

basics

January 30, 2024

Lab 1

```
[22]: import numpy as np

      # Set up matplotlib
      import matplotlib.pyplot as plt
      %matplotlib inline

      from astropy.io import fits

      list = fits.open("images/lab1_3_4_7_actual.00000001.FIT")

      list.info()

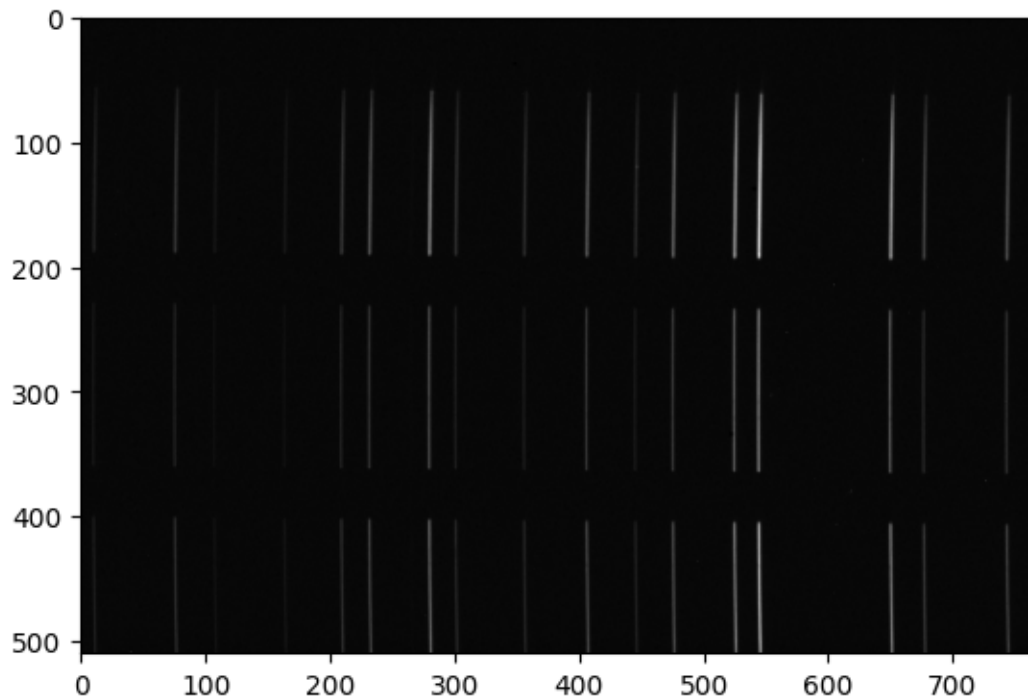
      image_data = list[0].data

      plt.imshow(image_data, cmap='gray')
```

Filename: images/lab1_3_4_7_actual.00000001.FIT

No.	Name	Ver	Type	Cards	Dimensions	Format
0	PRIMARY	1	PrimaryHDU	46	(765, 510)	int16 (rescales to uint16)

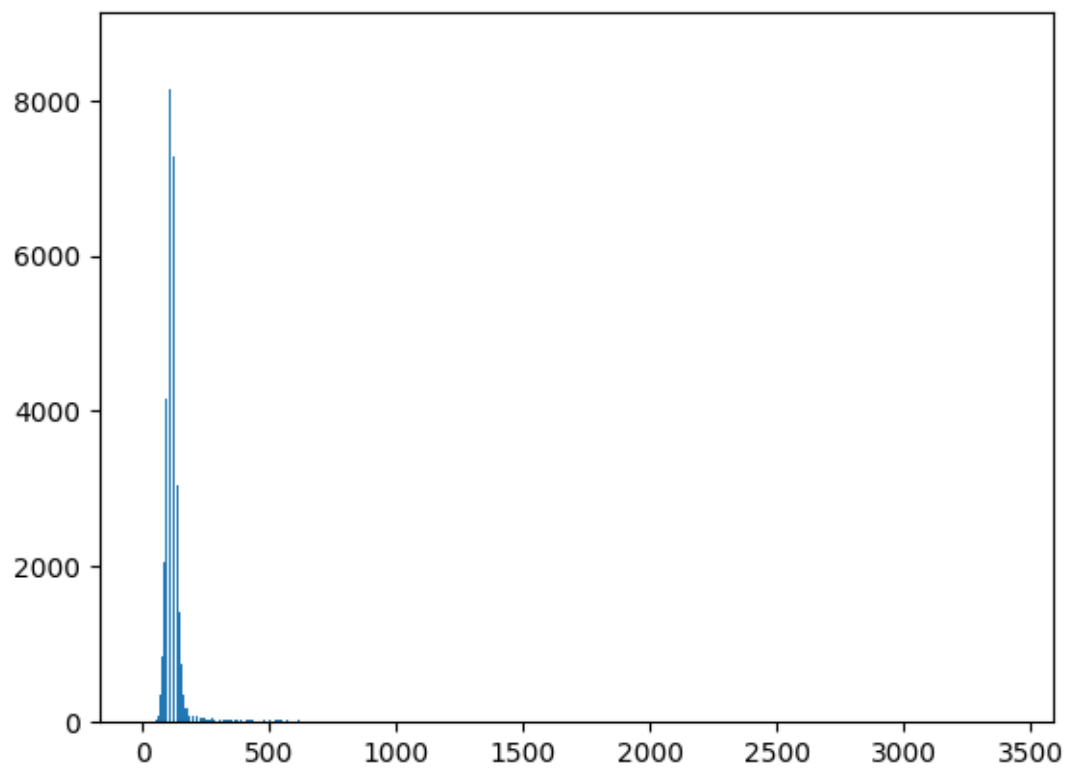
```
[22]: <matplotlib.image.AxesImage at 0x12b567490>
```



```
[23]: print('Min:', np.min(image_data))  
      print('Max:', np.max(image_data))  
      print('Mean:', np.mean(image_data))  
      print('Stdev:', np.std(image_data))
```

```
Min: 0  
Max: 3416  
Mean: 138.75750865051904  
Stdev: 158.08148644359935
```

```
[24]: histogram = plt.hist(image_data.flatten(), bins='auto')
```



[]: