

WEEKLY STARGAZERS' NEWSLETTER

by Dr. Bob

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These are the notes that I use for the weekly radio broadcast on Rome Radio Station WLAQ AM 1410 and FM 96.9. The program airs at 7:50 a.m. each Tuesday morning. The radio station also has a live FaceBook broadcast at the same time: WLAQ-Rome. Send questions to: ryoung@highlands.edu

Etowah GYSTC
Website QR code



OBSERVATION PERIOD:
02/14/23 – 02/20/23

FUN FACT OF THE WEEK:

Vanguard 1 is the second American satellite and the fourth artificial Earth-orbiting satellite to be successfully launched, following Sputnik 1, Sputnik 2, and Explorer 1.

It was launched 17 March 1958. Vanguard 1 was the first satellite to have solar electric power. Although communications with the satellite were lost in 1964, it remains the oldest human-made object still in orbit, together with the upper stage of its launch vehicle.

MOON FOR THE WEEK:

The Moon is New on Monday, February 20th. The Moon is getting closer to the Earth and will be at perigee on Sunday, February 19th. On the 19th it will be only 358,267 kms away. Currently, the Moon's its range is 372,168 kms while on the 19th it will be only 358,267 kms away.



To convert kms to miles, multiply kms by 0.62 miles/km.

HORIZON TO HORIZON PLANET VIEW

The sun rises at 7:28 a.m. and sets at 6:22 p.m. This means that there are 10 hours, 54 minutes of daylight compared to 10 hours and 48 minutes daylight last week.

The Sun is still in the **constellation Capricornus**. The Goat, in astrology, is the 10th sign of the zodiac, considered as governing the period from about December 22 to about January 19.

The is Earth 0.987 AUs from the Sun compared to about the same last week. It is 42.5 degrees altitude at the meridian compared to 41.5 degrees last week.

The Planets:

Mercury rises at 6:27 a.m. This is about 65 minutes before the Sun. This is the best time to view Mercury. The planet can be seen if you have a low clear eastern horizon and dark skies. If you see it, you will be in the minority of stargazers so give it a try.

Venus sets at 8:26 p.m. which is 2.0 hrs after sunset. If the skies are clear, it is a very easy planet to see in the darkening western sky after sunset. Venus, like Mercury does not have any moons. It is also very hot, even hotter than Mercury, even though it is further away from the Sun than Mercury. This is because Venus is covered by a thick layer of CO₂, which holds in the heat, raising the temperature to well over 830 degrees Fahrenheit.

Mars rises up in the eastern horizon in the early afternoon and crosses the meridian at 7:52 p.m. You should have no trouble seeing the Red Planet if your skies are clear. The red color shows up very brightly in the night sky. If you look at it through a telescope, you will see its two moons: Phobos and Demos.

Jupiter sets at 9:44 p.m. It will be pretty close to Venus but not nearly as bright. The biggest planet in the solar system now has the largest family of moons. Since December 20th, the Minor Planet Center (MPC) has published orbits for 12 previously unreported moons of Jupiter. The discoveries bring the list of Jovian moons to 92 moons from what was previously known, 79 moons. With binoculars, look for Io, Callisto, Ganymede, and Europa the four Galilean Moon.

You can identify the moons by name if you go to https://skyandtelescope.org/wp-content/plugins/observing-tools/jupiter_moons/jupiter.html. This is a great interactive tool to identify the four Galilean moons of Jupiter.

Saturn is still too close to the Sun this week to see it. It will be a couple weeks before we see Saturn again in the evening sky.

MARS ROVER PERSEVERANCE

To get regular and current updates on the progress of NASA's Perseverance rover on Mars, go to the website:

<https://www.space.com/news/live/mars-perseverance-rover-update>

SATELLITES FOR THE WEEK (ISS PASSES)

16 Feb	-3.4	06:36:04	10°	SW	06:39:21	65°	SE	06:42:39	10°	NE	visible
17 Feb	-2.1	05:49:13	19°	S	05:50:55	31°	SE	05:53:55	10°	ENE	visible
18 Feb	-0.7	05:03:34	15°	ESE	05:03:34	15°	ESE	05:04:43	10°	E	visible
18 Feb	-3.1	06:36:30	14°	WSW	06:39:01	36°	NW	06:42:08	10°	NNE	visible
19 Feb	-3.8	05:50:32	67°	NNW	05:50:32	67°	NNW	05:53:41	10°	NE	visible

STAR PATTERNS IN THE SKY

Winter Hexagon

Like the summer triangle, the winter hexagon is made up of bright stars around the sky from different constellations. In this case the stars are: Capella in Auriga, Castro and Pollux in Gemini, Procyon in Canis Minor, Sirius in Canis Major, Rigel in Orion, Aldebaran in Taurus, and back to Capella in Auriga.

Smaller and more regularly shaped is the Winter Triangle (also known as the Great Southern Triangle), an approximately equilateral triangle that shares two vertices (Sirius and Procyon) with the larger asterism. The third vertex is Betelgeuse, which lies near the center of the hexagon. These three stars are three of the ten brightest objects, as viewed from Earth, outside the Solar System. Betelgeuse is also particularly easy to locate, being a shoulder of Orion, which assists stargazers in finding the triangle. Once the triangle is located, the larger hexagon may then be found.

SPACE HISTORY OF THE WEEK

Feb 18, 1930: Pluto was discovered

Pluto was discovered by Clyde Tombaugh in 1930, and was originally considered the ninth planet from the Sun.

After 1992, its status as a planet fell into question following the discovery of several objects of similar size in the Kuiper belt. In 2005, Eris, which is 27% more massive than Pluto, was discovered, which led the International Astronomical Union (IAU) to define the term "planet" formally for the first time the following year. This definition excluded Pluto and reclassified it as a member of the new "dwarf planet" category (and specifically as a plutoid).

Pluto has five known moons: Charon (the largest, with a diameter just over half that of Pluto), Styx, Nix, Kerberos, and Hydra.

Pluto and Charon are sometimes considered a binary system because the barycenter of their orbits does not lie within either body. The IAU has not formalized a definition for binary dwarf planets, and Charon is officially classified as a moon of Pluto.

On July 14, 2015, the New Horizons spacecraft became the first spacecraft to fly by Pluto. During its brief flyby, New Horizons made detailed measurements and observations of Pluto and its moons.

Feb 19, 1473: Nicolas Copernicus was born

a Renaissance mathematician and astronomer who formulated a model of the universe that placed the Sun rather than the Earth at the center of the universe.

The publication of this model in his book *De revolutionibus orbium coelestium* (On the Revolutions of the Celestial Spheres) just before his death in 1543 is considered a major event in the history of science, triggering the Copernican Revolution and making an important contribution to the Scientific Revolution.

Copernicus was born and died in Royal Prussia, a region that had been a part of the Kingdom of Poland since 1466. He was a polyglot and polymath who

obtained a doctorate in canon law and also practiced as a physician, classics scholar, translator, governor, diplomat, and economist.

]Toward the close of 1542, Copernicus was seized with apoplexy and paralysis, and he died at age 70 on 24 May 1543. Legend has it that he was presented with the final printed pages of his text on nature of the universe on the very day that he died, allowing him to take farewell of his life's work. He is reputed to have awoken from a stroke-induced coma, looked at his book, and then died peacefully.

Copernicus was reportedly buried in Frombork Cathedral, where archaeologists for over two centuries searched in vain for his remains. Efforts to locate the remains in 1802, 1909, 1939 and 2004 had come to nought. In August 2005, however, a team led by Jerzy Gąssowski, head of an archaeology and anthropology institute in Pułtusk, after scanning beneath the cathedral floor, discovered what they believed to be Copernicus' remains. In November of 2008 positive ID was made of Copernicus.

QUESTION OF THE WEEK:

Why is Sirius the brightest star in the night sky?

How bright a star appears is a function of two things: how far the star is away from the observer and how bright the star actually is.

In this case, Sirius is very close to us as star distances go it is seventh closest star to the sun. It is only 8.5 light years away.

Sirius is also very luminous, if it were placed next to the sun, it would be 20 times brighter than the sun!

So because Sirius is so close to us and it is so luminous, it is easily the brightest star in the night sky, except for the Sun of course.