

Issue: July/August 2018



Ayrshire Astronomical Society Newsletter

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Moon Phases August 2018

- 4th August: Last quarter
- 11th August: New Moon
- 18th August: First quarter
- 26th August Full Moon

**Don't forget
Meetings start again on
the 24th September 2018!**

**Put a note it in your diary.
More details to follow**

11th and 12th August: Perseid Meteor Shower

The Perseid Meteor Shower happens every year mid August and occurs when Earth passes through the trail of dust and debris left by Comet Swift Tuttle. The nucleus of comet Swift Tuttle is about 16 miles wide and last passed by Earth in 1972. It will take another 108 years until it will pass by Earth again, about 14 million miles away. What do you need to see it? A dark sky. And we have a great place close by which is perfect for observing. Weather permitting, the Roundhouse at Loch Doon will stay open and offer hot drinks and snacks.

This year the Moon will be a near new Moon and ideal for observing!! The crescent will set before the Perseids get under way (peak) after midnight. (The meteor shower is visible both nights, 11th to 12th and 12th to 13th August)

President's Word

Movement 1. "Mars the Bringer of War" - The Planet Suite Op.32 Gustav Holst

Those of you who have an interest in music as well as astronomy, will know that Gustav Holst's Planet Suite written for a large orchestra, and his most famous piece of work, is one of the finest pieces of music featuring our Solar System. What many won't have realised is the concept of his work was astrological, each movement conveying an emotion associated with the so-called influence of the planet on the psyche, and not the roman deities that the planets are named after.

The word 'Planet' is derived from the ancient Greek word 'Planetai' (Planetes) so called because they have apparent motion, unlike the 'fixed' stars which revolved around the centre of the universe then considered to be the Earth. Originally this included the moon and sun as well!

Many films and books relate the Planet Mars with wars and battles, its colour red being associated with anger, hostility and conflict. Due to this appearance, Mars is unmistakable in the Night Sky and glows a distinct orangy red.

At the moment we are very lucky, as Mars is around Perihelic Opposition (closest to the Sun as well as the Earth) for the first time in 15 years. Mars appears bigger and brighter than it has in over a decade and is a beautiful target for both observing and photography.

So, it is definitely time to dust off that telescope and enjoy seeing detail that normally is very much harder to image.

The Red Planet is currently in the constellation of Capricornus in the low South (remaining there for the rest of summer into autumn) and rising late in the evening, best viewed around maximum elevation, to minimise the amount of atmospheric layers you will have to peer through!

There are plenty of bright and dark surface albedo markings across Mars's orange globe, which change with the seasons, and can be affected by Martian winds which move bright surface dust from place to place during dust storms. The Polar caps are also visible with clouds forming over the Northern cap making it far more visible than the Southern which is shrinking due to being in the summer season on Mars.

If you don't have a telescope handy for viewing, you can use a pair of binoculars to view the planet as a disc and not just a pinpoint of light. This is best achieved when there is still some light in the sky, 30 minutes after sunset, and 30 minutes before sunrise. Unfortunately, because the Planet is so bright (Mag : -2.8) when comparing against a truly dark sky, it becomes very difficult to discern its outline.

So if you are up late, you have some spare time and your skies are clear, it is worthwhile spending a little time viewing this gem in all its splendour. You'll have to wait 15 years for a similar view!

Clear Skies everyone and I look forward to seeing you all when we reconvene for September's meeting!

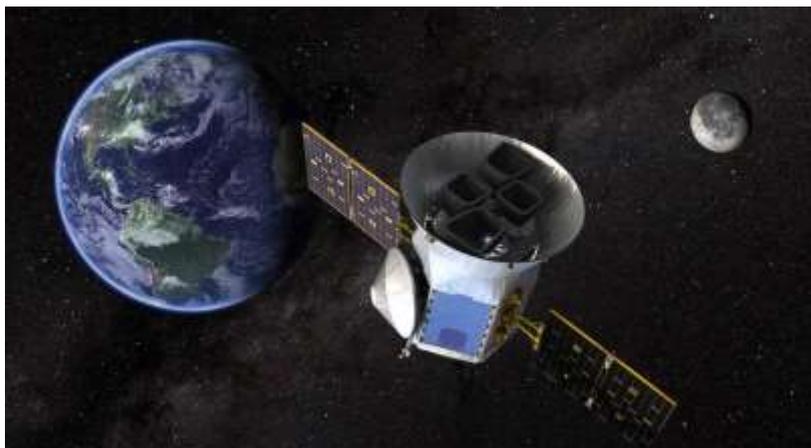
Roger Harman



News and Events

25th July 2018

TESS begins science observation.



The Transiting Exoplanet Survey Satellite (TESS) was launched last April on a Falcon 9 and has now completed checkout of its cameras. It is now officially starting science observations. The primary mission lasts two years and the spacecraft will cover the southern hemisphere in the first year and the northern hemisphere in the second year. It is expected to observe about 85% of the sky. The first downlink of data is planned for the 8th August.

27th July 2018

There was a lovely spectacle happening on the 27th July. A lunar eclipse which the totality lasted 1 hour and 43 minutes. A lunar eclipse as such is not a rare sight, several eclipses happen every year but this one was special because of the duration. I was browsing social media to find photographs from member to proudly publish in the newsletter. I have found one which I thought was a very accurate image.



(Photo taken by Colin Hargreaves – follower of the AAS facebook page)

29th July 1958

President Eisenhower signs NASA into existence. The National Aeronautics and Space Administration was created in response to the Soviet Union launching Sputnik 1 in 1957. Do you remember the predecessor? NACA (National Advisory Committee for Aeronautics) came into being much like its successor, in response to success of others. By the beginning of World War 1, the United States lagged behind Europe in aircraft technology and in response, Congress founded NACA on the 3rd March 1915.

Outreach

27th July 2018 Dumfries House

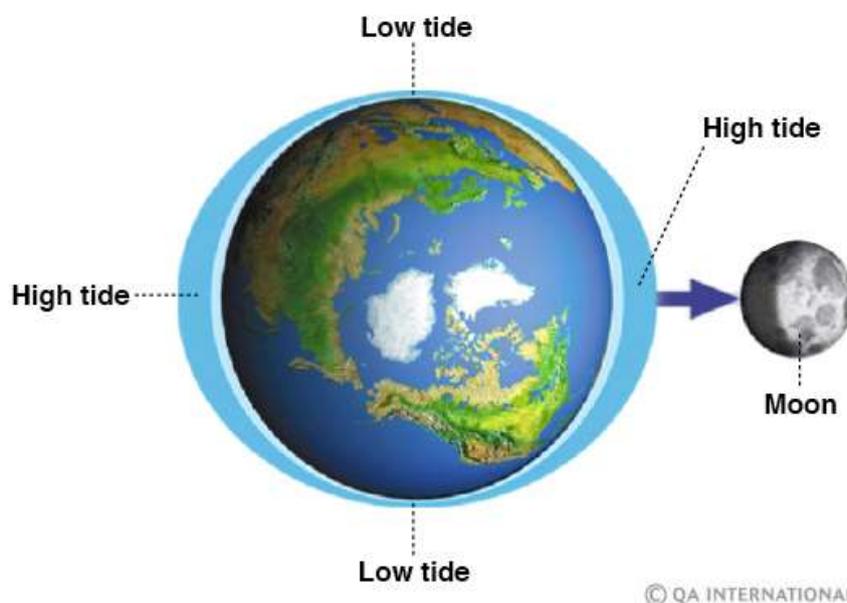
A successful science day at Dumfries House. It was a busy day with plenty of interest in our society. It was mostly overcast but in the afternoon, there were some sunny spells which allowed us to use the Coronado 60mm, the Sunoculars and solar glasses. Thank you to Stephanie and Nick for organising it and bringing lots of interesting reading materials, images and telescopes.



Alex's Article

Tempus Fugit

Why is an Earth Day 24 hours long? It takes Earth nearly 24 hours to make a complete rotation on its axis, but the days are gradually lengthening! Earth's rotation is slowing with time, and this is due to the tidal effects the Moon has on Earth's rotation. Tides create increasing friction by smashing into cliff faces and moving around the shoreline. As friction is a resistance force, 2 milliseconds are added to each day every 100 years. About 3 billion years ago, a day on Earth was only 12 hours long and in a few billion years from now, a day will be over a month long! Gosh! Just imagine the negotiation between unions and management regarding the working 'Day'!



Wide open Spaces

Look into deep space and something very odd seems to be going on. In every direction distant clusters of galaxies are rushing away.... It seems that our Milky Way is distinctly unpopular! But in fact, most galaxies seem to be moving away from each other, some at the speed of light! Astronomers can measure a galaxy's speed by analysing the dark lines in the spectrum. The position of these lines is affected by a galaxy's motion (the Doppler effect) This movement of Galaxies indicate the universe is expanding, but what will happen when this expansion stops. Will this be the end of the universe? No, most definitely not, it would not be the end, it would not even be the beginning of the end. It would perhaps be the end of the Beginning.

Did you know?

1. Each square centimetre of the Sun's surface burns with the brightness of 250'000 100 Watt light bulbs.
2. Water (H₂O) is the only substance so far discovered which is commonly found as a solid, liquid and gas

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

And finally....

Sight Gags by Scott Lee, O.D.



(This is how the Milky Way is seen from Mars!)