

The High Desert Observer

March 2021

From the Desk of Ed Montes ASLC President

To start this month's message here's a big CONGRATULATIONS to former President of the ASLC, Howard Brewington, the latest recipient of the Astronomical League's Leslie Peltier Award. The award is bestowed by the AL to an amateur astronomer who has



“developed their observing skills to the ultimate degree then used those skills to make careful observations...and record them for scientific analysis”. This accurately and succinctly captures some of the qualities that Howard has demonstrated during his time “doing astronomy”. Howard has made thousands, if not tens of thousands of observations in his lifetime. Many were made in the period during which he **discovered 5 comets**. His perseverance is to be lauded; hanging out alone under clear skies can be lots of fun, we all know that, but doing this on a long term basis to find a fuzzy, faint glow that wasn't there the week before requires dedication that is truly exemplary, and doing it 5 times is stunning. More recently, Howard has taken up a new exploration, seeking micrometeorites. This



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Coming Events (postponed due to Covid-19)

Typically, ASLC hosts public in-town observing sessions at the Pan Am Plaza on University Ave. and at Tombaugh Observatory on the NMSU campus. All sessions begin at dusk.

At our Leasburg Dam State Park Observatory, we normally hold monthly star parties. Located just 20 miles north of Las Cruces, our 16-inch Meade LX200 telescope at this site is used to observe under rather dark skies. Please note that the ASLC will not be holding other meetings, gatherings or public outreach events until it is deemed safe to do so. Please social-distance and wear your mask!

effort also requires diligence because he needs not only to find them, but eliminate all the false positives, and there are lots of those. He developed an entirely new skill set and has become an expert in this field, to the point that he was able to correct a published story in Sky and Telescope that included incorrect information. Howard also brought intangibles to the hobby. While his observing skills are expert, he also a consummate participant in outreach events. His geniality made people comfortable and receptive to learning. His leadership as ASLC President was much appreciated (especially for instituting the post-meeting gatherings at Pecan Grill). So, Howard, congratulations again, you are truly deserving of this recognition!

One of the big responsibilities of the President is to find interesting and enlightening guest presenters for our monthly meetings. Being the generous guy I am, I would like to open this responsibility up and urge all members to participate in this search. If you have any ideas for speakers (including yourselves) please let me know. Our slots through May are filled, but subsequent to that, we need speakers. I'm working on some ideas, but I'm looking for more. Seriously, any ideas out there?

This month our speaker is one of our newest members, Jens Thielmann. He will be talking about his project to build an 18" Dob, from scratch, including grinding his own mirror.

Until next month, clear skies!

The Astronomical Society of Las Cruces

(ASLC) is dedicated to expanding public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, providing opportunities to work on Society and public educational projects. Members receive electronic delivery of The High Desert Observer, our monthly newsletter, plus membership in the Astronomical League including their quarterly publication, Reflector, available in either paper or digital format. ASLC members are also entitled to a discount on a subscription to Sky and Telescope magazine. Annual Individual Dues are \$30; Family \$36; Student (Full Time) \$24. Dues are payable in January and partial year prorated for new members. Please contact our Treasurer, Patricia Conley, treasurer@aslc-nm.org for further information.

This Month's Meeting - March 26, 2021

Our next ASLC meeting will be virtual via Zoom®, to be held on Friday, March 26th at 7 p.m.

Speaker for the Month - **Jens Thielmann**, presenting **"Conceiving, Designing, and Building an 18" Dob: An Iterative Approach or How I Spent my Covid Year."** Jens lives in Anaheim Hills, CA, and is a new member of the ASLC. He is retired from working as a Civil Engineer, having his own company. His early interest in astronomy took a back seat to his career endeavors, but Jen has recently rediscovered his passion for the sky. He had always wanted to build a larger scope and grind the mirror himself. It's almost complete, and he's anxious to tell us the tale.

Future meetings will continue to be virtual until the Covid-19 situation allows us to meet safely in person.

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Featured Article:

Turn Supermoon Hype into Lunar Learning



This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit <https://nightsky.jpl.nasa.gov/> to find local clubs, events, and more!

Supermoons get lots of publicity from the media, but is there anything to them beyond the hype? If the term "supermoon" bothers you because it's not an official astronomical term, don't throw up your hands. You can turn supermoon lemons into lunar lemonade for your star party visitors by using it to illustrate astronomy concepts and engaging them with great telescopic views of its surface!

Many astronomers find the frequent supermoon news from the media misleading, if not a bit upsetting! Unlike the outrageously wrong "Mars is as big as the moon" pieces that appear like clockwork every two years during Mars's close approach to Earth, news about a huge full moon is more of an overstatement. The fact is that while a supermoon will indeed appear somewhat bigger brighter in the sky, it would be difficult to tell the difference between an average full moon and a supermoon with the naked eye.

There are great bits of science to glean from supermoon discussion that can turn supermoon questions into teachable moments. For example, supermoons are a great gateway into discussing the shape of the moon's orbit, especially the concepts of apogee and perigee.

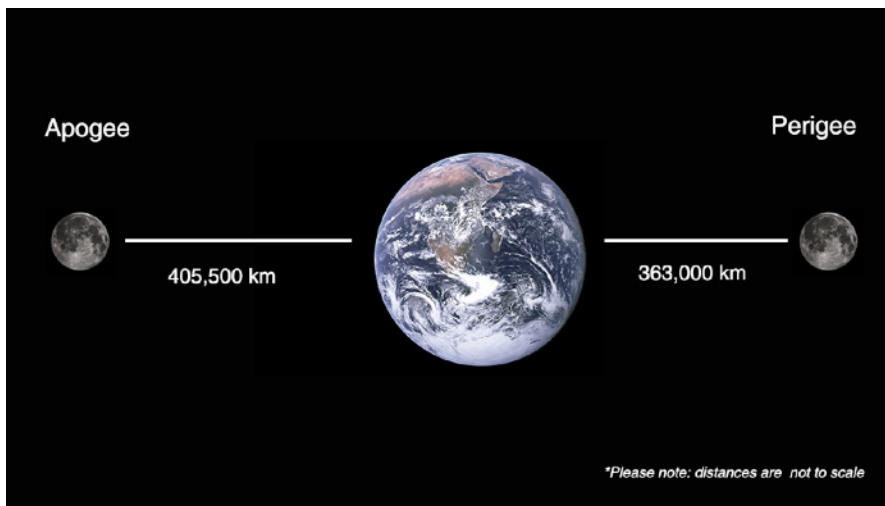


Illustration of the position of the Earth's moon at apogee and perigee. Source image credit: NASA (Earth) Gregory R. Revera (Moon)

Many people may assume that the moon orbits Earth in a perfect circle, when in fact its orbit is elliptical! The moon's distance from Earth constantly varies, and so during its orbit it reaches both apogee (when it's farthest from Earth), as well as perigee (closest to Earth). A supermoon occurs when the moon is at both perigee and in its full phase. That's not very rare; a full moon at closest approach to Earth can happen multiple times a year, as you may have noticed.

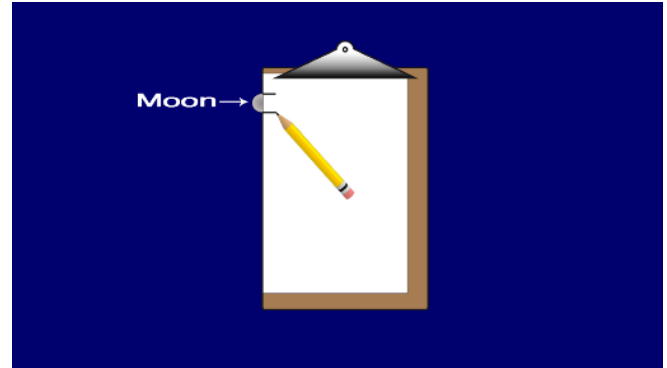


Image of the supermoon measurement activity. (credit: NASA/JPL)



Apparent size difference between a "supermoon" (left, full moon at perigee) and "minimoon" (right, full moon at apogee). This is an example of the comparisons curious individuals can make with a DSLR camera following this activity. Photo credit: NASA

While a human observer won't be able to tell the difference between the size of a supermoon and a regular full moon, comparison photos taken with a telephoto lens can reveal the size difference between full moons. NASA has a classroom activity where students can measure the size of the full moon month to month and compare their results: "Measuring the Supermoon."

Student can use digital cameras (or smartphones) to measure the moon, or they can simply measure the moon using nothing more than a pencil and paper! Both methods work and can be used depending on the style of teaching and available resources. Find out more here: <https://www.jpl.nasa.gov/edu/teach/activity/measuring-the-supermoon>

There is actually a way for naked eye observers to observe the different apparent sizes of the moon in our sky, but oddly enough it's not when the moon is full and brilliant, but the opposite: when the moon is new and dark, during eclipses! For eclipse chasers, the apparent size of the moon matters very much to what they will see. For example, a total eclipse can happen in conjunction with a supermoon as many in the USA saw on August 17, 2017. The apparent size of the moon was large enough to completely block the disc of the sun in our skies along a narrow path for a couple of minutes. If the moon was further away from the Earth, especially if it was at apogee- its furthest point - then a total eclipse would not occur. Instead, an annular eclipse would be seen instead, where a "ring of fire" would seem to circle the black disc of the new moon.

This discussion of the different phases of the moon and can also make for a fun, simple, long-term

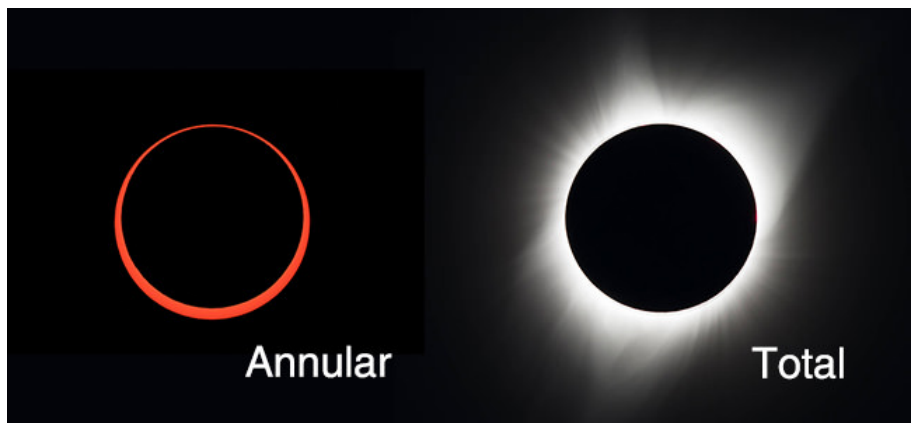
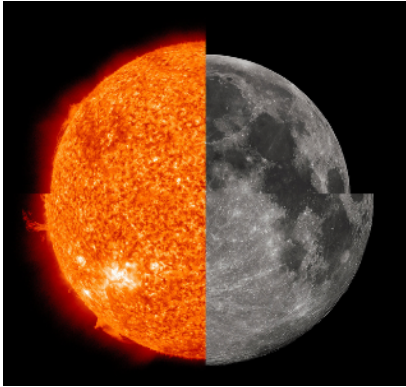


Image Credits: Dale Cruikshank (Annular Eclipse)/ NASA/ Aubrey Gemignani (Total Eclipse)



Apparent sizes of the Sun and moon depicted to scale at apogee (top right) and perigee (bottom).

project for a classroom. Students can observe the phases of the moon every day (when weather permits) over a thirty day period and write down their observations of the moon's phases and what times of day and night they can actually see the

moon during this period. This can also be paired at some point with the crafty "Make a Moon Phases Calculator and Calendar" activity. You can find out more about the "Observing the

Moon" classroom activity at: <https://www.jpl.nasa.gov/edu/teach/activity/observing-the-moon>

A related moon phases activity, which is short and perfect for small interactive groups. can be found at: <https://www.jpl.nasa.gov/edu/teach/activity/moon-phases/>

You can find a more detailed discussion of the science of supermoons on NASA's "What is a Supermoon and Just How Super Is It?" page from their "Teachable Moments" blog. You can find links to the above activities there, along with more lunar science that can be used to make the hype about Supermoons teachable moments for your star party visitors.

Did you have fun? Contribute to science with monthly observing programs from Globe at Night's website, <https://www.globeatnight.org/>, and check out the latest NASA's science on the stars you can - and can't - see <https://www.nasa.gov/>

Minutes of February 2021 Meeting

John McCullough - Secretary

Edward Montes, President, Astronomical Society of Las Cruces (ASLC, the Society), called the February 2021 meeting to order at 7:02 pm on 26 February 2021. He welcomed attendees to tonight's meeting via ZOOM. Twenty (20) attendees were signed in for the start of the meeting, eventually twenty-one (21) individuals participated.

Ed welcomed the group and noted that minutes from the January 2021 meeting (thanks to John McCullough, Secretary) were published in the Society newsletter, the *High Desert Observer* (HDO), (thanks to Tim Kostelecky, HDO editor). Ed asked if there were any required additions, deletions, or corrections to the minutes as submitted. None being offered, Tracy Stuart,

Immediate Past President, moved that the January 2021 minutes be accepted as published; Alex Woronow seconded. There being no objections, the motion was passed.

Ed especially welcomed new members Mark and Kristin Gorman and Jens Thielmann to tonight's meeting. The Gormans moved from El Paso to Las Cruces about a year ago and found the Society on the internet. Mark has a 10" telescope and is interested in astrophotography. Jens is in southern California and is getting back into observing. He is currently building an 18" Dob.

Officer/Committee Reports:

Treasurer:

The Treasurer, Trish Conley, reported a positive checking account balance at the end of January of \$763. Income this year has been \$1483 primarily from member dues and some additional donations from members. The Society's

insurance premium will be due shortly and will impact the account balance.

Loaner Telescope:

Tim Kostelecky, program coordinator, reported no change in the status of the program. He plans to update the inventory and verify equipment location(s) with Tracy Stuart soon.

Outreach:

Chuck Sterling, program coordinator, stated there were no requests for nor dates reserved for school or public star parties at this time. Las Cruces Public Schools may resume in-person classes soon and this status may change.

The Observatory at Leasburg Dam State Park (LDSP):

Dave Doctor continues to investigate equipment upgrades at LDSP, but COVID limitations are still in effect at the Park.

Old Business:

Steve Barkes and Jerry Gaber continue to work on specifications for a new computer for the Observatory. They, along with Dave Doctor, intend to visit with Park personnel once pandemic restrictions are eased. They also intend to borrow a wireless extender from Rich Richins to try at the Park at the same time to determine if the Observatory can “tap in” to the Park’s Wi-Fi.

New Business:

1. **Presentations** – Ed Montes has meeting presentations scheduled through the May 2021 meeting. Speakers/presentations are needed for the remainder of this year. If members would like to make a presentation or know of someone who could make a presentation of interest to the membership, please contact Ed.
2. **Observing Sites** – Ed noted that the Observatory at LDSP is available for member observing as well as the public outreach events required by the Memorandum of Understanding (MoU) with the State Parks Department. He will check with Park personnel on availability to

members.

Rusty’s RV Park in the Bootheel area of the state is popular with ASLC members for dark sky observing. Steve Barkes and Rich Richins described the amenities available for astronomers at night and other activities during the day. Several members choose to forego the annual Texas Star Party (degraded sky conditions) and instead make a group trip to Rusty’s.

The Cosmic Campground is reportedly currently not available for overnight camping/observing.

The Yost Escarpment and Upham DSO sites are also popular dark sky observing sites north of Las Cruces. John Kutney said observing at these sites is “not bad”. Locations, conditions, and access will all be updated in the HDO and on the website.

3. **Congratulations!** - Trish Conley and Steve Barkes announced their recent marriage.

No additional new business was offered for consideration.

Presentation:

Tonight’s presentation was by Cameron Trapp, physics PhD student at the University of California-San Diego, on “Galaxies on **FIRE**”. Cameron works with Dr. Dusan Keres on The **FIRE** Project (**Feedback In Realistic Environments**), a suite of cosmological zoom-in simulations that focus on creating realistic simulated galaxies. He covered some of the key aspects that go into these simulations and how they compare to actual observations. Some of the work Cameron has done on simulated galaxies reflect our own Milky Way. Cameron answered several questions from the group. His presentation was recorded to the ZOOM cloud for future access.

The February 2021 meeting was adjourned at 8:20 pm.

Local Dark Sites

John Kutney

Yost Escarpment

Approximately 19 miles from the Upham Exit on I25.

Head north and follow the paved road.

Parking area is flat and spacious for easy setup.

Light dome from El Paso and Las Cruces to south but low on horizon.

[Yost Escarpment \(nps.gov\)](https://www.nps.gov/yost/)

32° 55' 44"

107° 00' 19"

Corralitos Road

Access via frontage road past the Las Cruces airport.

Go beyond the Radio Station and the Domed Observatory (left side), there are numerous sites to choose. My favorite is just past the aluminum guard rail bridge about 35 miles from Las Cruces. No facilities and partial wilderness. Las Cruces light dome but is Bortle 4 or better depending on the seeing.

32° 27' 22"

107° 06' 20"

Exit 116NW on I 10

Take exit 116 and stay on North side following frontage road to the NW.

Take County Road C001 for 5.9 miles, take a left at the fork in the road (PowerLine Road)

Go about .1 miles for various turnoff areas.

Ranch area, no facilities.

Dark skies compare to Upham with no light dome to the South.

32° 17' 40"

107° 16' 47"

Convenient Dark Sites (Bortle <=3)

Cosmic Camp Ground

About 67 miles from Silver City via NM Route 180.

Facilities are closed due to Covid 19 but one can camp adjacent to site and use the telescope pads.

Skies are very dark. (240 miles)

[Cosmic Campground | Glenwood, NM 88039 \(newmexico.org\)](https://www.newmexico.org/88039-cosmic-campground-glenwood-nm/)

33° 28' 45"

108° 55' 21"

Cottonwood Site

Located 2.5 miles NE on Rt 180 from CCG.

No facilities but no restrictions. Same dark skies as CCG. (243 miles)

33° 31' 15"

108° 36' 9"

Rusty's RV Ranch

About 160 miles from Las Cruces via I10 and Rt 80

Call for reservations, dark skies with concrete pads for telescopes.

Dark skies and easy access.

[Rusty's RV Ranch](https://www.rustysrvranch.com/)

31° 55' 43"

109° 02' 09"

Burro Mountains

Located halfway between Lordsburg and Silver City on NM Route 90 at Mill Canyon.

Mill Canyon Road is 13.5 miles from Lordsburg. Recommended by NM Park Ranger.

Have not used this site. No facilities and in the wilderness. (145 miles)

32° 30' 32"

108° 32' 14"

Member Images

Rosetta Nebula (NGC 2237) from Las Cruces - Robert Kimbell



Galaxy M101 from Las Cruces - Jeff Johnson

