



Newsletter April 2019

Next Meeting: **29th April**

Dr. John Veitch

Lecturer at Glasgow University where he works in the Institute for
Gravitational Research

7pm at KYLE ACADEMY, Ayr



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President's Word

Due to being snowed under with work and suffering from asthma, I have been unable to complete my usual 'Word' but I wish you all well and look forward to seeing you at our new venue this month - Kyle Academy on Monday. Please see the directions for Kyle Academy below.

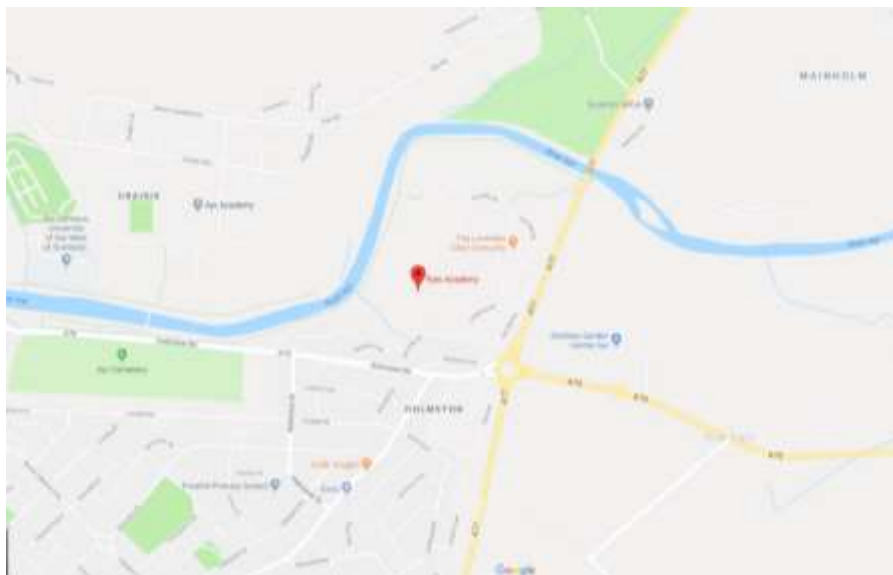
Also, as a reminder, the AGM meeting will take place end of May. You can express any interest in joining the committee at the next meeting on Monday. All positions will be open for election.

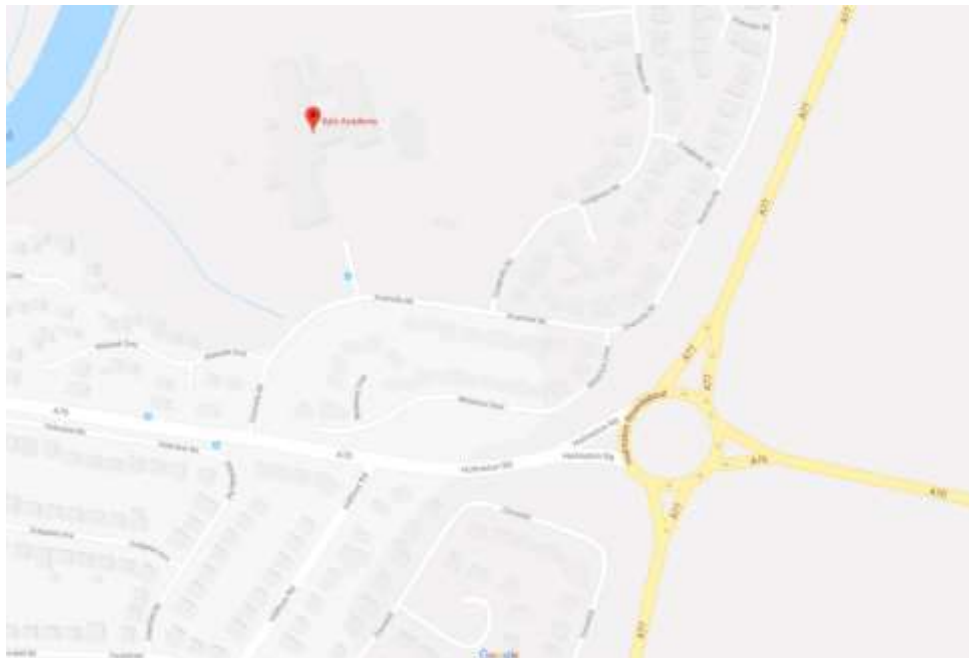
Roger Harman



Events

Meeting 29th April, Kyle Academy !!NEW LOCATION!!





It is off the A77 bypass at Holmston roundabout. If you use Satnav, it is KA7 3LR

Sunday 5th May 2019, Cars on Campus in Kilmarnock.

We still need volunteers. If you are able to help out on this event, please let one of the committee members know. You can bring your own telescope, books or other equipment/material you have got but it is not necessary.

News

Have you heard of this ultra rare event?

A team of researchers managed to observe a special event called a double-electron capture, where two protons within a xenon atom simultaneously absorbed two electrons, resulting in two neutrons – described by the team as "a rare thing multiplied by another rare thing, making it ultra-rare".

XENON1T was built to look for dark matter, however, discoveries of this kind are proof that such instruments can lead to other important findings. This latest observation could teach us more about neutrinos — hard-to-detect particles scientists have been hunting for decades.

The XENON Collaboration runs XENON1T, a 1,300-kilogram vat of super-pure liquid xenon shielded from cosmic rays in a cryostat submerged in water deep 1,500 meters beneath the Gran Sasso mountains of Italy. The researchers search for dark matter (which is five times more abundant than ordinary matter, but seldom interacts with ordinary matter) by recording tiny flashes of light created when particles interact with xenon inside the detector. And while XENON1T was built to capture the interaction between a dark matter particle and the nucleus of a xenon atom, the detector actually picks up signals from any interactions with the xenon.



What to look out for in May?

May 6, 7 - Eta Aquarids Meteor Shower. The Eta Aquarids is an above average shower, capable of producing up to 60 meteors per hour at its peak. Most of the activity is seen in the Southern Hemisphere. In the Northern Hemisphere, the rate can reach about 30 meteors per hour. It is produced by dust particles left behind by comet Halley, which has known and observed since ancient times. The shower runs annually from April 19 to May 28. It peaks this year on the night of May 6 and the morning of the May 7. The thin crescent moon will set early in the evening leaving dark skies for what should be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Aquarius, but can appear anywhere in the sky.

May 18 - Full Moon, Blue Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 21:11 UTC. This full moon was known by early Native American tribes as the Full Flower Moon because this was the time of year when spring flowers appeared in abundance. This moon has also been known as the Full Corn Planting Moon and the Milk Moon. Since this is the third of four full moons in this season, (or if it is the second full moon in one calendar month) it is known as a blue moon. This rare calendar event only happens once every few years, giving rise to the term, "once in a blue moon." There are normally only three full moons in each season of the year. But since full moons occur every 29.53 days, occasionally a season will contain 4 full moons. The extra full moon of the season is known as a blue moon. Blue moons occur on average once every 2.7 years.

May 20 Asteroid 20 Massalia will be well placed for observation, lying in the constellation Libra, well above the horizon for much of the night.

Regardless of your location on the Earth, 20 Massalia will reach its highest point in the sky at around midnight local time.

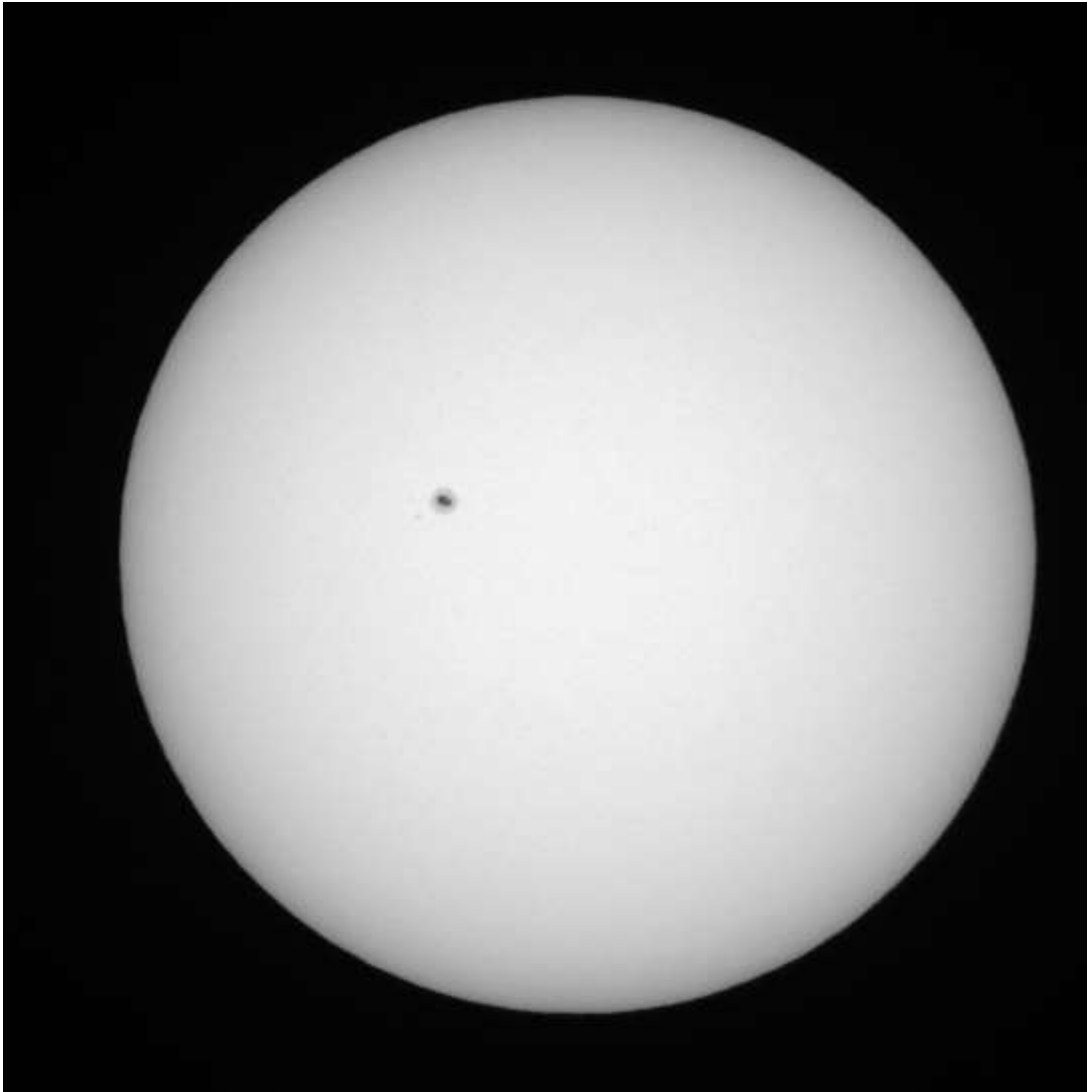
From Glasgow however, it will not be readily observable since it will lie so far south that it will never rise more than 14° above the horizon.



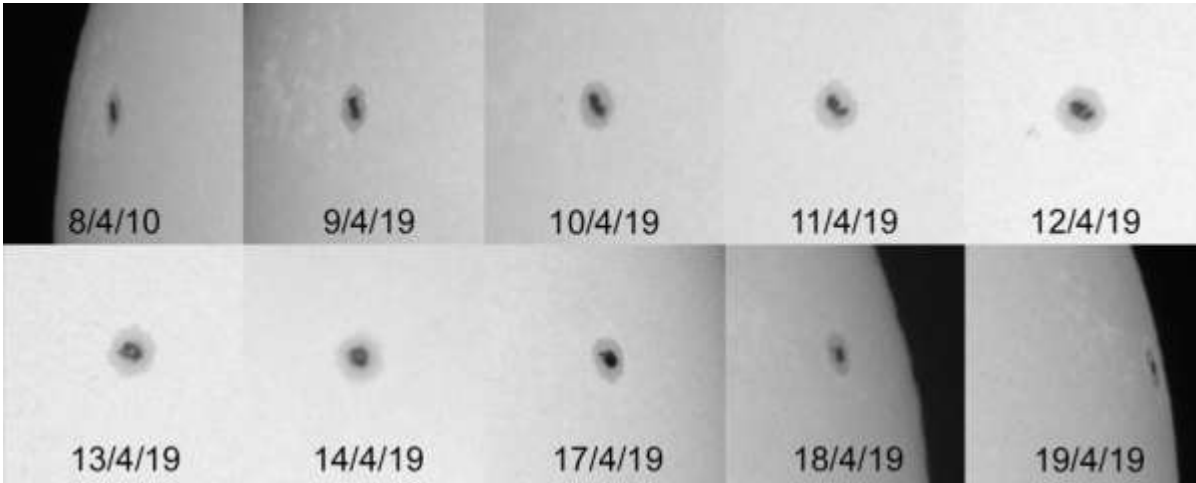


Marc's Article

The sun was active for much of the month of April with the sunspot AR2738 taking centre stage (70mm at f12 or 840mm focal length), this one taken on April the 12th.



The image below shows the spot as it moved from one side of the sun to the other during the month:



I was also able to take a few other images including the Leo Triplet. NGC 3628, the Hamburger Galaxy is on the lower left. Interestingly it was missed by Charles Messier in his hunt for static objects in the sky. The other two galaxies are in his catalogue, M65 at the upper right, and beneath it M66. The three galaxies are about 35 million light years distant and are gravitationally interacting. Taken with 70 mm at f4.8 (336mm focal length) 52 frames, 8 seconds each at ISO 25,600.



M51 is a favourite, though it does not favour small telescopes, like the one I used to image it. Taken with 70mm at f6 (420mm focal length), 60 frames, 8 seconds each at ISO 25,600



M87 has been in the news, as the image of its central black hole was recently published, the first for any black hole. It is here at the lower left, below Markarian's Chain which runs from the top left through the centre right. The two bright galaxies at the centre right are M86 and M84, respectively were also discovered by Charles Messier. The chain is about 50 million light years distant. Taken with 70mm at f4.8, 190 frames at 8 seconds each, ISO 25,600.



Virgo has rich pickings for galaxies and here is a wide field image show several of them located just above and to the right of Markarian's Chain (not visible in the image). M99 near the middle is about 50 million light years away. 70mm at f4.8 55 images, 8 seconds each at ISO 25,600.



Lastly an image of the moon, 70mm at f12, single image, 1/60 sec at ISO 320.



Library

Open for business!

THE LIBRARY IS A RESOURCE FOR MEMBERS -PLEASE SUPPORT IT AND MAKE USE OF IT

The Library list is also available on the website under "links" and can be downloaded



The library is now full up - if you would like to obtain a list or borrow an item

– contact Alex at the next meeting or give him a call on 01563 520887.

Unfortunately Alex does not have email, however messages via library@ayraastro.com will reach him the old fashioned way after a short delay but please contact him directly if at all possible.

THE LIBRARY IS WAITING FOR YOUR CALL!! There are a lot of interesting items to borrow

Moon phases May 2019



And finally... 😊

Q: Where do astronauts keep their sandwiches?

A: (In a launch box!)

Q: What do you get if you cross Santa Claus with a space ship?

A: (A u-f-ho-ho-ho!)

Q: Why didn't the sun go to college?

A: (Because it already had a million degrees!)

Q. What should you do if you see a green alien?

A. Wait until it's ripe!

Q: How do spacemen pass the time on long trips?

A: They play astronauts and crosses!