

# **Beginning of low gain analysis**

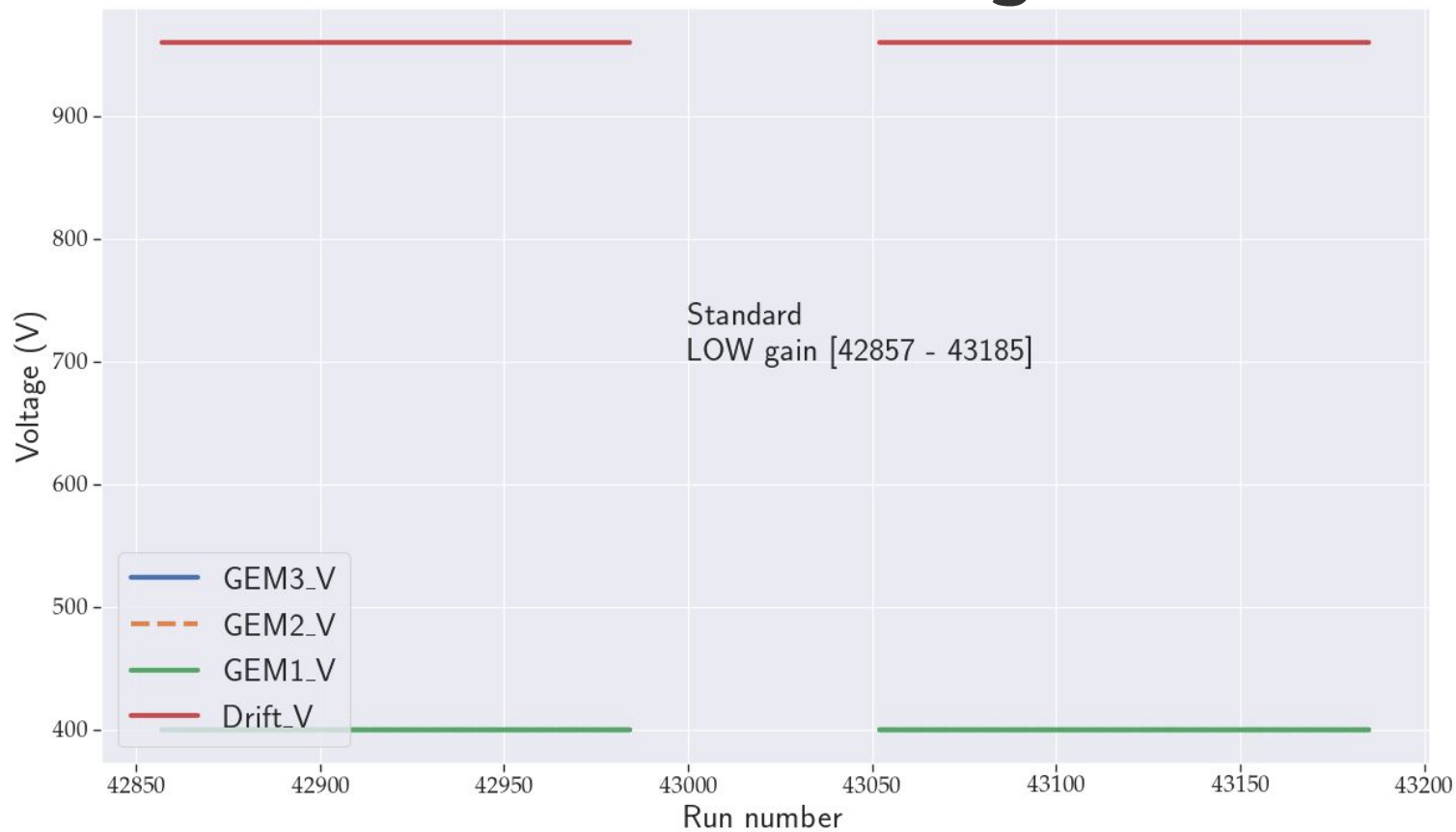
Pedro Silva, LIBPhys-UC, Department of physics,  
University of Coimbra

# Standard - LOW gain

2023-12-01 15:08	2023-12-04 9:39	40784	-	40917	Stability	133	53200	5	Blu
2023-12-04 10:23	2023-12-14 16:40	40919	-	42848	Bkg + Daily Calibrations	1929	771600	5	Blu
2023-12-14 18:07:07	2023-12-16 10:17:27	42863	-	43185	Bkg + Daily Calibrations Low GAIN	322	128800	5	Blu
2023-12-16 23:50:59	2023-12-17 21:53:14	43186	-	43231	Stability + Daily Calibrations- LOW Gas Flow : 2 l/h	45	18000	2	Blu
2023-12-17 22:45:16	2023-12-22 16:18:47	43232	-	43308	Stability + Daily Calibrations- LOW Gas Flow : 1 l/h	76	30400	1	Blu
2023-12-17 22:45:16	2023-12-22 16:18:47	43316	-	43486	Stability + Daily Calibrations- LOW Gas Flow : 1 l/h	170	68000	1	Blu + Rosso

13491	42877	Standard - LOW Gain
13492	42876	Standard - LOW Gain
13493	42875	Standard - LOW Gain
13494	42874	Standard - LOW Gain
13495	42873	Standard - LOW Gain
13496	42872	Standard - LOW Gain
13497	42871	Standard - LOW Gain
13498	42870	Standard - LOW Gain

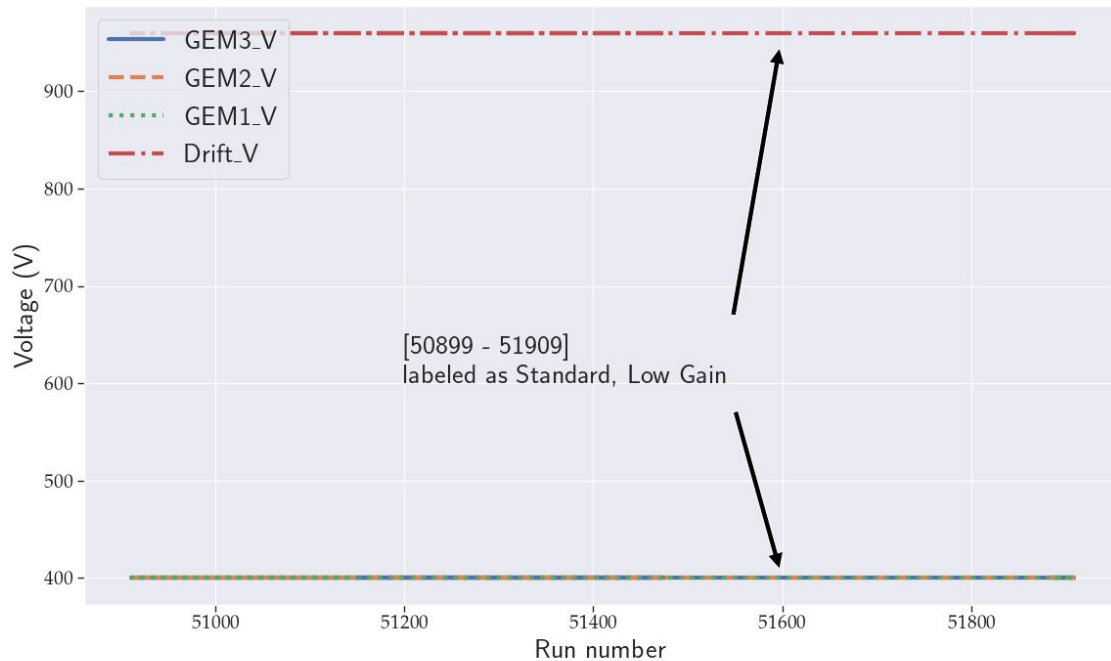
# Standard - LOW gain



## Standard, Low Gain

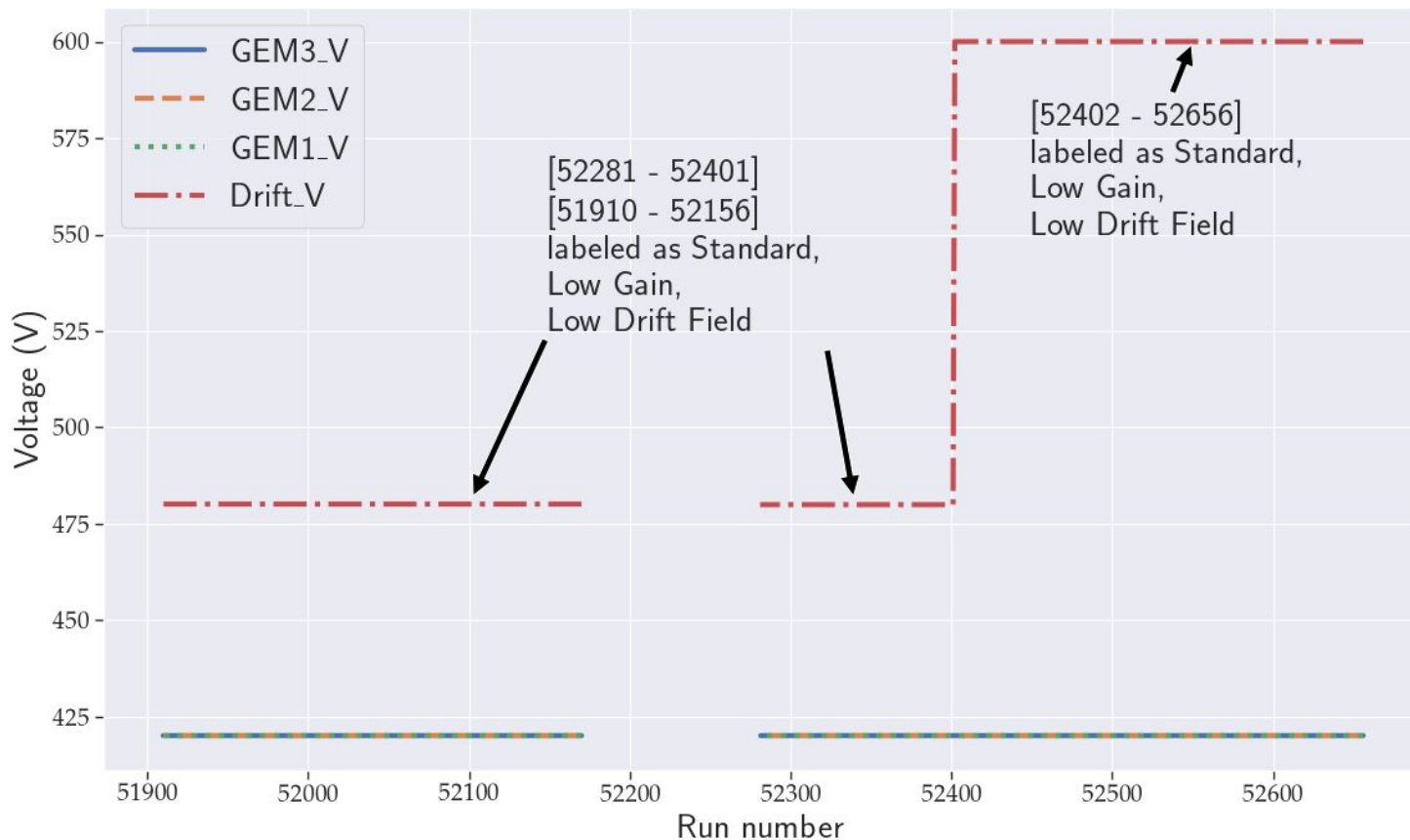
5462	50915	Standard, Low Gain	2024-03-05 12:15:07
5463	50914	Standard, Low Gain	2024-03-05 12:00:36
5464	50913	Standard, Low Gain	2024-03-05 11:57:47
5465	50912	Standard, Low Gain	2024-03-05 11:44:58
5466	50911	Standard, Low Gain	2024-03-05 11:33:21
5467	50910	Standard, Low Gain	2024-03-05 11:20:43
5468	50909	Standard, Low Gain	2024-03-05 11:07:25
5469	50908	Standard, Low Gain	2024-03-05 10:55:48
5470	50907	Standard, Low Gain	2024-03-05 10:42:20
5471	50906	Standard, Low Gain	2024-03-05 10:39:31

# Standard, Low Gain





# Standard, Low Gain, Low Drift Field



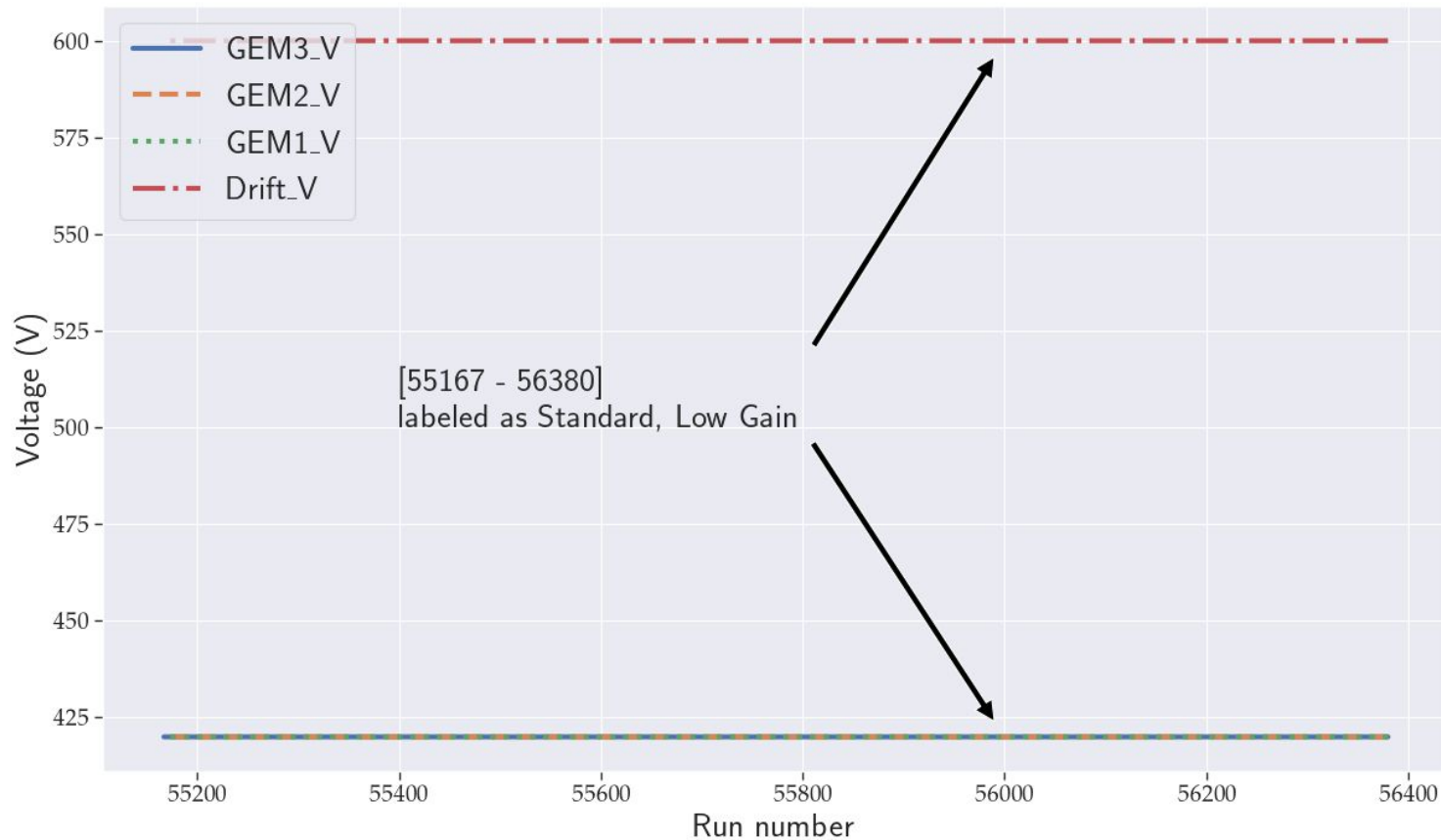
## Standard, Low Gain

55101	-	56883	Bkg + Daily Calibrations - Low Gain - Low Drift
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55448	Standard, Low Gain	2024-04-10 20:42:27
55447	Standard, Low Gain	2024-04-10 20:31:16
55446	Standard, Low Gain	2024-04-10 20:29:03
55445	Standard, Low Gain	2024-04-10 20:17:40
55444	Standard, Low Gain	2024-04-10 20:06:43
55443	Standard, Low Gain	2024-04-10 19:54:25

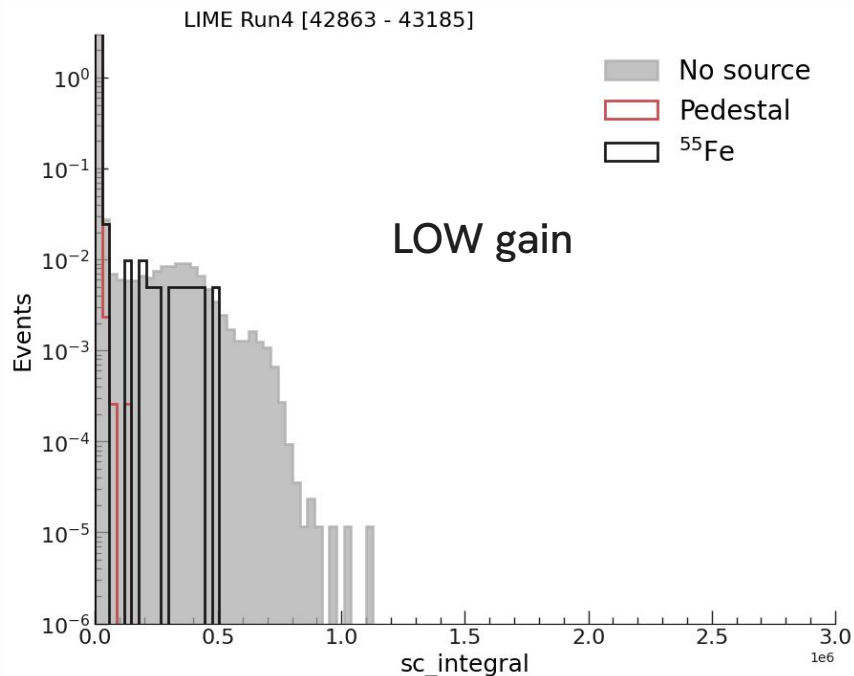


# Standard, Low Gain

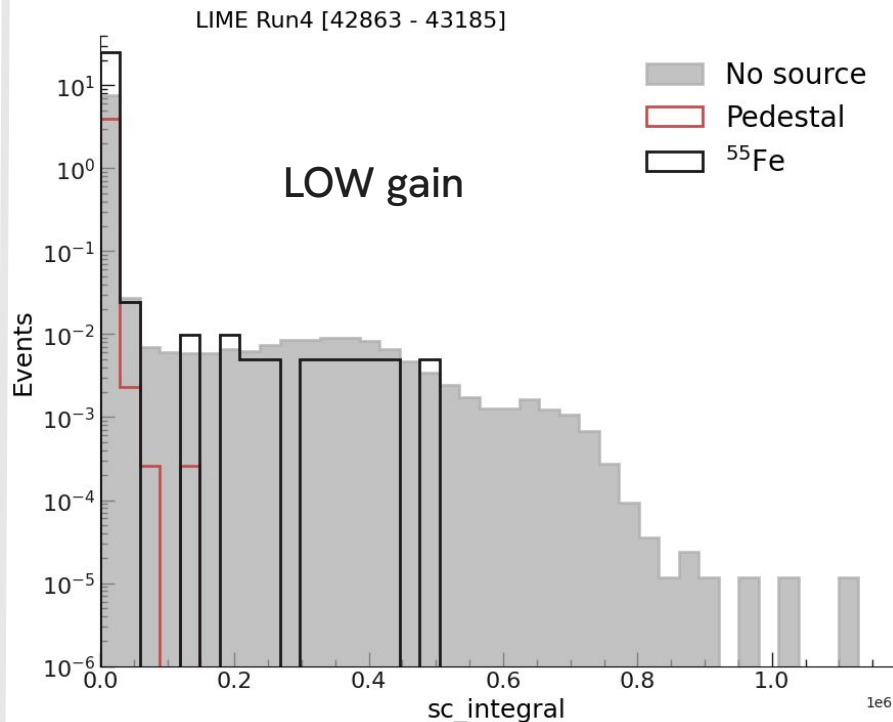


# Energy HIGH

Runs 42856 - 43185 Bkg + Daily Calibrations LOW gain  
(normalised to the number of images)

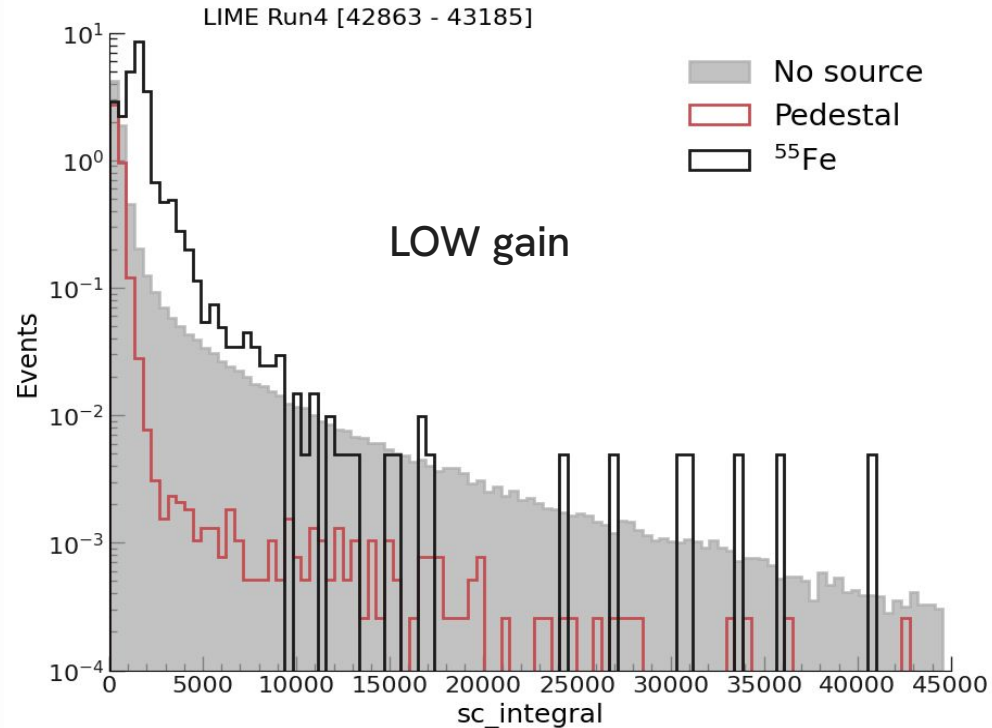


Runs 42856 - 43185 Bkg + Daily Calibrations LOW gain  
(normalised to the number of images) [cut to max]



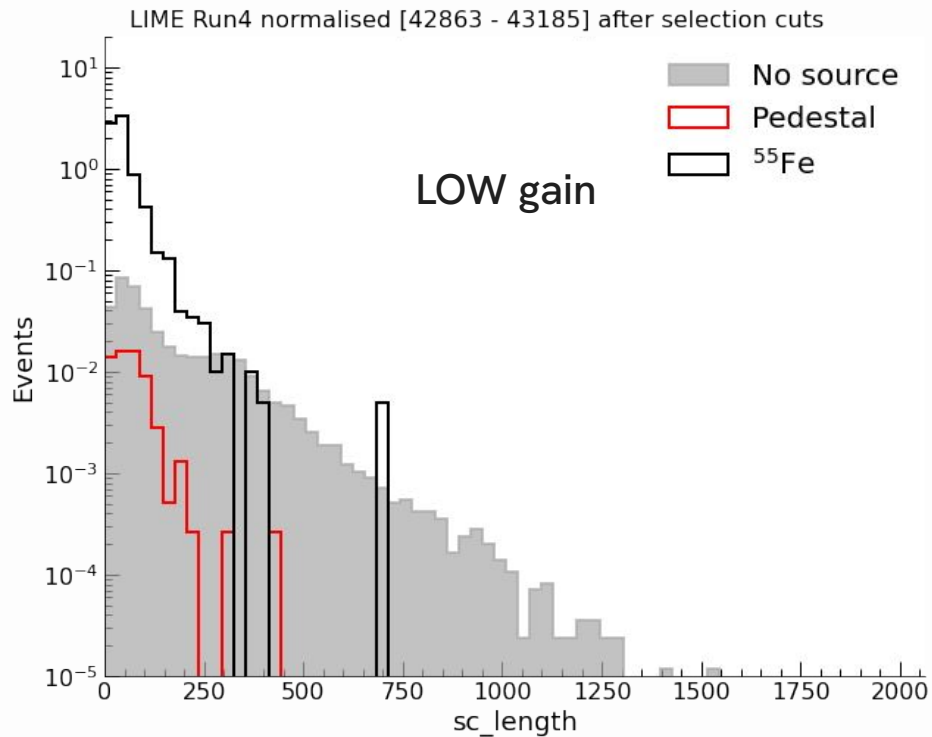
# Energy **LOW**

Runs 42856 - 43185 Bkg + Daily Calibrations Low GAIN  
(normalised to the number of images)



# LENGTH

Runs 42856 - 43185 Bkg + Daily Calibrations (normalised to the number of images)



# INITIAL STEPS:

- Optimize the cuts for the low gain and the low gain, low drift (sc\_rms; sc\_tgausssigma; geometric);
- Perform analysis as done in the for the standard gain (Clusters occupancy, 'sc\_integral'/'sc\_length' vs 'sc\_integral' ...);
- Further analysis of the Fe55 data and compare to the standard data;
- COMPARISONS:
- Low GAIN vs Standard;
- Low GAIN vs Low GAIN Low DRIFT;
- Low GAIN Low Drift vs Low GAIN Low Drift [Different Drift\_V];
- Low GAIN vs Low GAIN [Different runs];

# Energy CUTS

```
background = sc_xmin > 250 & sc_xmax < 2000  
             sc_ymin > 300 & sc_ymax < 2000  
             sc_rms > 6  
             sc_tgausssigma*0.152 > 0.5
```

```
pedestal = sc_xmin > 255 & sc_xmax < 2000  
           sc_ymin > 300 & sc_ymax < 2000  
           sc_rms > 6  
           sc_tgausssigma*0.152 > 0.5
```

```
Fe55 = sc_xmin > 255 & sc_xmax < 2000  
       sc_ymin > 300 & sc_ymax < 2000  
       sc_rms > 6  
       sc_tgausssigma*0.152 > 0.5
```

Cuts for Standard run