MONDAY (April 15 2019)

- Discussing about research proposal
- Code and report should be different (even with a partner)
    - Report
        - Structured like a scientific paper
        - Intro, details etc…
        - Analysis
        - Result
        - Conclusion
    - Grading rubric would be available- on CANVAS
- Friday, due proposal, reference
- May 20th First Draft, bought few drafts for peer review
- May 29th, 2nd Draft
- June 3rd, for W-Draft, no need for a normal draft.
- June 7th, Final DRAFT DUE
- PROJECT IDEA:
    - Photometry/colour diagram
    - Multiband analysis of local galaxies
    - Kepler transit
- Two windows for ArcSat(Make note if you want to observe them)
    - April 29 to May 6
    - May 8 - 11th
- INSTRUMENTATION
- REFERENCE:
    - Read more than once
    - Abstract and conclusion first
    - The title gives hints for a yes and no
    - ADS - can give links to reference and citations
    - Citing the paper, know the paper what is it about
    - LOOK AT THE PLOTS
        - Can give a hint of what is it about
    - ARA - https://www.annualreviews.org/journal/astro
        - A good source to find some reference for your proposal.
- RESEARCH PROPOSAL IDEA avec SONIA DEL CASA

    - Binary stars in finding potentially habitable planets
    - Pluto and Chiron
    - Kepler Archive - look which
    - The habitable zone, define by Kepler

WEDNESDAY (April 17 2019)

- FITS FILE

- There are three viewers that you can go for
    - ds9
    - QFitsView
        - 3 types of scaling
            - Linear
            - Log
            - Square root
        - Colourmap
            - Refer to Qfits
                - There's gray, bb, rainbow
    - Astropy (ASTR300)

FRIDAY (April 19 2019)

Observing

- Galaxies
    - Gas
    - How they move
- Accretion disk
- Exo-planet transit
    - Brightness vs time
    - Causes for it to get weird
        - Inclination
        - Multiple planets
        - Binary system
- Planetary nebulae
    - Short-lived 100 thousand yr
    - Tells you about the stars that died
    - How do you make stars look like that ?
        - Shapes
        - Color
        - Large planet
        - Triple binary system
- CMD
    - A powerful way to understand the evolution of the planet
    - Can understand the population of clusters and understand how it develops.
    - 3 different filters to distinguish stars are related

WHAT ARE WE OBSERVING/MEASURING (question to guide us)

- What are barriers between us and the object?
- What would the star's brightness depend on?
- How would flux from very hot star differ from the flux of very cool star?
- Defining the magnitude between two stars?
- What doe the number of photons register in any given image depend upon?
- What does resolution depend upon?

- How do photon travels (5 min activity/ sheet with Sonia)
    - Apparent magnitude
    - Resolution
        - Wavelength and aperture
- Technique
    - Photometry -
    - Imaging - picturea
    - Spectroscopy - flux per unit wavelength
- Filters!
    - Filter combo
    - Colour-wavelength wise
- Differential vs Absolute Photometry
    - Include comparison to stars
        - Differential = comparison to stars with an unknown luminosity
            - Field size= really small
            - Availability, very harsh
            -
        - Absolute = with known luminosity
- Round and square pixels
    - Questions and decision made for:
        - Round of flux from square CCD
- TRADITIONAL VS MODERN CCD?