

Astronomy Club of Lompoc
Presents
The Sidereal Times



Messier 3 (see page 5)

Meeting News:

At the September ACL meeting we discussed club officers that might be elected to office. Star party and new web server.

Reminder: ACL club meeting Oct. 14th will be held at Manzanita School Teachers Lounge 7:00 Pm.

Masks!



Lunar Calendar

New Moon 25th

Full Moon 9th

Happy Halloween



Presidents Message

Hello, Friends,

While there were only a half dozen faithful gathered for our September meeting, we had a very pleasant evening sharing and discussing astronomy news. There was much excitement around our decision to print new ACL T-shirts which will feature our logo on the back and Astronomy Club of Lompoc front left. Thank you, Jana, for shepherding this project!

And speaking of Jana, she revealed that the Postal Service had released a stamp honoring the James Webb Space Telescope. Thanks to Jana, I purchased two sheets myself at the Lompoc Post Office. Head down to the post office and pick up a sheet or two. Show pride in JWST by affixing them to any of your mail. The more space and astronomy stamps the Postal Service sell, the more inclined they will be to produce more!

Edmund Burke was with us, and he brought us up to date on his efforts, working through the Space Force, to upgrade the Endeavour Observatory. One major addition will be a secure storage shed for equipment in support of the Observatory's functions and to aid in Star Parties. His goal is to have the Observatory telescope upgraded next year, beginning with a new mount. Vahan stressed that the mount would have to be upgraded to hold the larger, heavier scope.

Nominations of club officers are coming up. Jana has expressed that she is willing to return to the role of President. That being the case, I will finally take a break, but will serve in another office as needed.

October 1st is International Observe the Moon night. While our Club has no formal plans [it is a Full Moon night, after all], consider inviting your friends to step outside and spend a little time visiting under the magical glow of our faithful companion and original satellite. While most craters are "washed out" at Full Moon, the various Marias show up well.

Can you point out the Sea of clouds to a friend?

See you at our meeting on Friday, October 14th, at 7:00 at Manzanita! Happy Halloween!

Skyward where maybe brooms with cackling riders sweep past the Moon,

Tom



Events

Oct 17, 25 & 31 -*Star Party at the Observatory*



Yes!

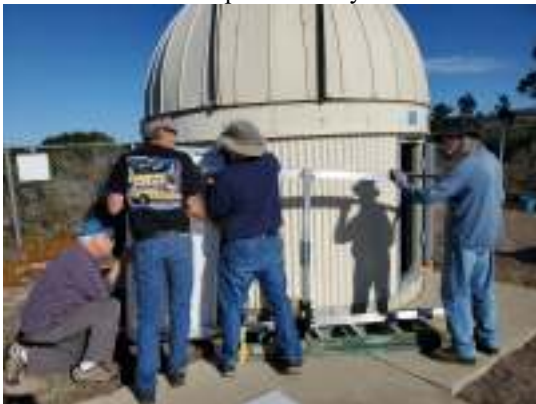
October 7 Draconids Meteor shower is a minor shower producing only about 10 meteors per hour. It is produced by dust grains left behind by comet Giacobini-Zinner. It is best viewed in the early evening. It peaks this year on the night of the 7th. Meteors will radiate from the constellation of Draco but can appear anywhere in the sky.

October 8 Mercury at greatest Western elongation of 18° from the Sun. Best time to view or photograph Mercury since it will be at its highest point above the Eastern horizon. Look for the planet low in the Eastern sky just before Sunrise.

October 21 Orionids Meteor shower is an average shower producing up to 20 meteors per hour at its peak. It is produced by dust grains left behind by comet Halley. It peaks this year on the night of October 21 and the morning of Oct 22. Meteors will radiate from the constellation of Orion but can appear anywhere in the sky.

October 25 Partial solar eclipse will be best seen in parts of Western Russia and Kazakhstan. It will be best seen from central Russia with over 80% coverage.

Setup Solar array



Star party's and Events

Sept 3, 17 & 24 Star Party at the Observatory cancelled.

Solar Star party



Replacing Batterys



Solar Eclipse time



Oct 2022 Moon



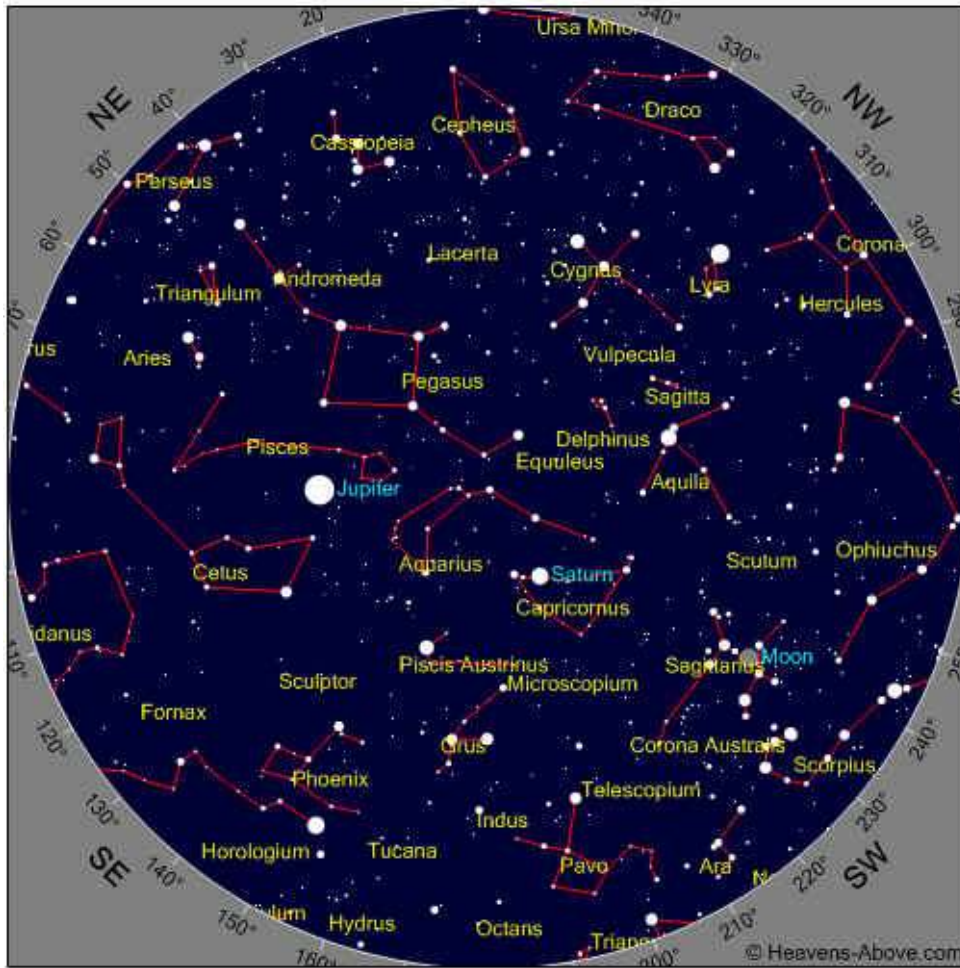
Full 9th, New 25th, Last Quarter 17th, First Quarter 3rd

Moon Facts and folk lore

- Average distance from Earth 238,855 miles (384,400 Klm)
- Perigee 225,700 miles (363,300 Klm)
- Apogee 252,000 miles (405,500Klm)
- Orbit circumference 1,499,618.58 miles (2413,402 Klm)
- Mean orbital velocity 2287 mph (3680.5 Klm)

Oct 2022 Sky

Some Objects of interest, M 31, Jupiter, Saturn, Moon



Time

Year	<input type="text" value="2022"/>	Month	<input type="text" value="10"/>	Day	<input type="text" value="2"/>	Hour	<input type="text" value="21"/>	Minute	<input type="text" value="20"/>
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Photo Courtesy of Vahan Yeterian



Messier 3 Globular Cluster NGC 5272 is a globular cluster of stars in the Northern constellation of Canes Venatici. It is one of 250 known globular clusters in the Milky Way galaxy. M3's overall spectral class is F2. The cluster has a bright core with a diameter of about 6 arcminutes and spans a total of 12 arcminutes. The cluster is one of the largest and brightest and is made up of around 500,000 stars. It is estimated to be about 8 billion years old and is located at a distance of about 33,000 light years from Earth. Messier 3 is located 31,600 light years above the galactic plane and roughly 38,800 light years from the center of the Milky Way galaxy. It contains 274 known variable stars, by far the highest number found in any other globular cluster. These include 133 RR Lyrae variables of which about a third display the Blazhko effect of long period modulation. Messier 3 also contains a relatively high number of blue stragglers, blue main sequence stars that appear to be young and are bluer and more luminous than other stars in the cluster. These stars are now believed to form as a result of stellar interactions. The overall abundance of elements other than hydrogen and helium, what astronomers term the metallicity, is in the range of -1.34 to -1.50 dex. This value gives the logarithm of the abundance relative to the Sun, the actual proportion is 3.2 - 4.6% of solar abundance. Messier 3 is the prototype for the Oosterhoff type 1 cluster which is considered "metal rich" for a globular cluster. Messier 3 also has a relatively high abundance of heavier elements. Image capture with Celestron AVX mount, 9.25 inch SCT, Cannon T3 DSLR modified. 5 x 3 min lights, Darks, bias and flats. Processed with DSS 3.3.4 software.



For What its Worth

You may have heard references made to the "dark side" of the Moon. This popular term refers to the fact that the same physical half of the Moon, the "near side", is always facing Earth, which in turn means that there is a far side or so-called "dark side" that is never facing Earth and can only be seen from space.

This phenomenon has nothing to do with illumination or the periodic light and dark we see as the phases of the moon change. Sometimes people refer to a New Moon as a "dark moon" because the moon is fully in shadow as viewed from Earth and we can't see it, but that's not the same thing as the dark side of the moon. The side of the moon facing us during a New Moon is the same as any other moon phase, such as a Full Moon when we can see the entire face.

So why can we only see one side of the moon from Earth? We all know that the Earth rotates on its own axis, so theoretically, the Moon should also do the same, allowing us to get a full picture of the planetoid. Why are we limited to seeing only 50 percent? It turns out that the speed at which the Moon rotates has led to this particular phenomenon. Millions of years ago, the Moon spun at a much faster pace than it does now. However, the gravitational influence of the Earth has gradually acted upon the Moon to slow its rotation down, in the same way that the much smaller gravitational influence of the Moon acts upon the Earth to create tides. This influence slowed the rotational period of the Moon to match that of its orbit – about 27.3 days – and it is now "locked in" to this period. (Note that to observers on earth a full moon cycle takes 29.5 days.

If the Moon didn't spin at all, then eventually it would show its far side to the Earth while moving around our planet in orbit. However, since the rotational period is exactly the same as the orbital period, the same portion of the Moon's sphere is always facing the Earth.

Another interesting fact is that actually a little bit more than half of the Moon's surface is observable from Earth. Since the Moon's orbit is elliptical, and not circular, the speed of its orbital travel increases and decreases depending on how close it is to our planet. The rotational speed of the Moon is constant however – and this difference between orbital speed and rotational speed means that when the Moon is farthest from the Earth, its orbital speed slows down just enough to allow its rotational speed to overtake it, giving observers a small glimpse of the usually hidden area. The term for this "rocking" motion of the Moon is called **libration** and it allows for 59 percent of the Moon to be seen in total (over time).

Finally, one reason that the far side of the Moon is frequently referred to as the "dark side" is because many people mistakenly think that it never sees any light from the Sun. In that sense the term "dark side" is wrong and misleading. In fact, since the Moon is constantly rotating on its own axis, there is no area of the planetoid which is in permanent darkness, and the far side of the Moon is only completely devoid of sunlight during a Full Moon – when the Sun is facing the Moon with the Earth in between.



Astronomy Club Officers



President
Tom Gerald

Vice President &
Treasurer
Jana Hunking

ACL Support Personnel

ACL News letter Editor
Serf / Minion Vahan Yeterian



ACL Webmaster
Serf / Minion Aaron Anderson
(New Zealand)



Club Meeting

Reminder Club meeting Oct. 14th 7:00 Pm
Manzanita School Teachers lounge. Masks!

Star Parties (as always weather permitting)

Central Coast Astronomical Society

Link to web site...

<http://www.centralcoastastronomy.org/>

Santa Barbara Astronomical Unit

Link to web site...

[http:// www.sbau.org/#AU_EVENTS_Calendar](http://www.sbau.org/#AU_EVENTS_Calendar)

Link to "Heavens Above" web site

[http:// www.heavens-above.com/](http://www.heavens-above.com/)

Happy Halloween



*"Astronomy compels the soul to look upward,
and leads us from this world to another".
(Plato)*

ACL Club Logo

