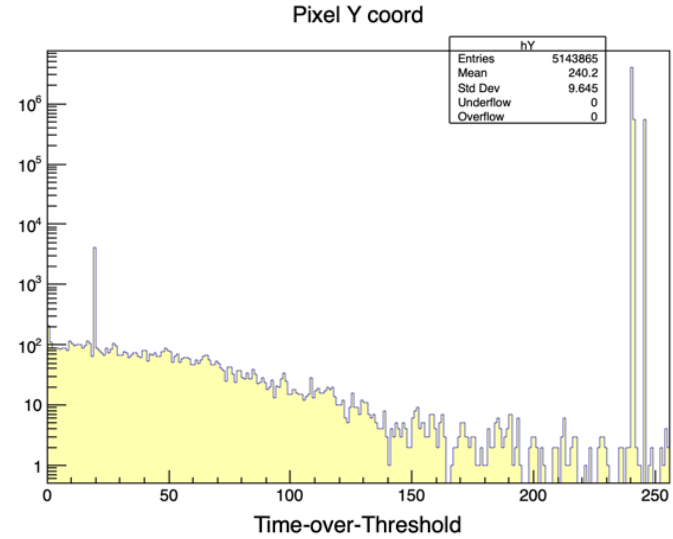
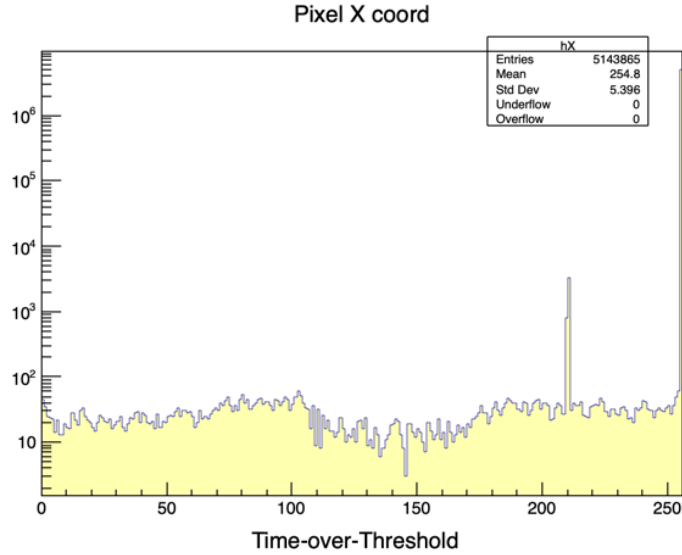
Time-over-Threshold



Time-over-Threshold

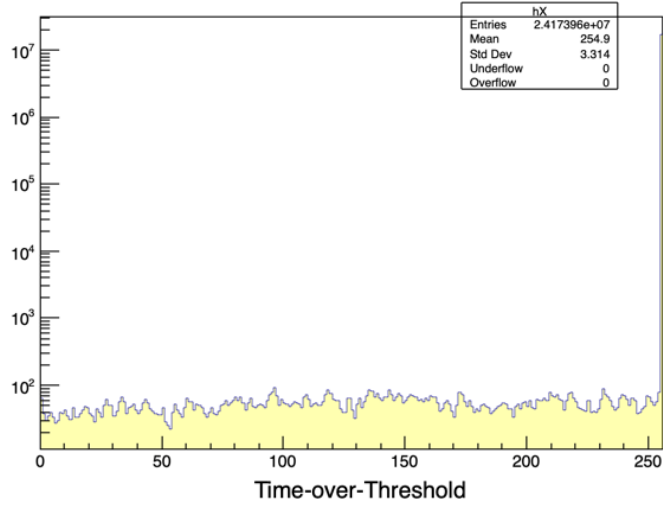


Run 305 (16-Jul-2024)

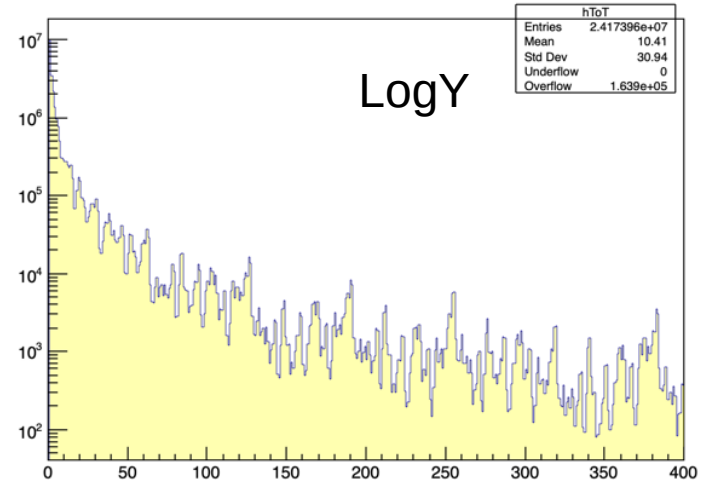
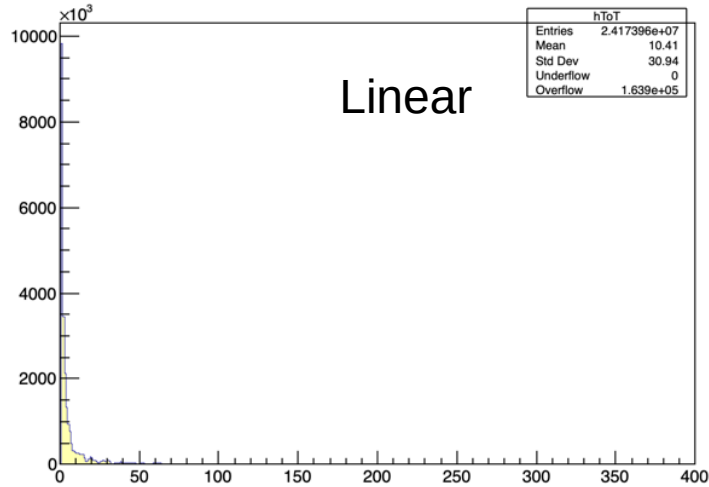
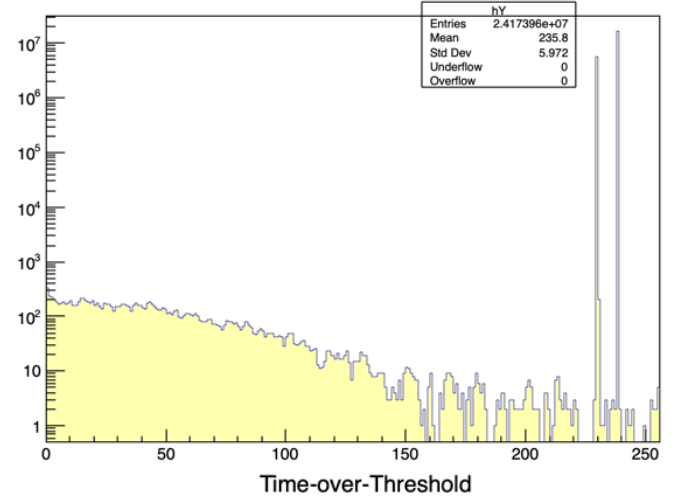


Run 309 (16-Jul-2024)

Pixel X coord

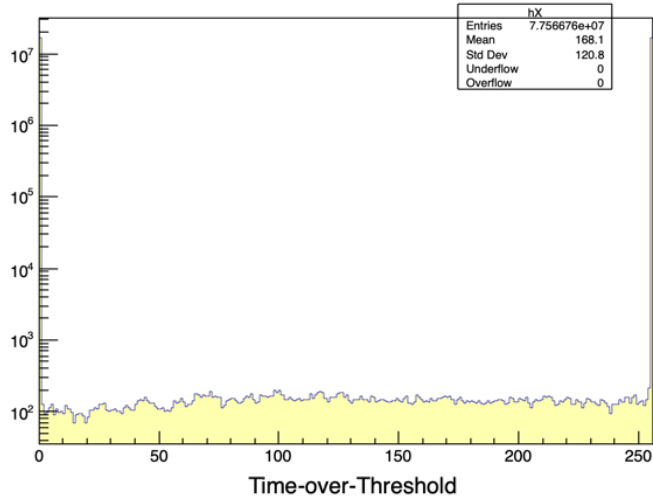


Pixel Y coord

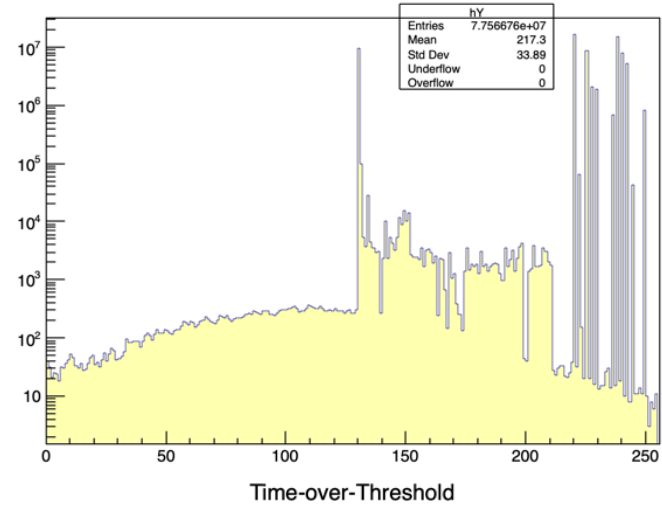


Run 327 (16-Jul-2024)

Pixel X coord



Pixel Y coord

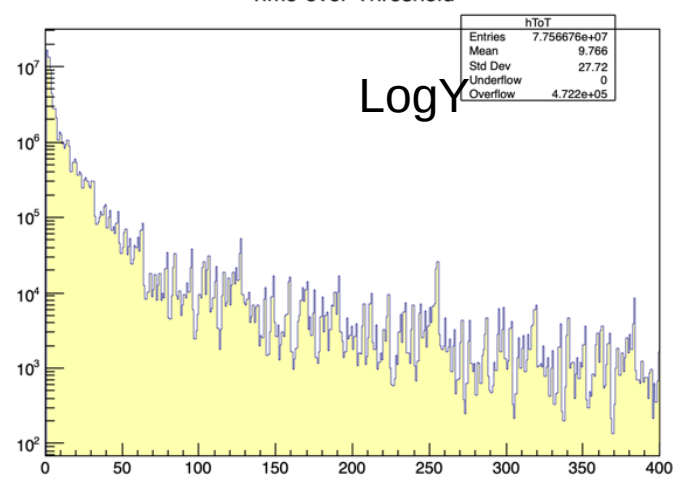
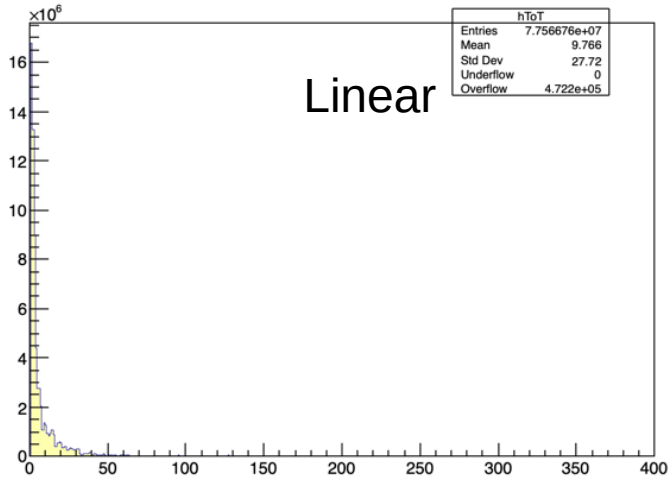


Time-over-Threshold

Time-over-Threshold

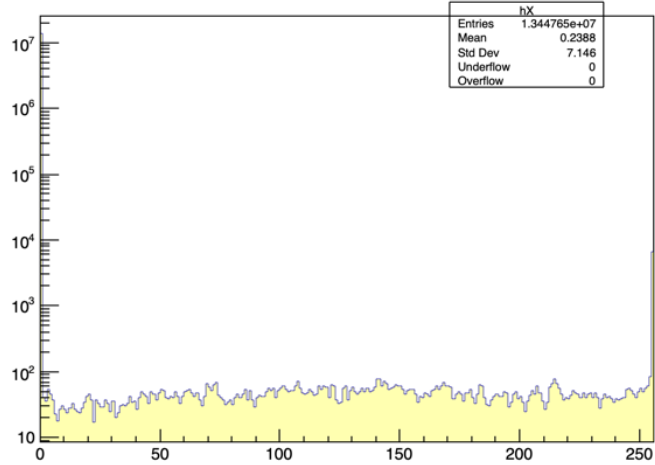
Linear

LogY

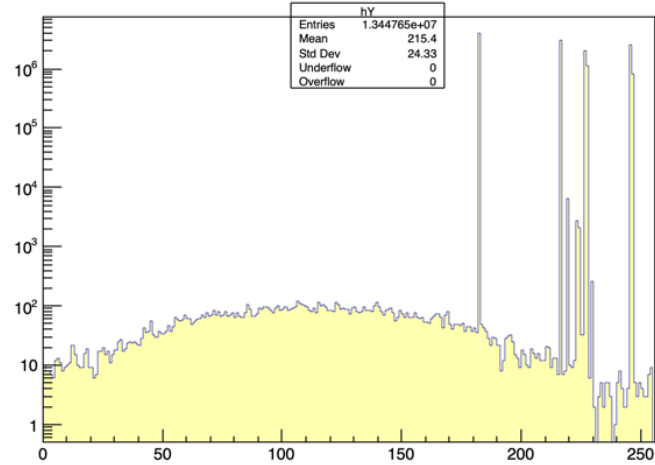


Run 330 (16-Jul-2024)

Pixel X coord



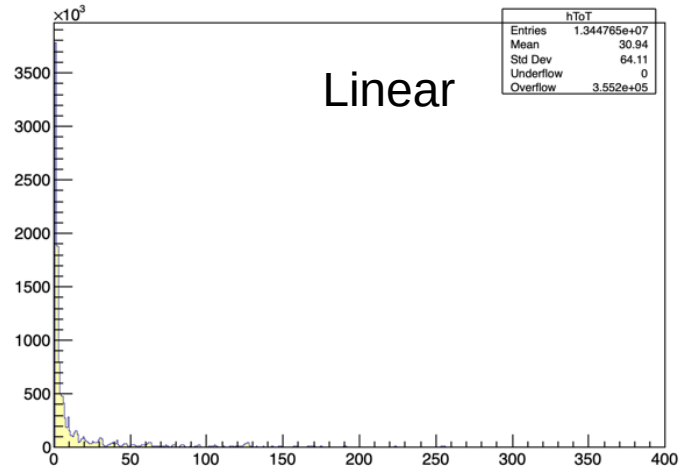
Pixel Y coord



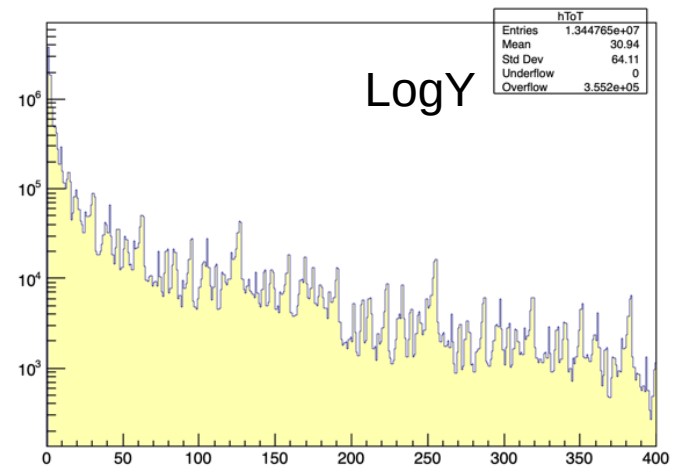
Time-over-Threshold

Time-over-Threshold

Linear



LogY



ToT values

```
run304_elpi20GeV.txt
# Start of measurement: 7/15/2024 07:55:13.0273109 UTC
# Start of measurement - unix time: 1721030113.027
# Chip ID: E5-W00011
# Readout IP address: 192.168.1.173
# Back-end location: Meyrin, CH
# Detector mode: ToA & ToT
# Readout mode: Data-Driven Mode
# Bias voltage: -15.6V
# THL = 1400 (0.706V)
# Sensor temperature: 42°C
# Readout temperature: 53.1°C
# Matrix clock: 40 MHz
# ----- Internal DAC values -----
# Ibias_Preamp_ON: 113 (1.150V)
# Ibias_Preamp_OFF: 8 (1.290V)
# VPreamp_NCAS: 128 (0.618V)
# Ikrum: 15 (1.072V)
# Vfbk: 128 (0.615V)
# Vthreshold_fine: 437 (0.706V)
# Vthreshold_coarse: 6 (0.706V)
# Ibias_DiscS1_ON: 100 (1.045V)
# Ibias_DiscS1_OFF: 5 (1.276V)
# Ibias_DiscS2_ON: 128 (0.327V)
# Ibias_DiscS2_OFF: 5 (0.170V)
# Ibias_PixelDAC: 128 (0.941V)
# Ibias_TPbufferIn: 128 (1.109V)
# Ibias_TPbufferOut: 128 (1.017V)
# VTP_coarse: 0 (0.072V)
# VTP_fine: 0 (0.072V)
# Ibias_CP_PLL: 128 (0.491V)
# PLL_Vcntrl: 128 (0.612V)
# BandGap_output: --- (0.621V)
# BandGap_Temp: --- (0.699V)
# Ibias_dac: --- (1.170V)
# Ibias_dac_cas: --- (0.948V)
# DACs: 113 8 128 15 128 437 6 100 5 128 5 128
# DACs Scans: 1.150V 1.290V 0.618V 1.072V 0.615V 0.706V 0.706V 1.045V 1.276V 0.327V 0.170V 0.941V
# DACs 1.017V 0.072V 0.072V 0.491V 0.612V 0.621V 0.699V 1.170V 0.948V
#
-----
13102 56281016 12 8
13101 56281016 15 38
39783 82886295 6 1
19907 139723722 12 10
46075 152774269 2 54
21358 278156316 12 54
30640 326559414 13 5
30385 326559413 1 25
30384 326559413 3 139
10608 353382713 3 6
10351 353382713 9 38
10607 353382713 9 155
63653 354882231 11 47
63397 354882231 12 127
28290 402041968 8 44
33177 411096814 11 89
33177 411096814 11 89
```

Run 304

```
run305_elpi20GeV.txt
# Start of measurement: 7/16/2024 08:26:32.8894498 UTC
# Start of measurement - unix time: 1721118392.889
# Chip ID: E5-W00011
# Readout IP address: 192.168.1.173
# Back-end location: Meyrin, CH
# Detector mode: ToA & ToT
# Readout mode: Data-Driven Mode
# Bias voltage: 12.83V
# THL = 1400 (0.708V)
# Sensor temperature: 41.2°C
# Readout temperature: 53.9°C
# Matrix clock: 40 MHz
# ----- Internal DAC values -----
# Ibias_Preamp_ON: 113 (1.150V)
# Ibias_Preamp_OFF: 8 (1.291V)
# VPreamp_NCAS: 128 (0.620V)
# Ikrum: 15 (1.072V)
# Vfbk: 128 (0.617V)
# Vthreshold_fine: 437 (0.708V)
# Vthreshold_coarse: 6 (0.707V)
# Ibias_DiscS1_ON: 100 (1.045V)
# Ibias_DiscS1_OFF: 5 (1.277V)
# Ibias_DiscS2_ON: 128 (0.328V)
# Ibias_DiscS2_OFF: 5 (0.170V)
# Ibias_PixelDAC: 128 (0.941V)
# Ibias_TPbufferIn: 128 (1.109V)
# Ibias_TPbufferOut: 128 (1.017V)
# VTP_coarse: 0 (0.073V)
# VTP_fine: 0 (0.073V)
# Ibias_CP_PLL: 128 (0.492V)
# PLL_Vcntrl: 128 (0.612V)
# BandGap_output: --- (0.623V)
# BandGap_Temp: --- (0.700V)
# Ibias_dac: --- (1.171V)
# Ibias_dac_cas: --- (0.948V)
# DACs: 113 8 128 15 128 437 6 100 5 128 5 128 128
# DACs Scans: 1.150V 1.291V 0.620V 1.072V 0.617V 0.708V 0.707V 1.045V 1.277V 0.328V 0.170V 0.941V 1.09V
# DACs 1.017V 0.073V 0.073V 0.492V 0.612V 0.623V 0.700V 1.171V 0.948V
#
-----
19365 16390 1 1
14500 16406 11 1
14245 16390 1 1
13221 16390 1 1
10404 16397 4 1
17744 98309 1 1022
17745 98309 1 1022
5074 196660 13 1022
5850 311298 0 1022
5851 311301 1 1022
6107 311301 1 1022
3623 425989 1 1022
3880 425986 0 1022
3879 425988 1 1022
3368 425988 1 1022
3624 425986 0 1022
3624 425986 0 1022
```

Run 305