

Coming Events

- Monthly Meeting
- October 25, 2026, 7:00PM
- Baker Wetlands Discovery Center
-
- Public Observing
- October 25, 2026, 8:00PM
- Baker Wetlands Discovery Center
- Club Officers
- President
- Rick Heschmeyer [email](#)
- NSN Coordinator
- Howard Edin [email](#)
- Faculty Advisor
- Dr. Jennifer Delgado [email](#)
-
- Newsletter Editor
- Chuck Wehner [email](#)

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Report From the Officers

By Rick Heschmeyer

I hope everyone is enjoying the cooler temperatures that we are now experiencing after the heat we endured this summer.

Our September club meeting on Sunday, September 27, featured AAL member David Kolb. He presented “Mary Emma Byrd, Lawrence’s Forgotten Astronomer.” This was the same presentation David gave at the KU Physics and Astronomy Department’s SpaceFest 2026 celebrating 150 years of astronomy at KU this past summer. Interesting information about an astronomer with Lawrence ties that hardly anyone has ever heard of. Observing followed the presentation.

On October 17 AAL members Jerelyn and Paul Ramirez and AAL president Rick Heschmeyer will be participating in the Wichita Public Library’s Advanced Learning Library DIY Day from 10am-3pm. They will be sharing fun astronomy related activities with the public.

Our club meeting on October 25 will feature KU Physics Graduate Student Katie Sherriff discussing her work in the field of Radio Astronomy. She has been involved in various research projects, including an REU (Research Experiences for Undergraduates) at the National Radio Astronomy Observatory.

The KU Telescope Night for October will take place on Thursday October 8. Planetarium Shows start at 7:30, 8:00 and 8:30 pm in G174 Slawson. Stargazing and telescopes will take place after the shows as conditions allow.

Clear Skies!



NASA Is Launching a \$4 Billion Space Telescope on Sunday. Here's Why You Should Care

Roman is designed to capture enormous areas of the universe quickly and precisely—and gaze upon things we've never seen before.

By Passant Rabie

GIZMODO, AUGUST 26, 2026



NASA's Nancy Grace Roman Space Telescope has a primary mirror that is 7.9 feet (2.4 meters) wide.

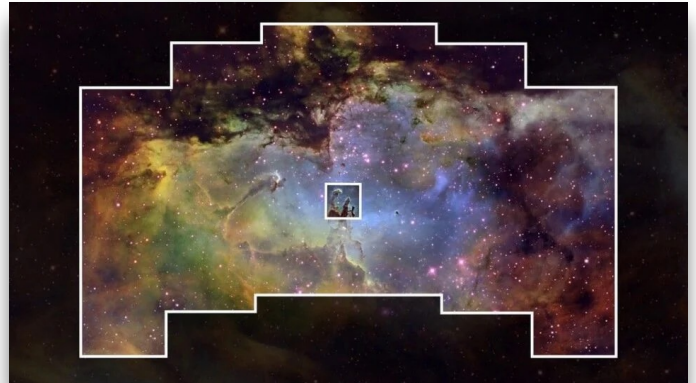
A revolutionary space telescope is ready to join the ranks of Hubble and Webb, capturing panoramic views of the cosmos to survey millions of galaxies, measure the expansion rate of the universe, and hunt down hundreds of alien worlds.

NASA's Nancy Grace Roman Space Telescope is set for liftoff on Sunday at 7:26 a.m. ET aboard a SpaceX Falcon Heavy rocket from the Kennedy Space Center in Florida. The launch will be streamed live on NASA's [website](#), as well as the agency's YouTube channel. You can also tune in through the feed below.

The \$4 billion observatory is equipped with sharp infrared vision, combined with a field of view at least 100 times larger than the Hubble space telescope, according to [NASA](#). Roman is tasked with solving some of the greatest mysteries of the universe: dark matter and dark energy. By surveying massive areas of the sky, the telescope will be able to track how galaxies are distributed throughout the universe and map the invisible dark matter.

Wide-eyed telescope

NASA refers to Roman as Hubble's wide-eyed cousin. While it has the same sensitivity as Hubble's cameras,



The part of the sky Roman can cover compared to that of the Hubble Space Telescope.

a single Roman image will hold the equivalent detail of 100 pictures from Hubble.

The new observatory has two main instruments: the Wide Field Instrument (WFI) and a Coronagraph Instrument. The 300-megapixel WFI is designed to take extremely sharp images across a huge field and measure very sensitive spectroscopic data.

Like the Webb Space Telescope, Roman captures the universe in infrared light. Webb has a much larger mirror and can look extremely deep into the universe, while Roman can see vast areas of the sky simultaneously.

What is Roman going to do?

Following its launch, the Roman telescope will travel to the second Sun-Earth Lagrange point, or L2, about one million miles (1.5 million kilometers) from Earth. From its high perch, the telescope will have an unobstructed view of the sky while maintaining a relatively stable orientation.

Once it's up there, Roman has three major scientific missions: investigate dark matter, measure how the universe expands over time, and look for planets beyond our solar system.

Dark matter is the invisible glue that holds the universe together. While it makes up most of the matter found in galaxies and galaxy clusters, scientists are still not quite sure what it is. Since dark matter is invisible, it is nearly impossible to observe. It does, however, take up space and hold mass, so we can see how it interacts with and influences ordinary matter.

Roman will observe how galaxies cluster and how matter bends light through a phenomenon called weak gravitational lensing. The telescope will be used to scan about 12% of the sky high above our galactic plane to look for the lensing effect in millions of distant galaxies. By measuring tiny distortions across those galaxies, Roman may be able to map how dark matter is distributed throughout the universe.

Another mystery that scientists are hoping to resolve using the Roman telescope is the expansion rate of the universe. The universe is expanding at an accelerating rate, and dark energy may be the main culprit speeding it up.

To help gather clues about this mysterious force, Roman will look for supernovae in distant galaxies. The stellar explosions can provide insight into how fast the universe is expanding because they peak at predictable brightness, helping astronomers measure cosmic distances.

Roman will also map how galaxies cluster together in time and space, revealing the potential effects of dark energy. By observing millions of galaxies, the telescope can reveal how the universe evolved over time.

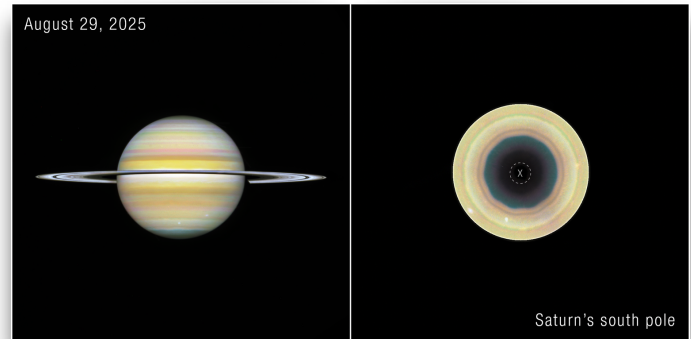
Scientists are also hoping to use the telescope to find an enormous number of worlds beyond our own. Rather than looking at individual nearby stars, Roman will monitor 100 million stars for hundreds of days. The telescope is expected to find about 2,500 exoplanets using a process known as microlensing, using a foreground star to act as a lens.

Its planet-hunting skills are sensitive enough to find planets smaller than Mars and will reveal planets orbiting their host stars at distances ranging from closer than Venus to beyond Pluto, according to [NASA](#). The telescope's coronagraph is designed to directly image exoplanets by blocking out a star's light, allowing astronomers to observe much fainter planets.

The Roman space telescope is designed to create an enormous amount of data to help scientists understand how the universe has changed and evolved over cosmic history, providing clues to some of the most vexing unknowns in astrophysics. ☀

NASA's Hubble Tracks New Decagon Encircling Saturn's South Pole

HUBBLESITE, SEPTEMBER 2, 2026



Recent observations with NASA's [Hubble Space Telescope](#) have revealed a giant, evolving, 10-sided atmospheric wave encircling Saturn's south pole. This discovery marks the first time a large, regular-sided jet pattern has been observed in the planet's southern hemisphere. The feature appears remarkably similar to Saturn's [famous hexagon at its northern pole](#), but is also distinctly different, suggesting scientists may be witnessing a new atmospheric phenomenon develop on the iconic gas giant.

[The results](#) published Wednesday in the journal *Science Advances*.

By piecing together several years of Hubble observations dating back to 2023, researchers found subtle hints of the structure beginning to emerge before it became a clearly defined pattern. Those observations were taken as part of Hubble's Outer Planet Atmospheres Legacy (OPAL) program, which has photographed the outer planets annually for [more than a decade](#).

"We've never seen anything quite like this in Saturn's southern hemisphere," said Amy Simon, study co-author and OPAL principal investigator, NASA's Goddard Space Flight Center in Greenbelt, Maryland. "The northern hexagon has been there every time we've looked for more than 40 years. This feature is different — it appears to be strengthening, giving us the rare opportunity to watch a giant atmospheric pattern develop."

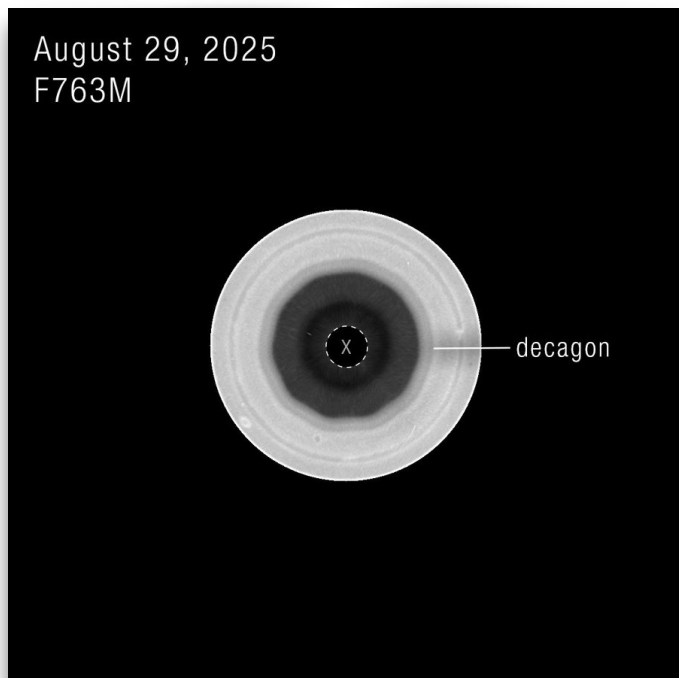
The discovery was possible because Saturn's changing seasons gradually brought the planet's

south pole back into view from Earth, where astronomers who collectively analyze images of Saturn from ground-based observatories first identified it.

Agustín Sánchez-Lavega, lead author of the new study, is a researcher at the University of the Basque Country in Spain. The university manages a website, called [Planetary Virtual Observatory Laboratory](#), that accepts ground-based images of solar system planets contributed by observers all over the world. It was in those images, first in 2024, that Sánchez-Lavega and amateur astronomers Trevor Barry and Jean-Paul Oger noticed a subtle undulating band along the southern pole. Additional 2025 imagery taken from the ground hinted even more strongly toward this decagon structure.

That's when the Hubble observations come into the picture. Hubble's view from space offers unmatched image sharpness and spatial resolution over full rotations of Saturn, without smearing by Earth's atmosphere.

"Given Saturn's symmetry in its north-south jet stream system, we have been searching for a counterpart to Saturn's northern hexagon on the south pole in Hubble images since 1990," Sánchez-Lavega said. "Images from NASA's Cassini spacecraft, which orbited Saturn between 2004 and 2017, showed no inkling of a long-lived formation, either. The Hubble data confirmed the feature's presence back to 2023."



Previous photo shows a single filter from NASA's Hubble Space Telescope distinctly shows a 10-sided wave encircling Saturn's south pole, labeled "decagon". An "X" denotes where data was not captured.

The wave sits within one of Saturn's powerful jet streams and extends through multiple layers of the atmosphere, indicating it is not just a cloud-level feature, but a vertically extended atmospheric structure. The decagon's apparent position shifts slightly, because Hubble captures images from different wavelengths. Those different wavelengths probe different altitudes in Saturn's atmosphere.

"The most intriguing part to me is that this seems to have just formed recently," said Simon. "The question is, why did it suddenly form now when we haven't seen one before?"

The authors say further study is needed from Hubble and NASA's [James Webb Space Telescope](#), as well as analysis of computer models, to understand how the decagon formed, how long it may last, and how it compares to the long-lived hexagon in the north.

Hubble's long duration in operation has allowed astronomers to track changes over time in solar system planets and [other astronomical objects](#) as well.

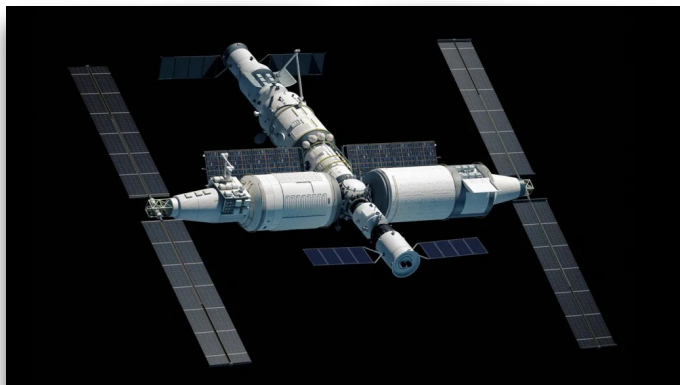
Rather than providing a single snapshot, the OPAL program allows scientists to follow seasonal changes, track short-lived storms, and identify other atmospheric features that evolve slowly over time.

"When we started the OPAL program, we expected compelling surprises, but we didn't know what to expect specifically," said Mike Wong, study co-author, University of California, Berkeley. "A lot of the discoveries we see coming from OPAL are not just based on one observation, but on years and years of data. Regular observations over time are enabling a lot of new findings."

The team plans to continue observing Saturn to determine whether the decagon settles into a long-lived, stable configuration like the northern hexagon or continues to evolve. Future observations also could help scientists determine what drives the wave, what it reveals about the atmospheric dynamics of giant planets throughout the solar system, and how they may relate to those we see here on Earth. ☀

Free-falling atoms in space put a new twist on Galileo's gravity test

A test on a space station reaffirms a core part of Einstein's general theory of relativity



Two clouds of atoms on China's Tiangong space station (rendering shown) fell with the same acceleration in a new experiment.

By Emily Conover

SCIENCENEWS, AUGUST 28, 2026

An experiment made famous by Galileo has been shrunk down to the atomic level and shipped off to space.

To show that objects of different masses fall at the same rate, the 17th century Italian scientist is said — perhaps apocryphally — to have dropped weights off the Leaning Tower of Pisa. Now, scientists have re-created that experiment with atoms falling while orbiting Earth. Two clouds of atoms on China's Tiangong space station [fell with nearly identical accelerations](#), researchers report August 28 in Science Advances.

The researchers measured the relative accelerations of two clouds of cold rubidium atoms. The atoms in each cloud had different masses, due to a difference in the number of neutrons in their atomic nuclei. Yet the accelerations of the two clouds matched with a precision of 0.05 thousandths of a percent.

The matching accelerations confirm that two different ways of defining mass are equivalent. One, called gravitational mass, determines how an object responds to the pull of gravity. Another, called inertial mass, determines how much an object accelerates when pushed with a given amount of force. If the two

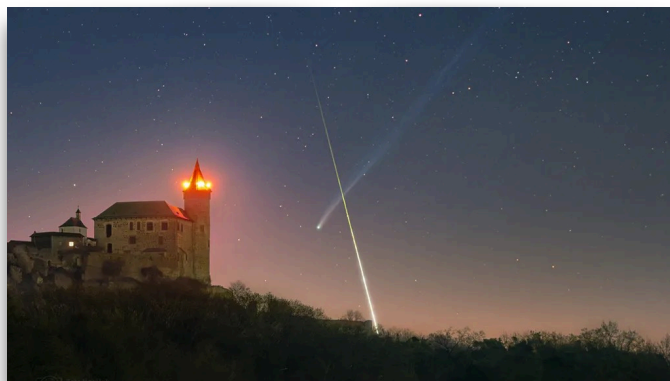
definitions are equivalent, the effect of the mass cancels out in equations, and objects of different masses will fall at the same rate in a vacuum. The concept is known as the weak equivalence principle, and it's a foundation of Albert Einstein's [general theory of relativity](#), which describes gravity as the warping of spacetime.

Scientists have tested the weak equivalence principle by dropping objects on Earth, [including atoms](#). But objects on Earth can fall only so far, limiting the tests' precision. In orbit, free fall can go on indefinitely. Space-based tests of falling [metal cylinders on a satellite](#) have previously confirmed the weak equivalence principle. But atoms, unlike larger objects, obey the rules of quantum physics, and it's worth checking to see if they behave differently. Atoms in orbit take the weak equivalence principle to a whole new level. ☀

'What are the odds': Superbright comet and exploding fireball meteor form near-perfect X over European castle

By Harry Baker

LIVESCIENCE, APRIL 23, 2026



A dramatic photo shows the extremely unlikely moment when a blazing fireball meteor photobombed a contender for the "Great Comet of 2026" as it shone in the night sky over a 500-year-old European castle.

Photographers [Petr Horálek](#) and Josef Kujal snapped the cosmic coincidence on April 18 in the skies over the ruins of the 15th-century Kunětická Hora Castle, in the central Czech Republic, at around 4:15 a.m.

local time. They were initially attempting to capture the lengthy tail of Comet [C/2025 R3 \(PanSTARRS\)](#) when a bright streak of light flew across the sky in front of their target.

Reports from the European Fireball Network later confirmed that the streaking light was a fireball meteor that resulted from an asteroid exploding over Belarus shortly after entering Earth's atmosphere, Horálek told Live Science. It is currently unclear how large the space rock was, how fast it was traveling or how long it shone in the sky.

"What are the odds," Horálek wrote in an [Instagram post](#). By combining his photos with Kujal's, Horálek created a time-lapse image to "show the whole lucky moment," he added.

The photo is even more incredible considering that this was the "last chance to capture the comet from mid-Europe," due to adverse weather conditions the following nights, Horálek wrote on his [personal website](#). If the incident had occurred just 15 minutes later, light from the rising sun likely would have obscured the comet's tail, he added.

A similarly unlikely photo was captured last October, when the tail of [Comet Lemmon](#) appeared to be [entwined with a smoke trail](#) left by a "shooting star." However, in this case, the photographer was able to intentionally align the comet with the smoke trail, which lingered in the air after the meteor burned up, making the newest photo arguably more impressive.

The Great Comet of 2026?

Comet PanSTARRS is a long-period comet, meaning it likely takes more than 200 years to orbit [the sun](#). It probably originates from the Oort cloud, a giant reservoir of comets and other icy objects near the [edge of the solar system](#).

The comet passed its closest point to the sun, or perihelion, Sunday (April 19). It was clearly visible with a [decent telescope](#) or pair of [stargazing binoculars](#) beginning April 13. However, it has now largely disappeared from view.

The comet was first spotted in September 2025, and some experts later suggested that it could [become the most easily visible comet of 2026](#). So far, this prediction has held true, especially after its main competitor — the sungrazer comet C/2026 A1 (MAPS) — [ripped apart during its superclose approach to the](#)

[sun](#) earlier this month, before it got a chance to shine properly.



Comet PanSTARRS reached perihelion on April 19 and reached a minimum distance of around 0.5 astronomical units (half the Earth-sun distance) from our home star.

However, there is always a chance that a previously unknown comet could emerge to steal the show, much like the interstellar comet [3I/ATLAS](#), which was [discovered last July](#) and went on to [become one of the biggest space news stories](#) of the year.

A \$100 detector can see invisible particles raining down from space

SCIENCENEWS, SEPTEMBER 17, 2026



Spencer Axani, assistant professor in the Department of Physics and Astronomy, is the inventor of CosmicWatch, a portable, low-cost particle detector that tracks muons, invisible particles that originate from space. The particles help scientists learn more about the universe's most extreme phenomena.

Tiny particles from space are passing through Earth all the time, even though we cannot see, hear, feel, taste, or smell them.

Many of these particles are linked to cosmic rays, extremely energetic particles that can come from exploding stars and other violent events far beyond our solar system. When cosmic rays strike atoms high in Earth's atmosphere, they create showers of secondary particles. Among them are muons, which can travel through the atmosphere and even penetrate underground.

University of Delaware physics professor Spencer Axani has developed a device called [CosmicWatch](#) that makes it much easier to detect these otherwise invisible particles. The technology is now being used by everyone from high school students to professional researchers.

A \$100 Detector for Invisible Cosmic Particles

CosmicWatch is roughly the size of a box of animal crackers. Built from electronic components costing around \$100, the detector flashes and records a count whenever a muon passes through it. The information is stored so users can later download and analyze the data.

The device was initially created as an inexpensive way to introduce students to particle physics. Since then, however, CosmicWatch has found a role in international astrophysics research as well.

"CosmicWatch detectors allow us to do far more physics at a dramatically lower cost, in a compact and portable form, opening the door to many new kinds of experiments and outreach opportunities," Axani said.

What Muons Can Reveal About the Universe

Scientists study muons because they can provide clues about some of the most powerful events in the cosmos, including supernovae, gamma-ray bursts and blazars. By measuring muons, researchers can estimate properties of the original cosmic ray, including its energy, mass and direction.

Muon flux also played an important role in physics history. In the early 1940s, measurements of these particles provided one of the first experimental confirmations of Einstein's theory of special relativity.

Muons are useful for studying objects on Earth as well. The particles can travel through solid materials such as walls, rock, or humans without causing

damage. Because they leave behind a detectable energy trail, scientists can use them to image structures hidden behind large amounts of matter. In 2016, muon technology [uncovered an unknown corridor in the Great Pyramid of Giza](#).

The challenge is that conventional muon detectors are often bulky and expensive. That limits both the experiments researchers can perform and the number of schools that can give students hands-on access to the technology.

"A typical undergraduate physics lab course uses a rack of electronics about the size of a small bookshelf to measure muons," Axani said.

How CosmicWatch Began

Axani first created CosmicWatch in 2017 while he was a graduate student at MIT. His original goal was to build a compact, energy-efficient muon detector for use at the IceCube observatory in Antarctica.

IceCube is a massive detector buried beneath the ice that searches for neutrinos, another type of subatomic particle. A muon detector is useful because it helps researchers distinguish muons from the neutrinos they are trying to identify.

As the project developed, Axani realized the same technology could be made portable and inexpensive enough for educational use. CosmicWatch then evolved into an outreach tool for teaching particle physics.

After joining the UD faculty in 2022, Axani continued refining the design. He recently released the third version of CosmicWatch. Improvements described in an article in the *Journal of Instrumentation* in October allow the new detector to monitor its surroundings, tolerate high radiation levels, and gather data more quickly.

"Even though I had studied cosmic rays, I didn't fully appreciate the rich physics behind the working of these detectors to actually 'see' the world and atmospheric particle production," said Masooma Sarfraz, a doctoral student in Axani's lab and primary author on the journal article. "For a student like me who has been working on theoretical ideas, this was a perfect opportunity to dive into the experimental side. It also connects beautifully to my current broader research work with particle physics."

From Dark Matter Research to Spaceflight

The latest CosmicWatch design is well suited for calibrating large-scale detectors. It is currently being used in the NuDot experiment at UD and at the Coherent CAPTAIN-Mills (CCM) dark matter detector in Los Alamos, New Mexico.

Researchers are also developing another version that could measure primary cosmic rays aboard rockets and spacecraft.

Despite its expanding research role, education remains an important part of CosmicWatch. At UD, Axani uses the detector to teach particle, nuclear, and astrophysics. Students assemble the devices themselves, gaining experience with high-speed electronics before using their finished detectors in experiments they design.

Musarate Shams, a doctoral student in the quantum science and engineering program, modified his own CosmicWatch by adding temperature and pressure sensors. His goal was to study cosmic rays in Earth's upper atmosphere.

In May, the detector traveled aboard a high-altitude balloon to 100,000 feet, near the edge of space. After examining the measurements, Shams was able to show how the flow of cosmic rays from space changes as altitude increases.

"It's a very cool thing to build something in the lab in a couple of days that's able to detect these cool particles from hundreds of light-years away," he said.

Giving Students a Taste of Real Particle Physics

CosmicWatch is also being used outside the University of Delaware. Natasha Holmes, the Ann S. Bowers Associate Professor of Physics at Cornell University, has students in her introductory physics courses build the detectors and conduct experiments with them.

She said that working directly with the technology gives students an experience that feels much closer to professional experimental physics.

"The students seem really excited about doing this thing that is more like what particle physicists and experimental physicists actually do," she said. "They get to learn some coding with it, and sometimes they

break the devices, and then we have to talk to them about being careful with your equipment. It's very different from a typical physics lab. We've had students say they're doing 'real science' after using it."

A Possible Global Network of Cosmic Ray Detectors

Axani estimates that thousands of CosmicWatch detectors have been built since the first version appeared eight years ago. He hopes that number could eventually grow much larger through a worldwide "citizen science" effort.

Under that idea, people in different parts of the world could measure local muon rates and send their observations to a central location online. Together, those measurements could create a much broader picture of particle activity around the planet.

Axani is also developing a related detector system that could help groups of satellites respond more intelligently to changes in their environment. The technology could allow satellites to communicate with one another about conditions in space. If a solar flare were detected, for example, the system could alert nearby satellites so they could power down when necessary.

What began as an inexpensive educational project has now spread into several areas of advanced physics, something Axani did not originally expect.

"Although it started as an educational program, it's found a use in a lot of different areas of physics," Axani said. "It's pretty cool." ☀

THE Backyard Observer, October 2026

By Rick Heschmeyer

Sculptor

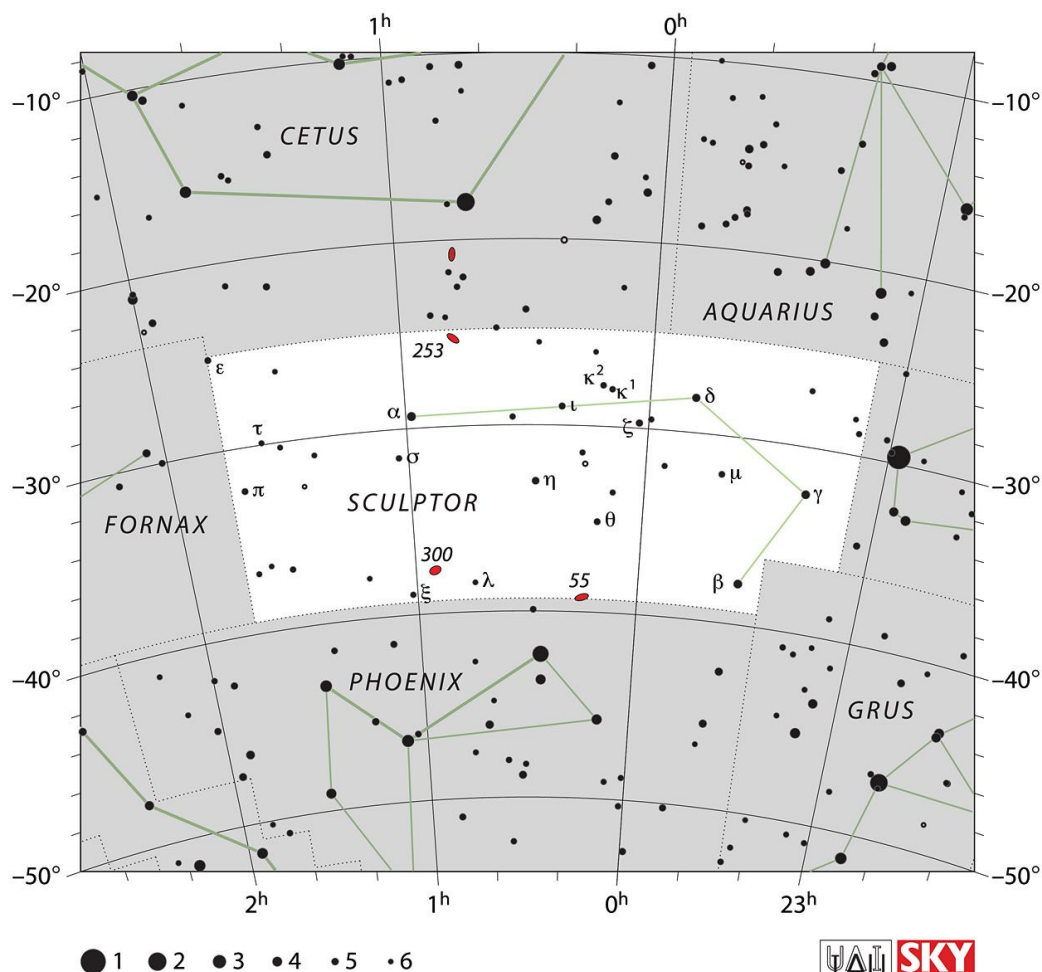
This month's constellation, Sculptor, is one of the constellations invented by French astronomer Nicolas Louis de Lacaille (1713-1762) to help fill in part of the southern night sky. Lacaille originally named it Apparatus Sculptoris, which means "the sculptor's studio." It was depicted as a carved head lying on a table with a sculptor's mallet and chisels. The constellation's name was later shortened to Sculptor at the suggestion of astronomer John Herschel. Since this is a modern constellation, there are no myths or legends surrounding this constellation. Also, since it lies low along the southern horizon for northern hemisphere observers it can be difficult to view. But if you have spotted the bright star Fomalhaut in the constellation Pisces Austrinus then you should be able to locate Sculptor to its east. The Southern Galactic Pole also resides within Sculptor's boundaries.

The brightest star is Alpha Sculptoris with a visual magnitude of only 4.3. This is a blue-white giant star located 780 light years from Earth. The second brightest star is Beta Sculptoris with a magnitude of 4.38. It is a blue-white subgiant star approximately 178 light years distant. The third brightest star is Gamma Sculptoris with a magnitude of 4.41. It is an orange giant star that lies approximately 179 light years from our solar system.

NGC 55, is a barred spiral galaxy located about 6.5 million light years distant. It was discovered in 1826 by James Dunlop. NGC 55, along with its neighbor NGC 300 is one of the closest galaxies to our Local Group of Galaxies.

NGC 253, also known as the sculptor Galaxy, or Caldwell 65, is a spiral galaxy in Sculptor. It is also a starburst galaxy, which means that it is currently undergoing a period of intense star formation.

Good luck seeking out these dim jewels from the southern horizon atmospheric murkiness as we try and visit all the constellations visible to northern hemisphere backyard observers.

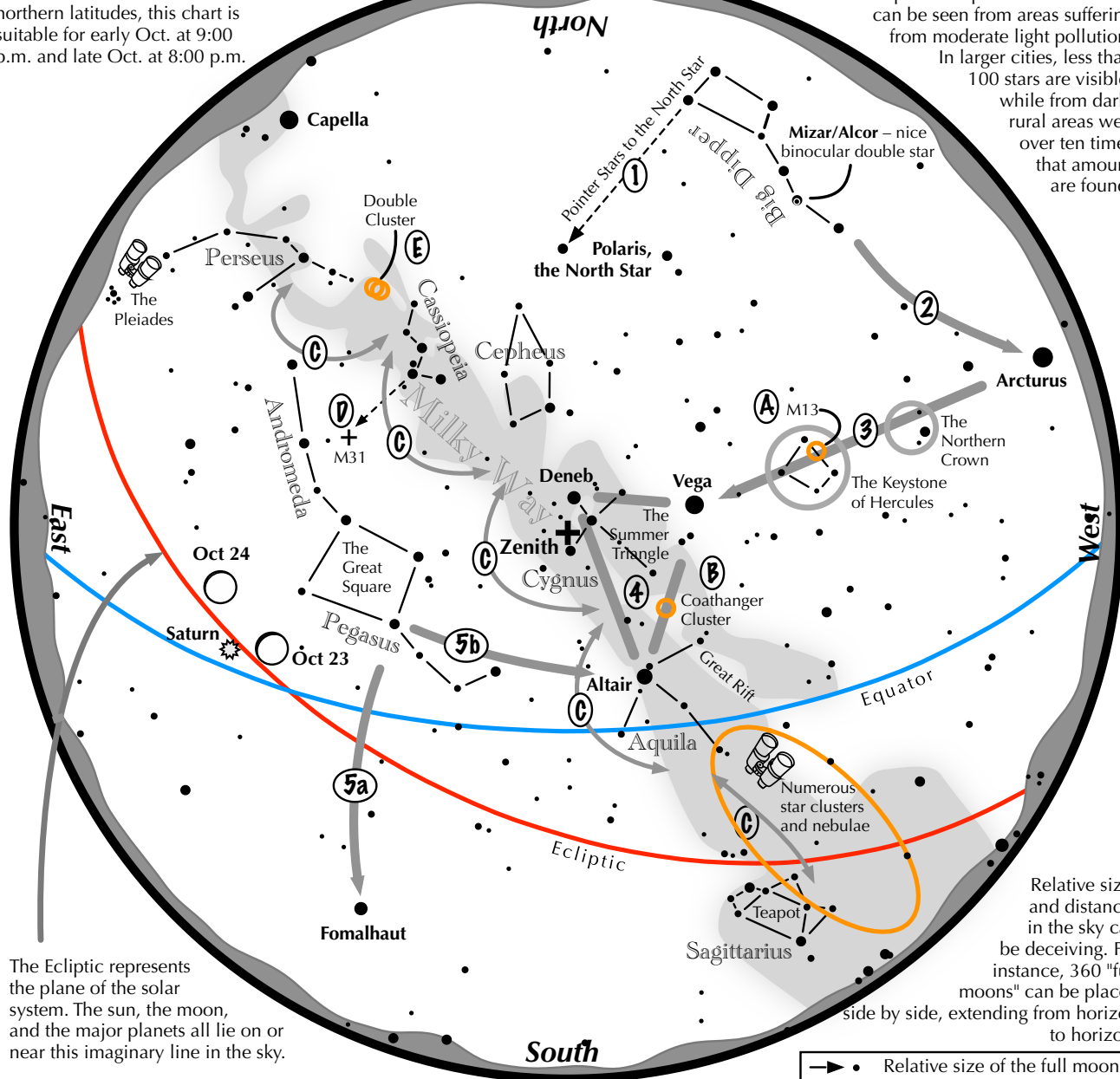


Navigating the October Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for early Oct. at 9:00 p.m. and late Oct. at 8:00 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the October night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the early October evening sky.
- 3 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 Nearly overhead lie the summer triangle stars of Vega, Altair, and Deneb.
- 5 High in the east are the four moderately bright stars of the Great Square. Its two southern stars point west to Altair. Its two western stars point south to Fomalhaut.

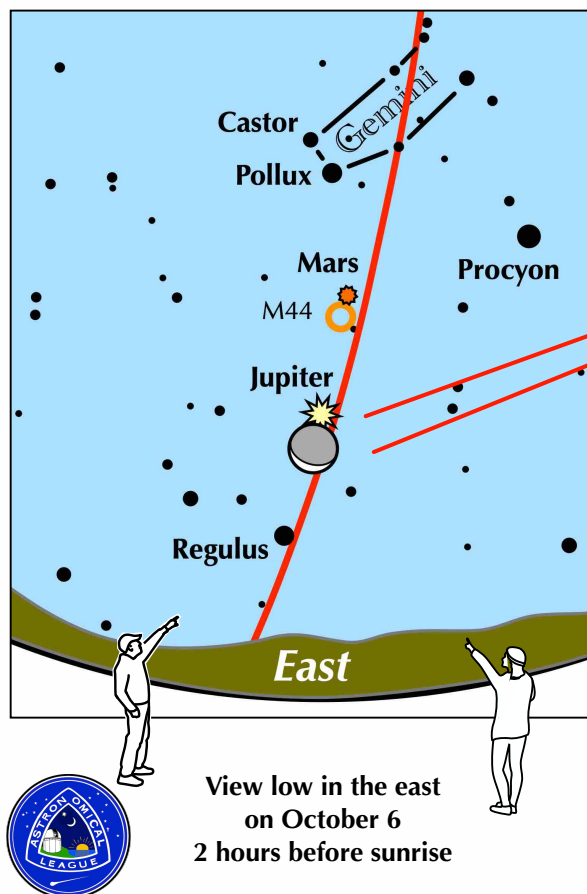
Binocular Highlights

A: On the western side of the Keystone glows the Great Hercules Cluster, a ball of 500,000 stars. **B:** 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger. **C:** Sweep along the Milky Way for an astounding number of fuzzy star clusters and nebulae amid many faint glows and dark bays, including the Great Rift. **D:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **E:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster.

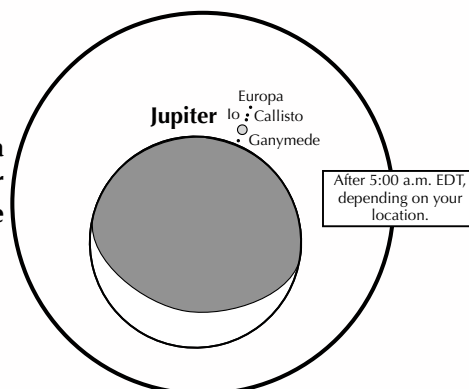


Astronomical League www.astroleague.org; duplication is allowed and encouraged for all free distribution.

In the early morning of October 6, try this challenge:



View through a
very low power
telescope



Moon occults Jupiter for the eastern US. For the rest of us, it lies very close to Jupiter

On the morning of October 6, the moon appears very close to Jupiter.

For those in the eastern half of the US, the planet and its Galilean satellites fully emerge from occultation after 5:00 a.m. The exact time depends on observing location.

Those in the western US see Jupiter immediately next to the dark edge of the crescent moon.

About 5:35 a.m. EDT, Ganymede's shadow begins transiting the planet. It lasts until 9:15 a.m. EDT. Its exit can be seen by west coast telescope users.

And Mars can be found approaching the Beehive star cluster.

About Astronomy Associates

The club is open to all people interested in sharing their love for astronomy. Monthly meetings are typically on the last Sunday of each month and often feature guest speakers, presentations by club members, and a chance to exchange amateur astronomy tips. These meetings and the public observing sessions that follow are scheduled at the Baker Wetlands Discovery Center, south of Lawrence. All events and meetings are free and open to the public. Periodic star parties are scheduled as well.

Because of the flexibility of the schedule due to holidays and alternate events, it is always best to check the [Web site](#) for the exact Sundays when events are scheduled.

Copies of the Celestial Mechanic can also be found on the web at [newsletter](#).

Annual Dues for the club are: \$12 for regular members; \$6 for students. Membership forms can be accessed at the club website [form](#).