

Kitt Peak Nightly Observing Program

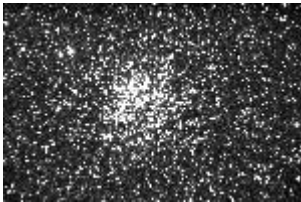
Splendors of the Universe on YOUR Night!

Many pictures are links to larger versions.

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



Albireo (β Cygni) is a double star marking the beak of Cygnus, the swan. Its two components shine in contrasting colors, golden-orange and blue. Albireo is about 385 light-years away.



M11: The "Wild Duck Cluster," which just might look like a flock of wild ducks. This open cluster is 20 lightyears in diameter and 5,600 lightyears away.



M17: The "Swan Nebula," also called the "Omega Nebula." A vast cloud of gas, mostly hydrogen, with clumps contracting to make new stars. 15 lightyears across, and 3,000 lightyears away.



M13: The "Great Globular Cluster in Hercules" was discovered by Edmund "Comet" Halley in 1714. It is 25,000 lightyears away, and light would need over a century to traverse its diameter.



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.



Saturn, the second-largest planet in the Solar System, is known for its showy but thin rings made of ice chunks as small as dust and as large as buildings. Its largest moon, Titan, has an atmosphere and hydrocarbon lakes; at least 51 smaller moons orbit Saturn.



Uranus, the seventh planet from the Sun, was discovered by Sir William Herschel in 1781. It has a dark set of rings and at least 27 moons. Uranus's axis of rotation is almost 90 degrees from those of the other planets, as if Uranus has been tipped onto its side.



Neptune, eighth planet from the Sun, is a blue “gas giant” about 4 Earth-diameters across. At least 13 moons orbit Neptune. Galileo accidentally observed Neptune in 1612 and 1613 but did not realize it differed from the stars—its true discovery would wait until 1846.



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.



M57: The Ring Nebula. This remnant of a dead star looks exactly as it's name says - a ring or doughnut shape cloud of gas. The nebula is about 1 lightyear across and lies about 2,000 lightyears away.



The Green Flash: A smidge of green on the top of the sun as it sets (or rises). This rare event needs just the right atmospheric conditions.

Lucas Snyder

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 at [Nightly Observing Program](#). Most of the above images were taken as part of the Overnight Telescope Observing Program. For more information on this unique experience please visit [Overnight Telescope Observing Program](#).

Copyright © 2015 Kitt Peak Visitor Center