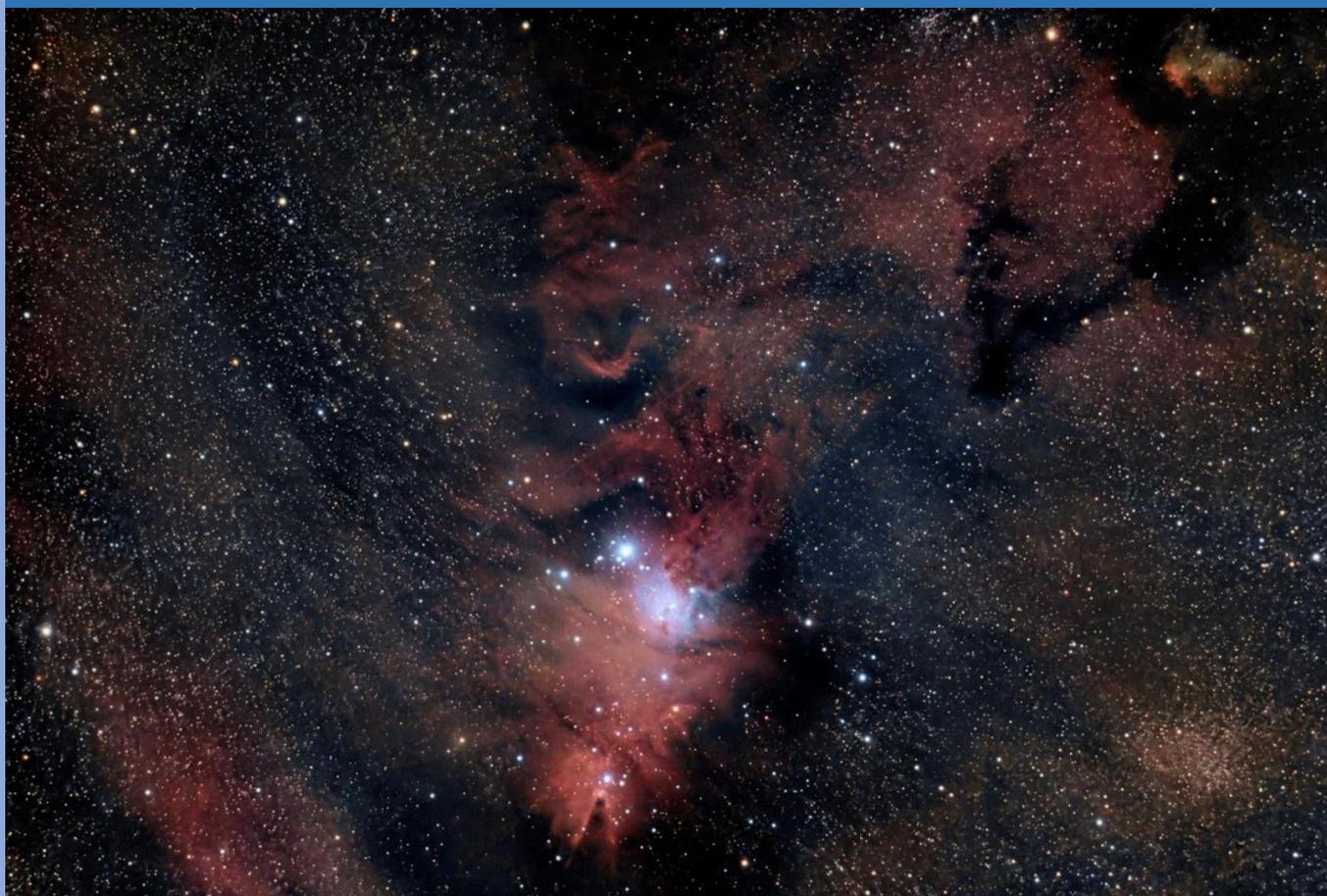




# OBSERVER

APRIL 2026

*Bringing Stars to the eyes of Tulsa  
since 1937* Editor – John Land



## **NGC-2264 The Cone Nebula by Ron Dunn**

- and the Christmas tree nebula ( in a busy Neighborhood)

NGC 2264 is a complex jumble of cosmic gas and dust about 2,700 light-years distant and mixes reddish emission nebulae excited by energetic light from newborn stars with dark interstellar dust clouds in the constellation of Monoceros.

Ron took this image from his Bortle 8 backyard in SW Jenks on March 21, 2026 consisting of 24 – 300 sec exposures over 2 hours Using his Askar 107PHQ telescope w/ .7x reducer on ZWO AM5N mount His imaging Camera is a ZWO 2600MC Air w/Antlia Quad filter He spent about two hours working with Pixinsight on this photo. His image compares very well to this one on [Astronomy Picture of the Day](#)

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## Stargazing Nights and Observatory Nights

Come enjoy an evening of star gazing at our observatory located in dark rural skies SW of Tulsa  
 Details, Times and Direction Maps are posted on our Website <https://www.astrotulsa.com/events>

**Saturday April 25 – 7:30 to 10:00 PM** - Come Celebrate the International Astronomy Day  
 Sand Springs - Case Center Public Astronomy Night - [1050 W Wekiwa Rd, Sand Springs](https://www.astrotulsa.com/events)

### Guest and member Observatory nights

**Saturday April 11 - 7:15 PM** Guest & Members Night

**FRIDAY May 8 - 7:45 PM** Guest & Members Night

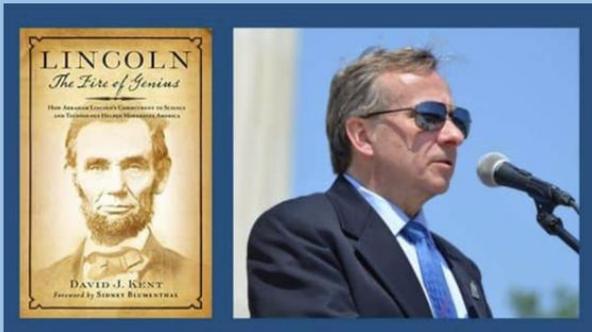
### Astronomy Club Members Nights

Our members are invited to come work on their observing goals, do some Astro imaging and share ideas.

**Friday Apr 17 - 7:30 PM** Members Observatory Night

**Friday May 15 - 7:45 PM** Members Observatory Night

If a Friday event must be cancelled due to weather, we will try on Saturday 30 minutes before sunset -  
 Always check the website for event updates



**April 3rd 7:00 PM**  
**Astronomy Club Meeting**  
**Jenks High School Planetarium**

Our guest presenter will be David J Kent speaking on Abraham Lincoln's fascination with science and astronomy. Kent describes himself as a former career scientist and global traveler. He has authored 9 books on Abraham Lincoln, Nikola Tesla, and Thomas Edison.

As a leading expert on Lincoln, he was the primary organizer and served as Master of Ceremonies for the Lincoln Memorial Centennial program in 2022.

## 2026 ASTRONOMY CONFERENCES and STAR PARTIES

Are you looking for a way to combine a bit of vacation time and enjoy learning more about astronomy? A regional or national astronomy conference may be just the thing for you. You can make friends with like-minded astronomy enthusiasts and also get to hear some interesting presentations on a variety of topics. The door prize giveaways are also an extra little bonus.

**Texas Star Party May 10 – 17** <https://texasstarparty.org/> Registration is first come basis this year. Texas Star Party is located on the [Prude Guest Ranch](#) in far SW Texas near Fort Davis. Located at 31 degrees south its dark Bortle 2 skies give observers a chance to see some southern target like Omega Centauri not visible from Tulsa. Its location in the dry semi-desert mountains give incredible views. Also, since it is held in May observers can enjoy tracking down the many spring sky galaxies. I've been there a couple of times and it's amazing to see stars shining clearly down to the horizon. You also have the option to schedule a trip to visit the nearby [McDonald Observatory](#) and the [Hobby-Eberly](#) 433-inch multimirror telescope. Registration numbers are limited so plan early. On site accommodations are available on a first come first served basis. It's about 750 miles drive one way.



**2026 MidStates Regional Astronomy Conference June 26 to 28**  
in St. Charles, Missouri.

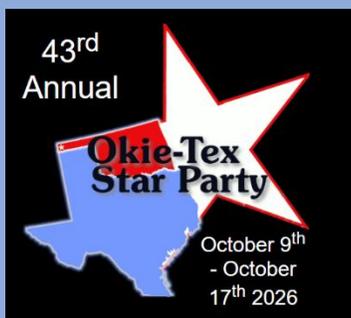
<https://www.asemonline.org/2026-msral> Hosted by the Astronomical Society of Eastern Missouri, this three-day event will include a Friday evening StarBQ and observing session, followed by convention programming on Saturday and Sunday. The speaker lineup is shaping up to be exceptional, with presentations covering the story of Gus Grissom, comets and the origins of life, the Vera Rubin Observatory, and the hidden geology of the Moon

**ALCON2026.org**

**2026 National Astronomical League  
convention Aug 12 -15**

The ALCON 2026 will be located in Cincinnati, OH.

Details are still in development but you can save the website <https://www.alcon2026.org/> and register for emailed updates. See an Overview starts About 8 mins in to YouTube – AL 80<sup>th</sup> anniversary <https://youtu.be/G2-tzvtob74?t=500>



**Okie-Tex Star Party Oct 9 – 17** <https://www.okie-tex.com/index.php>

Several of our Tulsa area astronomers enjoy going to the Okie-Tex Star Party in the autumn. Each year about 500 astronomers arrive from all over the nation for a week-long feast of starlight. Okie-Tex is held on a spacious observing area just west of the Black Mesa State Park at the far western end of the Oklahoma Panhandle. Its Bortle 1 dark skies are acclaimed as some of the darkest on the planet. Each time I go I am overwhelmed by the late summer Milky Way flowing overhead like a river of stars engulfing the sky. You need to register and reserve your meal choices BEFORE August 31, 2025

There are other extended Star Party events around the country. So, look for developing news in your Astronomical League quarterly newsletter [The Reflector](#), Astronomy Periodicals or search online.



Salutations all,

It seems as though the winds of change have set their sights on our club. For those who may not have heard, on March 23rd the Jenks Public School system announced the closure of the Jenks Planetarium—our meeting place for so many years. It is with a heavy heart that I write this, as gathering beneath that dome has always felt like something special. There's something about sitting under a sky brought down just within reach that makes you feel like you could take flight at any moment.

This place is especially meaningful to me, as it's where I first presented my undergraduate thesis on stellar nucleosynthesis. Now, as I serve as your president, I find myself helping guide us into a new chapter of the club's history.

Before moving forward, I want to take a moment to sincerely thank Planetarium Director **Dan Zielinski** for his years of dedication and passion. He has made our meetings feel magical and has inspired thousands of students along the way. **Dan**, from myself and from the entire club, thank you. Your impact will not be forgotten.

All is not lost, though. We are already exploring several new venues for future meetings, including the Tulsa Air and Space Museum's planetarium and local libraries. If anything, this moment presents an opportunity for us to come together and adapt—something this club has done well for nearly 90 years.

Looking ahead, we have some exciting opportunities in April. On **April 3rd**, during our regularly scheduled meeting, we will be joined by author and historian **David J. Kent**, who will be speaking on Abraham Lincoln's fascination with science and astronomy. From there, our outreach continues with our partnership at **Guthrie Green on April 24th** for a special *Interstellar community night*, followed by **International Astronomy Day and our Case Community Center outreach on April 25th**—a full weekend dedicated to sharing the night sky with the public. For all event details make sure to check the club's website and social media.

On a lighter note, our recent **Messier Marathon** was a smash. By my count, we had 20–30 members out under the stars, ready to take on the challenge. With a potluck that could rival a royal feast, we spent the night observing, learning, and enjoying the company of fellow astronomers. Though, if I'm being honest, this astronomer may have been a bit more focused on checking off objects from his Caldwell list.

Moments like these remind me exactly why this club matters—not just for the observations we make, but for the community we build together under the stars.

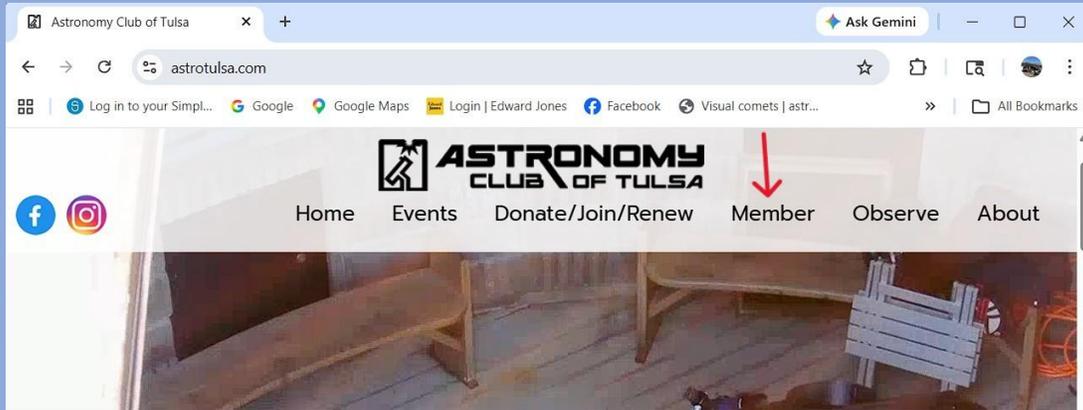
Clear skies,

*Jonathan Fussell - President*

*Astronomy Club of Tulsa - "Bringing Stars to the Eyes of Tulsa since 1937"*

**NEW FEATURE on ASTRONOMY CLUB WEBSITE**

Some people like to see a schedule laid out in a monthly calendar format, so I have added a monthly view calendar to the website that is linked to the Night Sky Network calendar. It is populated with all our club events and anything special happening in the night sky. Also, there may be some Night Sky network events that show up on this calendar. You can find it by Single Clicking OR Double Clicking on the **"MEMBER"** menu at the top of the webpage It should bring up the current month calendar.



**Astronomy Events**

Home Events Donate/Join/Renew Member Observe About

March 2026

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
06:22 PM Sunset	02:44 AM Lunar Eclipse	07:00 PM ACT Meeting				
02:00 AM Daylight Savings Time 06:28 PM Sunset						07:00 PM Guest Night
07:34 PM Sunset						08:00 PM Messier Marathon
07:40 PM Sunset					07:00 PM Hunter Park Sidewalk	10:00 AM Club Workday
07:46 PM Sunset						

You will notice that on Sunday of every week it also includes the sunset time for that day to give you an idea of what time the sun will set for that week. You can change the month by clicking on the left or right arrows next to the month/year name in the top center. I plan on using this in conjunction with our events schedule on the website and social media.

In February we introduced the Equipment for Sale section under the Members tab.

**Scott Bratt – Website and Social Media Coordinator**



## During the March 3, 2026 Total Lunar Eclipse

Scott & Kit Bratt did a  
[Live Facebook stream](#)  
from the observatory hill



My wife Kit and I decided we wanted to attempt to capture a time lapse video of the event and were facing quite a bit of cloud cover, plus at my home location I had a hillside blocking my view of the western skies where totality would occur. After looking at the weather and cloud forecasts from a couple sources I decided that the observatory had a better chance of being cloud free for most of the event. So, we decided the night before that we would go to the observatory around 2am to get all setup and start the capture process with the Seestar S30 and S50. When we arrived the clouds were still in and out of the view but mostly blocking the full moon's view. We were able to get both Seestars to lock on to the moon and begin tracking but when the clouds were thick enough to block it out entirely the Seestars would begin to drift a bit off target but would quickly re-center when the moon was back in view. We could see on our app and visually that a large clearing was in fact approaching our location and it should be good enough to capture most of the event before getting too close to the horizon.

While waiting for the event to begin Kit wanted to bring out the Orion 130mm Newtonian from inside the observatory and explore the views of the moon visually. We both were impressed with the kind of views that were produced from this instrument, though finding the neutral density moon filter was a big help in making it a more comfortable experience.

Also, to kind of test the waters and see how many people were up and following the Astronomy Club of Tulsa Facebook page I created a short video with the clouds and moon in the background and posted it to the page, inviting anyone to post their pictures in the comments. As the morning continued and the event got started, I began to see that quite a few people from around the state were commenting and posting their progress. Since the Seestars were pretty much doing their jobs without our help it did free up some time to engage the public on social media, and before I knew it there was quite a large following commenting and sharing their photos.

Once the moon was about 80% of the way to totality I did have to manually adjust the gain and exposure to get the reddish/orange hues to show up, which at the same time would overexpose the now smaller sliver of pure white light of the sunlit portion of the moon. I think we were lucky with the clouds and had very little interference from them and was able to capture the entire portion from the beginning to just past full totality before the moon was too low on the horizon and in the clouds to the west. We were able to get some great photos and time lapse video, and at the same time engage the public on social media.

Afterwards when we got home, I was able to inspect the videos and all of the photos and was thoroughly pleased with what we had captured. I shared some of the videos and pictures on our Facebook page and also the member's only page, and after a nice long nap, created a YouTube video of the entire evening, including the final time lapse videos from both Seestars. A great experience to see firsthand!

You can watch it on [My YouTube channel](#).

I also got a chance to check the Facebook page and our statistics from that night, and by the next day we ended up with 10,055 views to our page that night. This is an incredible boost to our visibility to the public, and so far as of March 12<sup>th</sup>, 2026 we have gained 137 new followers to our Facebook page. From these numbers I believe we have an audience waiting to be engaged with, and an opportunity to grow our club, and continue to grow our hobby of astronomy.

**Scott Bratt "The Astronomy Bratt"**

*Observing Chairman  
Brad Young*



## Coordinate Systems in Celestial Mechanics

New technologies in optics, imaging and guiding systems have significantly shortened the learning curve for amateur astronomers. When I first began as an amateur, we did not have to go to telescopes but instead had to use physical setting circles to determine where an object was in the sky. This meant not only knowing its coordinates but also the sidereal time. Although finding yours is not that difficult to do, the new technology now does all the work for you in finding objects and some of the knowledge you needed in the past is no longer required. This is wonderful in that it saves you steps and lets you spend more time with the eyepiece or imaging, but it also means that fundamental ideas about how the sky works are not picked up as part of the normal growth of an amateur. There are many things we don't get exposed to early on that may help down the road, and it is important to help fill in those gaps if we see them among new members.

In this article, I'd like to discuss fundamental celestial mechanics. Celestial mechanics is the math-based study of how the sky and all the astronomical objects in it move. There are four coordinate systems that are often used in astronomy. Each one of these coordinate systems are useful in their own way. Understanding how your equipment finds and tracks objects is a way of helping you learn where objects are in the sky, and how we determine their position whether done manually or through computer systems. And, if your technology isn't working quite right, this knowledge may help you troubleshoot.

There are two types of mounts for most amateur telescopes. The first is what's known as a horizontal or alt azimuth mount, which is one that moves up and down and rotates around the base, but is parallel with respect to the ground. The other type is an equatorial amount which is inclined to the ground by an angle determined by your latitude on Earth. For instance, our latitude here in Tulsa is 36 degrees north so the equatorial mount would have the telescope tube fixed at a 36° angle up from the horizon. It's important to note that your telescope, through either manual or automatic controls, will determine the location of the object you want to observe based on the type of mount it uses.

The first coordinate system is the simplest horizontal or alt azimuth. As described above regarding the mount that uses it for coordinates, it is a simple up and down (altitude) and a circle coplanar with the ground (parallel to it, azimuth) . This type of coordinate system is simple and the most intuitive. Altitude is measured in degrees from zero to 90 at the zenith and azimuth from zero to 360 running clockwise from North. The symbol for altitude is theta [ $\theta$ ] and that for azimuth is phi [ $\phi$ ]. One way to look at this system is that the point you look at never moves, but the objects in the sky do. This was how ancient peoples saw the universe; it appeared that the Sun, for instance, rotated around the Earth.

The next coordinate system is closely tied to navigation and uses some of the same principles as the horizontal system. However, the equatorial coordinate system sets zero degrees in latitude as the great circle projection of earth's equator onto the sky commonly referred to as the Celestial Equator. The corollary of latitude is Declination [ $\delta$ ] ( Dec ) in this coordinate system, in degrees. The celestial equator has a declination of Zero. The westmost star in Orion's belt, Mintaka, is very near celestial equator.

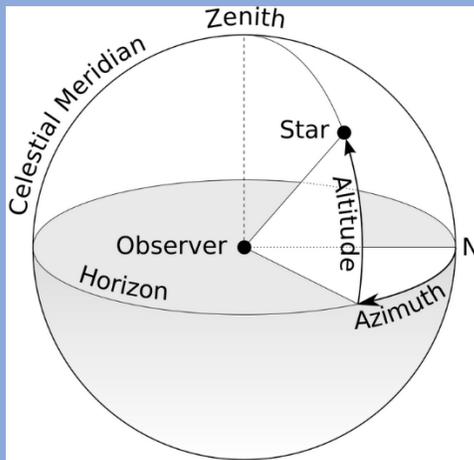
Objects North of the celestial equator have a  $+$  positive declination and those to the south have  $-$  negative declinations. The north celestial pole near Polaris has a DEC of  $+90$ . The projection of longitude can be measured in degrees, using the symbol  $[\alpha]$ . Longitude is also called Right Ascension (RA) and is measured in hours, minutes and seconds. This is explained by its navigational roots; each hour of Right Ascension is  $15^\circ$  and represents the rotation of the earth in that period at any point on its surface. The Earth rotates 15 degrees in one hour so if a star with a RA of 01 hrs is on the meridian due south, it would take one clock hour for a star with an RA 02 hrs to reach the meridian. This is also why the equatorial coordinate system is often referred to as “RA Dec”.

This coordinate system is essentially the map of the sky projected onto the coordinate system we used on Earth. So, for instance, the bright star Sirius is always located at Right Ascension 6 hours and 46 minutes and Declination  $-16^\circ.7$ . This coordinate system has the advantage of every object in the sky except for those within our solar system being at the same RA and Dec for decades. It is like the situation of a city on a map. Tulsa is located at  $36^\circ$  north and  $96^\circ$  west longitude and this will not change substantially in the foreseeable future. The only difficulty here is that you must know a reference Right Ascension point to know what portion of the sky is projected onto the coordinate system. Astronomy uses the point in the sky known as the First Point of Aries, located at zero hours and zero degrees Declination. At the exact minute of the Vernal (March) Equinox the Sun is crossing the celestial equator at declination zero and located at zero hours right ascension. So, the Sun's position on the Celestial Sphere is Dec  $0^0$  and RA 00 hr 00 min. In ancient times the equinox occurred in the constellation of Aries. Now it has drifted to western Pisces. If you'd like to know why that point moves over the last few thousand years look up [“precession of the equinoxes”](#).

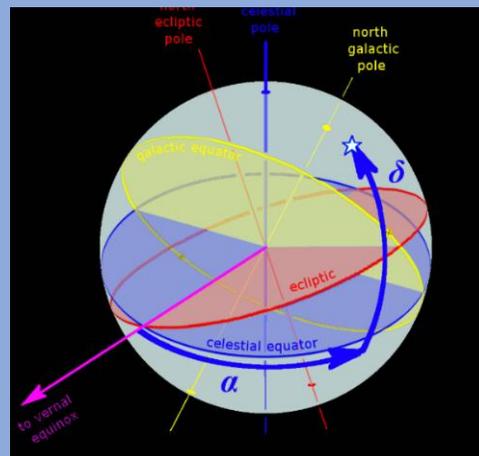
Now, instead of watching the stars change in the sky in reference to a point, we see it is the point in the sky that rises and sets because of the Earth's rotation. This makes it easier to record where objects are and find them again. Using Sirius as example again, we learned that stars culminate (reach their highest point in either due south or north) 4 minutes earlier each night. This is the result of our revolution around the sun in about 365 days, very close to 360 degrees around a circle.  $1 \text{ degree} = 24 \text{ hrs a day} \times 60 \text{ min per hr} / 360 \text{ degrees} = 4 \text{ minutes}$ . So, if Sirius culminated at 12 a.m. last night, it will be tonight at 11:56 p.m., at the same spot in the sky. You can experiment with this idea using the [Sideral Time Calculator](#)

The other two coordinate systems build off the same idea, but instead of using a projection of terrestrial latitude and longitude they build their system off ecliptic or galactic coordinates. The ecliptic system sets longitude 0 at the First Point of Aries again but instead of using the equator of the earth projected into the sky, it uses the path followed by the Sun (known as the ecliptic) as zero latitude  $[\beta]$  with longitude  $[\lambda]$  again measured to the east. Sirius is located at  $\lambda = 104^\circ$  and  $\beta = -39^\circ.6$  Similarly, galactic coordinates use a point identified by  $l$  and  $b$ , starting at the center of the Milky Way.

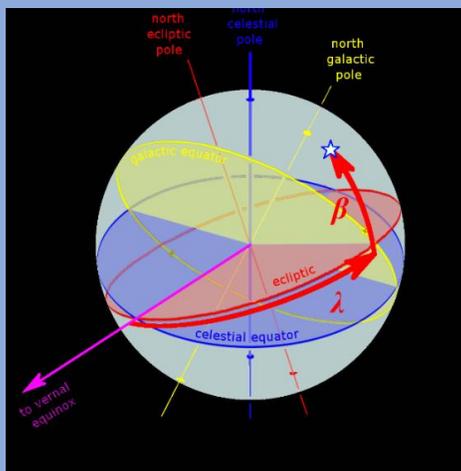
Each type of coordinate system has its best use. Horizontal is a simple way to identify location in the sky based on cardinal directions. The equatorial system uses a star map which is projected onto the sky. Telescopes that use an alt azimuth mount find the altitude and azimuth of the object of interest from its Right Ascension and Declination and convert one to the other. Equatorial mounts determine the declination and Right Ascension from the current time and after alignment typically with two stars to determine the current projection of terrestrial coordinates on the sky. The other two coordinate systems are useful in studying the movement of planets and the location of objects within our galaxy but are less useful to amateur astronomers.



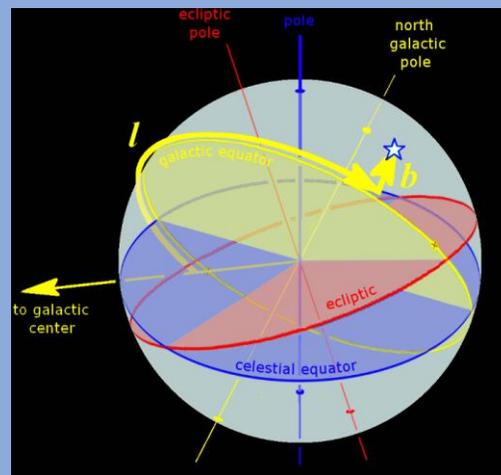
**Horizontal Coordinate System**  
Star is at this position for only a moment.



**Equatorial Coordinate System**  
Star is always at this RA Dec but that point rises and sets.



**Ecliptic Coordinate System**



**Equatorial Coordinate System**

It is possible to transform from one set of coordinates to one of the others, if each are in the same epoch, although this can also be fixed, using a separate step. Those calculations are found in *Meeus*, below.

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- [Astronomical Made Simple](#), Meir Degani, 1956.
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- [The Milky Way: An Autobiography of Our Galaxy](#), Moiya McTier, 2022.
- [Astrophysical Concepts](#), Martin Harwit, 1988.

Diagrams by Tfr000 (talk) 16:32, 25 June 2012 (UTC) - Own work, CC BY-SA 3.0,  
<https://commons.wikimedia.org/w/index.php?curid=20028939>

John Land - Editor Notes: *Astronomers use the term Sideral Time to describe the portion of the sky that is crossing the meridian. Think of it as "Star Time". When Sirius crosses the meridian, the Sideral Time is 4 hrs 46 mins. Sideral Time depends not only on the Date and Clock time you are observing but also the Longitude you are observing from. If your friend in St Louis sees Sirius crossing the Meridian at 8:00 PM, in Tulsa you will have to wait until 8:24 PM to see it cross. St Louis is 90° W and Tulsa is 96° W Longitude. The earth must rotate 6 more degrees before we see the sky in the same position.*

*Thoroughly Confused? Experiment with the [Sideral Time Calculator](#)*

## Messier Marathon March 21, 2026

We had a great turnout for the Messier Marathon and Members night. Scott Bratt counted 30 vehicles – so estimate about 40 people in all. FANSASTIC Shirt Sleeve Weather !! Calm winds most of evening ! Potluck and Snacks were enjoyed by all. Among the assortment of goodies were Rib Crib BBQ, Pizza, Cheese Cracker meat snack tray, numerous cookie choices, a variety of drinks and of course MOON PIES !! We were especially pleased to see Ron and Maura Wood who had been the marathon hosts from 1991 to 2016 from their TUVVA sky location near Checotah. Take a look at page 11 in the [April 2007 Newsletter](#) to see our club gathering at TUVVA along with Ron's giant 36 inch BART telescope.

The goal of a Messier Marathon is to locate and log as many of the 110 Deep Sky objects in Charles Messier catalogue as possible in the single night. The quest began at sunset waiting for in to get dark enough to locate M 74 in Pisces and M 77 in Cetus before they sat. Then moving quickly to Andromeda for M 110, M 31, M33 and proceeding through the list. Many stayed until about midnight and then the hardy souls trudged on into the wee hours after midnight. Finally, the Dawn Treaders pushed on toward the sunrise. Scott & Kit Bratt, Cathy Grounds, Brad Young and Jsutin Faulk reported stay until at least 5:00 AM





**Justin Faulk is our 2026 Messier Marathon Deep Sky Treasure Hunter Champion having logged 103 objects. His last being M 15 logged at 6:04 AM**

**Justin is pictured here with his 10-inch homemade Dobsonian telescope. He has a few innovative design options which I will put in a later article.**

## **My First Messier Marathon - March 21, 2026 by Justin Faulk**

**I've always wanted to attend a Messier Marathon, but life and schedules have never permitted. This year, the stars aligned and I was able to make it happen - not only that, but I made it through the whole night! Armed with a 10" F/4.5 Dobsonian I built 27 years ago, it was nice to get back to basics and star hop instead of go-to'ing to everything automagically. I also brought along an Astronomers Without Borders OneSky, which is a 5.1" F/5 Dobsonian, and 8x32 binoculars to aid in star hopping. An Explore Scientific 24mm 68° was my eyepiece of choice, which yielded a nice, wide 1.43° field of view on the 10" scope. I used Stellarium on a tablet as my star chart, though I brought paper maps, too, I didn't use them.**

**Being my first marathon, I was determined to finish - reading as much content, tips and guides as possible prior to it. I printed guides and several log sheets to choose from, and ultimately decided to use a simple one-page log (URL below). For a few days, I thought I'd do some imaging in parallel, until I realized I'd need to average 6 minutes per object to finish! I scrapped the astrophotography idea, and decided it's best just to focus on one thing at a time (we've all been there!).**

**The turnout was great, though not everyone was planning on doing the marathon (it's hard to pass up a T-shirt weather night in March!), and the snacks were infinite. I saw a lot of SeeStar's and full imaging rigs running, which made me happy! Thankfully, I had gotten my imaging fix 2 days prior, shooting M1 and M51. As it was starting to get dark, I double checked my collimation and spent several minutes aligning my finder - critical for star hopping!**

**I decided to start with some easy wins - M45, then M42/43 - check! Then, M77 - I had to wait almost 30 minutes for it to be dark enough before I could make out the smudge. Binoculars aided greatly for this object, as I was able to star hop before it was dark enough to see the needed stars with the naked eye. Then, trouble! The next object was M74, and I spent 30 minutes looking for it. I never glanced it with my 10" scope, and convinced myself with averted vision I may have saw it on my 5" scope. Because I wasn't 100% confident, I decided not to count this object in my total.**

**By then it was 9:20pm, and I realized I was falling WAY behind - panic ensued! I rushed to catch up, but again hit a hiccup with M33 - where is it??? It wasn't there, I knew I was**

pointing right at it, but saw nothing. Ok, I'm not spending another 30 minutes on one object, I'll come back to it later. The next hour was a mad dash, and finally at 10:36pm I decided I was caught up enough to take a short 30-minute break. After that, another hour of pushing through Markarian's chain until 12:30am and I was finally caught up - the next objects were too low in the East to see, yet.

I sat for another break, and saw that there was going to be an occultation of Io by Jupiter at 1:04am. I swapped my 24mm eyepiece for a 6.7mm and swung over to Jupiter, and sure enough, Io was getting close to the edge! I watched it disappear behind Jupiter, and also had a great view of the Great Red Spot. Occultations are such a magical thing to watch in real-time!

Now, time for a real break! I chatted with Brad and was somewhat relieved to hear he didn't see M33, either - the theory being, it was too close to the moon and got washed out. OK, I can live with that. I refueled from the infinite snack table, and did my best to take a nap in my car, setting an alarm for 2:30am. I don't think I actually slept, but the rest was nice.

Time to get back to it! It was globular cluster hour - and after a short moment of panicking I realized I still had my 6.7mm in my scope from Jupiter. Oof! Swapped it back to the 24mm to get a wide FOV, first I found M13, a classic! The timing at this point was much more relaxed, and I made sure if I had trouble finding something to skip it and go back later (I learned my lesson from M77!).

As it got later and later, eventually there were only 2 of us left, myself and a gentleman from Muskogee. As dawn started to approach, I was just waiting for the last dozen objects to rise. I repositioned my telescope to get a better view of the horizon, but unfortunately by then the wind had picked up and Cirrus clouds were starting to block the East. In fact, the wind was so strong that it physically rotated my telescope a few times - on any other night, I would have bailed hours ago. The clouds weren't thick enough to completely cover everything in the East, so every now and then I was able to find an object, but the last 5 globular clusters I never glanced. I logged my last object (M15) at 6:04am.

After locking up the observatory, I enjoyed the dawn for a moment, being the last car there, the only noise were the birds chirping. Watching the sun sit on the horizon as I drove home, I felt accomplished, appreciative and of course, tired. I pulled into my garage about 8 am, and spent the day taking several naps to recover. I didn't even unpack my car that day, I just left it all, I was exhausted. But it was worth it! I hadn't found all 110 objects, but I did find 103, and I'm calling that a win for my first marathon.

Things I learned: I appreciate open clusters more than I did yesterday! It was also great to formally sit down and try all the objects, breaking me out of that "top 20" syndrome I'd been in. I also noted to add some binder clips to my tool box, the wind was killer! And, of course, infinite snacks make all-nighters easier.

- Justin Faulk

<https://www.instagram.com/photonsbyjustin/> (PhotonsByJustin)

Log sheet I used: [https://www.wasociety.us/docs/Messier\\_Marathon.pdf](https://www.wasociety.us/docs/Messier_Marathon.pdf)

## Below is Justin's Messier Marathon Log sheet

### Messier Marathon Log

Sequence based on Harvard Pennington's "The Year-Round Messier Marathon Field Guide"

Name: Justin Faulk Date: March 21, 2026

Location: ACT Observatory Instrument: 10" F/4.5 Dob + 5" F/5 Dob

On 5", not  
100% confident  
so not counting

Moon  
too close?

Seq#	Object	Time	Seq#	Object	Time	Seq#	Object	Time
1	M 74	<del>9:20</del> 9:20	38	M 51	11:15	75	M 39	4:23
2	M 77	8:49	39	M 101	11:08am	76	M 5	3:34
3	M 31	9:30	40	M 106	11:26	77	M 10	3:26
4	M 110	9:31	41	M 40	11:29	78	M 12	3:27
5	M 32	9:32	42	M 81	11:32	79	M 107	3:31
6	M 33	9:32	43	M 82	11:32	80	M 9	3:35
7	M 34	9:47	44	M 97	11:33	81	M 14	3:22
8	M 76	9:51	45	M 108	11:34	82	M 11	4:37
9	M 79	9:44	46	M 109	11:43	83	M 26	5:12
10	M 42	9:26	47	M 102	11:45	84	M 16	4:50
11	M 43	9:26	48	M 63	11:46	85	M 17	5:14
12	M 78	9:52	49	M 94	11:46	86	M 18	5:16
13	M 50	9:54	50	M 68	11:51	87	M 6	4:56
14	M 47	9:56	51	M 83	11:57am	88	M 7	4:57
15	M 46	9:59	52	M 104	11:53	89	M 19	4:58
16	M 41	10:00	53	M 61	12:00	90	M 62	4:59
17	M 93	10:01	54	M 49	12:01	91	M 4	5:01
18	M 52	10:04	55	M 58	12:04	92	M 80	5:02
19	M 103	10:04	56	M 59	12:05	93	M 8	5:05
20	M 1	10:06	57	M 60	12:03	94	M 20	5:06
21	M 45	10:23	58	M 84	12:07	95	M 21	5:18
22	M 36	10:07	59	M 86	12:07	96	M 23	5:19
23	M 37	10:08	60	M 87	12:09	97	M 24	4:47
24	M 38	10:08	61	M 88	12:10	98	M 25	5:21
25	M 35	10:09	62	M 89	12:11	99	M 22	5:22
26	M 48	10:14	63	M 90	12:12	100	M 28	5:22
27	M 44	10:19	64	M 91	12:15	101	M 54	5:23
28	M 67	10:20	65	M 98	12:18	102	M 69	5:24
29	M 65	10:22	66	M 99	12:19	103	M 70	5:25
30	M 66	10:22	67	M 100	12:21	104	M 55	5:51
31	M 95	10:23	68	M 13	2:34	105	M 75	
32	M 96	10:32	69	M 92	2:54	106	M 15	6:04
33	M 105	10:36	70	M 57	2:55	107	M 2	
34	M 3	11:04	71	M 56	2:57	108	M 72	
35	M 53	11:07	72	M 71	4:27	109	M 73	
36	M 64	11:11	73	M 27	4:29	110	M 30	
37	M 85	11:14	74	M 29	4:31			

Total Found: 103 Signed: [Signature]

+ Jupiter/10 Occultation at 1:04am



Click on these images to links on the Internet



\*\*\* The NEW CLEAR OUTSIDE icon above is a link to an extensive site showing cloud cover %,

Seeing, Transparency, Moon Phase, Temp in ° C and many other useful tools

GOT A NEW TELESCOPE? Here are some sites to help you get started with you telescope.

Getting Started with Your New Telescope

https://skyandtelescope.org/astronomy-news/getting-started-with-your-new-telescope-2/

Astronomy for Beginners | Night Sky Facts, FAQs & Resources

https://skyandtelescope.org/astronomy-information/

What to Know Before Buying a Telescope

https://skyandtelescope.org/astronomy-news/what-to-know-before-buying-a-telescope/

See Website Observation Station for a collection of Interactive Sky Watching Tools Moon phases - Sun rise & Set - Make your own custom interactive sky chart and more Great website for printable Finder Charts of Solar System objects https://in-the-sky.org/

### Astronomy Calendar 2026: All Major Celestial Events of the Year

Explore a Month-by-Month listing of Celestial Events – Many have links to Details or Videos

### Daily Moon Guide | Observe – Moon: NASA Science

March - Moon Phases - -

Full Weds Apr 1 -- 3rd Q -- Thurs Apr 17 -- New Fri Apr 17 -- 1st Q Thurs April 23

Lunar conjunctions – Evening Venus Sat Apr 18, Jupiter Wed Apr 22, Triple Conjunction 6:15 AM Weds April 15 – You’ll need a clear veiw toward the Eastern horizon to catch a thin waning crescent moon 4 degrees above Mercury with Mars and Saturn nearby. Binoculars will help.



VENUS is now our bright Evening “Star” in the west soon after sunset. How soon can you spot it naked eye after sunset? JUPITER shines high in the SW. Try this interactive Jupiter Moon Calculator or handy JupiterMoons App

The Lyrid Meteor shower puts on a good show the last half of April. Its peak activity is the night of April 22/23- however you may see some any night from the 14th to the 30th The radiant between Lyra and Hercules rises in the NE about 10:30 PM. But better times for viewing begins from 11:30 PM to 4:00 AM

### Astronomy Calendar 2026: All Major Celestial Events of the Year

Explore a Month-by-Month Celestial Events – Many links to Details or Videos



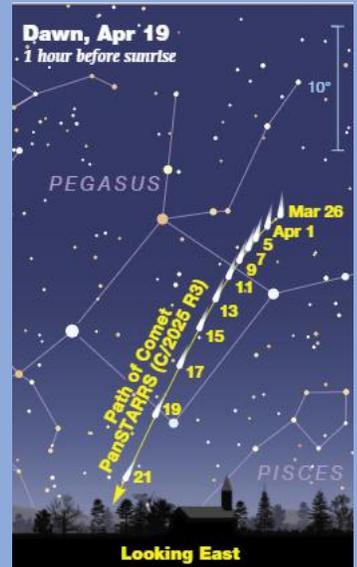
**TWO BRIGHT COMETS likely in APRIL skies**

**Comet C/2025 R3** (PANSTARRS) is can be found in the eastern sky before dawn. As of 3/27 it was already observable with small telescopes at magnitude 7.5. Look for it passing through the region of the Great Square of Pegasus. About 18 degrees to the upper left of the moon and planets on April 15. After passing perihelion on April 19 it could emerge in early May low in the west as a bright evening comet in the region of Orion.

See [March 26 Spaceweather.com](https://www.spaceweather.com)

See sky chart locations at <https://theskylive.com/c2025r3-info>

Diagram from Sky & Telescope April 2026



**Comet C/2026 A1** (MAPS) is a Sun grazing Kreutz family comet which will pass within 99,400 miles from the sun’s surface on April 4th.

( 1/4 the distance to the moon ) **IF ???** it survives it could become a spectacular naked eye comet near Venus in mid-April. **Comet Lovejoy** dazzled observers in December 2011.

See sky chart locations at <https://theskylive.com/c2026a1-info>

Comet(s)	Today			Perihelion			Nearest approach			
	designat	magn	delta	radius	date	magn	radius	date	magn	delta
<a href="#">C/2025 R3 (PANSTARRS)</a>		7.5	1.41 AU	0.75 AU	19 Apr 2026	3.0	0.50 AU	26 Apr 2026	0.6	0.49 AU
<a href="#">C/2026 A1 (MAPS)</a>		8.3	1.15 AU	0.46 AU	4 Apr 2026	-0.9	0.01 AU	6 Apr 2026	3.0	0.96 AU

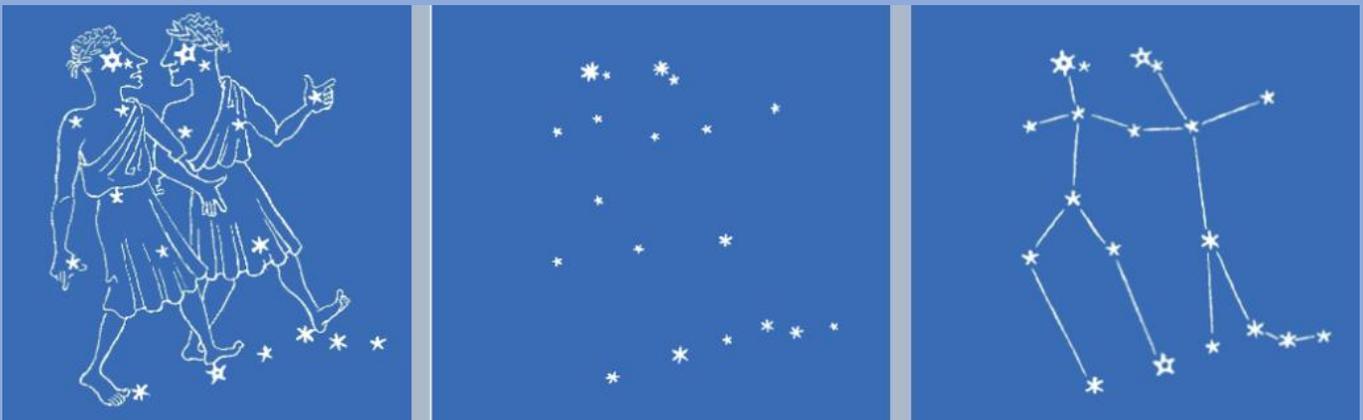


See the whole webpage at <https://www.astroleague.org/wp-content/uploads/2026/01/AL-Getting-Started-20260104.pdf>

The Astronomical League has a wide variety of observing programs to encourage observers to develop their observation skills and broaden their understanding of the night sky. Instead of just randomly observing the “Best of the Night” objects you set a goal to complete an Observing Program List. One completed you can submit your observations to earn an observing Certificate and Pin. The skill levels range of novice naked eye projects for novices, objects observable in binoculars or smaller telescopes all the way up to advanced observer objects. Many of the programs can be done from suburban sky locations.

Our modern world is totally emersed in digital media of all kinds. Now that AI has begun to proliferate on all our digital platforms, it’s difficult to discern fact from fantasy. There is

a certain sense of peace and serenity that comes over you when you step away from all that and gaze up intently at a star-filled sky. The first step in making the sky your **“OWN SKY”** is learning to identify by name and location the brighter stars in the sky. Then learning the patterns of the major constellations to which they belong. Learning the constellations and those surrounding it is akin to knowing the houses in your neighborhood. There are a number of phone apps that can assist. But I still prefer setting aside digital and using a book or star chart. My favorite is the book [“The Stars, A New Way to See Them”](#) by H.A. Rey. Rey is better known as the author of the Curious George children’s books. There is also one for young readers [“Find the Constellations”](#). Rey presents the constellation figures as simple patterns which represent the figures for which the constellation is named. Below is an example of the Gemini twins star pattern. On the left is a fanciful drawing seen on many sky representations. On the right is Rey’s pattern. On many phone apps you may have the option of changing the way the constellations appear. Look for the “Modern” or Rey option.



Make the effort to trace out the pattern in your mind until they become like familiar friends of the night. As the seasons progress new groups of stars and constellation patterns are seen overhead.



The next challenge is to learn to find the various deep sky treasures dispersed throughout the sky. For example, the star cluster M 35 lies near the right foot of Gemini. 120 or so stars are clustered together in an area about the size of the moon. It can be seen in binoculars or small telescopes. But to find it you have to identify **WHERE** Gemini is in the sky and then know the pattern to look near the foot.

Most telescopes come a red dot finder or a small finder scope.

You simply move the telescope to the general location of M 35 and using a low power eyepiece scan the area until you find it. Many modern GoTo telescopes come equipped with built in computers that can move the telescope to your target. Yes, you can see the object and maybe even image it. But do you really know where it is in the sky? It’s kind of like people who totally rely on their GPS and have no clue how to get around without it. The sky becomes **YOUR SKY** when your mind intrinsically knows its patterns and where its many wondrous objects are located. Without taking the effort to really know the sky, it’s like staring up at random dots in the sky instead of enjoying communing with your familiar nighttime friends.

The next two articles will help you navigate among the stars.

# Angles and Size in Astronomy

by John Land

As you become more familiar with exploring the night sky who will often encounter references to various angle measurements. Even though many modern telescopes have built in electronic systems to locate objects in the sky, to really become “at home” enjoying the night sky your brain and eyes need to know how to orient yourself to the sky above. To locate an object in the night sky at any particular time you need to know its AZIMUTH and ALTITUDE. Azimuth tells you what direction to look. Altitude tells you how high up in the sky to look. We are familiar with the cardinal directions N, E, S, W but to locate it in your binoculars or telescope you need a more specific direction. AZIMUTH **AZ** describes a direction along the horizon circle divided into 360 degrees with North = 0 East = 90 South = 180 and West = 270 degrees. Thus, an Azimuth of  $97^\circ$  would be  $7^\circ$  to the right of East.

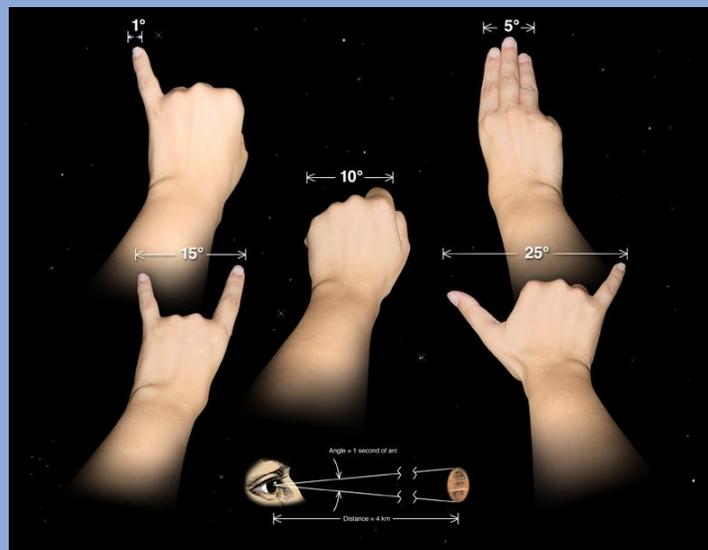


ALTITUDE **Alt** describes the angle up in the sky. The geometrical horizon directly level to you is  $0^\circ$  (not the physical ground objects in front of you) Straight Up (the Zenith) is  $90^\circ$  Positive altitudes are above the horizon and negative ones below.

A handy way of estimating these angles is to use your hand as a measuring tool. Your FIST extended at ARM'S LENGTH in front of your eye makes an angle of about 10 degrees. The top two stars in the bowl of the Big Dipper are 10 degrees apart. The diagram below illustrates other angles you can estimate with your fist.

Most phone apps or computer sky programs will tell you that Azimuth and Altitude of an object at time you plan to observe time. Suppose you wish to observe Saturn at 9:00 PM on Sept 12 from our Mounds location during our guest night. My phone app indicates it should be at AZ 122 and Alt +23 So I would face East and use my fist to measure just over two widths to the right (south) of east. Then measure up in the sky just over two fists up.

(NOTE: The AZ & Alt that an object appears in the sky are specific for a particular location at a specific time. If you were to call a friend in Wichita they would see it a different AZ & Alt.)



In our [October 2024 Newsletter](#) Mike Bebeau describes how he made a printed Azimuth ring for the base of his Dobsonian scope and a Home Depot digital angle gauge to locate objects.

Our [April 2024 Newsletter](#) describes the AstroHopper phone App that when attached to a Dob Scope directs you which direction to manually move your scope to locate objects.



Another set of angles that are important are the viewing Field Of View FOV of your binoculars or telescope compared to the size of the object you wish to observe. A typical pair of 7 by 50 binoculars or telescope finder scope has a FOV of around 5 degrees. The two end stars of the Big Dippers bowl are about 5 degrees apart.

To describe the size of objects we observe in the sky we have to describe angles in smaller fractions. A circle has 360 degrees. Each degree is divided into even smaller angles. One degree = 60 arc minutes show as 60' The moon and sun are about 1/2 degree wide or 30' Each arcmin is divided into 60 arc seconds 60" or 1/3600 of a degree. Saturn at opposition is 19.4" wide Neptune nearby is 2.4" So, it will take much larger magnification to make out its disk.

Once you get your telescope pointed in the general direction of the object you wish to observe, you still have to "Zero in" on it to get it in your telescope eyepiece. A time-honored effective way of doing that is "Star Hopping" By examining a star chart you choose a easy to find star nearby and then begin a slow sweep for the area until you find your object. To do this you must know the how wide a field of view you are seeing in a particular eyepiece. While there are many [Online FOV Calculators](#) to do this, I prefer a more direct and simpler method.

The Eyepiece Drift method is simple and direct. To do this you select one of your lower power eyepieces that you use to locate object. Move it to a star near the celestial equator. Place the star just out of view along the center diameter of your view. ( Be sure to Turn Off the drive motor and just let Earth's rotation carry the star across the view ) Then use the stop- watch on your phone to time how long it takes to drift across the view. The Earth rotates 1 degree in 240 seconds so if the star takes 120 seconds to drift by your FOV is  $120 / 240$  or 1/2 degree wide

Using my 6" Dobsonian Mount and my 1-degree FOV, once I'm near my target I will slowly move the scope up or down in altitude 5 FOVs then move 1/2 FOV in azimuth and repeat until the object is located. With patience and experienced practice this works well. If your scope has a drive system, you can do a similar sweep using the motion keys at a slow scan rate.

Some ZERO DECLINATION guide stars near the Celestial Equator to measure the drift rate.





This is for all you who are new to astronomy or who would like to try something often overlooked when deciding how to view the night sky. When I took up the hobby three years ago, and decided to buy a telescope, the first thing I noticed was how impressive the go-to telescopes were. How, like magic, you could enter into the telescope's software a Messier object or other deep sky object and the telescope would slew to and present it in the eyepiece. Of course, those telescopes are generally more expensive than the simple alt-azimuth mounts with a simple refractor or a Dobsonian reflecting telescope.

I was relegated to the less expensive, so a go-to telescope had to wait. In the meantime, I joined the Astronomy Club of Tulsa, after visiting its public sidewalk astronomy meeting in Broken Arrow. There I met a club member, Jerry Cassidy, who demonstrated his well-developed skills at finding various deep sky objects with his 8" dob, and finder scope. He explained how he could look at the night sky, determine the constellation in which a desired object resided, point his finder scope in the general direction, find some nearby stars, and using his finder, move to the more precise location of the yet unobserved object. Then by using a wide-angle eyepiece in his Dobsonian, he could locate the nearby stars, and by using the visible stars as a map, further move his scope to the deep sky object. Simple (at least in theory) and most important, inexpensive!

What I didn't fully appreciate at the time is that such a "star hopping" method is not only simple and inexpensive, it also creates in the viewer a different (and in my opinion) more esthetic level of viewing the night sky. At least in the early stages of learning the night sky, its constellations and hidden deep sky objects, there is nothing quite like sitting in a comfortable chair at a dark sky site and viewing the entire sky at once, recognizing that between those certain uniquely patterned, visible stars lies your favorite deep sky object. And that with some easily acquired skills, you could point your simple telescope, with the aid of a finder scope or pointer, and find that favorite object.

Of course, once these skills are acquired, and the night sky is more fully set in memory, having a go-to telescope would be great. And it offers a faster and easier way to locate and observe those otherwise hard to find deep sky objects. But as a starting point in learning astronomy, skipping the simple star hopping method may leave a gap in your experience. For the beginner, and for those who skipped that star hopping phase, a good way to instill the self-discipline to hone your skill, is to formally engage in one of the many deep sky observing programs offered by the Astronomical League (free to club members). I started the Messier objects observing program (which requires finding and observing without go-to equipment) after a few months of joining the club and finished viewing and documenting all 110 objects within a year. I don't think I would have expanded my experience to that extent without the discipline of that program, and there are many more programs left to explore. At the suggestion of Brad Young, I think the "Two in One View" program is my next challenge.

**Note:** Don wrote this article in an earlier newsletter, but learning to Star Hop is a great skill for beginning observers.

# Treasurer Report

## Cathy Grounds



As of March 22, 2026, we have **152** members with **9** new members this year.

Please welcome our newest members David and Laura States, Pedro Orta, Dale Dermott, Joy Panell, Ethan Klumpp, and Jamey McDaniel!

As of March 2026, we have 152 members. Please welcome our newest members David and Laura States, Pedro Orta, Dale Dermott, Joy Panell, Ethan Klumpp, and Jamey McDaniel!

FAQ: How do I know when to pay my dues? You will receive a notice by email when it is time to renew your membership. Look for it on or around the 1st of the month in which your membership expires. If you are not sure just check with the treasurer.

Don't forget these easy methods to Join or Renew your membership:

<https://www.astrotulsa.com/join> – see the “join” tab at the upper right

1. PayPal (click “join/renew” on the website) and follow the prompts, there is small fee.
2. Mail in a check or money order to  
Astronomy Club of Tulsa, PO Box 470611, Tulsa, OK 74147.
3. Direct your bank's bill pay service to send payment to our PO Box address above.
4. Pay cash at any club event or swipe a credit card (there is roughly a 3% service charge).

As always if you have any questions or concerns or if your email, phone, or mailing address has changed please email me at: [AstroTulsa.Tres@gmail.com](mailto:AstroTulsa.Tres@gmail.com)

Membership rates for 2025-2026 are as follows: All include an Astronomical League Membership and you will receive their magazine *The Reflector* each quarter.

Adults: **\$50 per year**

Sr Adult: **\$40 per year** (65 or older).

Students: **\$40 per year**

Additional Family membership: **\$30 including voting rights.**

The regular membership allows all members in the family to participate in club events but only ONE Voting Membership and one Astronomical League membership.

**Magazine Subscriptions-** You can see subscription info on the “Join” tab at [www.astrotulsa.com](http://www.astrotulsa.com).

You can get a discount rate as an Astronomy Club member.

**However, you will need to do so directly using their discount rate web links.**

Both have options for DIGITAL as well as PRINT subscriptions.

To learn about [Sky and Telescope magazine](#) see their home page

Digital \$ 37.05 Print & Digital \$ 45.75 includes a \$ 10 club discount

Use this [Sky & Telescope Subscription Link](#)

To learn about [Astronomy magazine](#) see their home page

Use this [Astronomy Subscription Link](#) Digital \$ 39.95 Print & Digital \$ 49.95 no club discount



**This article is distributed by NASA's Night Sky Network (NSN).**

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

**Watch the Lion: Celestial Wonders in Leo** by David Prosper

This article originally appeared in April 2021

Leo is a prominent sight for stargazers in April. Its famous sickle, punctuated by the bright star Regulus, draws many a beginning stargazer's eyes, inviting deeper looks into some of Leo's celestial delights, including a great double star and a famous galactic trio.

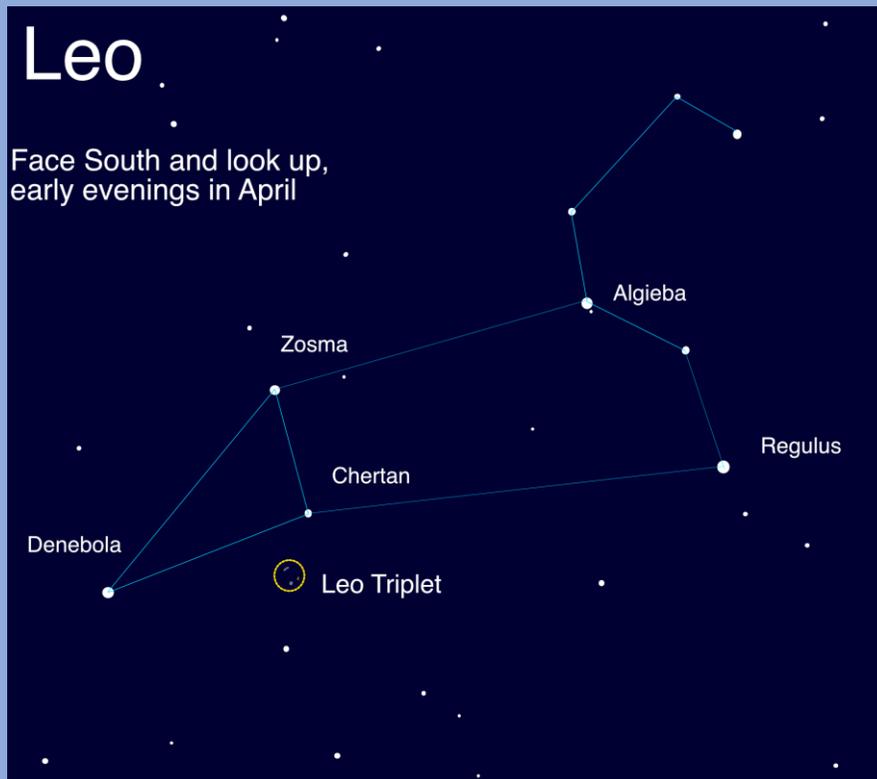
Leo's distinctive forward sickle, or "reverse question mark," is easy to spot as it climbs the skies in the southeast after sunset. If you are having a difficult time spotting the sickle, look for bright Sirius and Procyon - featured in last month's article - and complete a triangle by drawing two lines to the east, joining at the bright star Regulus, the "period" in the reverse question mark. Trailing them is a trio of bright stars forming an isosceles triangle, the brightest star in that formation named Denebola. Connecting these two patterns together forms the constellation of Leo the Lion, with the forward-facing sickle being the lion's head and mane, and the rear triangle its hindquarters. Can you see this mighty feline? It might help to imagine Leo proudly sitting up and staring straight ahead, like a celestial Sphinx.

If you peer deeper into Leo with a small telescope or binoculars, you'll find a notable double star! Look in the sickle of Leo for its second-brightest star, Algieba - also called Gamma Leonis. This star splits into two bright yellow stars with even a small magnification - you can make this "split" with binoculars, but it's more apparent with a telescope. Compare the color and intensity of these two stars - do you notice any differences? There are other multiple star systems in Leo - spend a few minutes scanning with your instrument of choice and see what you discover.

One of the most famous sights in Leo is the "Leo Triplet": three galaxies that appear to be close together. They are indeed gravitationally bound to one another, around 30 million light years away! You'll need a telescope to spot them, and use an eyepiece with a wide field of view to see all three galaxies at once! Look below the star Chertan to find these galaxies. Compare and contrast the appearance of each galaxy - while they are all spiral galaxies, each one is tilted at different angles to our point of view! Do they all look like spiral galaxies to you?

April is Citizen Science Month, and there are some fun Leo-related activities you can participate in! If you enjoy comparing the Triplets, the "[Galaxy Zoo](https://galaxyzoo.org)" project ([galaxyzoo.org](https://galaxyzoo.org)) could use your eyes to help classify different galaxies from sky survey data! Looking at Leo itself can even help measure light pollution: the [Globe at Night](https://globeatnight.org) project ([globeatnight.org](https://globeatnight.org)) uses Leo as their target constellation for sky quality observations from the Northern Hemisphere for their April campaign, running from April 3-12. Find and participate in many more NASA community science programs at [science.nasa.gov/citizenscience](https://science.nasa.gov/citizenscience).

*Happy observing!*



The stars of Leo: note that you may see more or less stars, depending on your sky quality. The brightness of the Leo Triplet has been exaggerated for the purposes of the illustration - you can't see them with your unaided eye.



Your view of the Leo Triplet won't look as amazing as this image taken by the VLT Survey Telescope, Still, even a small telescope will help your eyes pick up these three galaxies as "faint fuzzies": objects that seem blurry against a background of pinpoint stars. Let your eyes relax and experiment with observing these galaxies by looking slightly away from them, instead of looking directly at them; this is called averted vision, a handy technique that can help you see details in fainter, more nebulous objects. Credit: ESO, INAF-VST, OmegaCAM; Acknowledgement: OmegaCen, Astro-WISE, Kapteyn

**You are invited to join us to learn more about  
Astronomy and view the wonderful sights in the night sky.**

Check the EVENTS section at <https://www.astrotulsa.com/>



During the school year our club holds a  
**Monthly General Club meetings at  
Jenks Public Schools Planetarium**

[205 East B St, Jenks, OK](https://www.astrotulsa.com/)

**Meetings begin at 7:00 PM**

**Guests are Welcome**

**When you enter the building lobby,  
take the elevator to the 3rd floor.**



**ASTRONOMY CLUB OBSERVATORY**

Located on a hilltop about 25 miles SW of Tulsa  
Features: classroom, restroom, dome with 14-inch telescope  
and an acre to set up your telescopes.

Weather permitting, we host two types of observing nights.

**GUEST OBSERVING NIGHT – RSVP requested**

This event is open to our Guests – both individuals and  
families as well as our regular members. Several of our club  
members set up telescopes for public viewing.

\* Groups need to make separate arrangements.

**MEMBERS OBSERVING NIGHT** usually on a Friday near new moon

Reserved for club members and their families to allow them to pursue observing projects.  
The Observatory is **ONLY OPEN** for SCHEDULED EVENTS.

Check the **EVENTS** section at <https://www.astrotulsa.com/>

Follow our map directions **DO NOT USE GPS**

**Two Options for travel to the observatory**

**MOSTLY PAVED ROADS** – Hwy 75 to 201st St S – through Mounds OK

Most **DIRECT ROUTE** – Hwy 75 to 241st St S – some coarse gravel & dirt roads

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To Send a Message to any of the  
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or click the CONTACT tab  
on the top of our website

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## Enjoy at Planetarium Show at Jenks High School

Jenks High School Campus  
205 East B Street, Jenks

TICKETS are \$7

See our Current Shows Schedule  
and ticket purchase links at  
[Shows and Ticket Link](#)

Shows take place on Tuesday evenings  
or Saturday mornings  
Must purchase tickets online in advance  
[Shows and Ticket Link](#)

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