

Meeting Minutes 4/5/19

- **ATOMM:** In Parker Library (across from N305) from 2-4pm. We're yeeking our last haws as the end of the semester draws near, prepare for finals lads.
- **TIMESTEP:** The next meeting will be on April 10th in PAS 218 at 5pm. The topic discussed will be Growth Mindset and Handling Anxiety! Difficult classes got you down? Learn how to adopt a growth mindset to approach challenging problems in your academic career, and strategies to bounce back from setbacks and handle anxiety.
- **Don's Question of the Week:**
 - Since the VLA dish is 25m in diameter, can you estimate the resolution of the image of a point source?
 - What would you do? Resolution (Angle) \sim wavelength/diameter, using a wavelength of \sim 1cm, resolution = 1.4 arcmin
 - Physics width = angle * focal length
 - Focal length = D * focal ration \sim 12.5 meters
 - Physical width = 5mm
 - The GM will be 25 m across but wavelength = 500 nm
 - 500 nm is 20,000 times smaller than radio wavelength of 1cm
 - There's going to be an Event Horizon Telescope major press announcement (April 10) we believe they are going to show the first image of a black hole (well sorta)
 - What phenomena affect the image and what do you think the image will look like?
 - Glowing material from material spiraling within the accretion disk
 - Doppler shift (red/blue) of material in orbit
 - Redshift of emission closer to the black hole in a higher gravitational field
 - Gravitational lensing – light bent around the black hole from material behind
 - A spinning black hole drags space-time and makes the image asymmetric
 - Some light beams may revolve around the black hole multiple times
 - Here's a simulation of what it might look like from UA!



- Also here's a cool video:
<https://www.sciencenews.org/article/event-horizon-telescope-first-image-black-hole-questions>

- **Astronomy News of the Week:** The big news is the black hole reveal, we can't top that.
- Don't forget to sign up for Astro News of the week this semester!
- **Star Parties:** We have one on:
 - April 25th at Donaldson Elementary
 - Need 4-5 more people
 - April 30th on campus at ENR2, from 6-8pm
 - Need ~ 4 people, will be doing solar observing



- **T-Shirt Update:** They have arrived.
- **Laser Fun Day:** On April 20th from 10am-3pm, free food and Tshirt if you volunteer! Really cool
- **Club Picture:** We'll be doing it on April 5th after the meeting. Wear your coolest space gear (or your new astro club shirt)!
- **WIYN Tour and Star Party:** Will be on Saturday April 6th, we'll have a tour of the WIYN Telescope and then a star party at the 12m radio telescope up on Kitt Peak! Meet in the south Steward parking lot at 1:30pm, we will try to leave around then. You will need to bring your own dinner/snacks for the trip. Sign up sheet is now closed.
- **Astronomy Club Internal Symposium:** Will be on April 19th after the club meeting in room N210. Open to anyone in astronomy club to present any kind of

research! People will be giving 5-10 minute talks, and there will be pizza! The sign up form is out now, due next week!

- **Dead Day Breakfast:** Will be on May 2nd at 10am. Astroclub will provide bagels and coffee as usual. If you're able to bring a breakfast food to share, please do! The sign up sheet will be out soon!
- **Astronomers:** We protect, we attack, but most importantly, we snack. The Astro Club snack store is restocked every week. And it's open to everyone, including faculty. Honor system payment.
- **Astronomy Majors Lounge:** If you're an astronomy major, you can use this lounge for all your lounging and snack needs!
- **Pay your dues!** \$10 each semester, funds for trips, snacks, cool activities, shirts, etc.