ASTRONOMY CLUB OF TULSA

OBSERVER

NOVEMBER 2024

Bringing Stars to the eyes of Tulsa since 1937

Editor – John Land

Amazing sights in October 2024 !

The skies put on a grand show for observers. Comet C/2023 A3 (Tsuchinshan-ATLAS) made a grand appearance in the evening sky. Seen naked eye for a few days mid-month and continued strong in binoculars and telescopes. On the night of October 10-11, the sky lite up with the glow of red aurora.

Scott Bratt was near Prue, OK when he used his iPhone 15 Pro MAX to take this image of red aurora pillars and a hint of green near the horizon. The insert shows a great image of the comet contributed by Liam Yanulis. It shows a great view of the comet's anti-tail as our view from Earth shows it edge on. See more images later in the newsletter.

Sunday November 3 - Return to CENTRAL STANDARD TIME and early Sunsets ! !

JENKS PLANETARIUM

Come enjoy one to the new autumn shows at Jenks High School Planetarium

at our September meeting our club go to preview
November 12 - 6:30 PM
***Tulsa Takes Flight*– a fascinating journey through the long history on flight here in Tulsa.**

Dec 7 1:00 PM Holiday Under the Stars
***Includes guest speaker from local museum & hands-on activities.**

Enjoy these shows and check out the rest of the fall schedule.
Show titles and reserve tickets at https://jenks.ce.eleyo.com/Planetarium

< Scott Bratt
M 81
SeeStar S50
19 mins

Liam Yanulis
Comet
C/2023 A3 >

See more member images later in the newsletter

Stargazing Nights and Observatory Nights

Our GUESTS & Members nights are open to anyone. We do ask guests to try to RSVP.
Large groups need to make separate arrangements.

Members Only Nights are Open to members and their family
Details, Times and Direction Maps are posted on our Website
https://www.astrotulsa.com/events

Guest and member Observatory nights

Come enjoy an evening of star gazing at our observatory
located in dark rural skies SW of Tulsa
See details and directions on our Website Events Page
Guests are requested to RSVP

Saturday Nov 23 - 4:30 PM Guest & Members Observatory Night

Saturday Dec 21 - 4:30 PM Guest & Members Observatory Night

Astronomy Club Members Nights

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

Friday Nov 1 - 6:00 PM Members Observatory Night

Friday Dec 27 - 4:30 PM Members Observatory Night

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

In Town Astronomy Club meetings at Jenks High School planetarium

Open to Guests and Members

Saturday Nov 9 - 5:30 PM Annual Member's Banquet
Members and family - see club emails for details.

Friday Dec 13 – 7:00 PM Jenks High School Planetarium

Located at 105 East B St, Jenks, OK

Keystone Ancient Forest public telescope night

Friday Nov. 8 - 5:00 PM
160 Ancient Forest Dr, Sand Springs, OK 74063
See Directions and details in the events link below
https://www.astrotulsa.com/event/2024-11-08-Ancient-Forest-Night

Come early and enjoy a hike along the scenic trails then stay late to view the moon, planets, and stars.
https://www.sandspringsok.org/175/Keystone-Ancient-Forest

President's Message
Jonathan Fussell

Salutations all!

I am deeply honored and grateful to have been voted as President of the Tulsa Astronomy Club. Your trust and confidence in me mean the world, and I'm excited to continue building on the incredible work this club has achieved over the years.

As we approach November 9th, I'm thrilled to announce our annual club dinner, which promises to be a fantastic evening of camaraderie and reflection. This casual gathering will give us the opportunity to look back at all the accomplishments we've achieved over the past year, as well as discuss the exciting projects and initiatives still ahead.

I'm especially eager to continue with our long- and short-term goals, including finalizing plans for our club's sign at the Tulsa Air & Space Museum, expanding our outreach within the Tulsa community, upgrading the observatory dome, and supporting our special interest groups.

I look forward to serving you all! **Clear skies!** *Jonathan Fussell - President*

Welcome to our new Astronomy Club Officers and Board members

Jonathan Fussell
President

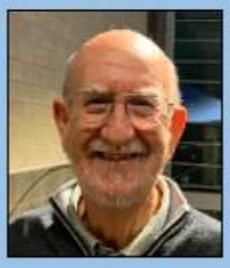
Cathy Grounds
Treasurer

Skip Whitehurst
Secretary

Board members

Mike Blaylock

Don Bradford



Jerry Cassity

Bryan Kyle

John Land

Jack Reeder

James Taggart

Brad Young

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 ^{O} C and many other useful tools**

Tulsa National Weather Service

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/

October - Moon Phases - -
New Fri Nov 1 - - 1st Q Sat Nov 9 - - Full Fri Nov 15 - - 3rd Q - - Fri Nov 22

OCTOBER PLANETS – Venus continues to be our bright evening "star". It continues to rise higher each evening reaching maximum evening elongation on Jan. 10, 2025. Saturn is still a strong evening sight in the water jag of the constellation Aquarius. Jupiter rises near sunset by mid-month. It reaches opposition Dec 7th. Even a low power eyepiece will show it's for Galilean moons. Also look for Jupiter in the west before dawn. For a greater evening challenge try to find Neptune in Pisces and Uranus near the Pleaides. Mercury is too close to the sun this month for observing.

Mars is high overhead before dawn. It makes and nice line up with the Gemini stars of Pollux and Castor. Watch this month as it drifts east toward the Beehive cluster M44 in Cancer. Then it will stop its eastward travel and retrograde to west back toward Gemini. Mars reaches opposition Jan 15, 2025 So both Mars and Jupiter will be at their closest and brightest for astronomers willing to brave the color winter nights.

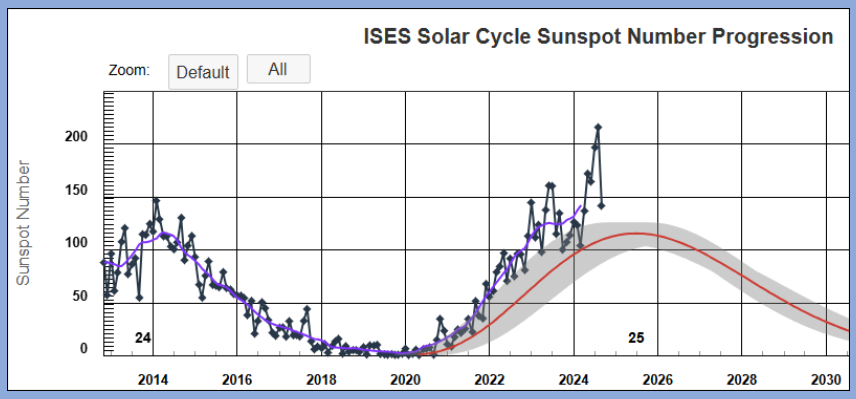
Lunar conjunctions – Venus Nov. 4, Saturn Nov 10, Neptune Nov 11, Jupiter Nov 16,
The Moon makes a picturesque alignment with Mars, Pollux and Castor late evening Nov 20 and before dawn on the 21st. The full moon passes through the Pleaides around
3:00 AM November 16th

NASA, NOAA Announce That the Sun Has Reached the Solar Maximum Period

By Jonn Land Samples of several Internet sources

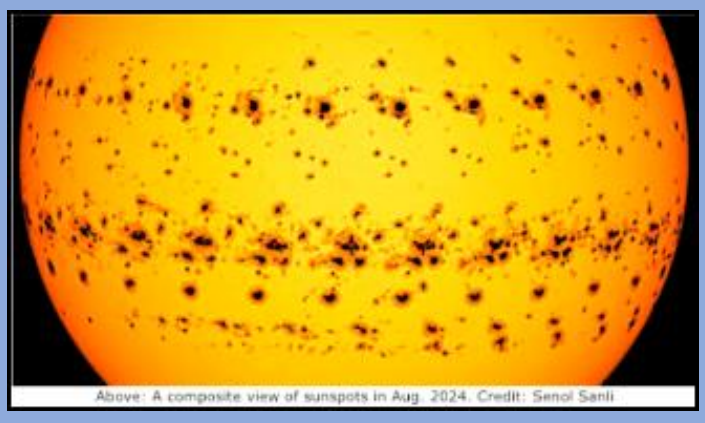
On Tuesday, October 15, 2024, representatives from NASA, the National Oceanic and Atmospheric Agency (NOAA), and the Solar Cycle Prediction Panel announced that
Solar Cycle 25 has reached its solar maximum activity period. Solar Max is characterized by daily sunspot counts over 100 with several groups visible on the sun's facing side. Solar flares are common along with large CMEs.

When Solar Cycle 25 began in late 2019 it was predicted to be a weak cycle like Cycle 24
Instead, it has far outpaced cycle 24 and is on pace to rival the strongest cycles in the 20th century. So far in 2024 the Sun has produced two Severe Level 9 solar aurora storms. Each maintaining a high level of energy for more than 21 hours. On May 10-11 and Oct 10-11 aurora were seen as far south as Puerto Rico. Many of us here in Tulsa witnessed both of them. On August 11-12 there was also a strong solar storm seen in southern US states. However, Tulsa as cloud covered but got some much-needed rain. Enjoy many amazing Aurora images contributed on SpaceWeather.com
at Realtime Aurora Photo Gallery

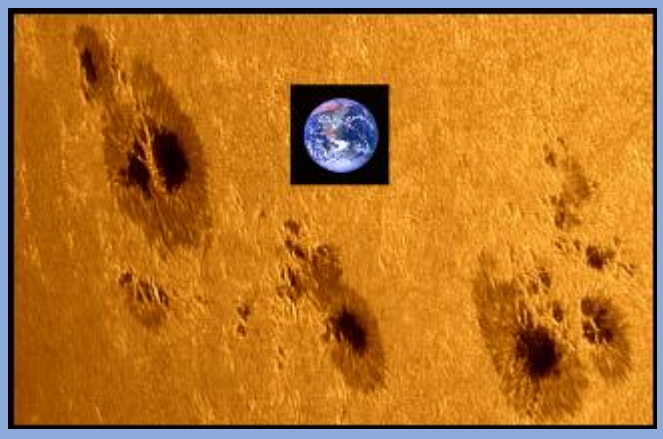


Monthly Sunspot Averages

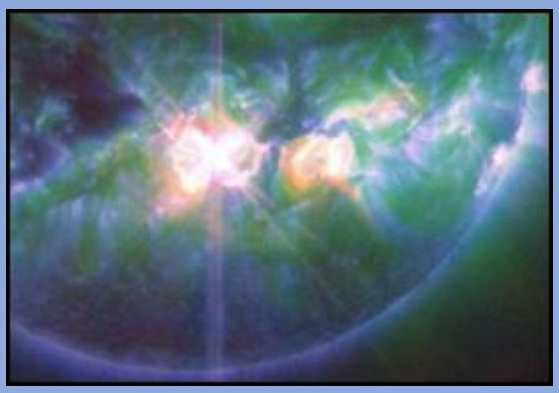
2024	01	2024.042	126.0
2024	02	2024.124	123.0
2024	03	2024.206	103.7
2024	04	2024.288	136.5
2024	05	2024.373	171.7
2024	06	2024.455	164.2
2024	07	2024.540	196.5
2024	08	2024.624	215.5
2024	09	2024.706	141.4



Sunspot composite August 2024



Size of Earth compared to sunspot cluster



On **October 4th Sunspot AR3842** exploded with the strongest solar flare of Solar Cycle 25 so far. NASA's Solar Dynamics Observatory recorded the X9.1-category blast. Its position in the center of the sun sent a strong full halo CME directly toward Earth.

New Coronagraph Is Observing the Sun -

For nearly 29 years the faithful SOHO satellite has been imaging the outer regions of the sun acting as our early warning about CME's (coronal mass ejections) that may propel streams of high energy charged particles toward the earth. These ionized particles can disrupt radio communication, produce aurora displays. Strong Earth directed ones can affect the many satellites in earth orbit, be a risk to astronauts in space and even commercial planes flying polar region flight paths. This coronagraph video link shows two CMEs erupting from the sun on October 8th plus comet C/2023 A3 entering SOHO's field of view.

The Geostationary Operational Environmental Satellite - GOES 19 is primarily an Earth-observing weather satellite, it carries an instrument platform that points toward the Sun. In addition to the coronagraph, the platform also holds imagers that photograph the Sun at X-ray and ultraviolet wavelengths. The GOES 19 coronagraph will give us an additional perspective on solar activity using much more advanced imaging technology than the aging SOHO observatory.

Keep up with REAL-TIME AURORAL and SOLAR ACTIVITY plus sunspot numbers and much more at https://spaceweatherlive.com

Or get the phone SpaceWeatherLive App for fingertip access to what's up with our sun. Be in the know when things are happening by setting alerts to be sent to your phone.
https://www.spaceweatherlive.com/en/app.html

Observing Chairman
Brad Young

Just...Stop It

Amateur astronomy is an exciting and gratifying hobby that includes observing many things that do not change within human lifetimes, but also includes changes to the appearance of objects and even new objects to view in the night sky. Most media coverage tends to concentrate on the second type, with new comets, exploding stars, and other interesting things that the public may not fully understand but that provide great pictures and stories people can appreciate. Recently, the big story has been Comet C/2023 A3 Tsuchinshan-ATLAS that was nearly a victim of flying too close to the Sun like Daedalus but escaped a fiery end to re-emerge in the evening sky for most of the world's population to see.

That sort of story is sure to get press, and this comet was no exception. With the usual mixture of delusion and one-upmanship, clickbait type websites and science adjacent publications started recording on the new comet before it had even gotten near the inner solar system. That's nothing new, but what was new this time and has become more and more the norm, was real journalism and astronomy publishing frothing at the bit to jump on the bandwagon.

The Biennial Comet of the Century

On the radio, stalwarts like BBC and NPR presented stories with reasonable expectations but certainly the promos and headlines read differently, comet of the century, easily seen in daytime, and all the other hyperbole that attends most comets discovered these days that have even a chance of visiting the inner solar system.

The mainstream astronomy magazines jump right in with special issues to describe the upcoming blaze of glory. Oh, I'm sorry, that was, ISON, you remember that one, right? I find it interesting that on the same cover from 2015, there is the following article “20 bright comets of the past 50 years”. So that's a bright comet every two and a half years of my lifetime. I remember seeing 3 or 4 in that time, and this is my main hobby. In fact, of the 20 they list, I had only heard of a few. But there has been a “Comet of the Century!” just about every other year since then.

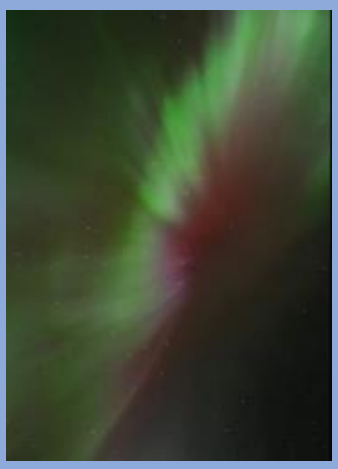
Aurorae Equatorus

Another geomagnetic storm may bring Aurora Borealis to parts of Texas tonight. See where

The aurora borealis may be viewable to the naked eye in the northern Panhandle and Amarillo. Cities around Lubbock and Dallas may see the Northern Lights with a good camera in a low-light setting.

Brandi D. Addison
USA TODAY NETWORK

Published 10:51 a.m. CT Oct. 10, 2024



Mesmerizing aurora shines above stunned stargazers

Another favorite subject to be touted is the aurora, which can be visible in Texas during geomagnetic storms. But "visible" is relative and pairing the headline with a video from Alaska seems awkward. Many times, the aurora is low, barely visible at all near cities, and is recorded better by cameras and cell phones. This makes for good TV news but may be disappointing in person.

60 Years and Counting

T Corona Borealis is visible up north though, and since it went nova about 60 years ago, and may have about 50 years before that (records were sparse), it will obviously suffer another bout as a recurrent nova this year. If you don't believe me, just reference the muscle shirt available on amazon.com I couldn't find any references to the outburst listed on the shirt dated 1787, but I'm sure somebody saw something that year somewhere.

420 Years and Counting

Coming back to more recent times, let's not forget one more oopsie. I suppose Betelgeuse has always been rumored to be destined for a supernova, but that possibility seems to morph into fact over the last 4 years. It's been 420 years since the last supernova in the Milky Way that we are aware of. Most models agree that it has been too long between them, so one must be about to blow. To be sure, Eta Carinae is a more likely candidate for a supernova sooner, but it isn't visible from the northern hemisphere where most of the people live, and so is not news.

Brian Cox warns (sic):

Betelgeuse supernova explosion imminent!

Besides, Brian Cox says that not only is Betelgeuse going to explode imminently, but that we will not survive the explosion. He must be a believable scientist because he has a British accent. Betelgeuse is known to be 408 light years away. A study, using the Chandra X-Ray telescope, has determined 160 light years to be the minimum safe distance to avoid having our atmosphere stripped away. Why the discrepancy?

Well, I think we all know why. Saying that a star might blow up and it wouldn't destroy the Earth doesn't sell like saying it would. Calling each comet that comes by the "Comet of the Century" gets clicks and sells magazines. Unfortunately, the trough of amateur astronomer patience for the real thing is nearly empty. As an example, every spring in Oklahoma we start getting tornado warnings. First, new residents will go ahead and crawl in the bathtub with a mattress over them. After you've done this every night for a month,

you start to realize that weather generates viewers generates income. It's the same thing with amateur astronomy. If I were to write a book about star hopping to find deep sky objects, it might sell a little bit. If I wrote a book about how we're all going to die by being sucked into a mile long piece of spaghetti as we fall into the black hole that used to be the Sun, it will sell more.

Image Credit: Bob Lieser

Is There in Truth No Beauty?

As I stood at the banks of Lake Keystone the other night looking at the new comet, there were about a dozen people there, some with cameras, some just sitting and watching. By the time I left at the advent of truly dark sky, I'm not sure anybody else had seen it. I had my binoculars and saw it again though not much better than it had been in downtown Tulsa. Other people just had a blank stare on their face like "where is it?" Online and other sources had claimed you could see it in daytime only a few days before, and now they were in a dark sky looking across a lake with tons of stars visible, but not the comet of the century.

"So what?" you say. A few people were disappointed, the magazines and websites are all struggling to stay alive and are fiercely competitive for the few clicks and reads they get now. They're just trying to get by selling ad space and your personal data. **They're not hurting anybody. Actually, they are**! Every time someone goes outside to see a star supposedly exploding and pictured as being brighter than any in the sky, and they see nothing special, they lose a little bit of hope. It will get to the point where people simply don't believe the media, even the supposedly journalistic and official outlets, and when that happens our hobby is sure to decline even further. No one likes to feel like a dupe, and when you make bogus or extraordinary claims about celestial objects that always fall flat, eventually people will tire of this.

In these times of instant news on a 24-hour cycle, it makes more sense to report the comet after it passes the sun and brightens. No need to say the 17th magnitude blob found 34 AU out will be the next daytime blazer; if it turns out to be that bright, we can react fast enough to see it. Comets and novae tend to last a few days or weeks, and the weather is often the deciding factor on whether an object is seen.

Naysayers will say that I'm just spewing sour grapes. I saw the comet, and I knew better than to expect it to be super bright, based on both experience and by looking it up on COBS, the comet observation database. I know we're supposed to always be positive about everything dealing with astronomy, but too much sugar ruins the lemonade. Tell people the truth and they will appreciate it. I know that if you tell them there is a moderately bright comet outside that is only magnitude 2 and you'll probably need binoculars to see it, many of them stay on the couch. That's a risk that is worth taking, because eventually they will trust the astronomical news again and start going outside confident about what to expect.

Astronomy in Chile Educator Ambassadors Program Patch

Shared by our astronomy club member, **Byron Labadie**

As a member of the ACEAP (Astronomy in Chile Educator Ambassadors Program), I recently had the extreme pleasure of receiving a very special ACEAP patch that is given to each selected cohort member. The (extra) one I received was from Dr. Sian Proctor, the first female of color pilot to go into low earth orbit aboard the Space-X / Inspiration 4 rocket.

https://inspiration4.com/mission

This patch was carried aboard the spacecraft and circled the Earth for 3 days at a speed of 17,000 mph and at an altitude of 380 miles, the highest orbit since STS mission 103 in 1999. What an honor it is to me to own such a valuable piece of space and ACEAP team memorabilia. The ACEAP project is funded by the NSF (National Science Foundation), but funding for future yearly cohorts of 9 member teams (now in its 9th year) may be running out soon. All of our team is presently looking for other avenues of funding the project so that other space science, astronomy, physics, and STEAM educators, planetarium operators, research scientist, highly active outreach practitioners, and skilled Astro photographers who have a passion for sharing their imaging and hobby on a variety of social media platforms are encouraged to apply. The thrill of visiting several of the most well know telescope complexes in southern Chile and the Atacama Desert is beyond words, and a once in a lifetime experience.

https://noirlab.edu/public/announcements/ann24005/

Link to

Astronomy in Chile Educator Ambassador Program

Our Astronomy Club members have been busy this autumn.

Several of our members revolved in the marvelous dark skies at the 42nd Okie-Tex Star Party September 27 to October 4.

Liam Yanulis climbs the Mesa ridge

Milky Way by Scott Bratt

Don Bradford, Jerry Cassity, Bob Lieser & Tim Gilliland

Tim Gilliland & his scope

Brad Young doing his presentation

Jodie & helper having a bit of fun

Comet C/2023 A3 (Tsuchinshan-ATLAS) put of a fine show

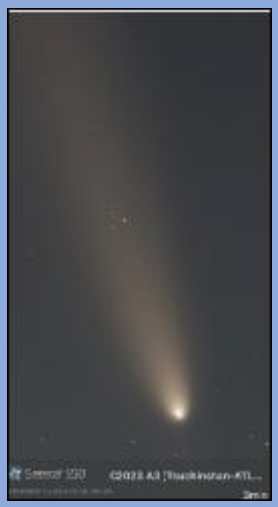
Below - Jim Norwood Oct 16 near Kiefer
Right Maura Woods at TUVA > >

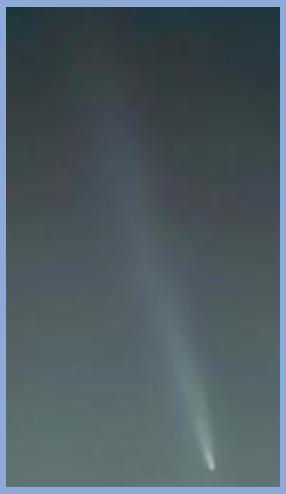
Howard Hulen S of Glenpool on 16th

Tim Gilliland – anti-tail

Liam Yanulis – sketch Oct 14th

Steve Chapman **< SeeStar Scopes >** **John Land** **Scott Bratt**





On the night of October 10-11 viewers all over the US and as far south as Mexico and Puerto Rica were dazzled by Auroa displays. The geomagnetic storm intensity remained at the severe to high levels for more than 21 hours. This resulted in reports of aurora sightings at lover latitudes in many nations of both the northern and southern hemispheres.

Top – Scott Bratt took images and a video west of Tulsa near Prue
Note the thin band of green near the horizon.
Bottom – Steve Chapman captured a plum-colored sky near Verdigris, OK NE of Claremore

Astronomy in the News

This is a selection of astronomy related news articles that come to my attention is recent weeks. I tried to select ones that seem credible but cannot vouch for complete accuracy.

New Simulations Suggest Planet Nine Might Not Be a Planet at All : ScienceAlert
https://www.sciencealert.com/new-simulations-suggest-planet-nine-might-not-be-a-planet-at-all

A Striped Surprise on Mars - NASA Science
https://science.nasa.gov/blog/a-striped-surprise/

NASA Scientists Re-Create Mars 'Spiders' in a Lab for First Time
https://www.nasa.gov/solar-system/planets/mars/nasa-scientists-re-create-mars-spiders-in-a-lab-for-first-time/

25 things to admire in the night sky that aren't just the moon and stars | Space
https://www.space.com/stargazing/25-things-to-admire-in-the-night-sky-that-arent-just-the-moon-and-stars

NASA site for extensive current information on planets
https://science.nasa.gov/solar-system/planets/

Infrared Waves - NASA Science Excellent demonstration of Infrared spectrum
https://science.nasa.gov/ems/07_infraredwaves/

8 Things to Know About NASA's Mission to an Ocean Moon of Jupiter - NASA
https://www.nasa.gov/missions/europa-clipper/8-things-to-know-about-nasas-mission-to-an-ocean-moon-of-jupiter/

Webb telescope reveals surprising details of Pluto's moon Charon | Reuters
https://www.reuters.com/technology/space/webb-telescope-reveals-surprising-details-plutos-moon-charon-2024-10-01/

A Cold Heart and Patchy Clouds: Jupiter's Great Red Spot As We've Never Seen It Before
https://www.iflscience.com/a-cold-heart-and-patchy-clouds-jupiters-great-red-spot-as-weve-never-seen-it-before-76223

Space breakthrough: Nasa craft receives signal from depths of the solar system
https://www.gbnews.com/science/space-breakthrough-nasa-craft-receives-laser-signal

New Kuiper Belt objects lurk farther away than we ever thought - Ars Technica
https://arstechnica.com/science/2024/10/new-kuiper-belt-objects-lurk-farther-away-than-we-ever-thought/

'88-light-years away': James Webb Space Telescope achieves milestone by directly observing young exoplanet in 'race against time'
https://www.businesstoday.in/visualstories/news/88-light-years-away-james-webb-space-telescope-achieves-milestone-by-directly-observing-young-exoplanet-in-race-against-time-179086-15-10-2024

Treasurer Report
Cathy Grounds

As of Oct. 28th , 2024, we have 187 members with 47 new members so far this year! Please welcome our newest members Joshua Feise, Jeremy Winterscheid, Julie Zugelder, Fatimaezzahra Berghane-Davis, Michael Bulmer, Hunter Zimmerman, James Haddock, David Wagner and Kevin Molter !

Accounts as of October 21st, 2024:

Checking:	**$ 2,295.30**
Savings:	**$ 5,190.15**
Investments:	**$38,916.53** (fluctuates with markets).

We still have a few Astronomy Magazine's 2025 Deep Space Mysteries calendars for $12.00 each, they will be for sale at club events or email me to reserve one. They make great gifts!

Don't forget these EASY METHODS of Joining or Renewing your membership:

ONLINE - JOIN or RENEW memberships using ANY MAJOR CREDIT CARD
Transactions are processed through PayPal, but you DO NOT need a PayPal account.
A modest processing fee is added to online transactions.

MAIL IN a check or money order to Astronomy Club of Tulsa, PO Box 470611, Tulsa, OK 74147

PAY CASH at any club event or swipe a credit card (there is roughly a 3% card service charge).

To start click the JOIN TAB -https://www.astrotulsa.com/join and fill out the registration forms. Submit them online, mail them in or bring them in person.

Membership rates are as follows: All memberships include Astronomical League Membership.

REGULAR: $ 50 per year
SENIOR: $ 40 per year - 65 or older
STUDENT: $ 40 per year
Additional Family membership $ 30 per year

See Full Description of Membership types at ACT Membership Bylaws

As always if you have any questions or concerns or if your contact information (Email, Phone or Postal address) has changed please email me: AstroTulsa.Tres@gmail.com

MAGAZINE SUBSCRIPTION RATES 2024 updates

A subscription to an astronomy related magazine is a great way to learn more about the many aspects of our hobby. -

Scientific articles, sky events, equipment reviews, imaging techniques and more

Use the links below to make your subscription

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

You are invited to come 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
105 East B St, Jenks, OK
Located North of the intersection of
1st and B St

Meetings begin at 7:00 PM

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

Click for Google Map Link

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

ASTRONOMY CLUB OFFICERS:

PRESIDENT – JONATHAN FUSSELL
astrotulsa.pres@gmail.com

SECRETARY – SKIP WHITEHURST
astrotulsa.secy@gmail.com

TREASURER – CATHY GROUNDS
astrotulsa.tres@gmail.com

You may also contact club officers or board members using the CONTACT tab on our website

BOARD MEMBERS-AT-LARGE:

MIKE BLAYLOCK
DON BRADFORD
JERRY CASSITY
BRYAN KYLE
JOHN LAND
JACK REEDER
JAMES TAGGART
BRAD YOUNG

STAFF:

FACILITIES MANAGER – JAMES TAGGART
astrotulsa.obs@gmail.com

NEWSLETTER EDITOR - JOHN LAND
tulsaastrobiz@gmail.com

Public Facebook Page Coordinator
– Cathy Grounds

OBSERIVING CHAIR - BRAD YOUNG
hafsnt1@gmail.com

SIDEWALK ASTRONOMY – TIM GILLILAND

PR AND OUTREACH – Open Position
GROUP DIRECTOR – Open Position

NIGHT SKY NETWORK – Jonathan Fussell

Enjoy at Planetarium Show at Jenks High School

JENKS PLANETARIUM

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