



# Newsletter December 2022

Next Meeting: **Monday 12<sup>th</sup> December at 7pm**

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

**Topic: "Rocket propulsion research at Glasgow University"  
by Professor Patrick Harkness**

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## Presidents Word

Last month we tried Zoom for the first time and, after an unusual, but not unexpected hiccup at the start it went well. Lyn gave us an excellent run down on solar observing, what all the phenomena are called and how they arise. The images from SOHO and elsewhere were excellent. If you want to follow up with any questions (the one area we didn't managed to sort on Zoom) then she will be pleased to respond to emails sent to her via the “contact us” on the BAA webpage at [www.britastro.org](http://www.britastro.org).

By the time that you receive this newsletter the NASA Artemis1 should have completed its trip to the moon and hopefully achieved a successful splashdown back on Earth. All good news I hope and setting them up for a “manned” flight back to the Moon in two year’s time, something I for one cannot wait to see happen. It’s a shame that they plan so long between mission but I suppose safety and cost are key considerations.

If you have been out of late you will have noticed Jupiter shining in the night sky like a beacon and to its left the prominent red ball of Mars. Both good objects for a small telescope or binoculars not to mention some imaging. Saturn is also still visible to the right of Jupiter but lower in the sky. Unfortunately for me it is behind trees if I want to use my fixed scope but I can see it with my 10” Dobsonian if I lug it out to the front of the house.

You may recall that a while back Marc put some information in the newsletter regarding comet C/2022 E3 (ZTF) that may be naked eye leading up to Christmas. I am sure that if it does show up then he will be bringing in some of his excellent images to show us. So all you other imagers out there – give him some competition,

Our speaker on the 12 December is Professor Patrick Harkness and he was planning to give is a talk on “Deployable Space Structures” but last time I contacted him he said that he might change the topic to “Rockets”. He hasn't confirmed yet but whatever he chooses it will be good so let's have a good turnout and don't miss it.

Finally, on behalf of the Committee may I wish you all a Merry Christmas and a Happy New Year to you all and may Santa be generous. We look forward to seeing you at the meeting and in the New Year.



## Christmas Dinner Photos



## December/January Observing

### General

Winter will be well settled in during this period, Orion will become more prominent and the brightest star in the sky, Sirius will make its appearance as Canis Major follows Orion on the rise. The winter Milky Way will be well placed for viewing, particularly the constellations Cassiopeia, Perseus, Auriga and Gemini, with numerous open clusters. Off in the north eastern sky Ursa Major begins its ascent in the sky making it easier to see the Bode's Galaxy M81 and the Cigar Galaxy M82.

### Planets

Mercury in evening sky until the end of the year, then moving to the morning sky. Venus rises higher in the west in the evening sky and has a close conjunction with Saturn on the 22<sup>nd</sup> of January when they will be about 25 arcminutes apart. The next day they will be about a degree apart, but the moon will join them off about 5 degrees to their left. Meanwhile, Jupiter and Mars remain well placed for observation, though Jupiter will be trending to the western horizon. As indicated by the conjunction Saturn will have moved into the twilight area will no longer be that suitable for observation. Uranus reached opposition on the 9<sup>th</sup> of November so is well placed in Aries for observation. Neptune starts off being about 6 degrees west of Jupiter and will almost double that angular distance by the end of January. By then both Jupiter and Neptune will be heading into the twilight at that time.

### Comets

There is no easily observable comets for this period, however there is one that can be seen with modest optics that promises to put a show in January/February, namely C/2022 E3 (ZTF). It is currently visible in Coma Borealis until mid-January (it reaches perihelion on 12 Jan), when it then moves rapidly higher in the sky passing next to Ursa Minor. Its closest approach to Earth is on the 2<sup>nd</sup> of February at 0.29 AU or 43M km. It is possible it will reach 6<sup>th</sup> magnitude or brighter. See the location chart for it in December on P. XX.

### Meteor Showers

The main meteor shower is the Geminids which run from the 4<sup>th</sup> to the 17<sup>th</sup> of December, peaking on the 14<sup>th</sup> at 13:00 GMT, meaning the best time to view them is before dawn or after dusk on the 14<sup>th</sup>. The moon will cause some interference as it is about 66% illuminated at dawn on the 14<sup>th</sup>. A somewhat neglected meteor shower, the Ursid's run from the 17<sup>th</sup> to 26<sup>th</sup> of December and peak on the 22<sup>nd</sup>. Given its point of origin is in Ursa Minor, it is visible all night, it is expected to peak at about 22:00 GMT on the 22<sup>nd</sup>. Because of the new moon this meteor shower won't be affected by it. On the 3-4<sup>th</sup> of January the Quadrantids meteor shower peak, these meteors move fast at about 70km per second and originate in northern part of Boötes, thus are circumpolar, so are visible all night long. A gibbous moon, however, will provide some interference.

### 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

Until recently the weather has not been very conducive for deep sky imaging, but I did manage a few:

M42 Orion Nebula (M42 and Running Man Nebula to its upper left).



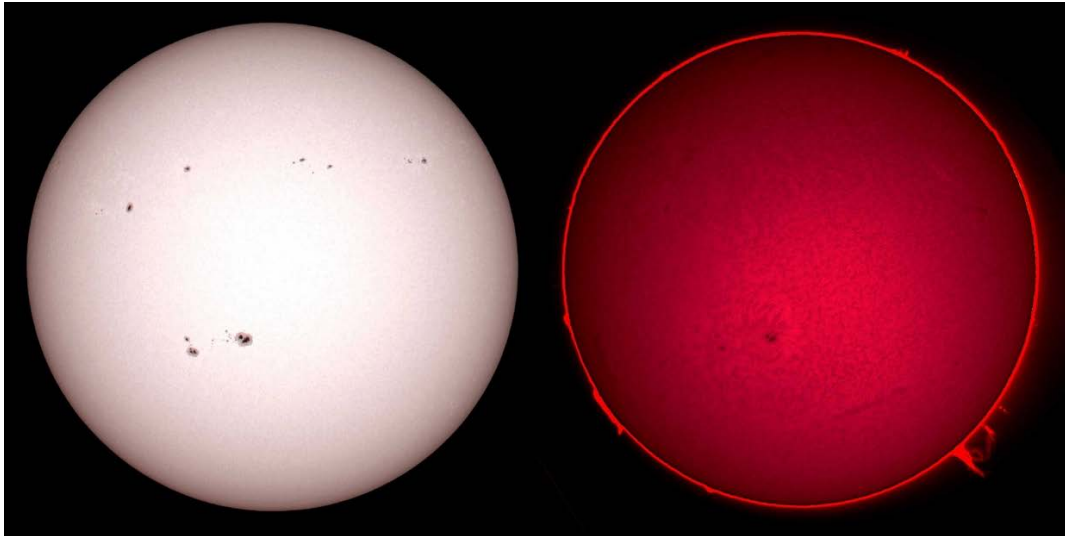
Pleiades (M45)



Last of the Deep Sky, the North America Nebula NGC 7000, stack of 132 frames to get this one.



I also managed a bit of solar as well, these were taken on the 6th December. The Ha version shows a superb prominence at the lower left.



The best is last with some images of the Moon occultation of Mars on the 8<sup>th</sup>

Ingress:



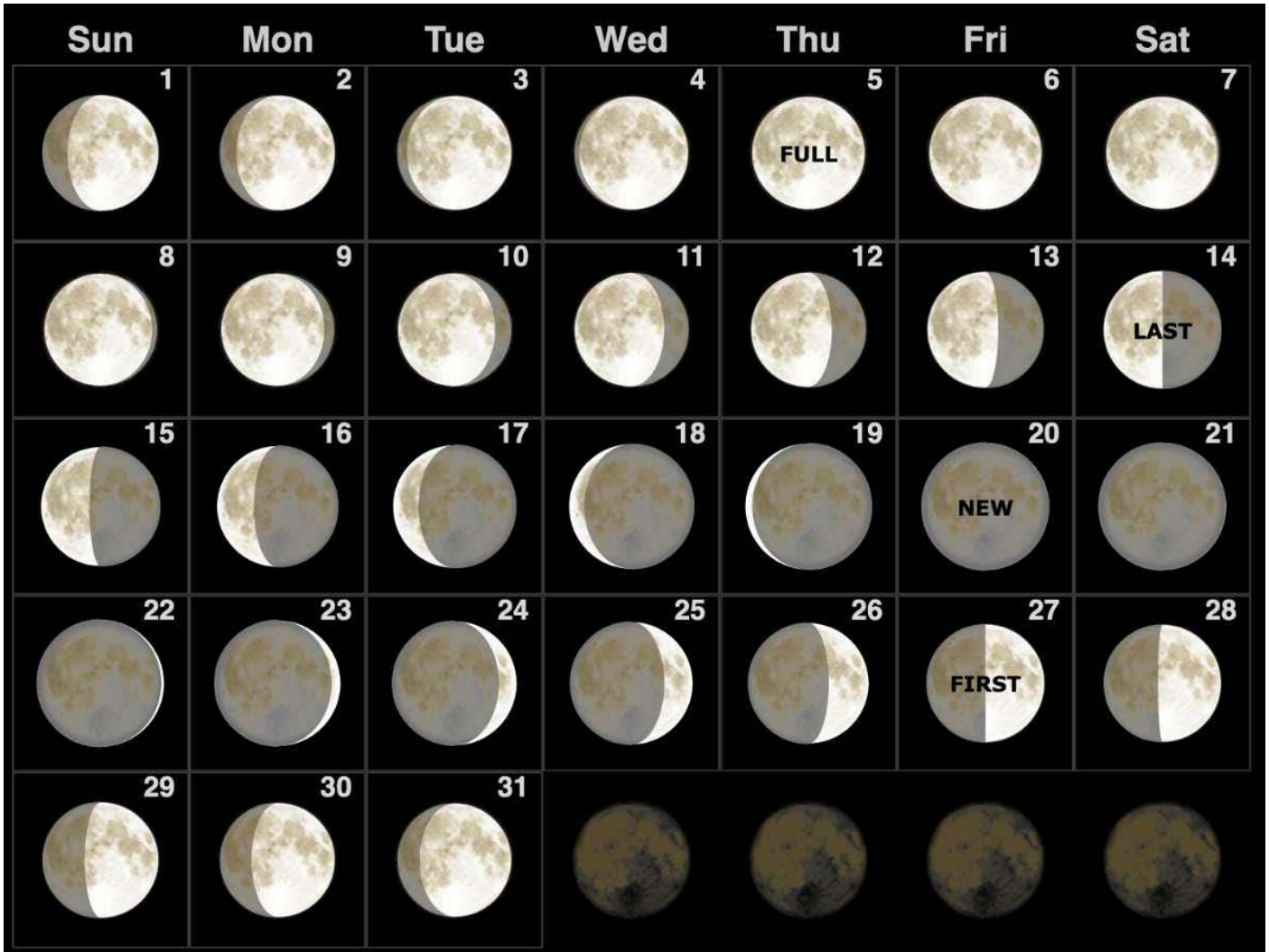
Egress

Ingress and Egress together showing scale



# Moon Phases

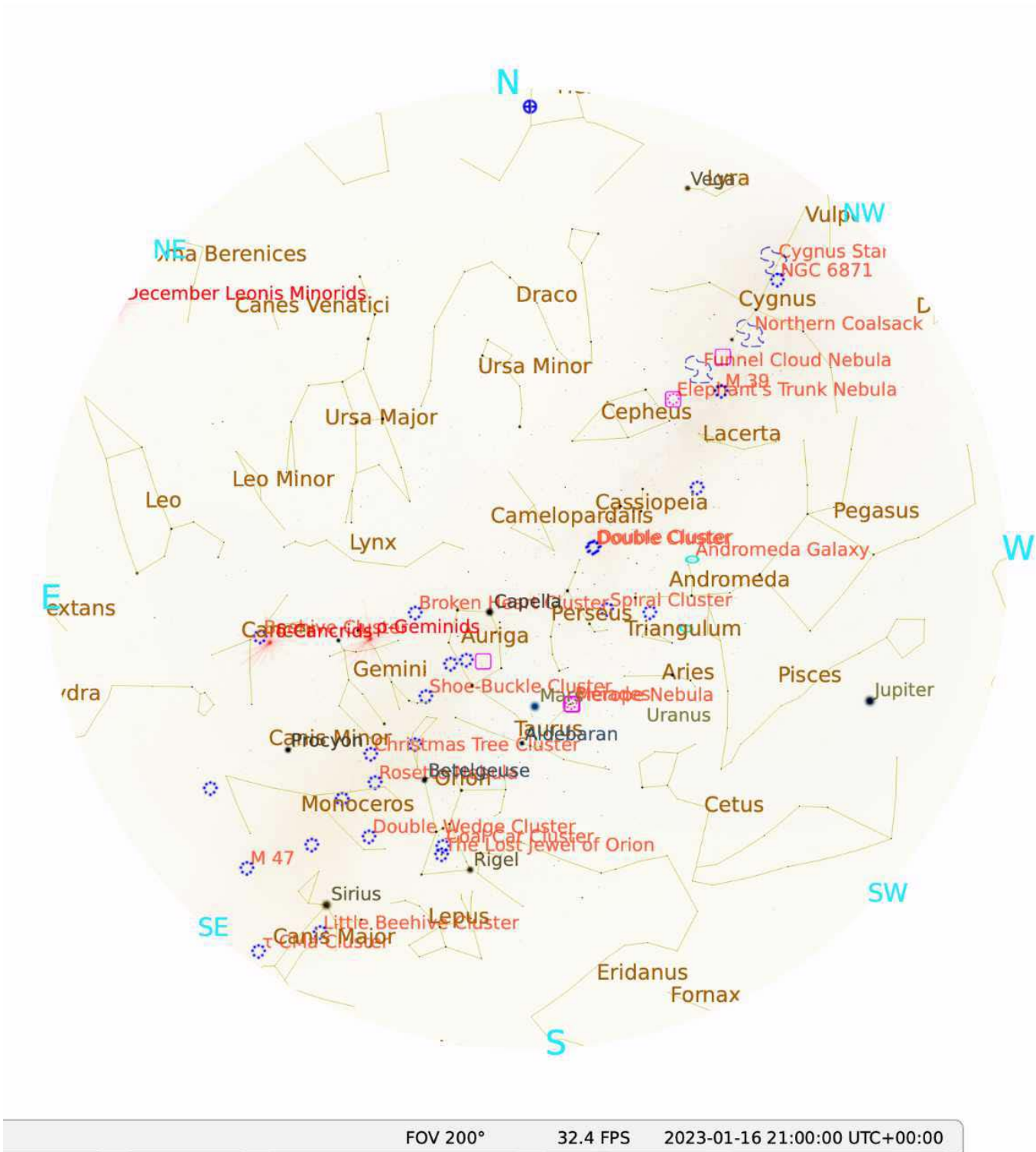
## January 2022



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



# January 2022 Sky Chart

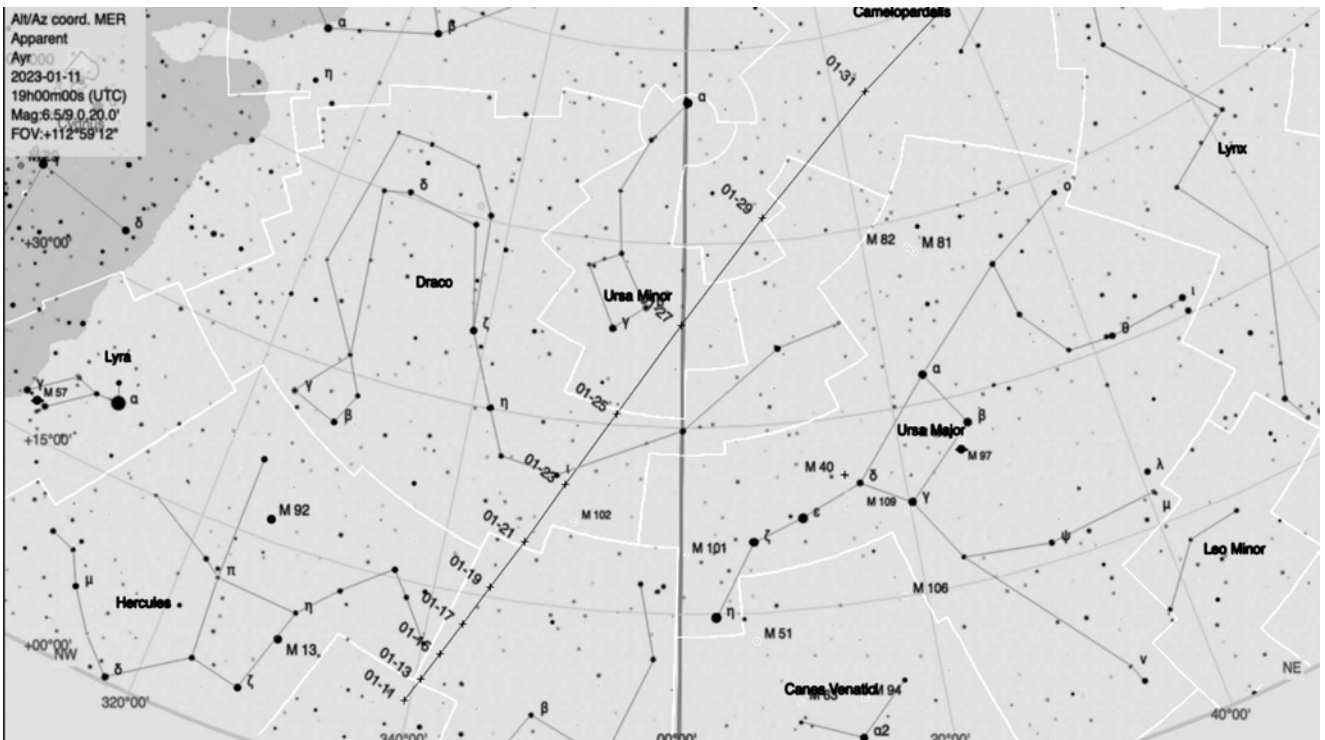


Taken from: Stellarium



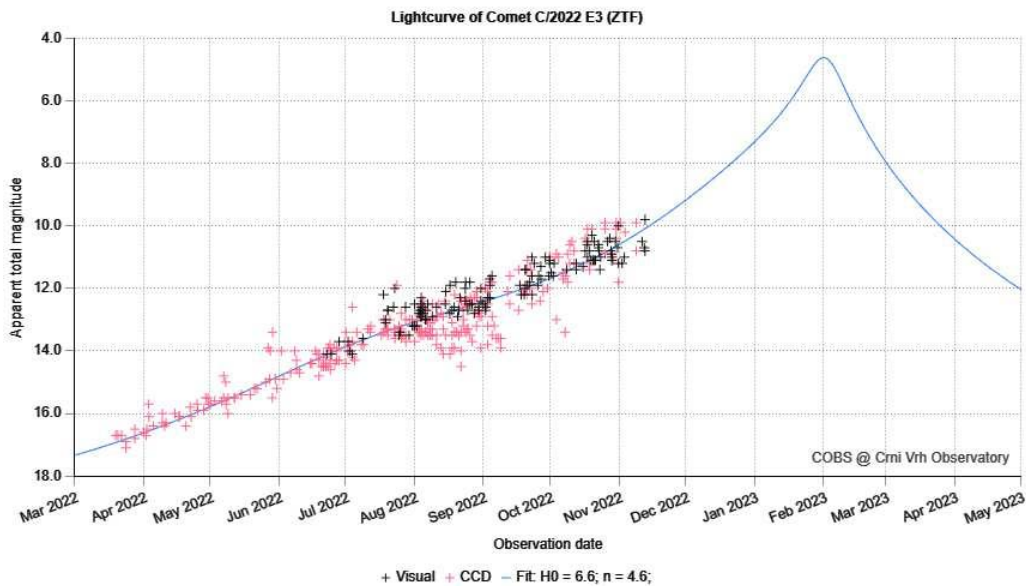


## Comet C/2022 E3 (ZTF) Location in January



Taken from: Cartes de Ciel

Light curve of comet, if it all goes smoothly it could reach close to magnitude 4 by the end of January and the beginning of February, before fading away.



Taken from: [/britastro.org/section\\_news\\_item/comet-of-the-month-c-2022-e3-ztf](http://britastro.org/section_news_item/comet-of-the-month-c-2022-e3-ztf)

