Finalising monostable and electron studies

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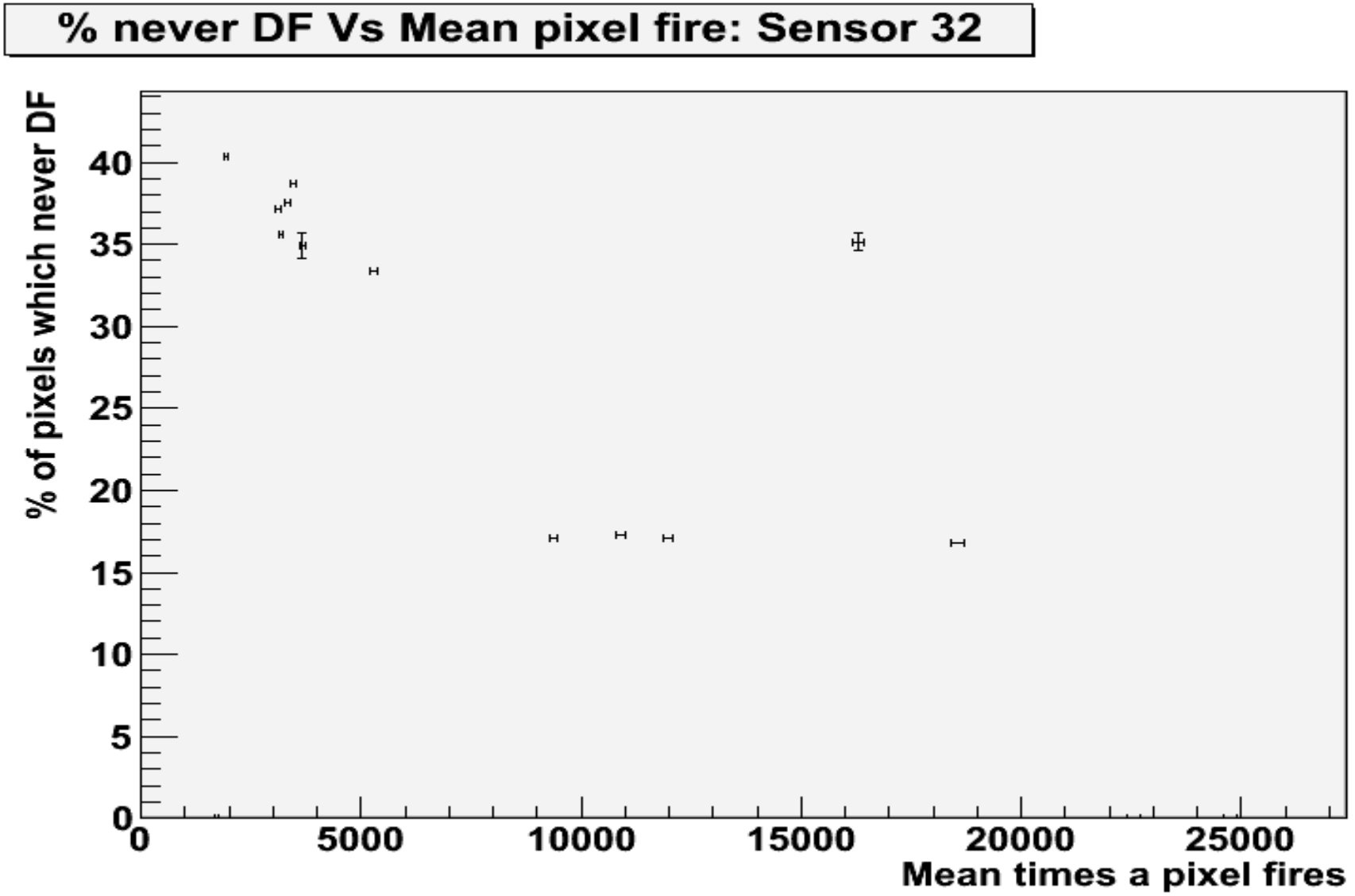
Last Time

- Showed that %noDF seemed to increase with threshold
- 0% @ 130
- 15% @ 150
- 30% @ 200
- This was not as expected & hadn’t been explained

Now..

- Looked into statistics further
- Found that higher threshold decreases number of times a pixel fires
- NOT! How many pixels fire BUT how many times they fire
- Shows that sensors must be configured well

Now...


% never DF Vs Mean pixel fire: Sensor 32
% of pixels which never DF
0
5
10
15
20
25
30
35
40
0
5000
10000
15000
20000
25000
Mean times a pixel fires

Now....

- Can see that % decreases as number of times the pixel fires increases
- Relate this to monostable length by

$$t = 400 + \frac{400}{N_{noDF}}$$

- Take max num times a pixel fires but no DF and imply lower bound of max monostable

Monostable Duration

Sensor	Max # noDF	Monostable (ns)
21	4819	400.083
26	381	401.05
29	20	420.000
32	645	400.62
39	51	407.843
41	11765	400.034
43	106	403.774
48	48	408.333

See 32 and 41 much larger! But also the Hi-res sensors

Electron Runs

Sensor	447495	447994	448000
48	1.27	1.63	1.64
41	0.32	0.7	0.72
21	-	0.48	4.7
29	2.62	0.43	0.81
39	-	0.42	1.53
43	0.55	0.44	0.49

Mean number of pixels that fire per bunch crossing

Electron Runs