The Messenger

Mexborough & Swinton Astronomical Society

August 2015

The Belt of Venus

Sometimes called Venus's Girdle, the Belt of Venus is an atmospheric event seen just after sunset. It is observed as a pinkish-red coloured band normally some above the horizon and can extend upwards as high as 20-25 degrees, and seems to completely surround the observer. A dark band is sometimes observed on the lower edge of the pink band.



It is caused by the backscattering of the light from the set sun off of dust particles that are very high up in the Earth's atmosphere.

Alpenglow

Is an apparent red light on hills and mountains on the horizon opposite the sun, it is caused by light bent downwards through a combination of refraction through the atmosphere and reflection off dust particles. The reddened light then acts as to illuminate mountains and hills on the opposite horizon from sunset when the sun is below the horizon. Alpenglow often has a characteristic red to orange hue to it. Alpenglow can occur just after sunset or just before dawn and is at its best in the summer months in the northern hemisphere.



The Thoughts of Chairman Les



I know that there will be a few Membership Application Forms for us to consider at the committee meeting this month. I would like to reassure you that you are taking a very positive step to study your chosen hobby of astronomy as we have many and varying instruments for your use. You will be trained on all these to enable you to have full use of. The society is a very go ahead and busy group of positive people who will help you all they can with anything you need to know so don't be afraid to ask. I would like to inform our latest members that should you be wanting any help with anything that we do within the society and you are not too sure of any of our procedures please ask, that's what we are there for.

The meeting with SBC Ltd (our landlords) took place Sunday 12th July, the meeting went well and I will inform you in the next publication of the outcomes.

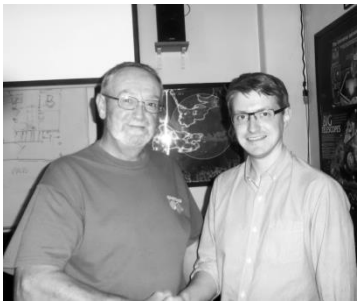
The meeting of the Feasibility Study Group (#7) took place Wednesday 15th July with Paul D'Silva in the chair as usual. There were discussions on the running cost of an upgraded observatory, submissions for different models for the upgrade and what the size of an extension might be. A big problem we have is getting any information from Yorkshire Water Services and this is causing a few problems with us taking forward moving steps. Different configurations of an extension were dealt with in depth.

I wish you clear skies

Les Marsden

Les Marsden FRAS

How to Build a Universe



A talk was given by Dr Stuart Muldrew on 16th July on the above subject. Dr Muldrew talked about how the presence of Dark Matter and Dark Energy helps control the structures in the universe, galaxies, and galactic clusters. He also gave an insight in the properties of the early universe and how the universe may develop in the future.
Dr Muldrew is seen either being welcomed by our "speaker finder", Steve Taylor or being told that it's the customary "speakers round" at the bar!

BAA Weekend on 4th to 6th September 2015.

We know that holidays, time relaxing in the garden and days out are at the forefront of your mind right now, but if you are planning to attend this meeting please do not forget to book your place for this meeting.

Rutherford Appleton Laboratory, Didcot, OX11 0QX

Programme for the Weekend

Friday Evening 19:00 – 22:00
Dr Chris North (University of Cardiff) - State of the Cosmos
Newbury Society members' short talks

Saturday 09:30 – 17:45
Paul Eccleston (RAL) - Space Engineering and Instrumentation
Dr Emanuele Nardini (Keele University) - Winds and feedback from Active Galactic Nuclei
Dr Chris Pearson (RAL) - Herschel's Incredibly Cool Universe
Dr Jackie Davies (RAL) - Observing the Sun from Space
Prof Andrew Taylor (University of Edinburgh) - Euclid, ESA's Dark Energy space mission

Sunday Morning 10:00 – 12:00
Tour of the new RAL Space National Space Integration Facility

The cost for the weekend for BAA and Affiliated Society members is £15.00 and for non-members is £17.50. For accompanied children under 16 the cost is £7.00. This includes refreshments and a cold buffet lunch on Saturday.

Accommodation is available both on the RAL site and at local hotels and pubs. Details of accommodation and booking arrangements are available on the BAA website
http://www.britastro.org/RAL2015
Or from the BAA office.

Because of security requirements at the RAL site, anyone wishing to attend must pre-book. Bookings will close on 26th August. If you book and are not able to come please let us know so we can let someone else take your place.

We look forward to seeing you there.

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Hazel Collett
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Thought for the Month

On the news this last week has been reports about very large poisonous plants "Giant Hogweed" that according to the BBC News are "on the march" across the country.
It just occurred to me that we have the Perseid Meteor shower looming – and do we want to risk looking at it – remember the warnings about meteor showers and Triffids all those years ago! Sometime science fiction comes true!

Meanwhile on Mars

The Curiosity Rover is still making its way across the Martian surface – this picture taken on July 22nd (Martian Day or Sol 1049 of its sojourn on the surface).



The Breakthrough Listen Project

This is a project announced at a press conference given at the Royal Society in Carlton House Terrace, London, on July 20th. It is the largest proposed search for intelligent extra-terrestrial life to be undertaken to date.

The project is funded by Yuri Milner a Russian Tycoon, who is currently number 557 in the list of the world's wealthiest people. He has made his money mainly through investing money in hi-tech companies, such as Facebook, Twitter and Spotify.

The project is part of Yuri's "Breakthrough Initiatives".

Breakthrough Listen has a ten-year funding of $100 million to search for intelligent extra-terrestrial communications in the Universe, on a scale not so far attempted. It has been described as the most comprehensive search for alien communications to date.

The project will use thousands of hours every year on two major radio telescopes, the Green Bank Observatory in West-Virginia and the Parkes Observatory in Australia. (Remember Parkes is famous for being the ground station that received the famous Apollo 11 pictures of Neil Armstrong setting foot on the Moon). Up to date, only about 24 hours of telescope per year is being used in the search for alien life.

Apparently the Automated Planet Finder of Lick observatory will also search for optical signals coming from laser transmissions. The press release sates that the Lick observatory should be able to detect a 100W laser 25 trillion miles away. (25 trillion miles is about 4 light years). For processing of the massive data, the experience of SETI and SETI@home will be used. SETI founder Frank Drake is one of the project's scientists and Stephen Hawking is a supporter of the project.

Alongside the Breakthrough Listen project is the Breakthrough Message project which is a competition to design a digital message to be broadcast from Earth. The prize money for the selected message is One million dollars US. The message is supposed to be "Representative of Humanity and Earth". It is pledged that the message will not be transmitted until there has been sufficient debate about the rewards and risks of sending such a message.

Andrew Kirton-Vaughan's August Skynopsis

Galactic Goodies:



Globular Clusters Messier 15
Messier 2
Messier 13 – Great Cluster in Hercules

Planetary Nebula: Saturn Nebula – NGC 7009
Blinking Planetary - NGC6826 / Caldwell 15
Cat Eye Nebula - NGC 6543 / Caldwell 6

Diffuse Nebula: Crescent Nebula – NGC 6888 / Caldwell 27
Veil Nebula – NGC 6995

Galaxies: Whirlpool Galaxy - Messier 51
Pinwheel Galaxy – Messier101
Sunflower Galaxy – Messier 63
Barnard's Galaxy – NGC 6822 / Caldwell 57

Diary (all times BST unless otherwise specified)

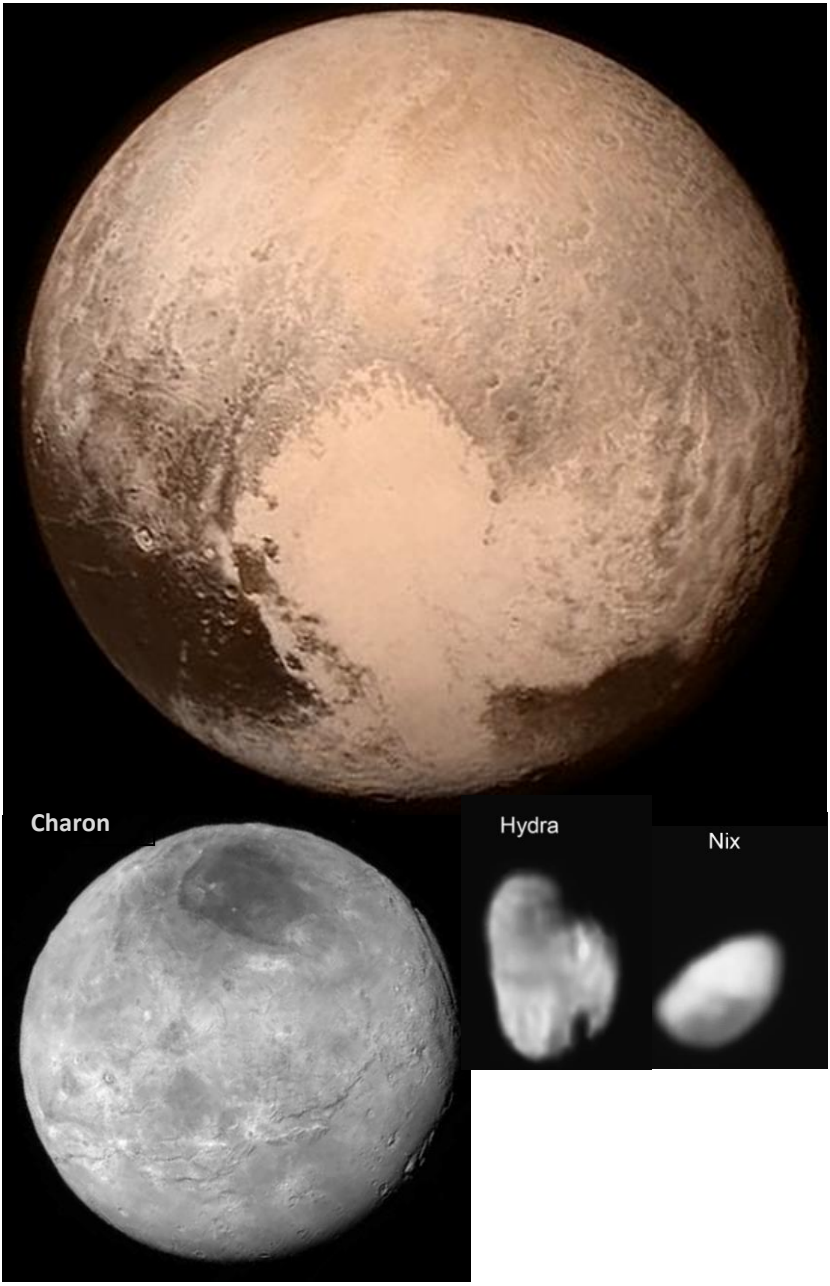
2nd	Saturn Stationary
5th	Conjunction between the Moon and Uranus
7th	Moon at Last Quarter
12-13th	Comet 67P/Churyumov-Gerasimenko at perihelion & at it's brightest, Mag 10.3
	Perseids meteor shower – 42 deg above NE horizon @ midnight – good viewing, no moon
14th	New Moon
22nd	Conjunction between moon & Saturn
	Moon at First Quarter
26th	Conjunction between Jupiter and the Sun
29th	Full Moon - Supermoon

The Planets

Mercury	Not Visible
Venus	Not Visible
Mars	Early morning – Rises ~0300 in the east. Very close to the Sun.
Jupiter	Just visible immediately after sunset. Difficult viewing
Saturn	Late evening viewing. Conjuction with Moon on 22nd.
Uranus	In Pisces. Good viewing after midnight.
Neptune	Approaching opposition on 19st September. Good Viewing in Aquarius
Pluto	Visible before Midnight, approx. half way between $\xi 1$ & $\xi 2$ Sgr. Mag 14.1

Glorious Pluto

No words Just the amazing photographs of Pluto and some of the moons seen this month by New Horizons!



Pluto in the News

NEW PLANET.

Faint Object in Direction of Milky Way.

The Royal Astronomical Society announced last night that it has received the following telegram from the International Telegrams Bureau at Copenhagen:—

"The Lowell Observatory search for the trans-Neptunian planet has revealed an object of the fifteenth magnitude, which has been observed for seven weeks. In its rate of motion and its path it conforms to the approximate distance assigned to it by Lowell. On March 12, three hours, its position was seven time-seconds west of Delta Geminorum, agreeing with Lowell's longitude.—Shapley."

The Yorkshire Post reported this on Saturday 15th March 1930, the official date of discovery being 13th March 1930. So the Yorkshire Post got the news within two days of the discovery announcement. Almost as good and as fast as t'interweb today!

It was later found on photographic plates from other observatories that had been taken years before but had been failed to be spotted. The Sunderland Daily Echo, May 3rd 1932 reported this under the banner "Ridiculed – but Right" as below.

The final cutting is from the Dundee Courier, 16th Feb 1931 which highlights that there was a debate even then about the classification of Pluto as a planet!

RIDICULED— BUT RIGHT

Tragedy of New Planet Discovery

A NOTE, only a few lines long, in the bulletin of Harvard University, recording the fact that a photograph taken in 1914 at Harvard has been identified as that of Pluto, the new "Planet X," has added a new chapter to a tragedy of astronomy, says Reuter from Cambridge, Mass.

Dr Percival Lowell, who predicted the identification of Pluto, endured doubts and ridicule for years until he was proved right long after his death.

So intense was the antagonism to Lowell's predictions that even after the discovery had been verified noted astronomers asserted that the predictions had been mostly due to a lucky accident.

During the two years since Pluto's image was finally spotted by youthful Clyde Tombaugh, at Lowell Observatory, Flagstaff, Arizona, an almost unbelievable chain of facts has been coming to light to establish Lowell as a scientist.

ALMOST FORGOTTEN

First other observatories began finding images of Pluto on almost forgotten plates five or ten years old.

Then at Flagstaff a plate was discovered showing Pluto photographed and unrecognized in Lowell's own observatory in 1915, a year before his death. The Harvard photograph ante-dates the old Flagstaff plate by nearly a year.

Pluto is known to have a mass somewhat less than the Earth's, and to be presumably a little smaller. He averages about three billion miles from the Sun, and is swinging along in a position which will bring his "summer" in another 50 years.

In view of those peculiarities it is not strange that it was felt by some that undue precipitancy had been shown in acclaiming the new body a planet.

Programme for August & September 2015

Date	Time	Location	Subject & Speaker
Sun Aug 2nd	14:00	Observatory	**CAE - Solar Observing**
Thu Aug 6th	19:45	Club Room	**Herschel 3** *Trevor Worrall*
Mon Aug 10th	22:00	Observatory	**Perseid Meteor Shower** **CAE**
Wed Aug 12th	19:45	Club Room	**Executive Committee Meeting**
Thu Aug 13th	19:45	Club Room	**Astro Clinic**
Sun Aug 16th	10:00	Old Moor RSPB	**View the Sun as Never Before** **Public Outreach**
Thu Aug 20th	19:45	Club Room	**Gamma Ray Bursts** *Steven Paul-Davis*
Thu Aug 27th	19:45	Club Room	**Autumn Sky** *Andrew Kirton-Vaughan*
Thu Sep 3rd	19:45	Club Room	**Mercury** *Roy Gunson*
Wed Sep 9th	19:45	Club Room	**Executive Committee Meeting**
Thu Sep 10th	19:45	Club Room	**Aperture Fever** *Dr Mike Evans*
Thu Sep 17th	19:45	Club Room	**TBA** *Dr Matthew Malek*
Fri Sep 18th	19:45	Observatory	**PVE** *Les Marsden*
Sat Sep 19th	18:30	Observatory	**A Night under the Stars – CAE** *Les Marsden*
Thu Sep 24th	19:45	Club Room	**MSAS Astromind Competition**

Old Moor RSPB – Manvers Way, Barnsley, S73 0YF
Wentworth Castle – Stainborough, Barnsley, S75 3ET
Thryberg Country Park – Doncaster Rd, Rotherham, S65 4NU
PVE – Public Viewing Event
CAE – Community Access Event

Web site: http://msas.org.uk
Meeting room is at Swinton Working Men's Club, Station Street, Swinton, South Yorkshire, S64 8AU.
Observatory is at Lee Brook Lane, Hoober, S62 7SH
Mexborough & Swinton Astronomical Society is Registered Charity N° 1064103 in England & Wales

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