

Meeting Minutes 10/2/2020

- General Club Announcements
 - ATOMM
 - Get on the Astro Club Email List!
 - It's a great way to stay connected!
 - Meeting reminders/zoom links
 - Campus/community events
 - Student opportunities
 - Constitution/officer voting
 - And more...
 - Become and Active Member
 - Fill out the form during the meeting!
 - Game Night!
 - Next Friday after the meeting
 - 5pm AZ time
 - Meet us in the discord
- TIMESTEP
 - Next meeting: Graduate Student Panel, Discussing Grad School and PhD Pursuits
 - Led by Eduardo Rozo
 - When/Where: Wednesday, October 7th at 5 pm over Zoom
 - You must register your UA email in advance to receive the Zoom link
- VOTE
 - Register to vote by October 5th!
- What Up Astronomy Club with Yancy
 - In the morning: Venus is moving in the sky, can see it going from below Regulus to above it
 - Mars moving out of the V of Pisces
 - Mira is peaking in its light curve! Check it out.
 - False color in the Trifid Nebula, aka Messier 20
 - 3 micrometer = Blue
 - 8 micrometer = Green
 - Green follows the dark lanes across the optical image
 - 24 micrometer = Red
 - Red is the hot dust grains in the center of the nebula
 - Differences between the nebula in visible and infrared light
 - Polycyclic Aromatic Hydrocarbons - PAHs
 - Macromolecules
 - Can get quite big
 - Tend to be planar structures
 - Use physics to find the frequencies of vibrations within the PAHs that emit light
 - Absorb UV light and emit in infrared light

- Some of the filters for the JWST are centered around PAHs
- Astronomy Question of the Week with Don
 - A physics riddle: The more friction I feel, the faster I go. What am I?
 - A lot of different ideas. Friction usually makes you go slower, right?
 - An orbit, a satellite in a decaying orbit will go faster as it gets closer to the Earth
 - Problem: A mouse wants to get a ball bearing out of a bowl, but it is too heavy and the sides of the bowl are too steep for the mouse to support the ball's weight.
 - Using its own strength, without the help of levers, can the mouse get the ball bearing out or not?
 - Hit the ball in the direction of its movement as it passes through the bottom of the bowl. Use a driving force! Resonant frequency! Match the right rhythm to give it enough kinetic energy.
 - Or have the mouse get out of the bowl and turn it over.
 - Jupiter and Saturn
 - Rings and moons are related
 - Nearby moons can sweep up and redirect material
 - Resonant orbits can create divisions in the rings of the gassy planets
 - Material is cleared out of the "Cassini Division" by one of Saturn's moons, Mimas
 - Io, a moon of Jupiter, has no impact craters, but many volcanoes.
 - 100 or so volcanoes on Io as it gets stretched by Europa and Jupiter's gravity, causing friction and heat inside of the moon
 - Plume reaches 200 miles above the surface of the moon
- Astro News of the Week with Savannah
 - Liquid water lakes in Mars!
 - <https://www.sciencealert.com/multiple-underground-lakes-of-liquid-water-have-been-found-on-mars>
 - They found one lake a few years ago, but recently they discovered a whole complex of lakes beneath the surface of Mars
- TLARCO with Sai
 - Time to learn about really cool observatories!
 - Redshift quasar at 6.3 redshift, 900 million year old galaxies surrounding it (just babies!)
 - The Lowell Observatory
 - Pluto is still a planet in Arizona
 - Clark Refractor telescope discovered the original "Planet X"
 - The telescope which discovered the universe was expanding and helped astronauts land on the moon
 - Lowell believed that there were canals on Mars
 - They used the telescope to find landing sites on the moon
 - Lowell was on the cutting edge of astronomical research
 - Clyde Tombaugh's survey found Pluto, but could have also found Makemake