

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.



M13 Hercules Globular

This target was visible during the first session, but unfortunately not the second due to heavy clouds.

M13, the "**Great Globular Cluster in Hercules**" was first discovered by Edmund Halley in 1714, and later catalogued by Charles Messier in 1764. It contains 300,000 stars, and is 22,000 light-years away. Light would need over a century to traverse its diameter.



Clouds

Darn! These pesky intruders have annoyed astronomers for millennia. Kitt Peak usually has clear skies; call us at (520) 318-8726 and join us again some time.



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 its 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

This target was visible during the first session, but unfortunately not the second due to heavy clouds.

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.



Double Double (ϵ Lyr)

The **Double-Double** (ϵ Lyrae) looks like two stars in binoculars, but a good telescope shows that both of these two are themselves binaries. However, there may be as many as ten stars in this system! The distant pairs are about 0.16 light-year apart and take about half a million years to orbit one another. The Double-Double is about 160 light-years from Earth.

JOHNATHAN SIGUIEROS

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](#).

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