

INTRO TO PYTHON FOR AOSC

OCT 21, 2016

INTRO TO PYTHON

Day 3

- Plotting processes and examples



MODIFICATIONS FOR CUSTOM MODULES

- Edit your .cshrc file and add this line...
 - setenv PYTHONPATH \$HOME/aosc652:\$HOME/pythonModules
- Make a directory for custom python modules
 - mkdir ~pythonModules
- Copy my LHD module
 - Cp ~jeff/pythonModules/LDH.py ~pythonModules/.
- Logout or "source ~/.cshrc"

1-D PLOTTING

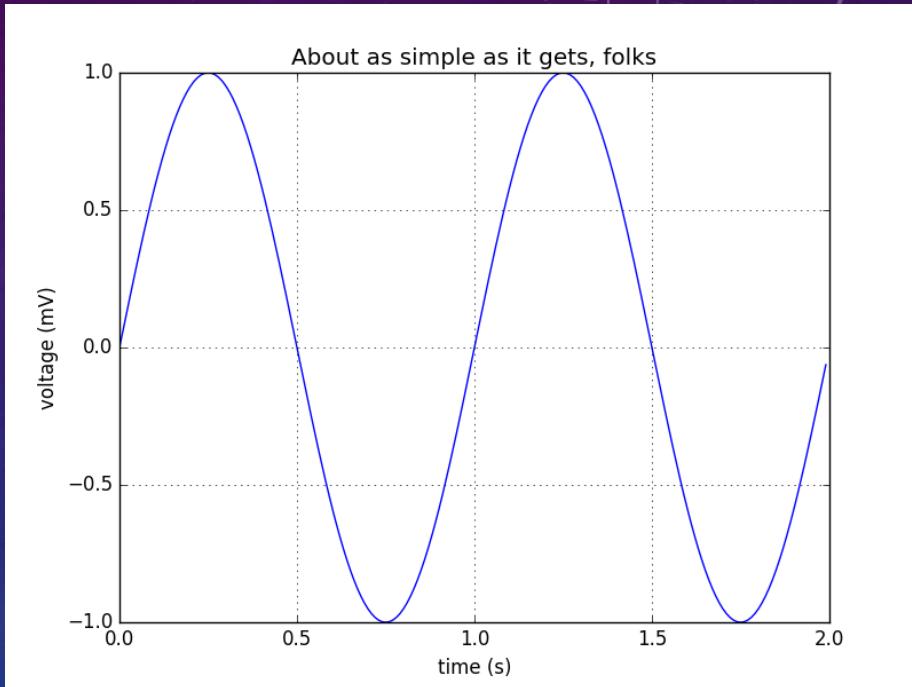
```
import matplotlib.pyplot as plt
```

- `plt.plot(x, y, c = 'g', ls = '--', marker = 's')`
- `plt.semilogx(), plt.semilogy(), plt.loglog()`
- `plt.xlabel('string')`
- `plt.ylabel('string')`
- `plt.title('string')`
- `plt.legend(loc=0)`

PLOTTING EXAMPLES

Simple Plot

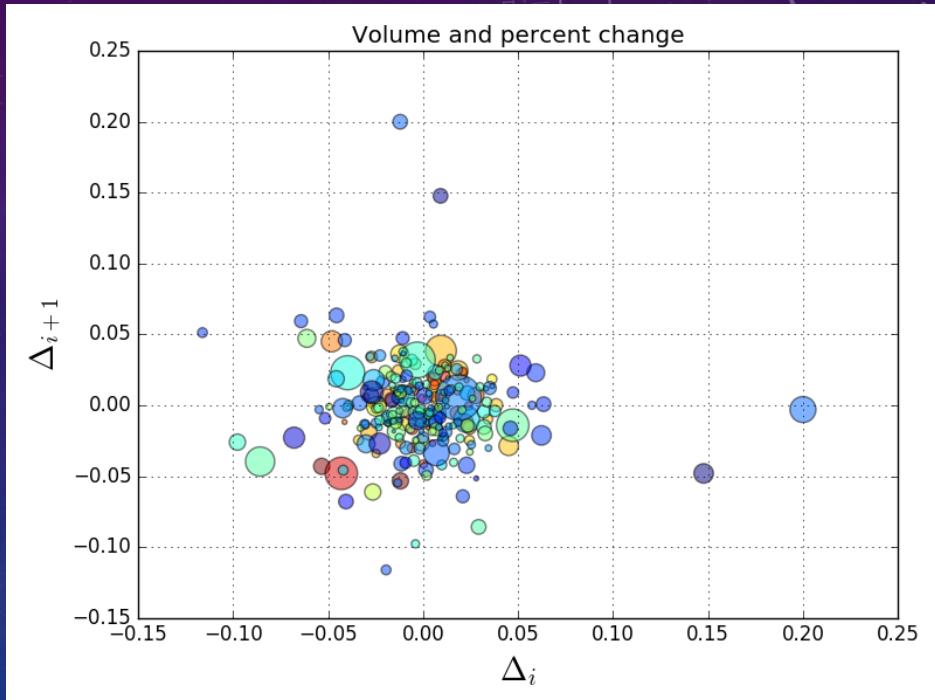
```
import matplotlib.pyplot as plt  
import numpy as np  
  
t = np.arange(0.0, 2.0, 0.01)  
s = np.sin(2*np.pi*t)  
plt.plot(t, s)  
plt.xlabel('time (s)')  
plt.ylabel('voltage (mV)')  
plt.title('About as simple as it gets, folks')  
plt.grid(True)  
plt.savefig("test.png")  
plt.show()
```



PLOTTING EXAMPLES

~jeff/aosc652/week08/demo

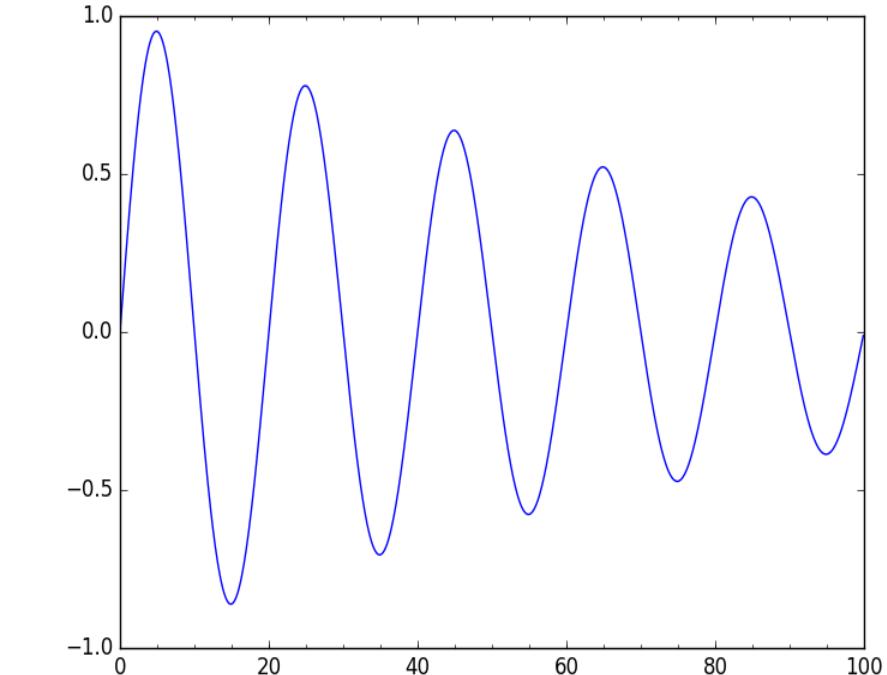
- scatter_demo2.py
 - Scatter plot with dynamic point sizes



PLOTTING EXAMPLES

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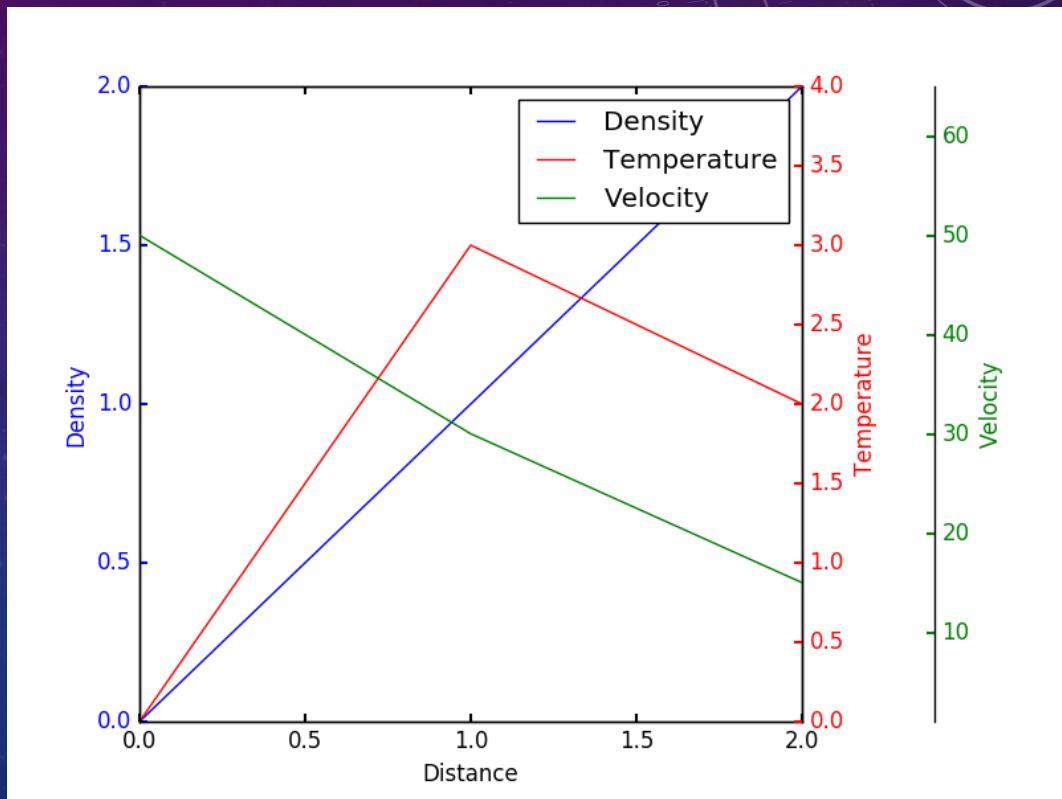
- major_minor_demo1.py
 - Line Plot with tick marks



PLOTTING EXAMPLES

~jeff/aosc652/week08/demo

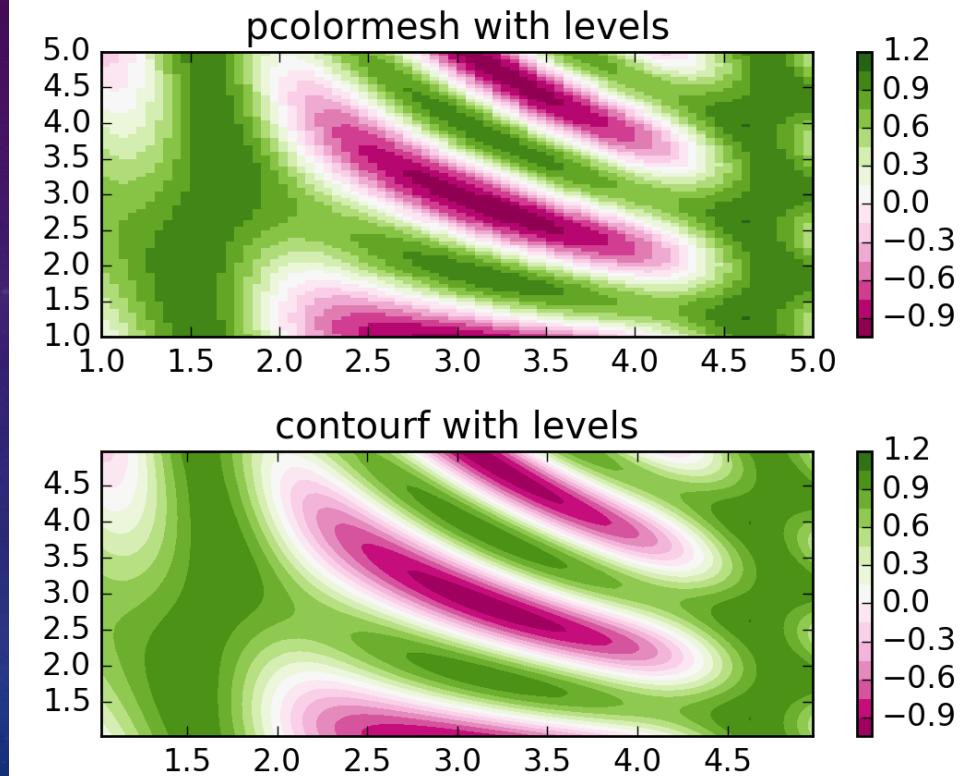
- multiple_yaxis_with_spines.py
 - Multiple Y axis



PLOTTING EXAMPLES

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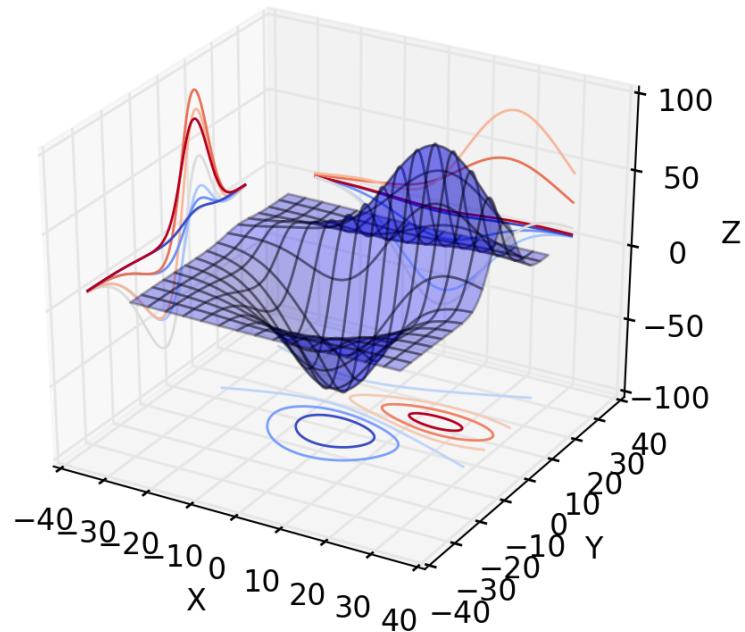
- pcolormesh_levels.py



PLOTTING EXAMPLES

~jeff/aosc652/week08/demo

- contour3d_demo3.py



PLOTTING EXAMPLES

~jeff/aosc652/week08/demo

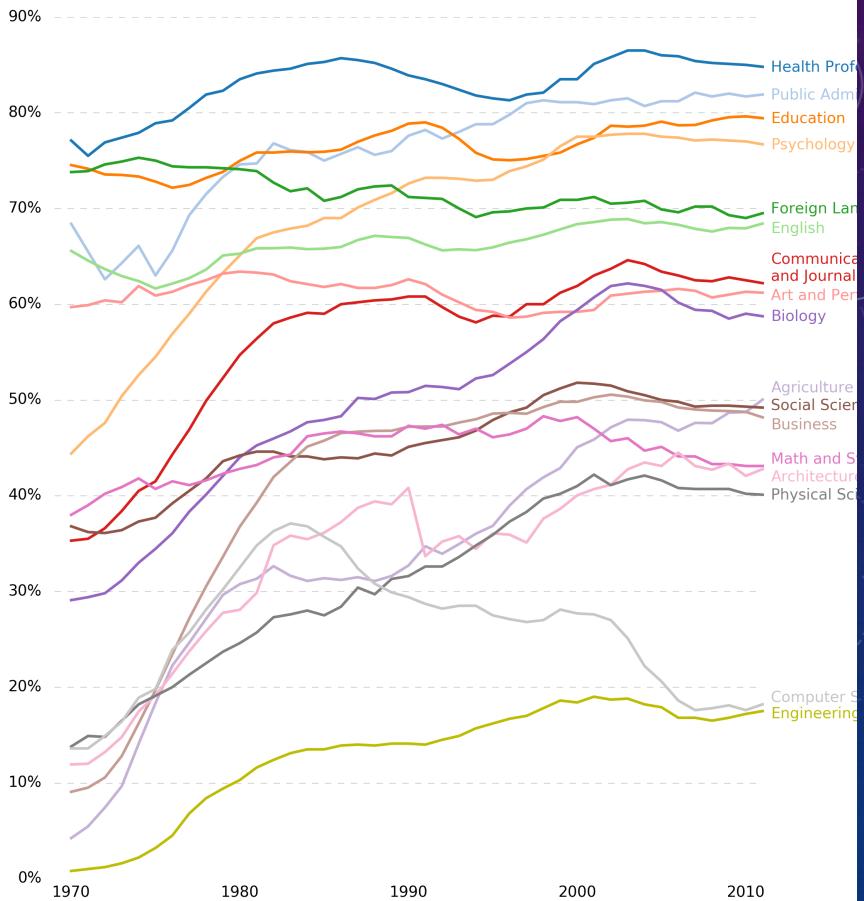
- wire3d_animation.py
- simple_3danim.py

PLOTTING EXAMPLES

~jeff/aosc652/week08/demo

- bachelors_degrees_by_gender.py

Percentage of Bachelor's degrees conferred to women in the U.S.A. by major (1970-2011)



PLOTTING EXAMPLES

`~jeff/aosc652/week08/demo/`

`http://matplotlib.org/examples/`