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:
09/10/24 – 09/16/24

FUN FACT OF THE WEEK

The Moon is an average of 238,855 miles (384,400 kilometers) away. That means 30 Earth-sized planets could fit in between Earth and the Moon. The Moon is slowly moving away from Earth, getting about an inch farther away each year.

MOON FOR THE WEEK:

The Moon will be First Quarter on Wednesday, September 11th and it will be high in the southern sky at sunset. Tomorrow, the Moon will be along the meridian at sunset but will be moving eastward each day until the end of the week when it will be getting closer and closer to a Full Moon. Notice that the Moon will appear 15 degrees further East each day that you view it and the right side of the sun will be illuminated.

The Moon will be heading toward perigee by the first of next week, September 24th. This means that the Moon will be as close to the Earth as it gets in its monthly trip around the Earth.

The Sun --

The Sun rises at 07:19 hrs (7:19 a.m.) this week and sets at 19:58 hrs (7:58 p.m.)

This means that the Sun is above the horizon for Sun is “up” for 12 hrs. and 39 minutes. You might begin to notice that the days are shorter and the Sun does not get as high as it did a few weeks ago.

The Sun climbs to an altitude of 61.4 degrees this week. The Sun is in the constellation Leo, the Lion.

The Earth is currently 1.007 AUs from the Sun.

PLANETS

Mercury: This week Mercury rises in the East around 5:55 a.m. and sets at 19:08 (7:08 p.m.) Since the planet rises about an hour before the Sun, you might get a glimpse of it before sunrise.

Venus rises in the East at 9:22 a.m. and sets in the west at 21:03 (9:03 p.m.). It sets about an hour and a half after sunset. You should be able to see Venus in the early evening sky low on the western horizon. When you can see Venus in the evening, it is called the Evening Star.

Mars rises in the East at 1:30 a.m. which is more than 3.0 hours before the Sun, making Mars is wonderful object in the predawn sky. Look for its amber hue in the early predawn sky. Mars is in the constellation Taurus.

Jupiter rises in the East at 12:43 a.m. which is also about three hour before the Sun. Look low on the eastern horizon before sunrise to see this planet. You will notice that Jupiter and Mars are very close together. It should be very bright in the sky. If you have a pair of binoculars, you should be able to see the four Galilean Moon (Io, Europa, Ganymede, and Callisto).

Saturn rises in the East around 8:02 p.m. This means that you can see Saturn practically all night long, from sunset until sunrise. Saturn is an easy target in the late night sky until the early morning.

MARS ROVER PERSEVERANCE

To get regular and current updates on the progress of NASA's Perseverance 5rover on Mars, go to the websitehis :

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

SATELLITES FOR THE WEEK (ISS PASSES)

10 Sep	-3.6	20:45:17	10°	SSW	20:48:32	51°	SE	20:51:20	13°	ENE	visible
10 Sep	-0.5	22:23:19	10°	WNW	22:24:22	14°	NW	22:24:22	14°	NW	visible
11 Sep	-1.6	21:35:10	10°	W	21:38:00	25°	NW	21:39:45	17°	N	visible
12 Sep	-2.5	20:47:17	10°	WSW	20:50:28	42°	NW	20:53:41	10°	NE	visible

Tuesday 10th
Wednesday 11th
Thursday 12th

STAR PATTERN IN THE SKY
Circlet of Pisces
Between Aquarius to the west and Aries to the east. The ecliptic and the celestial equator intersect within this constellation and in Virgo.

The vernal equinox (September 22) is currently located in Pisces, due south of ω Psc, and, due to precession, slowly drifting below the western fish towards Aquarius.

The circlet it an asterism within Pisces along its northern component.

M74 is a loosely wound spiral galaxy in Pisces, found at a distance of 30 million light years. It has many clusters of young stars and the associated nebulae, showing extensive regions of star formation. It was discovered by Pierre Méchain, a French astronomer, in 1780.

SPACE HISTORY OF THE WEEK
September 15, 1965 - First episode of Lost in Space
Lost in Space is an American science fiction television series following the adventures of a family of pioneering space colonists who struggle to survive in a

strange and often hostile universe after their ship was sabotaged and thrown off course. It was created and produced by Irwin Allen, filmed by 20th Century Fox Television, and broadcast on CBS. The show ran for three seasons, with 83 episodes airing between 1965 and 1968. The first television season was filmed in black and white, with the second and third seasons filmed in color.

September 15, 1968: Zond 5 launched and became the first circumlunar spaceflight with living creatures on board.

Zond 5 launched on September 15 and became the first spacecraft to circle the Moon and return to land on Earth. On September 18, the spacecraft flew around the Moon. The closest distance was 1,950 km. High-quality photographs of the Earth were taken at a distance of 90,000 km. A biological payload of two Russian tortoises, wine flies, meal worms, plants, seeds, bacteria, and other living matter was included in the flight.

On September 22, the reentry capsule entered the Earth's atmosphere but could not perform a skip reentry due to a failure of the guidance system. Landing was supposed to occur in Kazakhstan, but instead Zond 5 splashed down in the Indian Ocean and was successfully recovered by the USSR recovery ships.

Although the ballistic reentry would have been bad for human occupants, it did not appear to affect the biological specimens, all of which were alive and well when the descent module was finally opened four days after landing. It was announced that the tortoises had lost about 10% of their body weight but remained active and showed no loss of appetite. This spacecraft was planned as a precursor to a manned lunar spacecraft.

QUESTION OF THE WEEK

I heard that the Fall Equinox is going to happen next week, what causes the Fall and Spring equinoxes?

As the earth orbits the sun, the tilt of the earth’s axis causes the sun to change position relative to the earth’s equator. During out summer, the sun is positioned above the equator and higher in the sky. We have long days during this time of the year. During our winter, the sun is much below the equator and thus short days. As the sun passes from above the equator to below the equator.. it passes over the equator.. thus equinoxes… autumnal (fall) and vernal (spring) equinoxes.