



Newsletter February 2024

Next Meeting: **Monday 26th February at 7pm**

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

Topic: Quarks, Lepton, Bosons and all that: Physics with CERN'S Large Hadron Collider

By: Professor Victoria Martin

Contents

President's Word	p. 2
Alex's Space	p. 3
Feb/Mar Observing	p. 4
Member Images	p. 5-9
Moon Phases	p. 10
Sky Chart	p. 11



Presidents Word

This month we finally have Professor Victoria Martin coming to give us her talk on "Quarks, Lepton, Bosons and all that: Physics with CERN'S Large Hadron Collider". It will be fascinating to dig into the realm of fundamental particles and perhaps get some deeper insight into the origins of the universe and the Big Bang. I saw an article a few weeks back that there is a proposal to build a larger collider in the hope of refining and extending our knowledge of fundamental particles, and perhaps even gaining an insight into dark matter. Now that would be a leap forward! I think the difficulty however might be persuading the various Governments to stump up the few billion Euros necessary, but hopefully that will not be the case.

I also saw an article on the BBC that researchers have identified " the brightest and hungriest black hole ever detected". Known as J0529-4351 it is a quasar some 17 billion times the mass of the sun and it consumes the equivalent of one solar mass per day. Fortunately it is some 12 billion light years away! Apparently it is not a new discovery, as the data was recorded many years ago by the VLT array in Chile and has only recently been analysed to identify it as a huge highly luminous quasar in seriously deep space. It makes you wonder what else is out there that has also been recorded but not yet analysed.

Other interesting space news is the number of recent moon missions, most of which have had problems, however it does show that we are on our way back, even if it seems to be a bit piecemeal and possibly more in the spirit of national advancement and potential mining rights than moving humankind into space. Maybe I am just cynical, I hope so, as it would be great to see man back on the moon and Mars expedition a reality.

Talking of reality, don't forget the AGM is coming over the horizon, it will be here in May! and we need committee members and "Officers" to keep the Society alive and thriving. So think about it and get involved. Every little bit helps - don't rely on "others" - get involved, it is your Society!

See you at the meeting



Alex's Space

The truth is out there

Behind every person now alive there stand thirty ghosts, for that is the ratio by which the dead outnumber the living. Since the dawn of time roughly one hundred billion human beings have walked the planet Earth, now this is interesting for, by a curious coincidence, there are approximately one hundred billion stars in our galaxy – The Milky Way. So, for every person who has ever lived on this planet, there is a star, and many, perhaps most of them, have planets orbiting them, so most certainly there is enough “land in the sky” to give every member of the Human Species, back to the first Ape Man, his very own private “world sized” heaven or hell. How many of these planets are already inhabited and by what manner of creatures we have no way of guessing – the nearest is a million times further away than Mars or Venus – but the barriers of distance are crumbling and one day we shall meet our equals – or our masters, among the stars.

Lunar Lunacy

Does the full Moon really affect Human behaviour? Throughout history lunar power has been vastly overestimated. The full Moon, in particular, is a source of a whole host of myths, from the belief that violent behaviour is linked to it and that it also affects the birth rate! But although the Moon's gravitational pull does affect the Earth in terms of its tidal patterns, its “pull” on the human brain is so tiny that a pillow pushing against your sleeping head exerts a force twenty million times stronger. So sleep soundly tonight!

Finally

The star of the film “2001 A Space Odyssey” is no doubt HAL the onboard computer. There was a back up computer in mission control on Earth – what was its name? You will find the answer in the Salvation Army.

Alex Baillie

February 2024



February/March Observing

General

The winter sky will begin to shift towards the spring sky, meaning that galaxy season is upon us. Orion will move to the west and is best seen in the early evening as the month of March progresses, galaxy rich constellations of Leo and Virgo coming to dominate the southern part of the sky. In Leo a good target is the Leo Triplet made up of M65, M66 and NGC 3628 (Hamburger Galaxy), which somehow Charles Messier missed. Off to the right of this group are another pair of Messier objects, galaxies M95 and M96 which are interesting targets in their own right. Into Virgo and Coma Berenices there are a vast number of galaxies to see, including Markarian's Chain which is impressive at least photographically. In Coma Berenices there are the following Messier Objects: M53, M64 (Black Eye Galaxy), M85, M88, M91, M98, M99, M100 (Blow Dryer Galaxy) and in Virgo: M49, M58, M59, M60, M61, M84, M86, M87 (Virgo Galaxy), M89, M90, M104, or a total of 19 objects in these two constellations. Ursa Major will be high in the sky which makes it a good time to observe the galaxies it contains such as M81(Bodes Galaxy), M82 (Cigar Galaxy) , M101 (Pinwheel Galaxy), M108 (Surfboard Galaxy). Next to M108 is M97 the Owl Nebula which can be imaged in the same frame as the galaxy with a modest telescope. Nearby in Canes Venatici is the M51 (Whirlpool Galaxy), M63 (Sunflower Galaxy) and M106. Let's not forget star clusters, this is a very good time to view M44 the Beehive Cluster, an open cluster in Cancer; being quite large in the sky it is a very good target for binoculars or in a small telescope. Globular clusters also make a comeback with M53 in Coma Berenices, M3 in Canes Venatici, just over the border with Boötes and not too far away from Arcturus. Later in the evening has Hercules gets higher M13 (the Great Globular Cluster) and M92 come into view. Given the large number of Messier objects listed, March at new moon, is a great time to conduct a Messier Marathon for those up to it!

Planets

There is not much to see with the planets as most are lost in the solar glare. Jupiter remains well places but will move steadily west over this period, and Mercury will come into the evening sky in late March. The moon and Jupiter will come within three and half degrees of one another on the 13 of March in the early evening, enough to be seen together in binoculars or in a small low power telescope.

Comets

Comet 12P/Pons-Brooks (mag 7.7 and brightening) is in Andromeda and moves into Pices in mid-March, and should be visible at least until April. Comet 62P/Tsuchinshan is fading pretty quickly (now mag 9.5), but is still in Virgo, but has changed direction and is heading towards Leo. A more difficult target is 144P/Kushida at 10th magnitude is moving fairly fast, early on it is in Taurus but moves through the top right of Orion in Gemini over this period. Being fairly faint it is best seen with larger apertures.

To find out more about observable comets you can visit is Seiichi Yoshida's weekly update on observable comets, which can be found here: <http://aerith.net/index.html>.

Supernovae

SN2024gy in NGC 4216 (Silver Streak Galaxy in Virgo) has faded to mag 14.6 so it is harder to see or image. There is a new supernova SN2024bch in NGC 3206 in Ursa Major that is at mag 13.8 so is potentially an easier target. <https://www.rochesterastronomy.org/snimages/>.

Meteor Showers

There are no major meteor showers for this period.

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

Paul Cameron

Images taken from his "Darvel Droid Observatory"

M31 16x 15 sec subs taken with Pixel 4 Phone



Horsehead Nebula taken with 24mm refractor 130 x 15 sec subs



And lastly the North America Nebula 100 x 15 sec subs.



Marc Charron

The weather hasn't been all that conducive for deep sky imaging, so I have focused on comets when occasions arose.

Comet 144P/Kushida next to Aldebaran taken on 10 February with StellaLyra 6 inch Newtonian.



Comet 62P/Tsuchinshan with NGC 4608 to its upper right and NGC 4596 to its lower right.

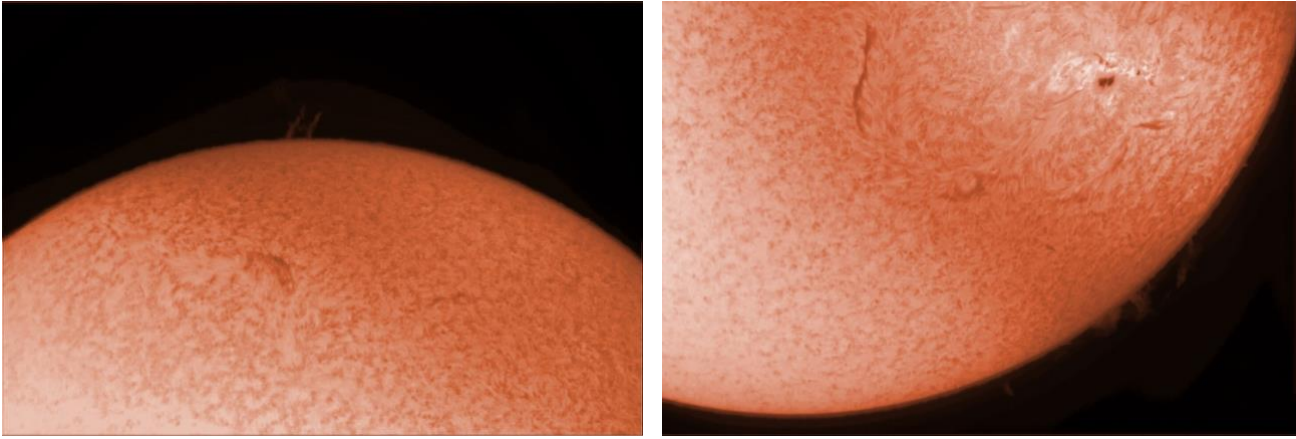


Solar

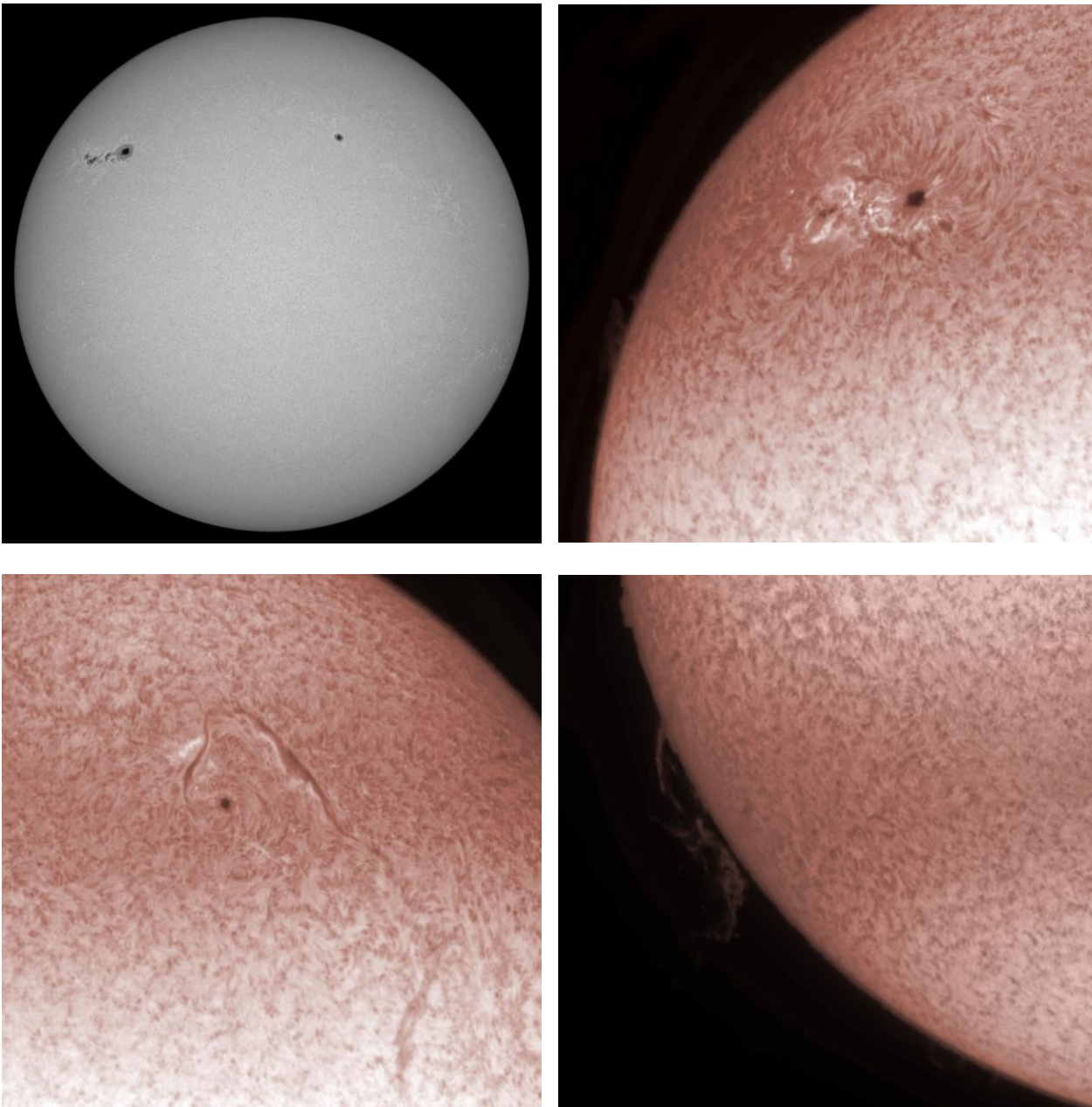
Fortunately the sun has come out on occasion, and I have been able to shoot one ISS transit. From our location they tend to be fairly rare at this time of year, however, I did manage to catch this one when the ISS was over a thousand kilometres away! 1,009 to be more precise. Taken from Dunure on the 13 of Feb, at 13:10. Shot with Borg 90FL (500mm focal length), Herschel wedge, AA178C camera.



Here are some Ha images of the sun taken on the same day as the transit.



Sun on the 21st of February in white light and Ha. All images taken with Borg 90FL, the white light using a Herschel wedge and 178C camera, the Ha with a Quark Chromosphere with a 178M camera (colour added in post).



You don't always need a telescope to take interesting sky photographs, here is one taken with a wide angle lens of Orion as it just passed the Barony A-Frame.

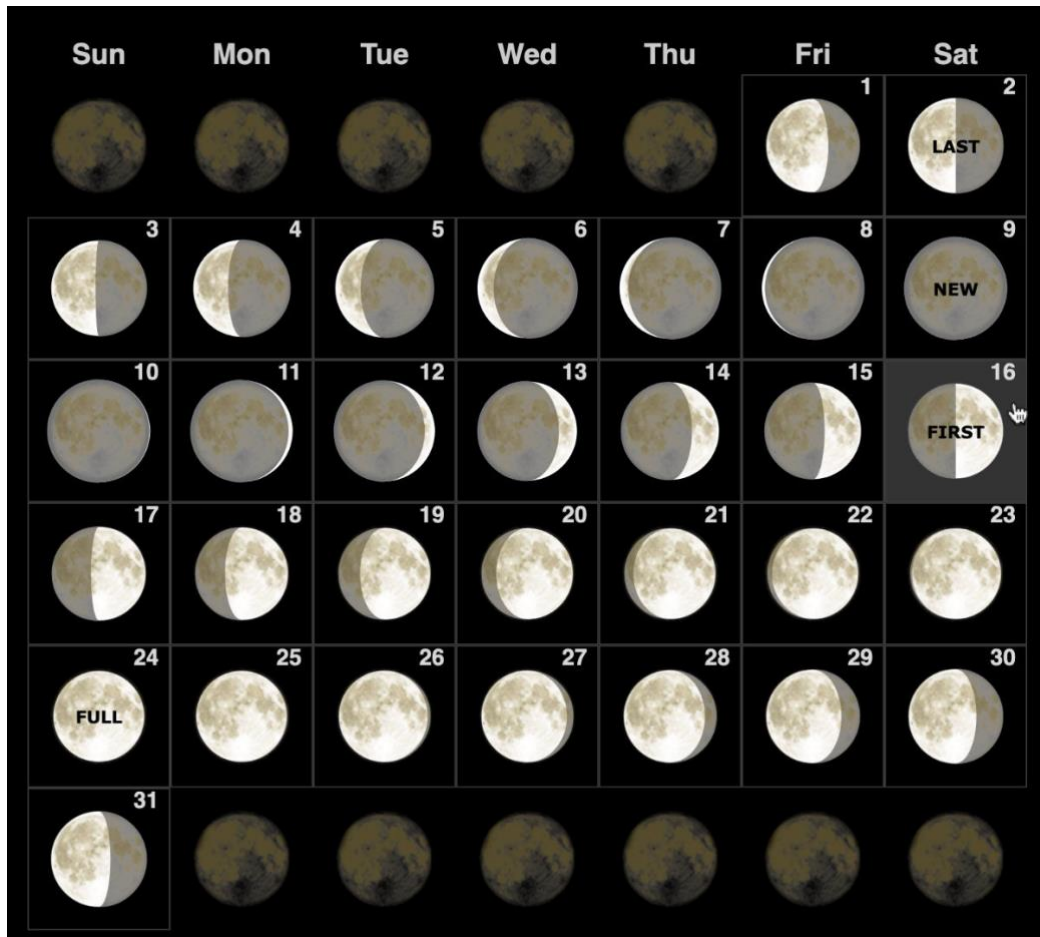


Lastly, a little lunar/plane spotting, Lufthansa flight LH424 from Munich to Boston on the 21st of Feb, plane at 38,000 feet, moon at 247,000 miles! Shot with 180-600mm lens at 600mm.



Moon Phases

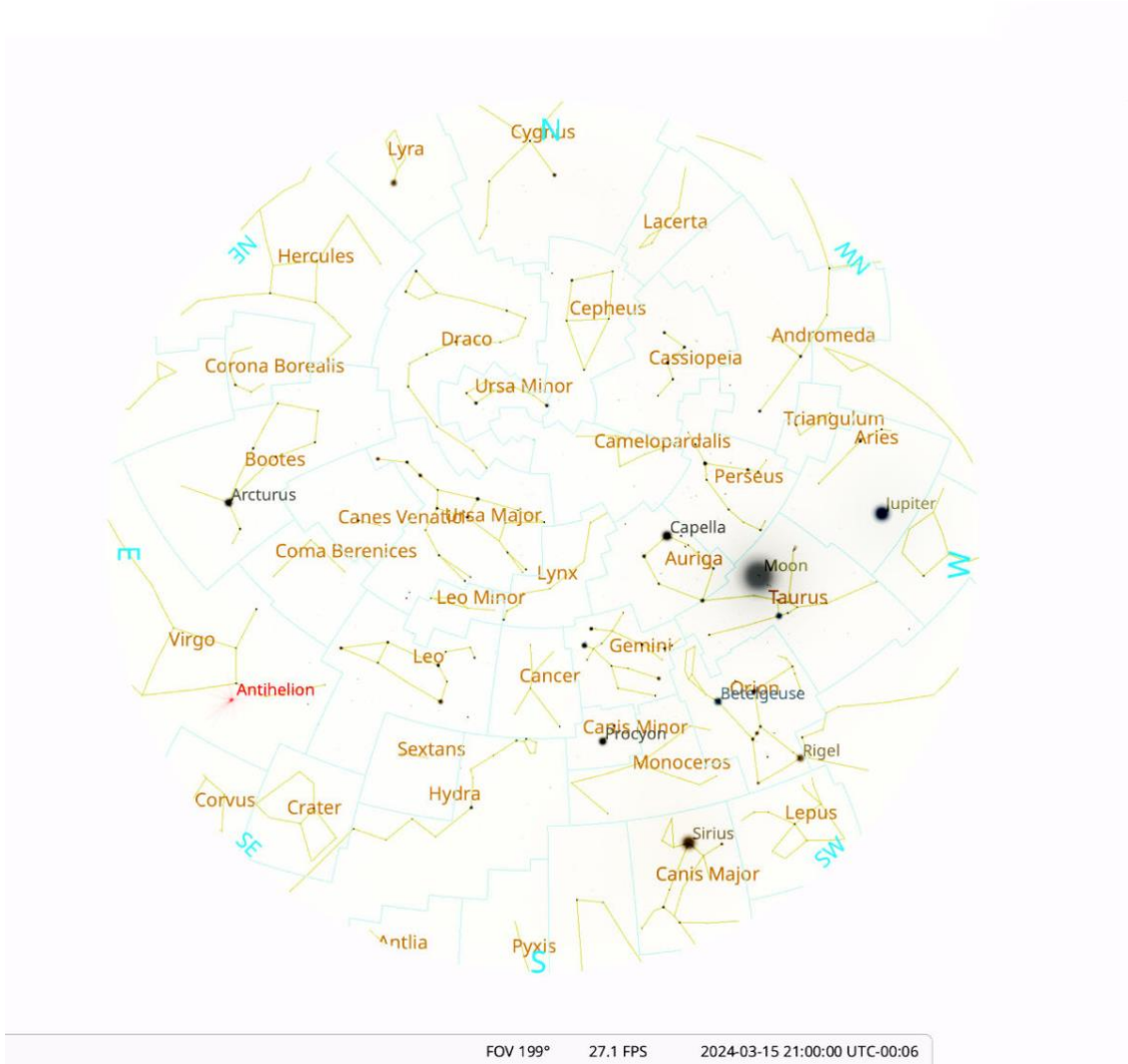
March 2024



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



March 2024 Sky Chart



Taken from: Stellarium

