Title: March 12, 2012 Research/Programming Notes & Progress
Date: March 12, 2012 2:13 PM
Category: Work
Tags: Bodenheimer code, finding initial conditions, Henyey code, research, from campus, python

March 12, 2012 2:15 PM

Location: on campus
Computing context: Macho-Mac2

From last time:

- ☐ *Try looking at the iterations as this setup attempts to move towards convergence...*
  - ☐ *This means I'll need to write myself a python script to plot the output...*
    Working on it.
    Currently adding successful ipython commands to:
    /Users/laurel/Desktop/Research/BodenheimerCode/plot_iterations.py

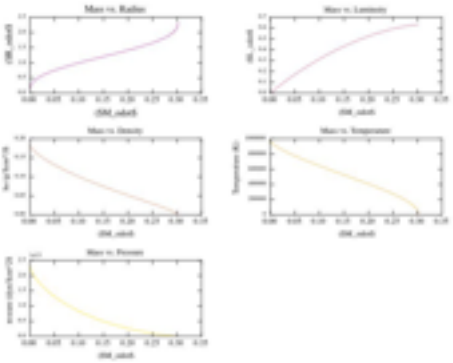
- *But, it doesn't include the Stefan-Boltzman constant! Is there some way to add this to the astopysics.constants module?*
  - *If there is..*

- python keeps freezing,.
  - Computer in general is very slow and strange. Possibly due to having a new mouse (external) plugged into the machine? Or it might be the extra screen display?
  - Figured it out: the laptop's mouse/trackpad is sensitive to 'clicking' in the area to the right of the trackpad, where my hand was resting as I typed on the laptop with the machine resting *on the desk*, as opposed to *in my lap*.
    - Have hooked up my external mouse+keyboard combo to the laptop now, and things are finally working. After 4-5 hours of troubleshooting. Blah.
- New python problem: the plotting/figure window won't appear.
  - Quitting and restarting python does not fix this
  - I think the clf() command may have had something to do with it.

    - Perhaps shutting down and restarting the machine will fix whatever's going on here.
        - Shut down --> home, dinner --> restart, retry
- At home, restart + retry = success. I think the plot window requires I have either Xquartz or X11 running. (Not sure what the dependency structure between those two programs is...)
- Got the 5-panel plot to work, but
    - ~~need to widen spacing b/w the panels~~
    - ~~get it to interpret ρ as something it should latex~~
    - ~~decrease the number of tick marks on each axis~~

- To Run a script from Ipython:
    - Type run [script name/program name]
        - Doing this with plot_iterations.py results in the plot window NOT being refreshed with the updated plots.
            - Entering each of the commands in the script into the command line manually does update the figure, though. Not sure what's causing the difference.
                - Maybe there's a name-space overlap between the functions in pylab and matplotlib?
                    - Matplotlib might be a sub-module of pylab? Maybe?
            - Entering 'show()' at the command line after the program runs causes the figure to be displayed.
                - Can this be incorporated into the script itself? Or will I always have to enter that into the command line afterwards?
                    - Yes, it works when I just add that line to the end of the script and then run the script

- Got the python plotting script to work! Look at this beautiful plot:

- 

- Now, need to do the following, with the python
  - Learn how to get it to read in the names of the files in the current directory
  - Get it to plot those files automatically
    - and color code them
    - and put a legend on the result
  - It'd be great if I could write a python script that did the model #/ iteration #/ corrections #/ evolution/ dTthresh plotting stuff all from the same script...