

WEEKLY STARGAZERS' JOURNAL

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:
04/19/22 – 04/25/22

MOON FOR THE WEEK:

The Moon is Third Quarter on Saturday April 23rd. The Third Quarter is up before sunrise. At sunrise it will be high due South.

The Moon will be at perigee today, April 19th. The moon is 365,143 kms or 226,889 miles from Earth

Tomorrow morning, look for it high in the due South at sunrise along the **meridian**.

HORIZON TO HORIZON PLANET VIEW

Sun:

The sun rises at 7:06 a.m. (EDT) and sets at 8:15 p.m. (EDT). The Sun is still in the constellation **Pisces**, the Fishes. As we have been discussing for the past several weeks, the Earth is still increasing its distance from the Sun in its orbit.

The Planets:

Before sunrise, you can still see **Venus, Mars, Saturn, and Jupiter**. The fifth naked-eye planet, Mercury, is now in the evening sky.

The order of the planets in distance from the Sunrise horizon is Saturn, Mars, Venus and finally Jupiter.

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):

24 Apr	-3.9	05:54:12	24°	SW	05:56:02	81°	NW	05:59:22	10°	NE	visible
25 Apr	-3.1	05:07:42	47°	ESE	05:07:42	47°	ESE	05:10:44	10°	ENE	visible

STAR PATTERNS IN THE SKY

The Lyrid meteor shower

Late evening April 21 – or late evening April 22 – will be best to view the meteors. Before moonrise! The predicted peak is 4 UTC on April 22. And the peak of the Lyrids is narrow (no weeks-long stretches of meteor-watching, as with some showers).

Unfortunately in 2022, there's a bright moon in the sky on the peak morning. Note that it's a waning moon. So – on the night after the peak (late evening April 22 to dawn April 23) – there will be less moon, and so you might try that night, too.

The maximum rate of meteors expected to be visible from a dark location is around 10 per hour (ZHR).

Best time to view the meteors is just after sunset (7:45 p.m.) and before the moon rises in the east (9:18 p.m.)

The source of the meteor shower is particles of dust shed by the long-period Comet C/1861 G1 Thatcher.

The April Lyrids are the strongest annual shower of meteors from debris of a long-period comet, mainly because as far as other intermediate long-period comets go (200–10,000 years), this one has a relatively short orbital period of about 415 years.

The Lyrids have been observed for the past 2,600 years.

SPACE HISTORY OF THE WEEK

April 22, 1970 Earth Day:

The first Earth Day family had participants and celebrants in two thousand colleges and universities, roughly ten thousand primary and secondary schools, and hundreds of communities across the United States.

More importantly, it "brought 20 million Americans out into the spring sunshine for peaceful demonstrations in favor of environmental reform."

It now is observed in 192 countries, and coordinated by the nonprofit Earth Day Network, chaired by the first Earth Day 1970 organizer Denis Hayes, according to whom Earth Day is now "the largest secular holiday in the world, celebrated by more than a billion people every year." Environmental groups have sought to make Earth Day into a day of action which changes human behavior and provokes policy changes.[10]

April 23, 1858, Max Planck was born"

He was a German theoretical physicist who worked on quantum theory and won him the Nobel Prize in Physics in 1918.

Planck made many contributions to theoretical physics, but his fame as a physicist rests primarily on his role as an originator of quantum theory, which revolutionized human understanding of atomic and subatomic processes.

His name is also known on a broader academic basis, through the renaming in 1948 of the German scientific institution, the Kaiser Wilhelm Society (of which he was twice president), as the Max Planck Society (MPS). The MPS now includes 83 institutions representing a wide range of scientific directions.

April 24, 1970, China became the fifth nation to launch its own satellite. China had to carefully aim its rocket so as not to overfly Russia or Mongolia..

QUESTION OF THE WEEK

At what altitude do nations control airspace?

There is no international agreement on the vertical extent of sovereign airspace (the boundary between outer space—which is not subject to national jurisdiction—and national airspace).

Suggestions ranging from about 30 km (19 mi) (the extent of the highest aircraft and balloons) to about 160 km (99 mi) (the lowest extent of short-term stable orbits).

The Fédération Aéronautique Internationale has established the Kármán line, at an altitude of 100 km (62 mi), as the boundary between the Earth's atmosphere and outer space.

The United States considers anyone who has flown above 50 miles (80 km) to be an astronaut; indeed descending space shuttles have flown closer than 80 km (50 mi) over other nations, such as Canada, without requesting permission first.

It must be understood that the Kármán line and the U.S. definition are merely working benchmarks, without any real legal authority over matters of national sovereignty.

The boundary between public airspace and private air rights is defined by national or local law.