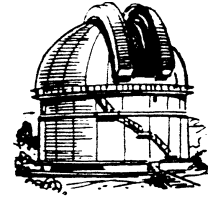

Journal

of the

Nottingham Astronomical Society

November 2019



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Thursday, 7th November

**Gotham Memorial Hall
Gotham, NG11 0HE**

8 pm (doors open at 7 pm)

Tonight we invite NAS Members to our

Annual General Meeting

followed by a

Cheese and Wine Social



*Soft drinks and tea/coffee will
also be available*

Transit of Venus, imaged by the Editor on 8th June 2004



My equipment was relatively unsophisticated in those days. I captured this photograph at about 7:30 am BST, by projecting the image from an ex-army 45mm refractor on to a white card, and snapping the result with a simple point-and-shoot camera.

Sky Notes

November 2019



Compiled by Roy Gretton

All times given below are in Greenwich Mean Time

PHASES OF THE MOON

| Phase | Date |
|---------------|---------------------------|
| First Quarter | November 4 th |
| Full Moon | November 12 th |
| Last Quarter | November 19 th |
| New Moon | November 26 th |

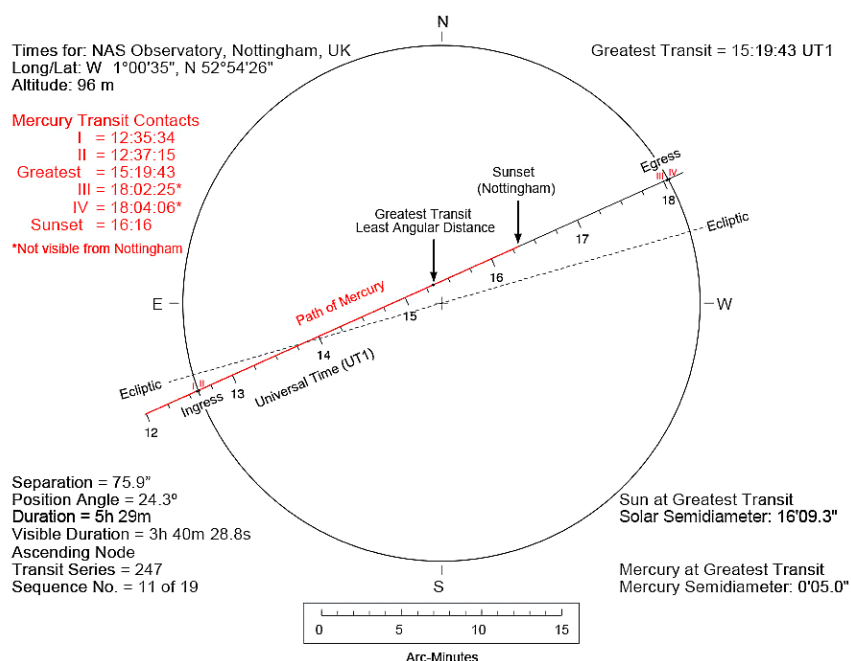
This month the Moon is closest to Earth on the 23rd, and furthest on the 7th.

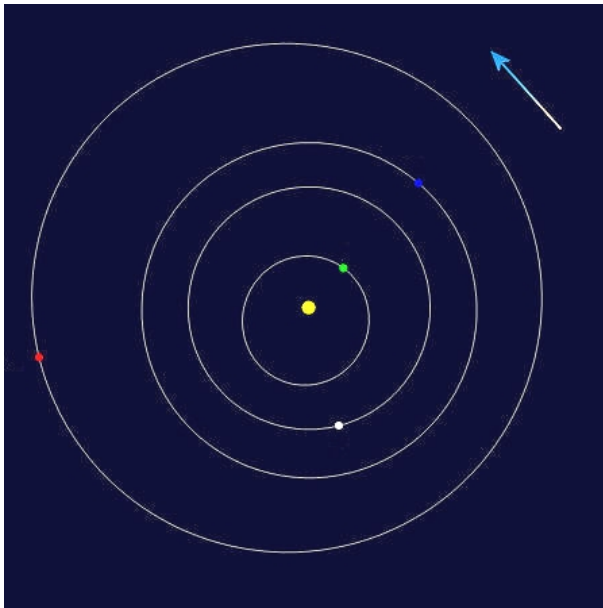
THE PLANETS

Transit of Mercury, November 11th

From time to time the inferior planets (Mercury and Venus) pass directly between Earth and the Sun, so that their silhouette becomes visible in front of the solar disk. Transits of Venus are relatively rare, occurring in pairs eight years apart, followed by a gap of more than a century. We were lucky to have a pair of Venus transits quite recently (2004 and 2012), with the transit of 2004 being very favourable to UK observers – even the weather cooperated! There won't be another of these until 2117.

Transits of Mercury are much more common (typically 13 occur per century, the last being in 2016), but while Venusian transits are easily visible to the naked eye (through “eclipse glasses”) you will need to magnify the Sun's image to be able to see the tiny dot that is Mercury. This can be done safely by projecting the image from a small telescope on to a piece of white card held about a foot behind the eyepiece. **Never attempt to look at the Sun directly through the eyepiece!** As viewed from Nottingham, Mercury will **begin** to pass in front of the Sun at **12:36pm**, **maximum immersion** will occur at **3:20pm**, and the transit will still be taking place as the Sun sets.





The inner solar system on November 11th

Mercury (**green** dot) lies exactly between Earth (**blue** dot) and the Sun.

As viewed from Earth, Venus (white dot) lies to the east of the Sun and is therefore an evening object, while Mars (**red** dot) lies to the west of the Sun and is a morning object

Arrow indicates direction of rotation

Other than that silhouette view on the 11th, **Mercury** will be difficult to observe from the UK this month. Following the transit, it will move out rapidly into the morning sky, reaching greatest western elongation on November 28th, but being nearly 15 degrees south of the celestial equator, it will be very low in our sky.

Venus (magnitude -3.9) is slowly emerging into the evening sky, and by the close of November will be setting about 1½ hours after the Sun.

Mars (magnitude $+1.8$) is an inconspicuous object in the morning sky, rising about 2 hours before the Sun as November begins.

Jupiter is now fast disappearing into the sunset glow as it approaches conjunction with the Sun in late December.

Saturn (magnitude $+0.5$) lingers low in the evening sky throughout November. In mid-month it will be setting three hours after the Sun.

This is the best month of 2019 for observing **Uranus**, as it passed through opposition on October 28th, and will be visible all night. It about 13 degrees north of the celestial equator in the constellation of Aries, and shining at magnitude 5.7.

Neptune is an evening object about 6 degrees south of the celestial equator in the constellation of Aquarius, shining at magnitude 7.8, and therefore only about one-sixth as bright as Uranus.

METEORS

The **Taurids** have two maxima, the first on November 5th (fairly favourable from the point of view of moonlight) and the second on the 12th (definitely unfavourable). Taurids tend to be slow-moving meteors, and may give bright events, but no more than a handful per hour.

The **Leonids** reach maximum activity on November 18th, under unfavourable conditions. Perhaps up to 15 events per hour.

DIARY DATES 2019

Monthly Meetings of the Nottingham Astronomical Society

1. Meetings at Gotham Memorial Hall

Nottingham Road, Gotham, NG11 0HE

Held on the **FIRST Thursday** of each month except **August**

Doors open at 7pm for 8pm start.

*These events are normally centred around a talk by a visiting speaker, except Open Evenings, when NAS members provide the activities. Normally we have a **Library** and a **Helpdesk** open at each meeting.*

| <u>Date</u> | <u>Topic</u> | <u>Speaker</u> |
|--------------------------|--|--|
| November 7 th | Annual General Meeting with a Wine and Cheese Social | |
| December 5 th | Voyages to the Sun <i>Probing our nearest star</i> | Prof Lucie Green University College London |

2. Social and Practical Astronomy Meetings at the Burnside Memorial Hall, Plumtree

Church Hill, Plumtree, Nottingham, NG12 5ND

Held on the **THIRD Thursday** of each month from **7:30pm**

These meetings are of a more informal nature, providing opportunity for members and guests to share their hobby over a cup of tea or coffee, as well as listening to a short talk.

The next meeting will be on November 21st (see further details below)

Other forthcoming events for the amateur astronomer

| | |
|---|---|
| Saturday 26 th October | BAA Back to Basics Workshop , Rickmansworth |
| Saturday 26 th October | SPA Meeting , London |
| Saturday 26 th October | Society for the History of Astronomy Autumn Conference , Birmingham |
| Saturday 26 th October | Ancient Greek Astronomy , Bromley House Library, Nottingham |
| 15 th -16 th November | International Astronomy Show , Coventry |
| Sunday 17 th November | BAA Equipment & Techniques Section Meeting , Bedford |
| Saturday 14 th March | BAA Deep Sky Section Annual Meeting , Sheffield |
| Saturday 25 th April | BAA One Day Spring Meeting , Nottingham |

Social and Practical Astronomy

Plumtree, October 2019

The **October** meeting at Plumtree was devoted to transits and occultations. We had a really good turnout.

Four small groups rotated around five different stations, each devoted to one particular aspect of transit and occultation astronomy.

Julian and Leigh covered planetary orbits and why transits happen; they also had a demonstration of photometry and light curves to show how transits can be detected even for planets outside of our solar system.

James covered occultations.

Tony Handcock talked about the history related to the observations of transits and how this information helped shape our understanding of the solar system.

Brendan and Rob Dawes talked about the practicalities of observing a transit, and their experience of observing and imaging past transits of Venus and Mercury.

Neil Mudford talked on some of the less common transits which occur from time to time, including transits involving man-made satellites and spacecraft.

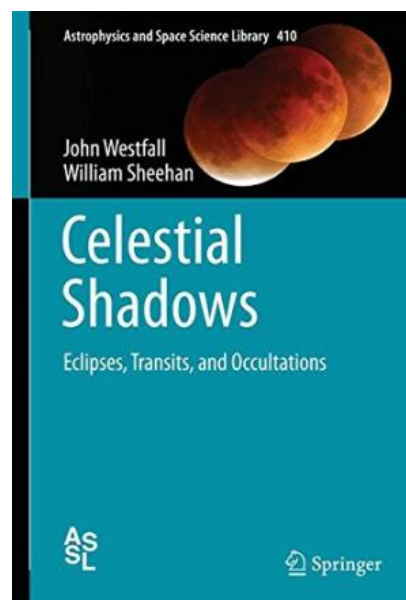
I am really grateful to all our speakers who made the evening so enjoyable and informative. Thanks also to Richard for preparing the handout on the coming transit of Mercury, and for keeping us all to time.

In my talk I mentioned there was a journal devoted to occultation astronomy, and a link to the Journal for Occultation Astronomy can be found here, with many past editions freely accessible online:

<http://www.iota-es.de/JOA/joafree.html>

I also said I would share a link to the software which Julian used for the real-time light curves:

<http://www.planetarium-activities.org/shows/sp/lightgrapher>



I also mentioned an excellent book by John Westfall and William Sheehan called “Celestial Shadows” which is probably the most comprehensive book on eclipses, transits and occultations. It is very easy to read and absolutely fascinating, but unfortunately copies are now selling for £100.

For the **November** Plumtree meeting, *I want everyone to bring a book*, ideally related to astronomy and science, which they’ve either really enjoyed, or which they’ve not enjoyed despite rave reviews. This can be fiction, or a technical manual, a beginners guide, a star atlas, a biography of a famous astronomer, or a book for children.

The **December** meeting at Plumtree will see the return of our patron, Professor Mike Merrifield from the University of Nottingham. We’ve not decided the nature of the event yet, but it will be an informal evening with him, and mince pies and mulled wine.



Montage of images of the October Plumtree meeting

James Dawson
NAS Helpdesk & Plumtree Meetings
helpdesk@nottinghamastro.org.uk

Advertisements

FOR SALE

Kendrick 8-inch solar filter with custom-made box
£50

Celestron SCT-to-camera T-adapter – item number # 93633
£15

Counterweight 5.2 kg
£10

Observing stool (adjustable height)
£10

Please contact **Sam Boote**
sam@boote.myzen.co.uk or at Society meetings

Telescope offered free to a good home

NAS member Marcus Stone has a 6-inch Newtonian reflector (F8) on a Dobsonian mount which he is offering free of charge to anyone interested. The telescope is in need of some attention, but would be a good start-up instrument.



Marcus can be contacted on **07531989820**

The Nottingham Astronomical Society: E - SERVICES

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

www.nottinghamastro.org.uk

NAS on Facebook

You are welcome to connect with other members and friends of the NAS on Facebook by going to: <http://www.facebook.com/nas.org.uk>

NAS on Twitter

The Society has a Twitter account at <https://twitter.com/NottinghamAstro>

NAS Journal e-mailing list

To register for your monthly e-mailed link to the NAS Journal, and a copy of our SkyNotes, just e-mail secretary@nottinghamastro.org.uk

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

If you happen to change your email address, please remember to inform the Society by emailing us at treasurer@nottinghamastro.org.uk

Nottingham Astronomical Society

Affiliated to the **British Astronomical Association**
Member of the **Federation of Astronomical Societies**
Supporters of the **Commission for Dark Skies**

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

Meetings

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

Gotham Memorial Hall

Gotham

Nottingham NG11 0HE

Doors open 7.00pm

Meetings start 8.00pm

Meetings end 10.00pm

These meetings are open to the public, and visitors are welcome to attend.

Annual subscriptions 2019

| | |
|--|-----|
| Full | £30 |
| Joint rate for partners living at the same address | £45 |
| Under-18s and full-time students | £5 |

Subscriptions become due on 1st January. Half-price subscription is charged if joining after 30th June (minimum subscription £5).

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

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