

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.



Almach (γ Andromedae) appears as a golden and blue double star in small telescopes. The blue star itself is actually three stars, too close together to see as individuals, making Almach a four-star system. It is about 350 light-years away.



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?



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.



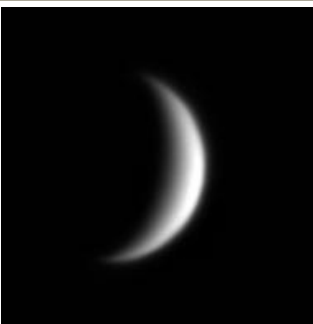
M15: A distant globular cluster, 40,000 lightyears away. It has a few hundred thousand suns, and like most globular clusters, it is over 10 billion years old!



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.



M32: A small but bright companion galaxy to M31. It orbits M31 much like the Moon orbits the Earth. It lies at the same distance as M31 but is much smaller (8,000 lightyears across).



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.



The same side of the **Moon** always faces Earth because the lunar periods of rotation and revolution are the same. The surface of the moon is covered with impact craters and lava-filled basins. The Moon is about a fourth of Earth's diameter and is about 30 Earth-diameters away.



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!

CHUCK DUGAN

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

Bob Martino

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

David Watson

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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