PHY517 / AST443: Observational Techniques

Homework 2

1. Log into the Astro Computing Lab and change your password. Send a screenshot of successfully running `passwd` on `kirk.astro.sunysb.edu` as evidence.

2. Orion culminates at 1am in September; at what time does it culminate 3 months later? Describe how you arrived at your answer.

3. What is the observed flux ratio between the faintest galaxies in the Hubble Ultra Deep Field and the Sun? (Use the apparent magnitudes listed in the lecture slides.)

4. Look up the focal length of our telescope, and the size of the STL-1001E CCD. You can find both in the manuals linked from the *Observing Equipment* tab on the class wiki. What is the field-of-view of the camera when attached to the telescope?

5. Looking up references and compiling LaTeX(see the wiki page):

   - Download the `example.tex` file, and **read** and compile it.
   - Look up 3 references for your "birthday object", and read their abstracts.
   - Write a short paragraph about this object, briefly summarizing the conclusions from these 3 papers.
   - Include the references via BibTex. Use "\citep" and "\citet" at least once each. If you don't understand what I'm talking about, go back and read `example.tex`.
   - Also include your finding charts and StarAlt chart as floating figures in the document.
   - Submit the compiled pdf and the source code.

6. Work with your lab partners to request 3 exoplanet transit observing dates. Follow the instructions on the wiki to do so. For the homework, submit the following:

   - (As a group:) For each transit: submit the mid-transit time, the transit duration, and the magnitude dip, as well as the StarAlt plot with these times marked. State when you should arrive at the telescope.
   - (Individually:) Submit plot of transit depth vs. host star brightness. Which systems are the best targets?