

# 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:

05/03/22 – 05/09/22

## FACT FOR THE WEEK:

Even though Venus is nearly twice as far away from the Sun than Mercury (the closest planet), Venus' mean temperature is 534 degrees Celsius **hotter** than Mercury.

## MOON FOR THE WEEK:

The Moon will be at First Quarter on Sunday, May 8<sup>th</sup>. In its orbit about the Earth, the Moon will be at Apogee on Thursday, May 5<sup>th</sup>. This is when the Moon is as far from the Earth as it gets in its monthly trek around the Earth. At apogee, it will be 405,285 Kms or 251,833 miles from Earth.



First Quarter

Since the Moon is waxing from a New Moon, it will be visible in the early evening, in the West, just after sunset. By the 8<sup>th</sup>, the Moon will be high in the sky, due South, along the meridian at sunset. This is a good time to view the eastern features of the Moon as the terminator crosses them from the right limb (Eastern side) to the midline. The terminator is the line formed between the lit and dark side of the Moon.

## HORIZON TO HORIZON PLANET VIEW

The sun rises at 6:49 a.m. (EDT) and sets at 8:27 p.m. (EDT). The Sun is in Aries the Ram and it is still increasing its distance from the Sun in its orbit. Currently the Earth is 1.0086 AUs or 93,755,227 miles from the Sun.

This week, the sun is 71.6 degrees altitude at its highest point as it crosses the meridian at noon.

### **The Planets:**

Before sunrise, you can still see Saturn, Mars, Venus, and Jupiter. Saturn rises at 3:16 a.m. followed by Mars at 4:15 a.m. That means that Saturn is 15 degrees further west in the sky than Mars. The next planet is Jupiter which rises at 4:49 a.m. Since it rises 30 minutes later than Mars, it will be 7.5 degrees further East than Jupiter. The last planet to rise in the early morning is Venus; it trails Jupiter by about 10 minutes or about 5 degrees.

The fifth naked-eye planet, Mercury, is visible in the evening after sunset along the western horizon. Since it sets at 9:58 p.m., 1.5 hours after Sunset, it trails the sun by about 22 degrees. This might be a good time to spot this small elusive planet if you have a nice low western horizon from your location.

Of the naked-eye planets, two of them do not have any moons, Mercury and Venus. Mars has two moons, Jupiter has 79 moons and Saturn has the record number at 82 moons.

### **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 will not be any visible passes of the International Space Station this week.**

### **STAR PATTERNS IN THE SKY**

#### **Eta Aquariids Meteor Shower.**

This meteor shower is associated with Halley's Comet. This meteor shower will be viewed by a lot of stargazers since the April's Lyrids were drowned out by the Moon's glare this year.

The best time to watch this meteor shower will be in the predawn mornings of May 4, 5 and 6.

The first quarter moon will fall on May 8<sup>th</sup>. so the moon is a waxing crescent around the mornings of May 4, 5 and 6. That means a moonless sky for peak predawn hours for the Eta Aquariids in 2022.

The Eta Aquariid meteor shower should peak before local dawn Thursday morning, but it's active for several mornings before and after as well.

The shower is visible from about April 21 to about May 20 each year with peak activity on or around May 6. Unlike most major annual meteor showers, there is no sharp peak for this shower, but rather a plateau of good rates that last approximately one week centered on May 7.

The meteors we currently see as members of the Eta Aquariid shower separated from Halley's Comet hundreds of years ago. The current orbit of Halley's Comet does not pass close enough to the Earth to be a source of meteoric activity.

The shower peaks at about a rate of around a meteor per minute, although such rates are rarely seen from northern latitudes due to the low altitude of the radiant.

## **SPACE HISTORY OF THE WEEK**

### **May 5<sup>th</sup>, 1961, Alan Shepard is first American in space aboard Freedom 7.**

American naval officer and aviator, test pilot, one of the original NASA Mercury Seven astronauts, and businessman, who in May 1961 became the second person and the first American to travel into space. This Mercury flight was designed to enter space, but not to achieve orbit.

Ten years later, at age 47 and the oldest astronaut in the program, Shepard commanded the Apollo 14 mission (1971), piloting the lander Antares to the most accurate landing of the Apollo missions. He became the fifth and oldest person to walk on the Moon, and the only one of the Mercury Seven to do so. During the mission, he hit two golf balls on the lunar surface.

These were his only two space flights, as his flight status was interrupted for five years during the Mercury and Gemini programs by Ménière's disease, an inner-ear disease that was surgically corrected before his Moon flight. Shepard served as Chief of the Astronaut Office from November 1963 to July 1969 (the approximate period of his grounding), and from June 1971 to August 1, 1974 (from his last flight to his retirement). He was promoted to rear admiral on August 25, 1971, the first astronaut to reach that rank. He retired from the United States Navy and NASA in 1974.

### **May 6, 1968, Neil Armstrong ejects safely from Lunar Landing Research Vehicle**

A little more than a year before his moon landing, Neil Armstrong had a narrow escape in the lunar landing research vehicle (LLRV) at Ellington Air Force Base near Houston

On a simulated lunar descent, leaking propellant caused a total failure of his flight controls and forced an ejection. His only injury was a hard tongue bite.

In his Armstrong biography, First Man, author James Hansen recounts how astronaut Alan Bean saw Armstrong the afternoon of the lander crash at his desk in the astronaut office. Bean then heard colleagues in the hall talking about the accident, and asked them, "When did this happen?" About an hour ago, they replied. Bean returned to Armstrong and said, "I just heard the funniest story!" Armstrong said, "What?" "I heard that you bailed out of the LLTV an hour ago." "Yeah, I did," replied Armstrong. "I lost control and had to bail out of the darn thing." "I can't think of another person," Bean recalls, "let alone another astronaut, who would have gone back to his office after ejecting a fraction of a second before getting killed."

### **QUESTION OF THE WEEK**

**I have heard the term, Island of Stars. Where is the closest island of stars to us? Kent P.**

Our home galaxy is the Milky Way. It is made up of nearly a trillion stars and has a diameter of more than 200,000 light-years. As the Hubble Space Telescope has revealed, the Milky Way is only one galaxy of a trillion-trillion of galaxies in the universe.

Galaxies are sprinkled across the vastness of space in a random distribution. Sometimes they appear in groups. Our home galaxy is one of such a grouping. Our closest neighbor is the Andromeda galaxy. Even though it is about 2.5 million light-years away, it is visible to the naked eye on a good dark clear night. It is, by the way, the furthest object that we can see with the naked eye.

The Andromeda Galaxy has a diameter of around 250,000 light-years and a trillion stars making it a little larger than the Milky Way. The Andromeda Galaxy is one of the few galaxies that is actually moving towards us and will probably collide with the Milky Way in several billion years from now.

Our Milky Way and the Andromeda Galaxy are the most massive members of what is known as the Local Group, which also contains around 40 dwarf galaxies.

On greater length scales, the Local Group is assigned to the Virgo Supercluster. In the center of the Virgo Supercluster there is the Virgo Galaxy Cluster, which is named after the constellation Virgo. The Local Group is attracted by the large mass of the Virgo Galaxy Cluster and is moving towards it.