



Jupyter Overview

Black Hole PIRE Team

April 11th, 2018, Docker and Jupyter for Reproducible Astronomy

Problem 1: Readability

- ❖ Code and documentation (if they exist) are in different places
- ❖ If the put comments in the source codes/scripts, the comments are plain text and can be hard to format and read
- ❖ Extra overhead for new people to join the project

Problem 2: Reproducible

- ❖ "I forgot the parameters I used to run this..."
- ❖ "I forgot to log the outputs of my run..."
- ❖ "I forgot to send a script so the analysis wouldn't work..."
- ❖ "It's hard to dig into the middle of an analysis..."
- ❖ It can be nice if all the code, documentation, input, output, and error logs, are in the same document, and can be run interactive, just like Mathematica!

What is Jupyter?

- ❖ Started as ipython notebook to make Mathematica-style notebooks available for python
- ❖ Rearchitected to support multiple languages (Julia, python, R, and scala) and renamed to Jupyter
- ❖ Notebook to keep everything in a place
- ❖ Interactive compute so very useful for analyzing data
- ❖ Very extendible, e.g., can be used as a presentation software
- ❖ Can be used to generate data report (C&E use case)