

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.



M51 Whirlpool Galaxy

M51, the **Whirlpool Galaxy**, gets its name from its bright and prominent spiral arms. It lies at a distance of 23 million light-years away. It also has a smaller, companion galaxy (NGC 5195). The two galaxies are one of the best examples of interacting galaxies.



M5

M5 is a bright, large globular cluster, 25,000 light-years away. It is 13 billion years old, 165 light-years in diameter, and may contain as many as half of a million stars.



Meteors

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 500 of these in Low Earth Orbit (we can't see the higher ones). We see these little "moving stars" because they reflect sunlight.



Scintillation

The twinkling of star light is a beautiful effect of the Earth's atmosphere. As light passes through our atmosphere, its path is deviated (refracted) multiple times before reaching the ground. Stars that are near to the horizon will scintillate much more than stars high overhead since you are looking through more air (often the refracted light will display individual colors). In space, stars would not twinkle at all. Astronomers would like it if they could control the effects of this troubling twinkle.



M57 (Ring Nebula)

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 2.6 lightyears across and lies about 2,300 lightyears away.



Jupiter

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 2-3 times the size of the Earth. The 4 large Galilean satellites and at least 63 smaller moons orbit Jupiter.



Saturn

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 61 smaller moons orbit Saturn.



Moon

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.

Sara Thompson

Your Telescope Operator and Guide. Thank you for joining me this evening! Keep looking up!!

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](#).

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