A set of flatfield images were taken with exposure times ranging from 3-540 s.

Table of data:

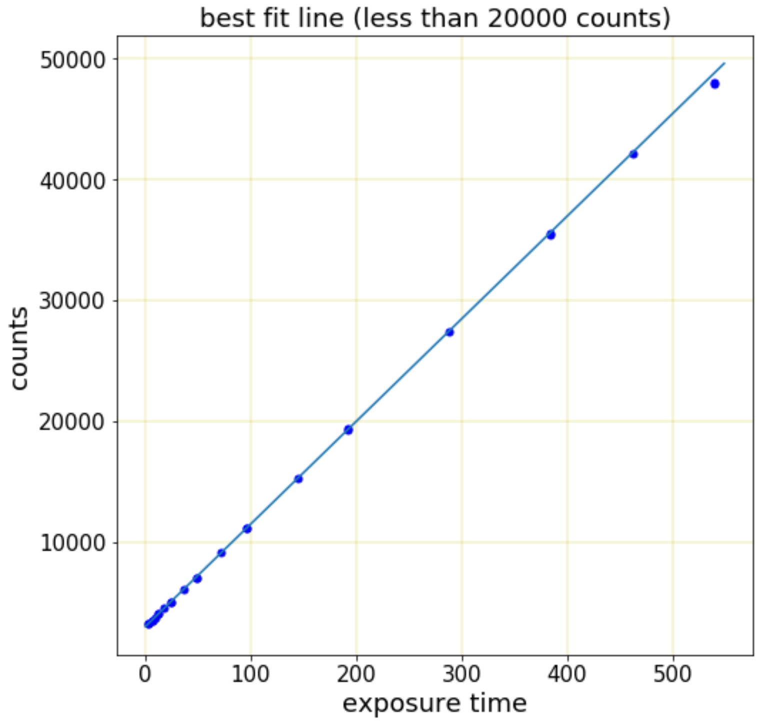
Image number	Exposure time (s)	Average counts/pixel
1	3	3245
2	6	3500
3	12	4016
4	24	5033
5	48	7062
6	96	11128
7	192	19378
8	384	35511
9	540	48028
10	540	47903
11	462	42158
12	384	35392
13	288	27460
14	192	19262
15	144	15288
16	96	11166
17	72	9118
18	48	7062
19	36	6068
20	24	5047
21	18	4532
22	12	4021
23.	9	3757
24	6	3500
25	3	3241

The data was separated into 2 sections: one which only includes the images that had an average of *less than* 20,000 counts/pixel, and another section that only includes the images that had an average of *greater than* 20,000 counts per pixel. The python "scipy.optimize.curve_fit" function was used to calculate the optimal parameters for a line of best fit in each of the 2 sections of images.

-Images with an average of *less than* 20,000 counts/pixel:

- Best fit line parameters: slope= 84.9, y-intercept=2997.3

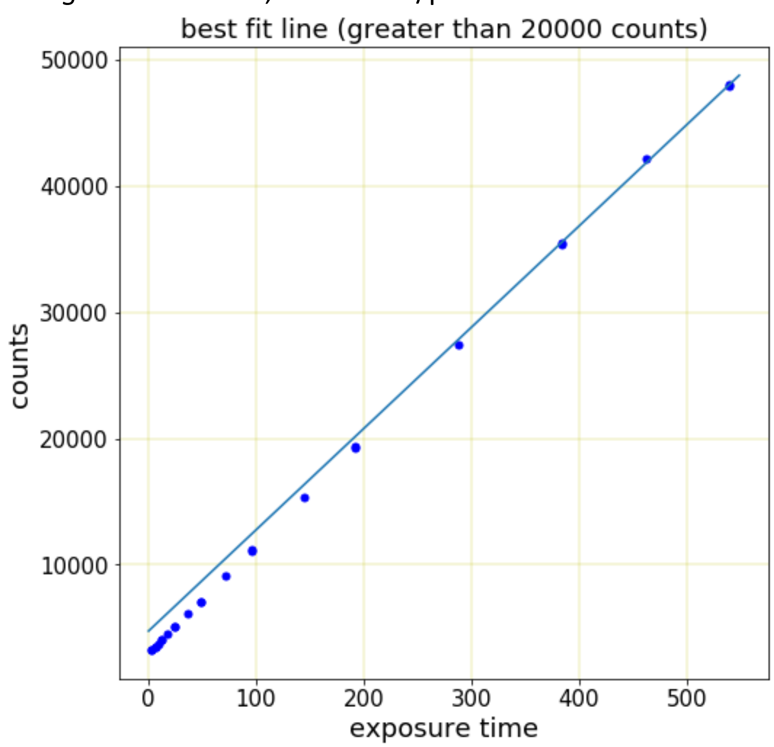
The following plot shows all of the data points, with a line of best fit calculated from the images with *less than* 20,000 counts/pix:



-Images with an average of *greater than* 20,000 counts/pixel:

- Best fit line parameters: slope= 80.2, y-intercept=4737.7

The following plot shows all of the data points, with a line of best fit calculated from the images with *greater than* 20,000 counts/pix:



The counts/pixel increases approximately linearly with exposure time, although it does begin to flatten a bit as the counts/pixel increases past 20,000.