

#### TELESCOPE-SENSOR ALIGNMENT

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### **TELESCOPE RESOLUTION**

From the distribution in the pad one can estimate the telescope resolution using the following process:

Distribution  $\rightarrow$  Generate random events (ROOT)  $\rightarrow$  Histogram  $\rightarrow$  Smearing

Then ask – for which value of  $\sigma$  (of the smearing) does one get the same number of misses as in our data.

CALICE – about 65  $\mu m$ 

GaAs – slightly higher – reflection of sensor effects too

4417



x [pad cols]







x [pad cols]





Y

#### TRACES BASED EFFECTS



#### RUN 4454





## RUN 4485





### **HT PARAMETER SPACE**



# HT UNCERTAINTY

ldea:

- Split data used for HT into chunks
- Perform the algorithm on each subsample separately
- Draw a histogram of the MPV and calculate the standard deviation
- Validity check Repeat process using different sizes of chunks

Results are generally of the order of 1 micron, except for the shift in y in GaAs where it varies a bit more.

```
CALICE — SHIFT IN X
```



```
CALICE — SHIFT IN Y
```



```
GAAS – SHIFT IN X
```



Number of samples  $\sim 15$ 



Number of samples -5





# THANK YOU!