**Meeting Minutes 3/30/18**

- **ATOMM:** is still a thing on Monday, Tuesday, Friday from 1-2:30pm and Wednesday and Thursday from 1-3:30pm in the Parker Library across from N305

- **TIMESTEP:** The next meeting will be April 4th at 5pm in Steward Room N305. The topic will be Summer Tech Internships with representatives from two Tucson-based tech companies who are looking for interns! The internship will be for UA STEM juniors. With pizza!

- **Don's Question of the Week:**
    - What do you notice in this picture? It is a picture taken at sunset from Kitt Peak of with the moon and the shadow of kitt peak stretching into the distance. Clouds are parallel lines that converge to the same point that the mountain's shadow is pointing.
    - Chinese Space station: Tiangong-1 re-entry will be on April 1st at 14:00 UTC +- 16 hours (will that even be April 1st?) Will fall between latitudes +43 degrees North and -43 degrees South. (That's specific) More info at Spaceweather.com
    - Reprise from last week, Elizabeth's method of calculating the energy decrease "E(55)=ρAv^2*d/E(65)=ρAv^2*d ρ, A, and d cancel, so that leaves E(55)/E(65)=(55^2)/(65^2). I subtracted everything from 1 to get the difference in energy consumption." (Apparently both Don and Elizabeth were wrong? More info to come possibly?
    - A "Fermi Problem" How much heavier is a 100-page printed document than 100 blank pages? Can estimate the area and thickness of toner on the page. Assume tonger wavelength is greater than that of light, and density is approximately that of water. Eventually you would get that the mass is 60 grams per sheet.
    - Don's Answer: We can estimate the area and thickness of toner on the page. In order to be opaque, the thickness must be more than the wavelength of light (5 nm) and less than the $10^{-4}$ m that I can feel with my finger tips. This gives a thickness estimate of $10^{-5}$ m. A page might have less than 10% and more than $10^{-3}$ of its area covered in toner, giving an estimate of $10^{-2}$ or 6 $cm^2$. The volume of toner is then
        - $V_{toner} = At = (6\ cm^2)(10^{-3}\ cm) = 6\times10^{-3}\ cm^3$
    - Assume toner density is ~1 $g/cm^3$. This yields a toner mass of 6 mg per sheet. Note that if the entire page is heavily covered in toner, as is often the case with color images, then the mass of toner on the page is about

100 times greater, or 600  mg per sheet.
    - Discussion group about MIA galaxy, it has no dark matter! Email Don in the next couple of days to let him know that you're interested!

- **Astro News of the Week:** Presented by Erin Clark!  NASA sending Parker Solar Probe to the Sun!  We're going to put astro club's name in it! https://www.nasa.gov/feature/goddard/2018/public-invited-to-come-aboard-nasa-s-first-mission-to-touch-the-sun
- Don't forget to sign up for Astro News of the Week!  Talk about the cool space happenings!

- **Star Parties:** April 10th: Johnson Primary School 5:30-7:30pm.  Little kids (pre-k through 2nd grade), we'll possibly be doing telescopes and planet painting.

- **Telescope Observing at Steward:** It's still a thing!  Monday-Thursday, 7:30-10pm!

- **Laser Fun Day!**  Will take place on April 7th 10am-3pm.  There are enough volunteers for it, but you should still go if you're available that weekend!

- **Spring Club Picture!** Will be on April 13th after the meeting.  Be sure to wear your cooliest space gear!

- **2nd Annual Astronomy Club Internal Symposium**
    - Present research to astro club!
    - April 20th @ 5pm
    - 5-10 minute informal presentations in N210
    - Does not have to be astronomy related
    - Deadline to submit abstract is April 14th (by midnight)

- **Game Night!** Will be on April 27th @ 7pm.  Bring board/card games to N305 as well as a snack to share with everyone!

- **ETCETERA**


- As an informal Astro Club Event, we'll be going to the 7:30pm show on Saturday, May 5th so if you'd like to go with us, be sure to buy your ticket for that date and time!

- **Astro Club Shirts!** We have the white T-shirts for sale! $15 per shirt. Have all sizes as of now, you can buy one starting today

- **Pay yo dues:** $10 per semester. 

Due it.

- **Community Announcements**
  - Due to San Diego Trip, no astro club next week
  - Radio Project update: spectrometer is finally going to the telescope! We might be able to do some observing stuff in late April. Stay tuned!