

Python Workshop Series Session 6: *Plotting with Matplotlib*

Nick Featherstone
Research Computing

Slides: https://github.com/ResearchComputing/Python_Spring_2018



Research Computing
UNIVERSITY OF COLORADO **BOULDER**

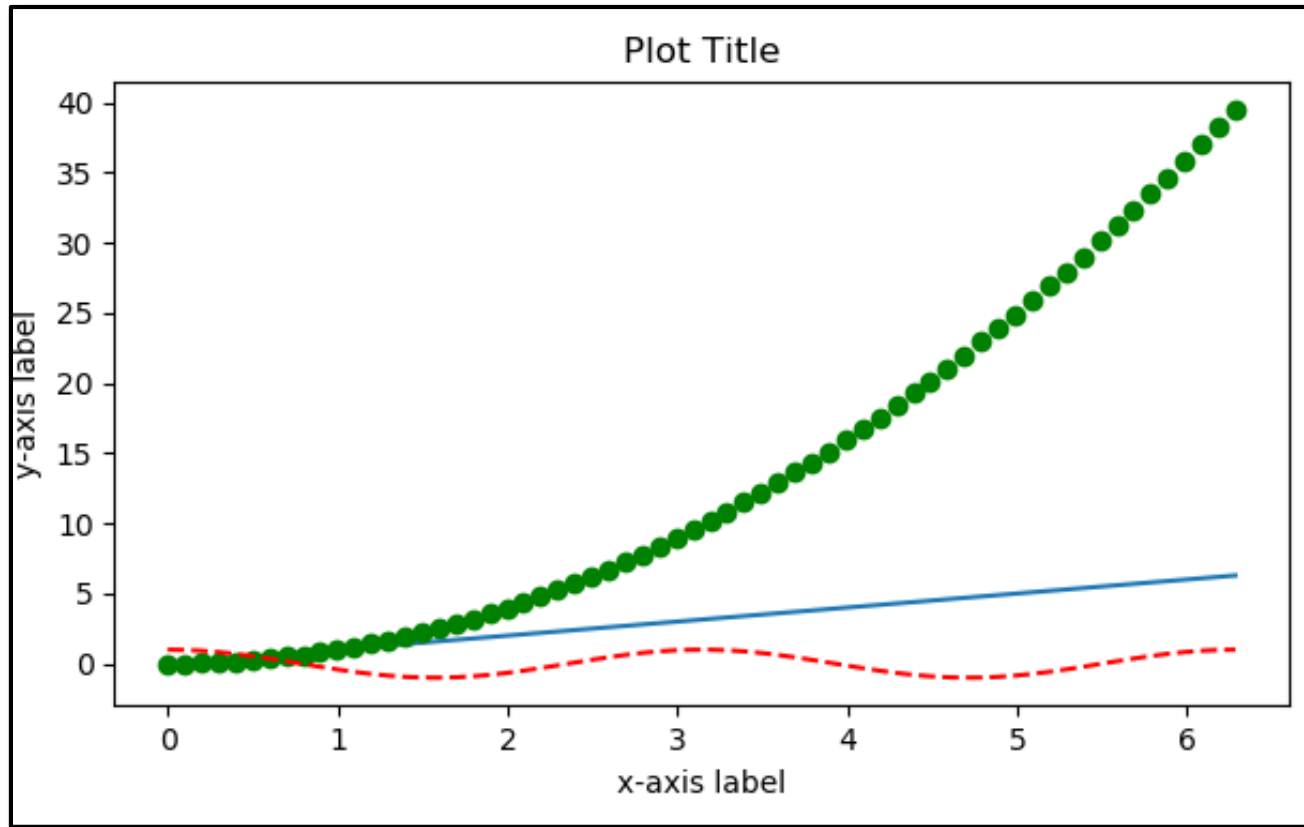
Be Boulder.

Overview

- This lesson is **example-based**.
- Matplotlib is very sophisticated
- The documentation is extensive.
 - <https://matplotlib.org/>
- Several examples provided online. Use them!
- Revolves around two classes:
 1. Figure class – container for plots
 2. Axes class – the plots within a figure
- Primarily work with axes methods.
- Summary of examples follows.



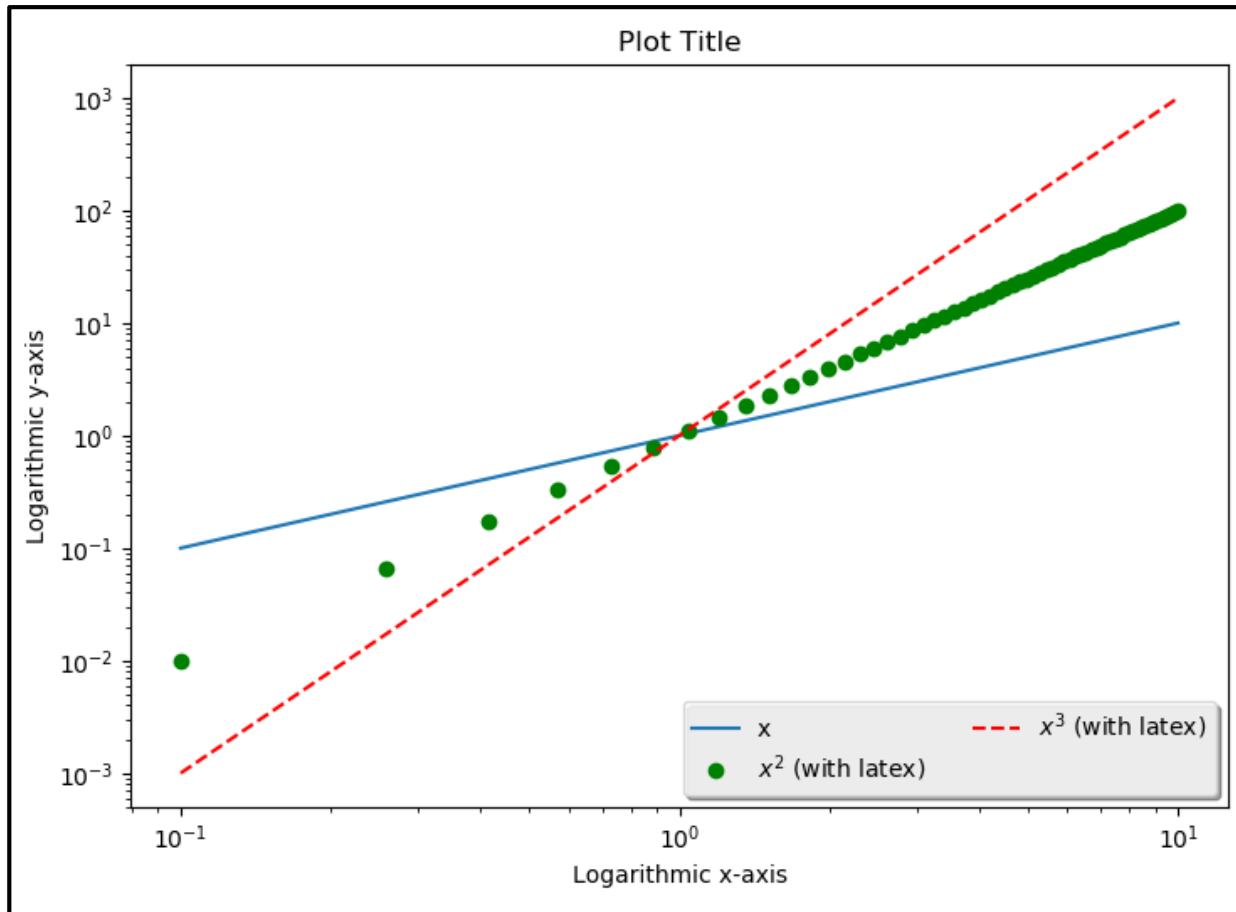
simple_plot.py



- Essential elements of plot creation



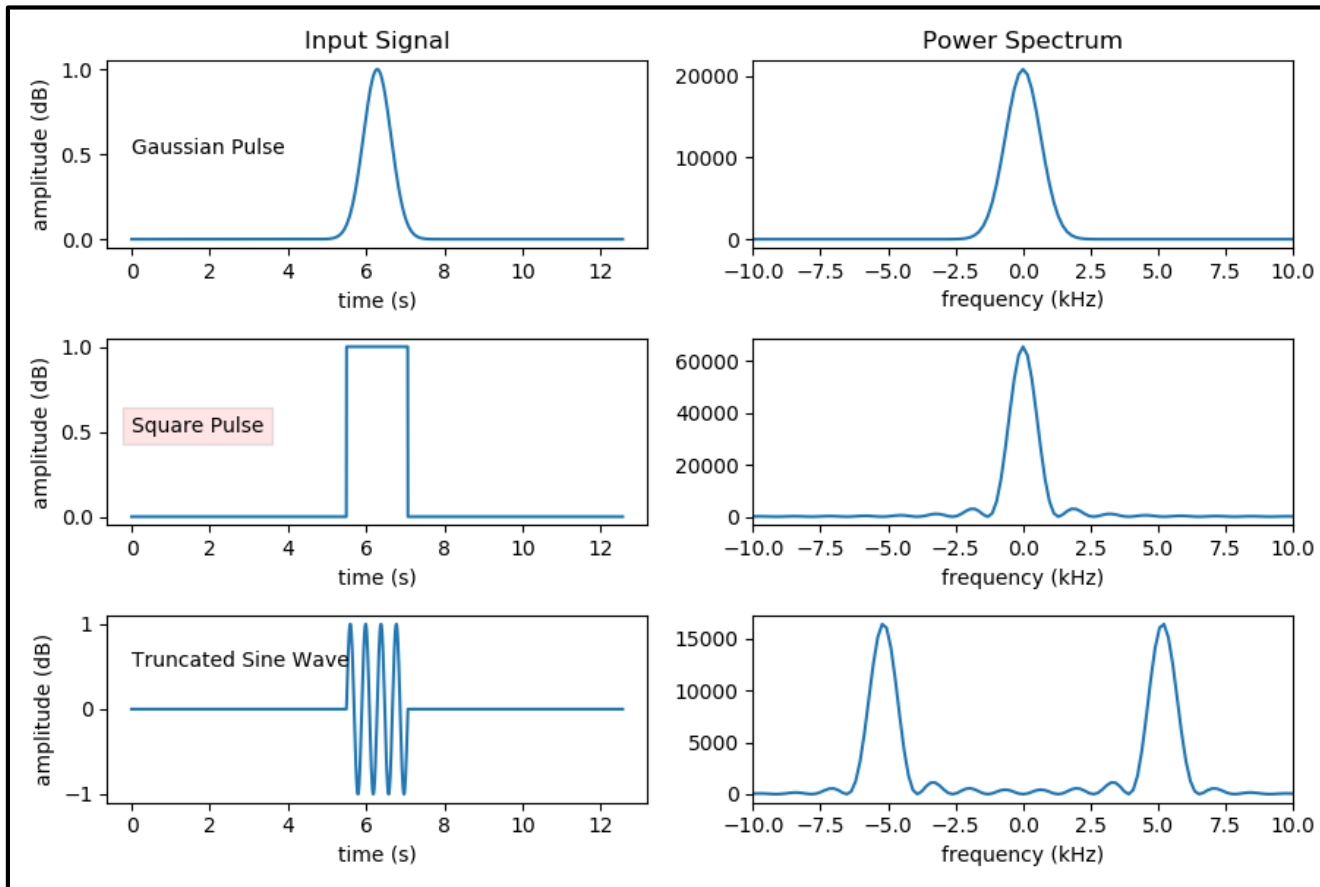
plot_legends.py



- Legend
- Logarithmic axes
- Latex math font



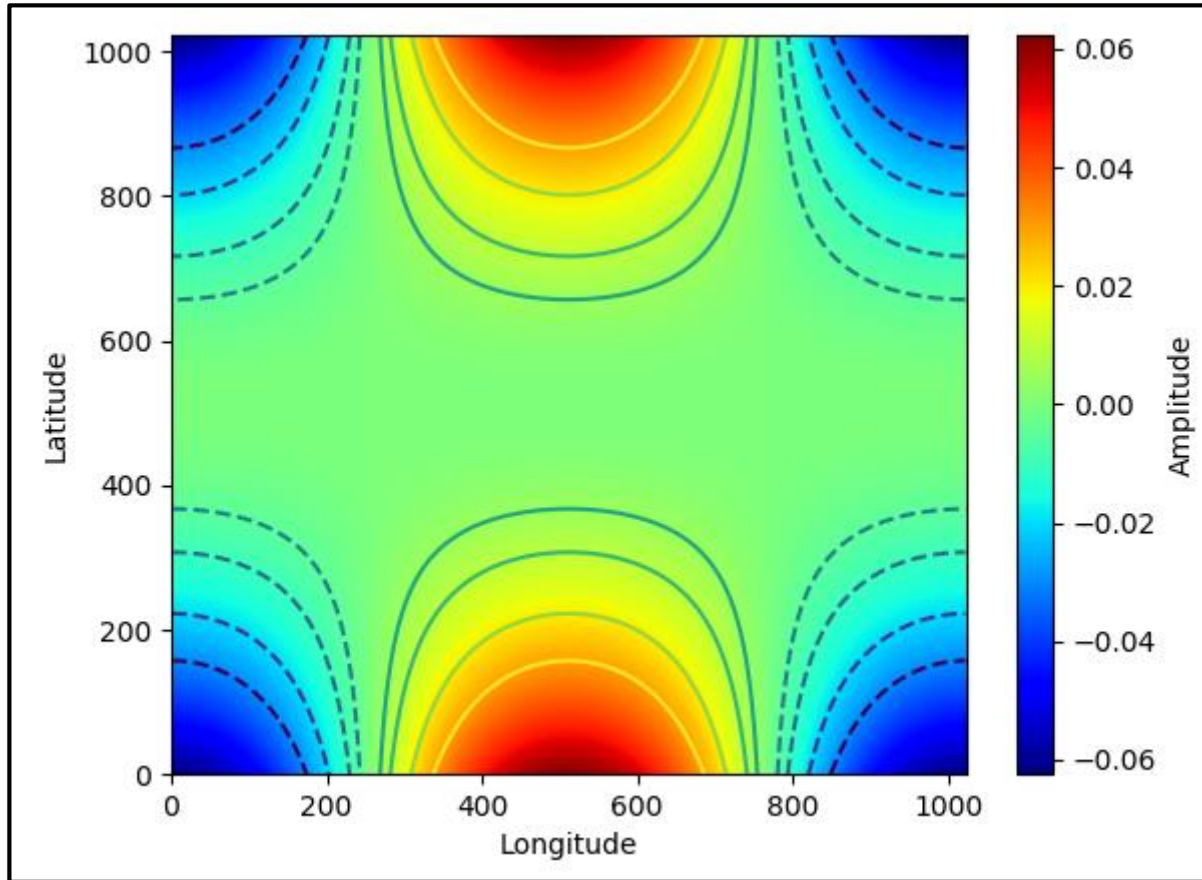
subplots.py



- Multiple plots
- Text annotation
- NumPy FFT example



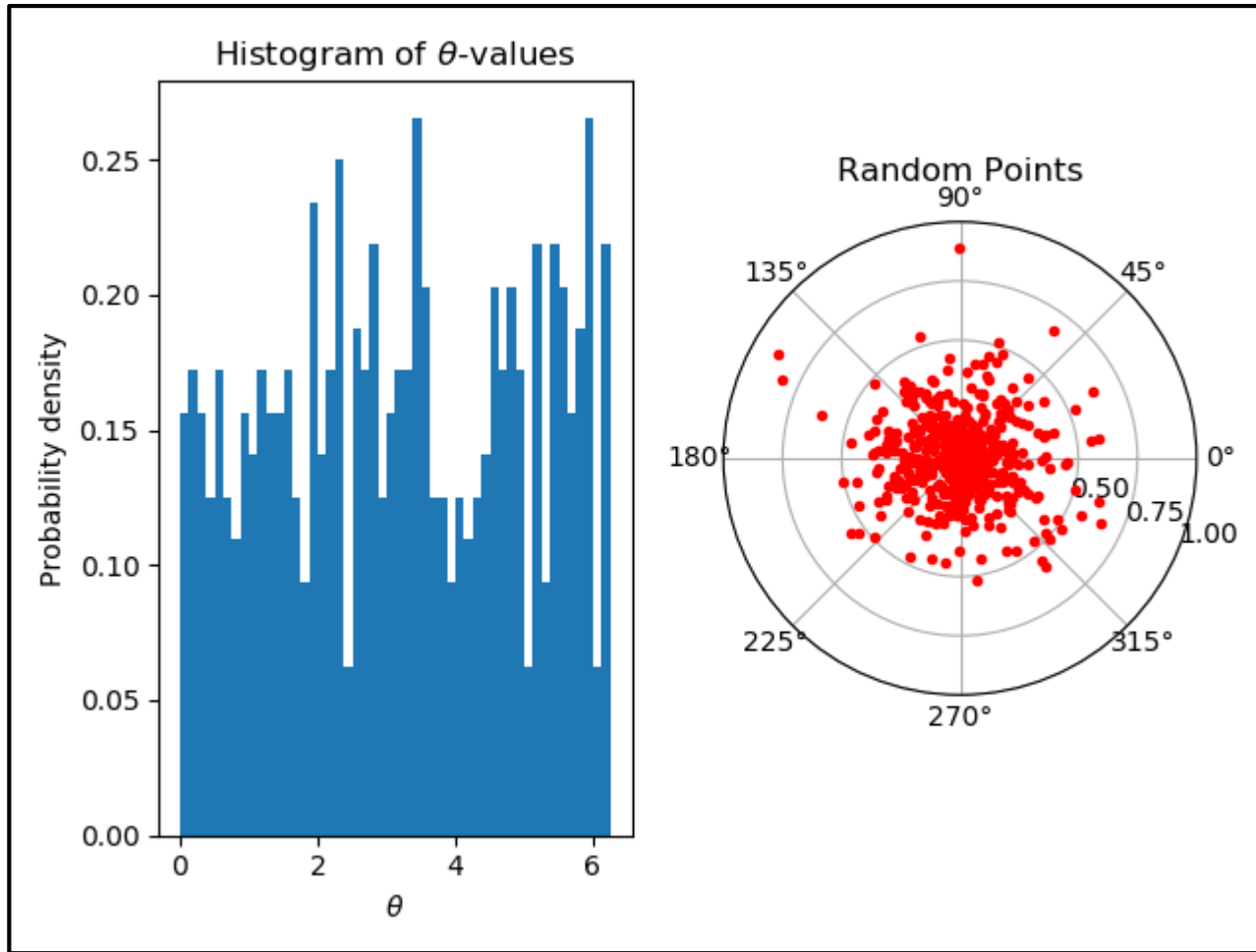
twod_data.py



- Image display
- Drawing contours
- Colorbars



polar_histogram.py



- Histograms
- Polar plots
- Dealing with different plot projections

