
Journal

of the



Nottingham Astronomical Society February 2013

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Thursday, 7th February
British Geological Survey
Nicker Hill, Keyworth
8 pm (doors open at 7.30pm)

Tonight we have a
Members' Evening
(to which everyone is invited,
member or not)

including an Astro Quiz

RECENT NEWS STORIES ON THE WEB

Follow these links for interesting current news:

- 'Local' gamma ray burst may have been recorded in Japanese tree rings

<http://news.yahoo.com/space-explosion-blame-tree-ring-mystery-astronomers-205516367.html>

- Martian crater shows evidence of a lake

<http://news.yahoo.com/giant-mars-crater-shows-evidence-ancient-lake-212350768.html>

- Kepler planet-hunting telescope shut-down

<http://www.space.com/19360-kepler-telescope-alien-planets-glitch.html>

- Betelgeuse collides with nearby wall of dust

<http://www.universetoday.com/99580/detailed-view-of-betelgeuse-on-a-collision-course-with-a-nearby-wall-of-dust/#more-99580>

Sky Notes

February 2013

Compiled by Roy Gretton



All times given below are in Universal Time (UT), effectively equal to GMT.

PHASES OF THE MOON

Last Quarter	3 rd February, 13:56
New Moon	10 th February, 07:20
First Quarter	17 th February, 20:31
Full Moon	25 th February, 20:56

(Data from the BAA Handbook)

This month the Moon is closest to the Earth on the 7th, and furthest on the 19th.

NEAR-EARTH OBJECT 2012 DA14 – a rare observing opportunity. *See separate article below.*

THE PLANETS

Mercury is an evening object this month, reaching greatest eastern elongation on February 16th, when it will be 18 degrees from the Sun, and close to the border of Aquarius and Pisces. It will, however, not be easy to observe, being very low in the southwest after sunset.

Venus, a morning object, will be disappearing into the dawn glow this month.

Mars is unobservable this month.

Jupiter spends February in the constellation of Taurus, roughly between the star clusters of the Hyades and Pleiades. In early December the planet was about 4 AU from Earth, and its equatorial diameter was almost 49 arcseconds, but by the end of this month it will have receded to 5 AU from us, so that its diameter will have diminished to 40 arcseconds. Even so, it remains a most rewarding object to observe, appearing much larger than any of the other planets with the exception of Venus. The constant movements of the four brightest satellites are fascinating to observe. Interesting phenomena include: eclipses (when a satellite is hidden in Jupiter's shadow), occultations (when a satellite passes behind the body of the planet), transits (when a satellite passes in front of the planet) and shadow transits (when a satellite casts its shadow on to the visible surface of Jupiter).

For observers with a small telescope (say, 50mm aperture or greater) re-emergences of satellites **from eclipse** are perhaps the most interesting phenomena to observe. Look a little way to the *right* of the planet's disk (if you have an inverting telescope) or to the *left* of the planet (if your instrument gives an erect view). The eclipsed satellite will begin to reappear as a very faint star, and over a few minutes will grow to its full brightness. Start observing about 10 minutes before the times stated below (evenings only):

February	Re-emergence of
3 rd	Io 20:09
10 th	Europa 18:42
10 th	Io 22:04
17 th	Europa 21:20
17-18 th	Io midnight
19 th	Io 18:28
24 th	Europa 23:59
26 th	Io 20:24

For **shadow transits** you will need a **slightly larger telescope** (say 100mm aperture or greater). Look for a dark spot crossing Jupiter's disk. A list of shadow transits visible in the evenings this month is given below.

February	Shadow transit of
1 st	Europa 19:16 – 21:40
2 nd	Io 20:39 – 22:50
8 th	Europa begins 21:52
9 th	Io begins 22:35
11 th	Io 17:04 – 19:15
15 th	Ganymede 18:44 – 21:01
18 th	Io 19:00 – 21:11
22 nd	Ganymede begins 22:45
25 th	Io 20:56 – 23:07

(Data obtained from the BAA Handbook).

Saturn is a morning object in the constellation of Libra. In the middle of February it will be rising at midnight. The tilt of the rings will by then be 19.4 degrees, giving us a good view of their northern face, and a modest-sized telescope should reveal the shadow of the planet on the rings. Titan, Saturn's largest satellite, will be due north of the planet on February 9th and again on the 25th.

Uranus, in the constellation of Pisces, is becoming increasingly difficult to observe this month.

Neptune is unobservable this month.

METEORS

There are no notable meteor showers in February.

VARIABLE STAR: Algol

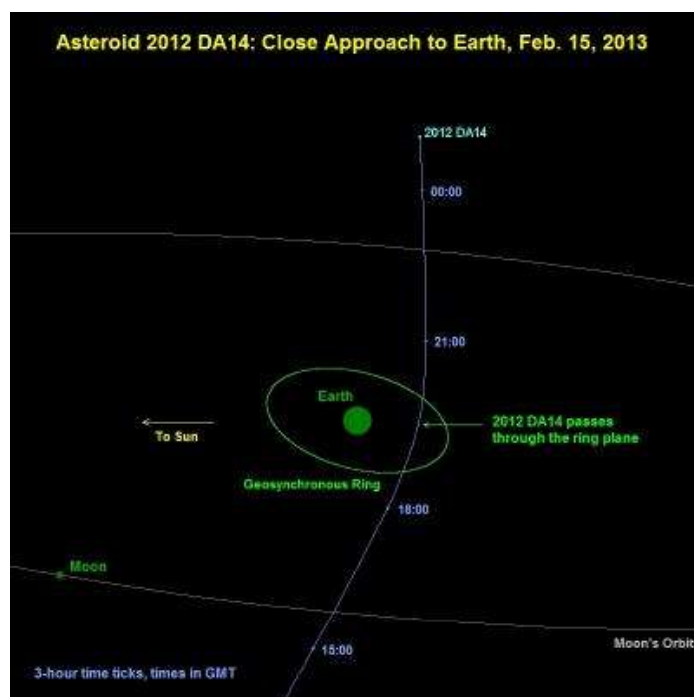
There are **three** minima of this **eclipsing binary** visible from the UK this month. They occur on February 13th (04:20), the 16th (01:05), and on the 18th (21:55). The star dims from its normal brightness (magnitude 2.1) magnitude 3.4 over a period of 4.8 hours, and then returns to its normal brightness in a similar length of time.

Close Approach of Near-Earth Object 2012 DA14 on 2013 February 15

The following paragraph and diagram were obtained from NASA.

Source: <http://neo.jpl.nasa.gov/news/news174.html>

Discovered by the LaSagra observatory in southern Spain, the small asteroid 2012 DA14 will pass within about 3.5 Earth radii of the Earth's surface on February 15, 2013. Although its size is not well determined, this near-Earth asteroid is thought to be about 45 meters in diameter. Asteroid 2012 DA14 will pass inside the geosynchronous satellite ring, located about 35,800 km above the equator. Its orbit about the Sun can bring it no closer to the Earth's surface than 3.2 Earth radii on February 15, 2013. On this date, the asteroid will travel rapidly from the southern evening sky into the northern morning sky with its closest Earth approach occurring about 19:26 UTC when it will achieve a magnitude of less than seven, which is somewhat fainter than naked eye visibility. About 4 minutes after its Earth close approach, there is a good chance it will pass into the Earth's shadow for about 18 minutes or so before reappearing from the eclipse. When travelling rapidly into the northern morning sky, 2012 DA14 will quickly fade in brightness.



Observing 2012 DA14 from the UK

Given clear skies, we should be able to track the object with a telescope or good binoculars. Closest approach to Earth will occur at about 7:25 pm on February 15th, when it will be well below our horizon. I understand that from our latitude it will rise in the east at about 8 pm on that Friday evening, as it passes northward through Leo's tail at a speed of about 40 degrees per hour (40 arcseconds per second). By 8:20 pm it will be passing through Coma Berenices and be shining at magnitude 8. At 9.30 pm it will have faded to magnitude 9 and will be passing through the middle of the Plough. By midnight it will be in Ursa Minor, and by 5 am on the 16th will have approached within 4 degrees of the North Celestial Pole, having by then faded to magnitude 13.

Go to <http://www.britastro.org/~rmiles/Documents/2012DA14.pdf> to download observing charts.

Editor

DIARY DATES 2013

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 **FIRST THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts. NG12 5GG

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

Thursday 7th February

**Members' Evening including an Astro Quiz
(everyone welcome)**

Thursday 7th March

The latest news from the Mars Rover 'Curiosity'

Dr John Bridges

Nottingham Trent University Open Dome Event - " Protecting Dark Skies "

Date: 25 February 2013

Time: 8.00pm - 10.00pm

Event: Open Dome Event – Protecting Dark Skies

Location: CELS then Optical observatory, Clifton campus

Details:

Our dark nights are becoming an endangered species. More and more lights create a glowing haze in the sky that stop us experiencing the wonders of the night sky. But how can we see how much our lighting affects light pollution? Should we all switch off every light?

The event will start at 8 pm with a presentation by pupils from The Long Eaton School, and Miss H. Flood. They will present their project to monitor light pollution on their school grounds and present their first results. This talk will be followed by 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 winter 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.

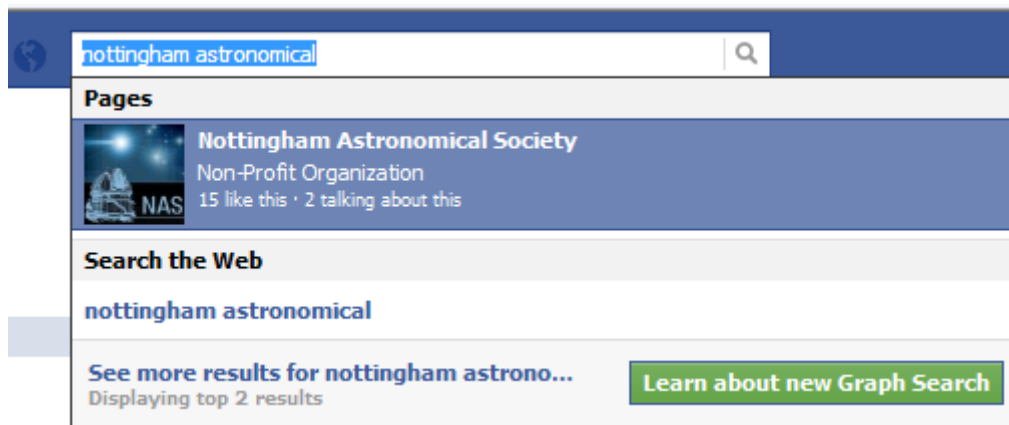
For further information about the optical observatory, please visit the [observatory website](#).

NAS Facebook Page: a Walkthrough

Reaching out to wider audiences, NAS now has a presence on Facebook (FB). Anybody with access to the Internet can paste "<https://en-gb.facebook.com/nas.org.uk>" into their browsers, and immediately see our FB page. If you don't wish to register with FB, just click "Close" on the popup that is inviting you to sign up. You will still be able to view the event timeline and the thumbnails of people's conversations.

However, to interact with a social network, you need to be part of it. If you already have an FB account, you can go straight to the next paragraph. If you are not on FB, please join! Go to www.facebook.com, then just put in your name, e-mail address, birthday and a password, then keep clicking "Skip this step" for as long as the button appears. Now go to your Inbox, open the link saying "Just one more step to get started on Facebook" and click the "Complete Sign-up" button. A new FB window appears, and you are in. Welcome to the network!

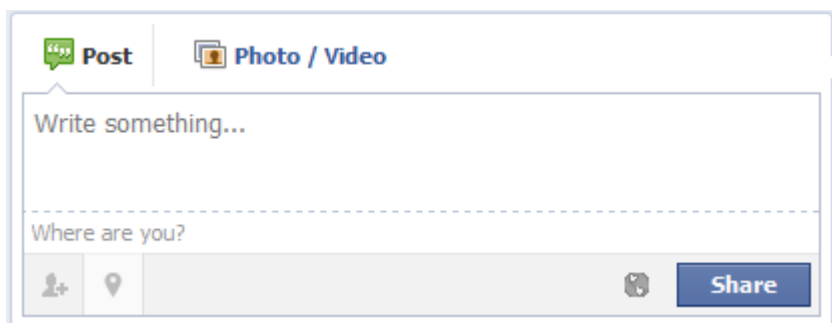
Once you've logged onto Facebook, you can quickly find our page by typing "Nottingham astronomical society" into the search box:



So, what does the page offer you? You can tell NAS that you support it by clicking "Like", or you can register your interest in updates from this and similar pages by selecting "Message" > "Add To Interest Lists..." menu item at the top right of the page. This way you will be getting a special news feed of related posts.



So, whenever anybody posts anything, be it a photo, a video or just a message, on the NAS page, you will get notified. To post anything yourself, use the box with a "Share" button on it:



You can leave a question or message for anybody who visits our page, and, provided all NAS fans have subscribed to notifications from our page, you are sure to get an answer soon! You can post a photo or a video on our page, too (but hopefully keep it relevant to the society!) The primary idea behind this page is to keep everyone up to date, to talk and to share. To see what NAS are up to, take a look at the timeline under your "Share" button. For example, the next event we are hoping to see you join is "Stars at the Stables", and this is what it looks like on our Timeline:

Nottingham Astronomical Society created an event.
January 5

Stars at the Stables
February 2 at 5:00pm
the Keyworth Riding Stables, Lings Lane, Keyworth

Join · Nottingham Astronomical Society is going

Like · Comment · Follow Post

If you are planning to go, click on the “Join” link. This way others will see that you are attending, and maybe even offer to share a lift! To see who else is attending the event, click on the event name, and you will get further details about it and everybody else who is coming along:

Stargazing Live at Colwick Woods

Public · By Nottingham Astronomical Society

Saturday, January 19, 2013

5:00pm until 9:00pm

The Old Bowling Green, Greenwood Road, Bakersfield, Nottingham

'Stargazing Live at Colwick Woods', with refreshments (at a small fee) provided by the Friends of Colwick Woods.

RECENT POSTS



Victoria Jolly is going.

Like · Comment · Follow Post · January 5 at 5:33pm

Unfortunately, the weather cannot be guaranteed, but at least you know you won't be alone! As you may have guessed, you can “Like”, “Comment” or “Follow” pretty much anything on the page. All three are “exactly what it says on the tin”, and all three are reversible actions. You can edit or delete your comments, and you can even “unlike” or “unfollow” your follows and likes, although that is as rare and unnatural as it sounds!

But most importantly, you can now socialize with your fellow astronomy fans! Just take a look at the section under “Recent Posts by Others”. Every conversation thread is grouped under the name of its original author, and a small number on the left of the date will tell you how many people have taken part in the discussion. As you can see from their profile pictures, some people have pretty nice equipment in their back gardens!

Recent Posts by Others [See All](#)

Robert Bush
Hi, pleased to see more activity on here... Wonder if it is wo...
4 · December 27, 2012 at 11:14pm

Steve Howley
How do you make NAS a friend on facebook?
2 · December 24, 2012 at 11:01am

This brings us to the end of this little walk-through, which I hope you found useful. Being a society member is all about being part of a community, and our community can't be built without as many people as possible joining in. NAS have set up this Facebook page to give us all a public venue, so why not get connected? See you there!

The NAS-Facebook Photographic Competition

The Society is holding a competition for the best astronomy-related photograph taken by a member. The winning picture will be placed on the Facebook page representing the Nottingham Astronomical Society.

Conditions: The picture must be the NAS member's own creation, and must be submitted in the following format: a JPG or PNG file, 851 pixels wide and 315 pixels tall, and (ideally, but not necessarily) less than 100 kilobytes in size. If a bigger image is submitted, it will be cropped to fit the format of the page. Bear in mind that the image will be overlapping with the NAS logo in the bottom left corner when added to our Facebook page.

Multiple submissions are allowed, so please send your photos to committee@nottinghamastro.org.uk.

No cash prize alternative! The winner will be announced in the next edition of this Journal.

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.

ADVERTISEMENTS

FOR SALE

- **Orion** (USA) 6x26 correct image **finderscope**, complete with bracket **£15**
- **Telescope Optics Book** by Rutten and van Venrooij (hardback), in excellent condition
£12

Contact **BARRY WINSTON**

Home tel no 0115 989 4239 mobile no. 07507 863 689.

Email barrywinston@yahoo.com

WANTED: Eyepieces

I am currently looking for 2nd hand Televue eyepieces to compliment my TV 101.

I am looking for mainly Nagler eyepieces but would be interested in other models in the Televue too.

I am situated close to Alfreton, Derbyshire. Thank you.

Paul Davies

Email: paul@graphic.demon.co.uk

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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Kevin Greally

David Anderson

Victoria Jolly

Phil Heesom

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 2013

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



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:

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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: