Newsletter April 2023

Next Meeting: **Monday 24th April at 7pm**

Location: **Kyle Academy,**
Overmills Road,
Ayr KA7 3LR

Topic: Dark Matter
by Professor Alex Murphy

Contents

President's Word	p. 2
Alex's Page	p. 3
April/May Observing	p. 4
Member Images	p. 5
Moon Phases	p. 8
Sky Chart	p. 9

Presidents Word

It was good to note last week that the European Space Agency's JUICE mission to Jupiter's icy moons finally got under way after being delayed for a day as a result of thunderstorms around the launch site.
The Ariane 5 rocket launched from French Giana at 13:14 BST on Friday the 14th of April using a gravitational slingshot route around Earth and Venus to send it on its eight year journey to arrive in 2031.

The £1.6bn Euro mission will orbit Ganymede, Calisto and Europa in an attempt to determine whether the suspected oceans beneath the moons icy surface have the conditions to support life. This could be the big decider but, like so many other investigations of this nature, it may only move us closer rather that deliver a conclusion to the age old question. Either way it's a long wait to find out but I for one wish the mission all success.

I also note from the news today that SpaceX has finally received a licence from the American FAA to launch its Starship test flight which could be as soon as Monday coming the 17th April. The Starship is the crew and cargo vehicle intended for Lunar and Mars exploration. It will be pushed into space by the SpaceX Super Heavy Rocket. Finger crossed that the launch and test go well.

It was also good to see that NASA has selected the crew for the Aretmis 2 mission which will be a crewed round trip to the Moon in preparation for Atemis 3 the Moon landing

Don't forget that next month we will be holding the AGM. I know that these are not the most exciting events in most people's calendar but they are an important opportunity to have your say in the running of your Society and you are urged to attend. We will not be having a speaker but we will be having either a video lecture or space/Astronomy related video.

NOTE HOWEVER THAT IN MAY FOR THE AGM WE WILL BE IN A CLASSROOM AND NOT THE THEATRE BUILDING.

Alex's Space

Let's look at Leo.

The constellation Leo the Lion is one of the biggest in the sky. The group of stars that make up Leo is said to represent a mighty lion, you will notice a curve of stars known as The Sickle named after a type of curved knife that farmers use to cut their crops. The Sickle is an asterism, a pattern of stars within a constellation that stands out more than the rest, just like The Plough in Ursa Major. The Sickle represents the head and shoulders of the lion, the rest of the stars are his body and legs. At the base of The Sickle is a bright star. This is Regulus, Leo's heart.

Leo the lion is famously known as one of the beasts killed by Hercules in the ancient Greek story The Trials of Hercules. Hercules had 18 tasks which he had to complete and poor Leo was first in line, although Leo was so strong and powerful that he could not be harmed by any weapons. Hercules tried to kill the mighty lion with his bow and arrows but the arrows bounced off the lion, however Hercules did not quit and go home, he wrestled the lion and eventually strangled it to death. But alas! Hercules did not get off scot-free, the lion bit off two of his fingers – ouch!

Finally.........

Two Hydrogen atoms are out walking, one starts to panic and says to the other “I've lost and electron”, the other says “Are you sure?” The first replied “Oh yes, I'm positive”.

Ho! Ho!

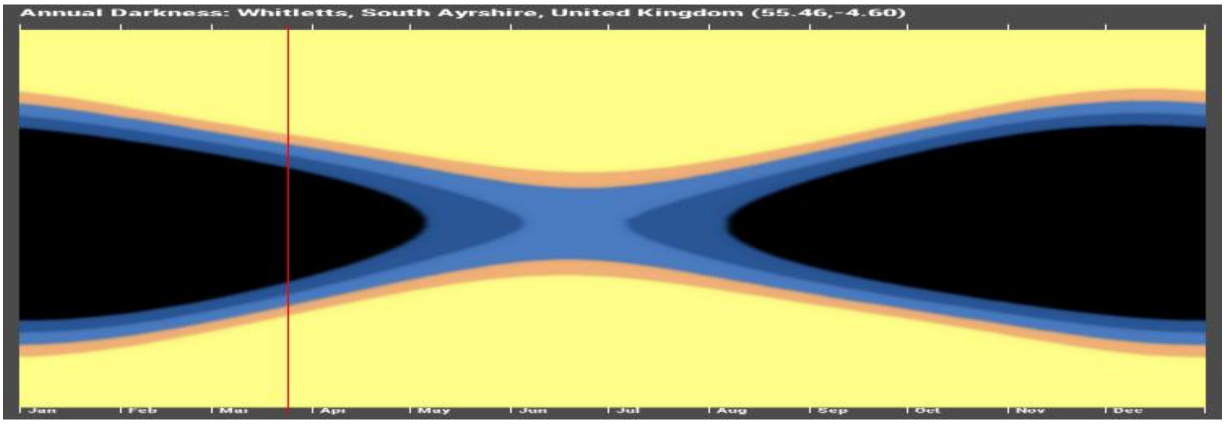
Alex Ballie April 2023

★★

April/May Observing

General

Galaxy season is continuing, however, we will be losing astronomical darkness around the second week of May which will make viewing and imaging tricky. For the keeners who want to stay up late, Virgo, Coma Berenices, Boötes becomes increasingly prominent with their wealth of galaxies, making it a good time to capture objects like Markarian's Chain. Globular clusters also make a comeback with M3 being relatively high in the sky and Hercules following Boötes with M13 and M92. Ursa Major and Canes Venatici are near the zenith making relatively easy viewing of galaxies like M51, M101, M81, M82, M106. The Surfboard Galaxy M108 and Owl Nebula M97 are also good targets.



Clear Outside https://clearoutside.com/annual_darkness/55.46/-4.60

Planets

Of the planets Venus and Mars are the planet best placed for viewing over this period, though Mercury starts this period in the evening, though it is difficult to see due to the long twilight, it will move into the morning sky in May and will be harder to see. Apart from Saturn which becomes increasingly visible before sunrise, Jupiter, Uranus and Neptune are also lost in the sun's glare.

Comets

There are no easily observable comets present over this period.

Meteor Showers

The main meteor shower for April is the Lyrids which run from 14th to the 30th of April, peaking in the early morning of the 23rd, the moon will be just past new so won't pose a problem for the shower.

ISS

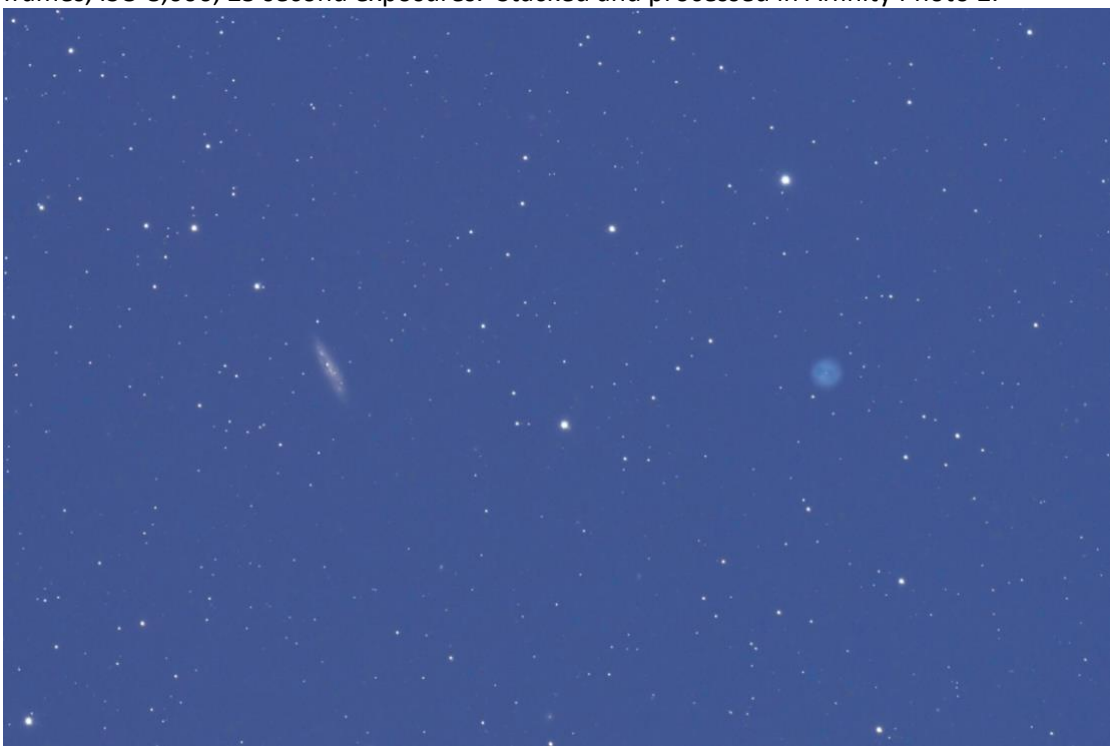
Consult https://www.heavens-above.com for specific times and location. Check out https://transit-finder.com/ for details and any possible solar and lunar transits.

Member Images

Images by Marc Charron

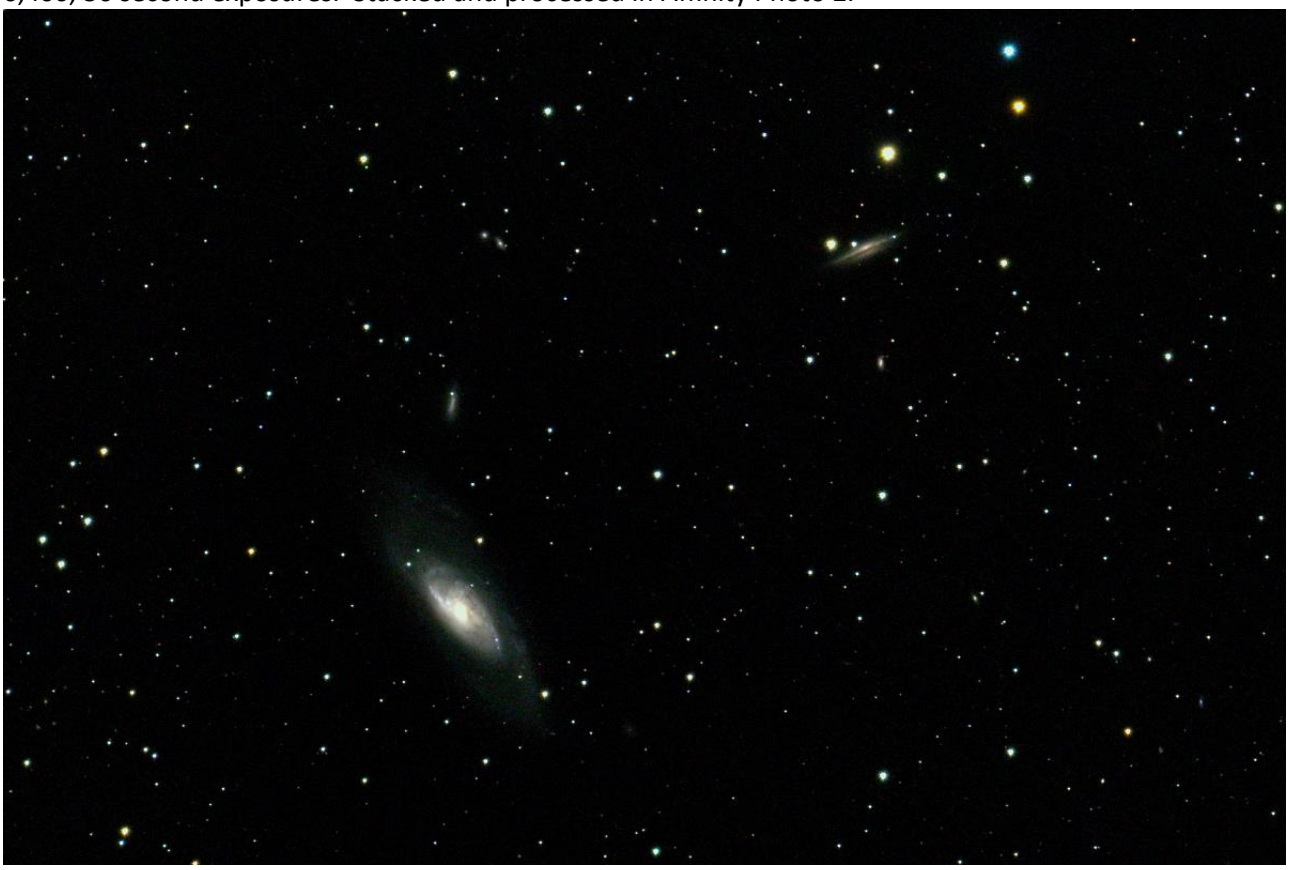
Due to the weather I did not have a chance to do much deep sky imaging, here are a few:

M108 the Surfboard Galaxy and M97 the Owl Nebula taken on the 7th of April with TS-86/460SDQ, Nikon D5600 on an AZ-EQ6GT mount, the sky background was a little blue as it was taken fairly early in the evening. Stack of 61 frames, ISO 8,000, 25 second exposures. Stacked and processed in Affinity Photo 2.



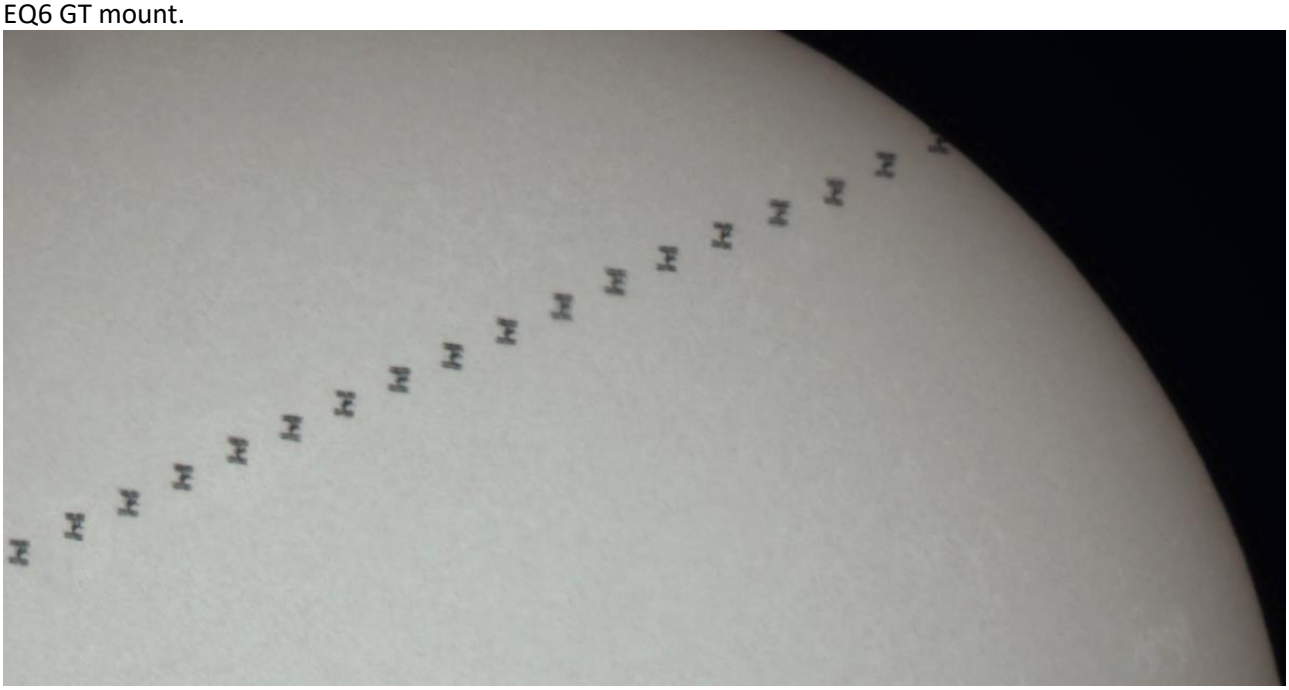
M3 taken on the 18th of April with TS-86/460SDQ, Nikon D5300 on an AZ-EQ6GT mount. Stack of 29 frames, ISO 3,200, 25 second exposures. Stacked and processed in Affinity Photo 2.

M106 taken on the 19th of April with TS-86/460SDQ, Nikon D5300 on an AZ-EQ6GT mount. Stack of 87 frames, ISO 6,400, 30 second exposures. Stacked and processed in Affinity Photo 2.

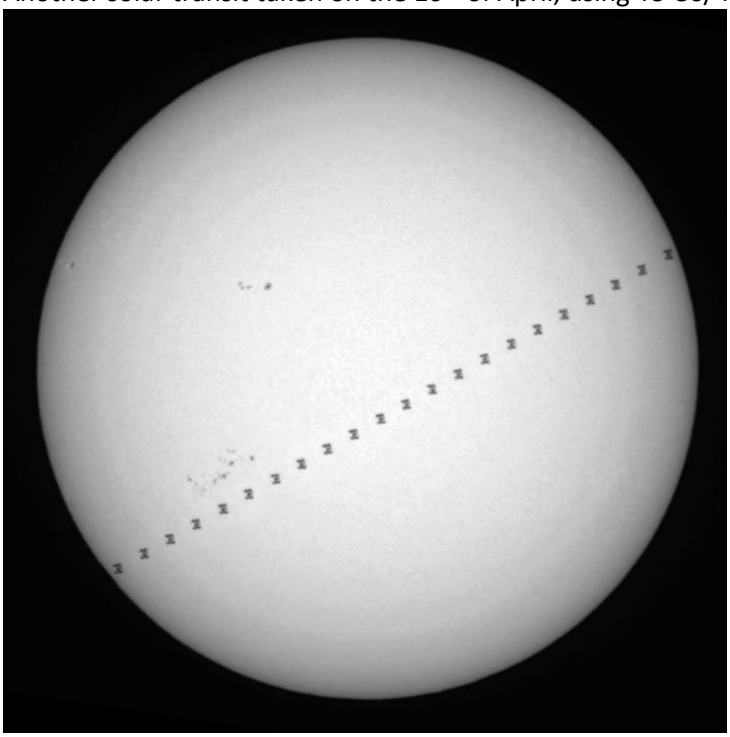


ISS Solar Transits and Solar Imaging

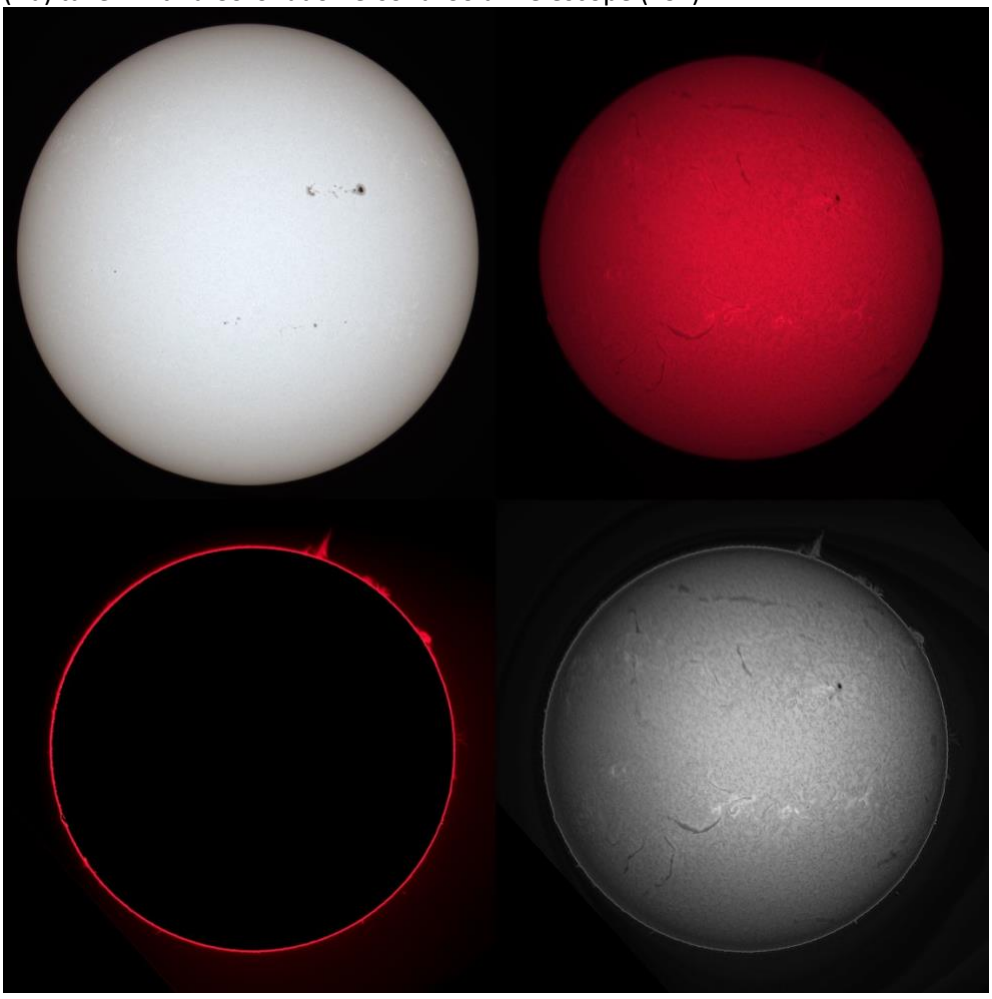
ISS solar transit taken on 6th of April at about 16:22 with TMB 130/1200 at prime focus with Altair 178C camera, AZ-EQ6 GT mount.



Another solar transit taken on the 10th of April, using TS-86/460SDQ and Altair 178C camera, on AZ-EQ6GT mount.

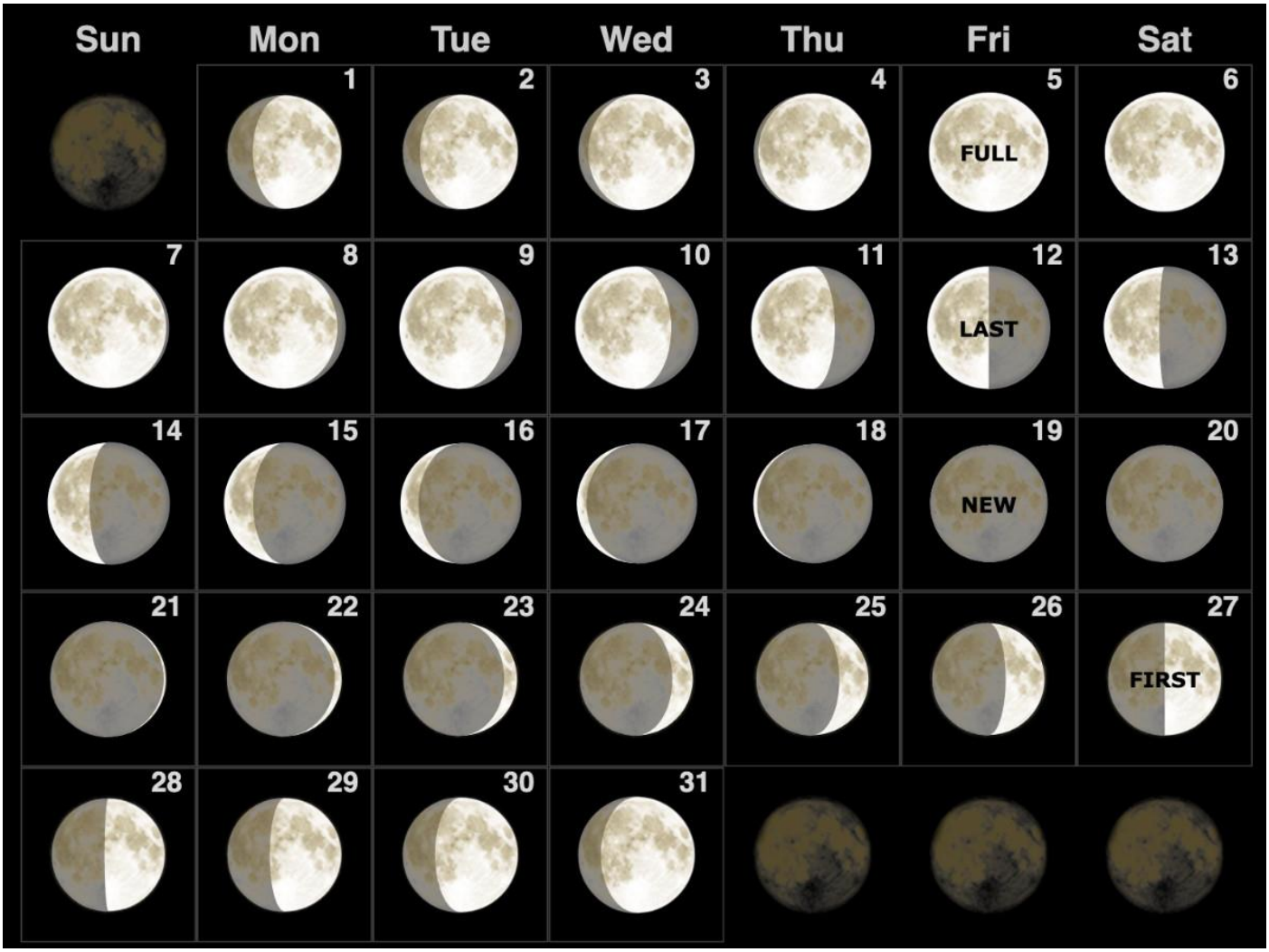


Lastly, the sun on the 20th of April, four different views, white light taken with TS-86/460SDQ and Hydrogen Alpha (Ha) taken with a Coronado Personal Solar Telescope (PST).



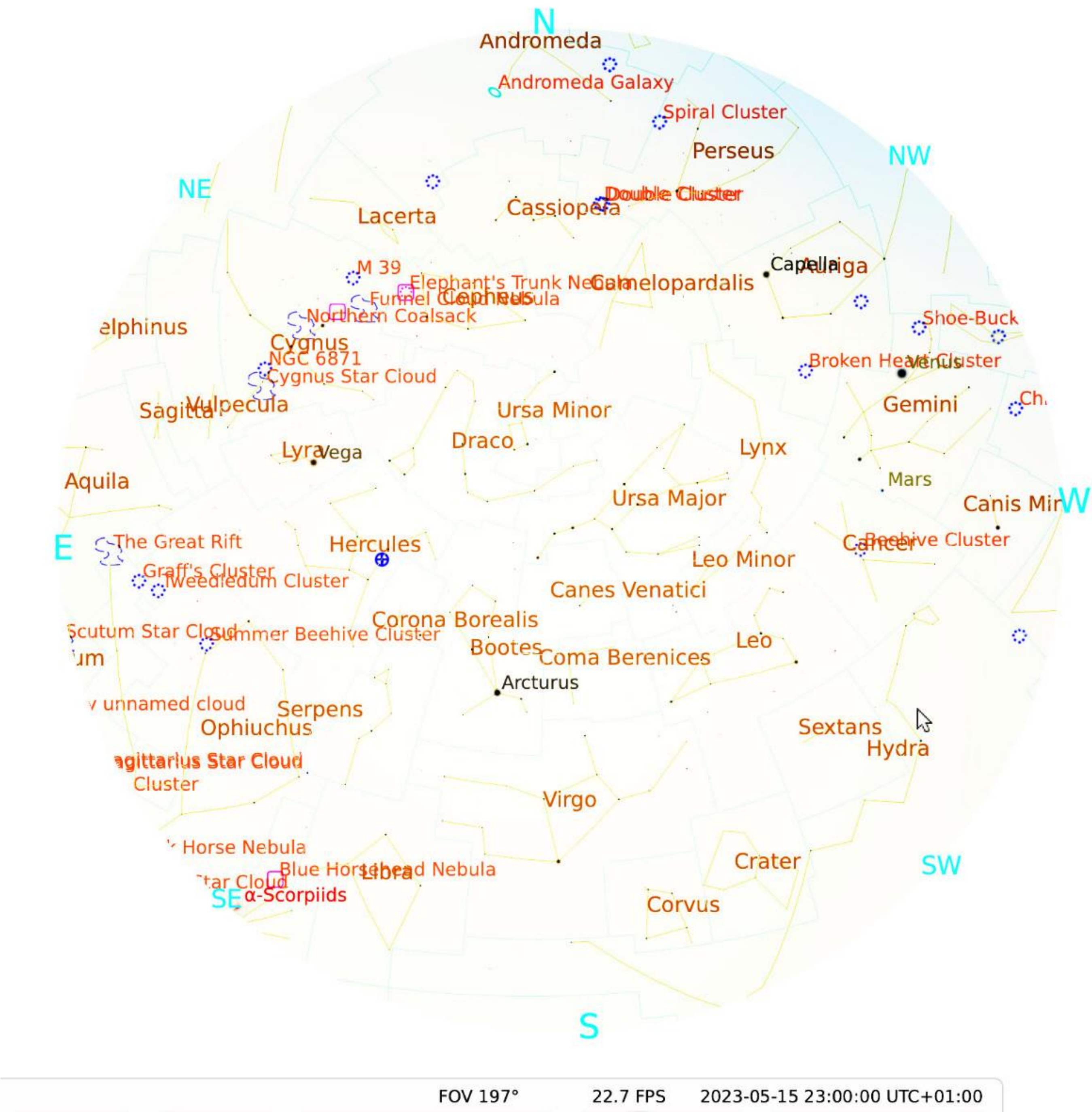
Moon Phases

May 2023



Credit: https://www.moongiant.com/calendar/

May 2023 Sky Chart



Taken from: Stellarium