

Quad test beam: first results

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Lepcol meeting

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Data from setup

Registered data:

- Trigger time and trigger number
- Hit time, ToT, row, col (for all 4 chips)
- Telescope frame number, trigger numbers, row, col (for all 6 planes)
- Temperature, pressure, Oxygen concentration, relative humidity

Most of plot from run 668 with new quad (quad11)

- $V_{\text{drift}} = 400 \text{ V/cm}$, because of oxygen concentration around 4000 ppm
- $V_{\text{Grid}} = 330 \text{ V}$
- Threshold at 550 e (55 DAC counts above noise)

Selection

Selection

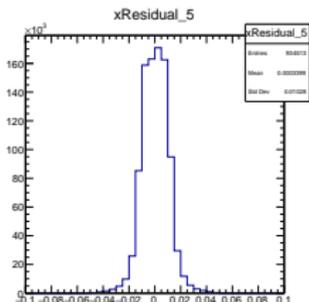
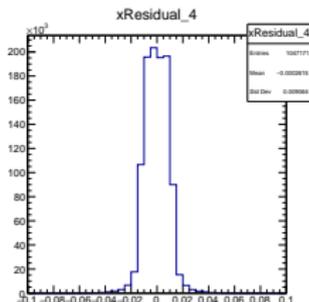
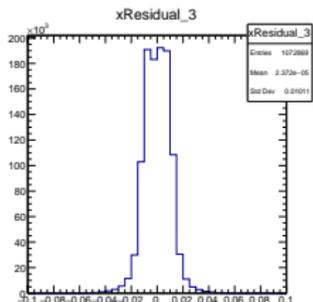
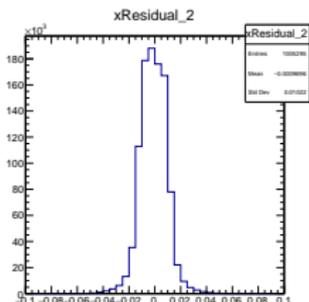
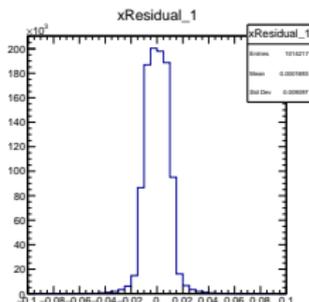
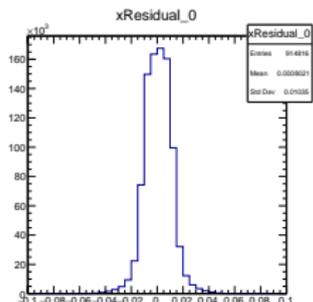
$$-500 \text{ ns} < t_{\text{hit}} - t_{\text{trigger}} < 500 \text{ ns}$$
$$\text{Hit ToT} > 0.15 \mu\text{s}$$

Define $t_{\text{drift}} = t_{\text{hit}} - t_{\text{trigger}}$

Consider all hits with a drift time between -500 ns and 500 ns

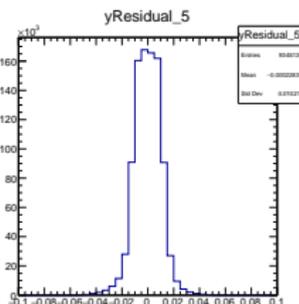
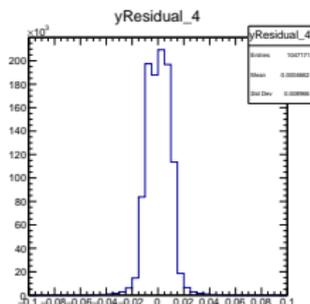
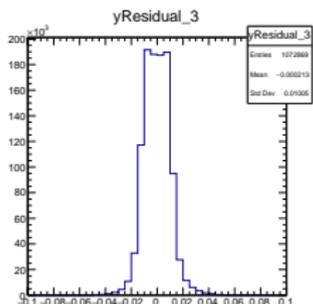
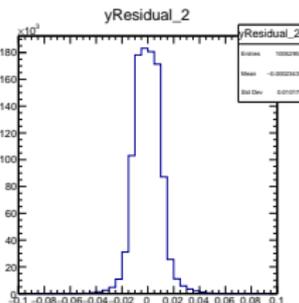
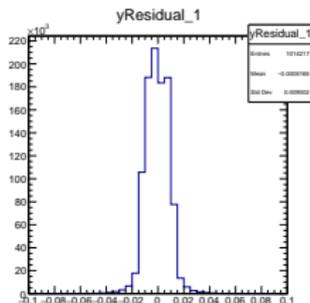
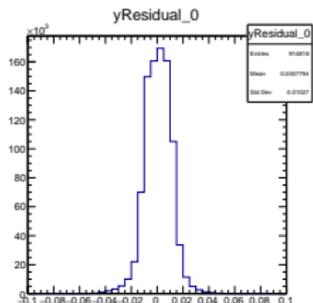
Telescope was aligned

Residuals in x

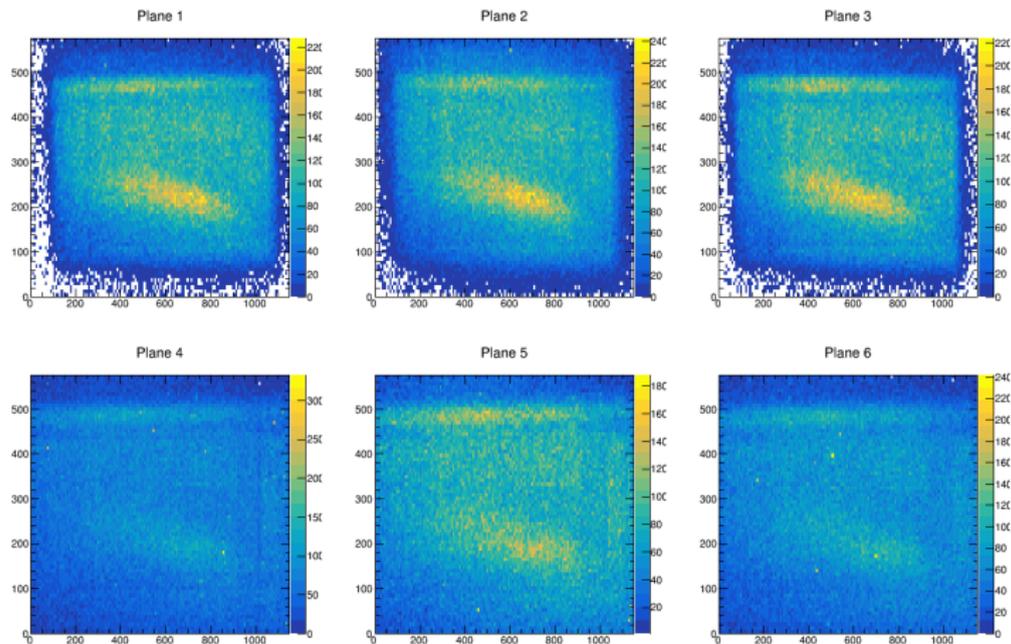


Telescope was aligned

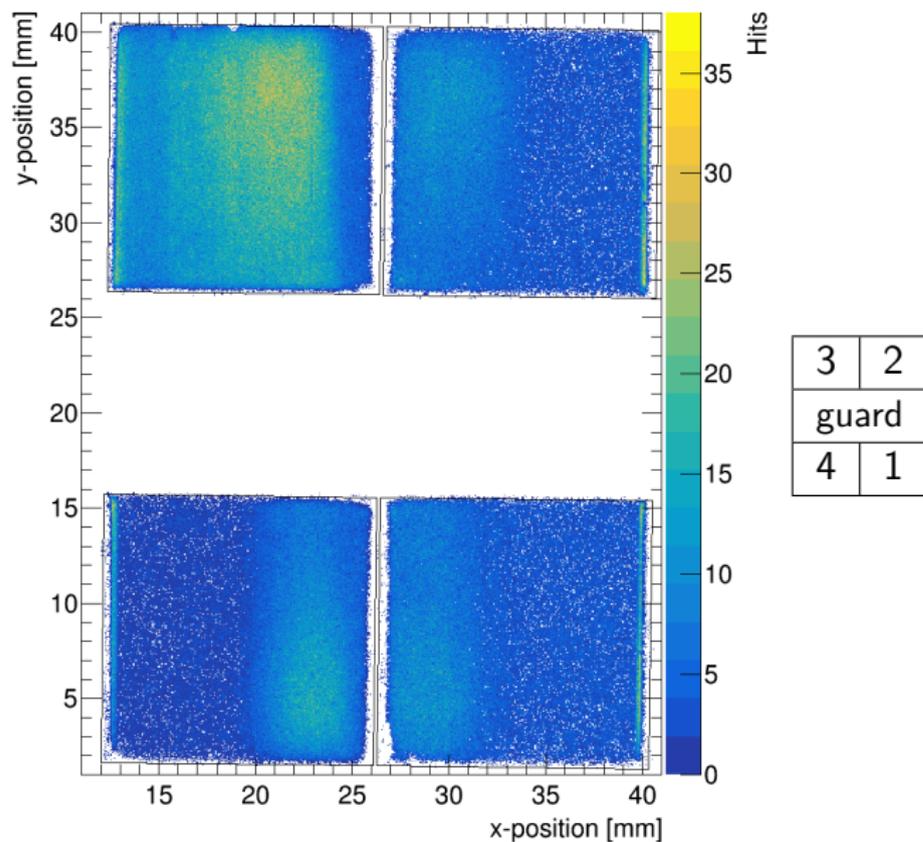
Residuals in y



Hitmaps of Telescope Planes

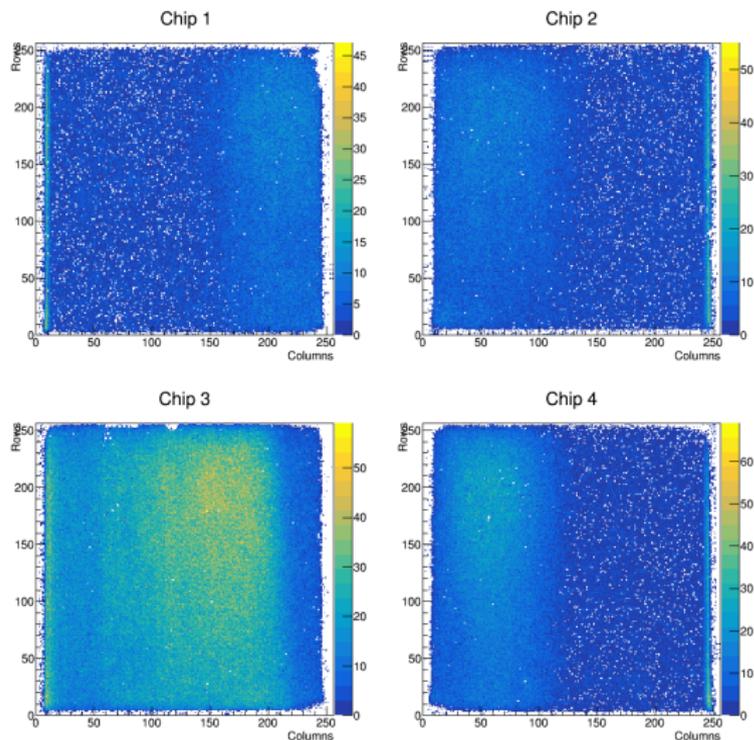


Hit map



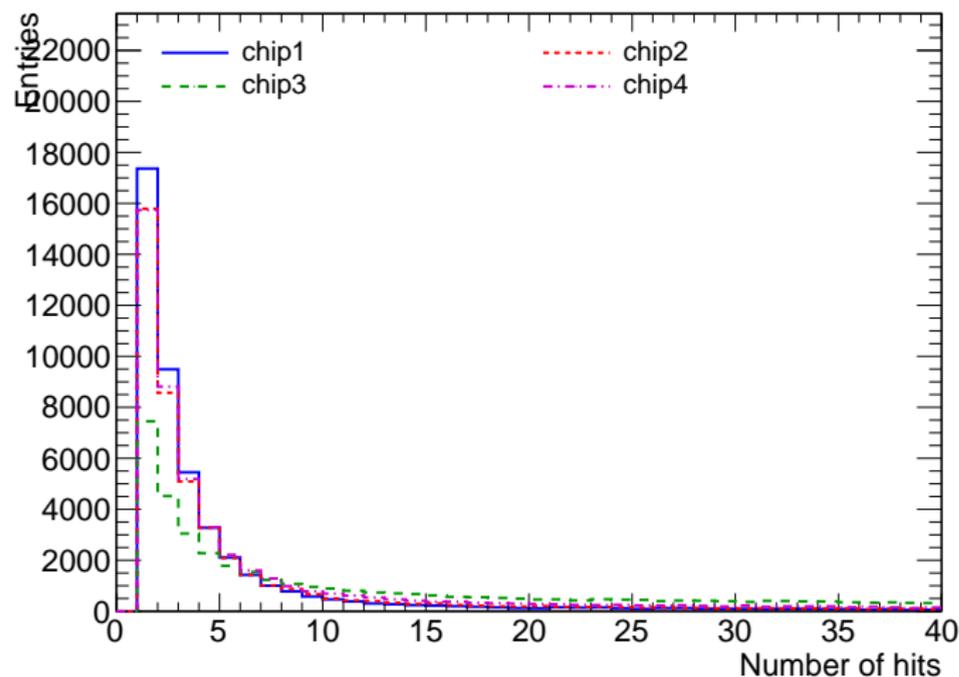
Hit map

By chip with one pixel / bin

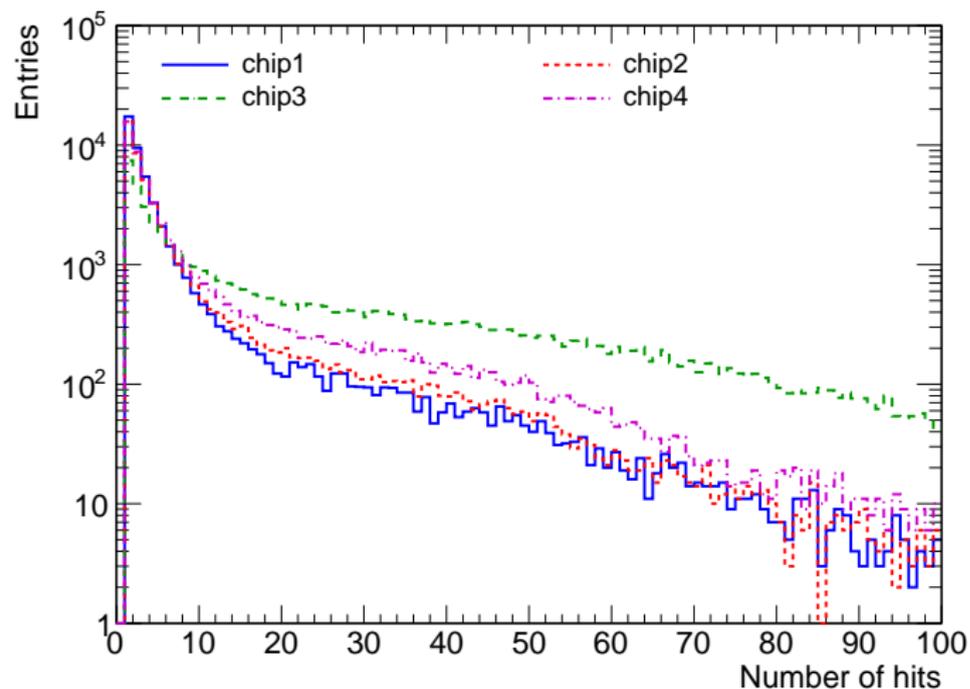


3	2
guard	
4	1

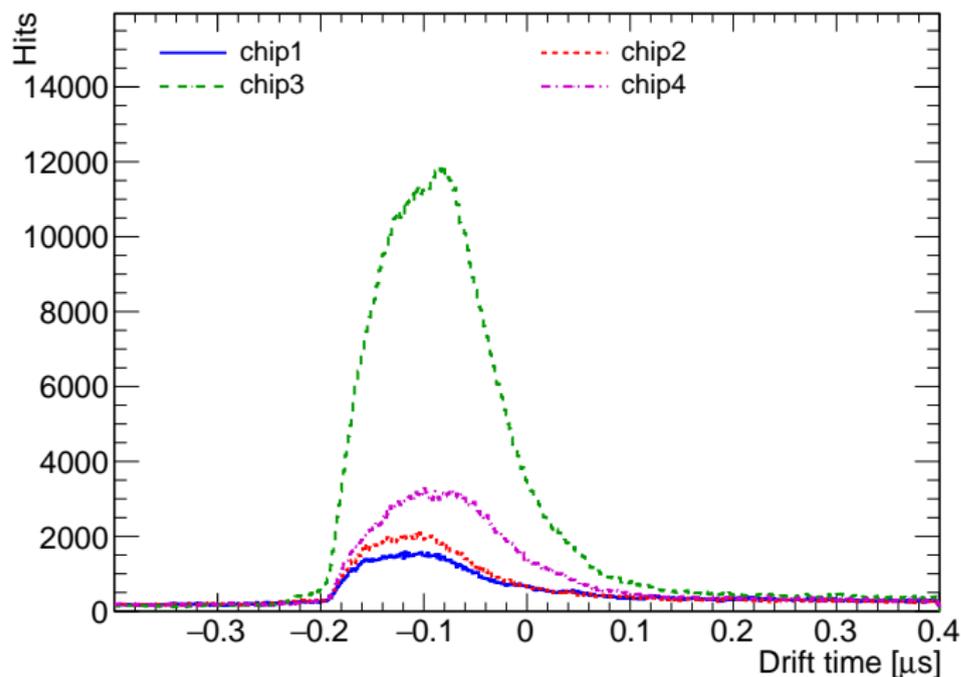
Number of hits



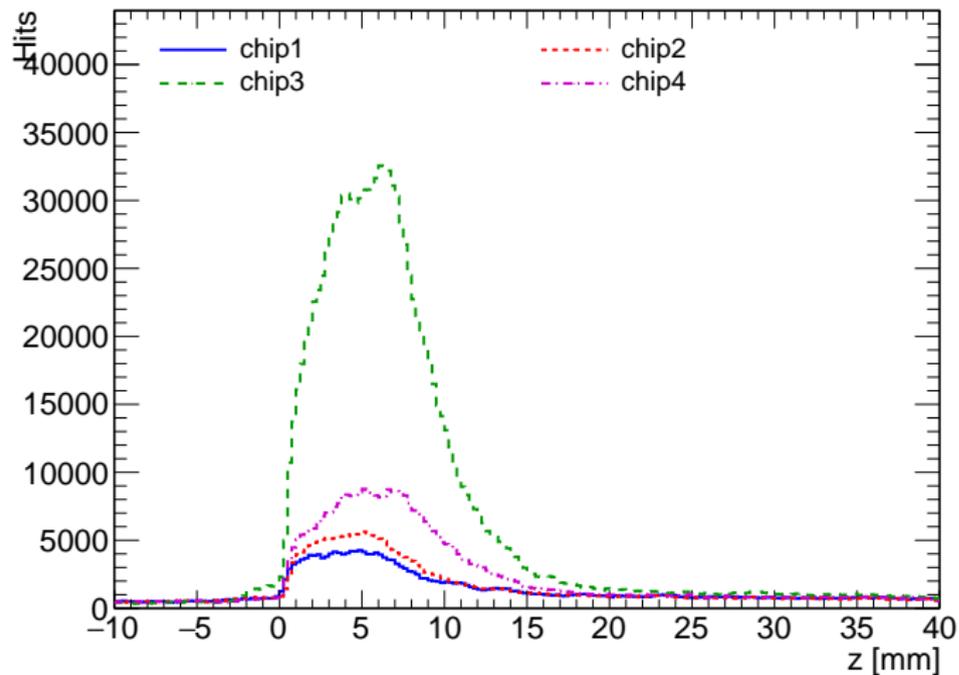
Number of hits



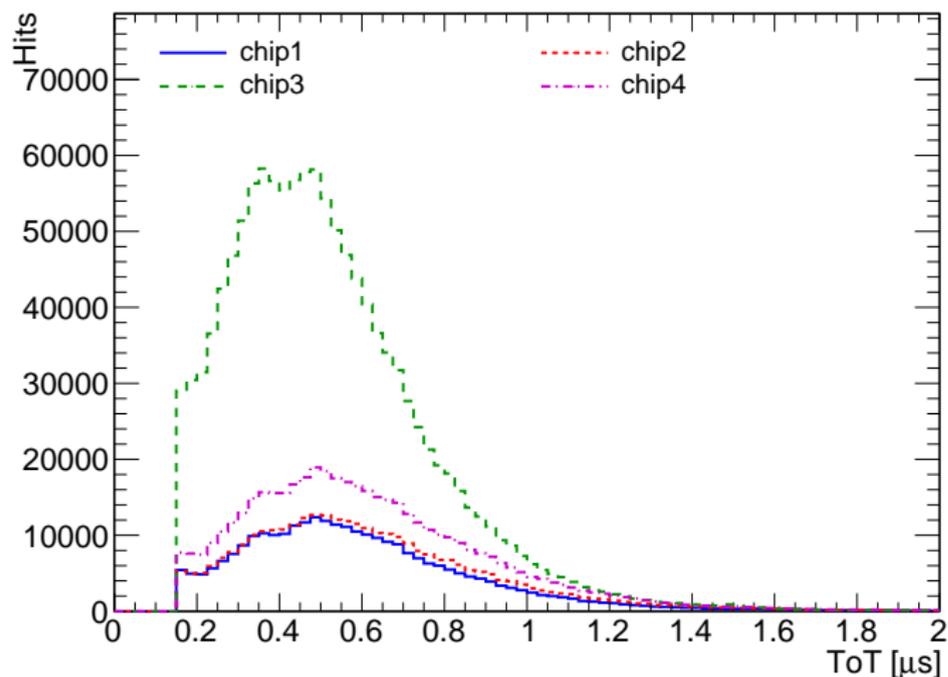
Drift time



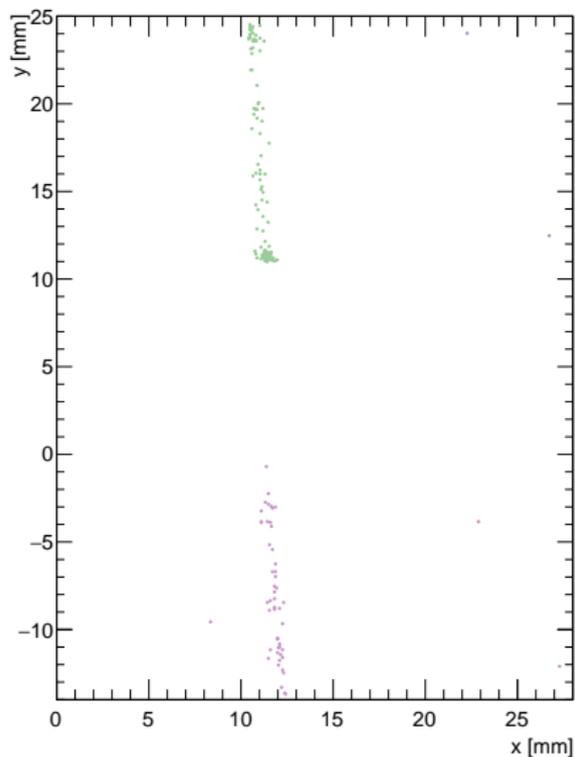
z-position of hits



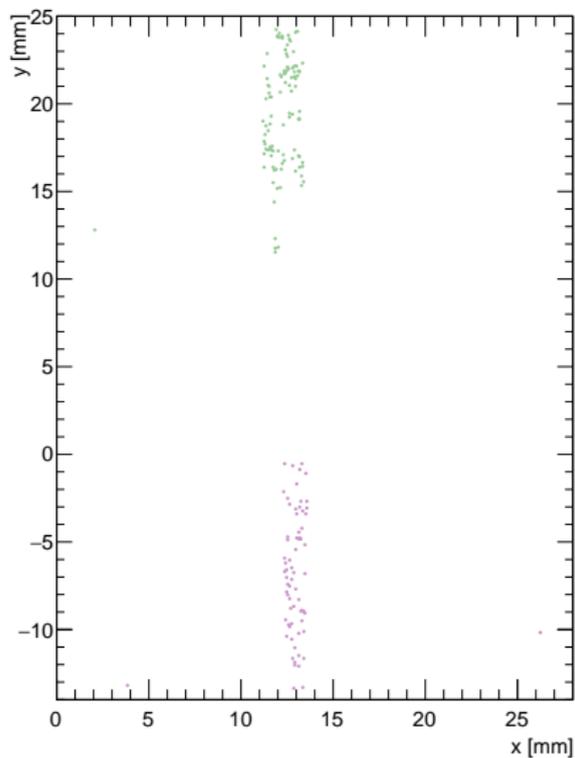
Time over threshold



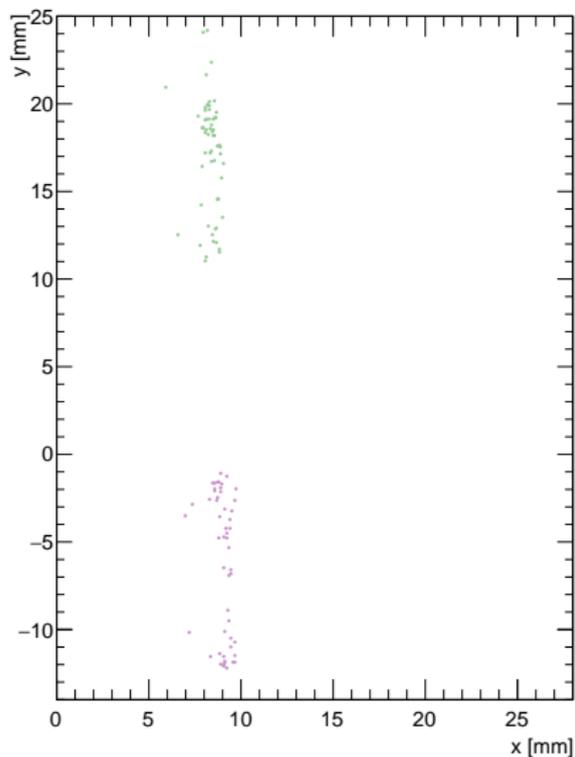
Track displays



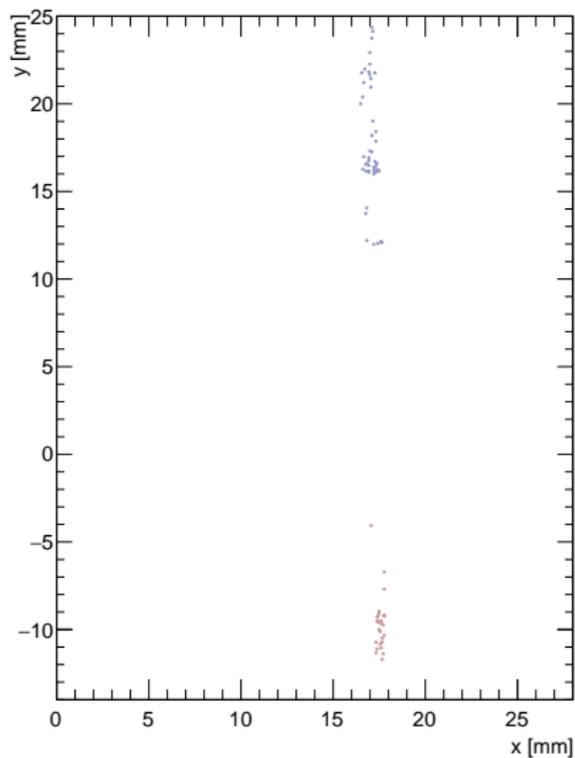
Track displays



Track displays



Track displays



Telescope alignment

