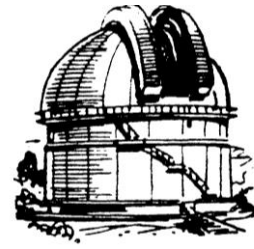

Journal

of the



Nottingham Astronomical Society

December 2011

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Thursday, December 1st

British Geological Survey
Nicker Hill, Keyworth
8 pm (doors open at 7.30pm)

Tonight we welcome

Andrew Lound

who will be delivering a dramatic lecture
entitled

**“ Fire from the Sky –
the Tunguska Incident ”**

The Saturn Storm Chronicles

Over the past year a huge storm has swept across the face of Saturn. It began last December, with the sudden eruption of a bright, energetic convecting disturbance that grew and spread around the planet over the course of two months to become a wide zone of waves, eddies and vortices.

Outbursts like this on Saturn are not new, and tend to occur at intervals of 20 to 30 years in the northern hemisphere. However, this one is quite unique in the history of human observation of the planet. After 200 days of intense activity, it holds the record as the longest Saturn-encircling storm ever seen.

It is particularly valuable that on this occasion we have a spacecraft in orbit around Saturn to record the event in unprecedented detail. The Cassini probe has amassed a huge quantity of data, with spectacular images of this storm, and members of the team have assembled a month-by-month chronicle which can be viewed online. Just log on to

<http://saturn.jpl.nasa.gov/index.cfm>

or

http://www.ciclops.org/view_event/165/The_Saturn_Storm_Chronicles

in order to access still images and videos from the project.

Sky Notes

December 2011

Compiled by Roy Gretton



The Winter Solstice occurs on December 22nd, when the Sun will be directly overhead at the Tropic of Capricorn, and less than 14 degrees above the southern horizon at midday at the latitude of Nottingham.

PHASES OF THE MOON

First Quarter occurs on December 2nd

Full Moon occurs on the 10th

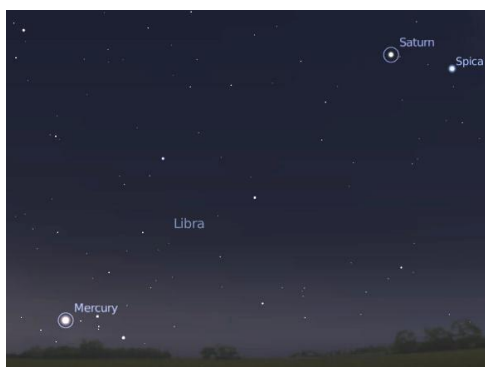
Last Quarter occurs on the 18th

New Moon occurs on the 24th

This month the Moon is closest to the Earth on the 22nd, and furthest from the Earth on the 6th.

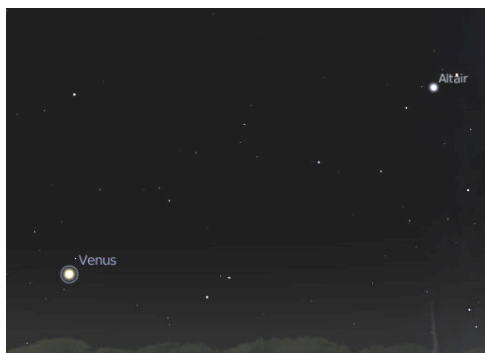
THE PLANETS

Mercury is unobservable during the first week of December, as it passes through inferior conjunction on the 4th, thereafter becoming a morning object. On the 23rd it will be at greatest western elongation, and will be visible low in the southeast before dawn.



Mercury and Saturn, looking SSE
at 6.45am on December 19th

Venus is an evening object, and as December progresses moves steadily away from the Sun, until by the end of the month its elongation will be 34 degrees. It will, however, still be some 19 degrees south of the celestial equator, and therefore quite low in the southwest as darkness falls. At magnitude -4 , it will be the brightest object in the night sky, other than the Moon.



Venus in the southwest at
5.30pm on December 31st

Mars is a morning object in the constellation of Leo. By the close of December its apparent diameter will have increased to 9 arcseconds, and the north polar ice cap should be visible in a moderate-sized telescope.

Jupiter continues to be a prominent object in the evening sky, appearing as a brilliant off-white “star” in the constellation of Aries, and is an excellent subject for observation through a small telescope. Its distance from Earth is steadily increasing, and by the end of December its apparent diameter will have diminished to 44 arcseconds.

Saturn is close to the star Spica in the constellation of Virgo (see chart on previous page). By the end of December its apparent diameter will have increased to 16 arcseconds, with the ring system reaching 38 arcseconds across, making it a very attractive object to view through a telescope (if you are up-and-about at 6 am!)

Uranus is still reasonably placed for evening observation, as a magnitude 5.8 object about one degree north of the celestial equator in the constellation of Pisces.

Neptune is also an evening object, in the constellation of Aquarius, but becoming very difficult to observe.

METEORS

One of the best showers of the year, the **Geminids**, occurs in December, with over 100 events per hour expected. However, this year viewing conditions are unfavourable, with a waning gibbous Moon rising shortly after 8 p.m. on the evening of maximum activity (December 14th).

DIARY DATES 2012

Monthly Meetings of the Nottingham Astronomical Society

Our programme for this year is shown below. Don't forget to check our website:

www.nottinghamastro.org.uk

for the latest information about the Society's meetings and for further information about the talks and speakers.

Our meetings are held on the **1st THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts. NG12 5GG

Doors open at 7:30pm for 8pm start.

Thursday, 5th January 2012

Talk: “**Nocturnal Landscapes and Skyscapes**”
The Quest for Dark Skies

Dr Daniel Brown
School of Science and Technology
Nottingham Trent University

Thursday, 2nd February 2012

Members' Evening (Visitors welcome)

Members' Open Forum and an **Astro Quiz**.

Thursday, 1st March 2012

Talk: “**Parallel Universes**”

Dr Antonio Padilla
School of Physics and Astronomy
Nottingham University

Thursday, 5th April 2012

Dramatic Lecture : “**A Starry Night to Remember – Astronomy and the Titanic**”
(100th Anniversary – April 1912)

Andrew Lound

Thursday, 3rd May 2012

Talk: (Title to be announced)

<p style="text-align: center;">Thursday, 7th June 2012</p> <p style="text-align: center;">Talk: (Title to be announced)</p>
<p style="text-align: center;">Thursday, 5th July 2012</p> <p style="text-align: center;">Talk: “Exodus – The Death of Stars “</p> <p style="text-align: center;">Paul Money</p>
<p style="text-align: center;">August 2012 - Summer Break - No Meeting</p>
<p style="text-align: center;">Thursday, 6th September 2012</p> <p style="text-align: center;">Members’ Evening (visitors welcome) - Topics to be arranged</p>
<p style="text-align: center;">Thursday 4th October 2012</p> <p style="text-align: center;">Talk: (Title to be announced)</p>
<p style="text-align: center;">Thursday 1st November 2012</p> <p style="text-align: center;">2012 Annual General Meeting</p>
<p style="text-align: center;">Thursday 6th December 2012</p> <p style="text-align: center;">Talk: “ Climate Change and the Sun-Earth Connection”</p> <p style="text-align: center;">Dr Jim Wild Space Plasma Environment and Radio Science Group Lancaster University</p>

The Nottingham Astronomical Society: E - SERVICES

Whether or not you are a NAS member, you can now keep up to date with details of the Society’s meetings and other events by visiting the NAS website:

www.nottinghamastro.org.uk

NAS Journal e-mailing list

To register for your monthly e-mailed copy of the NAS Journal, just e-mail

secretary@nottinghamastro.org.uk

You don’t have to be a Society member to take advantage of this service.

STARGAZING LIVE 2012

Public open events in collaboration with the BBC Stargazing Live programmes are taking place again in January 2012. The Nottingham Astronomical Society is taking part in two events, when members of the society will be taking telescopes and displays to bring astronomy to the public.

The events are:

Stargazing Live at Colwick Woods - Saturday 21st January

With the help of The Friends of Colwick Woods, at the Old Bowling Green, Greenwood Road, Bakersfield, Nottingham. 5pm – 9pm.

Stargazing Live at Wollaton Hall - Tuesday 17th January.

Organised by the BBC, with Nottingham Astronomical Society.

Further details to come.

MEMBERS' OBSERVATIONAL REPORTS

Two visitors to our autumn skies: a comet and an asteroid

These two Solar System objects were within 10 degrees of each other, the first in Auriga and the second in Perseus, when they were imaged by the Editor on the evening of November 22nd. Notice that in both cases the images of the objects are elongated, due to their orbital motions against the background stars.

Comet C/2010 G2 Hill, magnitude 12, was imaged at around 11 pm, when it was at a distance of 116 million miles, using a Canon 450D camera at ISO 800, mounted at the prime focus of a 30cm f/5.3 Newtonian reflector. The total exposure time was 8½ minutes. The comet was discovered on 10th April 2010, by R E Hill of the Catalina Sky Survey.

The asteroid Eunomia, a much brighter magnitude 8 object, was imaged at around 11.30 pm, using the same equipment as above. Exposure time 23½ minutes.



Comet Hill



Eunomia

Nottingham Astronomical Society

Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies
Member of the Society for Popular Astronomy
Supporters of the Campaign for Dark Skies
Registered Charity No: 1066645

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Dorothy Sowerby

Kevin Greally

David Anderson

Meetings

Our meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August) at:

**The British Geological Survey
Nicker Hill
Keyworth
Nottingham NG12 5GG**

Doors open 7.30pm

Meetings start 8.00pm

Meetings end 10.00pm

Meetings are open to the public, and visitors are always welcome to attend.

Annual subscriptions 2012

Full	£25
Concessions	£12.50
Joint rate for partners living at the same address	£37.50

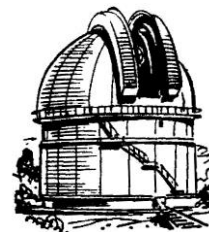
Subscriptions become due on 1st January. Half-price subscription is charged if joining after 1st July. Please make cheques payable to: Nottingham Astronomical Society.

If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary secretary@nottinghamastro.org.uk or speak to any NAS committee member at one of the regular monthly meetings. A membership application form is inside this issue of the Journal.

The Nottingham Astronomical Society

The Nottingham Astronomical Society, and/or the Editor accept no responsibility for any errors that may occur within this publication. Any views expressed in the **NAS Journal** are those of the individual authors and not necessarily endorsed by the Nottingham Astronomical Society, its Committee or Members.

NOTTINGHAM ASTRONOMICAL SOCIETY



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Membership application and Gift Aid declaration

Title:

Full name:

Full home address:

Postcode:

Telephone:

e-mail address:

Subscription rate:	Full	£25.00	(year)	£12.50	(half year)
	Concession	£12.50		£6.25	
	Partnership	£37.50		£18.75	

Concession = under-18 / full-time student / unemployed and receiving benefits

Partnership = two members living together as a couple at the same address

I wish my subscriptions to be eligible for Gift Aid **Yes / No**

Gift Aid declaration

(HMRC reference XR32048)

I want Nottingham Astronomical Society to treat all subscriptions and donations that I make from the date of this declaration as Gift Aid donations, until I notify you otherwise.

I pay an amount of UK Income Tax and/or Capital Gains Tax at least equal to the tax that Nottingham Astronomical Society reclaims on my donations in the appropriate tax year.

Signature:

Date: