Friday - April 14, 2017

Updates

- Colin has successfully created a VM with the PP running.
- The data is located on a server at Lowell called Firestone. Firestone is accessible only within the Lowell network. Nick has a computer called mendocino in the student office that can be logged into and used to remotely mount firestone. Nick hasn't heard back from Michael, but he is guessing Michael knows how to do this. Essentially if you can get onto mendocino then you can get to the data. Michael knows how to get onto mendocino from outside the Lowell network.
  - He will get us test data today.
- Once Audrey and Nick return, I will get the entire dataset directly from them.
- PP uploaded to Monsoon in a directory called /packages/ so that it is available for everyone. I get an error when I run data through but I am working with the HPC Support now. He said its an error on the Monsoon side. You can copy the example data from /packages/photometrypipeline/1.0/example_data/va to your own directory to run the pipeline. The syntax is *python pp_run *.fits*.
- Michael says he is making last minute tweaks to his code which searches for known asteroids. He says I will have this today for Chris.
  - Do not to distribute this code to anyone outside of our group. Michael wants to keep it to himself and has decided not to put it on his GitHub site.
  - The order of operations will change a little. Michael says we will run the pipeline on all images. Second step is to use the code to identify known objects. Then we run the very last step of the pipeline which pulls out just the objects of interest.
- From Nick: I would recommend running a periodogram analysis on each object (Lomb-Scargle periodograms are commonly used) to determine the rotation period. One catch with Lomb-Scargle is that you will want to make sure to restrict the range of periods to search, particularly excluding periods comparable to the exposure time because those would show up in the power spectrum as a strong signal.
  - I think VARTOOLS is the way to go for Lomb-Scargle Periodograms. (There may be something better, don't take my word on it.)
  - Installation: http://www.astro.princeton.edu/ jhartman/vartools/INSTALL
  - GitHub: https://github.com/alexey-naydenov/vartools
- From Nick: For axis ratio you simply need to determine the amplitude of the light curve and use that to estimate or constrain axis ratio. One paper that includes some of that formalism would be Masiero et al. 2009 Icarus 204, 145.
  - I uploaded Masiero et al. 2009 to GitHub.

Tasks for Monday

1. Get code ready to run through test dataset next week!