



**Peoria Astronomical Society, Inc.**

P.O. Box 10111 Peoria, IL 61612-0111  
Section of Peoria Academy of Science  
Affiliate of the Astronomical League  
[www.astronomical.org](http://www.astronomical.org)

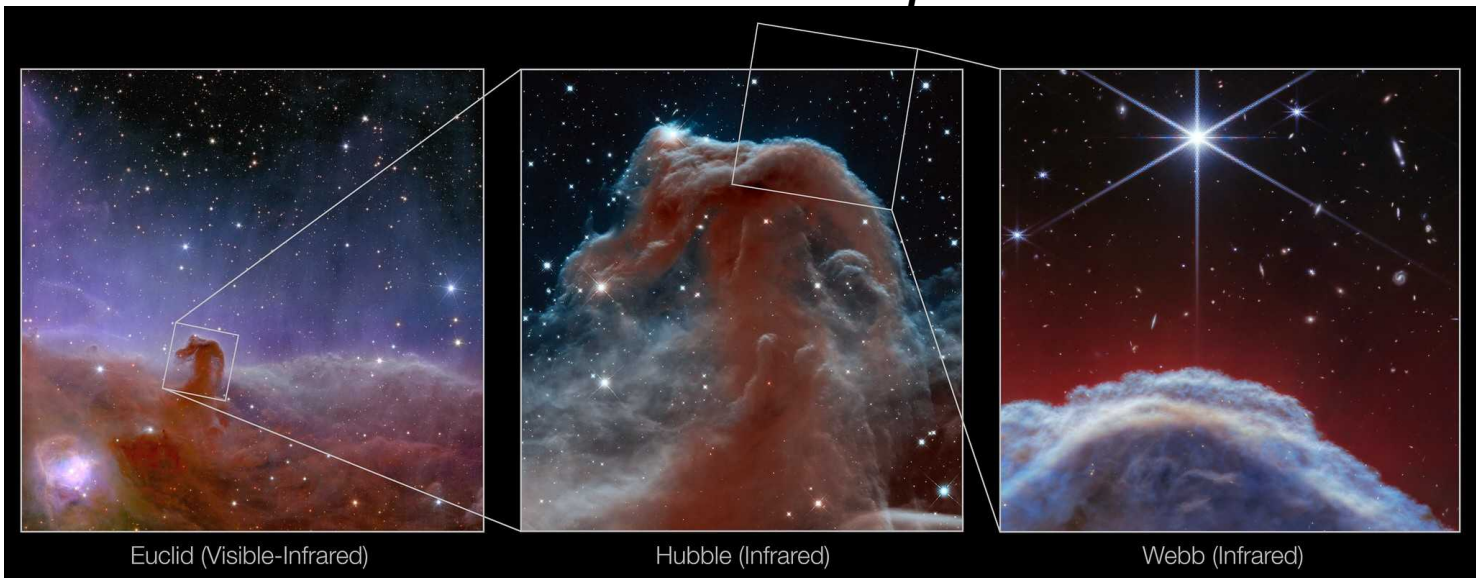
# STARLITE

*Spring, 2025*  
**WHAT'S IN THIS ISSUE?**

List of Board of Officers & Directors  
Address/email changes  
Meteor Showers  
Presidents Ramblings  
Fun Facts  
Submission of Articles  
Caterpillar Matching Gifts

Reflector Magazine & NCRAL info  
Monthly Programs Schedule  
Photos from members  
Photos from other instruments  
25 years ago  
March Night Sky

## ***Horsehead Nebula with 3 different NASA Sopes***



Euclid (Visible-Infrared)

Hubble (Infrared)

Webb (Infrared)

### **Officers:**

President: Dan Son, [sonshine1992@gmail.com](mailto:sonshine1992@gmail.com)  
Vice-President: Jesse Hoover  
Secretary: Carol Hootman  
Treasurer: Dave Monroe, [dave.monroe@comcast.net](mailto:dave.monroe@comcast.net)

### **Directors:**

Parliamentarian: Dave Monroe, [dave.monroe@comcast.net](mailto:dave.monroe@comcast.net)  
Nominating Chairman: Open  
Legal Agent: Chris Schmidt  
Northmoor Chairman: Dan Son, [sonshine1992@gmail.com](mailto:sonshine1992@gmail.com)  
Jubilee Chairman: Jesse Hoover

### **PEORIA ASTRONOMICAL SOCIETY IS NOW ON FACEBOOK:**

[www.facebook.com/PeoriaAstronomicalSociety](http://www.facebook.com/PeoriaAstronomicalSociety)

### **Update your address, phone or email changes**

Please notify Dan Son at [sonshine1992@gmail.com](mailto:sonshine1992@gmail.com) if you will be getting a new mailing address, email address and/or phone number. It is important that he has your personal information correct so you will continue to receive the Starlite and the Reflector.

### **2024 Meteor Shower Schedule:**

Lyrids are active from April 17<sup>th</sup> to the 26<sup>th</sup> with peak being April 21-22. The moon will be 40% full or 3<sup>rd</sup> Quarter. This meteor shower is caused by debris from Comet Thatcher. It can produce bright meteors with some fireballs. It is best seen in the predawn hours when the constellation Lyra is high in the night sky.

Eta Aquarids are active from April 20<sup>th</sup> thru May 21<sup>st</sup> with a peak on May 4-5. The moon will be 44% full just before 1<sup>st</sup> quarter. It will be best seen around 2am. This meteor shower by debris from Comet Halley. Interesting fact is Comet Halley also causes the Orionid meteor shower in October.

## Presidents Ramblings:



**70 years old.** In 1955 Northmoor Observatory opened to the public. It was a long process by many individuals to make something big happen. Northmoor was dedicated on July 23, 1955 but due to rain the voyage to the stars was postponed for a week. I am sorry we /I did not get the winter Starlite out, I had many family events and moving a father home from Florida that the time fly by. He is settled in and I can now spend more time doing other things.

A big shout out to the helpers and keyholders of Northmoor as we gear up for opening day May 17<sup>th</sup>. We have 19 volunteers and would love more. I always say it, call me and we can get you into the schedule for as much or as little time you can give. If we continue to not get volunteers, it will become harder for Northmoor Public viewing to stay open. **WE NEED YOUR SUPPORT OF TIME.**

Whats coming up for 2025 to see? **Total Lunar Eclipse** on March 13<sup>th</sup>, it begins at 10:57pm and full eclipse begins March 14<sup>th</sup> at 1:26am. **March 18- 21** is the dual visibility of Venus. It will be both a morning and evening plant. **March 23<sup>rd</sup>** the rings of Saturn appear to disapear due to the ring plane crossing. It might be a good time for keyholders to us Northmoor telescope. March 29<sup>th</sup> is a partial solar eclipse visible if you are traveling to the north eastern parts of the US or into Canada but not in Illinois. Finally, on **April 25<sup>th</sup>** is a triple conjunction of the Moon, Venus and Saturn in the predawn hour in the east.

Dan Son  
President

### **Facts..just the Facts..**

What happens when a microscope crashes into a telescope? They kaleidoscope. ok..I thought it was a funny fact!

A nova is a much smaller stellar explosion than a supernova. Novae are also much less rare; the last nova to happen in the Milky Way was in 2022 — we haven't seen a supernova in our galaxy since 1604.

It's not uncommon to see the Moon occult (appear to pass in front of) a planet. What's truly rare is a planet occulting another planet, in part because planets appear so small from Earth's perspective. The last time this happened was in 1818, and it won't happen again until 2065 when Venus occults Jupiter.

### **Submission of photos / article content for the Starlite: Dan Son**

If you have a photo that you would like to submit for the Starlite, please send these to Dan Son [sonshine1992@gmail.com](mailto:sonshine1992@gmail.com) along with a little write-up about the photo. Photos can be from star parties, club events, personal view, etc. Astrophotography is encouraged. Also, if you have educational content, tips, techniques, lessons learned or how-to articles with photos, we encourage that material for the Starlite. We can also put these on our Facebook page if you so desire.

<https://www.facebook.com/PeoriaAstronomicalSociety>

### **The Caterpillar Matching Gifts Program IRA RMD: Brian Hakes**

If you are a CAT Employee/Retiree you can gift the PAS through the CAT matching gift program. Employees/Retirees are asked to submit matching gift forms electronically via the Caterpillar Foundation website, [www.caterpillar.com/foundation](http://www.caterpillar.com/foundation). The process is easy. Once you made your gift to the PAS you can go online to the Cat Foundation website and complete the electronic form, there is no paper involved. Once the form is registered with the foundation they will notify the PAS and the treasurer will then verify the gift has been received. Because there will be no mailings, the turnaround time for the whole process will be negligible.

If you are required to make an annual mandatory withdrawal from an IRA you can also designate an amount to the Peoria Astronomical Society. Don't forget that the PAS is a 501C(3) organization.

These are excellent ways to support the PAS and is a great way to help the society and the promotion of astronomy in the greater Peoria area.

## **Reflector:**

Reflector Magazine digital edition is available for download. You may access an archive of digital issues from the AL website by visiting:

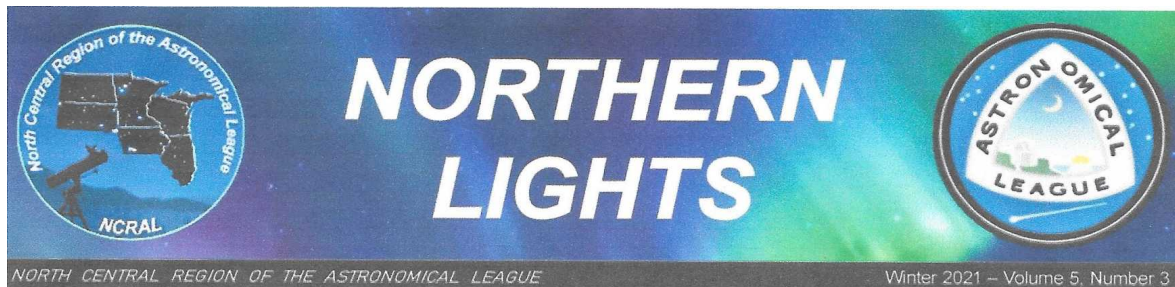
<https://www.astroleague.org/reflector>

## **NCRAL Newsletter:**

The North-Central Region of the Astronomical League (NCRAL) is made up of member societies... the six states commonly thought of as the Upper Midwest of the USA, plus the Upper Peninsula of the state of Michigan. The PAS is a member of the NCRAL. Their Region Newsletter, also named "Northern Lights", has been resurrected and is better than ever! The latest issue's can be read on their website can be found here:

<https://ncral.wordpress.com/newsletter-archive/>

You can access the current issue and all other back issues through this link.



## **Program Schedule 2024 – 2025**

### **March 5 Meet in the Dome at the Peoria Riverfront Museum. 7:00 p.m.**

Members' Social and Sharing Session

Sharing of anything astronomical: astrophotography, new equipment, places visited or plans for visiting, internet sites found or videos viewed, books read, etc. Current Sky Summary and Planetarium show (if needed as time allows)

### **May 7 Meet at Northmoor Observatory, Donovan Park, 7:00 p.m.**

Get to know - all about Northmoor Observatory

Get ready for the start of our public observing season in May

Learn all there is to know about our historic public observatory, including the history, and the operation of the telescope

**Inclement weather notice:** Monitor email (e-group), local radio stations or PAS Facebook Page if a program, board meeting, viewing, or star party may be canceled due to weather. If we determine a risk in the weather, the Society will cancel the event.

**Photos from Members:**



2024  
M27  
J Carroll

## M27 Dumbbell Nebula

Constellation Vulpecula  
1360 light-years from Earth  
~3 light years across  
Magnitude 7.4  
8 Arcmin Across

A planetary nebula is an emissions nebula consisting of an expanding, glowing shell of ionized gases ejected from and surrounding a red giant star late in its life.

- Peoria, Moon Setting
- Williams Optics 120mm Triplet
- Skywatcher EQ6 Mount, Auto-guided
- 0.8 Flattener/ Reducer
- 624mm Focal Length (w/reducer)
- f/5.2 (w/reducer)
- Optolong L-Ultimate 3nm Ha & OIII
- ZWO ASI2600MC Duo
- 3 hr 10 minutes total exposure
- 38x5 minute subs
- Deep Sky Stacker
- Lightroom (Adjust exposure, black level, red and blue texture and clarity, star reduction using texture)
- Output to High Fidelity JPG Files
- Final Adjustments for On-Screen

November 7, 2024





20241005 V Allen Jubilee & ICC



20241011 Aurora D Son



2025/01/13  
M Frasca  
SeeStar



 SeeStar S50

Peoria / 2025.01.13 20:03

Moon

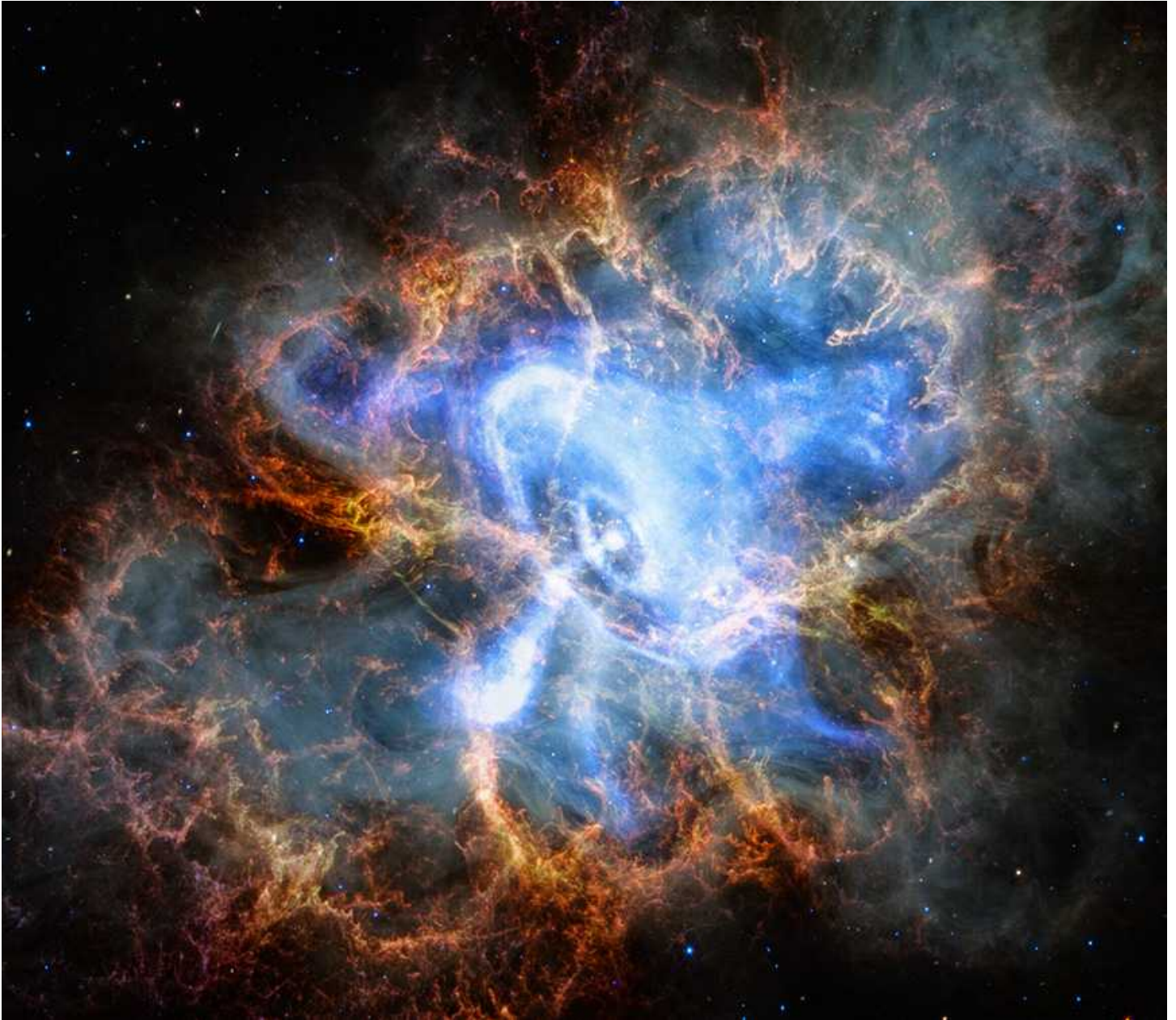


M102 Linda Groezinger Skywatcher EQ6-R Quattro 250p ZWO ASI585MC



2025/02/28 V Allen Jubilee location

**And from other Instruments:**



The Crab Nebula (Webb Chandra composite)



Tadpole Galaxy Hubble & processed by Harshwardhan Pathak 2024

## 25 Years ago:

### *A Primer for the Advanced* *Lesson Four: Locating Pluto*

by John Barra and Tim Lester

*Lessons One through Three appeared in Starlite Issues # 138, June 1999, and Issues # 140-141, December 1999-March 2000*

The most difficult part of locating Pluto is not getting Pluto within your eyepiece; it is being able to determine that you in fact have the planet in your eyepiece. Stated differently, it is being able to pick out Pluto among the many nearby dim stars.

We will explain the preparation and process necessary for the advanced amateur to locate Pluto. We will then document how we used these techniques last year to locate the planet. Finally, we will explain how you can accomplish this feat this summer or any summer.

#### Preparation

The first step is to get the exact coordinates of Pluto for the time and date of your attempt to locate the planet. You can obtain this information from any good planetarium software program. There are also various sites on the Internet; for example, <<http://www.fourmilab.to/yoursky/catalogues/planets.html>>.

The most important step is obtaining accurate star charts. You will need at least three different charts. The first is a chart with a wide field of view. Any star chart with coordinates will do. Simply plot Pluto on this chart from the coordinates obtained. Even an astronomy

magazine chart with tick marks for Pluto during the year will suffice. The purpose of this chart is to show the general field. It can also be used as the first step in starhopping if you use that technique. Locate the closest naked eye star.

The next chart should cover a field of three or four degrees. A good star chart made by any decent star chart software with star magnitudes up to 10<sup>th</sup> magnitude is necessary. If you are starhopping, you will use this chart to locate a series of stars that will lead to the small field containing Pluto. If you have a computerized telescope, this chart will help you confirm that you have correctly narrowed the field.

Finally, the last chart must be very accurate. Since Pluto averages magnitude 13.7, this chart should contain stars to magnitude 15. It is necessary to have stars that are faint enough on it in order to have fainter objects to compare Pluto to. This chart should cover a field of no greater than 20 arcminutes.

The last preparation is to modify the charts to the type of telescopic view that will be seen during the observations. If your telescope has a reverse view, such as a Schmidt-Cassegrain with a star diagonal, make sure that your final two charts are reversed. Some computer programs will make the charts reversed. If not, turn your chart upside down on a light and

mark the objects on the reverse side.

It is also necessary that the final chart differentiate the stars by magnitude. It helps to write in the magnitude of each star near Pluto if you can obtain that information.

#### In the Field

As mentioned earlier, to locate Pluto it is necessary to have a telescope that can locate stars as dim as magnitude 15. You will need to be at a dark site with excellent seeing conditions.

Using the first chart and a very low power eyepiece, locate a nearby bright target star and starhop to the general field that contains Pluto. Then with the second chart and the same eyepiece, move to the spot where the planet should be located. Put in a medium power eyepiece and confirm that you are in the right location. Center the spot that should contain Pluto.

If you are using an electronic telescope, skip the first step. Use a low power eyepiece and plug in the correct coordinates. Allow the telescope to slew to the correct spot and compare the view with your second chart. Put in a medium power eyepiece and verify that you are in the right spot. Center the field if necessary.

The last step is to put in a high power eyepiece and compare the field with your third chart. It helps if you have a wide angle high power eyepiece. Hopefully you will see Pluto where the chart indicates. Compare its apparent brightness to the nearby stars and their indicated magnitude. If Pluto is in the exact position as shown by your chart, note it. If it is in a slightly different position, mark it on your chart. If the

*(Continued on page 9)*

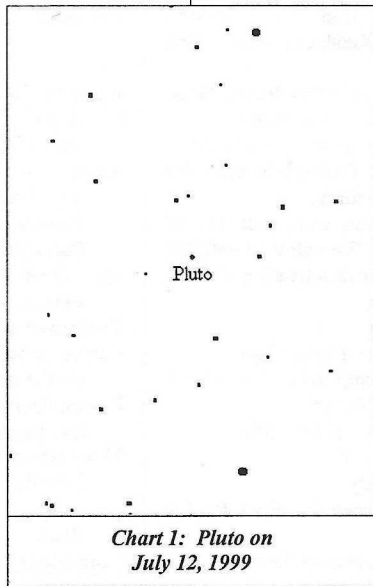


Chart 1: Pluto on  
July 12, 1999

*...The first  
is to get  
exact  
coordinates  
Pluto...*

## Primer...

(Continued from page 8)

planet is not in your field, start over and try again.

### Verification

When you get home, you can make a tentative verification by use of the Internet. Go to the Digitized Sky Survey at [http://stdatu.stsci.edu/cgi-bin/dss\\_form](http://stdatu.stsci.edu/cgi-bin/dss_form). Plug in the coordinates used for Pluto and compare the downloaded photo of the field with your chart. Note that these photos will contain many dimmer stars. However, you should be able to find the pattern of stars from your chart, because they will appear brighter in the photo. There should be no object or only a much dimmer star at or near the spot corresponding to where you located Pluto.

Real verification comes the next viewing night. First, use the same chart and procedure you used the first night. If there now is no object where you marked the planet the first night, then that object moved — it was indeed Pluto!

Finally, use new charts based on the new coordinates for the time and date of the second viewing session. You should be able to repeat your success.

### Pluto: 1999, 2000, and Beyond

We used this procedure to locate Pluto on July 10, 1999, and again on August 3, 1999. We used the 14-inch Celestron at

Jubilee, with 40 mm, 26 mm, 14 mm wide-angle, and 9 mm wide-angle eyepieces. Chart 1 shows the high power chart we used the first night to locate Pluto. Chart 2 shows the same field on the second night, with Pluto absent, verifying our finding. The chart on page one of this issue of *Starlite* shows a wide-field view for

Pluto during the summer of 2000. The marks for Pluto are in ten-day intervals.

Since Pluto revolves around the sun every 248 years, it will remain in the same constellation for approximately 12 years. Pluto currently can be found in Ophiucus. Make the appropriate charts based on

the coordinates for the dates you are going to attempt to locate Pluto and follow the suggested procedure. In future years, just obtain new charts with the appropriate coordinates.

If you follow this procedure and locate the planet, drop us a short description. We will memorialize your success in a future *Starlite*. ☿

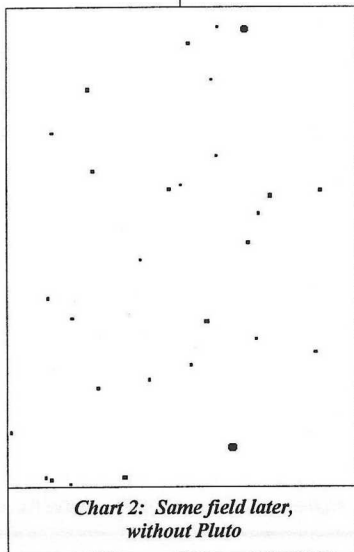


Chart 2: Same field later, without Pluto



## Monthly Programs

Unless otherwise noted, meetings will be held at the Planetarium, with all programs beginning at 7:00 p.m.

**June 7, 2000**

**Video — What If the Earth Had No Moon?**

**July 5, 2000**

**Astronomy on the Internet**

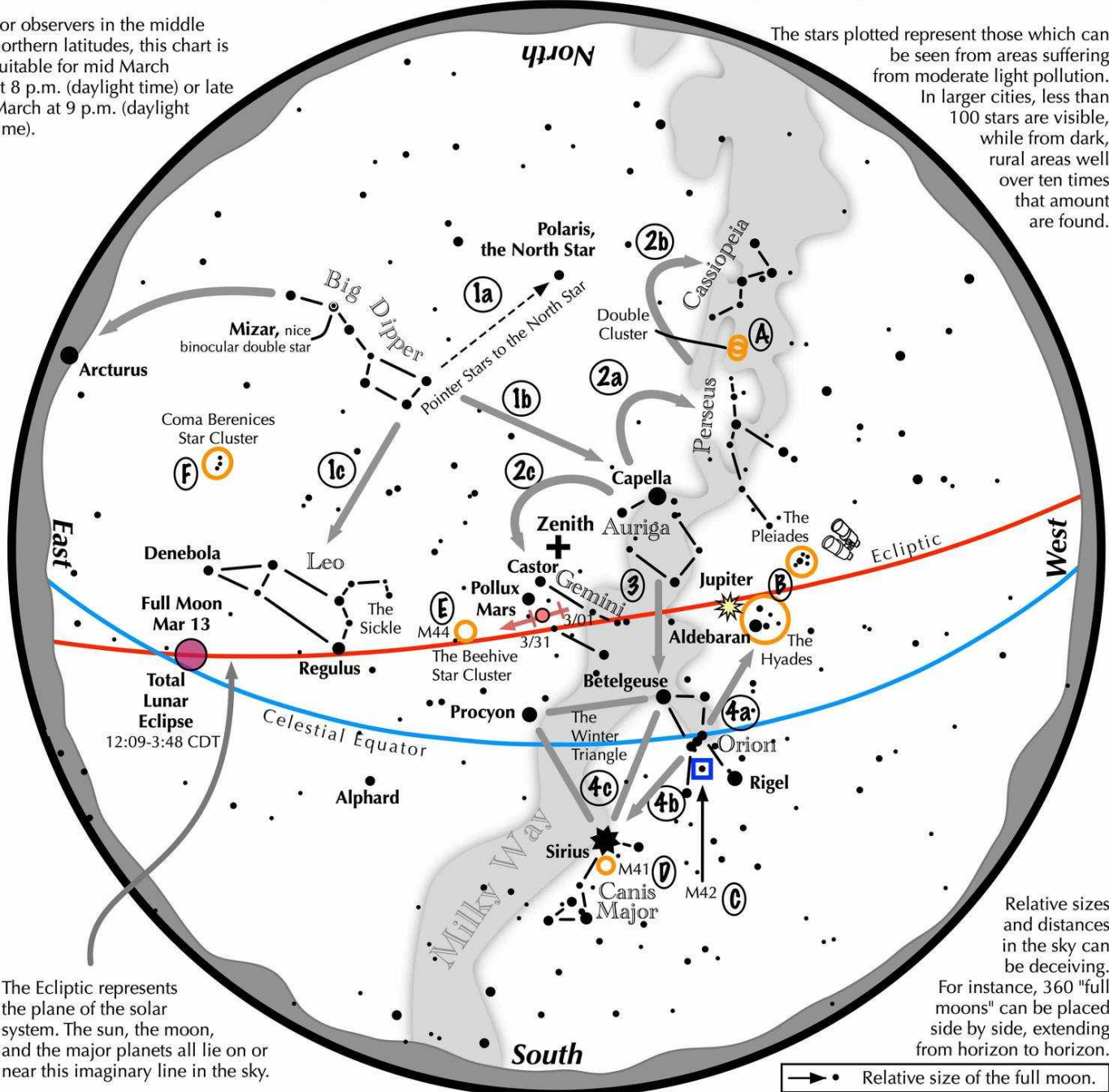
\*\*\*Illinois Central College\*\*\*

\*\*\*Room 306A\*\*\*

# Navigating the mid March Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid March at 8 p.m. (daylight time) or late March at 9 p.m. (daylight time).

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

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

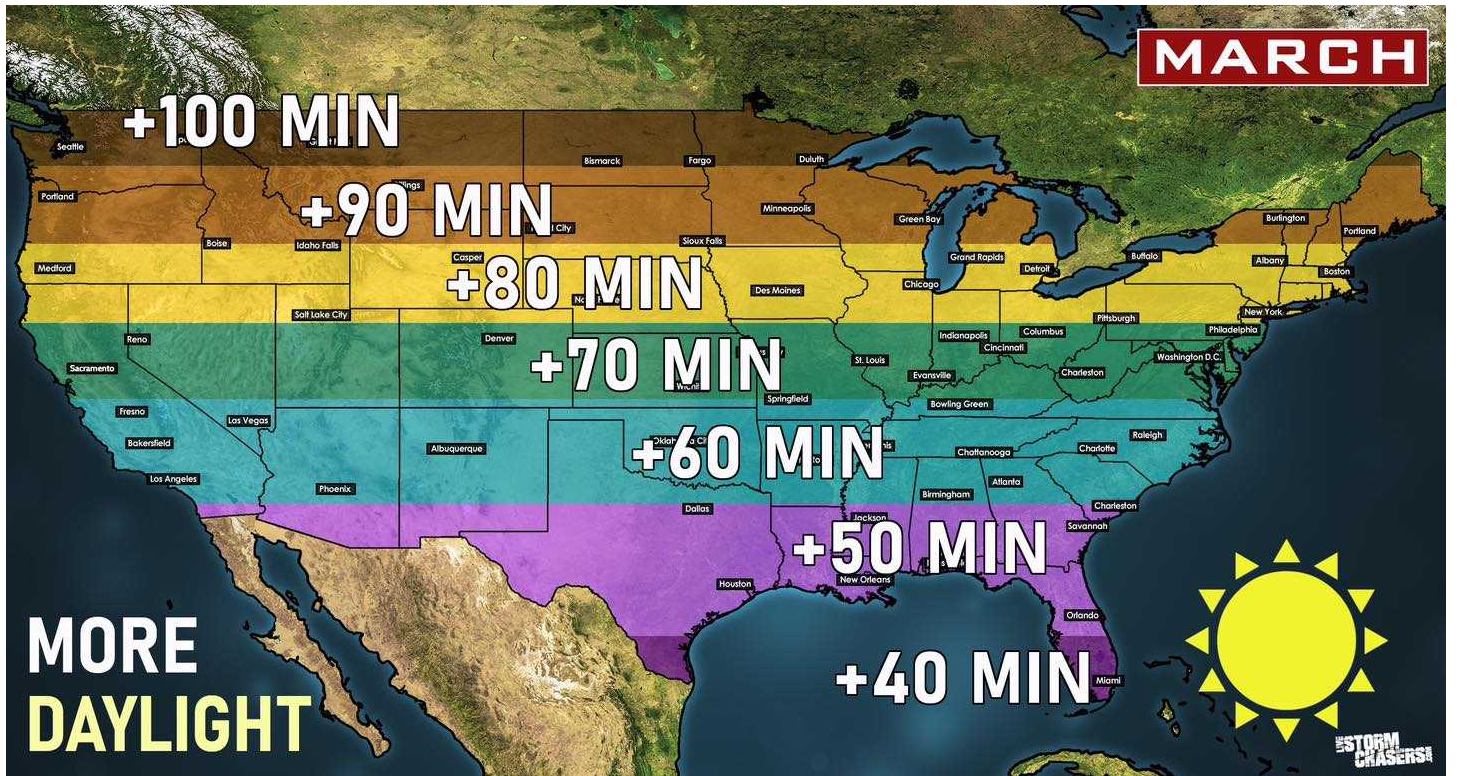
- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

### Binocular Highlights

**A:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** M42 in Orion is a star forming nebula. **D:** Look south of Sirius for the star cluster M41. **E:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **F:** Look high in the east for the loose star cluster of Coma Berenices.







# Amateur Astronomy Magazine

The Essential Journal for Engaged Amateur Astronomers

**The 2024 Total Eclipse**


**Deep Sky Hunting: The X Factor**

**Hunting Giant Nebula in a Giant Constellation**

**Star Person**  
Jim Klingshirn

**Constellations of Summer**

ZWO ASI Air/AM3 Review  
Solar Activity  
Image Gallery  
Variable Stars  
Reflection and the Observer



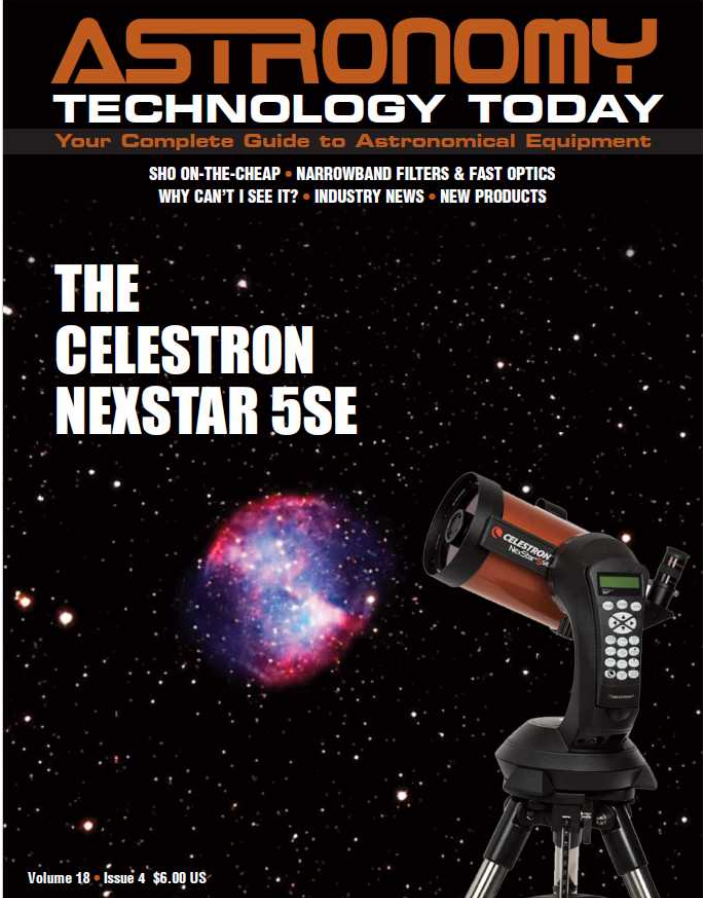
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## THE CELESTRON NEXSTAR 5SE



Volume 18 • Issue 4 \$6.00 US

Above are 2 magazines or e-magazine that I have read for a number of years. Amateur Astronomy Magazine ( <https://amateurastronomy.com/>) I enjoy reading and find it different than Sky & Telescope as it is dealing with Astronomy at a local and amateur level. Astronomy Technology Today ( <https://astronomytechnologytoday.com> ) was introduced to PAS when Dr James Dire joined PAS and is a contributing writer for this e-publication. I have even bought an eye piece passed on articles from it. Give them a try. To keep my wife happy I now only do digital downloads so I don't have hundreds of paper magazines in the basement!