

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

OBSERVATION PERIOD:

06/11/24 – 06/17/24

FUN FACT OF THE WEEK

MOON FOR THE WEEK:

The Moon is First Quarter on Friday, 6/14/24. Watch as the moon rises in the western sky at sunset until it is at the meridian at sunset on Friday. The right side (eastern) side of the moon will be lit. The terminator will cross from the eastern limb toward the mid-line during First Quarter.



Moon will reach apogee on Friday, June 14th. It will be 404,077 kms from Earth.

As you watch the Moon, you will see that it moves 12.2 degrees further East, day by day as it crosses the celestial sphere.

Sun in View:

The Sun rises at 06:28 (6:28 a.m.) this week and sets at 20:52 (8:52 p.m.)

This means that the Sun is above the horizon for Sun is “up” for 14 hrs. and 20 minutes.

The Sun climbs to an altitude of 78.8 degrees this week.. The Sun is still in the constellation Taurus, the Bull. Compare this week’s altitude to when the Sun rises to only 32.3 degrees on December 21st. This week the Earth’s range to the

Sun is 1.015 AUs. The Earth is still slowly distancing itself from the Sun as we head toward Summer and reach aphelion.

PLANETS

Mercury: This week Mercury rises in the East at 6:09 a.m. which is almost an hour before the Sun, so you might get a view of Mercury before the Sun rises.

Venus rises in the East at 6:37 a.m. which is about the same time as the Sun so you will not be able to Venus. .

Mars rises in the East at 3:50 a.m. which is more than 2.5 hours before the Sun so Mars is a wonderful object in the predawn sky. Look for its amber hue.

Jupiter rises in the East at 5:31 a.m. which is almost the same time as the Sun. This week you will not be able to see Jupiter.

Saturn rises in the East at 2:03 a.m. which is a little more that 3 and a half hours before the Sun. Saturn is an easy target in the predawn 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)

There are not good passes of the ISS this week.

STAR PATTERNS IN THE SKY

Draco is a constellation in the far northern sky. Its name is Latin for dragon. It was one of the 48 constellations listed by the 2nd century astronomer Ptolemy and remains one of the 88 modern constellations today. The north pole of the ecliptic is in Draco. Draco is circumpolar (that is, it never sets), and can be seen all year from northern latitudes.

Due to the effects of precession, the north pole star changes over thousands of years. Currently, as you know, the north pole star for us is Polaris, the brightest star in Ursa Minor (Little Dipper). From 3942 BC to 1793 BC the north pole star was Thuban (α Draconis).

The Egyptian Pyramids were designed to have one side facing north, with an entrance passage geometrically aligned so that Thuban would be visible at night. As precession continues its slow trek throughout the heavens, Thuban it will again be the pole star around the year AD 21000.

Thuban is a blue-white giant star of magnitude 3.7, 309 light-years from Earth. The traditional name of Alpha Draconis, Thuban, means "head of the serpent".

SPACE HISTORY OF THE WEEK

Tuesday, June 2nd

1930 Charles Pete Conrad was born

Charles "Pete" Conrad, Jr. (June 2, 1930 – July 8, 1999), (Capt, USN), was an American naval officer and aviator, aeronautical engineer, test pilot, and NASA astronaut, and during the Apollo 12 mission became the third man to walk on the Moon. He set an eight-day space endurance record along with his Command Pilot Gordon Cooper on the Gemini 5 mission, and commanded the Gemini 11 mission. After Apollo, he commanded the Skylab 2 mission (the first manned one), on which he and his crewmates repaired significant launch damage to the Skylab space station. For this, President Jimmy Carter awarded him the Congressional Space Medal of Honor in 1978.

Wednesday, June 3rd

1948 Hale 200-inch telescope was dedicated

The Hale Telescope is a 200-inch (5.1 m), f/3.3 reflecting telescope at the Palomar Observatory in California, US, named after astronomer George Ellery Hale. With funding from the Rockefeller Foundation, he orchestrated the planning, design, and construction of the observatory, but did not live to see its commissioning. The Hale was groundbreaking for its time, with double the diameter of the next largest telescope and pioneering the use of many technologies such as vapor deposited aluminum and low thermal expansion glass. It is still in active use.

It was the largest optical telescope in the world from its completion in 1948 until the BTA-6 was built in 1976, and the second largest until the construction of the Keck 1 in 1993.

1965 Ed White took America's first space walk

Edward Higgins "Ed" White, II (November 14, 1930 – January 27, 1967), (Lt Col, USAF), was an American aeronautical engineer, U.S. Air Force officer, test pilot, and NASA astronaut. On June 3, 1965, aboard Gemini IV, he became the first American to "walk" in space. White died along with his fellow astronauts Virgil "Gus" Grissom and Roger B. Chaffee during prelaunch testing for the first manned Apollo mission at Cape Canaveral. He was awarded the NASA Distinguished Service Medal for his flight in Gemini 4 and then awarded the Congressional Space Medal of Honor posthumously.

QUESTION OF THE WEEK

What does the term “greatest elongation” mean? Sonya T

The planet's “elongation” is the angle between the Sun and the planet, with Earth as the reference point. This is when the inner planet is as high in the sky as possible for the current orbit around the sun relative to the Earth.

When an inferior planet (Mercury and Venus) is visible after sunset, it is near its greatest eastern elongation. When an inferior planet is visible before sunrise, it is near its greatest western elongation. The value of the greatest elongation (west or east), for Mercury, is between 18° and 28° ; and for Venus between 45° and 47° . This value varies because the orbits of the planets are elliptical, rather than perfect circles.

Refer to astronomical tables and websites such as heavens-above to see when the planets reach their next maximum elongations.