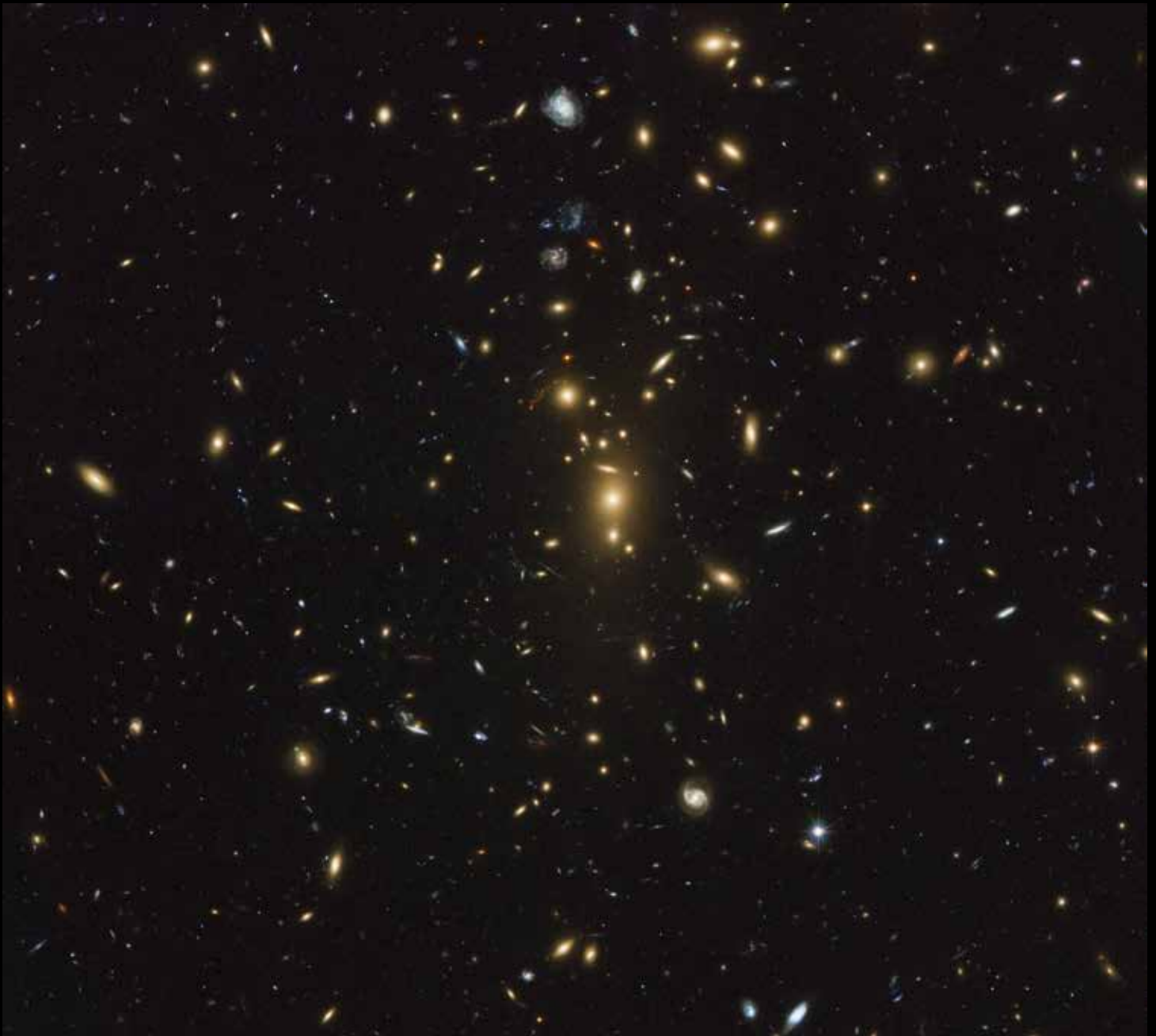


Volume 46.2

February 2026

# Desert Sky Observer

Antelope Valley Astronomy Club



# Desert Sky Observer

www.avastronomyclub.org

February 2026

## Upcoming Events

February 7: ~~Moonwalk @ PDW 6:30 PM~~ **CANCELLED**  
February 13: Club Meeting  
February 21: Lunar Club @ PDW



AVAC Calendar

March 3/4: Total Lunar Eclipse 12:44am - 6:24am  
March 7: Moonwalk @ PDW 6:30 PM  
March 13: Club Meeting/Painting Class  
March 19: Amargosa Middle School Star Party  
March 21: Messier Marathon @ Red Rock Canyon SP

April 10: Club Meeting  
April 18: DSSP @ TBD  
April 25: Moonwalk @ PDW 8:00PM

## Board Members

**President:** Phil Wriedt (661) 917-4874  
[president@avastronomyclub.org](mailto:president@avastronomyclub.org)

**Vice-President:** Vacant  
[vice-president@avastronomyclub.org](mailto:vice-president@avastronomyclub.org)

**Secretary:** Rose Moore (661) 972-1953  
[secretary@avastronomyclub.org](mailto:secretary@avastronomyclub.org)

**Treasurer:** Rod Girard (661) 803-7838  
[treasurer@avastronomyclub.org](mailto:treasurer@avastronomyclub.org)

**Director of Community Development:**  
Christian Amaya (661) 972-0091  
[community@avastronomyclub.org](mailto:community@avastronomyclub.org)

## Appointed Positions

### Lunar Club:

Matt Leone (661) 713-1894

**Equipment & Library:** vacant  
[library@avastronomyclub.org](mailto:library@avastronomyclub.org)

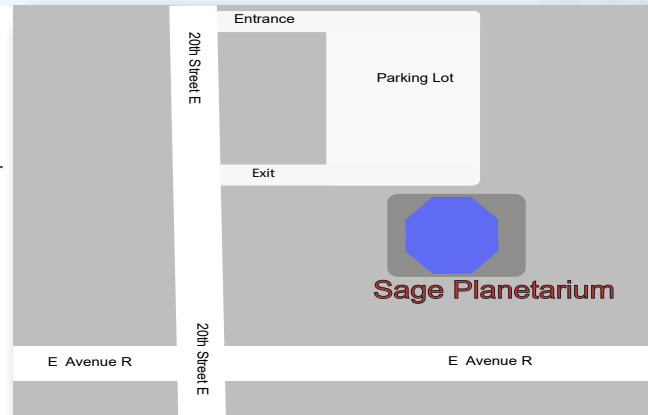
**Club Historian:** vacant  
[history@avastronomyclub.org](mailto:history@avastronomyclub.org)

**Webmaster:** Steve Trotta (661) 269-5428  
[webmaster@avastronomyclub.org](mailto:webmaster@avastronomyclub.org)

**Night Sky Coordinator:**  
Rose Moore (661) 972-1953

**Newsletter Editor:** Phil Wriedt (661) 917-4874  
[dso@avastronomyclub.org](mailto:dso@avastronomyclub.org)

**Astronomical League Coordinator:**  
Phil Wriedt (661) 917-4874  
[al@avastronomyclub.org](mailto:al@avastronomyclub.org)



## Monthly Meetings

Monthly meetings are held at the **S.A.G.E. Planetarium** in Palmdale, the second Friday of each month except December. The meeting location is at the northeast corner of Avenue R and 20<sup>th</sup> Street East. Meetings start at 7 p.m. and are open to the public. *Please note that food and drink are not allowed in the planetarium.*

## Membership

Membership in the Antelope Valley Astronomy Club is open to any individual or family.

The Club has three categories of membership.

- Family membership at \$30.00 per year.
- Individual membership at \$25.00 per year.
- Junior membership at \$15.00 per year.

Membership entitles you to ...

- The Desert Sky Observer -- monthly newsletter
- The AVAC Membership Manual.
- To borrow club equipment, books, videos, and other items.

## AVAC

PO Box 8545

Lancaster, CA 93539-8545

Visit the Antelope Valley Astronomy Club website at [www.avastronomyclub.org/](http://www.avastronomyclub.org/)  
[www.instagram.com/av\\_astronomyclub](https://www.instagram.com/av_astronomyclub)



[www.avastronomyclub.org](http://www.avastronomyclub.org)

The Antelope Valley Astronomy Club, Inc. is a 26 USC §503(c)(3) California Non-Profit Corporation.

## President's Message

By Phil Wriedt

Well, it's the middle of winter, and I feel like I've been cold since November,

Our next Moonwalk was supposed to be on Saturday, February 7th; but, the City of Lancaster canceled on us.

So the next event will be the Lunar Club meeting on February 21. Sunset is at 5:41, Moonset is at 10:23. The Moon will be 3.6 days old, 15% illuminated. We are not advertising this event to the public, so the City shouldn't have a problem.

After that the next Moonwalk will be on March 7. Sunset will be at 5:54, an 80% waning gibbous Moon will rise at 10:26 pm. Get there early so you can set up in daylight. If you get a telescope by then, bring it, or if not, just come join the party at Prime Desert Woodland; the more members there, the better it will be. Don't forget warm clothes, jackets, gloves, etc., so be a Scout and Be Prepared. There is a better than fair chance that a cold rain front could come through. Hopefully it will be a cloudless (and smokeless) night.

Our next, Dark Sky Star Party, will be on the 21st of March at Red Rock State Park; this will be the best opportunity to do a Messier Marathon. We are planning to get campsites 1 & 2 because they aren't right up against the cliffs, this will ensure the greatest view of the sky. After that, the next DSSP will be on April 18th, probably at Red Cliffs or Red Rock Canyon and this is the alternate date for a Messier Marathon. Watch for the emails or for the text message to know what's happening.

There is a possibility of a star party at a school on the March 19th. At least it won't be run by the City of Lancaster. Watch for the email notice if it materializes.

Please come to the meetings, come to the events, join the crowd! The more the merrier!

Stay Warm and Keep Looking Up,

Phil

## On The Cover

*Note: North is 180.2° right of vertical RA: 13h 59' 49.66" DEC: 62° 31' 8.99" 3.7 Bly (z=0.33) (Draco)*

ZwCl 1358+62 is located 3.7 billion light-years from Earth (z=0.33) and is made up of at least 150 individual galaxies. This image depicts multiple blue, red and orange arcs scattered across the image, which represent amplified and stretched images of the galaxies behind the cluster's core. The colours displayed by the various lensed galaxies vary according to their distance and galaxy types. The natural gravitational lensing effect in combination with Hubble's potent mirrors provide astronomers with a powerful set of tools to gather information on the nature of distant galaxies and the workings of the "hidden" world around us.

Credit: NASA, ESA, and Johan Richard (Caltech, USA)

Acknowledgement: Davide de Martin & James Long (ESA/Hubble)

## From the Secretary

By Rose Moore

Members:

The Prime Desert Moon Walk for February has also been canceled, due to the recent flooding to the area. We'll keep you posted when they resume.

We will have a club meeting on Friday February 13th at 7pm, at the SAGE Planetarium. Our speaker will be from Kitt Peak Observatory, Arizona, and the subject will be dark matter. Further info to follow.

We are waiting to hear from NASA Engages regarding a speaker for sometime later this year.

Coming up in March will hopefully(!) be a Prime Desert Moon Walk on March 7th, a star party at the Amargosa Creek School on March 19th, and our first dark sky star party on March 21st for our Messier Marathon. Our club meeting for March will be Sue's paint class!

Also coming in March: a lunar eclipse! This is a total lunar eclipse starting at 12:44am on Tuesday March 3rd. Maximum is at 3:33 am, and it ends at 6:24am. Jeremy has said he will have something at the SAGE, so stand by for details!

If anyone is interested in attending a trip to Mt. Wilson this year, please let me or one of the Board members know before the end of February. Their reservations open on March 1st. I do not want to attempt starting the process and locking in a date, as we did last year, if there is not enough interest.

Stay warm, Rose



## AVAC Membership Renewal

It is that time of year again, time to renew your AVAC Membership; and HOORAY!!! We get to meet in a cleaned and refurbished Sage Planetarium for our monthly meetings. We are one of the few clubs that don't meet in a bookstore or the backroom of a pizza joint. The Sage Planetarium is one of the Club's most rewarding benefits.

It is very gratifying to see the early membership renewals. In these times of financial uncertainty our members are more than ever the lifeblood for the AVAC. That said, please worry not, financially the club is still solvent and we are able to meet all our obligations while providing for future club events and guest speakers etc.

Please remember that our meetings are open to the public and all will be welcome. So, if for any reason you are unable to renew your membership you are still welcome to attend and we look forward to seeing you all again.

For administrative reasons we encourage members to renew their membership in January. For myself the easiest way to renew my membership was through the AVAC website via our PayPal account. However you can renew at our monthly club meetings with good old cash or by check.

For those unable to attend our monthly meeting you can renew your membership through the mail by sending a check to the club's Post Office Box:

Antelope Valley Astronomy Club  
PO BOX 8545  
Lancaster, CA 93539-8545

For members less familiar with the club's website, it is actually fairly simple:

- Google Antelope Valley Astronomy Club and then open on the link.
- Click on MEMBER and then click on LOGIN.
- The default Member Name will be your Membership Number.
- If you had Signed Up on line you would have created a Password, but if you have forgotten it, use the Forgot Password link.
- Once you have Logged In, under Member click on Profile.
- Under Profile click on Membership.
- Under Your Current Membership click on Renew Now.
- You will have the choice of paying with a PayPal account or with a Credit Card.
- If you choose Credit Card PayPal will allow you to pay as a Guest

Thank you,  
Rod Girard AVAC Treasurer

### **The Sun's Red Dwarf Neighbors Provide Clues To Origins Of Carbon And Oxygen**

We live near a fusion reactor in space that provides all our heat and light. That reactor is also responsible for the creation of various elements heavier than hydrogen, and that's true of all stars. So, how do we know that stars are element generators? Many clues lie hidden in stellar spectra, since they contain fingerprints of various elements cooked up by the stars. Hints about the creation of carbon and oxygen in particular lay hidden for years in a data set taken in a search for planets around nearby stars. Astronomers have suggested that such stars could be places to look for exoplanets. Thanks to a brainstorm by astronomer Darío González Picos of Leiden University in the Netherlands, . . . (continued at <https://www.universetoday.com/articles/the-suns-red-dwarf-neighbors-provide-clues-to-origins-of-carbon-and-oxygen> )



### **What Created This Strange Iron Bar In The Ring Nebula?**

When the new WEAVE spectrograph began science operations on the 4.2 meter William Herschel Telescope (WHT) in 2023, astronomers looked forward to its first five years. During this time, the telescope will be working on eight new simultaneous surveys of the sky. Before it could begin this work, the instrument went through a science verification phase. This important step demonstrates the instrument's capabilities and allows operators to refine its operations. But WEAVE's (WHT Enhanced Area Velocity Explorer) science verification phase has delivered some convincing initial observations and scientific results. . . . ( continued at <https://www.universetoday.com/articles/what-created-this-strange-iron-bar-in-the-ring-nebula> )



### **Intricacies Of Helix Nebula Revealed With Webb**

NASA's James Webb Space Telescope has zoomed into the Helix Nebula to give an up-close view of the possible eventual fate of our own sun and planetary system. In Webb's high-resolution look, the structure of the gas being shed off by a dying star comes into full focus. The image reveals how stars recycle their material back into the cosmos, seeding future generations of stars and planets, as NASA explores the secrets of the universe and our place in it. . . . ( continued at [https://phys.org/news/2026-01-intricacies-helix-nebula-revealed-webb.html#google\\_vignette](https://phys.org/news/2026-01-intricacies-helix-nebula-revealed-webb.html#google_vignette) )



### **Scientists Measure Mars's Effect On Earth's Climate**

Puny Mars, weighing about 10 times less than Earth, might nevertheless pack a gravitational punch, subtly reshaping Earth's orbit. The Red Planet might even have triggered ice ages and other large-scale climate shifts, according to a new study. Earth's long-term climate is influenced by gravitational interactions with other planets in the solar system, leading to what is known as Milankovitch cycles. These cycles reshape Earth's orbit over time, changing the amount of solar energy our planet receives. The cycles are closely linked to wet and dry global periods, as well as to the advance and retreat of ice sheets and glaciers. .... (continued at <https://skyandtelescope.org/astronomy-news/scientists-measure-marss-effect-on-earths-climate/> )



### **Siwarha's Wake Gives It Away At Betelgeuse**

Betelgeuse is the star that everybody can't wait to see blow up, preferably sooner rather than later. That's because it's a red supergiant on the verge of becoming a supernova and there hasn't been one explode this close in recorded human history. It's been changing its brightness and showing strange surface behavior, which is why astronomers track its activity closely. Are these changes due to its aging process? Do they mean it's about to blow up? Probably not. It turns out those changes are related to a previously unknown companion star named Siwarha that was revealed in 2025. . . . (continued at <https://phys.org/news/2026-01-siwarha-betelgeuse.html> )



## Space News

News from around the Net

### Webb Telescope Reveals Galaxy Cluster's Gravity Warping Light From Distant Galaxies

This NASA/ESA/CSA James Webb Space Telescope Picture of the Month brings us a scene from the distant universe. Pictured here is the galaxy cluster MACS J1149.5+2223, or MACS J1149 for short, which is located about 5 billion light-years away in the constellation Leo. Galaxy clusters are the largest structures in the universe that are held together by gravity. Astronomers have confirmed more than 300 galaxies belonging to the MACS J1149 cluster, and they've identified several hundred more possible members. At the cluster's center, a huddle of ghostly elliptical galaxies rules over the cluster with their immense gravity. . . . (continued at <https://phys.org/news/2026-01-webb-telescope-reveals-galaxy-cluster.html> )



### NASA'S Budget Woes Are Over, For Now

Astronomers, planetary scientists, and space lovers across the country breathed a sigh of relief last week: Congress officially passed a bill funding NASA for 2026. After a likely signature by President Trump, the agency will be able to spend money at levels similar to those of the previous two years. The bill marks the resolution of more than half a year of funding chaos that began when the White House proposed a 25% cut for NASA, including 47% cuts to its science divisions. Such a plan would have brought the agency to its lowest budget since 1961 when adjusted for inflation, and axed more than 40 missions. . . . (continued at <https://skyandtelescope.org/astronomy-news/nasas-budget-woes-are-over-for-now/> )



### Four Privately Funded Observatories In The Next Three Years

Within three years, astronomers will have four brand-new observatories — including one in space that boasts a mirror rivaling those in the Hubble and Nancy Grace Roman space telescopes. The announcement of the ambitious Schmidt Observatory System, one of the biggest releases to come out of last week's American Astronomical Society meeting in Phoenix, Arizona, comes courtesy of Schmidt Sciences, an initiative created and funded by former Google CEO Eric Schmidt and his wife, Wendy. The four observatories, which have already been under development for the past three to five years, were officially announced to a special-session audience with standing room only. . . . (continued at <https://skyandtelescope.org/astronomy-news/four-privately-funded-observatories-in-the-next-three-years/> )



### 3 Stunning Lunar Craters To Explore During The Half-Lit First Quarter Moon Tonight

Grab your telescope and join us tonight as we take you on a tour of three magnificent lunar craters named after pre-eminent astronomers and philosophers who helped shape our understanding of the universe around us! Earth's moon is an awe-inspiring sight, especially when viewed through the magnifying eyepiece of a telescope, which helps reveal the incredible array of craters scarring its ancient surface. Each of these impact sites stands testament to the violence of its creation — cataclysmic collisions that carved vast basins in the lunar surface, . . . . (continued at <https://www.space.com/stargazing/3-stunning-lunar-craters-to-explore-during-the-half-lit-first-quarter-moon-tonight> )



### How To Photograph The Moon

The Moon is the first celestial object to catch our eyes. For some amateur astronomers, it quickly becomes a bother, its light obscuring the "faint fuzzies" we try to catch in our telescopes. Or, like me, you may feel drawn to photograph its cratered surface, which reveals a different character each night. The good news is that you don't have to wait for a perfect night. You can use just about any telescope to image the Moon. Long-focal-length instruments will uncover more detail. Shorter reflectors, fast refractors, and even camera lenses can see the whole surface at once. It's helpful to have a tracking mount, especially for long reflectors, but it's not necessary to capture a sharp image . . . (continued at <https://www.astronomy.com/observing/how-to-photograph-the-moon/> )



## NSF–DOE Vera C. Rubin Observatory Spots Record-Breaking Asteroid in Pre-Survey Observations

[noirlab2601](#) — [Science Release](#) 7 January 2026

**First peer-reviewed paper using LSST Camera data identifies an asteroid, nearly the size of eight football fields, rotating every two minutes**

Astronomers analyzing data from NSF–DOE Vera C. Rubin Observatory, jointly funded by the U.S. National Science Foundation and the U.S. Department of Energy’s Office of Science, have discovered the fastest-ever spinning asteroid with a diameter over half a kilometer — a feat uniquely enabled by Rubin. The study provides crucial information about asteroid composition and evolution, and demonstrates how Rubin is pushing the boundaries of what we can discover within our own Solar System.



*Artist's illustration of asteroid 2025 MN45*

As part of the NSF–DOE Vera C. Rubin Observatory First Look event in June 2025, Rubin announced that it had observed thousands of asteroids cruising about our Solar System, about 1900 of which have been confirmed as never-before-seen [1]. Within the flurry, a team of astronomers has discovered 19 super- and ultra-fast-rotating asteroids. One of these is the fastest-spinning asteroid larger than 500 meters (0.3 miles) ever found.

The study was led by Sarah Greenstreet, NSF NOIRLab assistant astronomer and lead of Rubin Observatory’s Solar System Science Collaboration’s Near-Earth Objects and Interstellar Objects working group. The team presents their results in a paper appearing in *The Astrophysical Journal Letters*, as well as at a press conference at the 247th meeting of the American Astronomical Society (AAS) in Phoenix, Arizona.

Rubin Observatory is a joint program of NSF NOIRLab and DOE’s SLAC National Accelerator Laboratory, who cooperatively operate Rubin. NOIRLab is managed by the Association of Universities for Research in Astronomy (AURA).

“NSF–DOE Rubin Observatory will find things that no one even knew to look for,” says Luca Rizzi, an NSF program director for research infrastructure. “When Rubin’s Legacy Survey of Space and Time begins, this huge spinning asteroid will be joined by an avalanche of new information about our Universe, captured nightly.”

The Legacy Survey of Space and Time (LSST) is Rubin’s mission to repeatedly scan the Southern Hemisphere night sky for ten years to create an ultra-wide, ultra-high-definition time-lapse record of the Universe. LSST is expected to start in the coming months.

The study discussed here uses data collected over the course of about ten hours across seven nights in April/May 2025, during Rubin Observatory’s early commissioning phase. This is the first published peer-reviewed scientific paper that uses data from the LSST Camera — the largest digital camera in the world.

“The Department of Energy’s investment in Rubin Observatory’s cutting-edge technology, particularly the LSST Camera, is proving invaluable,” said Regina Rameika, the DOE Associate Director for High Energy Physics. “Discoveries like this exceptionally fast-rotating asteroid are a direct result of the observatory’s unique capability to provide high-resolution, time-domain astronomical data, pushing the boundaries of what was previously observable.”

“We have known for years that Rubin would act as a discovery machine for the Universe, and we are already seeing the unique power of combining the LSST Camera with Rubin’s incredible speed. Together, Rubin can take an image every 40 seconds,” said Aaron Roodman, Deputy Head of LSST and professor of Particle Physics and Astrophysics at SLAC. “The ability to find thousands of new asteroids in such a short period of time, and learn so much about them, is a window into what will be uncovered during the 10-year survey.”

As asteroids orbit the Sun, they also rotate at a wide range of speeds. These spin rates not only offer clues about the conditions of their formation billions of years ago, but also tell us about their internal composition and evolution over their

lifetimes. In particular, an asteroid spinning quickly may have been sped up by a past collision with another asteroid, suggesting that it could be a fragment of an originally larger object.

Fast rotation also requires an asteroid to have enough internal strength to not fly apart into many smaller pieces, called fragmentation. Most asteroids are 'rubble piles', which means they are made of many smaller pieces of rock held together by gravity, and thus have limits based on their densities as to how fast they can spin without breaking apart. For objects in the main asteroid belt, the fast-rotation limit to avoid being fragmented is 2.2 hours; asteroids spinning faster than this must be structurally strong to remain intact. The faster an asteroid spins above this limit, and the larger its size, the stronger the material it must be made from.

The study presents 76 asteroids with reliable rotation periods. This includes 16 super-fast rotators with rotation periods between roughly 13 minutes and 2.2 hours, and three ultra-fast rotators that complete a full spin in less than five minutes.

All 19 newly identified fast-rotators are longer than the length of an American football field (100 yards or about 90 meters). The fastest-spinning main-belt asteroid identified, named 2025 MN45, is 710 meters (0.4 miles) in diameter and it completes a full rotation every 1.88 minutes. This combination makes it the fastest-spinning asteroid with a diameter over 500 meters that astronomers have found.

"Clearly, this asteroid must be made of material that has very high strength in order to keep it in one piece as it spins so rapidly," says Greenstreet. "We calculate that it would need a cohesive strength similar to that of solid rock. This is somewhat surprising since most asteroids are believed to be what we call 'rubble pile' asteroids, which means they are made of many, many small pieces of rock and debris that coalesced under gravity during Solar System formation or subsequent collisions."

Most fast-rotators discovered so far orbit the Sun just beyond Earth, known as near-Earth objects (NEOs). Scientists find fewer fast-rotating main-belt asteroids (MBAs), which orbit the Sun between Mars and Jupiter. This is mainly because of the main-belt asteroids' greater distance from Earth, which makes their light fainter and more difficult to see.

All but one of the newly identified fast-rotators live in the main asteroid belt, some even just beyond its outer edge, with the lone exception being an NEO. This shows that scientists are now finding these extremely rapidly rotating asteroids at farther distances than ever before, an achievement made possible by Rubin's enormous light-collecting power and precise measurement capabilities.

In addition to 2025 MN45, other notable asteroid discoveries made by the team include 2025 MJ71 (1.9-minute rotation period), 2025 MK41 (3.8-minute rotation period), 2025 MV71 (13-minute rotation period), and 2025 MG56 (16-minute rotation period). These five super- to ultra-fast rotators are all several hundred meters in diameter and join a couple of NEOs as the fastest spinning sub-kilometer asteroids known.

"As this study demonstrates, even in early commissioning, Rubin is successfully allowing us to study a population of relatively small, very-rapidly-rotating main-belt asteroids that hadn't been reachable before," says Greenstreet.

Scientists expect to find more fast rotators once Rubin begins its 10-year Legacy Survey of Space and Time (LSST). Unlike the dense, rapid First Look observations that enabled this quick burst of discoveries, LSST's regular, sparser observations will instead uncover fast rotators gradually as the survey accumulates data, providing pivotal information about the strengths, compositions, and collisional histories of these primitive bodies.

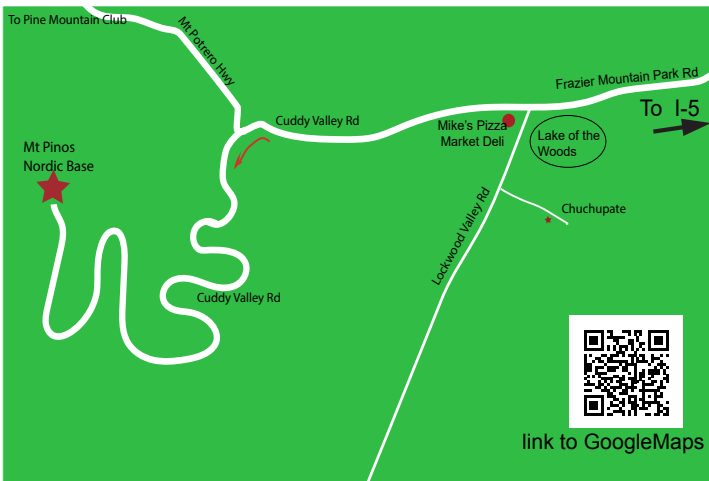
## Links

- [Read the paper: Lightcurves, rotation periods, and colors for Vera C. Rubin Observatory's first asteroid discoveries](#)
- [Vera C. Rubin Observatory website](#)
- [Vera C. Rubin Observatory images](#)
- [More Rubin images](#)
- [Rubin videos](#)
- [Check out other NOIRLab Science Releases](#)

## Dark Sky Observing Sites

The **Chuchupate** parking lot is a half a mile beyond the Mt Pinos ranger station (on some maps The Chuchupate Ranger Sta.), the parking lot is also called Frazier Mountain trailhead.

To get there, take the Frazier Mountain Park RD east about 7 miles from I-5, to Lake Of The Woods, Turn left on Lockwood Valley Rd. ( If you see Mike’s Pizza on your left you missed the turn) In less than a mile there is a road to the left, go past the ranger station, the parking lot is on the right. The Club gathers in the upper end of the lot. The Elevation is 5430 feet. There is a vault toilet. (link to GoogleMaps) [RX3R+3F, Frazier Park, CA 93225](#)



**Mt Pinos** is a parking lot at 8350 feet for the “Mt Pinos Nordic Base.” There is a vault toilet 300 yds to the east in the Chula Vista campground.

To get there: From I-5, get off at Frazier Mountain Park Rd and drive west about 7 miles to Mike’s Pizza/Market Deli at Lockwood Valley Rd. Keep on the main roadway (don’t turn left to go to Chuchupate). Continue past Mike’s Pizza on Cuddy Valley Rd (the road’s new name) about 5 miles. Continue straight (do not turn right on to Mil Potrero Hwy) for another 8 1/2 miles to the parking area.

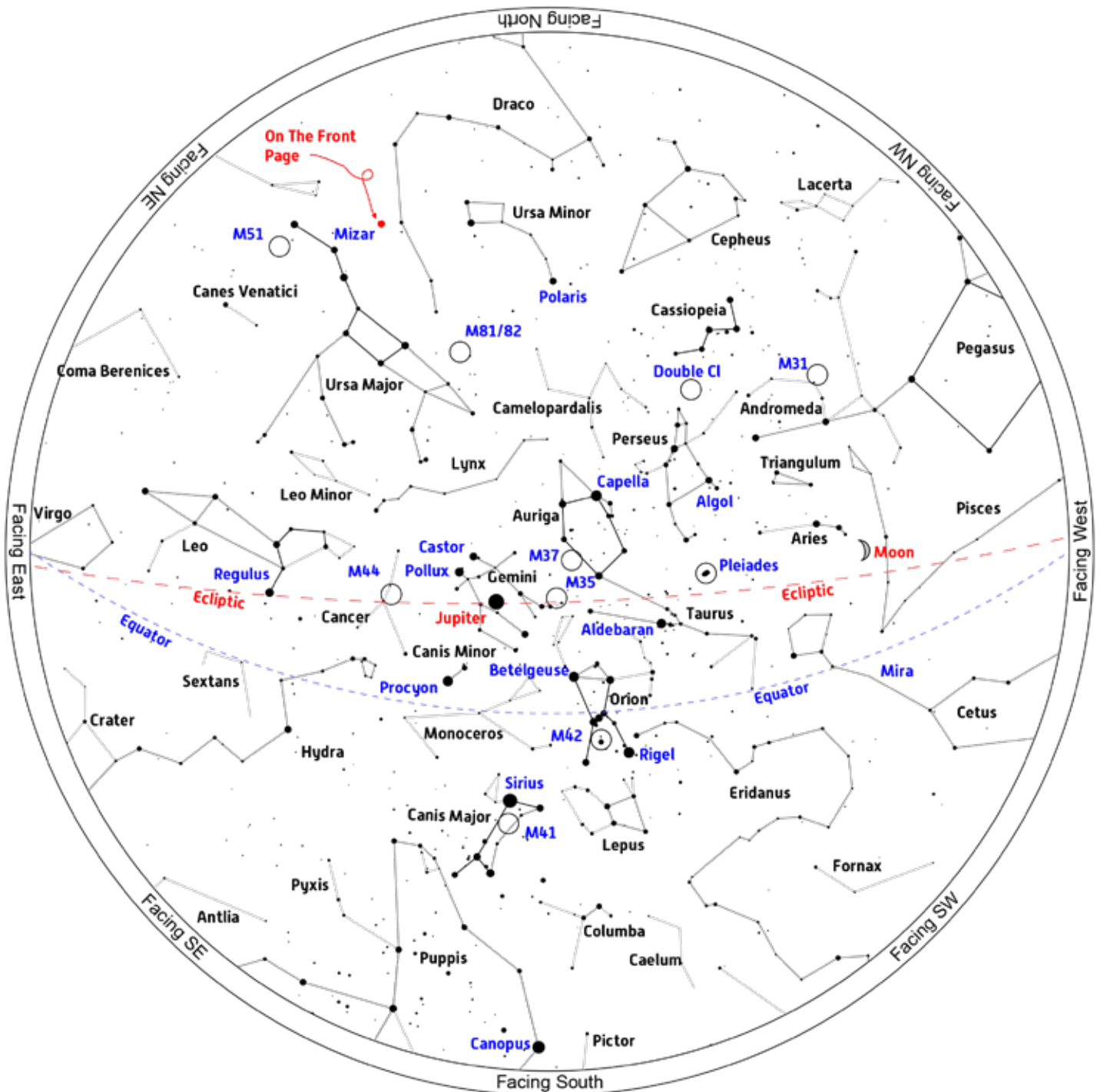
[RV7F+FF Frazier Park, California](#) (link to GoogleMaps)

**The Red Cliffs Natural Area** is part of **Red Rock Canyon State Park** is a day use area and is not for use by the public after dark. The Club gets a special permit for a star party and pays a fee.

To get there: Take the CA-14 north 25 miles past Mojave. You will see giant red cliffs on the right side and a small sign that says “Red Cliffs Natural Area” and a dirt road. (If you see the large sign for the Ricardo campground, you drove a mile too far). Follow the road to the large parking lot (that hasn’t been graded in a long time). Elevation is 2410 feet. There is a vault toilet. . . . (link to GoogleMaps). [926F+X5 Ricardo, California](#)



## Sky Chart



Location: Palmdale, CA 93551  
Latitude: 34° 36' N, longitude: 118° 11' W  
Time: 2026 February 21, 20:00 (UTC -08:00)

Powered by: Heavens-Above.com

## Solar System Summary

The **Sun** starts the month in the middle of Capricorn ending the month in the middle of Aquarius.

### The Planets

**Mercury** makes a brief appearance in the evening twilight speeding away from the Sun and achieving G.E.E. on the 19th, making a bright splash at mag 0.0 on the 22nd, thereafter fading into the setting Sun.

**Venus**, on the 1st is just over 6½° east of the Sun in Aquarius. By the end of the month passes into Pisces, in the company of Saturn, Neptune, and Mercury.

**Mars** spending the month in Capricorn trying to separate itself from the rising Sun. At the end of the month it has achieved almost 12° separation, at mag 1.2.

**Jupiter** after opposition, is still in Gemini moving in retrograde motion resuming normal motion on the 11th of next month.

**Saturn** moving in normal motion in southern Pisces at the end of the month at mag 1.0. On the 19th passes 3/4° south of Neptune.

**Uranus** reaches its second stationary point on the 4th before resuming normal motion, at mag 5.7 passing between the Pleiades and the Hyades.

**Neptune** in normal motion in southern Pisces at mag 7.9. The 6% waxing Moon passes 3° north on the 19th, and Saturn ¾° south.

### Dwarf Planets

**134340 Pluto** is still moving normally in western Capricorn, at mag 14.5, in the morning twilight.

**1 Ceres** spends the month in normal motion moving across Cetus and into Pisces, at mag 9.1.

**2 Pallas** continues moving normally in eastern Aquarius at the end of the month, at magnitude 10.0.

**3 Juno** continues moving normally from Scutum into southern Aquila at mag 11.3.

**4 Vesta** moves in normal motion from across central Capricorn at mag 8.0. On the 15th Mars passes by 1½° north.

## Moon Phases



First Qtr  
Feb 24

Full  
Feb 1

Third Qtr  
Feb 9

New  
Feb 17

## Sun and Moon Rise and Set\*

Date	Moonrise	Moonset	Sunrise	Sunset
2/1/2026	17:23	06:52	06:50	17:22
2/5/2026	21:41	08:49	06:47	17:26
2/10/2026	01:39	11:20	06:42	17:31
2/15/2026	05:44	15:58	06:37	17:36
2/20/2026	08:09	21:24	06:32	17:40
2/25/2026	11:37	02:06	06:26	17:45
2/28/2026	15:04	04:48	06:22	17:47

## Planet Data\*

### February 1

	Rise	Transit	Set	Mag	Phase%
Mercury	07:24	12:40	17:58	-1.19	96.1
Venus	07:17	12:33	17:50	-3.91	99.4
Mars	06:39	11:45	16:51	1.16	99.8
Jupiter	15:09	22:18	05:31	-2.63	99.8
Saturn	09:08	15:03	20:58	1.11	99.8

### February 15

	Rise	Transit	Set	Mag	Phase%
Mercury	07:26	13:12	18:59	-0.80	64.9
Venus	07:12	12:46	18:20	-3.91	98.6
Mars	06:18	11:34	16:80	1.16	99.7
Jupiter	14:08	21:17	04:31	-2.56	99.6
Saturn	08:17	14:13	20:10	1.07	99.9

### February 28

	Rise	Transit	Set	Mag	Phase%
Mercury	06:43	12:44	18:44	2.17	9.9
Venus	07:03	12:55	18:47	-3.91	97.6
Mars	05:57	11:23	16:49	1.17	99.4
Jupiter	13:13	20:23	03:37	-2.48	99.3
Saturn	07:29	13:28	19:26	1.01	99.9

\*All time mentioned are local and approximate.

\*Sun, Moon and Planetary date based on Quartz Hill, CA

## Suggested Observing List

The list below contains objects that will be visible on the night of the AVAC Deep Sky Star Party or the Saturday nearest the New Moon, in this case February 21, 2026. The list is sorted by the transit time of the object.

ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
M52	The Scorpion	Open	Cas	23h 24m 48s	+61°35.6'	8.0	Circ	13:14	Circ
NGC7662	Blue Snowball	P Neb	And	23h 25m 54s	+42°33.0'	8.3	04:33	13:15	21:57
NGC7686		Open	And	23h 30m 07s	+49°08.0'	5.6	03:40	13:19	22:58
IC5332		Galaxy	Scl	23h 34m 27s	-36°06.0'	10.6	09:20	13:23	17:26
NGC7785		Galaxy	Psc	23h 55m 19s	+05°54.9'	11.6	07:25	13:44	20:03
HR9071	Sig Cas	Triple	Cas	23h 59m 01s	+55°45.3'	4.9	Circ	13:48	Circ
NGC7822		Neb	Cep	00h 03m 36s	+67°09.0'		Circ	13:53	Circ
NGC55	C72	S Gal	Scl	00h 14m 54s	-39°11.0'	7.9	10:17	14:04	17:51
NGC129		Open	Cas	00h 30m 00s	+60°13.1'	6.5	Circ	14:19	Circ
NGC133		Open	Cas	00h 31m 19s	+63°21.0'	9.0	Circ	14:20	Circ
NGC146		Open	Cas	00h 33m 03s	+63°18.0'	9.1	Circ	14:22	Circ
NGC147	C17	E Gal	Cas	00h 33m 12s	+48°30.0'	9.3	04:50	14:22	23:54
NGC190		Galaxy	Psc	00h 38m 55s	+07°03.7'	14.0	08:05	14:28	20:50
M110	Satellite Of Andromeda	Galaxy	And	00h 40m 22s	+41°41.1'	8.9	05:53	14:29	23:06
NGC210		Galaxy	Cet	00h 40m 35s	-13°52.3'	10.9	09:06	14:30	19:53
NGC206	V-36	Neb	And	00h 40m 36s	+40°44.0'		05:59	14:30	23:00
Arp168	M32	Galaxy	And	00h 42m 41s	+40°51.0'	9.0	06:00	14:32	23:03
M32	Satellite Of Andromeda	Galaxy	And	00h 42m 42s	+40°51.9'	9.1	06:00	14:32	23:03
M31	Andromeda Galaxy	Galaxy	And	00h 42m 44s	+41°16.1'	4.3	05:58	14:32	23:06
NGC246	C56	P Neb	Cet	00h 47m 00s	-11°53.0'	10.9	09:07	14:36	20:05
NGC254		Galaxy	Scl	00h 47m 28s	-31°25.2'	11.8	10:13	14:36	19:00
NGC288		Globular	Scl	00h 52m 45s	-26°35.0'	8.1	09:59	14:42	19:24
NGC281	PacMan Nebula	Open	Cas	00h 52m 54s	+56°37.4'	7.0	Circ	14:42	Circ
IC59	γ Cassiopeiae Nebula	Neb	Cas	00h 57m 29s	+61°08.6'		Circ	14:46	Circ
IC63	γ Cassiopeiae Nebula	Neb	Cas	00h 59m 29s	+60°54.7'		Circ	14:48	Circ
C51	IC1613	IrrGal	Cet	01h 04m 48s	+02°07.0'	9.3	08:45	14:54	21:02
NGC474		Galaxy	Psc	01h 20m 07s	+03°24.9'	11.1	08:57	15:09	21:21
NGC485		Galaxy	Psc	01h 21m 28s	+07°01.0'	14.0	08:48	15:10	21:33
M103	NGC581	Open	Cas	01h 33m 23s	+60°39.0'	7.0	Circ	15:22	Circ
NGC598	Pinwheel Galaxy	Galaxy	Tri	01h 33m 51s	+30°39.6'	5.7	07:43	15:23	23:03
NGC604	III-150	Neb	Tri	01h 34m 33s	+30°47.0'		07:43	15:24	23:04
M74	The Phantom	Galaxy	Psc	01h 36m 42s	+15°47.0'	9.8	08:38	15:26	22:14
M76	Little Dumbbell Nebula	P Neb	Per	01h 42m 18s	+51°34.2'	12.0	05:20	15:31	01:43
NGC651	Apple Core Nebula [2]	P Neb	Per	01h 42m 21s	+51°34.1'	12.2	05:20	15:31	01:43
NGC637		Open	Cas	01h 43m 04s	+64°02.4'	8.2	Circ	15:32	Circ

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ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC654		Open	Cas	01h 44m 00s	+61°53.0'	6.5	Circ	15:33	Circ
NGC720		Galaxy	Cet	01h 53m 00s	-13°44.3'	10.2	10:18	15:42	21:06
NGC780		Galaxy	Tri	02h 00m 35s	+28°13.5'	14.0	08:19	15:50	23:20
NGC784		Galaxy	Tri	02h 01m 17s	+28°50.2'	11.8	08:17	15:50	23:23
NGC821		Galaxy	Ari	02h 08m 21s	+10°59.6'	10.8	09:24	15:57	22:31
Baily191	NGC884	Open	Per	02h 22m 18s	+57°08.1'	4.0	Circ	16:11	Circ
IC1795		Neb	Cas	02h 26m 32s	+62°02.4'		Circ	16:15	Circ
NGC936		Galaxy	Cet	02h 27m 37s	-01°09.3'	10.1	10:17	16:17	22:16
NGC943	Arp309	Galaxy	Cet	02h 29m 09s	-10°49.0'	11.4	10:46	16:18	21:51
NGC956		Open	And	02h 32m 30s	+44°35.6'	9.0	07:24	16:21	01:18
IC1805	Heart Nebula	Open	Cas	02h 32m 47s	+61°27.6'	6.5	Circ	16:22	Circ
NGC1052		Galaxy	Cet	02h 41m 05s	-08°15.3'	10.6	10:50	16:30	22:10
M34	Spiral Cluster	Open	Per	02h 42m 05s	+42°45.6'	6.0	07:47	16:31	01:15
M77	Cetus A	Galaxy	Cet	02h 42m 41s	-00°00.8'	9.7	10:29	16:32	22:34
NGC1084		Galaxy	Eri	02h 46m 00s	-07°34.6'	10.6	10:53	16:35	22:17
IC1848	Soul Nebula	Open	Cas	02h 51m 18s	+60°24.4'	6.5	Circ	16:40	Circ
NGC1156		Galaxy	Ari	02h 59m 42s	+25°14.2'	11.7	09:29	16:49	00:08
NGC1201		Galaxy	For	03h 04m 08s	-26°04.1'	10.6	12:09	16:53	21:37
NGC1175		Galaxy	Per	03h 04m 32s	+42°20.3'	12.8	08:13	16:53	01:34
HR963	HD20010	Dbl	For	03h 12m 04s	-28°59.2'	3.9	12:28	17:01	21:34
NGC1316	Fornax A	Galaxy	For	03h 22m 42s	-37°12.4'	8.9	13:14	17:12	21:09
Barnard202	B202	DkNeb	Ari	03h 25m 38s	+30°16.0'		09:36	17:15	00:53
Barnard204	B204	DkNeb	Ari	03h 28m 29s	+30°11.0'		09:39	17:17	00:56
NGC1350		Galaxy	For	03h 31m 08s	-33°37.7'	10.5	13:06	17:20	21:34
Barnard1	B1	DkNeb	Per	03h 32m 57s	+31°09.0'		09:40	17:22	01:04
Barnard2	B2	DkNeb	Per	03h 33m 31s	+32°19.0'		09:35	17:22	01:10
Barnard3	B3	DkNeb	Per	03h 40m 01s	+31°58.0'		09:43	17:29	01:15
NGC1407		Galaxy	Eri	03h 40m 12s	-18°34.8'	9.8	12:20	17:29	22:38
IC347		Galaxy	Eri	03h 42m 32s	-04°17.9'	13.0	11:41	17:31	23:22
NGC1448		Galaxy	Hor	03h 44m 32s	-44°38.6'	11.0	14:20	17:33	20:47
IC348		Open	Per	03h 44m 34s	+32°09.7'	7.3	09:47	17:34	01:20
M45	Pleiades	Open	Tau	03h 47m 30s	+24°07.0'	1.6	10:21	17:36	00:52
Barnard5	B5	DkNeb	Per	03h 47m 53s	+32°53.0'		09:47	17:37	01:27
NGC1461		Galaxy	Eri	03h 48m 27s	-16°23.5'	11.7	12:21	17:37	22:53
IC353		Neb	Tau	03h 53m 00s	+25°48.0'		10:21	17:42	01:03
IC2003		P Neb	Per	03h 56m 22s	+33°52.5'	13.0	09:51	17:45	01:40
NGC1499	California Nebula	Neb	Per	04h 03m 14s	+36°22.0'		09:46	17:52	01:58
NGC1514	Crystal Ball Nebula	P Neb	Tau	04h 09m 17s	+30°46.5'	10.0	10:18	17:58	01:39

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ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC1513		Open	Per	04h 09m 57s	+49°30.8'	8.4	08:15	17:59	03:42
IC359		Neb	Tau	04h 12m 28s	+27°42.1'		10:33	18:01	01:30
NGC1535		P Neb	Eri	04h 14m 16s	-12°44.3'	10.0	12:36	18:03	23:30
Barnard10	B10	DkNeb	Tau	04h 18m 41s	+28°16.0'		10:37	18:08	01:38
NGC1545		Open	Per	04h 20m 57s	+50°15.2'	6.2	08:17	18:10	04:02
NGC1569		Galaxy	Cam	04h 30m 49s	+64°50.8'	11.2	Circ	18:20	Circ
Barnard18	B18	DkNeb	Tau	04h 31m 13s	+24°21.0'		11:04	18:20	01:36
NGC1582		Open	Per	04h 31m 53s	+43°49.0'	7.0	09:30	18:21	03:12
NGC1560		Galaxy	Cam	04h 32m 48s	+71°52.7'	11.5	Circ	18:22	Circ
Barnard19	B19	DkNeb	Tau	04h 33m 00s	+26°16.0'		10:59	18:22	01:45
Barnard20	B20	DkNeb	Per	04h 37m 04s	+50°58.0'		08:24	18:26	04:28
Barnard22	B22	DkNeb	Tau	04h 38m 00s	+26°03.0'		11:05	18:27	01:49
Barnard14	B14	DkNeb	Tau	04h 39m 59s	+25°44.0'		11:08	18:29	01:50
IC2087		Neb	Tau	04h 40m 00s	+25°44.5'		11:08	18:29	01:50
Barnard23	B23	DkNeb	Tau	04h 40m 33s	+29°52.0'		10:53	18:30	02:06
NGC1624		Open	Per	04h 40m 36s	+50°27.6'	10.4	08:34	18:30	04:25
NGC1640		Galaxy	Eri	04h 42m 14s	-20°26.0'	11.7	13:28	18:31	23:35
NGC1647		Open	Tau	04h 45m 55s	+19°06.8'	6.4	11:36	18:35	01:33
IC2118	Witch Head Nebula	Neb	Eri	05h 04m 54s	-07°15.0'		13:11	18:54	00:36
NGC1851	C73	Globular	Col	05h 14m 06s	-40°03.0'	7.3	15:21	19:03	22:45
IC405	Flaming Star Nebula	Neb	Aur	05h 16m 29s	+34°21.3'		11:09	19:05	03:02
M79	NGC1904	Globular	Lep	05h 24m 11s	-24°31.4'	8.5	14:23	19:13	00:03
M38	Starfish Cluster	Open	Aur	05h 28m 40s	+35°50.8'	7.0	11:14	19:18	03:21
M1	Crab Nebula	SNR	Tau	05h 34m 32s	+22°00.8'	8.4	12:16	19:23	02:31
M42	Great Orion Nebula	Open+D Neb	Ori	05h 35m 16s	-05°23.4'	4.0	13:36	19:24	01:12
M43	De Mairan's Nebula	D Neb	Ori	05h 35m 31s	-05°16.0'	9.0	13:36	19:24	01:13
M36	Pinwheel Cluster	Open	Aur	05h 36m 18s	+34°08.3'	6.5	11:30	19:25	03:21
M78	NGC2068	D Neb	Ori	05h 46m 45s	+00°04.8'	8.0	13:33	19:36	01:39
M37	Auriga Salt-and-pepper Cluster	Open	Aur	05h 52m 18s	+32°33.2'	6.0	11:53	19:41	03:30
M35	NGC2168	Open	Gem	06h 09m 00s	+24°21.0'	5.5	12:42	19:58	03:14
M41	Little Beehive	Open	CMa	06h 46m 01s	-20°45.3'	5.0	15:33	20:35	01:37
M50	Heart-shaped Cluster	Open	Mon	07h 02m 42s	-08°23.0'	7.0	15:12	20:52	02:31
M47	NGC2422	Open	Pup	07h 36m 35s	-14°29.0'	4.5	16:04	21:26	02:47
M46	NGC2437	Open	Pup	07h 41m 46s	-14°48.6'	6.5	16:10	21:31	02:52
M93	NGC2447	Open	Pup	07h 44m 30s	-23°51.4'	6.5	16:41	21:33	02:25
M48	NGC2548	Open	Hya	08h 13m 43s	-05°45.0'	5.5	16:16	22:03	03:49
M44	Beehive Cluster	Open	Cnc	08h 40m 24s	+19°40.0'	4.0	15:29	22:29	05:30
M67	King Cobra	Open	Cnc	08h 51m 18s	+11°48.0'	7.5	16:04	22:40	05:16

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ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
M81	Bode's Galaxy	Galaxy	UMa	09h 55m 33s	+69°03.9'	7.8	Circ	23:45	Circ
M82	Cigar Galaxy	Galaxy	UMa	09h 55m 53s	+69°40.8'	9.2	Circ	23:45	Circ
M95	NGC3351	Galaxy	Leo	10h 43m 58s	+11°42.2'	10.6	17:57	00:33	07:09
M96	NGC3368	Galaxy	Leo	10h 46m 46s	+11°49.2'	10.1	18:00	00:36	07:12
M105	NGC3379	Galaxy	Leo	10h 47m 50s	+12°34.9'	10.5	17:58	00:37	07:15
M108	NGC3556	Galaxy	UMa	11h 11m 31s	+55°40.4'	10.6	Circ	01:00	Circ
M97	Owl Nebula	P Neb	UMa	11h 14m 48s	+55°01.1'	12.0	Circ	01:04	Circ
M65	Leo Triplet	Galaxy	Leo	11h 18m 56s	+13°05.5'	10.1	18:28	01:08	07:48
M66	Leo Triplet	Galaxy	Leo	11h 20m 15s	+12°59.4'	9.7	18:30	01:09	07:49
M109	NGC3992	Galaxy	UMa	11h 57m 36s	+53°22.4'	10.6	15:00	01:47	12:33
M98	NGC4192	Galaxy	Com	12h 13m 48s	+14°54.0'	10.9	19:17	02:03	08:48
M99	Coma Pinwheel Galaxy	Galaxy	Com	12h 18m 50s	+14°25.0'	10.4	19:24	02:08	08:52
M106	NGC4258	Galaxy	CVn	12h 18m 58s	+47°18.2'	9.1	16:48	02:08	11:28
M61	Swelling Spiral	Galaxy	Vir	12h 21m 55s	+04°28.3'	10.1	19:56	02:11	08:26
M40	Winnecke 4	Dbl+Asterism	UMa	12h 22m 12s	+58°05.0'	8.7	Circ	02:11	Circ
M100	Mirror of M99	Galaxy	Com	12h 22m 55s	+15°49.3'	10.1	19:24	02:12	09:00
M84	NGC4374	Galaxy	Vir	12h 25m 04s	+12°53.2'	10.2	19:35	02:14	08:53
M85	NGC4382	Galaxy	Com	12h 25m 24s	+18°11.4'	10.0	19:19	02:14	09:10
M86	NGC4406	Galaxy	Vir	12h 26m 12s	+12°56.7'	9.9	19:36	02:15	08:55
M49	NGC4472	Galaxy	Vir	12h 29m 47s	+08°00.0'	9.3	19:54	02:19	08:44
M87	Smoking Gun	Galaxy	Vir	12h 30m 49s	+12°23.4'	9.6	19:42	02:20	08:58
M88	NGC4501	Galaxy	Com	12h 31m 59s	+14°25.2'	10.2	19:37	02:21	09:05
M91	Missing Messier Object	Galaxy	Com	12h 35m 27s	+14°29.7'	10.9	19:40	02:24	09:08
M89	NGC4552	Galaxy	Vir	12h 35m 40s	+12°33.3'	10.9	19:46	02:25	09:03
M90	NGC4569	Galaxy	Vir	12h 36m 50s	+13°09.7'	10.2	19:46	02:26	09:06
M58	NGC4579	Galaxy	Vir	12h 37m 44s	+11°49.1'	10.4	19:51	02:27	09:03
M68	NGC4590	Globular	Hya	12h 39m 28s	-26°44.5'	9.0	21:47	02:28	07:10
M104	Sombrero Galaxy	Galaxy	Vir	12h 39m 59s	-11°37.3'	9.2	20:59	02:29	07:59

And - Andromeda  
Ant - Antlia  
Aps - Apus  
Aql - Aquila  
Aqr - Aquarius  
Ara - Ara  
Ari - Aries  
Aur - Auriga  
Boo - Bootes  
Cae - Caelum  
Cam - Camelopardis  
Cap - Capricornus  
Car - Carina  
Cas - Cassiopeia  
Cen - Centaurus  
Cep - Cepheus  
Cet - Cetus  
Cha - Chamaeleon

Cir - Circinus  
CMa - Canis Major  
CMi - Canis Minor  
Cnc - Cancer  
Col - Columba  
Com - Coma Berenices  
CrA - Corona Australis  
CrB - Corona Borealis  
Crt - Crater  
Cru - Crux  
Crv - Corvus  
CVn - Canes Venatici  
Cyg - Cygnus  
Del - Delphinus  
Dor - Dorado  
Dra - Draco  
Equ - Equuleus  
Eri - Eridanus

For - Fornax  
Gem - Gemini  
Gru - Grus  
Her - Hercules  
Hor - Horologium  
Hya - Hydra  
Hyi - Hydrus  
Ind - Indus  
Lac - Lacerta  
Leo - Leo  
Lep - Lepus  
Lib - Libra  
LMi - Leo Minor  
Lup - Lupus  
Lyn - Lynx  
Lyr - Lyra  
Men - Mensa  
Mic - Microscopium

Mon - Monoceros  
Mus - Musca  
Nor - Norma  
Oct - Octans  
Oph - Ophiuchus  
Ori - Orion  
Pav - Pavo  
Peg - Pegasus  
Per - Perseus  
Phe - Phoenix  
Pic - Pictor  
PsA - Pisces Austrinus  
Psc - Pisces  
Pup - Puppis  
Pyx - Pyxis  
Ret - Reticulum  
Scl - Sculptor  
Sco - Scorpius

Sct - Scutum  
Ser - Serpens  
Sex - Sextans  
Sge - Sagitta  
Sgr - Sagittarius  
Tau - Taurus  
Tel - Telescopium  
TrA - Triangulum Australe  
Tri - Triangulum  
Tuc - Tucana  
UMa - Ursa Major  
UMi - Ursa Minor  
Vel - Vela  
Vir - Virgo  
Vol - Volans  
Vul - Vulpecula

## Greek Alphabet

α - alpha      ν - nu  
β - beta      ξ - xi  
γ - gamma    ο - omicron  
δ - delta      π - pi  
ε - epsilon    ρ - rho  
ζ - zeta      σ - sigma  
η - eta        τ - tau  
θ - theta      υ - upsilon  
ι - iota        φ - phi  
κ - kappa      χ - chi  
λ - lambda     ψ - psi  
μ - mu        ω - omega

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