
Journal

of the

Nottingham Astronomical Society

April 2023



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Thursday, March 30th

**Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF**

7:45pm (doors open at 7:15pm)

This evening we welcome

Dr Simon Joyce
of the University of Leicester

who will be speaking on

**'How Stars affect planets,
from Mars to Exoplanets, and
into the Future'**

Chairman's Message, April 2023

Hello all!

Just a reminder that the "April" meeting is actually in March - on March 30th. We have Dr Simon Joyce coming to talk to us from Leicester on the subject of how stars affect planets. we've also had to reshuffle a couple of other talks as speakers had commitments, but we have a program up to July now. Cosmic Rays, X-rays and Space debris are all in the mix!

As those of you who attended the last Plumtree meeting will know, the observatory access is in a rather sorry state. The "roadway" we attempted to fix up last year still has standing water in it, and Severn Trent attempting to fix a pipe problem dug a big hole in the road, did something to the problem pipe and filled it back in and tarmaced it over. However during the next few days that patch sunk in an alarming way dipping down maybe a metre! I believe they are going to try redoing it, but in the meantime it is certainly not safe to travel over, even if the rest of the site dries out!

Julian

Sky Notes

April 2023

Compiled by Roy Gretton



All times given below are in British Summer Time

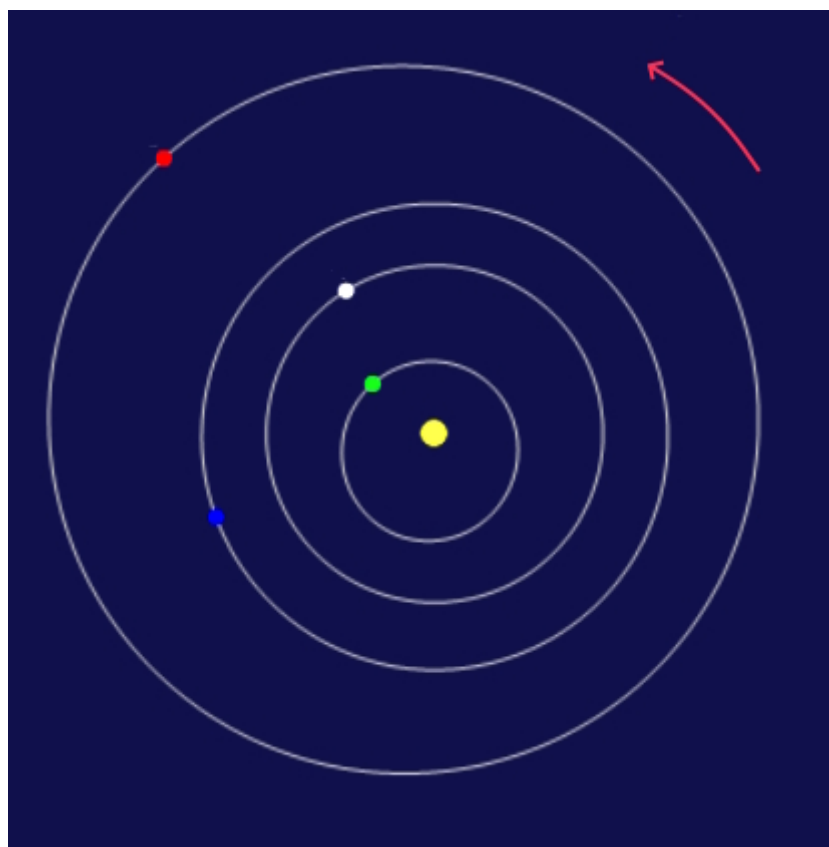
PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
Full Moon	April 6 th
Last Quarter	April 13 th
New Moon	April 20 th
First Quarter	April 27 th

This month the Moon is closest to Earth on the 16th, and furthest on the 28th.

THE PLANETS

The inner Solar System on April 11th
The **red arrow** shows the direction of rotation.



Mercury (**green** dot), Venus (**white** dot) and Mars (**red** dot) are all to the **east** of the Sun when viewed from Earth (**blue** dot) and are therefore evening objects, with Mercury at greatest eastern elongation. Earth overtook Mars last December and is now leaving the Red Planet far behind.

This month provides the best opportunity of the year to observe **Mercury** in the evening. It reaches greatest eastern elongation (19.5 degrees) on April 11th when it will be setting two hours after the Sun. By then its declination will be +17 degrees and its magnitude -0.2.

Venus continues to increase in brilliance in the evening sky, with its brightness increasing from magnitude -4.0 to -4.2 this month. In late April it won't be setting until midnight.

Mars, although a fading object (magnitude 1.3 at the end of April), is still very easy to spot due to its orange hue and large elevation (still more than 24 degrees north of the celestial equator in the constellation of Gemini). This month its angular diameter will fall below 6 arcseconds as the Earth, in the orbital fast lane, leaves Mars further and further behind.



Planets in the evening sky
Looking west at 8:45pm on April 11th

Jupiter is unobservable this month as it passes through solar conjunction on April 11th.

Saturn is gradually emerging into the morning sky, and will be rising before 4 am at the close of the month (but when the sky is already starting to lighten) and will be extremely difficult to observe.

Uranus, in the constellation of Aries, will become unobservable this month as it disappears into the sunset glow.

Neptune is a morning object, but will be extremely difficult to locate in the bright pre-dawn sky.

METEORS

The **Lyrids** are very favourably timed this year, as their maximum activity is expected in the early hours of April 23rd, coinciding with a three day-old Moon. About 15 meteors per hour may be expected under ideal conditions.

Venus, the Moon and Mount Fuji imaged by Jack Worsnop



The photo of Fuji was taken during the day, then converted to night in Photoshop and added to the night time image of the Moon and Venus

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

DIARY DATES 2023

Monthly Meetings of the Nottingham Astronomical Society

1. Meetings at
Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF

Held on the **FIRST Thursday** of each month (**unless otherwise stated**)
except **August**

Doors open at 7:15pm for 7:45pm start.

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

Date	Topic	Speaker
**March 30th	' How Stars affect planets, from Mars to Exoplanets, and into the Future'	Dr Simon Joyce University of Leicester
May 4th	Cosmic Rays	James Miller
*June 8th	Confessions of an X-ray pyromaniac	Dr Phil Evans University of Leicester
July 6th	Space Debris and Astronomy	Prof Don Pollacco University of Warwick

Note unusual dates: *second Thursday of the month
**** fifth Thursday of the month (no meeting in April)**

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 or discussion

The next meeting will be on **April 20th**

Social and Practical Astronomy, Plumtree, March 2023

The March Plumtree meeting was delivered by James and Julian and although titled Celestial Mechanics, it was a talk about the spin and rotation and orbits of the solar system planets, and some of the factors which cause these to vary over time.

Sam Boote helped to explain about the Milankovitch Cycles as this came up, and there is a good [webpage](#) on the NASA website about these should you wish to read further.

Chris made a lovely birthday cake for Julian which didn't last very long and attendance at the meeting was again very good.

James finished the meeting by giving an observatory update and talked about the current plans to improve access to the observatory, and the barriers in the way. James also talked about the power generation at the site and showed some data on how much power is produced by the solar panels and the wind turbine. A recent photo of a miniature daffodil which Chris planted at the observatory is shown here.



The April meeting will be organised and run by Richard and will be a member session talking about an astronomical image they have taken, or one which was taken by someone else and a short narrative about the image. See Richard's message below.

James Dawson

Observatory Director

observatory@nottinghamastro.org.uk

Social and Practical Astronomy Meeting at Plumtree

Thursday 20th April, 8pm

Members' favourite Astronomy Image

We are requesting members to volunteer to do a 5 minute short talk on your favourite astronomy image.



The image may either have been taken by yourself or your favourite astronomy picture.

A brief 5 minute talk on.



An interesting trip or story to take the picture.

Technical details of how the image was obtained.



Perhaps the picture may have inspired your life long interest in Astronomy.

You may wish to talk about the science behind the photo - such as a professionally taken image

Please email me your image or any slides to membership@nottinghamastro.org.uk by 18th April.

Your support for the evening is most welcome.

Richard Severn

Practical Astronomy Show, Kettering, Saturday 11th March 2023

This show has now been hosted three times in Kettering and comprises of a one-day event, with about 6 talks throughout the day (free to attend) and the opportunity to looking around various vendors stalls, ask for advice or pick up a bargain. I went along representing the Society for the History of Astronomy and took a car full of second handbooks I am selling on behalf of that society.

I only went to one talk, but it was a good one. It was by Robin Glover who is the author of the software SharpCap, used for astrophotography. Robin had a mixed audience, so he had a difficult task to please everyone. I have been using SharpCap for about 10 years and it was good to see Robin use the software and I picked up various things. I went to talk to him afterwards on his stand and he gave me some ideas of things to try to combat a connectivity issue I've been having with one of my cameras.

Many of the big retailers in amateur astronomy were there, including The Wide Screen Centre, Altair, 365 and numerous other stands with all sky cameras, meteorites, mugs, dew bands, mounts, tripods, and all other things. A picture above shows a table of all sorts of different CMOS cameras by Altair Astro. The British Astronomical Association, Society for Popular Astronomy, Astronomy Now, The Webb Deep Sky Society and many other groups had stands. It was good to see several old faces. A photo of the main hall with retailers stalls is shown below.



There are already plans for this event to happen again next year and it is well worth a visit. <https://practicalastroshow.com/>

James Dawson

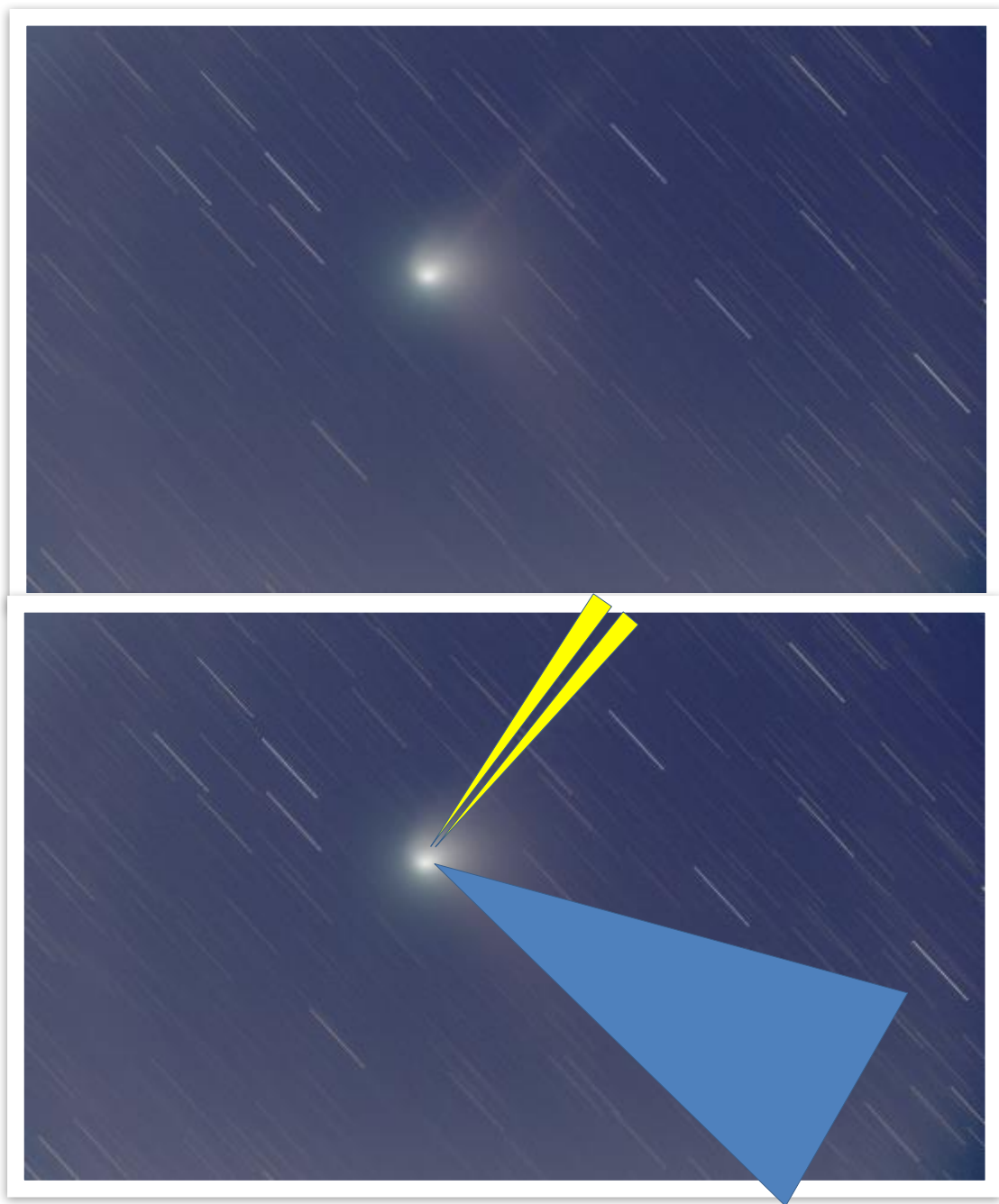
Observatory Director

observatory@nottinghamastro.org.uk

Comet C2022/E3

On the night of 31st January 2023 into the small hours of 1st February Richard and I attempted to image this comet using a Skywatcher ED80 (80mm semi-apo refractor) and an unmodified Canon 6D camera. The Moon was 80% illuminated and although some way away from the comet, the sky was well illuminated by it.

We took 110 exposures of 30 seconds each, at ISO 1600, at prime focus, as well as some flats and dark frames. The data has been stacked in Deep Sky Stacker; the comet is sharp but the stars have been left to track. There is a faint green hue around the tip of the coma and both the ion tail and the dust tail can be made out with the eye of faith.



In the image above I have tried to crudely indicate where to look for the two tails. The ion tail I've indicated with yellow streaks, and the dust tail is a much broader fan which I've shown by a blue triangle.

With a more aggressive stretch of our data, the finer structure of the ion tail becomes easier to see as shown below.

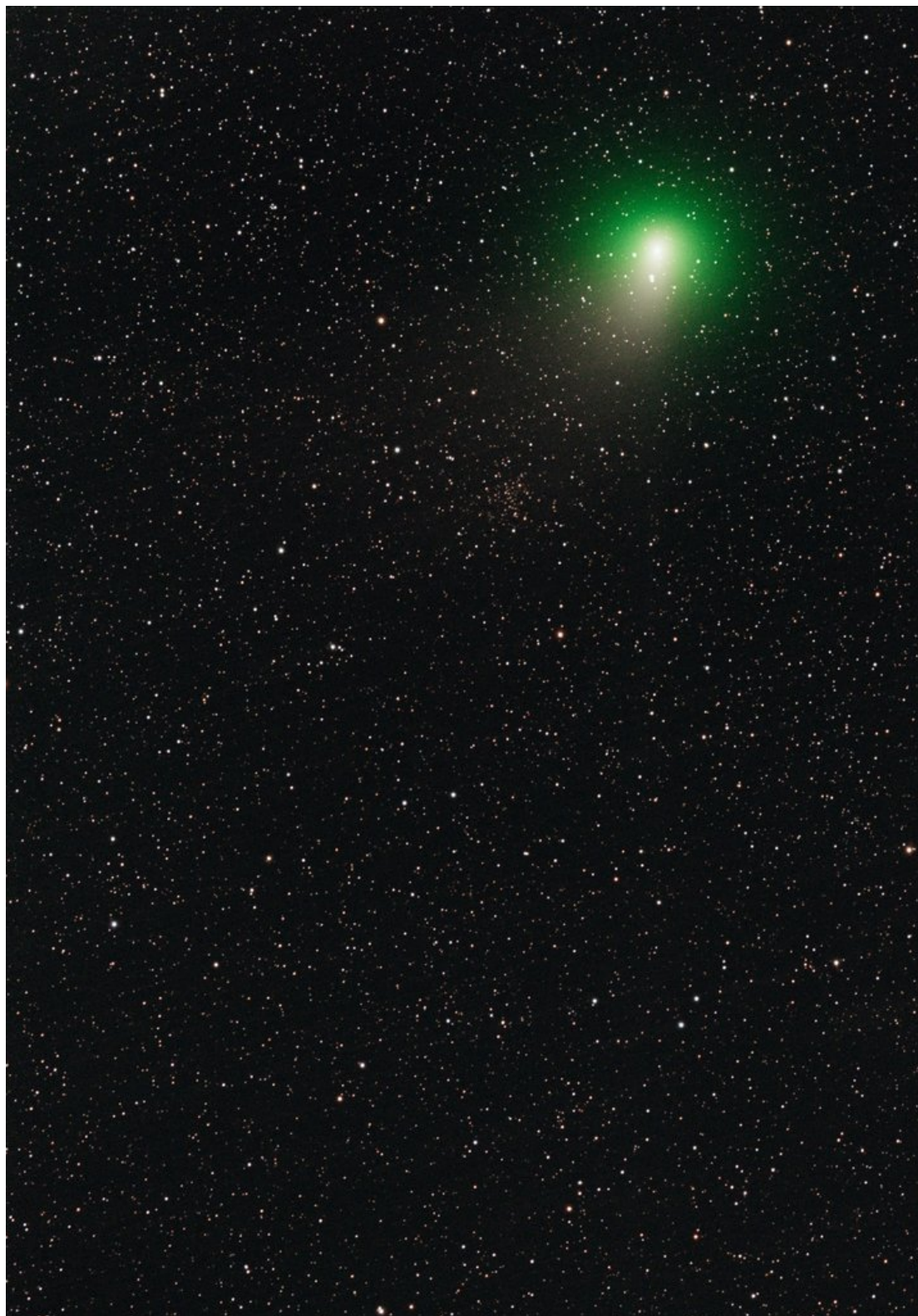
Our data has been uploaded to the British Astronomical Associations website for the Comet Section to use.



James Dawson
Observatory Director
observatory@nottinghamastro.org.uk

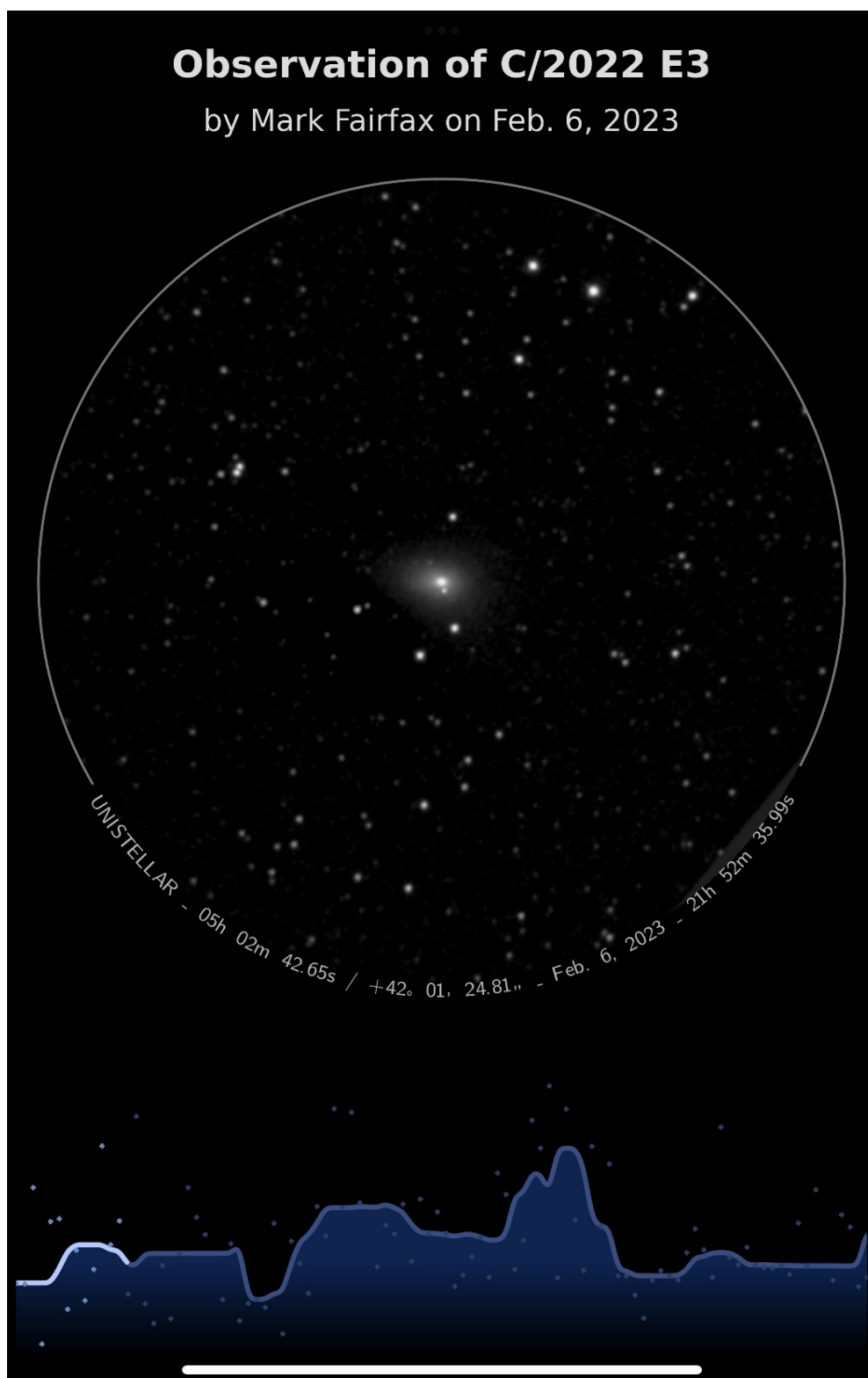
*Further members' images of Comet C/2022 E3 (ZTF)
are shown on the next three pages*

Leigh Blake captured this image on the night of the Full Moon (February 5th).



The image was taken with an ASI2600 Esprit 100 camera and is composed of forty 60-second exposures combined using Deep Sky Stacker's comet mode. This produces **two** images, one with the comet registered and one with the stars registered. The resulting images were then merged. The tail was washed out by the brightness of the Full Moon.

Mark Fairfax acquired this Unistellar citizen science observation, with photometry taken from a 20 minute observation using his eVscope 1.



David Dunford captured this image on February 5th, showing how the comet moved over a period of 16 minutes, using a Unistellar eVscope.



Venus and Jupiter
imaged by John Dignan on February 26th





John also captured this image of the two galaxies, M81 and M82



...And as I'm left with a bit of white space to fill, here's a picture of the Editor at an East London pub on Mothers' Day:



Advertisement

For Sale

Meade ETX90EC telescope with Autostar #497 hand controller

Meade 26mm and 15mm Superplossl lenses and Meade x2 Barlow lens

Meade #884 tripod (surface rust on exposed chrome parts of legs due to having been stored in an outhouse) with accessory tray and carrying bag.



£195

Contact **Richard Jackson 07954555945**

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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Meetings

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

Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF

Doors open 7:15pm

Meetings start 7:45pm

Meetings end 9:15 pm

These meetings are open to the public, and visitors are welcome to attend, subject to a charge of £3 per meeting for adults.

Annual subscriptions 2023

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.

The Nottingham Astronomical Society

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