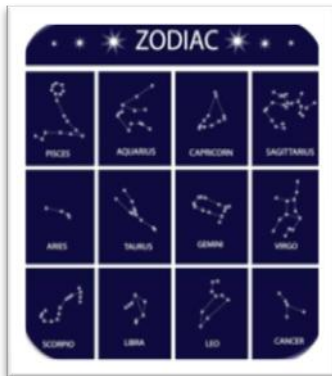




>>> **Ayrshire Astronomical Society Newsletter**

Inside this Issue:

Meeting	Cover
News & Events	Pg 2+3
President Word	Pg 3
Alex Space	Pg 4
Isabelle's Solar Corner	Pg 5
AAS Library	Pg 6



Next Meeting:

26th September

At Prestwick Academy

Equipment and Beginners Night and Workshop

July Night Sky

1st – 1 hour after sunset: If it is a clear sky, low on the southern horizon, you can spot Saturn, Mars and Antares making a triangle in the sky.

6th Mercury passes behind the sun (Super Conjunction) but may become visible in binoculars about mid month when it sets about 45 minutes after sunset.

8th – around 1 hour after sunset: Jupiter will be above and to the left of a thin crescent moon.

16th Venus and Mercury are half a degree apart. If you use binoculars, please do not use them until the Sun has set.

29th For our earlybirds: About an hour before sunrise, looking above the eastern horizon, you can spot a thin waning crescent Moon very close to the Hyades Cluster in Taurus. Also in that direction is the orange giant star, Aldebaran.

The Moon this month:

4th New Moon

12th First Quarter

19th Full moon

26th Last quarter

News :

Juno

Well, you might remember the launch of the Juno Spacecraft on 5th August 2011, from Cape Canaveral. It took Juno nearly five years to cover the 534 million mile journey to Jupiter. It is the second spacecraft to survey the planet from orbit after NASA's Galileo mission ended in 2003.

Juno is on course to swing into orbit on Monday 4th July. The first two orbits are elongated ones, taking it as far as three million kilometres from the planet – each orbit takes 53 days to complete. Afterwards (in October) its orbit will drop into a lower altitude bringing it as close as 5000 kilometres above the planet.

Researchers hope to get answers about the core composition, the powerful magnetic field, how much water is in Jupiter's atmosphere and many more exciting questions to answer. There are many scientific instruments on board – here are some:

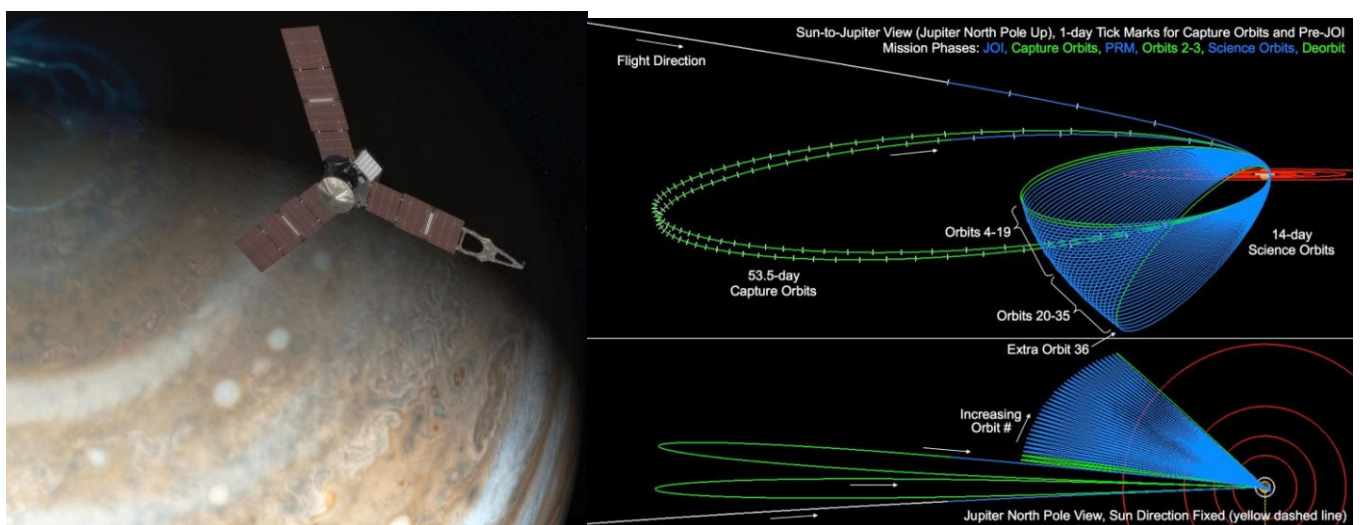
ASC – an advanced stellar compass, which is analysing the position of the stars

Juno Cam – will provide visible colour images of the Jovian cloud tops.

JIRAM – Jovian Infrared Auroral mapper will image the auroras over Jupiter's poles

MWR – The Microwave Radiometer is designed to sense deeply into Jupiter's atmosphere and measure temperatures over a range of altitudes.

Juno's planned mission will see it through to the start of 2018. Engineers believe that Juno will receive a lethal dose of radiation, which will degrade the spacecraft's electronics. Its whirlwind tour around Jupiter will end but by then, information gathered, will hopefully reveal more about the mysterious giant in our solar system.



Events:

Here are the next meetings in 2016:

26th September 2016

24th October 2016

28th November 2016

December: Christmas Meal TBC

For information

19th May 2017

Prof Brian Cox tours the UK with his live show to explore the wonders of the universe. He is at the SSE Hydro on the 19th May 2017. It is still far away, but tickets do sell quickly.

Presidents' Word

A quiet time over the last month with only one outreach event, but this time with The Princes Trust. We attended a short schools outreach session at Stewarton in the new sports centre. The event was to try and engage with older pupils who were having difficulty at school due to attention deficit and the like. We took the usual equipment and actually managed to use the Coronado solar scope. We hope to do more in this area but the events need to be tailored carefully to get maximum interest for the attendees. In this particular case we had to wing it, and personally I felt we could have done better if we had had a better briefing as to the attendees and objectives. Still, for the most part the pupils showed interest and we hope that we had a positive effect but it is difficult to tell in such a short time. We have now established links with The Princes Trust, which could be beneficial.

We had also hoped to attend the annual Culzean Castle event of Celebrate Ayresshire, however it just didn't take place as far as I could ascertain. A pity but I suppose everyone is cutting back and I recall from last year that the National Trust Finances were a bit restricted for such events.

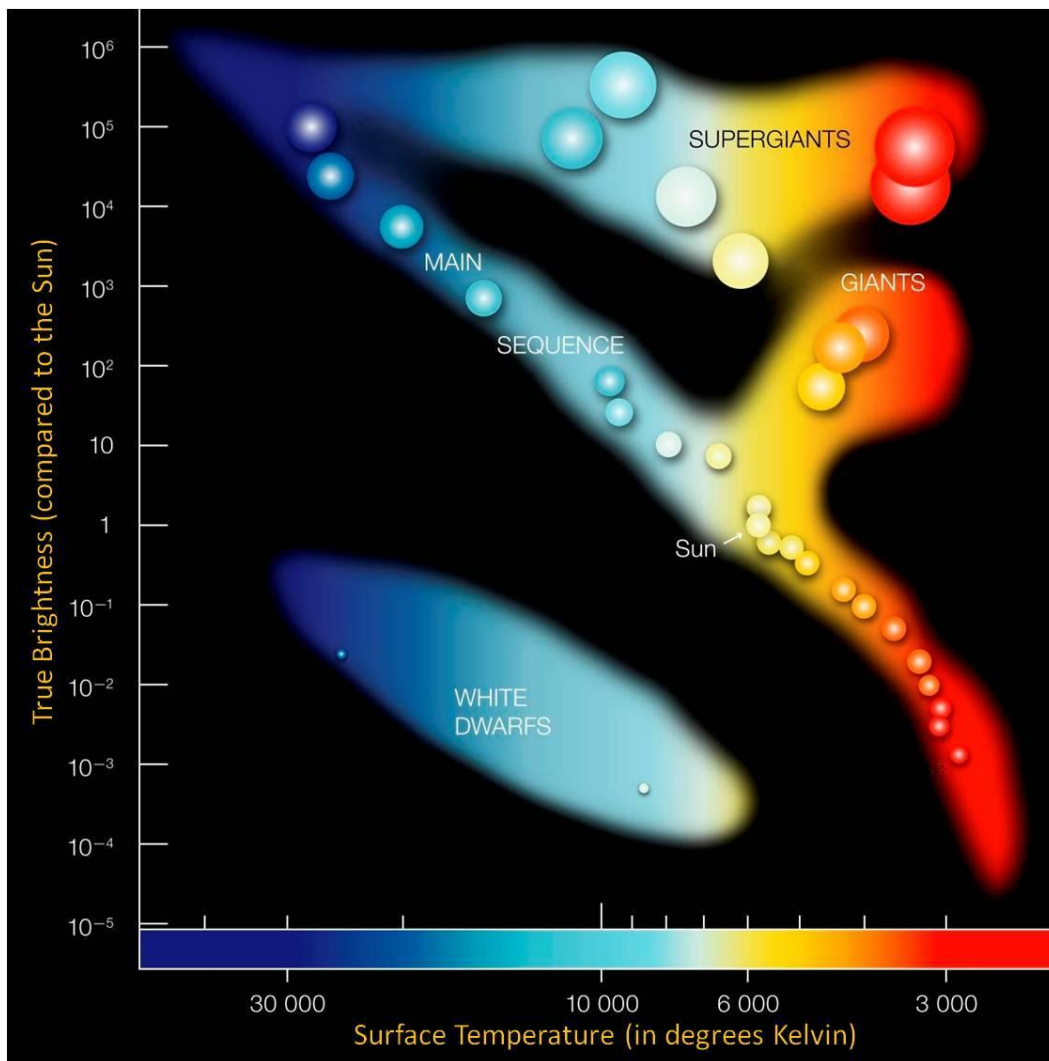
Looking at the calendar I see that we are now on that short downhill slope to long dark nights! Good for us astronomers but only if we get clear skies. However expecting the usual Scottish summer, I am off to France for as long as possible – assuming they let me in after the Brexit Vote!!

Alex's Space

Colourful Sentinels

On a clear night you can head outside and see a vast collection of stars in the sky. These stars – born within enormous interstellar clouds of gas and dust – shine via a process called nuclear fusion. Hydrogen atoms are squeezed together to form new Helium and, in the process, energy is released.

The stars in the night sky might all appear the same with the naked eye, like small white points of light. But the colours of the brighter stars can be observed just with a pair of binoculars - from the red and oranges through to yellows and blues. A star's colour tells us something about how hot its surface is. The redder a star is, the cooler it is. The more blue a star appears, the hotter it is. Red stars are usually called Red Dwarfs. These stars are the longest lived of all the stars some of them exist for trillions of years. But there comes a point in the life-cycle, when it has used up all its fuel for nuclear fusion to take place. The star begins to expand and turn into a Red Giant, just as our own sun will do in a bout five billion years time.

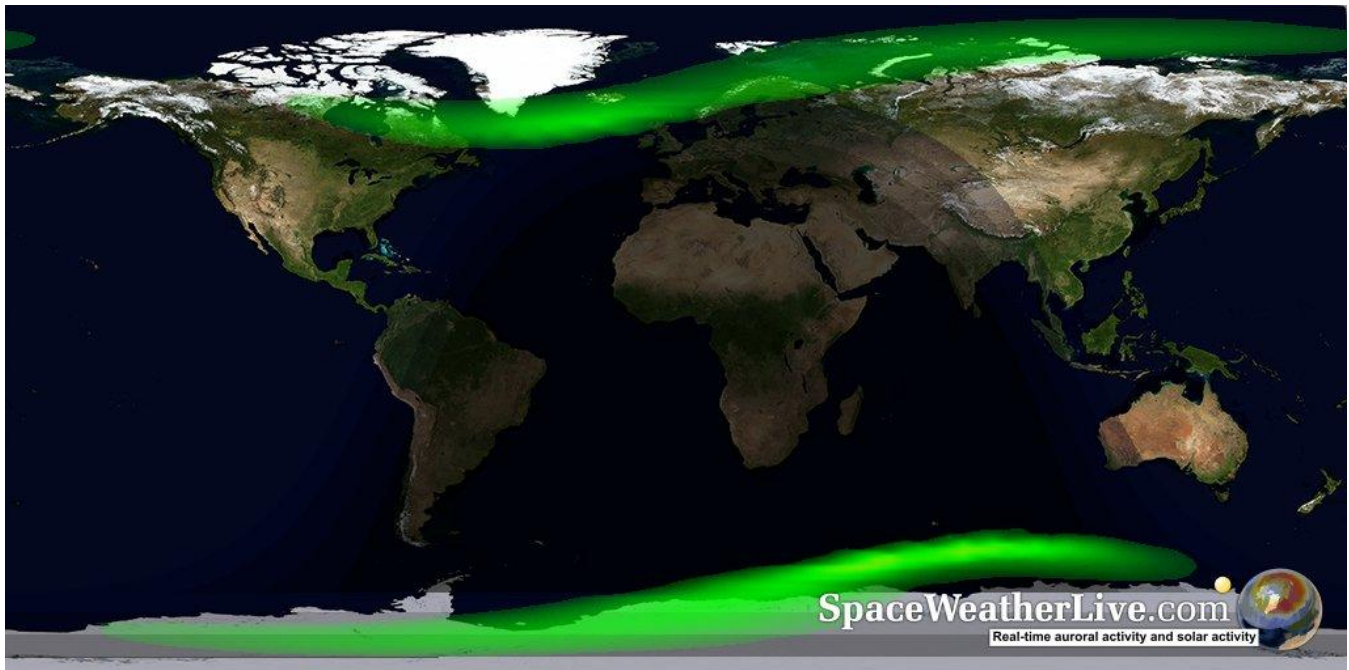


Isabelles' Solar Corner



The solar activity remains very low – there are currently no sunspot visible. It has been 'spotless' for the past seven days in a row. There is also no alert for possible Northern lights activity here in Ayr.

The latest Aurora map 1st July 2016

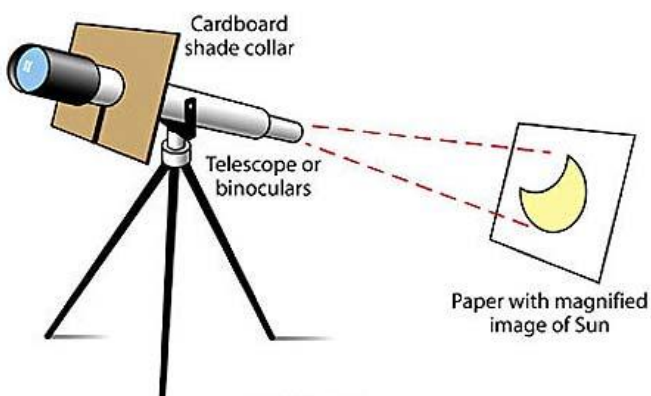


How to observe the sun without a telescope

Please remember to never look directly at the sun without proper filters protecting your eyes. Even a quick glance with the naked eye can be harmful!

The easiest way is to project an image onto a white screen or piece of paper. There are several ways of achieving this.

The pinhole projection is the easiest and simplest method. Use a pin to make a tiny hole in the cardboard. When you hold it up to the sun and the sunlight passes through, it projects to the white paper, placed about 1m behind the cardboard. The larger you make the pinhole, the brighter your image will be but also the fuzzier it will become. So, small pinholes are good for sharp but dim images.



Rather than using a piece of cardboard, you can use binoculars to project the sunlight. (Never look through binoculars at the sun!) You should mount your binoculars onto a tripod and cover one of the front lenses. Use the shadow of the binoculars to aim for the sun. You can place a cardboard near the eyepiece. The closer you hold it the smaller and brighter the image will appear. Be careful not to hold it too close, or it could catch fire

AAS 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@ayrastro.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..... ☺

