



The Newsletter of the Kern Astronomical Society No. 571 April 2023

KAS Open Meeting

***First Friday of
Every Month***

[Round Table Pizza,](#)
4200 Gosford Road,
Suite 101, Bakersfield, CA

Dinner & Social 6:30 pm
Meeting/Program 7:30 pm

Upcoming Meetings

April - Tim Elam - San Andreas Along Gorman
May – Rod Guice – Meteor
June – Mark Zaslove – Astrophotography
July - No Meeting

Join us on Facebook: <https://www.facebook.com/groups/syzygy/>

Visit our Web Page at <https://www.kernastro.org>

Contact us at kernastronomicalsociety@gmail.com

Reach for the Stars



Upcoming Events

April 15 – Last quarter moon star party at Chuchupate.

April 22 – New moon star party at Chuchupate.

Note: The Panamint Springs dark sky trip has been cancelled.

May 6 – KAS Picnic



On the night of April 11, Venus will be about 3 degrees SE of the Pleiades. This photo is from a similar event 3 years ago. Camera and tripod with several seconds exposure. On the same night, see if you can spot Mercury low in the west as it starts to get dark.

The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

Sky Calendar – April 2023

Get Sky Calendar on Twitter
<http://twitter.com/skymaps>

- 2 Moon near Regulus at 12h UT (evening sky).
- 6 Full Moon at 4:36 UT.
- 6 Moon near Spica at 21h UT (midnight sky).
- 10 Moon near Antares at 8h UT (morning sky).
- 11 Venus 2.5° SE of the Pleiades at 14h UT (evening sky).
- 11 Mercury at greatest elongation east at 22h UT (20° from Sun, evening sky). Mag. 0.1.
- 11 Jupiter at conjunction with the Sun at 22h UT. The largest planet passes into the morning sky.
- 13 Last Quarter Moon at 9:12 UT.
- 16 Moon at perigee (closest to Earth) at 2:31 UT (distance 367,968km; angular size 32.5').
- 16 Moon near Saturn at 7h UT (morning sky). Mag. 1.0.
- 20 Annular-Total Eclipse of the Sun along a narrow path crossing the Indian Ocean, Australia's North West Cape, East Timor, West Papua and Pacific Ocean from 1:34 to 6:59 UT. Partial solar eclipse visible from Southeast Asia and Australia.
- 20 New Moon at 4:15 UT. Start of lunation 1241.
- 22 Moon near the Pleiades at 12h UT (evening sky).
- 23 Lyrid meteor shower peaks at 1h UT (timing and activity is variable). Active April 14-30. Radiant is between Hercules and Lyra. Expect 10 to 20 bright, fast meteors per hour at its peak.
- 23 Moon near Venus at 13h UT (41° from Sun, evening sky). Mag. -4.1. Look out for this spectacular sight!
- 26 Moon near Mars at 4h UT (evening sky). Mag. 1.3.
- 27 First Quarter Moon at 21:20 UT.
- 27 Moon near Beehive cluster M44 at 23h UT (evening sky).
- 28 Moon at apogee (farthest from Earth) at 7h UT (distance 404,299km; angular size 29.6').
- 29 Moon near Regulus at 20h UT (evening sky).
- 29 **International Astronomy Day 2023** is celebrated today! Contact your local Astronomy club, planetarium, observatory or science museum to participate in a variety of Astronomy activities.

More sky events and links at <http://Skymaps.com/skycalendar/>

All times in Universal Time (UT). (USA Eastern Daylight Time – UT – 4 hours.)



SAVE ON RECOMMENDED PRODUCTS • <http://Skymaps.com/store>

- STAR ATLASES & PLANISPHERES
 - STAR CHARTS & ASTRO POSTERS
 - BOOKS FOR SKY WATCHERS
 - TELESCOPES & BINOCULARS
- All sales support the production and free distribution of The Evening Sky Map.

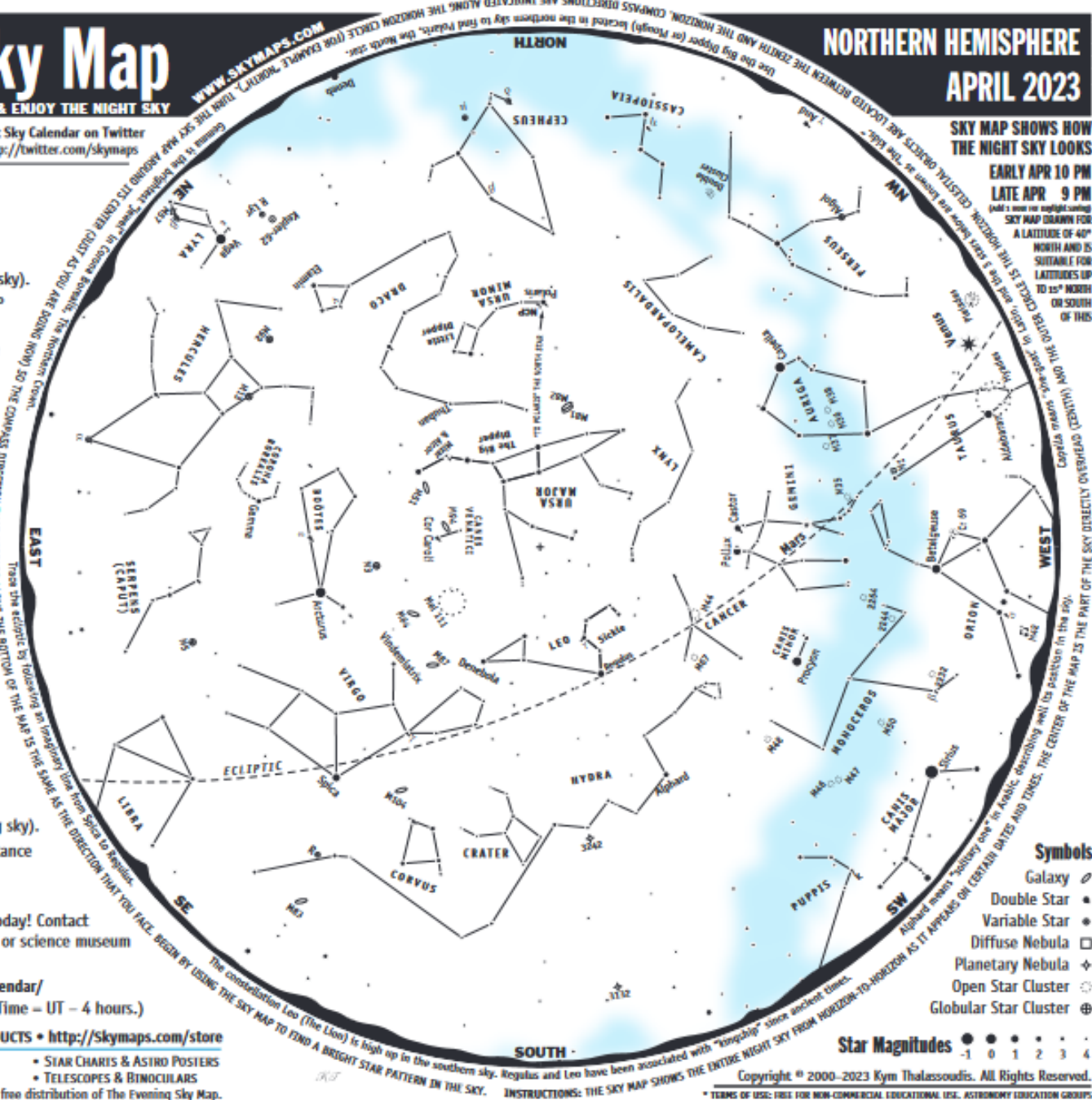
NORTHERN HEMISPHERE APRIL 2023

SKY MAP SHOWS HOW
THE NIGHT SKY LOOKS

EARLY APR 10 PM

LATE APR 9 PM

(Add 1 hour for daylight saving)
SKY MAP DRAWN FOR
A LATITUDE OF 40°
NORTH AND IS
SUITABLE FOR
LATITUDES UP
TO 15° NORTH
OR SOUTH
OF THIS



Symbols

- Galaxy
- Double Star
- Variable Star
- Diffuse Nebula
- Planetary Nebula
- Open Star Cluster
- Globular Star Cluster

Star Magnitudes -1 0 1 2 3 4

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About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

NORTHERN HEMISPHERE
APRIL 2023

CELESTIAL OBJECTS

Sky maps

Easily Seen with the Naked Eye

Capella	Aur	• The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.
Arcturus	Boo	• Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
Sirius	CMa	• The brightest star in the sky. Also known as the "Dog Star". Dist=8.6 ly.
Procyon	CMi	• Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly.
Castor	Gem	• Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	• With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
Regulus	Leo	• Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Vega	Lyr	• The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.
Betelgeuse	Ori	• One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.
Algol	Per	• Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.
Aldebaran	Tau	• Brightest star in Taurus. It is not associated with the Hyades star cluster. Dist=66.7 ly.
Polaris	UMi	• The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist = 433 ly.
Spica	Vir	• Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

M38	Aur	• Stars appear arranged in "pi" or cross shape. Dist=4,300 ly.
M36	Aur	• About half size of M38. Located in rich Milky Way star field. Dist=4,100 ly.
M37	Aur	• Very fine star cluster. Discovered by Messier in 1764. Dist=4,400 ly.
M44	Cnc	• Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M3	CVn	• Easy to find in binoculars. Might be glimpsed with the naked eye.
Mel 111	Com	• Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=283 ly. Age=400 million years.
v Draconis	Dra	• Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly.
M35	Gem	• Fine open cluster located near foot of the twin Castor. Dist=2,800 ly.
M13	Her	• Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly.
M92	Her	• Fainter and smaller than M13. Use a telescope to resolve its stars.
M48	Hya	• 12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
R Hydrae	Hya	• Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.
R Lyræ	Lyr	• Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.
Z232	Mon	• A large scattered star cluster of 20 stars. Dist=1,300 ly.
Z244	Mon	• Surrounded by the rather faint Rosette Nebula. Dist=5,540 ly.
M50	Mon	• Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
Cr 69	Ori	• Lambda Orionis Cluster. Dist=1,630 ly.
Double Cluster	Per	• Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly.
M47	Pup	• Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	• Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
M5	Ser	• Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.
Mizar & Alcor	UMa	• Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.

Telescopic Objects

ε Boötis	Boo	• Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
M67	Cnc	• Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
M94	Cnc	• Compact nearly face-on spiral galaxy. Dist=15 million ly.
M51	CVn	• Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
η Cassiopeiae	Cas	• Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".
M64	Com	• Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".
3242	Hya	• Ghost of Jupiter. Bright blue disk. Mag 11 central star. Dist=2,600 ly.
M83	Hya	• Classic face-on spiral. Discovered in 1752 by Lacaille. In attractive star field.
γ Leonis	Leo	• Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Monocerotis	Mon	• Triple star. Mags 4.6, 5.0 & 5.4. Requires telescope to view arc-shape. Sep=7.3".
Z264	Mon	• Christmas Tree Cluster. Associated with the Cone Nebula. Dist=2,450 ly.
M1	Tau	• Crab Nebula. Remnant from supernova which was visible in 1054. Dist=6,500 ly.
M81	UMa	• Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
M82	UMa	• Close to M81 but much fainter and smaller.
3132	Vel	• One of the brightest planetaries. Magnitude 10 central star. Dist=2,600 ly.
M87	Vir	• Supergiant galaxy with supermassive black hole at its core. Dist=53.5 million ly.
M104	Vir	• Sombrero Galaxy. Almost edge-on spiral galaxy. Protruding central core.
γ Virginis	Vir	• Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.

The Evening Sky Map (ISSN 1839-7735) Copyright © 2000-2023 Kym Thalassoules. All Rights Reserved.

Kern Astronomical Society InfoShare

Since 1956, the Kern Astronomical Society has promoted community awareness of current events in astronomy, and provides a forum for sharing of knowledge and experiences among amateur astronomers. Annual membership is \$25.00 which also provides membership in the Amateur Astronomical League, access to their newsletter (Reflector Magazine), and participation in observational programs.

Star Parties and Outreach

The Kern Astronomical Society typically has two Club Star Parties each month depending on the weather. Our Club Parties are held on Saturdays nearest the New Moon. We also host Public Star Parties at various locations around town during April - October. These parties are held on Saturdays nearest the first quarter Moon. In addition, we also host Lunar, Solar, and Planetary viewing for Public Schools. Requests may be directed to our Star Party Coordinator.

Club Equipment

The Kern Astronomical Society has telescopes and accessories (listed below) available for loan to Club Members in good standing. Members are encouraged to borrow the different types of telescopes in stock (especially if you are considering purchasing one). Trying out different sizes and types of telescopes can help you make an informed decision about purchases. If you have a Club telescope in your possession, you will be expected to participate in at least one public star party.

- 6" f/6, 8" f/6, 10" f/5.6, 13" f/4.5 Dobsonian telescopes, Parks Jovian 90, 3 ½" f/13 Maksukov-Cassegrain, 4" f/15 Unitron Refractor
- 8" Solar Filter
- Assorted eyepieces

Privileges and Benefits of Membership in the Kern Astronomical Society

- 1) Hold an elected position as an Officer or Board Member in the Society
- 2) Vote in the election process and on business at meetings
- 3) Go on sponsored field trips to various astronomy related events (i.e. Mt Wilson Observatory, Panamint Springs Dark Sky, etc.)
- 4) Membership in the Astronomical League which includes subscription to Reflector Magazine
- 5) Discount for Sky and Telescope Magazine
- 6) Access/use of club telescopes and related equipment / Help with use of equipment by members
- 7) You are covered under the Society's insurance at related events

KAS Club Officers/Board Members

President:	Gregg Pytlak	gpytlak@yahoo.com
Vice President:	Diane Franco	dianef02@yahoo.com
Secretary	Rod Guice	stargazer10000@gmail.com
Star Party / Event Coordinator	Darren Bly	dcbly@bak.rr.com
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Kern Astronomical Society

New Membership/Renewal 2023

Date: _____

Name: _____

Family Members: _____

Address: _____

City, State, Zip: _____

Phone: _____

Email:** _____

My check # _____ in the amount of \$ _____ is enclosed.

Yearly Membership \$25

Make checks payable to: KAS (or) Kern Astronomical Society

You can also mail this form and check to:

Kern Astronomical Society
5501 Stockdale Hwy #10241
Bakersfield, CA 93389

** Please provide the email address where you wish to receive the KAS newsletter (if different than above)

"SYZYGY": _____