

Kitt Peak Nightly Observing Program

Splendors of the Universe on YOUR Night!

Many pictures are links to larger versions.

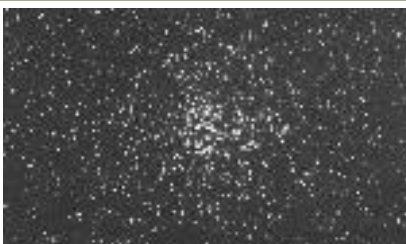
Click here for the ["Best images of the AOP" Gallery](#) and more information.



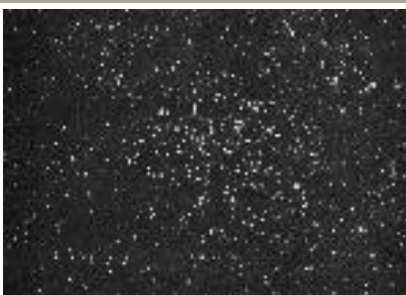
M35: An open star cluster of over 300 stars. It lies at a distance of 2,800 ly, near the foot of Castor, one of the Gemini twins. Could you see the tiny cluster NGC 2158 nearby?



M36: One of three bright open star clusters in the constellation of Auriga. It lies about 4,000 ly away, is about 14 ly across, contains about 60 stars, and is about 25 million years old.



M37: The second of three bright open star clusters in the constellation of Auriga. It is the brightest and richest of the three. It lies about 4,400 ly away, contains about 150 stars with a diameter of about 25 ly, and is an old cluster at 300 million years old.



M38: The third of three bright open star clusters in the constellation of Auriga. It lies about 4,200 ly away, a diameter of about 25 ly, and is 220 million years old.



M45: The Pleiades Star Cluster. A bright, nearby star cluster in the last stages of star formation. It has six to seven bright stars along with hundreds of fainter stars. It lies about 380 lightyears away and is around 100 million years old.



"Double Cluster" (NGC 884 and NGC 869): These two star clusters are a treat for binoculars and telescope alike. Each is a congregation of many hundred stars around 70 light years in diameter. These clusters are between 5000 to 7000 light years away.



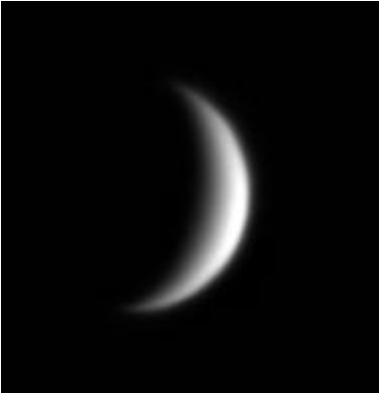
M42: The Great Orion Nebula. This is a region of star formation about 1,500 ly away. It is 30 ly across and contains enough material to make 10,000 stars the size of our sun.



M15: A distant globular cluster, 40,000 lightyears away. It has a few hundred thousand suns, and like most globular clusters, it is over 10 billion years old!



M31: The Andromeda Galaxy, our nearest major galactic neighbor. It is a spiral galaxy, lies 2,200,000 lightyears away and has a diameter of 180,000 lightyears. This galaxy contains as much material as 300 billion suns.



Venus, the second planet, is the brightest natural object in the sky other than the Sun and Moon and is often erroneously called the “morning star” or “evening star.” It is completely wrapped in sulfuric acid clouds and its surface is hot enough to melt lead.



Jupiter is the largest planet in the Solar System, a “gas giant” 11 Earth-diameters across. Its atmosphere contains the Great Red Spot, a long-lived storm larger than Earth. The 4 large Galilean satellites and at least 59 smaller moons orbit Jupiter.



Milky Way: That clumpy band of light is evidence that we live in a disk-shaped galaxy. Its pale glow is light from billions of suns!



Quick streaks of light in the sky called **meteors**, shooting stars, or falling stars are not stars at all: they are small bits of rock or iron that heat up, glow, and vaporize upon entering the Earth's atmosphere. When the Earth encounters a clump of many of these particles, we see a **meteor shower** lasting hours or days.



Satellites: Human technology! There are almost 10,000 of these in Low Earth Orbit (we can't see the higher ones). We see these little "moving stars" because they reflect sunlight.

CHUCK DUGAN

Your Telescope Operator and Guide. Thank you for joining me this evening! See you soon!!

Roy Lorenz

Your Telescope Operator and Guide. Thank you for joining me this evening! See you soon!!

The web page for the program in which you just participated is

<http://www.noao.edu/outreach/nop>. Most of the above images were taken as part of the all-night observing program. For more information on this unique experience please visit

<http://www.noao.edu/outreach/aop>.

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