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
- 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
- $400-700 \mathrm{~nm}$
- Ultraviolet
- Looking at massive stars
- Infrared
- Cool stars, heated gas
- Visible
- Normal stars
- Hot stars
- Radio
- 21 cm line of neutral hydrogen
- 10 s to 100 s 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 $\operatorname{Sgr} \mathrm{A}^{*}$ ?
- 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
- 3 mm 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!

