


CASA line imaging/analysis overview

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Your dataset: AFGL-SiO

- Hopefully you have something like this  from the NOEMA data
- **AND** have used Edwige's tutorial techniques to get it into CASA

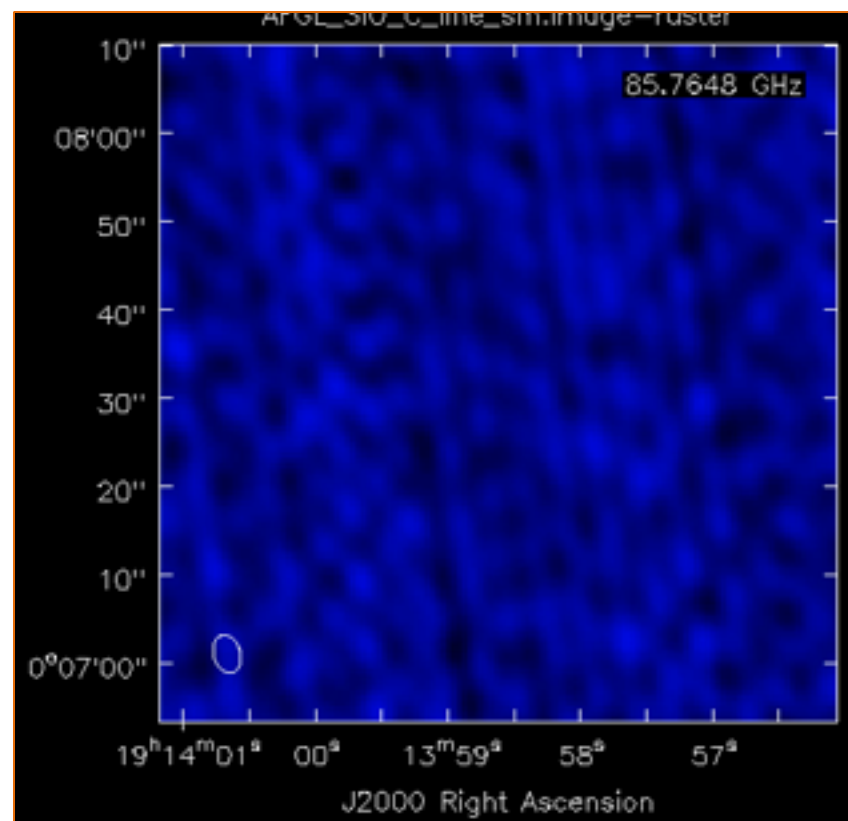


Image-plane component fitting `imfit`

Fits elliptical Gaussians in the image plane:

Example command:

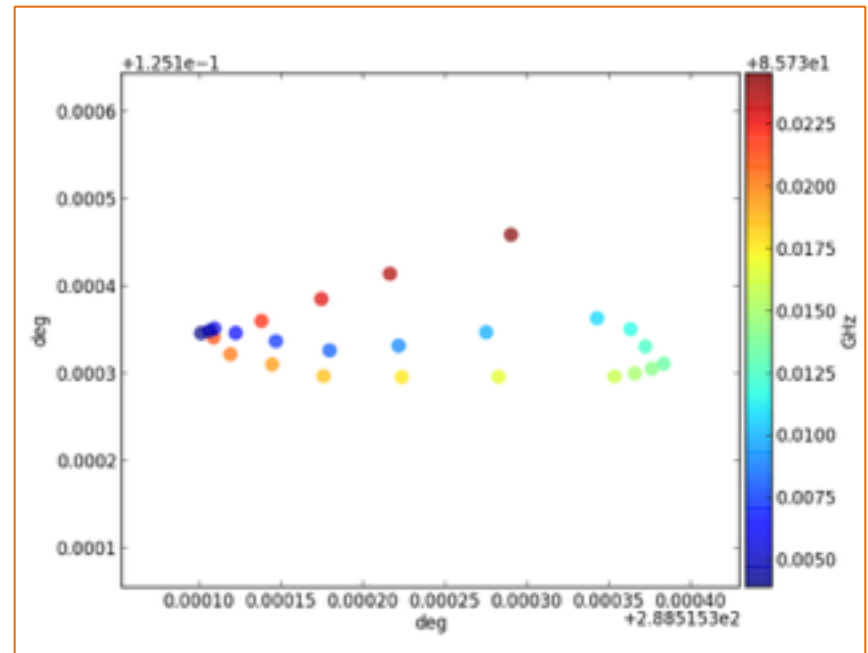
```
imfit(imagename='imagename',  
      chans='16~40',  
      box='55,55,75,75',  
      logfile='imfitout.dat')
```

Will output results to logfile.

You can also do:

```
imfDict=imfit(as before)
```

Which gives you a python dict format output.



Moment maps with `immoments`

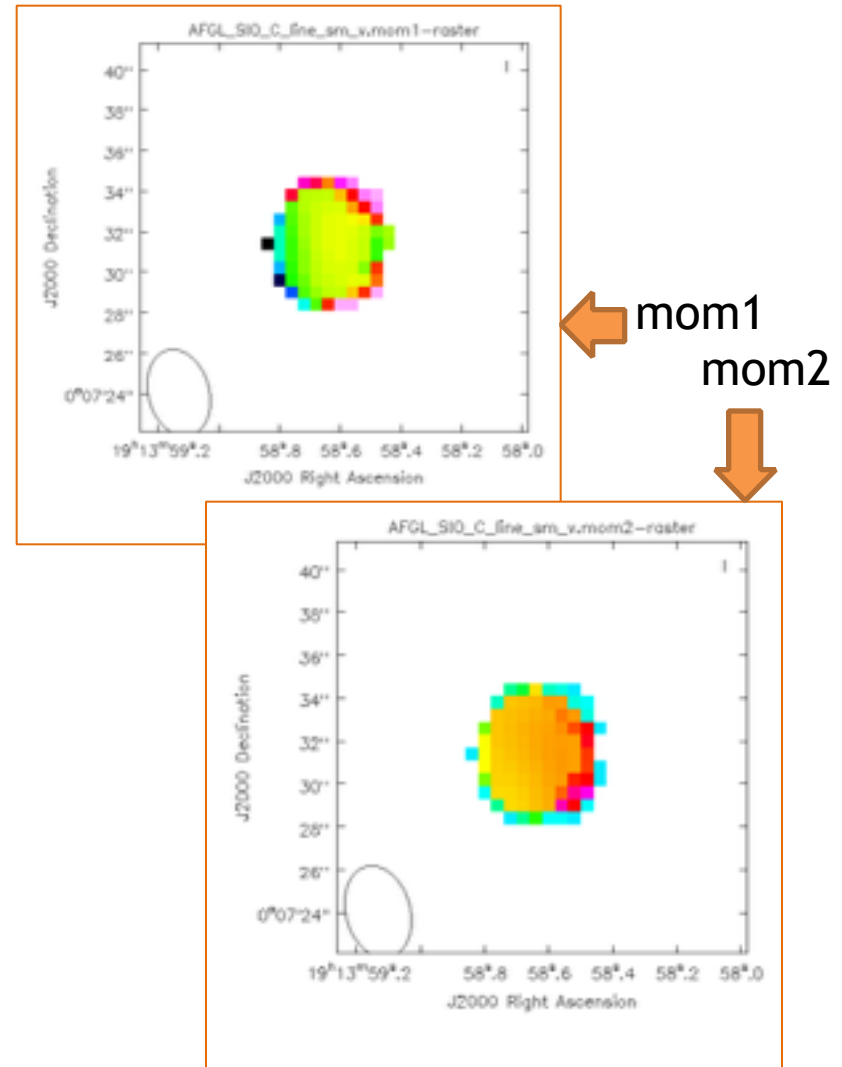
Task `immoments` let you compute the 0th*, 1st, 2nd ... 11th** moments:

Example command:

```
immoments(imagename='imagename',  
          outfile=imName+'.mom1',  
          includepix=[1.25e-2,1.0], #pixel vals to  
                                   include  
          chans='25~35', #channels to take mom over  
          moments=[1])
```

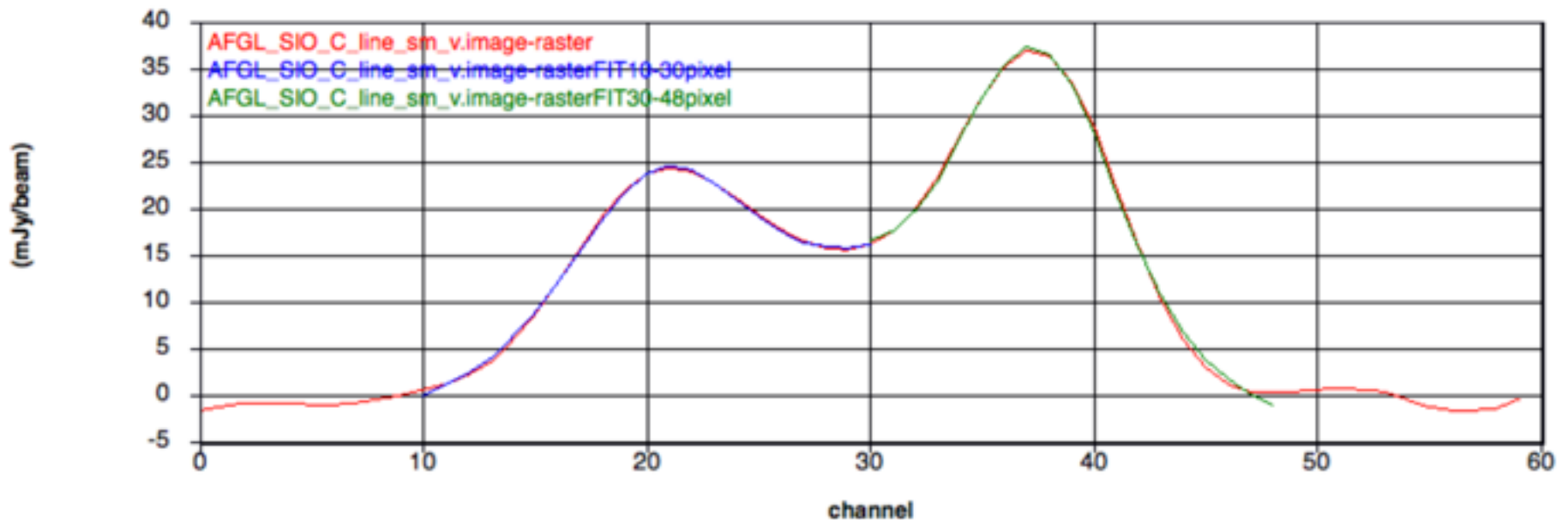
* Except `mom0` is crashing my Mac!

** Look at CASA Cookbook for what all these mean.



Line fitting in viewer

The CASA viewer has an inbuilt gaussian line fitter:



Spectral line fitting with `specfit`

Fits spectral lines within the data cube...

Example command*:

```
specfit(imagename=imName+'.image',  
        box='64,64,64,64',  
        chans='30~48',  
        ngauss=1,  
        multifit=F')
```

Like `imfit` you can send results to a Dict by:

```
spDict=specfit(as before)
```

