



The Newsletter of the Kern Astronomical Society    No. 551    August 2021

### ***KAS Open Meeting***

*First Friday of  
Every Month*

August 6, 2021 @  
Round Table Pizza,  
4200 Gosford Road,  
Suite 101, Bakersfield, CA

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

**Our regular monthly meetings will  
resume August 6 at Round Table  
Pizza at 4200 Gosford Road.**

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](mailto:kernastronomicalsociety@gmail.com)

**Reach for the Stars**



## **Important Messages from the Board**

**Membership:** Annual membership fees (\$25) will resume for 2022. No action by existing members is required at this time. New members can join for our annual fee which will cover the remaining months of 2021 and year 2022.

**Election of Club Officers:** Our annual election of club officers will be postponed until after the first of the year. So far, most of the current officers have been contacted and have confirmed that they will remain in their positions until a new election is held. However, we are in need of someone to fill the club secretary position. If interested, please e-mail Gregg Pytlak at [gpytlak@yahoo.com](mailto:gpytlak@yahoo.com). Here is a description of the duties:

### **Secretary Position Duties from the Club Bylaws:**

Section 4: The Secretary shall keep records, submit notices, and make reports to the members and Board of Directors, and perform such duties as are incidental to the office. The secretary must assist the treasurer in record keeping of the KAS membership list updated by administering sign in sheets at all meetings.

## **Upcoming Star Parties**

Possible dates for Star Parties at Chuchupate are August 7 (New Moon) and August 29 (Last Quarter Moon). Watch for updates via e-mail and/or Facebook.



## KAS Star Party and Potluck – July 10<sup>th</sup>



Photo Credit: Ivan Aburto

## KAS Astrophotography



The Butterfly Nebula (IC 1318) by: Kyle Druey



THE 2021 DARK SKY FESTIVAL WILL BE VIRTUAL SIMILAR TO 2020.

PLEASE FOLLOW "DARK SKY FESTIVAL – SEQUOIA PARKS CONSERVANCY" ON SOCIAL MEDIA FOR UPDATED INFORMATION.





## 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.

**Variable Star** – A star that changes brightness over a period of time.

NORTHERN HEMISPHERE  
AUGUST 2021

CELESTIAL OBJECTS

Sky maps.com

## Easily Seen with the Naked Eye

- |            |     |  |
|------------|-----|--|
| Altair     | Aql | • Brightest star in Aquila. Name means "the flying eagle". Dist=16.7 ly.                     |
| Arcturus   | Boo | • Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.                             |
| δ Cephei   | Cep | • Cepheid prototype. Mag varies between 3.5 & 4.4 over 5,366 days. Mag 6 companion.          |
| Deneb      | Cyg | • Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly.        |
| α Herculis | Her | • Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion. |
| Vega       | Lyr | • The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.                        |
| Antares    | Sco | • Red, supergiant star. Name means "rival of Mars". Dist=135.9 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

- |               |     |  |
|---------------|-----|--|
| M31           | And | • The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.5 million ly.       |
| η Aquilae     | Aql | • Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7,166 days. Dist=1,200 ly.      |
| M3            | CVn | • Easy to find in binoculars. Might be glimpsed with the naked eye.                          |
| μ Cephei      | Cep | • Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.            |
| χ Cygni       | Cyg | • Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days.        |
| M30           | Cyg | • May be visible to the naked eye under good conditions. Dist=400 ly.                        |
| ν Draconis    | Dra | • Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 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.                        |
| ε Lyrae       | Lyr | • Famous Double Double. Binoculars show a double star. High power reveals each a double.     |
| R Lyrae       | Lyr | • Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.                  |
| M12           | Oph | • Close to the brighter M10. Dist=18,000 ly.   |
| M10           | Oph | • 3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.        |
| IC 4665       | Oph | • Large, scattered open cluster. Visible with binoculars.                                    |
| 6633          | Oph | • Scattered open cluster. Visible with binoculars.   |
| M15           | Peg | • Only globular known to contain a planetary nebula (Mag 14, d=1"). Dist=30,000 ly.          |
| M8            | Sgr | • Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly.                       |
| M25           | Sgr | • Bright cluster located about 6 deg N of "teapot's" lid. Dist=1,900 ly.                     |
| M22           | Sgr | • A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly.            |
| M4            | Sco | • A close globular. May just be visible without optical aid. Dist=7,000 ly.                  |
| M6            | Sco | • Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly.                              |
| M7            | Sco | • Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly.         |
| 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.    |
| Cr 399        | Vul | • Coathanger asterism or "Brocchi's Cluster". Not a true star cluster. Dist=218 to 1,140 ly. |

## Telescopic Objects

- |            |     |   |
|------------|-----|---|
| 7000       | Aqr | • Saturn Nebula. Requires 8-inch telescope to see Saturn-like appendages.                     |
| ε Boötis   | Boo | • Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split. |
| M94        | CVn | • Compact nearly face-on spiral galaxy. Dist=15 million ly.                                   |
| M51        | CVn | • Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.            |
| M64        | Com | • Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".               |
| Albireo    | Cyg | • Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4".             |
| 61 Cygni   | Cyg | • Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".              |
| γ Delphini | Del | • Appear yellow & white. Mags 4.3 & 5.2. Dist=100 ly. Struve 2725 double in same field.       |
| β Lyrae    | Lyr | • Eclipsing binary. Mag varies between 3.3 & 4.3 over 12.940 days. Fainter mag 7.2 blue star. |
| M57        | Lyr | • Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly.                           |
| M23        | Sgr | • Elongated star cluster. Telescope required to show stars. Dist=2,100 ly.                    |
| M20        | Sgr | • Trifid Nebula. A telescope shows 3 dust lanes trisecting nebula. Dist=5,200 ly.             |
| M21        | Sgr | • A fine and impressive cluster. Dist=4,200 ly.   |
| M17        | Sgr | • Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly.                            |
| M11        | Sct | • Wild Duck Cluster. Resembles a globular through binoculars. V-shaped. Dist=5,600 ly.        |
| M16        | Ser | • Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 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.  |
| M27        | Vul | • Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly.          |

The Evening Sky Map (ISSN 1839-7735) Copyright © 2000-2021 Kym Thalasoudis. 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 1/2" f/13 Maksukov-Cassegrain, 4" f/15 Unitron Refractor
- 8" Solar Filter
- Assorted eyepieces

### KAS Board Members

President:	Gregg Pytlak	<a href="mailto:gpytlak@yahoo.com">gpytlak@yahoo.com</a>
Vice President:	Diane Franco	<a href="mailto:dianef02@yahoo.com">dianef02@yahoo.com</a>
Treasurer	Pam Miller	<a href="mailto:dgmpsm2@yahoo.com">dgmpsm2@yahoo.com</a>
Secretary		
Equipment Chairman	Darren Bly	<a href="mailto:dcbly@bak.rr.com">dcbly@bak.rr.com</a>
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Educational Committee Chair		
Educational Youth Ambassador		
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# Kern Astronomical Society

## Membership New/Renewal 2022

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Family Members: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Email:\* \_\_\_\_\_

My check# \_\_\_\_\_ for (or cash) 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:

**KAS**

**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": \_\_\_\_\_