

Volume 42.10

October 2022

Desert Sky Observer

Antelope Valley Astronomy Club



Desert Sky Observer

www.avastronomyclub.org

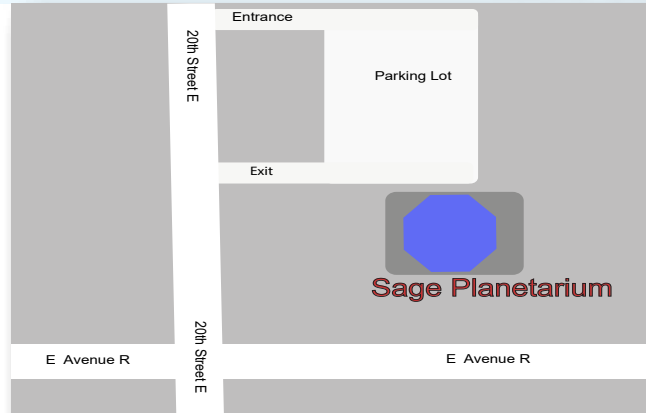
October 2022

Upcoming Events

September 23 - October 2: AV Fair & Alfalfa Festival
October 14: Club Business Meeting
October 15-16: Edwards AFB Air Show..
October 22: DSSP at Red Cliffs
October 22: Scary Science 3 pm;
Moonwalk 6:30 pm @ PDW
October 28: College of the Canyons
Fall Star Party Time TBA
November 5: Moonwalk 6:30 pm @ PDW
November 8: Election Day -- Vote!
November 11: Club Meeting
November 26: DSSP @ Chuchupate (maybe)
December 3: Moonwalk 6:00 pm @ PDW
December 10: Christmas Party @ Gino's Restaurant



AVAC Calendar



Board Members

President: Phil Wriedt (661) 917-4874
president@avastronomyclub.org

Vice-President: Gail Lofdahl 661-722-5833
vice-president@avastronomyclub.org

Secretary: Rose Moore (661) 972-1953
secretary@avastronomyclub.org

Treasurer: Rod Girard (661) 803-7838
treasurer@avastronomyclub.org

Appointed Positions

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

Equipment & Library:
John Van Evera 661-754-1819
library@avastronomyclub.org

Club Historian: vacant
history@avastronomyclub.org

Webmaster: Steve Trotta (661) 269-5428
webmaster@avastronomyclub.org

Astronomical League Coordinator:
Frank Moore (661) 972-4775
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 20th 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 Reflector -- the publication of the Astronomical League.
- 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/.

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

The AVAC is a Sustaining Member of The Astronomical League and the International Dark-Sky Association



www.avastronomyclub.org



President's Message

By Phil Wriedt

Hi There!

Our next meeting, on the 14th, is our annual Business Meeting. It's something we have to do. We must hold elections for the officers of the Club. If you have any desire to serve the Club in a formal capacity, throw your name in the hat. We need every member there, no arm twisting. Please come, and vote.

On the 17th of September we had a Moonwalk. There were 5 scopes, 6 members and 71 members of the public. We have another Moonwalk on the 22nd of October, rescheduled from the 29th. On the 28th the College of the Canyons has their Fall Star Party. As usual we need telescopes and members at both. More information at the meeting and by email.

We had a Star Party at Chuchupate on the 24th of September and there were several members that were there. My email and photo were a bit premature. Our next Dark Sky Star Party is scheduled for the 22nd of October at Red Cliffs in Red Rock State Park.

Our Christmas Party is coming up on the 10th of December at Gino's Italian Restaurant, the same place it's been held for the past several years. More information will come by emails and at meetings.

As long as I've been staring at the sky, building and buying telescopes. I go, setup in the middle of nowhere, away from lights, wondering what I should look at. I have a suggestion. The Club is a member of The Astronomical League. The AL has almost 80 different observing programs designed to provide a direction for your observations and to provide a goal. There are 3 levels of difficulty, using naked eye, binocular, or telescope (including goto). Go to <https://www.astroleague.org/observing.html> check out the programs. You complete each program on your own time frame. Start an observing program and you'll never have to wonder what to look at.

Keep Looking Up, Phil

On The Cover

Please note: Cover Art is rotated 90° clockwise from original as described below

The Universe is rarely static, although the timescales involved can be very long. Since modern astronomical observations began we have been observing the birthplaces of new stars and planets, searching for and studying the subtle changes that help us to figure out what is happening within.

The bright spot located at the edge of the bluish fan-shaped structure in this Hubble image is a young star called V* PV Cephei, or PV Cep. It is a favourite target for amateur astronomers because the fan-shaped nebulosity, known as GM 1-29 or Gyulbudaghian's Nebula, changes over a timescale of months. The brightness of the star has also varied over time.

Images of PV Cep taken in 1952 showed a nebulous streak, similar to a comet's tail. However, these had vanished when new images of the star were obtained some twenty-five years later. Instead, the blue fan-shaped nebula had appeared. Twenty-five years is a very short period on cosmic timescales, so astronomers think that the mysterious streak may have been a temporary phenomenon, such as the remnants of a massive stellar flare — similar to the solar flares we are used to seeing in the Solar System.

At the same time as this was happening, the star itself was brightening. This provided the light to illuminate the newly formed fan-shaped nebula. This brightening might be related to the start of the hydrogen-burning phase of the star, which would mean that it was reaching maturity.

From the Secretary

By Rose Moore

Members:

Thanks to all members who have been coming out to AVAC events this past month! We appreciate you!

Coming up at our meeting for October 14th, will be our yearly election for Board members. If you would like to serve on the Board please attend and put your name in for a nomination. This business meeting is also for you to voice any concerns, suggestions, opinions about the club. Please attend!

We will be starting a sign up sheet on Oct. 14th for our club annual Christmas Party which will be held on Saturday December 10th starting at 6pm. This is for members and their family and/or guest(s). You can also email me if you would like to attend. Buffet will start approximately 6:30pm. We will be having a raffle of various items and a grand prize. More info on this will be coming in an email prior to our club meeting on Oct. 14th.

On Saturday October 22nd we have a Prime Desert Woodland Moon Walk with Jeremy. This is scheduled for 6:30pm, weather permitting. For those of you who do not plan to attend the dark sky star party, you may go to PDW with your scope or take the walk with Jeremy and the public. The Scary Science event is also scheduled for that day at 3pm for those who have kids that would like to attend.

Also on Saturday October 22nd we have a dark sky star party at Red Cliffs. Weather permitting, info to follow at the next meeting and an email.

There will be a College of the Canyons (Canyon Country Campus) Fall Star Party on Friday, October 28th at 7-9:30pm. Weather permitting. More info to follow and a map. We will need members with telescopes for this event.

We have a Prime Desert Moon Walk on Saturday November 5th at 6:30pm. Weather permitting.

Please come out and support your club!

Rose

On The Cover ... continued

PV Cep is thought to be surrounded by a disc of gas and dust, which would stop light from escaping in all directions. The fan-like appearance is therefore probably a result of starlight escaping from the dust disc and projecting onto the nebula.

PV Cep is located in the northern constellation of Cepheus at a distance of over 1600 light-years from Earth.

A version of this image was entered into the Hubble's Hidden Treasures competition by contestant Alexey Romashin.

Credit: ESA/Hubble & NASA. Acknowledgement: Alexey Romashin

For Sale

Oculus Quest Meta Headset with 256 GB and hand controllers in a black carrying case. It also includes a cable that goes from a PC to a slot in the headset. Price: \$250 for everything. This includes a headset charging unit and connection for a cell phone. It has been rarely used. It was bought in April of this year. Contact Duane Lewis by email only for further info: Duane Lewis <gurba1826@gmail.com>

Fomalhaut: Not So Lonely After All

by David Prosper, NASA Night Sky Network

Fall evenings bring a prominent visitor to southern skies for Northern Hemisphere observers: the bright star Fomalhaut! Sometimes called “The Autumn Star,” Fomalhaut appears unusually distant from other bright stars in its section of sky, leading to its other nickname: “The Loneliest Star.” Since this star appears so low and lonely over the horizon for many observers, is so bright, and often wildly twinkles from atmospheric turbulence, Fomalhaut’s brief but bright seasonal appearance often inspires a few startled UFO reports. While definitely out of this world – Fomalhaut is about 25 light years distant from us – it has been extensively studied and is a fascinating, and very identified, stellar object.

Fomalhaut appears solitary, but it does in fact have company. Fomalhaut’s entourage includes two stellar companions, both of which keep their distance but are still gravitationally bound. Fomalhaut B (aka TW Piscis Austrini, not to be confused with former planetary candidate Fomalhaut b*), is an orange dwarf star almost a light year distant from its parent star (Fomalhaut A), and Fomalhaut C (aka LP 876-10), a red dwarf star located a little over 3 light years from Fomalhaut A! Surprisingly far from its parent star – even from our view on Earth, Fomalhaut C lies in the constellation Aquarius, while Fomalhaut A and B lie in Piscis Australis, another constellation! – studies of Fomalhaut C confirm it as the third stellar member of the Fomalhaut system, its immense distance still within Fomalhaut A’s gravitational influence. So, while not truly “lonely,” Fomalhaut A’s companions do keep their distance.

Fomalhaut’s most famous feature is a massive and complex disc of debris spanning many billions of miles in diameter. This disc was first detected by NASA’s IRAS space telescope in the 1980s, and first imaged in visible light by Hubble in 2004. Studies by additional advanced telescopes, based both on Earth’s surface and in space, show the debris around Fomalhaut to be differentiated into several “rings” or “belts” of different sizes and types of materials. Complicating matters further, the disc is not centered on the star itself, but on a point approximately 1.4 billion miles away, or half a billion miles further from Fomalhaut than Saturn is from our own Sun! In the mid-2000s a candidate planetary body was imaged by Hubble and named Fomalhaut b. However, Fomalhaut b was observed to slowly fade over multiple years of observations, and its trajectory appeared to take it out of the system, which is curious behavior for a planet. Scientists now suspect that Hubble observed the shattered debris of a recent violent collision between two 125-mile wide bodies, their impact driving the remains of the now decidedly non-planetary Fomalhaut b out of the system! Interestingly enough, Fomalhaut A isn’t the only star in its system to host a dusty disc; Fomalhaut C also hosts a disc, detected by the Herschel Space Observatory in 2013. Despite their distance, the two stars may be exchanging material between their discs - including comets! Their co-mingling may help to explain the elliptical nature of both of the stars’ debris discs. The odd one out, Fomalhaut B does not possess a debris disc of its own, but may host at least one suspected planet.

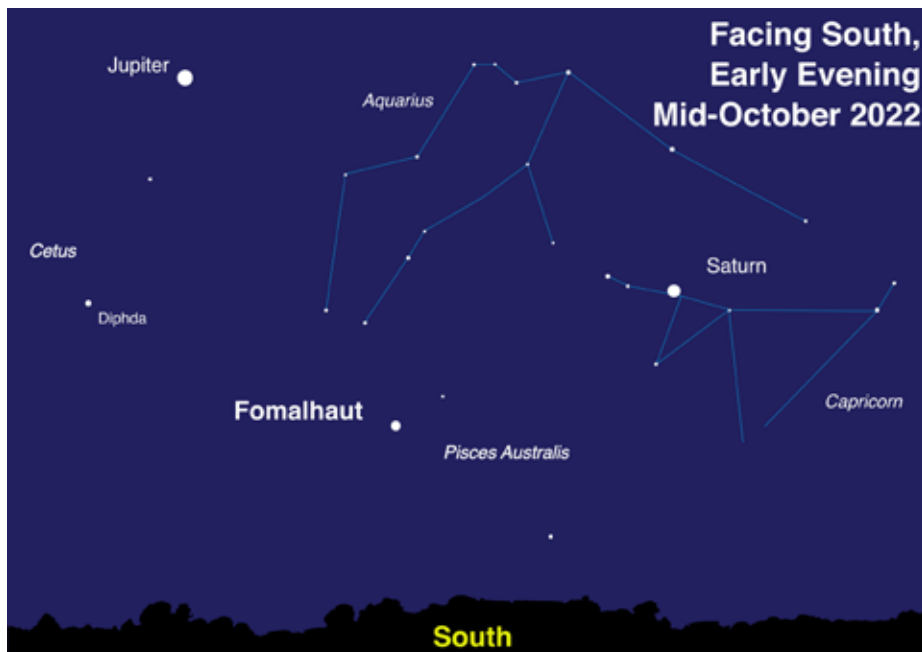
While Hubble imaged the infamous “imposter planet” of Fomalhaut b, very few planets have been directly imaged by powerful telescopes, but NASA’s James Webb Space Telescope will soon change that. In fact, Webb will be imaging Fomalhaut and its famous disc in the near future, and its tremendous power is sure to tease out more amazing discoveries from its dusty grains. You can learn about the latest discoveries from Webb and NASA’s other amazing missions at [nasa.gov](https://www.nasa.gov).

**Astronomers use capital letters to label companion stars, while lowercase letters are used to label planets.*

Desert Sky Observer

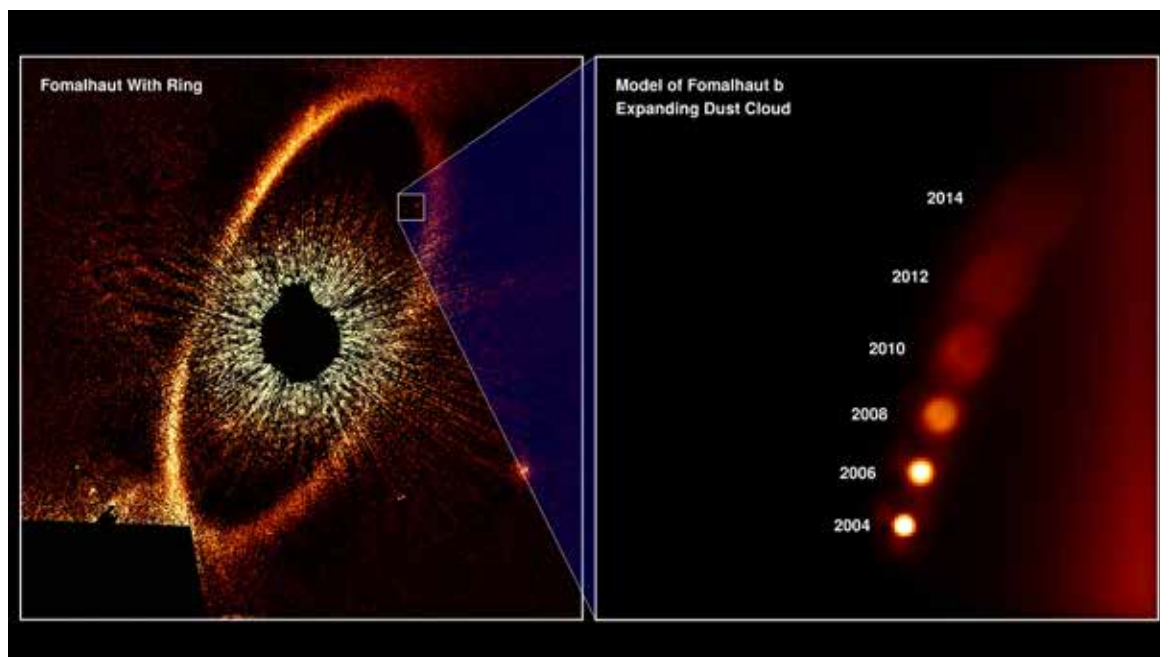
www.avastronomyclub.org

October 2022



Sky map of the southern facing sky for mid-latitude Northern Hemisphere observers. With Fomalhaut lying so low for many observers, its fellow member stars in the constellation Piscis Australis won't be easily visible for many without aid due to a combination of light pollution and atmospheric extinction (thick air dimming the light from the stars). Fomalhaut is by far the brightest star in its constellation, and is one of the brightest stars in the night sky. While the dim constellations of Aquarius and Capricorn may also not be visible to many without aid, they are outlined here. While known as the "Loneliest Star," you can see that Fomalhaut has two relatively close and bright visitors this year: Jupiter and Saturn!

Illustration created with assistance from Stellarium



The magnificent and complex dust disc of the Fomalhaut system (left) with the path and dissolution of former planetary candidate Fomalhaut b displayed in detail (right).

Image credits: NASA, ESA, and A. Gáspár and G. Rieke (University of Arizona) Source:

<https://www.nasa.gov/feature/goddard/2020/exoplanet-apparently-disappears-in-latest-hubble-observations>

Additional Skywatching Resources

Plan your skywatching with help from our planner page, featuring daily stargazing tips courtesy EarthSky monthly sky maps, and videos from NASA/JPL. You can even find out how to spot the International Space Station! Both Astronomy and Sky and Telescope magazines offer regular stargazing guides to readers, both in print and online. Want to join a group of folks for a star party? Find clubs and astronomy events near you, and may you have clear skies!

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 nightsky.jpl.nasa.gov to find local clubs, events, and more!

Space News

News from around the Net

NASA's Dart Mission Successfully Impacts Asteroid

We couldn't have hoped for better: At 7:14 p.m. EDT on September 26th, the DART mission smashed into the asteroid moonlet Dimorphos — on schedule and right on target. While DART's onboard camera stopped working upon impact (hence the red screen), ground- and space-based telescopes watched for the after-effects. Stay tuned for our round-up! Space is mostly empty, but not completely so. As Earth barrels along its orbit around the Sun, it is peppered by impacts from near-Earth objects. Humans observe few such collisions. . . .(continued at <https://skyandtelescope.org/astronomy-news/nasas-dart-mission-to-impact-asteroid/>)



Asteroid Ryugu Is Made Of Rubble From The Outer Solar System

Particles plucked from Ryugu and returned to Earth reveal the near-Earth asteroid originated beyond Jupiter, helping shed light on the evolution of the asteroid belt. Early in the morning on Dec. 6, 2020, JAXA's Hayabusa2's sample-return capsule streaked through the sky over Woomera, Australia. The heat-shielded capsule, packed with material blasted from the surface of asteroid Ryugu in 2018, descended toward the desert sand. After tracking the precious cargo to its landing site, scientists successfully recovered the most pristine samples ever obtained of a carbon-rich asteroid. . . (continued at <https://astronomy.com/news/2022/09/asteroid-ryugu-contains-dust-grains-older-than-the-sun>)



Neptune's Rings, Jupiter's "Frosted Cupcakes," And 3d Views Of Mars

The James Webb Space Telescope has provided us with another breathtaking image, this time of Neptune and its gossamer rings. We haven't detected some of these rings since Voyager 2's flyby of the planet in 1989. Neptune itself appears dark in the image because trace amounts of methane in its atmosphere absorb the near-infrared wavelengths Webb was observing. However, high-altitude clouds appear bright because their methane ice crystals reflect sunlight before they can absorb it. . . . (continued at <https://skyandtelescope.org/astronomy-news/neptunes-rings-jupiters-frosted-cupcakes-3d-views-of-mars/>)



Snapshot: The Lobster Nebula Claws Through Young Stars

Within the constellation Scorpius the Scorpion lies another galactic arthropod, the Lobster Nebula (NGC 6357). And recently, this Lobster was photographed by the Dark Energy Camera (DECam) on the Víctor M. Blanco 4-meter Telescope at Cerro Tololo Inter-American Observatory in Chile. The resulting image of the red cosmic crustacean, located about 8,000 light-years away, showcases swirls of colorful gas that stretch across a region some 400 light-years across. . . . (continued at <https://astronomy.com/news/2022/09/snapshot-lobster-nebula-claws-through-young-stars>)



101 Must-See Cosmic Objects: M55

M55 is one of the most unsung yet beautiful globular star clusters in the night sky. It's also one of the most southerly globulars in Charles Messier's catalog. Abbe Nicolas Louis de Lacaille discovered it in 1751 while surveying the southern stars from the Cape of Good Hope. Through his small telescope (inferior to today's binoculars) he recorded it as looking like the "faint nucleus of a large comet." Messier's report of it was not much different: "a whitish patch about 6' across." Today we know this close (about 17,600 light-years distant) and ancient (roughly 12.5 billion years old) relic bristles with up to perhaps 100,000 suns spread loosely across 100 light-years of space. (continued at <https://astronomy.com/magazine/news/2022/09/101-must-see-cosmic-objects-m55>)



Space News

News from around the Net

Astronomers Map Distances To 56,000 Galaxies, Largest-Ever Catalogue

How old is our universe, and what is its size? A team of researchers led by University of Hawai‘i at Mānoa astronomers Brent Tully and Ehsan Kourkchi from the Institute for Astronomy have assembled the largest-ever compilation of high-precision galaxy distances, called Cosmicflows-4. Using eight different methods, they measured the distances to a whopping 56,000 galaxies. Galaxies, such as the Milky Way, are the building blocks of the universe, each comprised of up to several hundred billion stars. Galaxies beyond our immediate neighborhood are rushing away, faster if they are more distant, . . . (continued at <https://phys.org/news/2022-09-astronomers-distances-galaxies-largest-ever.html>)



Observe far-off Neptune at its best for the year

Neptune comes to opposition at late-evening on Friday, 16 September, when it's located among the stars of northern Aquarius. The farthest known planet lurks in the frigid depths of the Solar System, lying at the vast distance of 4.324 billion kilometres (28.910 astronomical units) from Earth – sunlight reflected from Neptune takes four hours to hit our retinas! Yet Neptune shines bright enough, at magnitude +7.8, to be picked up in a pair of binoculars and is an easy target for a small telescope. . . . (continued at <https://astronomynow.com/2022/09/14/observe-far-off-neptune-at-its-best-for-the-year/>)



Another Ghostly Spiral Galaxy Revealed By JWST

The famous American baseball player once said, “You can observe a lot just by watching.” That’s certainly true of the JWST, which just released its latest “spider-web” image of a distant galaxy. It “watched” IC 5332 using the onboard Mid-InfraRed Instrument (MIRI). In the process it observed spectacular details not easily seen in visible light. IC 5332 is just under 30 million light-years away and a bit bigger than the Milky Way. It’s a relatively dim galaxy, and a favorite of amateur stargazers. A quick look shows that it’s quietly forming stars in various parts of its arms. . . . (continued at <https://www.universetoday.com/157800/another-ghostly-spiral-galaxy-revealed-by-jwst/>)



A Protogalaxy In The Milky Way May Be Our Galaxy’s Original Nucleus

The Milky Way left its “poor old heart” in and around the constellation Sagittarius, astronomers report. New data from the Gaia spacecraft reveal the full extent of what seems to be the galaxy’s original nucleus — the ancient stellar population that the rest of the Milky Way grew around — which came together more than 12.5 billion years ago. “People have long speculated that such a vast population [of old stars] should exist in the center of our Milky Way, and Gaia now shows that there they are,” says astronomer Hans-Walter Rix of the Max Planck Institute . . . (continued at <https://www.sciencenews.org/article/milky-way-galaxy-nucleus-oldest-stars-protogalaxy>)



How Ghostly Neutrinos Could Explain The Universe’s Matter Mystery

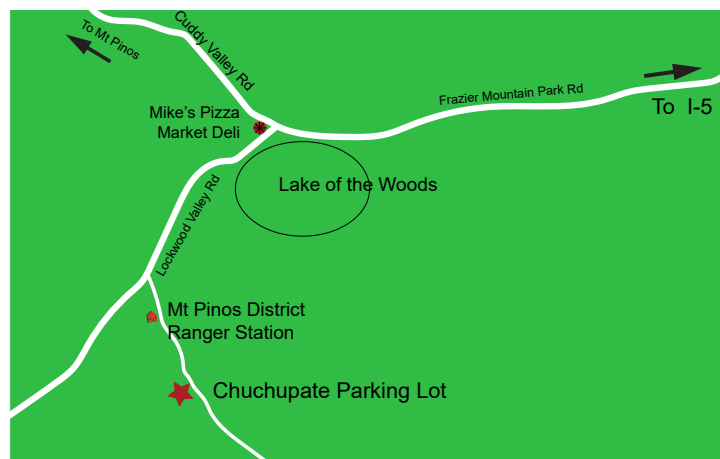
The answer to one of the greatest mysteries of the universe may come down to one of the smallest, and spookiest, particles. Matter is common in the cosmos. Everything around us — from planets to stars to puppies — is made up of matter. But matter has a flip side: antimatter. Protons, electrons and other particles all have antimatter counterparts: antiprotons, positrons, etc. Yet for some reason antimatter is much rarer than matter — and no one knows why. Physicists believe the universe was born with equal amounts of matter and antimatter. Since matter and antimatter counterparts annihilate on contact, . . . (continued at <https://www.sciencenews.org/article/neutrino-particle-universe-matter-antimatter-mystery>)



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.



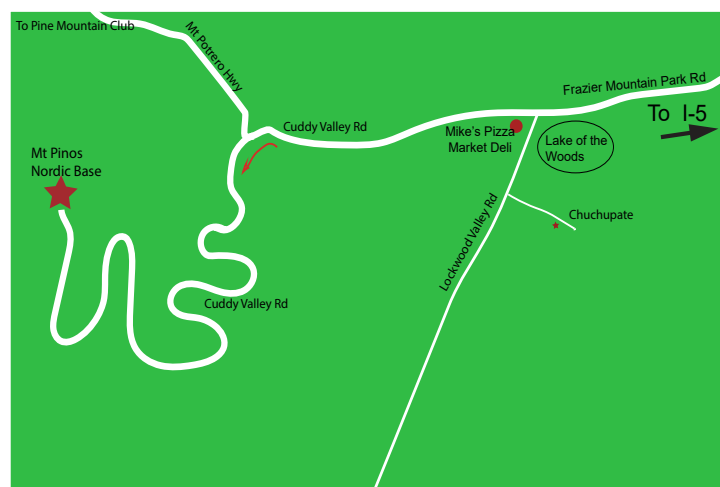
The Red Cliffs Natural Area is part of **Red Rock Canyon State Park** is a day use area and is not for use by the public after dark. The Club gets a special permit for a star party and pays a fee.

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.

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.

Note: The entire drive from I-5 is uphill.



Planet Summary

The **Sun** starts October in mid-Virgo and by month's end is on the western edge of Libra.

Mercury starts the month in the morning on the western edge of Virgo some 15° east of the Sun. At the end of the month it is less than 5° west of the Sun.

Venus begins the month in just 5.5° west of the Sun. Superior conjunction on Oct 21. By the end of October its just 2.5° east of the Sun. Just too close to be seen all month.

Mars rising before midnight, spends the month traveling east in eastern Taurus. Starting the month at mag -0.6 brightening to -1.2 by months end. The 72% waning Moon passes by less than 4° north on the 15th.

Jupiter spends the month moving in retrograde in southern corner of Pisces. The almost full Moon passes by in the morning of the 11th, 2.5° to the south

Saturn ends its retrograde motion about the 21st near Iota Capricorn. On the 5th the 80% waxing Moon passes some 4° to south.

Uranus is creeping west in southeastern Aries at mag 5.6. On the 11th the almost full Moon will occult (at 10:20 pm.)

Neptune starts October on the eastern most edge of Aquarius. Just past opposition it is moving west at mag 7.8.

Pluto spends the first half a month stationary on the eastern edge of Sagittarius followed by slowing moving east for the rest of the month at mag 14.4.

Asteroids

Ceres (mag 8.6) starts the month in Leo and moves southeast through Leo roughly parallel to the ecliptic. The 17% waning Moon passes 3° south on the 22nd.

Pallas (mag 8.6) starts the month in west of Canis Major and makes a bee-line for Sirius, arriving Oct 9 passing by 6' to the north.

Juno (mag 8.6) starts the month in Aquarius moving south west. Mid-month it makes a right turn to the south-southeast.

Vesta (mag 6.8) is moving northeast in Capricorn ending at mag 7.5

Moon Phases



First Qtr
Oct 2 & 31

Full
Oct 9

Third Qtr
Oct 17

New
Oct 25

Sun and Moon Rise and Set*

Date	Moonrise	Moonset	Sunrise	Sunset
10/1/2022	13:01	22:40	06:47	18:36
10/5/2022	16:35	02:02	06:50	18:31
10/10/2022	18:37	06:35	06:54	18:24
10/15/2022	22:19	12:46	06:58	18:17
10/20/2022	02:08	16:05	07:02	18:11
10/25/2022	07:19	18:25	07:06	18:06
10/30/2022	13:01	22:42	07:11	18:00

Planet Data*

October 1

	Rise	Transit	Set	Mag	Phase%
Mercury	05:42	11:49	17:57	1.22	18.0
Venus	06:21	12:24	18:27	-3.93	99.5
Mars	22:18	05:30	12:38	-0.59	87.7
Jupiter	18:22	00:23	06:27	-2.94	99.9
Saturn	16:21	21:36	02:56	0.49	99.8

October 15

	Rise	Transit	Set	Mag	Phase%
Mercury	05:42	11:43	17:44	-0.91	77.7
Venus	06:49	12:33	18:17	-3.93	99.9
Mars	21:37	04:51	12:02	-0.87	89.9
Jupiter	17:22	23:21	05:24	-2.91	99.9
Saturn	15:25	20:40	01:59	0.56	99.7

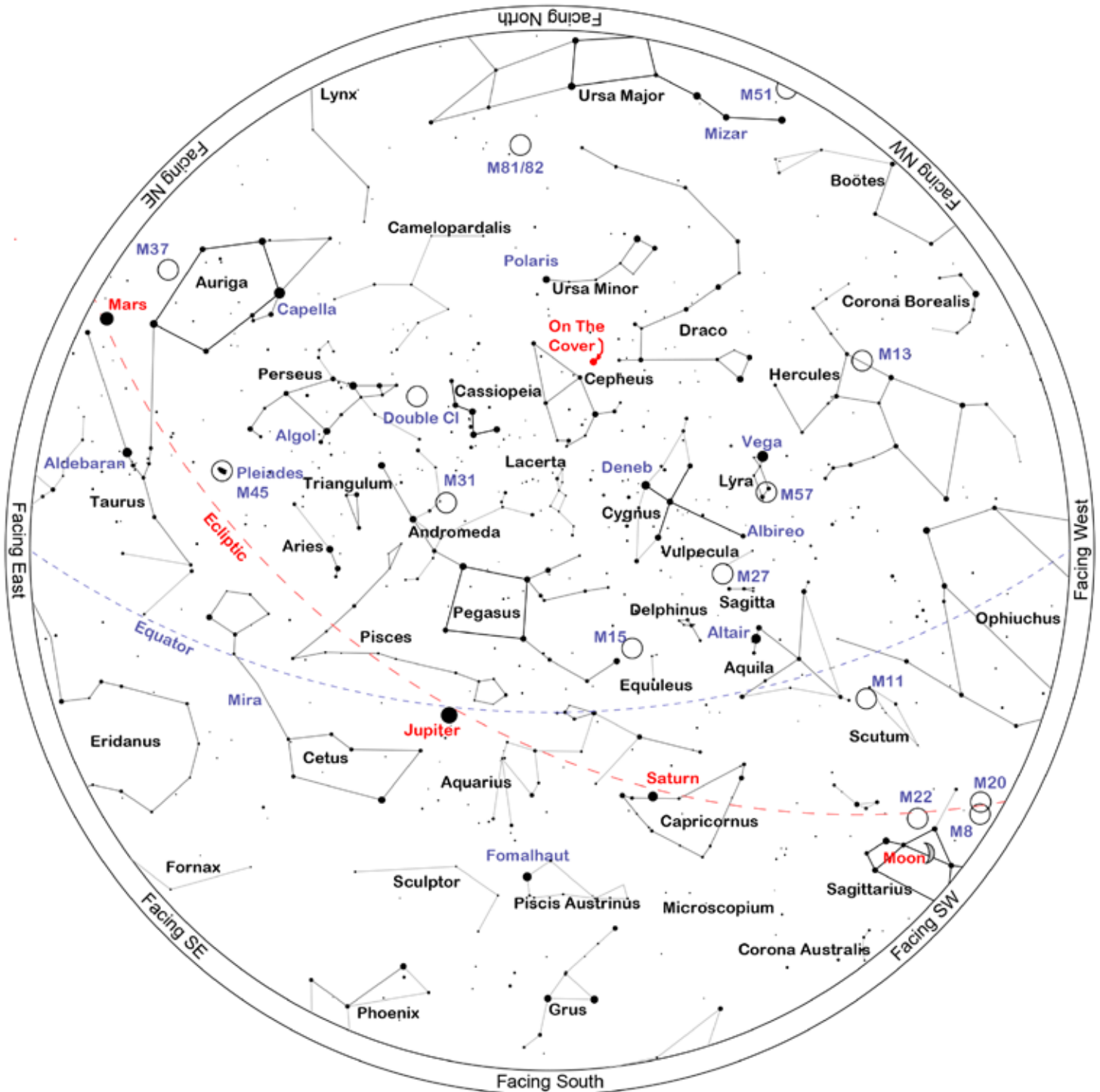
October 30

	Rise	Transit	Set	Mag	Phase%
Mercury	06:43	12:16	17:48	-1.14	98.4
Venus	07:21	12:45	18:09	-3.93	99.9
Mars	20:42	03:59	11:12	-1.20	93.3
Jupiter	16:19	22:16	04:18	-2.84	99.6
Saturn	14:26	19:41	00:56	0.63	99.7

*All time mentioned are local and approximate.

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

Sky Chart



Location: Palmdale, CA 93551

Latitude: 34° 36' N, longitude: 118° 11' W

Time: 2022 October 29, 21:00 (UTC -07:00)

Powered by: Heavens-Above.com

Desert Sky Observer

www.avastronomyclub.org

October 2022

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 October 29, 2022. The list is sorted by the transit time of the object.

ID	Common Name	Type		RA	Dec	Mag	Rise	Transit	Set
NGC6210	Turtle Planetary Nebula	P Neb	Her	16h 44m 30s	+23° 48.0'	9.0	07:57	15:11	22:26
Barnard44a	B44a	DkNeb	Sco	16h 44m 45s	-40° 20.0'		11:32	15:12	18:51
NGC6204		Open	Ara	16h 46m 09s	-47° 01.0'	8.2	12:20	15:13	18:06
M12	Gumball Globular	Globular	Oph	16h 47m 14s	-01° 56.8'	8.0	09:17	15:14	21:11
NGC6231	Table of Scorpius	Open	Sco	16h 54m 00s	-41° 48.0'	2.6	11:50	15:21	18:52
IC4628	Prawn Nebula	Neb	Sco	16h 56m 58s	-40° 27.3'		11:45	15:24	19:03
NGC6254		Globular	Oph	16h 57m 09s	-04° 05.9'	6.6	09:33	15:24	21:15
Barnard47	B47	DkNeb	Oph	16h 59m 42s	-22° 38.0'		10:31	15:26	20:22
M62	Flickering Globular, NGC6266	Globular	Oph	17h 01m 13s	-30° 06.7'	8.0	11:00	15:28	19:56
M19	NGC6273	Globular	Oph	17h 02m 38s	-26° 16.0'	8.5	10:46	15:29	20:12
Barnard51	B51	DkNeb	Oph	17h 04m 44s	-22° 15.0'		10:35	15:32	20:29
IC4637		P Neb	Sco	17h 05m 10s	-40° 53.1'	14.0	11:55	15:32	19:09
Barnard56	B56	DkNeb	Sco	17h 08m 48s	-32° 05.0'		11:15	15:36	19:56
Barnard59	B59,Pipe Nebula	DkNeb	Oph	17h 11m 23s	-27° 29.0'		11:00	15:38	20:17
NGC6302	C69,Bug Nebula	P Neb	Sco	17h 13m 42s	-37° 06.0'	9.6	11:43	15:40	19:38
Barnard251	B251	DkNeb	Oph	17h 13m 48s	-20° 09.0'		10:37	15:41	20:45
Barnard63	B63	DkNeb	Oph	17h 16m 00s	-21° 28.0'		10:43	15:43	20:42
M92	NGC6341	Globular	Her	17h 17m 07s	+43° 08.1'	7.5	06:56	15:44	00:32
M9	NGC6333	Globular	Oph	17h 19m 12s	-18° 31.0'	9.0	10:37	15:46	20:55
NGC6326		P Neb	Ara	17h 20m 46s	-51° 45.2'	12.0	13:46	15:48	17:49
Barnard256	B256	DkNeb	Oph	17h 22m 12s	-28° 49.0'		11:16	15:49	20:22
Barnard67a	B67a	DkNeb	Oph	17h 22m 30s	-21° 53.0'		10:51	15:49	20:48
Barnard71	B71	DkNeb	Oph	17h 23m 02s	-24° 00.0'		10:59	15:50	20:41
NGC6357	Lobster Nebula	Neb	Sco	17h 24m 43s	-34° 12.1'		11:41	15:52	20:03
IC4651		Open	Ara	17h 24m 52s	-49° 56.5'	6.9	13:27	15:52	18:16
Abell41		P Neb	Ser	17h 29m 04s	-15° 13.3'	13.9	10:37	15:56	21:15
Abell42		P Neb	Oph	17h 31m 31s	-08° 19.1'	14.6	10:19	15:58	21:38
Barnard78	B78	DkNeb	Oph	17h 32m 00s	-25° 35.0'		11:13	15:59	20:44
NGC6388		Globular	Sco	17h 36m 17s	-44° 44.1'	6.9	12:52	16:03	19:14
M14	NGC6402	Globular	Oph	17h 37m 36s	-03° 14.7'	9.5	10:11	16:04	21:58
Barnard276	B276	DkNeb	Oph	17h 39m 39s	-19° 49.0'		11:01	16:06	21:11
M6	Butterfly Cluster	Open	Sco	17h 40m 20s	-32° 15.2'	4.5	11:48	16:07	20:27
NGC6397	C86	Globular	Ara	17h 40m 42s	-53° 40.0'	5.6	14:38	16:07	17:37
NGC6426		Globular	Oph	17h 44m 55s	+03° 10.1'	11.2	10:00	16:12	22:23
Barnard83a	B83a	DkNeb	Sgr	17h 45m 18s	-20° 00.0'		11:08	16:12	21:17
IC4665		Open	Oph	17h 46m 30s	+05° 39.0'	4.2	09:55	16:13	22:32

Desert Sky Observer

www.avastronomyclub.org

October 2022

ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC6445	Crescent Nebula	P Neb	Sgr	17h 49m 15s	-20° 00.6'	13.0	11:12	16:16	21:20
NGC6503		Galaxy	Dra	17h 49m 27s	+70° 08.6'	10.2	Circ	16:16	Circ
NGC6441		Globular	Sco	17h 50m 13s	-37° 03.0'	7.4	12:20	16:17	20:14
Barnard283	B283	DkNeb	Sco	17h 51m 00s	-33° 52.0'		12:05	16:18	20:30
Barnard285	B285	DkNeb	Ser	17h 51m 32s	-12° 52.0'		10:52	16:18	21:45
M7	Scorpion's Tail Ptolemy's Cluster	Open	Sco	17h 53m 51s	-34° 47.6'	3.5	12:12	16:21	20:29
IC4670		Neb	Sgr	17h 55m 07s	-21° 44.6'		11:23	16:22	21:21
NGC6501		Galaxy	Her	17h 56m 04s	+18° 22.3'	12.3	09:26	16:23	23:19
M23	NGC6494	Open	Sgr	17h 57m 04s	-18° 59.1'	6.0	11:16	16:24	21:32
NGC6543	C6,Cat Eye Nebula	P Neb	Dra	17h 58m 36s	+66° 38.0'	8.1	Circ	16:25	Circ
NGC6496		Globular	Sco	17h 59m 04s	-44° 16.0'	9.2	13:11	16:26	19:40
Barnard291	B291	DkNeb	Sgr	17h 59m 43s	-33° 53.0'		12:14	16:27	20:39
Barnard292	B292	DkNeb	Sgr	18h 00m 34s	-33° 20.0'		12:12	16:27	20:42
Barnard293	B293	DkNeb	Sgr	18h 01m 12s	-35° 20.0'		12:22	16:28	20:34
M20	Trifid Nebula The Clover	Open+D Neb	Sgr	18h 02m 42s	-22° 58.2'	5.0	11:35	16:29	21:24
M8	Lagoon Nebula, Dragon Nebula	Open+D Neb	Sgr	18h 03m 41s	-24° 22.7'	5.0	11:41	16:30	21:20
Barnard295	B295	DkNeb	Sgr	18h 04m 05s	-31° 09.0'		12:07	16:31	20:55
M21	NGC6531	Open	Sgr	18h 04m 13s	-22° 29.3'	7.0	11:35	16:31	21:27
NGC6530		Open	Sgr	18h 04m 31s	-24° 21.5'	4.6	11:41	16:31	21:21
NGC6528		Globular	Sgr	18h 04m 50s	-30° 03.3'	9.5	12:03	16:32	21:00
IC4684		Neb	Sgr	18h 09m 08s	-23° 26.1'		11:43	16:36	21:29
IC4685		Neb	Sgr	18h 09m 18s	-23° 59.2'		11:45	16:36	21:27
Barnard303	B303	DkNeb	Sgr	18h 09m 28s	-23° 59.0'		11:45	16:36	21:27
IC1274		Neb	Sgr	18h 09m 51s	-23° 38.8'		11:44	16:37	21:29
IC1275		Neb	Sgr	18h 10m 07s	-23° 45.7'		11:45	16:37	21:29
NGC6572		P Neb	Oph	18h 12m 06s	+06° 51.2'	9.0	10:17	16:39	23:01
NGC6567		P Neb	Sgr	18h 13m 45s	-19° 04.5'	12.0	11:33	16:41	21:48
IC4701		Neb	Sgr	18h 16m 36s	-16° 38.0'		11:28	16:43	21:58
Barnard93	B93	DkNeb	Sgr	18h 16m 53s	-18° 03.0'		11:33	16:44	21:54
IC1284		Neb	Sgr	18h 17m 39s	-19° 40.3'		11:39	16:44	21:50
M24	Small Sagittarius Star Cloud, NGC6603,	Open	Sgr	18h 18m 26s	-18° 24.3'	4.5	11:36	16:45	21:55
M16	Eagle Nebula,	Open+D Neb	Ser	18h 18m 48s	-13° 48.3'	6.5	11:22	16:46	22:09
Barnard308	B308	DkNeb	Sgr	18h 19m 08s	-22° 14.0'		11:49	16:46	21:43
M18	Black Swan,	Open	Sgr	18h 19m 58s	-17° 06.1'	8.0	11:33	16:47	22:00
M17	Swan Nebula,	Open+D Neb	Sgr	18h 20m 47s	-16° 10.3'	7.0	11:31	16:48	22:04
HR6923	39 Dra,	Mult	Dra	18h 23m 54s	+58° 48.0'	5.0	Circ	16:51	Circ
M28	NGC6626	Globular	Sgr	18h 24m 33s	-24° 52.1'	8.5	12:03	16:51	21:39

Desert Sky Observer

www.avastronomyclub.org

October 2022

ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC6637		Globular	Sgr	18h 31m 23s	-32° 20.8'	7.7	12:39	16:58	21:17
IC1287		Neb	Sct	18h 31m 26s	-10° 47.7'		11:26	16:58	22:31
M25	M25	Open	Sgr	18h 31m 42s	-19° 07.0'	6.5	11:51	16:58	22:06
IC4725		Open	Sgr	18h 31m 48s	-19° 06.7'	4.6	11:51	16:59	22:06
NGC6642		Globular	Sgr	18h 31m 54s	-23° 28.5'	8.8	12:06	16:59	21:52
NGC6644		P Neb	Sgr	18h 32m 35s	-25° 07.7'	12.0	12:12	16:59	21:46
NGC6647		Open	Sgr	18h 32m 49s	-17° 13.6'	8.0	11:46	17:00	22:13
IC4732		P Neb	Sgr	18h 33m 55s	-22° 38.6'	13.0	12:05	17:01	21:56
NGC6656	Crackerjack Cluster	Globular	Sgr	18h 36m 24s	-23° 54.2'	5.1	12:12	17:03	21:55
IC4756		Open	Ser	18h 38m 54s	+05° 27.0'	5.0	10:48	17:06	23:24
NGC6681		Globular	Sgr	18h 43m 12s	-32° 17.4'	8.1	12:51	17:10	21:29
NGC6694		Open	Sct	18h 45m 18s	-09° 23.0'	8.0	11:36	17:12	22:49
IC4776		P Neb	Sgr	18h 45m 51s	-33° 20.5'	12.0	12:58	17:13	21:27
M11	Wild Duck Cluster	Open	Sct	18h 51m 05s	-06° 16.1'	7.0	11:33	17:18	23:03
M57	Ring Nebula	P Neb	Lyr	18h 53m 35s	+33° 01.7'	9.5	09:29	17:20	01:12
Barnard117	B117	DkNeb	Sct	18h 53m 43s	-07° 24.0'		11:38	17:21	23:03
NGC6715		Globular	Sgr	18h 55m 03s	-30° 28.7'	7.7	12:55	17:22	21:49
NGC6717	III-143	Globular	Sgr	18h 55m 06s	-22° 42.0'	9.2	12:26	17:22	22:17
Barnard122	B122	DkNeb	Sct	18h 56m 48s	-04° 45.0'		11:34	17:24	23:13
Barnard123	B123	DkNeb	Sct	18h 57m 39s	-04° 43.0'		11:35	17:24	23:14
NGC6723		Globular	Sgr	18h 59m 33s	-36° 37.9'	7.3	13:27	17:26	21:26
Barnard128	B128	DkNeb	Aql	19h 01m 40s	-04° 34.0'		11:38	17:28	23:19
NGC6729	C68	BrNeb	CrA	19h 01m 54s	-36° 57.0'		13:31	17:29	21:27
Barnard326	B326	DkNeb	Aql	19h 03m 00s	-00° 23.0'		11:28	17:30	23:31
NGC6749		Globular	Aql	19h 05m 15s	+01° 54.0'	11.1	11:24	17:32	23:40
NGC6760		Globular	Aql	19h 11m 12s	+01° 01.8'	9.1	11:32	17:38	23:44
Abell56		P Neb	Aql	19h 13m 07s	+02° 52.8'	12.4	11:29	17:40	23:51
NGC6772		P Neb	Aql	19h 14m 36s	-02° 42.4'	14.0	11:46	17:41	23:37
Barnard138	B138	DkNeb	Aql	19h 16m 00s	+00° 13.0'		11:39	17:43	23:46
M56	NGC6779	Globular	Lyr	19h 16m 36s	+30° 11.0'	9.5	10:05	17:43	01:22
NGC6778		P Neb	Aql	19h 18m 25s	-01° 35.7'	13.0	11:47	17:45	23:44
Abell61		P Neb	Cyg	19h 19m 10s	+46° 14.5'	13.0	08:34	17:46	02:58
Barnard140	B140	DkNeb	Aql	19h 19m 49s	+05° 13.0'		11:29	17:47	00:04
NGC6790		P Neb	Aql	19h 22m 57s	+01° 30.8'	10.0	11:43	17:50	23:57
NGC6803		P Neb	Aql	19h 31m 16s	+10° 03.3'	11.0	11:27	17:58	00:29
NGC6804		P Neb	Aql	19h 31m 35s	+09° 13.5'	12.0	11:30	17:58	00:27
Abell62		P Neb	Aql	19h 33m 18s	+10° 37.0'	13.0	11:27	18:00	00:33
NGC6807		P Neb	Aql	19h 34m 34s	+05° 41.0'	14.0	11:43	18:01	00:20
M55	NGC6809	Globular	Sgr	19h 40m 00s	-30° 57.7'	7.0	13:42	18:07	22:32

Desert Sky Observer

www.avastronomyclub.org

October 2022

ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC6813		Neb	Vul	19h 40m 22s	+27° 18.5'		10:40	18:07	01:35
NGC6820		Neb	Vul	19h 42m 28s	+23° 05.2'		10:57	18:09	01:21
NGC6818	Little Gem	P Neb	Sgr	19h 43m 58s	-14° 09.1'	10.0	12:48	18:11	23:33
NGC6826	Blinking Planetary	P Neb	Cyg	19h 44m 48s	+50° 31.0'	8.8	08:13	18:12	04:10
Abell65		P Neb	Sgr	19h 46m 34s	-23° 08.2'	13.1	13:19	18:13	23:07
NGC6838		Globular	Sge	19h 53m 46s	+18° 46.6'	8.3	11:23	18:21	01:18
NGC6842		P Neb	Vul	19h 55m 02s	+29° 17.3'	14.0	10:47	18:22	01:57
HR7619	Psi Cyg, 24 Cyg,	Mult	Cyg	19h 55m 38s	+52° 26.3'	4.9	07:53	18:22	04:52
Abell66		P Neb	Sgr	19h 57m 32s	-21° 36.6'	14.1	13:25	18:24	23:23
Barnard144	Fish on the platter nebula	DkNeb	Cyg	19h 58m 00s	+35° 20.0'		10:23	18:25	02:27
NGC6853	Dumbbell Nebula	P Neb	Vul	19h 59m 36s	+22° 43.2'	8.1	11:16	18:26	01:37
NGC6857		Neb	Cyg	20h 02m 48s	+33° 31.4'	11.4	10:36	18:30	02:23
IC4954		Neb	Vul	20h 04m 45s	+29° 15.1'		10:56	18:32	02:07
M75	NGC6864	Globular	Sgr	20h 06m 05s	-21° 55.3'	9.5	13:35	18:33	23:31
Barnard342	B342	DkNeb	Cyg	20h 09m 30s	+41° 12.0'		10:02	18:36	03:11
NGC6885	20 Vulpeculae Cluster	Open	Vul	20h 12m 00s	+26° 29.0'	5.9	11:14	18:39	02:03
NGC6891		P Neb	Del	20h 15m 09s	+12° 42.2'	12.0	12:03	18:42	01:21
NGC6894		P Neb	Cyg	20h 16m 24s	+30° 33.9'	14.0	11:03	18:43	02:24
IC4997		P Neb	Sge	20h 20m 09s	+16° 43.9'	12.0	11:56	18:47	01:38
Barnard345	B345	DkNeb	Cyg	20h 21m 00s	+46° 33.0'		09:33	18:48	04:03
NGC6913	Cooling Tower	Open	Cyg	20h 23m 57s	+38° 30.5'	6.6	10:32	18:51	03:09
Abell70		P Neb	Aql	20h 31m 33s	-07° 05.3'	14.3	13:15	18:58	00:41
Barnard348	B348	DkNeb	Cyg	20h 34m 00s	+42° 05.0'		10:20	19:01	03:41
NGC6940		Open	Vul	20h 34m 26s	+28° 17.0'	6.3	11:30	19:01	02:32
NGC6960	Filamentary Nebula	Neb	Cyg	20h 45m 58s	+30° 35.6'		11:32	19:13	02:53
IC5068		Neb	Cyg	20h 50m 29s	+42° 28.6'		10:34	19:17	04:00
IC5076		Neb	Cyg	20h 55m 33s	+47° 23.7'		10:00	19:22	04:45
IC1340		Neb	Cyg	20h 56m 08s	+31° 02.8'		11:40	19:23	03:05

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
Australis
Tri - Triangulum
Tuc - Tucana
UMa - Ursa Major
UMi - Ursa Minor
Vel - Vela
Vir - Virgo
Vol - Volans
Vul - Vulpecula

Our Sponsors

Cosmos Level Sponsors



Universe Level Sponsors



Galaxy Level Sponsors



Al's Vacuum and Sewing
904 West Lancaster Blvd., Lancaster
(661) 948-1521