basics

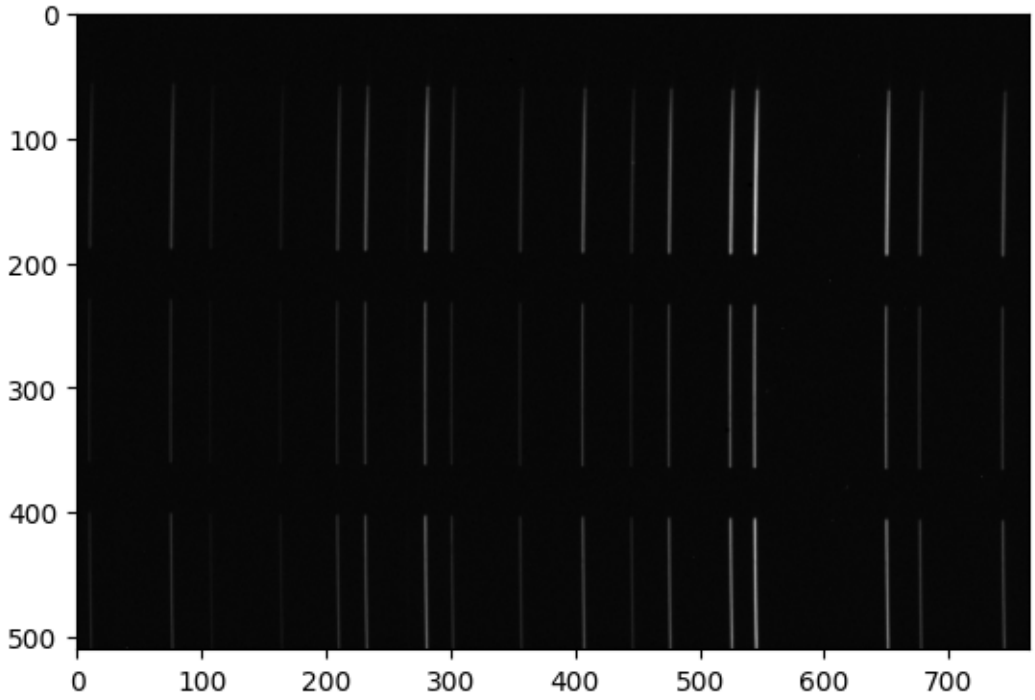
January 30, 2024

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)
```

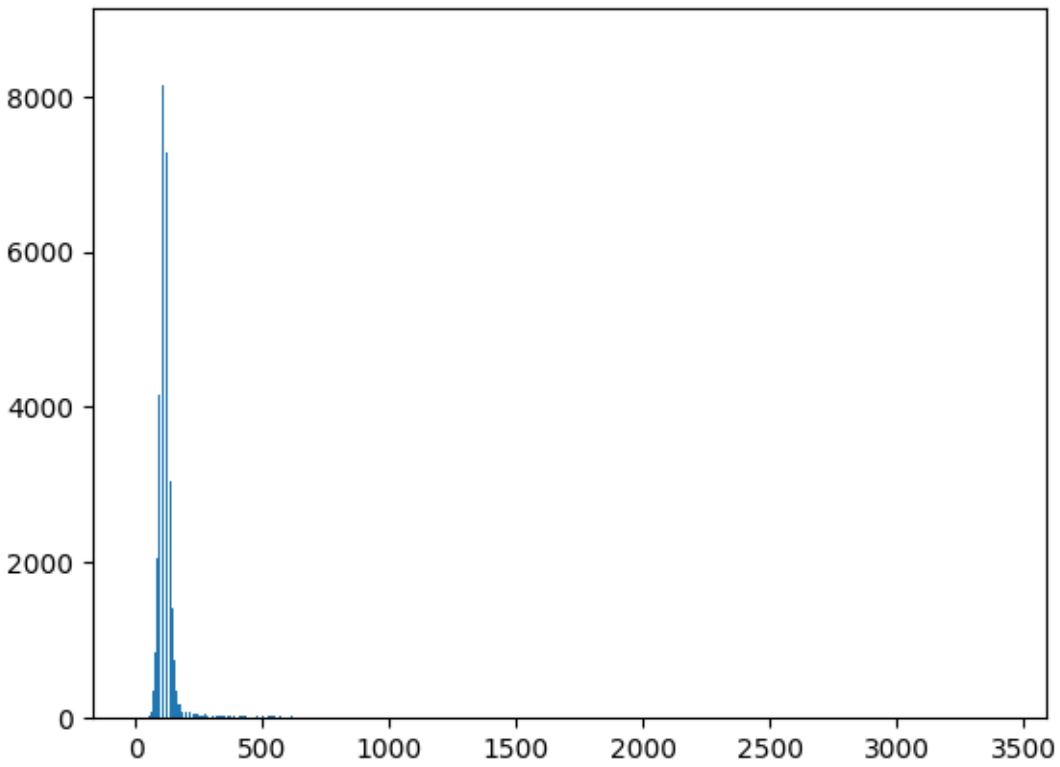
[22]:
```
<matplotlib.image.AxesImage at 0x12b567490>
```



[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')
```


8000
6000
4000
2000
0
0
500
1000
1500
2000
2500
3000
3500

[ ]: