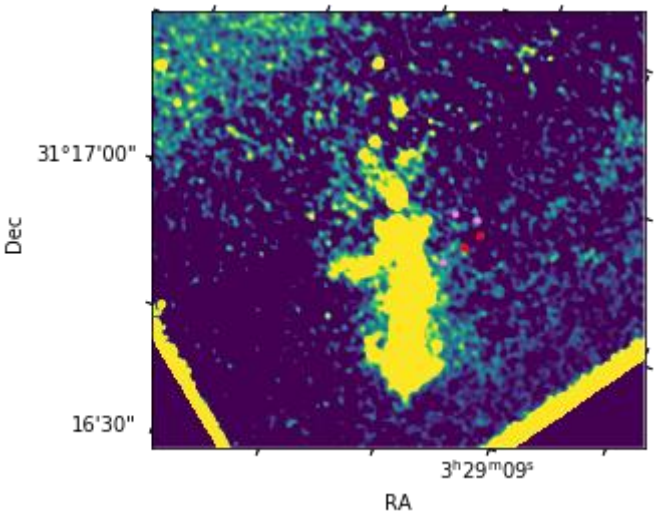
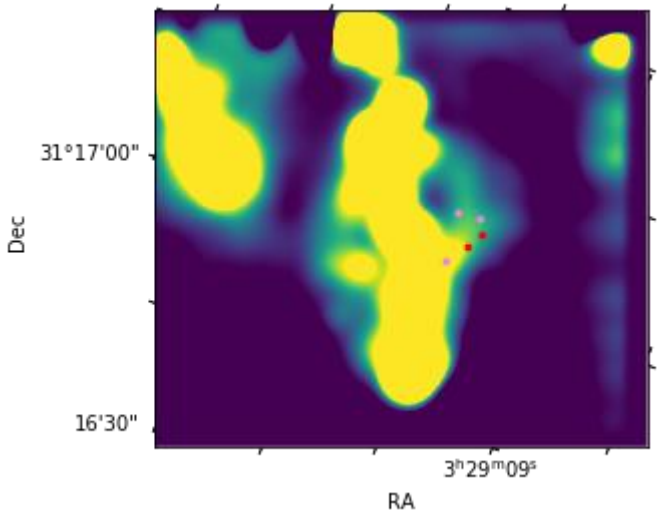
Images of Pixels Plotted (Low Res Version)

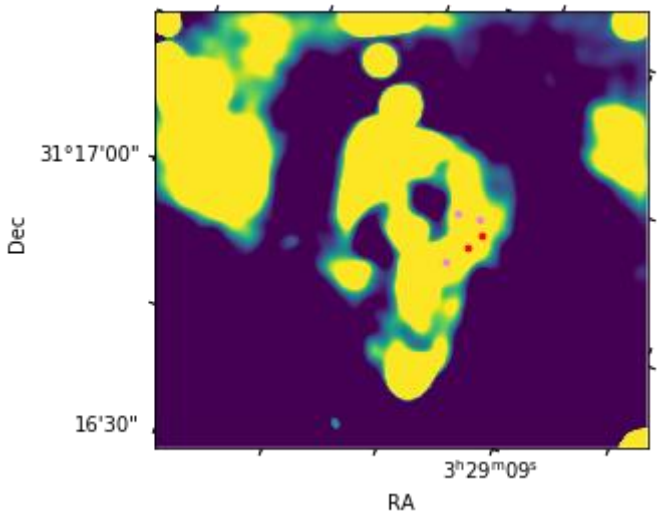
Below, plotted images in order of increasing wavelength. The **purple dots** plotted show successful, perfect fits. The **red dot** is the original pixel I tested where I could not make a perfect fit. NOTE I CAN fit pixels *next to* (1 pixel to right / left) of that red dot.



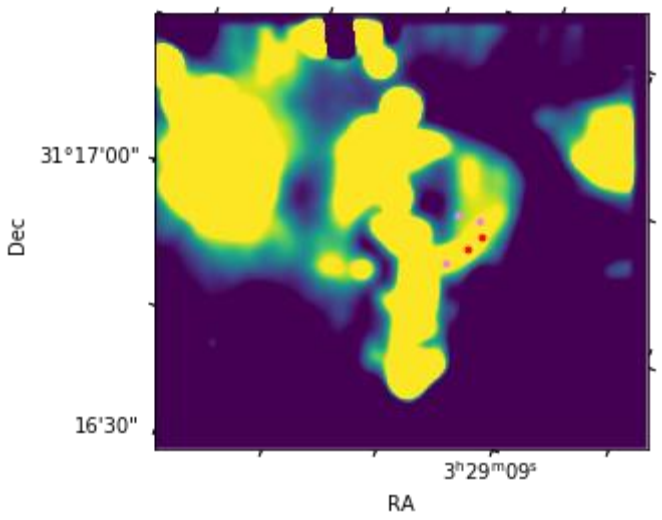
Hα:



1.26:



1.28:



1.64:

Blackbody Fits

Fitting the blackbody fits

Repeat labeling the regions by number for reference:

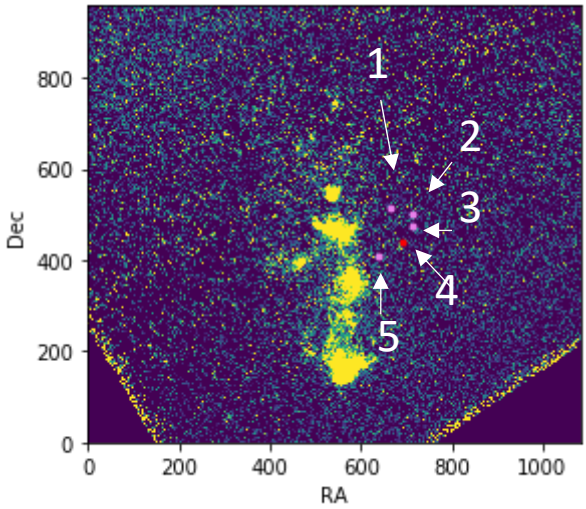
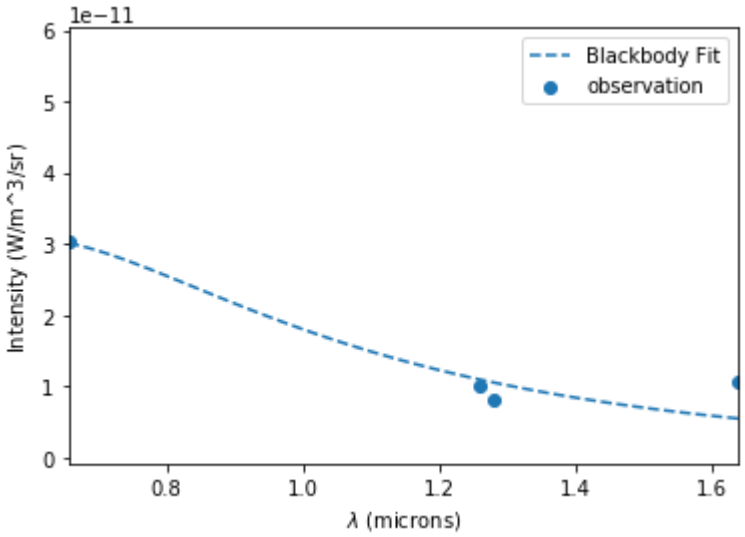


Table of fit properties:

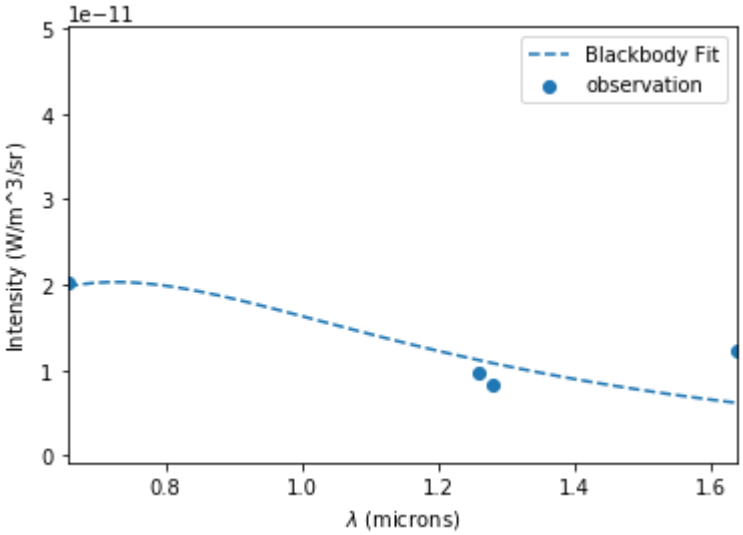
Region #	T (K)	C
1	4.22665159e+03	3.84083139e-24
2	4.86677015e+03	2.76021283e-24
3 (translated by ~10 pixels)	3.98825501e+03	4.92417700e-24
4	3.53841232e+03	1.04686128e-23
4 (1 pix right, up)	3.30548984e+03	1.30580212e-23
4 (1 pix left, up)	3.53650031e+03	1.05870783e-23
5	3.49020915e+03	1.62986161e-23

Blackbody plots (same order as table):

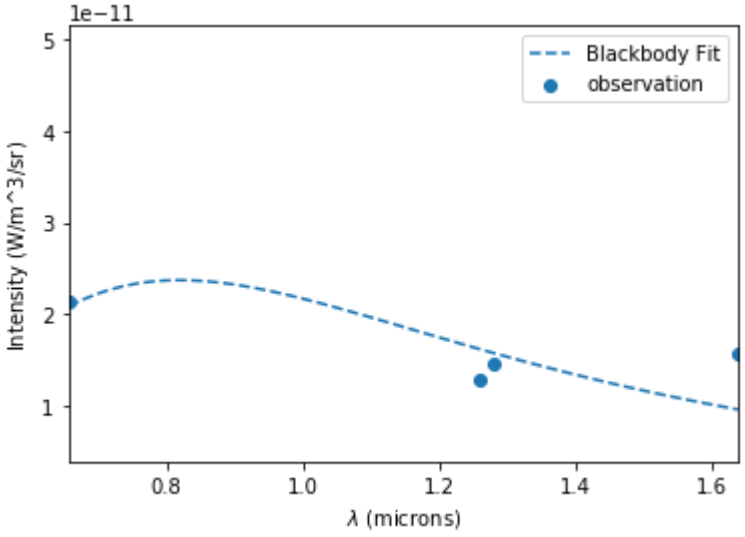
1…



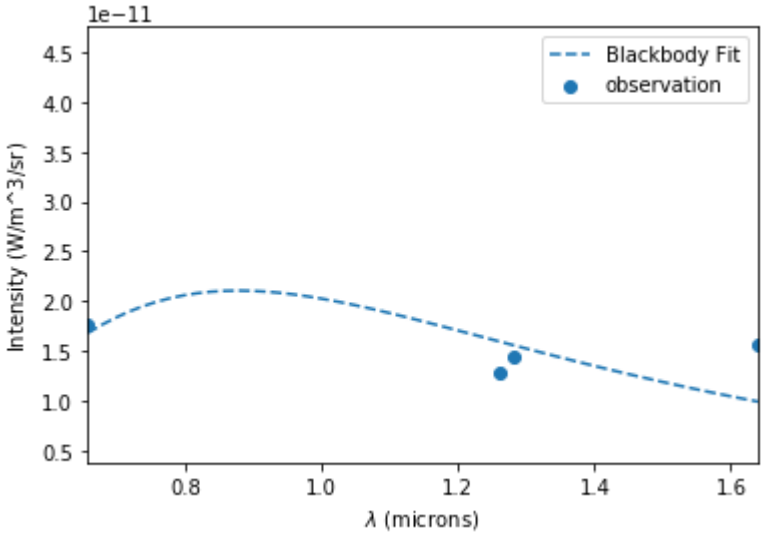
2…



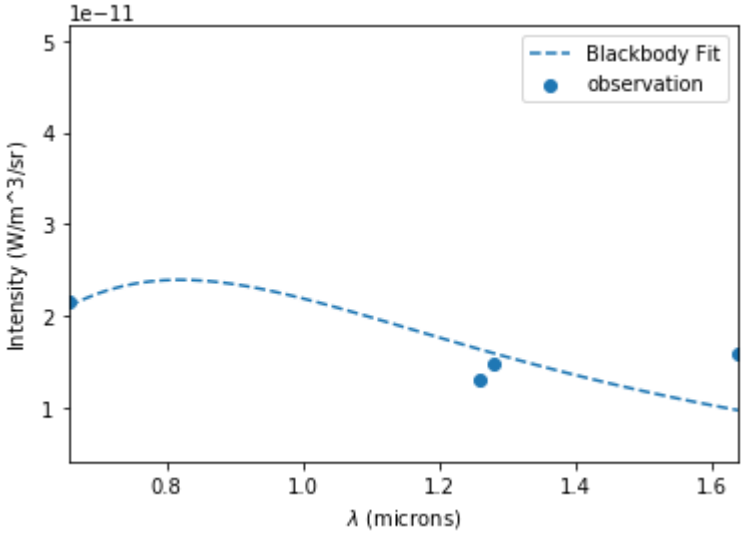
3 (translated by ~10 pixels)…



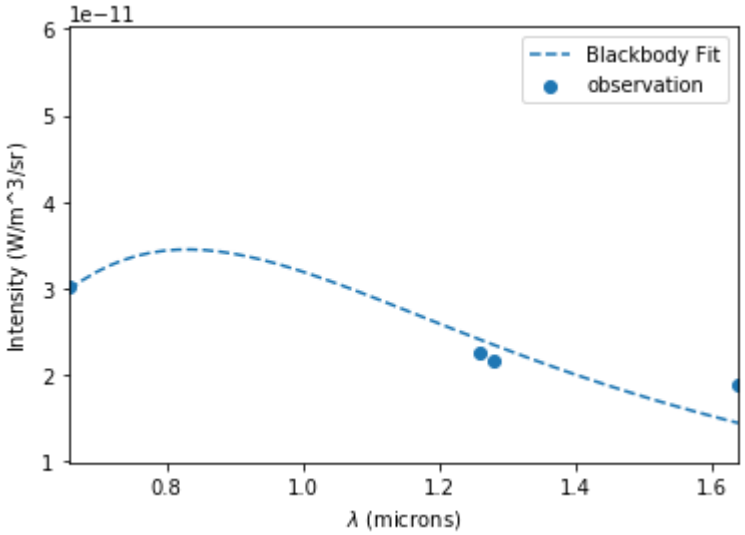
4…



4, 1 pix up, right…



4, 1 pix left, up…



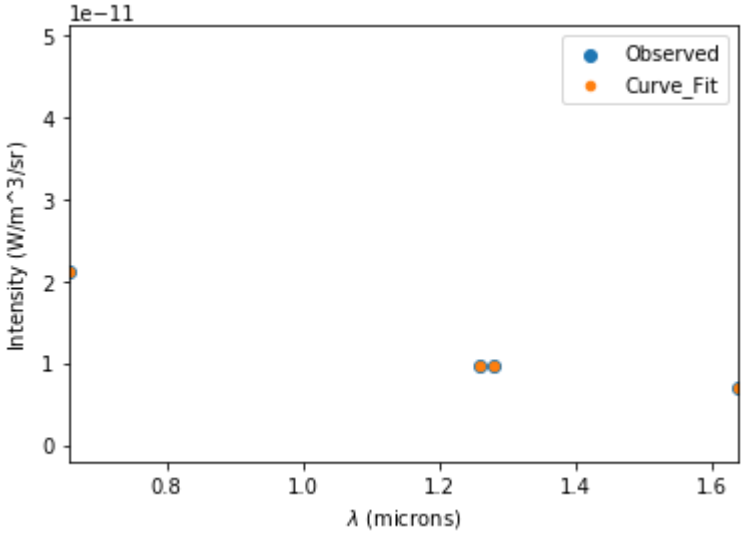
5…

Fitting Non-Lin Equs for Multiple Pixels

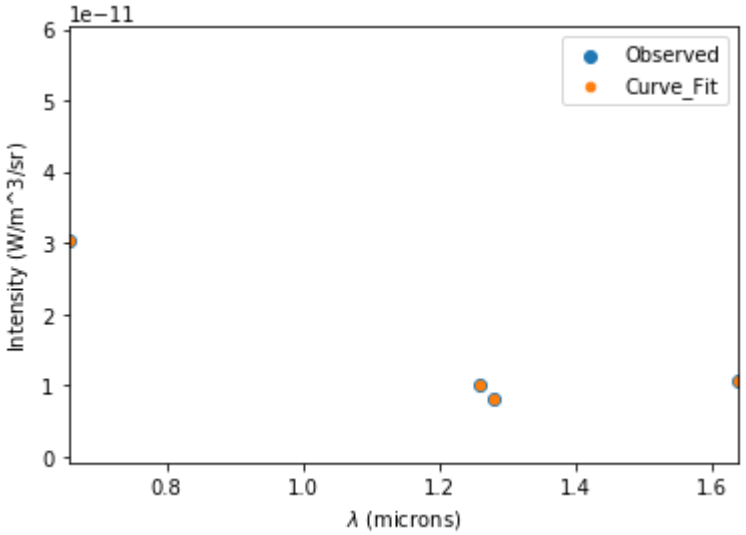
For each pixel, I *fit by scipy curve_fit*. Newton-krylov will converge to a similar but slightly more accurate value from my tests on the one pixel that didn't fit, but it is slower to do that, so I'm doing this for efficiency. I consider a fit with the sum of squares is ~1E-40 to 1E-50 (and I can't distinguish the points on the plot):

Fit Parameter	C	A_V	f_H	f_{Fe}	Σ(squares)
1	-9.65205874e-23	7.26112622	3.10011544e-10	1.61573835e-10	1.4877694187036636e-52
2	-1.35997859e-22	7.52004487	5.71909187e-10	3.04913205e-10	2.6101217871994098e-52
3 (translated by ~10 pixels)	-2.07148034e-23	5.57799835	7.93393759e-11	4.89424799e-11	1.421689401379141e-23
4	3.41909839e-25	5.01542549	5.18173634e-11	2.79501533e-11	1.730053192856374e-23
4 (1 pix right, up)	9.50779921e-24	4.97186772	4.00451582e-11	2.13512009e-11	1.4103174465905054e-23
4 (1 pix left, up)	4.02946564e-25	5.01415714	5.21745998e-11	2.81530317e-11	1.6848875386904056e-23
5	1.85699331e-24	4.97951689	7.20282463e-11	3.98704756e-11	2.23157158180894e-25

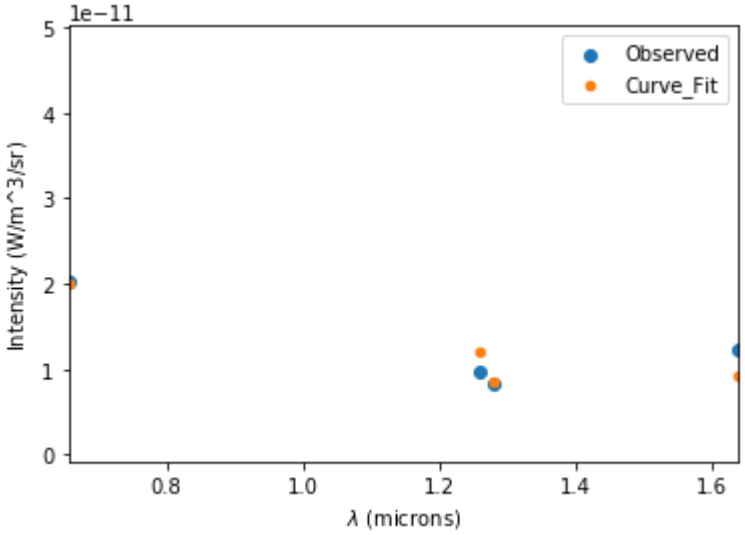
Intensity Plots of Fits (same order):



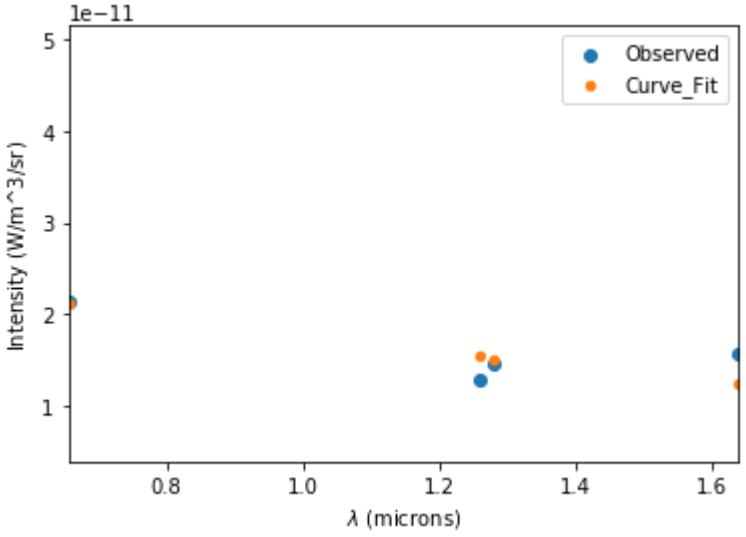
1…



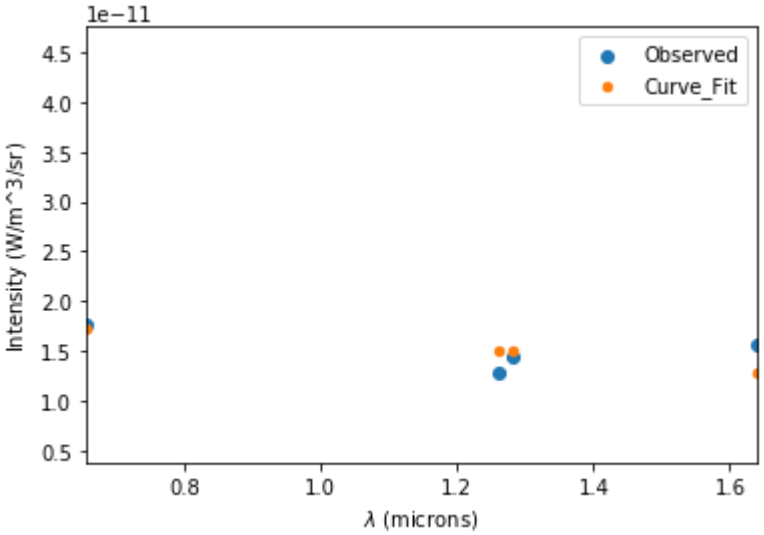
2…



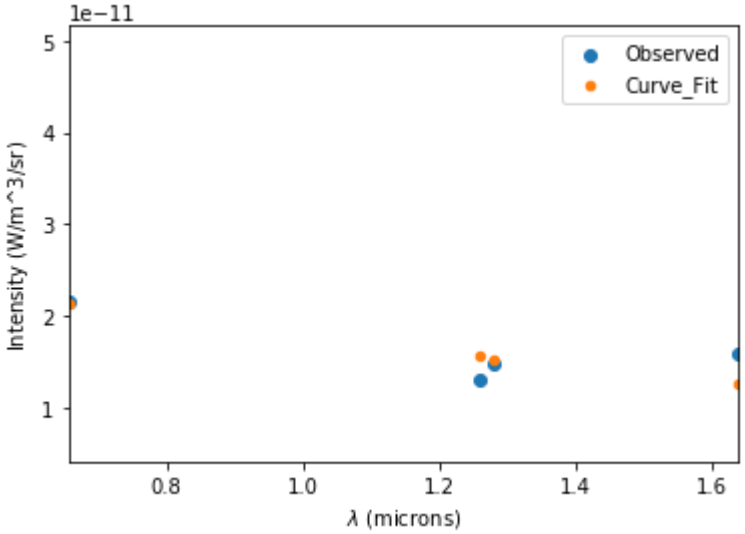
3 (translated by ~10 pixels)…



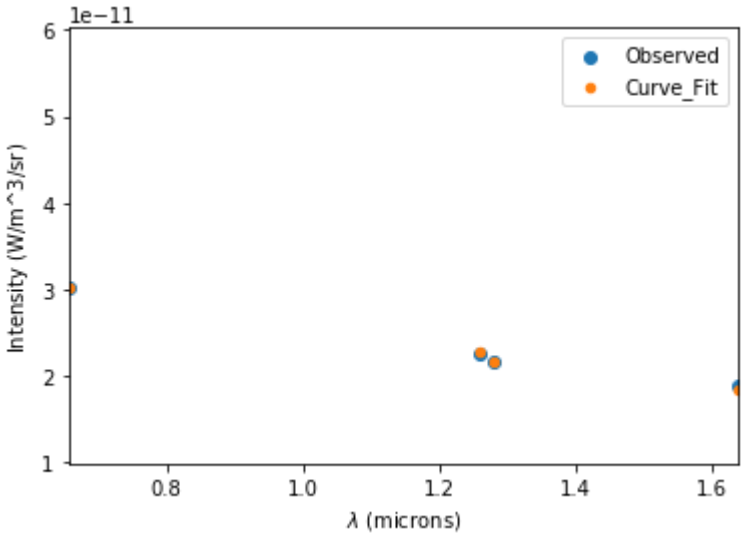
4…



4, 1 pix right, up…



4, 1 pix left, up…



5…