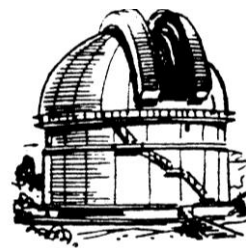

Journal

of the



Nottingham Astronomical Society

October 2011

Inside this issue

- Sky Notes for October
- Diary Dates for 2011
- E-services
- Physics Lecture at Nottingham University
- NTU Open Dome event
- Observational Reports
- Small Advertisements
- Society Information
- Membership application form

Thursday, October 6th

British Geological Survey

Nicker Hill, Keyworth

8 pm (doors open at 7.30pm)

Tonight we welcome

Dr Nigel Bannister

of the Department of Physics and Astronomy
University of Leicester

who will be speaking on

“Journey to the Aurora of Jupiter”

**The 2018 NASA/ESA Double
Mission to the Jupiter System**

The Draconid Meteors, October 2011: A Message from the FAS

The Federation of Astronomical Societies has been asked to pass on this message to you all from the British Astronomical Association with regards to the Draconids.

"On October 8th there may be enhanced activity of the Draconid meteor shower - the British Astronomical Association are seeking the the help of all observers to gain an accurate picture of Draconid meteor activity this year. Your assistance will be greatly appreciated.

We would be pleased if you could circulate the attached information to your members."

Everyone on our Journal mailing list should have received two pdf documents about the Draconids in the past few days. If you do not have these, the information can be downloaded from the BAA website at <http://britastro.org/draconids2011>

Sky Notes

October 2011

Compiled by Roy Gretton



British Summer Time ends on Sunday, 30th October. At 2 a.m. on that date, clocks should be set back by one hour.

PHASES OF THE MOON

First Quarter occurs on October 4th
Full Moon occurs on the 12th
Last Quarter occurs on the 20th
New Moon occurs on the 26th

This month the Moon is closest to Earth on the 26th, and furthest from Earth on the 12th (which means that we shall have a smaller-than-average Full Moon).

THE PLANETS

Mercury, for all practical purposes, is unobservable this month.

Venus is an evening object, but extremely difficult to observe due to its low elevation. Even in late October, at sunset it will be a mere 5 degrees above the western horizon and 20 degrees east of the Sun.

Mars, a morning object, begins the month in the Beehive Cluster, M44, thus providing an attractive sight through binoculars or a low-powered telescope. The planet will at this time be 60 degrees west of the Sun, and 50 degrees above the southeastern horizon at sunrise.

Jupiter, at magnitude -2.9 , is the unmissable “star” in the night sky this month. It will be at opposition to the Sun, and therefore due south at midnight, on October 29th, when its apparent diameter will be 50 seconds of arc, making it an excellent target for telescopic observation (and bright moonlight hardly matters at all!). Interest is provided in the form of constantly changing features in the planet’s atmosphere, and the continuous movements of the four Galilean satellites.

Saturn reaches conjunction with the Sun on October 13th, and is therefore unobservable.

Uranus is well-placed for observation in the evening sky. It can be found about a degree north of the celestial equator in the constellation of Pisces. At magnitude 5.7 it is on the edge of naked eye visibility from a dark-sky site.

Neptune is an evening object in the constellation of Aquarius, but at magnitude 7.8 it is much fainter than Uranus.

COMET GARRADD

Comet 2009 P1 (Garradd) is a magnitude 8 object in the constellation of Hercules, about 20 degrees north of the celestial equator, and therefore a suitable target for good binoculars or a small telescope from a dark-sky site on a moonless night.

METEORS

The **Draconids** (also known as the **Giacobinids**, due to their association with Comet Giacobini-Zinner) are of great interest this year, with the British Astronomical Association calling upon all interested observers to participate in a project to observe them. The BAA Handbook tentatively suggests a maximum activity of 10 meteors per minute, which would exceed anything that we normally experience. The optimum time to watch for these meteors will be between 18hr and 21h UT (7pm and 10pm BST) on Saturday, October 8th. Unfortunately the Moon will be less than four days from full at this time, so you are advised to sit or stand with your back to the Moon, facing north. Draconids tend to be much slower moving than most meteors.

For full information, refer to the sources quoted in the panel on the front page of this Journal.

DIARY DATES 2011

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 details about the talks and speakers.

Our meetings are held on the **FIRST THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts. NG12 5GG
Doors open at 7:30pm for 8pm start.

Thursday 6th October

Talk: **“ Journey to the Aurora of Jupiter ”**
The 2018 NASA/ESA Double Mission to the Jupiter System

Dr Nigel Bannister
Department of Physics and Astronomy
University of Leicester

Thursday 3rd November 2011

2011 Annual General Meeting

Thursday 1st December 2011

Dramatic Lecture : **“ Fire from the Sky - the Tunguska Incident ”**

Andrew Lound

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

info@nottinghamastro.org.uk

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

Public physics lecture at the University of Nottingham

"How to destroy the Earth"

Date: Thursday 20th October 2011
Time: 6-7 pm
Speaker: Dr. Keith Smith
Venue: Maths & Physics Building (B1)
University Park Campus
Nottingham

NO TICKETS REQUIRED

Nottingham Trent University Open Dome Event

" Touching Space - Noctilucent Clouds"

by Dr. G. Compton (NTU)

Date: 31 October 2011

Time: 8.00pm - 10.00pm

Event: Open Dome Event - Touching Space - Noctilucent Clouds

Location: CELS and Optical observatory, Clifton campus

Details: Clouds are the enemy of any stargazer. But sometimes they can be anything but grim bringers of dull weather and worth observing. Noctilucent clouds shimmer like veils of electric blue satin just after sunset and are well above any other clouds, touching space. The event will start at 8 pm with a presentation by Dr. G. Compton (NTU) in CEL015. In his talk Noctilucent clouds he will be introducing us to these beautiful and certainly highest clouds found on Earth. They were not described before 1885, they pose something of a conundrum for atmospheric scientists and are thought by some to result from human activities. The talk will consider the history and science of this phenomenon. This talk will be followed a brief introduction on what is visible in this month's sky.

Afterwards, visitors will get a tour of the NTU observatory and the chance to see interesting objects in the autumn sky with the observatory's telescopes, small telescopes, and binoculars if the weather allows it. If the weather is not good, a small planetarium session will be offered in the observatory pointing out objects of interest.

Booking is required for this event. Please contact [Daniel Brown](#) to register.

For further information about the optical observatory, please visit the [observatory website](#).

MEMBERS' OBSERVATIONAL REPORTS

(1) The Supernova in M101

A single star in a galaxy 21 million light-years away has exploded with such violence that in the second week of September it reached magnitude 10, or a little brighter, as viewed from Earth (in other words, very much brighter than the apparent brightness of most of the nearby stars in our own galaxy!). As we “go to press” the supernova can still be seen/imaged in the northwestern sky after sunset. It is in the galaxy M101, close to the handle of the Plough in constellation of Ursa Major. The Editor’s best image of the object, displayed below (left), was obtained on 1st September, using a Canon 450D camera at ISO 1600 at the prime focus of a 30cm f/5.3 Newtonian reflector. The total exposure time was 90 minutes. The position of the supernova is marked with an arrowhead. Alongside is an image of the same galaxy that I obtained in February this year, for comparison.



M101 2011 September 1



M101 2011 February 7

You can use the following link to access the latest light-curve of the supernova:

http://www.aavso.org/lcg/plot?auid=000-BKD-525&starname=SN%202011FE&lastdays=48&start=&stop=2455844.71146&obscode=&obscode_symbol=2&obstotals=yes&calendar=calendar&forcetics=&grid=on&visual=on&r=on&bband=on&v=on&pointsize=1&width=900&height=600&mag1=&mag2=&mean=&vmean

(2) Imaging Jupiter

The following images of Jupiter were obtained by the Editor using a 30 cm f/5.3 reflector, by projecting the image of the planet from a 6.3mm focal length eyepiece on to the chip of a Canon 450D camera. They are samples from a series of single images (no stacking involved) taken between 23:49 and 00:20 UT on the night of September 30th – October 1st, 2011. South is at the top.



23:49 UT



00:16 UT



00:17 UT



00:20 UT

Note the dark brown spot in the North Equatorial Belt, and how rapidly it moves to the left as time progresses (about half an hour) due to the rapid rotation rate of Jupiter. Also visible in these images, though with less contrast, is the Great Red Spot (GRS) toward the upper right of the disk. Unexplained, however, is a mysterious dark object that transits the disk in the last three images. It ingresses to the right of the GRS on the 00:16 image, is close to the right-hand edge of the GRS at 00:17 UT, and is just discernable close to the left-hand limb of the planet in the 00:20 image. It therefore travelled, in a roughly westerly direction, through about 40 arcseconds in 4 minutes. I would be grateful for any suggestions as to what it might have been. An asteroid perhaps? It was far too small and too slow to have been an aircraft.

Small Advertisements

Telescope for sale

Meade 2080 8-inch f/10 Schmidt-Cassegrain with field tripod and wedge. Reflex sight, 6mm, 12.5mm, 25mm and 32mm eyepieces, 2X Barlow, 0.4X telecompressor, two 90° erecting prisms; 45° roof prism. All in excellent condition in fitted trunk/case. Offers to 0115 937 6333 or rockvision@btinternet.com (Keyworth)

Mike Sumbler

FOR SALE

Vixen single-axis (Right Ascension) drive motor and hand controller to fit Great Polaris or GP-DX equatorial mount.

Also battery case for use with the above.

£20

Email the Editor: roygretton@hotmail.co.uk

NAS Members may submit private advertisements for inclusion free of charge in the Journal. Please email the Editor.

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

PRESIDENT:

Fred Hopper

e-mail: fred.w.m.hopper@googlemail.com

VICE PRESIDENT:

Roy Gretton

e-mail: roygretton@hotmail.co.uk

SECRETARY:

Victoria Jolly

e-mail: info@nottinghamastro.org.uk

TREASURER:

Sam Boote

e-mail: s.boote@bcs.org

JOURNAL EDITOR:

Roy Gretton

e-mail: roygretton@hotmail.co.uk

OBSERVATORY DIRECTOR:

John Hurst

email: jmhurst@hotmail.co.uk

Observatory line: 07726 940700 (line open during observing sessions)

CAMPAIGN FOR DARK SKIES

REPRESENTATIVE:

Barrie Chacksfield

email: b.chacksfield@bgs.ac.uk

ORDINARY COMMITTEE MEMBERS:

Joe Sowerby

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 2011

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

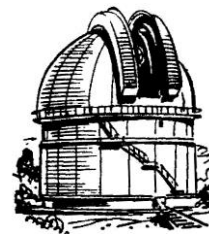
Subscriptions become due on 1st January. Half-price subscription is charged if joining after 1st July. Please make cheques payable to: Nottingham Astronomical Society.

If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary info@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



Founded in 1946 for all interested in astronomy
Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies

Registered Charity No. 1066645
Member of the Society for Popular Astronomy
Supporter of the Campaign for Dark Skies

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: