



Newsletter January 2023

Next Meeting: **Monday 23rd January at 7pm**

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

**Topic: " New Eyes on the Stars "
by Dr Alex McKinnon**

Note: Venue change, please see directions on arrival.

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Presidents Word

Well first of all, on behalf of myself and the Committee, HAPPY NEW YEAR! We hope that you had a good Christmas with lots of goodies and that 2023 will be a good year.

We have a change of location for the coming meeting as the Theatre which we normally use is being used for “unexpected” exams ??? So we will be in a class room somewhere. The best plan is to go to the main reception and look for signs pointing to the room or maybe a guide!

Looking back at last year we had a very successful recovery from the Covid lock down and its anti-social effects and the Society is, in my view, much stronger than it was, with a good mix of members across a wide range of abilities and interests. We also have quite a few beginners, many looking for advice on what equipment to buy. As the more experienced members will know, the whole process of acquiring equipment is fraught with pitfalls and the best advice is to look around at other people’s kit and talk to them before you buy. With that in mind our February Meeting is a “Beginners Night”. Not, as you could suggest, where the Beginners take the floor, but where as many people as possible bring their equipment so that we can have a wide range of kit on display and plenty opinions available. Beginners can also bring their kit and seek advice on using/improving it.

Do not limit the kit that you bring to telescopes, please bring eyepieces, imaging equipment, binoculars and anything else that might be relevant. The more the better as even the experienced may have questions on areas that they have not yet tried. We might even be able to get some kit set up outside!

Talking of going outside, you will recall that Stephen is in the process of trying to organise a star camp or a viewing evening. He is hoping to organise something during February, most likely a viewing night so register your interest with him and make sure that he has your contact details.

Finally, our speaker this meeting (January) is Dr Alex McKinnon who will be talking about New Eyes on the Stars with particular with reference to new information from the James Webb telescope. Alex has spoken to us many times and always gives a good talk so have your questions ready.



January/February Observing

General

The winter sky has well and truly arrived, unfortunately, the winter weather has accompanying it! Maybe we will get lucky and things will improve. For viewing the arc of the constellations comprising Orion, Taurus, Auriga, Perseus and Cassiopeia provide numerous objects to see. Even so, Orion will come to dominate the southern part of the sky and the Orion Nebula (M42) is worth of a visit, be it with a pair of binoculars or telescope of any kind. The four stars at the centre of the Nebula, the Trapezium, also provide a target of interest. In the west, it is also pretty much the last chance to see the Andromeda and Triangulum Galaxies as they start to move towards their seasonal exit. In Taurus the Pleiades are another easy target, especially for binoculars and wide field telescopes. For those wanting a challenge the Crab Nebula (M1) is a worthy target. The winter sky also includes numerous open clusters, some with very intriguing names e.g.: the January Salt and Pepper Cluster, the Poor Man's Double Cluster, the Starfish Cluster, the Shoe-Buckle Cluster, the Intergalactic Cluster, the Avery's Island and Double Mint Clusters, and the no longer seasonal, Christmas Tree Cluster.

Planets

Viewing the planets will become less and less favourable over this period. Mercury though mainly in the morning sky is lost in the sun's glare, on the other hand Venus remains well placed for viewing in the evenings. Mars continues to shift west with Taurus and will shrink and dim in the sky, at the beginning of December it was mag -1.5 and 17 arcseconds in diameter, by mid-February it will be zero magnitude and 9 arcseconds in diameter. Jupiter also shifts west and will be visible throughout the period. Saturn will become lost in the sun's glare, as will Neptune. Like Mars, Uranus will be relatively well placed to observe Aries, but will also be shifting westward.

Comets

Comet C/2022 E3 (ZTF) is brightening considerably and could reach 5th magnitude or close to naked eye brightness as it passes closest to earth on the 2nd of February, after that it will begin to fade fairly rapidly, so get out soon so as not to miss it. It is currently visible in binoculars and should remain so for at least a few weeks. See map on P 9.

Meteor Showers

There are no major meteor showers in February.

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. There is an excellent ISS Lunar transit visible from Ayr on Friday the 27th of January at about 18:19, consult the transit finder for more details.



Member Images

Images by Marc Charron

The weather continues to hamper deep sky imaging, so I have mainly concentrated on the Comet C/2022 E3, with a dash of lunar and solar. That said, we were lucky to get some clear skies for the Geminids, which were quite good, so let's start with them:

Two Geminids in view of the moon



A cracker the next morning



Two lunar images of the late crescent moon taken on the 20th of December. Note that many lunar landing conspiracy theories point to the fact there are no stars present in the Apollo images shot on the moon. The reason can be seen from these images, the one exposed for the lunar surface (at left) shows space as being completely black, whereas the one on the right was exposed for the earthshine and stars, which then massively overexposed the sunlit portion of the moon. So to have seen stars in the Apollo photographs, everything else would have had to have been blown out (i.e. completely white).



Comet C/2022 E3 (ZTF)

As noted above this comet is making a “relatively close” pass of the earth on the 2nd of February, though don’t worry it will be still very far away, no closer than 42 million kilometres or about 26 million miles. Here are some of my images:

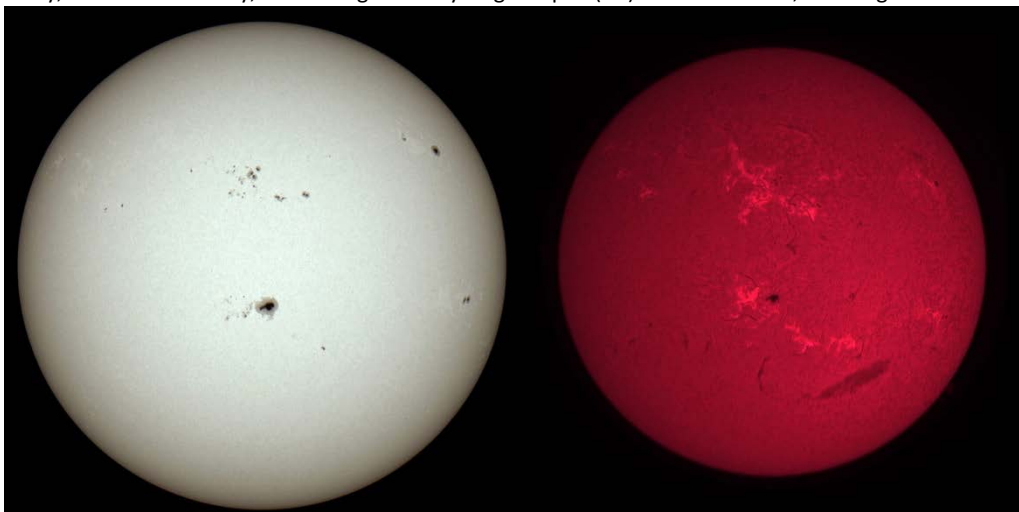
Taken on Thursday, Jan 19th with Nikon D5600 with Samyang 135 f2 lens mounted on SW Star Adventurer for tracking, stack of 69 images, 20 seconds each, ISO 5,000. Stacked and processed in Affinity Photo 2.



This image was taken a day later, on the morning of Jan 20, shot with a TS86/460 SDQ refractor, Nikon D5600, and EQ6R Pro for tracking. A stack of 103 images, 30 seconds each at ISO 10,000. Stacked in Deep Sky Stacker and processed in Affinity Photo 2.

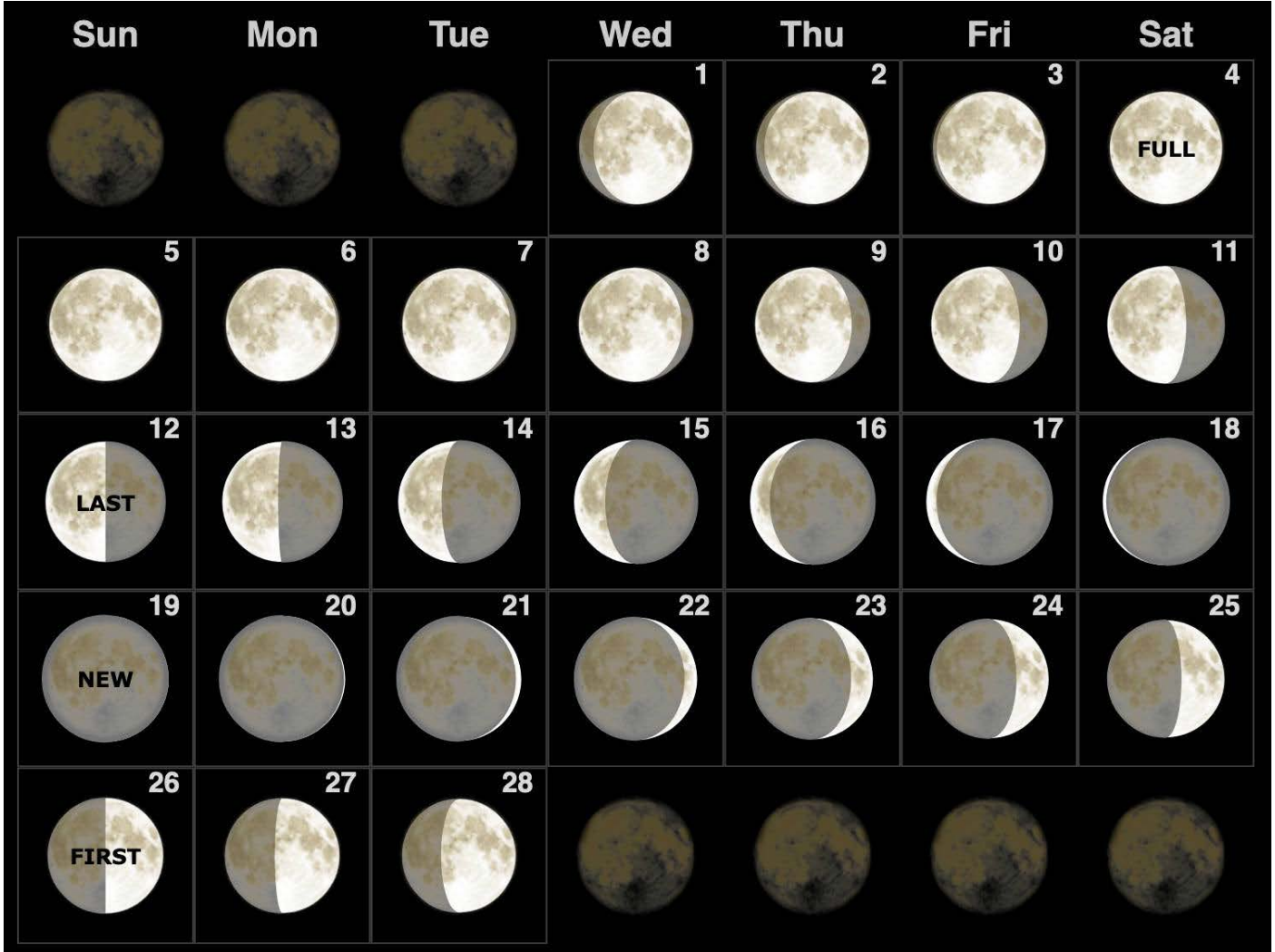


Lastly, some solar activity, in white light and hydrogen alpha (Ha) taken on 19 Jan, white light take with TS-86/460 SDQ and Ha with a PST.



Moon Phases

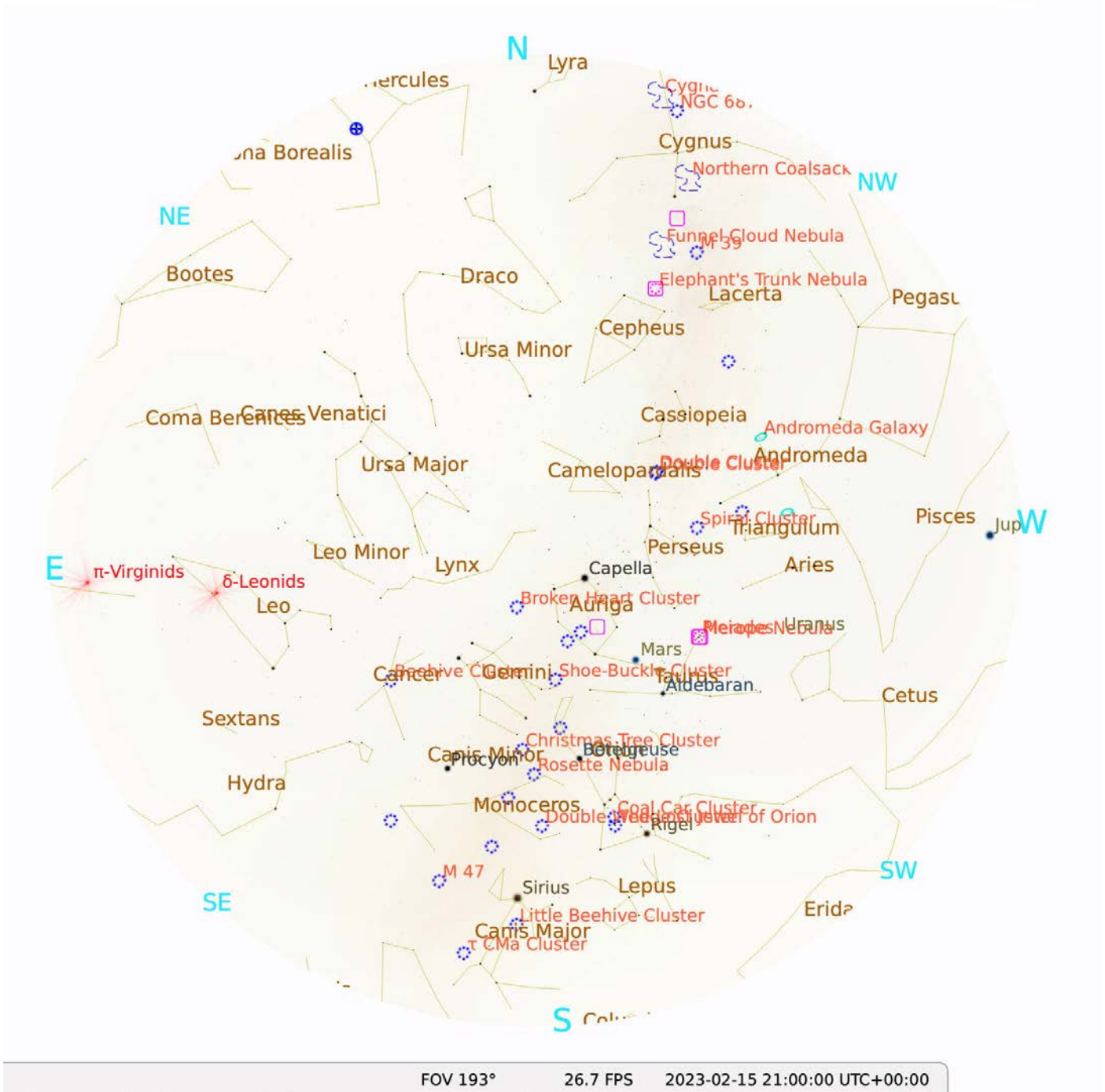
February 2023



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



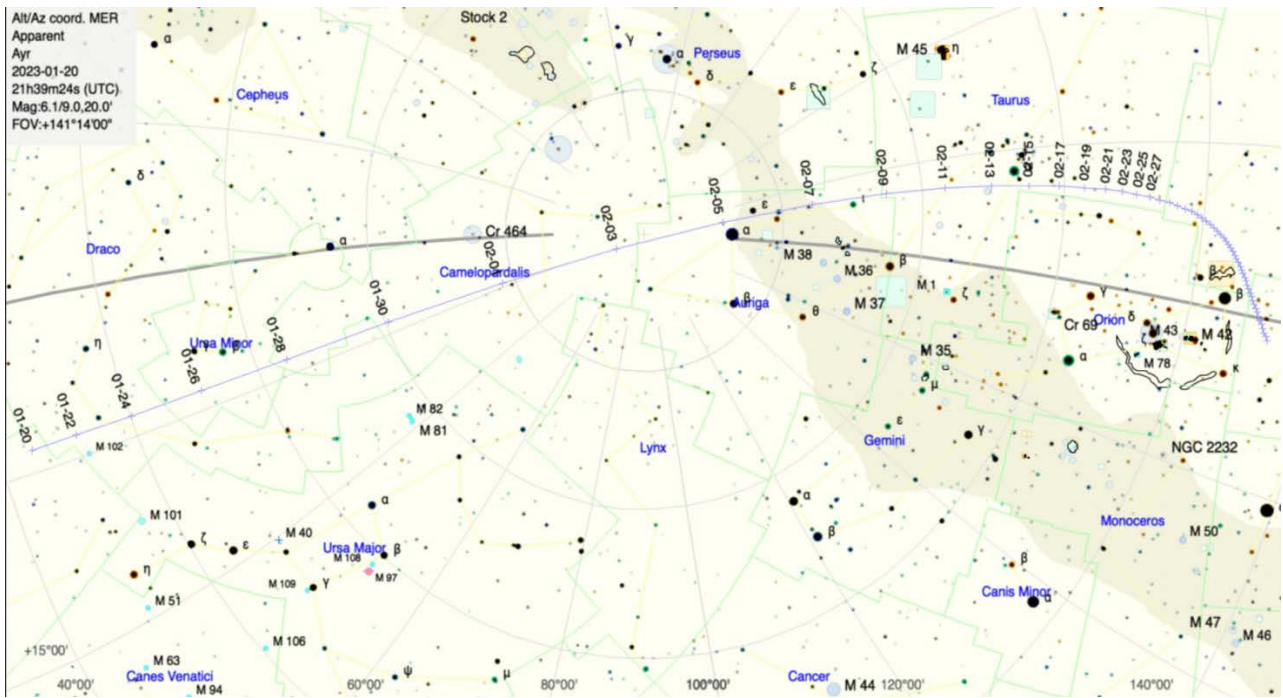
February 2023 Sky Chart



Taken from: Stellarium



Comet C/2022 E3 (ZTF) Location in Late January/Early February 2023



Taken from: Cartes de Ciel

Currently the comet is expected to reach about magnitude 5 on or about the 1st or 2nd of February, after which it will fade fairly quickly. Unfortunately, there will be a bright moon about, so viewing it might be challenging.

