# example

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## 1 example.ipynb

This notebook shows how the plots in de los Reyes et al. (submitted) were produced.

### 1.0.1 Example of running reduction pipeline to get global kinematic quantities and plot stellar kinematics

Note that we're assuming the main reduction pipeline has already been run (including with MC error estimation).

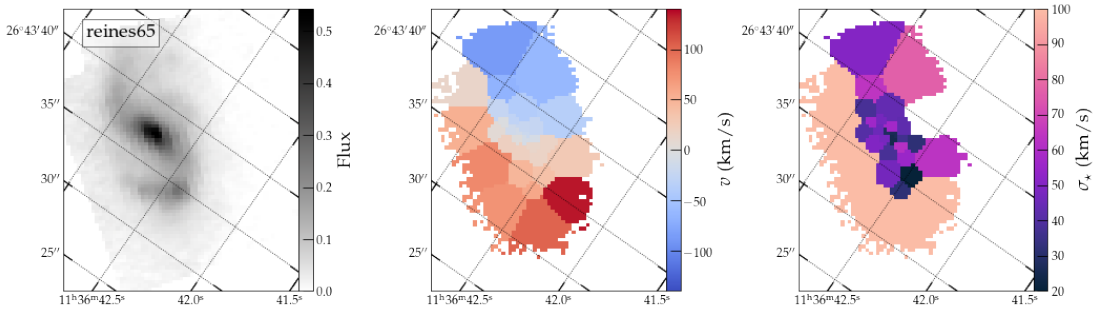
[1]:
```
import os
os.chdir('redux')
```

[2]:
```
%matplotlib inline
```

[3]:
```
from kcwiredux import runredux
runredux('reines65', folder='/Users/miadelosreyes/Documents/Research/VoidDwarfs/
 ↪redux/stackedcubes/')
```

```
Initializing cube reines65…

/Users/miadelosreyes/Documents/Research/VoidDwarfs/redux/kcwiredux.py:108:
RuntimeWarning: invalid value encountered in less
  var[np.where(var < 0)] = np.mean(var[np.where((np.isfinite(var)))])

[0.108, 1.65, 80] 15
Binning cube…

/Users/miadelosreyes/Documents/Research/VoidDwarfs/redux/kcwiredux.py:207:
UserWarning: Warning: converting a masked element to nan.
  noise[i,j] = np.std(self.data[self.wvlsection,i,j] -
np.asarray(poly(self.wvl_zcorr[self.wvlsection])))

center: 24.62763723978726 43.255862182011754
19
vmax: 93.65 \pm 24.93
sigma: 58.37 \pm 9.50
vsigma: 1.60 \pm 0.50
Plotting stellar kinematics maps…
```

```
/Users/miadelosreyes/Documents/Research/VoidDwarfs/redux/kcwiredux.py:805:
RuntimeWarning: invalid value encountered in less
  mask = np.array(copy < 1)
```

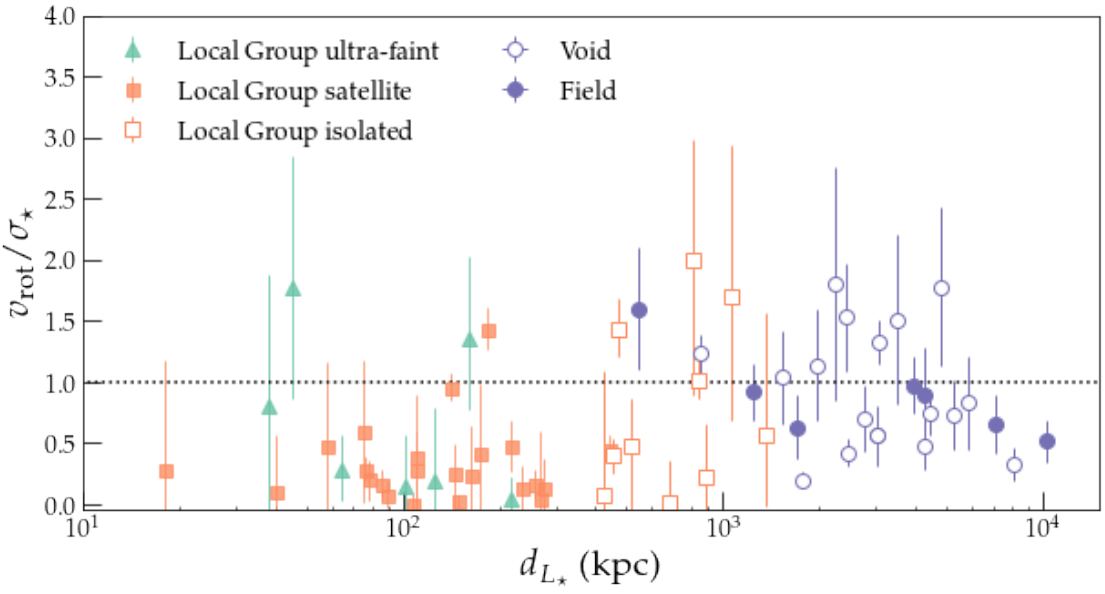



### 1.0.2 Examples of analysis plots

[4]:
```
os.chdir('../analysis')
```

[5]:
```
from makeplots import vsigma_plot
```

[6]:
```
# Plot showing v/sigma as a function of distance from massive host galaxy
# (Note: can set 'inclination=True' to see the effect of galaxy inclination␣
 ↪angle on the results)
vsigma_plot(param='dLstar', plot_path='plots/', mass='wise', inclination=False,␣
 ↪plotline=False)
```



[7]:
```
# Plot showing v/sigma as a function of stellar mass
# (Note: can set 'inclination=True' to see the effect of galaxy inclination␣
 ↪angle on the results)
vsigma_plot(param='mass', plot_path='plots/', mass='wise', inclination=False,␣
 ↪plotline=True)
```

```
[ 0.22527746 -0.92733829] [0.05085067 0.37656221] [0.05047163 0.37963397]
```