## Meeting Minutes 11/6/2020

- General Club Announcements
  - ATOMM
    - Tutoring for physics, astronomy, and math by experienced graduate students (over Zoom!)
    - M (2-4 pm) Yujing Qin
    - T (noon 2 pm) Ryan Keenan
    - W (1-2 pm) Ryan
    - Th (2-3 pm) Yujing
  - Game night tonight at 5pm! Join the discord!
- TIMESTEP
  - No meeting this upcoming week
  - Instead: Register for graduate application workshops
  - Email Vasileios Paschalidis to receive Zoom link
  - First workshop will begin November 11th
- What Up Astronomy Club with Yancy
  - Saturn and Jupiter close to Sagittarius
  - 30 min before sunrise, the moon will be a waning crescent, you'll be able to see Venus, Mercury and Spica all together this week!
  - The Aurora Borealis at Lapland, Finland
    - Can see the Big Dipper/Ursa Major and Arcturus
    - The angle between the horizon and the North Star is the same as your latitude
    - Constellations move left to right on the webcam
    - The Northern Cross is circumpolar here
- Astronomy Question of the Week with Don
  - $\circ$   $\,$  Making a wave on Zoom  $\,$
  - The HR diagram of people
  - The wavelength of the whirlpool galaxy
    - Lord Rosse's sketch
      - 72 inch telescope
      - Visible light
      - 400-700nm
    - Ultraviolet
      - Looking at massive stars
    - Infrared
      - Cool stars, heated gas
    - Visible
      - Normal stars
      - Hot stars
    - Radio
      - 21 cm line of neutral hydrogen
      - 10s to 100s of Kelvin
  - Sense of scale

- How long does it take for the Earth to move its own diameter in orbit around the Sun? 7.1 minutes
- How long does it take the solar system to move its own diameter in orbit around the center of the galaxy Sgr A\*?
  - The Oort cloud could be considered the width of the solar system, gravitationally
  - 2,000 years
- How far does the Solar System 'fall' every second in orbit around the center of the Galaxy, Sgr A\*?
  - Moves 48 AU/yr
  - 3mm per second, wow
- Astro News of the Week with Savannah
  - We found a Fast Radio Burst in the Milky Way
  - Traced it back to a Magnetar, a pulsar/neutron star with a crazy strong magnetic field
  - Repeating FRBs might be caused by a meteor crossing the beam of a magnetar
- Meet the Messiers with Sean
  - Messier #18
    - NGC 6613
    - 7.5 magnitude, need a telescope
    - 4200 light years away
    - Discovered by Charles Messier
    - Close to the Omega Nebula, which it may have formed with
    - Open cluster
- Game Night!