

Meeting Minutes 5/1/2020

- Club Announcements
 - ATOMM Schedule:
 - Tuesday: 2 - 4pm
 - Wednesday: 3 - 5pm
 - Thursday: 1:30 - 3:30pm
 - End of Semester Timeline
 - May 1st - Last Official Meeting
 - May 8th - No meeting (Finals)
 - May 15th - Start of unofficial summer meetings
 - Club symposium
 - Club slideshow
 - Senior celebration!
 - Club Symposium has been moved to May 15th
 - Plan for 3-4 minutes to present, 1 minute for questions
 - Feel free to present research from any field!
- What's Up Astro Club with Yancy!
 - Venus is still up for the next month
 - May 21st, 30 minutes after sunset, Mercury and Venus will be next to each other
 - Mars, Saturn and Jupiter are all together in Capricornus
 - Sirius
 - Brightest star in the visible sky
 - In Canis Major
 - 8.60 ly from Earth
 - 2 Msun
 - 25 Lsun
 - 1.7 R_{sun}
 - 9940K
 - A0mA1 V spectral type - has magnetic activity
 - ~230 million years old
 - Uses a catalyst to fuse hydrogen into helium > CnO cycle
 - It is a binary system
 - Sirius B
 - Companion to Sirius A
 - White dwarf
 - Much fainter than its companion
 - 1.03 Msun
 - 0.056 Lsun
 - 0.0084 R_{sun}
 - 25,000 K - cooling off over time, just the core of the star left
 - 50.1 year orbit
 - The Pup?

- Currently Sirius A and B are at their furthest separation, so they can be distinguished from each other with a small telescope
 - In the CHANDRA X-ray image, the white dwarf is much brighter than the larger star because it is so much hotter!
- Astronomy Question of the Week with Don!
 - Solar System Explorer
 - I was visiting where the Sun moves into a new constellation every 14 years. Everybody who's been born at the 10-year old colony there is the same sign - the astrologers there are going batty.
 - Neptune
 - The Earth was at opposition every 166 days
 - Mercury
 - How many days in a year will the Sun appear in the same place in the sky?
 - 2, at the equinoxes
 - Today's Sun: www.SolarMonitor.org
 - Dark and bright spots on the Magnetogram show positive and negative polarity of the magnetic field
 - The orientation of the spots depends on the hemisphere
 - Betelgeuse is Back - Binh
 - Starlink satellite constellations taking over the night sky
- Meet the Messiers with Sean!
 - Messier #9
 - NGC 6333
 - Apparent magnitude of 7.9
 - 25,800 light-years away
 - Discovered by Charles Messier on June 3, 1764
 - Individual stars resolved by William Herschel in 1783
 - Located in Ophiuchus
- APOD + Astro News of the Semester with Sai!
 - Coronavirus. 228,000 people have died, 3 million confirmed cases. Almost 1 million have recovered!
 - Spitzer Space Telescope shut down by NASA after 16 years of service. Remains one of our great observatories and remains in the same leagues as Hubble and Chandra.
 - Blackhole jets imaged by EHT - highest resolution yet obtained of a jet around a supermassive black hole.
 - LSST renamed to Vera C. Rubin Observatory - first woman granted permission to observe at Palomar observatory. Discovered some of the first evidence of Dark matter in 1970.
 - Freeman Dyson passed away - Dyson sphere was named after him.
 - FAST started operations in China - the largest single dish radio telescope in the world with a diameter of 500m. Still looking for someone to run it!
 - FRB 180916 - first FRB discovered with a regular period of ~16 days

- Betelgeuse dims and brightens - people thought it was going to go supernova, but it has now returned to its usual brightness.
- KAGRA is a gravitational wave detector, joining LIGO and VIRGO in detecting gravitational waves.
- Perseverance - Mars 2020 rover, name suggested by 7th grader in Virginia.
 - Helicopter named Ingenuity
- Katherine Johnson passed away - one of the human computers who got us to the moon. She hand checked calculations even after computers had performed them.
- Comet ATLAS disintegrates
- Fine Structure Constant - characterizes the strength of electromagnetic interaction between fundamental particles. Four new measurements from a quasar seem to suggest that it varies with space and time.
- Mega AstroKahoot!!!