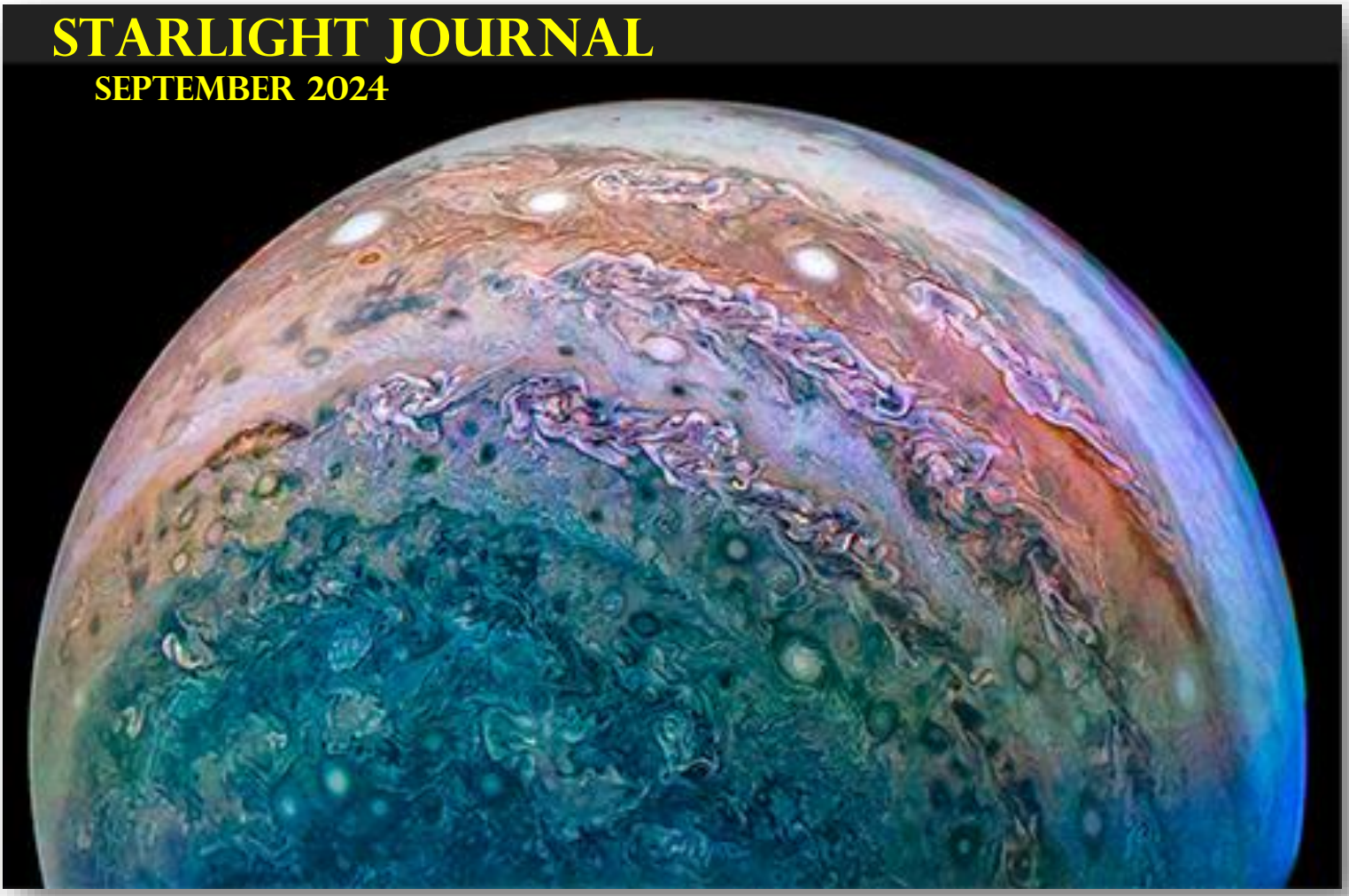
STARLIGHT JOURNAL

SEPTEMBER 2024



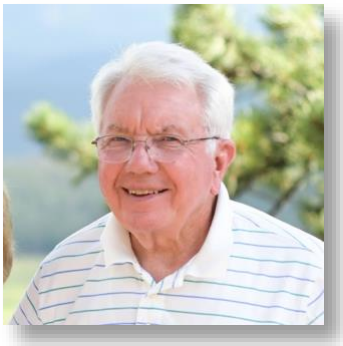
Jupiter image taken by the Juno Spacecraft (JPL & NASA)

Jupiter is a giant ball of gas 300 times as massive as the Earth. It is five times as far from the Sun as the Earth and one Jovian year is about twelve Earth years. The Jupiter exploritory spacecraft **Juno** arrived at Jupiter in 2016 after a five year journey. The Juno spacecraft has 10 instruments packed in a 397 pound titanium vault to help protect the instruments from Jupiter's intense radiation. Juno will remain active for at least another year and will visit two of Jupiter's most intriguing moons: Europa and Io.

SAVE THESE DATES NOW!

September 7 – Board Meeting 5:00 p.m
September 7 – Member Meeting 6:30 p.m.
September 14 – Program: **CCD Astrophotography** by JR paulson (see our Facebook page)
September 28 – Program: **Quirky Astronomy in 1896** by Jim VandeBerg (see our Facebook page)
October 3 – 6 - **Iowa Star party** (see more in this issue)
October 12 – **National Astronomy Day**

September 2024 – President's Report



Discussions are continuing about management and future planning for our Timberline property. The District Forester has prepared an outline of estimated costs and benefits of implementing a stewardship plan and the members have authorized further work toward implementing a plan. These discussions include an inventory of trees that are ready to be harvested, planting replacement trees, and possible assistance in controlling invasive species. Jim and Norm are working with the Forester on next steps... We have obtained an opinion from The Ahlers law firm and will be reporting on that and recommended next steps at the September meeting.

The family of Larry and Alice Musselman has donated the telescopes and astronomical equipment from the estate to DMAS. We thank them for this generous donation. We will be doing an inventory and making a determination as to how this equipment can be utilized.

We hosted a Group from Ames that celebrates the Full Moon, on August 19, quite a celebration it was! They came with musical instruments, costumes, snacks, songs, music and lots of interest and questions. It was another good night at Ashton

There have been some excellent public nights at Ashton recently. JR Paulson presented a program on **Our Address in the Universe** on August 10 to a full classroom. Paul Caligiuri spoke about **Types of Objects in the Universe** on the 24th. . Following the programs, guests enjoyed touring the observatory, viewing the photo displays, conversing with staff about telescopes and astronomical topics and spotting a few objects through the telescopes.

Many guests have been interested in viewing the sky through our telescopes in the domes and under the sky outdoors. We have been a bit short on members to act as hosts to greet these guests, answer questions and offer assistance in getting access to the domes, displays, other equipment, and signing the guest book. Please consider volunteering for this important work. Let me know if you are willing to help.

The Globe at Night; (https://globeatnight.org/campaigns/) Constellations featured are Cygnus and Pegasus, September 24 - October 03, 2024. Find a viewing site and give it a try!

- Norm

Observatory Committee Report September August 2024 Greg Woolever, Observatory Director

Visitors continue to turn out for Saturday Public Nights, including for two classroom programs, one by JR Paulson on August 19, and another by Paul Caligiuri on August 24. Thank you JR & Paul for your contributions!

We had two private groups in August. One was a husband/wife date – delightful to work with.

The second was the most unusual group I have experienced at Ashton. They called themselves "Full Moon Gazers," and they arrived on a full moon evening, as you might expect. But as they trickled in, many of them were carrying musical instruments and food. It was going to be a celebration. They explained that part of them were a musical group who performed regularly. And they did make music all night. Sometimes down on the patio, sometimes up in the domes. When their song said "We love you, we love you" I didn't really suppose they were singing to me … pretty sure it was to the Moon. Anyway, they were a delightful, spontaneous, and cheery group, and they really didn't want to end the night. They were tent-camping in the park, so after midnight they did start their walk to the campground, their cheerful sounds fading away in the moonlight.

Currently there are no private groups scheduled for September, but there are three in the October schedule.

Replacement cables were received and installed in the west dome, and the Argo Navis navigation equipment is functioning as intended.

Thanks - Greg Woolever & the Observatory Committee: Dave Heck, Norm Van Klompenburg, Jim VandeBerg, Greg Woolever.

The Des Moines Astronomical Society

Board of Directors Meeting

Saturday September 7, 2024 – 5:00 P.M.

Ashton Observatory

1. Call to order—Introductions
2. Secretary's Report – Minutes
3. Observatory issues-- Equipment, Donations, surplus review and recommendations
4. Treasurer's Report -- Budget - Membership renewal.
5. Priority implementation progress – Photography Class. Other?
6. Timberline Update--Legal opinion Memorandum. Next steps-proposal-action?
7. Other Business

The Des Moines Astronomical Society

Monthly Members' Meeting

September 7, 2024 – 6:30 P.M. Ashton Observatory

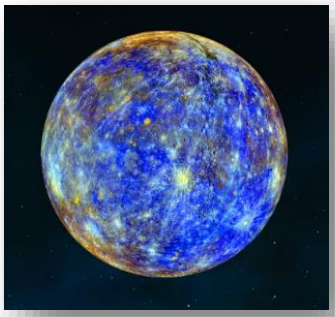
1. Call to order–Introductions
2. Secretary's Report - Minutes
3. Treasurer's Report: Financial Report
4. Board Meeting Report/action
   a. Timberline Report - Recommendations
   b. Other recommended action
5. Observatory Director's Report
6. Committee Reports
   - Member Services/Ashton programs
   - Outreach/programs
   - Dark Skies
   - Electronically Assisted Astronomy
   - Radio Telescope
- Member Comments
- Adjourn

7. Next Meeting Date: October 5, 2024 - Ashton Observatory

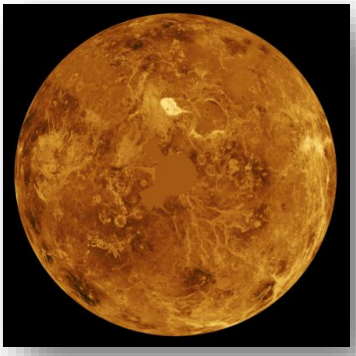
THE PLANETS FOR September 2024

By JoAnn Cogil

This month provides another chance to view the **Zodiacal Lights**!
You will need to find a darker sky location and look to the East about 2 hours before sunrise. This happens the first 2 weeks of the month. With the new moon on the 2nd, conditions are favorable to view this wonderful sight!!



Mercury – on the 4th the tiny planet is at its greatest elongation, the greatest distance from the Sun as viewed from Earth. It will have a magnitude of -0.2. Be ready on the 9th when Mercury & the star Regulus, the brightest star in Leo, rise at dawn in the E-NE sky just 1/2° apart. Its magnitude will brighten to -1.0 by mid-month, but by month's end the planet will be out of sight due to its superior conjunction on the 30th, which puts the planet on the opposite side of the Sun from Earth. Bye for now!!



Venus – can still be found in the Western sky for up to 1 hour after sunset with a nice magnitude of -3.9. The planet's disk shows from 91% to 85% of full as it goes through the month. On the 5th, the Moon will be 6 ½° left of Venus in the W-SW evening sky, with Spica nearby. Venus sets first. On the 17th or about mid-month, Venus is 2-3° from Spica (in the constellation Virgo) after sunset.

Earth – Autumnal Equinox occurs at 7:44 AM CDT on the 22nd of September. Fall has arrived!!

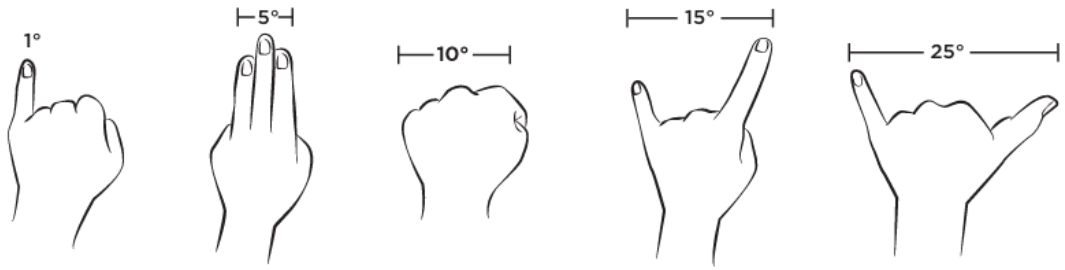
Mars – Our pretty red planet can be found between the horns of Taurus the first week of September, but quickly moves into Gemini by the 6th. It rises about midnight to 1 AM & continues to rise earlier by month's end. The best viewing times for Mars are the pre-dawn hours. On the 25th, Mars & the Moon can be found in the Eastern early morning sky before dawn, with the Moon 4° to the upper left of Mars.

Jupiter – Still in Taurus, to the NE of Aldebaran, bright star in Taurus. It rises about midnight early in the month with a magnitude of -2.3 with the best viewing time about 1 hour before dawn. Watch for its moons with their many transits across the planet this month.

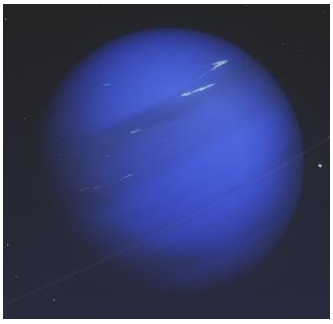
Saturn – Remains visible all night, rising just after sunset. Saturn reaches opposition (with the Earth between Saturn & the Sun) on the night of the 7th to 8th. The planet is in Aquarius, about 805 million miles from Earth, reaching its best peak magnitude of the year at 0.5 this month!! Titan, the planet's largest moon, orbits every 16 days and shines at 8.4 magnitude.

Our highlight this month On the 17th, the early morning almost full Moon occults Saturn. But it may be questionable for us to see much from our central US location as better viewing is predicted for the western US.

Uranus – Uranus – Can be found about 5° SW of the Pleiades all month. With your arm held out straight, 5° in astronomy is –



Uranus starts the month rising about 11 PM CDT, then continues to rise almost 2 hours earlier as the month proceeds.



Neptune – This planet can be found about 12° east of Saturn early in the month as it rises at dusk. It has an occultation by the full Moon on the 17th, but the planet is very dim at magnitude 7.8. On the 20th it is at opposition, with the Earth between the planet and the Sun, but is at its closest to the Earth for this year at 2.7 billion miles from Earth. Neptune is known for its signature bluish hue which results from sunlight being absorbed by atmospheric methane.

September Moon

2nd – NEW Moon at 8:56 PM CDT
11th – First quarter moon
17th – FULL Moon at 9:34 PM CDT.
24th – Last quarter moon

Enjoy a Partial Lunar Eclipse this month on the 17th. It begins at 7:41 PM CDT and reaches max about 9:45 PM CDT. The Earth's shadow will cover about 8% of the Moon for 60+ minutes.

This month is the Harvest Moon. Named for the period when Northern Hemisphere crops typically reach their peak. This full Moon has historical significance as its bright moonlight after sunset traditionally provided farmers with extra hours to harvest their crops before the first frost. Also called the Full Corn Moon

On the 18th, the Moon is at perigee when its orbit brings it closest to the Earth, at 222,000 miles from Earth.

Comet C/2023 A3 (Tsuchinshan-ATLAS)

- Can be found in the Eastern sky before dawn, about 14° south of the waning crescent Moon on the 30th. It is about 6+ miles across.
- Keep your fingers crossed as it could reach a magnitude of 1 with the possibility of seeing a tail.
- It was discovered at the Purple Mountain Observatory in China on 1/9/2023. However, it seemed to be lost after this as no further observations were reported. On February 22, 2023, ATLAS, the South African component of the Asteroid Terrestrial-Impact Alert System found the comet again.
- Thus, the comet name Tsuchinshan-ATLAS means the discovery was made using telescopes of the Purple Mountain Observatory (Zijinshan Astronomical Observatory) and Asteroid Terrestrial-impact Last Alert System (ATLAS). Tsuchinshan is Mandarin Chinese for "Purple Mountain".

- The comet originates from the Oort Cloud. Scientists think the Oort Cloud is a giant spherical shell surrounding our solar system, described as a big, thick-walled bubble made of icy pieces of space debris the size of mountains or larger. The Oort Cloud might contain billions, even trillions, of objects. Dutch astronomer, Jan Oort, proposed in 1950 the concept that such a cloud exists with certain comets coming from this distant shell of icy bodies.
- On September 27th, the comet will be at perihelion, its closest distance to the Sun.
- On the 29th, it will be at its highest point in the sky this month, but still only 5° above the E-SE horizon.
- October 12th finds the comet making it closest passage to Earth.
- Be ready though as it moves to the evening sky in October!!!

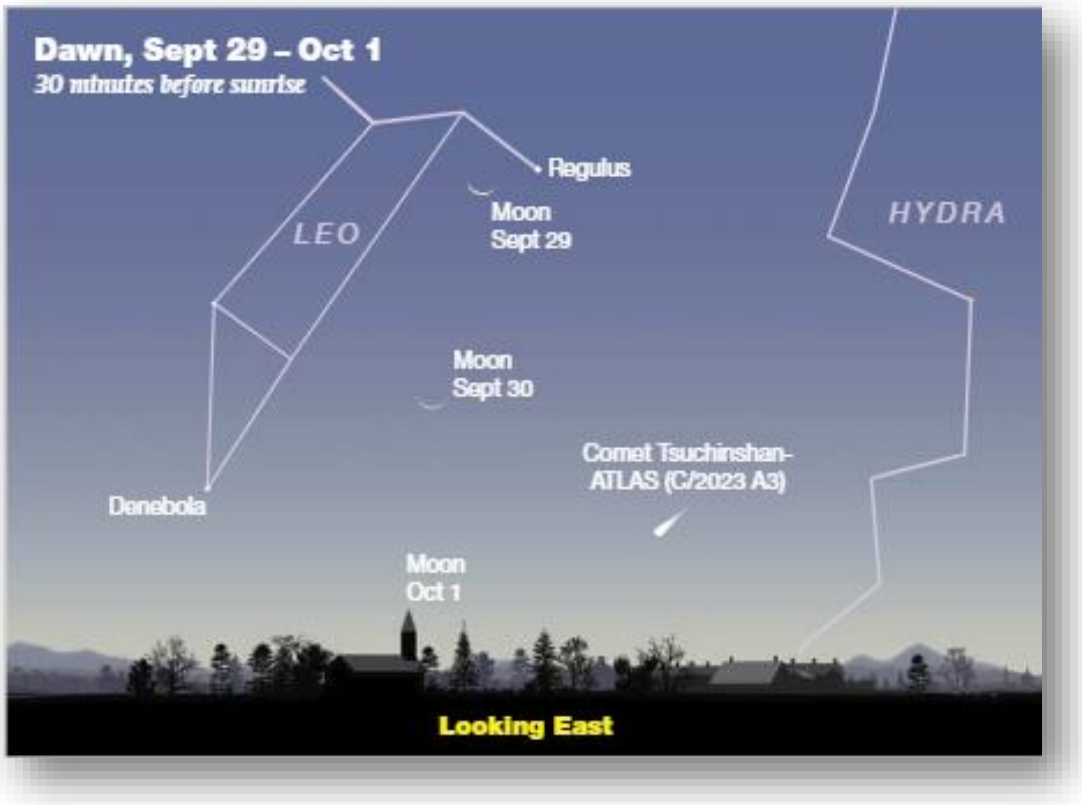
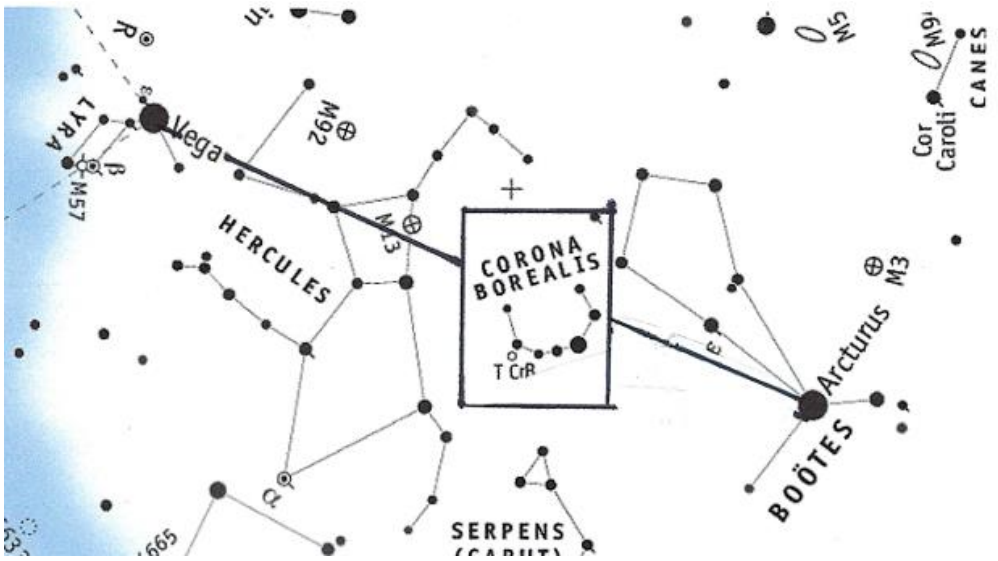
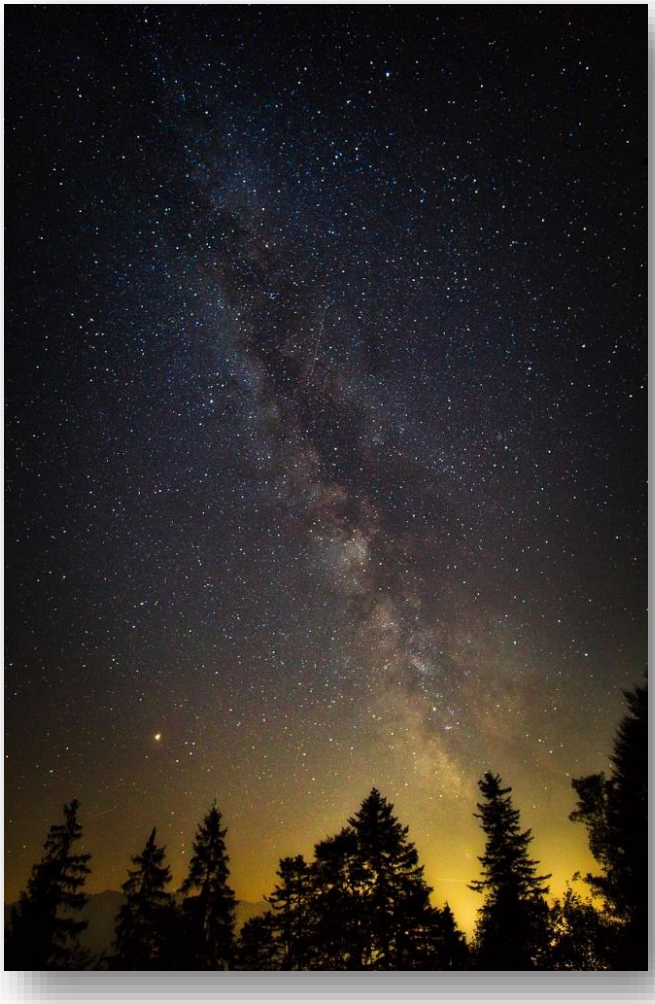


Illustration courtesy of Sky & Telescope magazine

** And don't forget, we continue to hope to see the bright flash of T CrB, or the Blaze Star, which is predicted to go nova in September. It is located just outside the constellation Corona Borealis. Coordinates for the star are Right Ascension 16h 00m 32s and Declination +25° 51' 06".





2024 Iowa Star Party!

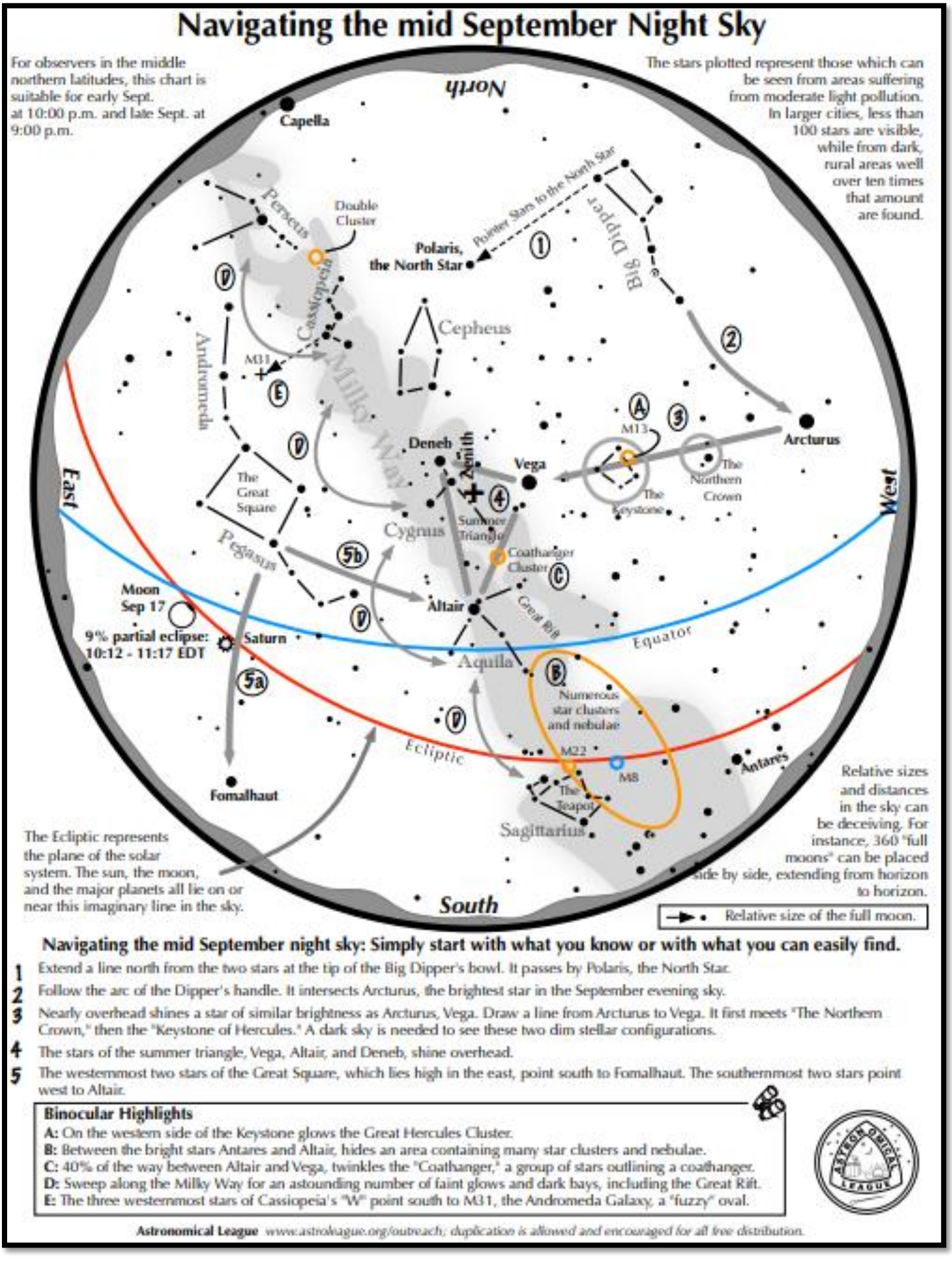
Some of the darkest skies in Iowa will again be the home for this year's Iowa Star Party from Thursday, October 3 through Sunday, October 6. The party will be in the picturesque **Whiterock Conservancy** near Coon Rapids. The Conservancy is a 5,500-acre land trust, with over 40 miles of trails for walkers, hikers, runners, mountain bikers, equestrians, and paddlers. In addition to trails, Whiterock offers accommodations, camping, fishing, stargazing, and many other outdoor activities.

The Conservancy maintains a large **star field** with plenty of room for nearby parking and dark star gazing. The program is hosted by the Ames Area Amateur Astronomers and co-sponsored by the Des Moines Astronomical Society.

The Conservancy is a little over an hour west of Des Moines and Ames. Accommodations include tent camping, RV camp sites, lodging

rooms at the Oakridge Guesthouse and two nearby motels. For paid registrants, there will be a banquet and guest speaker on Saturday evening before star gazing. The public is invited (free) to the star field on Saturday evening for stargazing and interactions with amateur astronomers and their many telescopes. Registrations can be made at www.iowastarparty/ispregistration.php

Navigating the mid September Night Sky



Navigating the mid September night sky: Simply start with what you know or with what you can easily find.

1. Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
2. Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the September evening sky.
3. Nearly overhead shines a star of similar brightness as Arcturus, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
4. The stars of the summer triangle, Vega, Altair, and Deneb, shine overhead.
5. The westernmost two stars of the Great Square, which lies high in the east, point south to Fomalhaut. The southernmost two stars point west to Altair.

Binocular Highlights

A: On the western side of the Keystone glows the Great Hercules Cluster.
B: Between the bright stars Antares and Altair, hides an area containing many star clusters and nebulae.
C: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
D: Sweep along the Milky Way for an astounding number of faint glows and dark bays, including the Great Rift.
E: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.

2017 Total Solar Eclipse was Seven years Ago!!

It was 7 years ago, August 21, 2017, that the US was treated to the "Great American Eclipse", in a path stretching across the US. Thousands or millions of Americans that day were treated to an awesome total solar eclipse.

The flow of traffic was very heavy that day, both going to or leaving from their various destinations. I can totally vouch for that myself. This was a much anticipated and advertised eclipse for America. It's kind of like one of those bucket list things that you must see in your lifetime.

A large number of us DMAS members had traveled down to Plattsburg, Missouri to witness this eclipse, only to be mostly clouded out. Just before totality, a brief heavy thunderstorm came upon us and we all sought cover. Soon the rain had stopped and we all got out our scopes and cameras, ready to photograph the eclipse. No such luck. A few people had left the area to search out some clear skies, less than 20 miles away !!!

I should've done the same. As you can see in these photos, we were ready to view and photograph the eclipse. Totality came and it became really dark skies, like midnight. Someone in the large crowd lit off a few firecrackers at totality. After all, it's Missouri. After totality came and went, the cloudy skies became partly cloudy and we could at least see some partial phases of the eclipse. Next came the large exodus out of the area and the massive traffic slowdown to the highway. Took me twice as long to get back home than It did driving down there. Got back home and saw a nice double rainbow after some light rains here.

– L. Allen Beers

Total Solar Eclipse Viewers

Ponder the Question of the Day

Galileo: Astronomer or Skyentist?

Hmmmm.

DES MOINES ASTRONOMICAL SOCIETY
PLEASE WELCOME THESE NEW MEMBERS!

January - Kyle and Catherine Bailey
January - Karen Tegtmeyer
March – Rod Williams
April – Paul Caligiuri
April – Jason Hirsch
July – Wade Johnson
July – Kerry & Philip Eganhouse
August – Nick Frisch

The Des Moines Astronomical Society is on Facebook

Recent notices, articles and images are posted on our Facebook page. Be sure to like us when you visit our DMAS Facebook page.

This Month in DMAS History

From the StarLight Journal 25 Years Ago, September 1999

A few astro die-hards -- Brian Ritchey, Kathy Gannon, Joanne Hailey, Lexee and Bryan Butcher - spent the night at Ashton Observatory on July 17th to watch the Lunar Prospector spacecraft crash into the Moon. They didn't see the Moon or the crash (the crash was not detected by any professional or amateur astronomers), but enjoyed pouring down rain, loud thunder, and beautiful lightning bolts as they passed south of the observatory. Bryan captured a few good photos of lightning -- which can be seen in the new Weather Gallery on the DMAS website.

From the StarLight Journal 10 Years Ago, August 2014

New members Karl Lewis and Rita Henry try out their Meade 130mm APO refractor on a “GoTo” Celestron CGEM-DX mount. (A German Equatorial mount.) Norm Van Klompenburg (far right) helps with alignment and suggestions while Vern Naffier looks on. Later on when Polaris stopped hiding behind the clouds alignment became much easier. Karl has an Orion short-tube 80mm scope at home with a ZWO CCD for auto-guiding mounted on top of that. He plans to use his Nikon DSLR for his primary camera, but hopes to replace it with a cooled, monochrome CCD. Rita and Karl are looking forward to many nights at Ashton enjoying the dark skies and “thriving mosquitoes.”

10 Years Ago

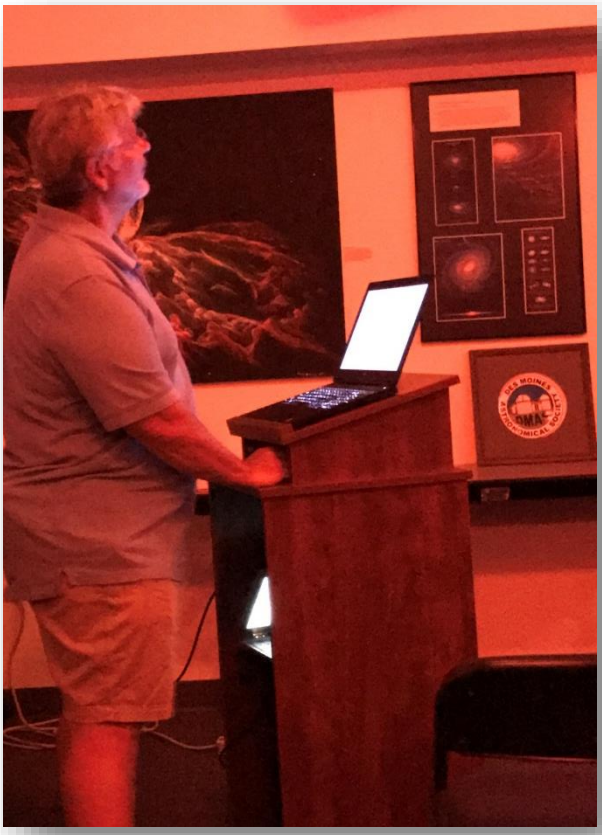
DMAS Member JR Paulson's lecture on August 10 ***"Our Address in the Universe"***
By the end of the program, there was standing room only, for JR's comprehensive dive into the Universe.

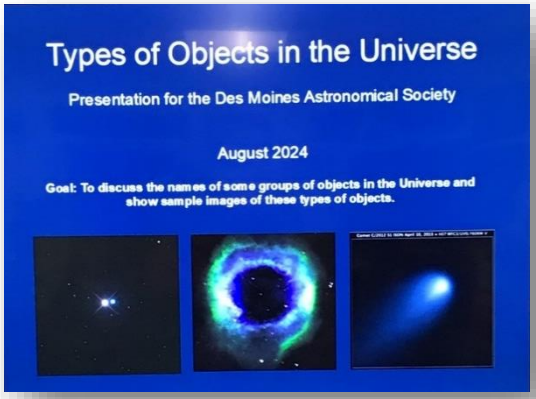
ASHTON RADIO TELESCOPE UPDATE

Six DMAS members met Saturday morning, August 3, at the Ashton Observatory to reinstall the 1.42 MHz feed horn to the dish antenna of the radio telescope. Remedial work had been done on the feed horn, and the support structure to the feed horn had been reinforced before being reattached to the dish. Dave Lynch made support angle brackets for the feed horn as well as new support struts and added new U-bolts to anchor the struts. Norm designed and made a focus tool incorporating a laser to center and collimate the feed horn. Vern Naffier is the project leader and constructor of the feed horn. Karl Lewis, Devin McGuire, and Keith McGuire lent their indispensable help in correctly positioning the feed horn.

Performing upgrades to the Ashton Radio Telescope

Pictured l. to r. in the photo are: Devin, Dave, Vern, Karl, and Keith. Norm is the photographer.

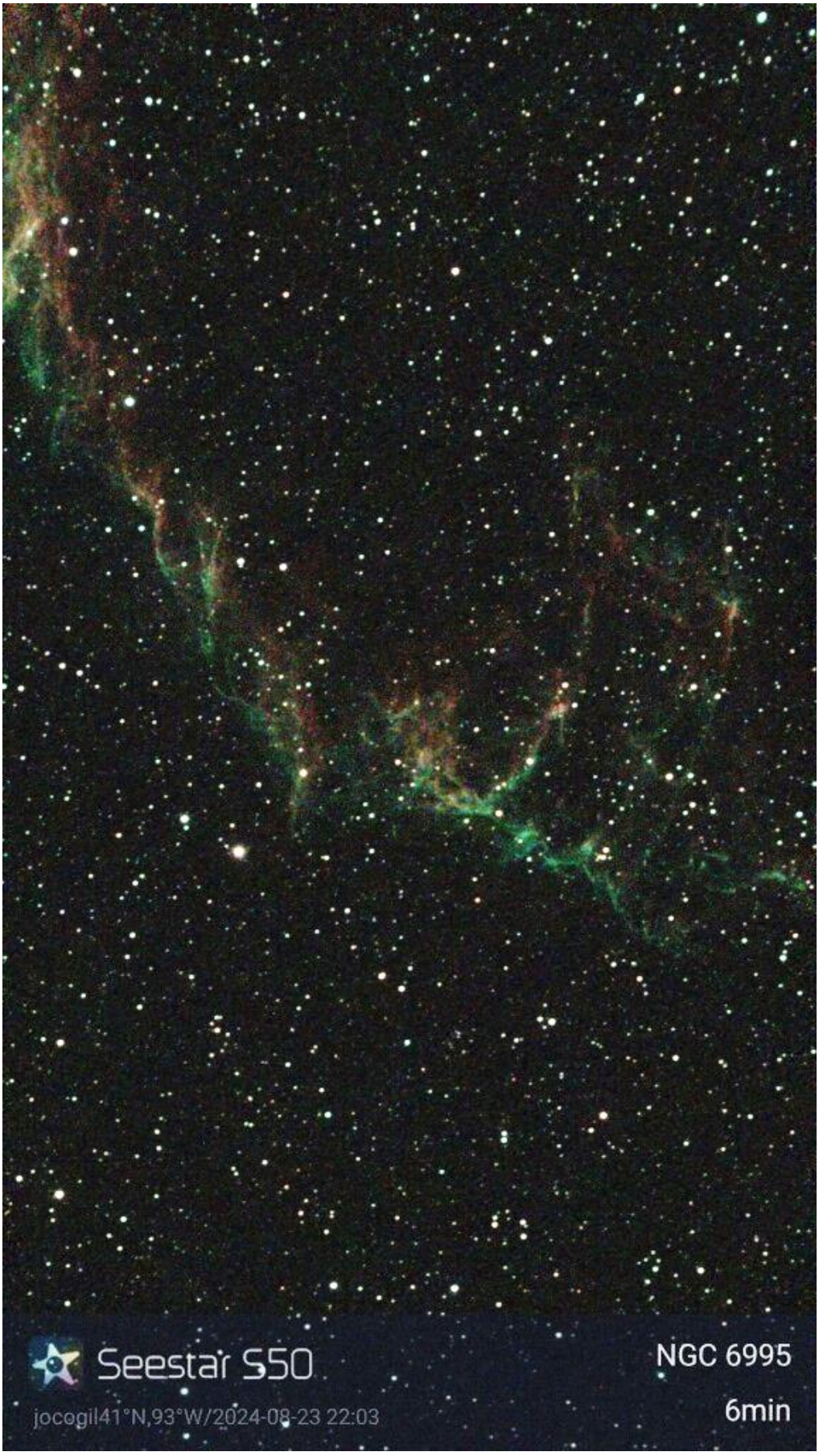




A well-organized program about the **"Types of Objects in the Universe"** was presented by DMAS member Paul Caligiuri on August 24.

More SeeStar Images

The little SeeStar S50 telescope continues to provide surprisingly good images under difficult conditions. Comet Olbers was low on the horizon on Friday, August 24 when JoAnn Cogil caught the celestial body with just 14 minutes of imaging time. The S50 has a 50 mm professional grade triplet apochromatic main lens and a Sony IMX 462 sensor.



The Veil Nebula (NGC 6995)
A six minute capture by DMAS vice-president, JoAnn Cogil with the SeeStar S50 Telescope. The Veil Nebula is heated and ionized gas and dust in the constellation Cygnus

Your Des Moines Astronomical Society Officers, Directors & Observatory Committee – 2024

President: Norm Van Klompenburg
Vice-President: JoAnn Cogil
Secretary/ALCor: Jim VandeBerg
Treasurer: Bruce Mumm
Observatory Director: Greg Woolever

At Large Director: Derryl Barr
At Large Director: Jessica Weinreich
At Large Director: Brennan Jontz
Observatory Committee: Greg Woolever, Norm Van Klompenburg. Dave Heck, and Jim VandeBerg

Contact us at: info@DMastronomy.com

The *Starlight Journal* is the monthly newsletter of the **Des Moines Astronomical Society, Inc.** P.O. Box 111, Des Moines Iowa 50301-0111. Our Observatory is located in Ashton Wildwood Park, 8717 West 122nd Street North. Founded in 1970, we are a non-profit, 501(c)(3) organization. Our website is DMastronomy.com. More information and photos can be found on our Facebook page.

Article Deadline: Before the 21st of the month, please send your articles, photos, sketches, poems, cartoons, and news to Jim VandeBerg (FinePineCabin@gmail.com). Articles may be edited to fit the allotted newsletter space. Copyrighted material must have permission from the copyright holder. Views and opinions expressed within submissions are that of the author and not necessarily those of the Des Moines Astronomical Society, Inc.

The Purpose of our Society

- Secure the pleasure and benefits of an association of persons interested in amateur astronomy
- Promote the science of astronomy
- Encourage and promote activities of an astronomical nature
- Foster observational, computational, technical, and creative skills in various fields of astronomy
- Pursue activities with other amateurs and professionals
- Educate the public

Des Moines Astronomical Society
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