Journal

of the

Nottingham Astronomical Society

September 2025

In this issue

Thursday, September 4th

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

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

This evening we welcome

Keith Townsend

who will be speaking on

Charles Messier, Marathon Man

Chairman's Message, September 2025

Dear Members,

I hope you all had a great summer. We all had a good barbecue and if you came I hope you enjoyed it! It was a chance to see the updated observatory infrastructure, and we're hoping for some observing this autumn as the nights get darker. The tricky bit is the weather, both cloud and rain - as the rain makes the clay base very soggy - so although that is not a problem at the moment, it has been in the past.

We now start a new series of talks - starting with one about the life of Charles Messier, who gave his name to lots of objects in the night sky, Anyway - looking forward to seeing you all again.

Julian
NAS Chair

Sky Notes
September 2025

Compiled by Roy Gretton

All times given below are in British Summer Time

The **Southward Equinox** (Autumnal Equinox in the Northern Hemisphere) occurs on the evening of September 22nd.

PHASES OF THE MOON

Phase	Date
Full Moon	September 7th
Last Quarter	September 14th
New Moon	September 21st
First Quarter	September 30th

This month the Moon is closest to Earth on the 10th and furthest on the 26th.

Total Lunar Eclipse, September 7th, visible from the UK at moonrise.
The Moon will be fully eclipsed as it rises at about 7:40pm, but will be difficult to see at this stage, being very low down in the east. Totality will end at 7:52pm, and after this the Moon will become progressively easier to spot as the eclipse becomes partial. The partial phase will end shortly before 9pm.

Daytime Occultation of Venus, September 19th
The waning crescent Moon will pass in front of the planet Venus in the early afternoon of Friday, September 19th. Venus will disappear behind the bright limb of the Moon at approximately 12:50pm and reappear from behind the dark limb at about 2:10pm – but if you are intending to observe this, be ready with your equipment several minutes ahead of these times. **Note:** Venus will be only 26 degrees from the Sun, so please **take due precautions** to avoid damaging your eyes (or your equipment) by exposing them to the Sun's rays.

THE PLANETS

Mercury begins September as a morning object but quickly dives in toward the Sun, passing through superior conjunction on the 13th and thereafter emerging as an evening object but almost impossible to observe.

Venus, magnitude -3.9, begins September as a morning object 31 degrees from the Sun. By the end of the month its elongation will have diminished to 25 degrees.

Mars is now a very tiny, inconspicuous target, 4 arcseconds across, swamped by the sunset glow as it moves further south in the constellation of Virgo.

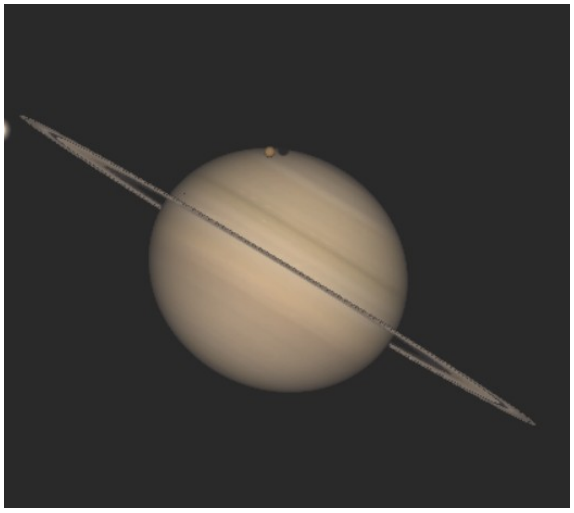
Jupiter won't reach opposition until the New Year, but is already gracing the morning sky as it creeps through the constellation of Gemini. By the end of September it will be rising soon after midnight.

Saturn reaches opposition to the Sun on September 21st, when it will be 3 degrees south of the celestial equator in the constellation of Pisces.

Throughout 2025 we are viewing Saturn from close to the plane of its equator. This has two important consequences: 1) we are seeing the ring system almost edge-on, which means it will look less impressive than usual, but 2) this is a good year for observing eclipses, occultations and transits of Saturn's satellites.

Phenomena of **Titan**, which orbits Saturn every 15 days and 22 hours, are this month as follows:

Sept 4,	06:01	shadow transit begins
Sept 12,	04:23	disappearance into eclipse
Sept 20,	05:34	transit begins
Sept 20,	05:37	shadow transit begins
Sept 28,	02:38	occultation begins



6 am on September 20th

Titan and its shadow transiting near Saturn's north pole

Uranus, magnitude 5.7, is 20 degrees north of the celestial equator in the constellation of Aries.

Neptune is a magnitude 8 object in Pisces, about two degrees northeast of Saturn.

METEORS

A lesser-known shower, the **Epsilon Perseids**, come to maximum activity this year on September 9th, unfortunately with a 17-day old Moon, which will hamper observations.

DIARY DATES 2025

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
4th September	**Charles Messier, Marathon Man**	**Keith Townsend**
2nd October	***TBA***	
6th November	**Supermassive Black Holes**	**Professor Omar Almaini** University of Nottingham
4th December	***TBA***	

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 **September 18th**

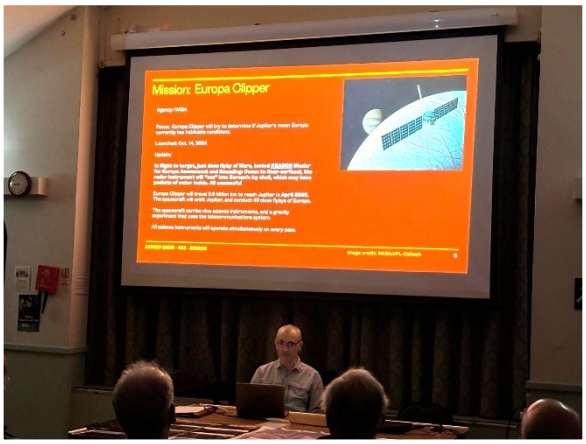
Social and Practical Astronomy, Plumtree, July and August 2025

The **July** Plumtree was a talk by me called "*A comet, a painting and a duchess: a whodunnit mystery*". It was centred around a painting I was given in about 2015 which features a comet, and the story of how I investigated the comet and the artist. I recorded the meeting which is on the Society's YouTube channel if you missed it and wanted to watch; the recording quality if fairly poor, as are my presentation skills.

https://www.youtube.com/watch?v=2xo9TRQdY6M

The **August** Plumtree meeting saw two members give talks.

Sam Boote (left) talked about his journey in astronomy and also on the Messier Catalogue of deep sky objects. **Andrew Green** (below) spoke on some of the space missions which have caught his attention (present and future) and also on some of the political and funding issues around these.



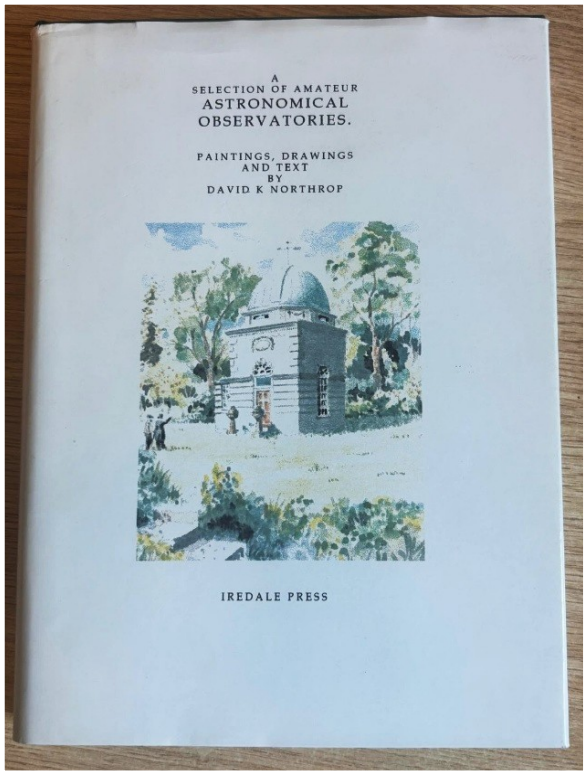
Both talks were equally fascinating, and generated questions and discussions afterwards. People obviously enjoy talks by other members, so this is something I am going to try harder to get on the Plumtree programme. It does mean however that people will have to help out. We can help with technical aspects of putting slides together if needed. Chris made a delicious chocolate and strawberry cake which had a half life of about 10 minutes.
The topic of the **September** Plumtree has yet to be confirmed.

James Dawson
helpdesk@nottinghamastro.org.uk

Do you have an observatory at home?

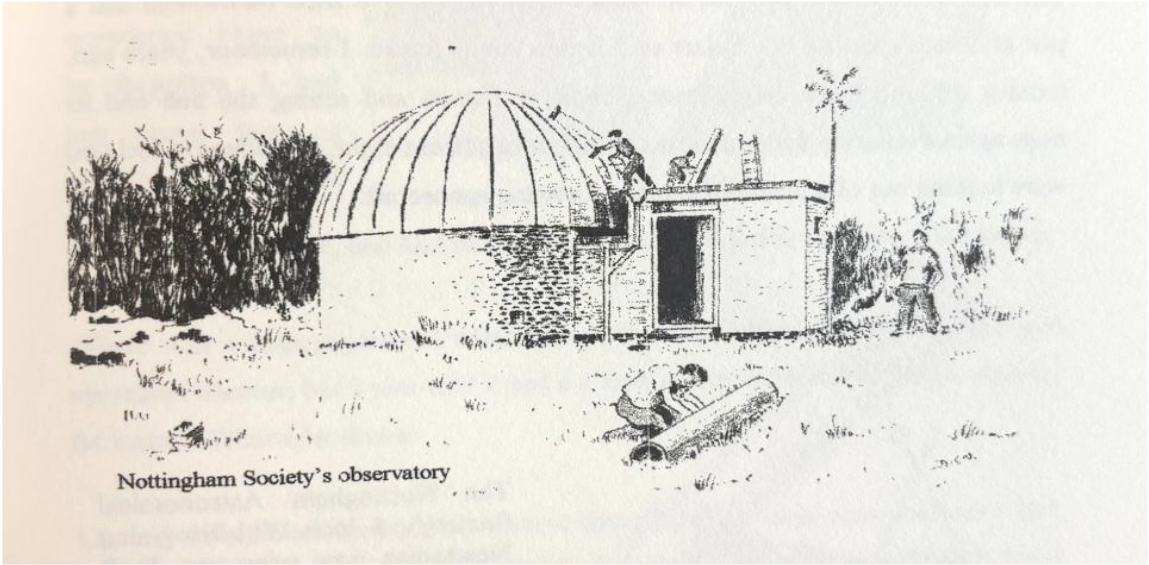
If you have any form of observatory at home I would be interested to know as I am planning a Plumtree session on home observatories. Ideally, I'd like people to share images of their observatory and talk a bit about the benefits and drawbacks of them, as well as how they came to the decision to have an observatory and how they went about purchasing, building and installing it.

David Northrop (1925-2002) was an early member of our society and a keen artist as well as amateur astronomer. He published a book in the 1990s called Astronomical Observatories, which contained many drawings and paintings he had made of various observatories, many of them amateur ones. It is unsurprising that our own observatory appears in the book. The late Alan Heath's home observatory also features. The book is now long out of print and second-hand copies are very hard to come by.



If you do have a home observatory, please let me know.

James Dawson
helpdesk@nottinghamastro.org.uk


Nottingham Society's observatory

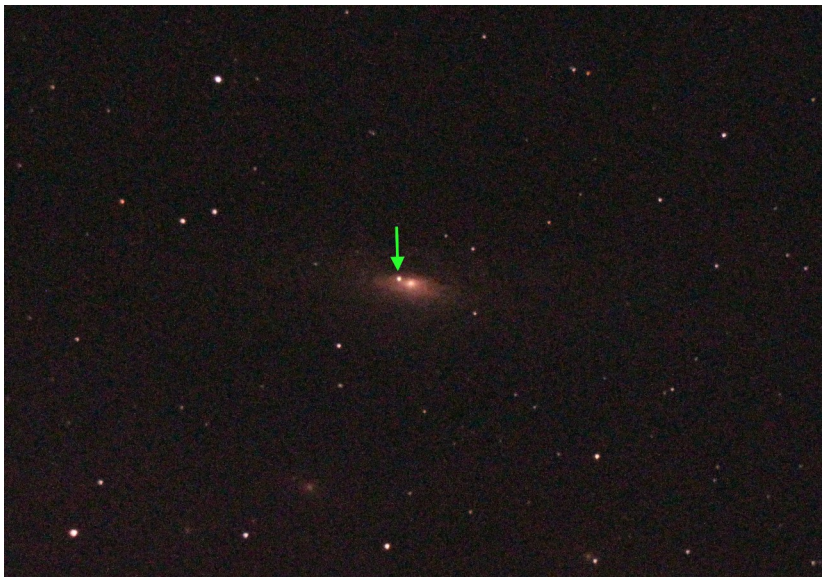
Supernova SN2025rbs in NGC7331

The **G**ravitational-wave **O**ptical **T**ransient **O**bserver (GOTO), an array of robotic optical telescopes, discovered a Type 1a supernova in the galaxy NGC7331 on July 14th this year. NGC7331, an unbarred spiral estimated to be between 40 and 50 million light-years distant, is a foreground galaxy of the Deer Lick Group in the constellation of Pegasus, and currently well placed for observation from our part of the world.

NGC7331 was imaged on August 16th using a Canon 700Da camera at the f/10 focus of my C11 SCT. The **first image** is a stack of 56 x 30-second frames (total exposure 28 minutes), but if anything the supernova is easier to spot on the **second image**, which is a single 30-second exposure, where it shows up as an object of comparable brightness to the core of the galaxy. This is typical of many supernovae: they can outshine the rest of the galaxy of which they are a part.

Galaxy NGC7331 imaged for 28 minutes on August 16th

(spot the supernova)



A single 30-second image of NGC7331 taken on August 16th

(position of the supernova indicated by the green arrow)

Roy Gretton

Annual Barbecue: Saturday 2nd August 2025

It was a glorious, blue-sky day. Our committee volunteers arrived during the afternoon to prepare for the event. We put up the gazebos, tables – and string lights for later. Julian as always did the shopping that morning with a huge list so we didn't forget anything!
Our dessert table this year was laden with wonderful cakes, made by kind members – we thank you all. One meringue dessert was so popular that a second one had to be made in situ! Luckily ingredients were available and we all got a taste.
Our new 'Social' container came into its own this year, and the star turn was James' 7-minute video which we could show in there on a large screen, all set up by our clever technical experts, Richard and Leigh. Well prepared and illustrated, James explained meteor showers, and the Perseids in particular. We had to re-run it through most of the evening so that everyone had chance to see it between burgers!
At around 8pm, jumpers began to appear – the air was chilling down – and a delightful sunset followed.

The hard-working committee cleared everything up and we were away just after 9pm.
A lovely day – one of our best barbecues so far, and well-attended. Thanks go to all our committee and volunteers who made the event so successful; and to all members, friends and family who supported our efforts.

Secretary
NAS Committee

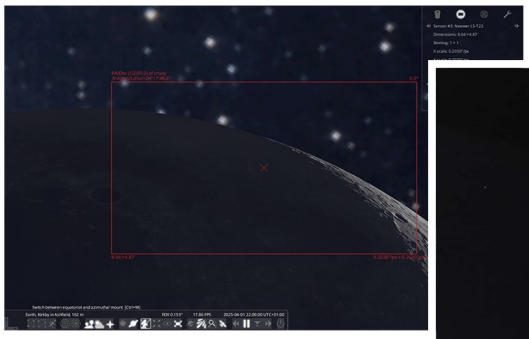
Ramblings from the Conservatory

At the end of March this year an unusual eclipse occurred with the umbra literally falling off the edge of the Earth that was partially viewable only if you were in the penumbra shadow but it heralded, as ever with eclipses, a new moon along with a period of settled high pressure weather that brought nearly a fortnight of reasonable nightly seeing that became the last real chance to use my larger telescope before the summer observing hiatus set in.

For those of us who viewed the first night of that particular Moon's monthly sojourn around Earth would have seen that it presented a very agreeable aspect of our nearest celestial body in which the dark part of the facing lunar hemisphere was awash with Earthshine but, unfortunately, I couldn't get my scope ready before the Moon moved behind some obstructing trees and disappeared below the horizon. However, late on the next evening I captured the subs which formed the basis of the image above, which I hope you find as pleasing as I did.

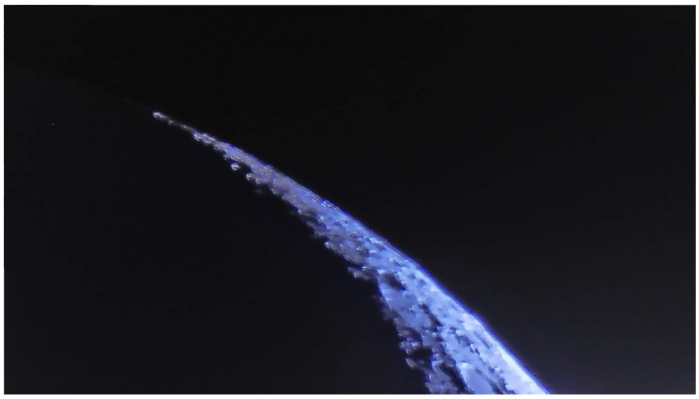
A few days later I gave my laptop an unfortunate splash of tea and it promptly refused to work along with the power supply unit. Thinking that it had decided to immediately create its own used-by-date, I quickly, prematurely as it turned out, pressed another device into service. Whilst setting it up, I started playing with Stellarium's ocular view facility (top right of the window) into which the Neewer LS-T22 camera's details were entered.

Out of interest, I compared the generated view with the corresponding sub, shown below. Judge for yourself, but I do not think there is that much difference, if any, between them.



Stellarium predicted

Taken image



Oh, after leaving the old laptop and power supply to sulk overnight, they both worked perfectly! Grrr … 😊

Recently a colleague of mine from Mansfield & Sutton approached me to enquire about the price of a new example of my (by now ancient) telescope (Celestron CGEM mount Edge 800 HD OTA) ~ not much change today out of £3000 - to which my counsel was to first consider buying something like the Skywatcher MAZ-GO2 Maksutov (~£550) as it is usable straight out of the box with nothing extra needed to obtain reasonable viewing of the 'main' solar system targets, thereby limiting the damage to one's pocket (and pride 😊) whilst discovering the joys of being out of bed at silly o'clock, experiencing the disappointment caused by our fickle weather, optimistic forecasts and the cold, which might not be to his longer-term taste.

Whilst on the subject, for those who are new to observing, hobby telescopes fall into two basic categories – planetary and deep sky. The former allows reasonable viewing of the Solar System out to Uranus and some galaxies and the five visible (to the naked eye) nebulae. Neptune and Pluto cannot be seen due to the very weak sunlight they reflect to Earth (as they are only 'seen' by the celestial background they block out). Mercury & Venus should not be targeted generally due to being near the Sun except when they are in the post-dusk and pre-dawn periods when they are at their fullest extension optically from the Sun, known as eastern or western elongation (when Venus can be exceptionally bright in the evening every 16 years or so).
'Deep sky' (anything else 😊!) viewing needs a different type of scope, one with a much better ability to get light from and better magnify a smaller part of the sky tend to be noticeably more expensive than their planetary cousins. As your confidence grows, the chances are that the spend will increase exponentially until you run out of money or places to hang all the kit on your tube! In the end, it will boil down to your artistic skills in composing subs to produce a different final image unless you can isolate an unusual target to everyone else. There are telescope operators that are happy to sell you time on their professional scope(s) via the internet or from stock image stores – the cheapest (i.e. royalty free as far as I am aware) are available from NASA and ESA.

One of the current offerings on Prime TV (at the time of writing) is a film called 'Goodnight Oppy' (no, it is not about Oppenheimer) showing the story of the first two Martian rovers (Spirit & Opportunity) which is a good, well produced, hour-ish long production about the twin rovers over the 25 years of their existence containing some very good operational imagery. Worth the watch if you get chance. From Channel 5, James May (he of the

(in)famous ‘Top Gear’ trio) is currently hosting a series on great explorers (Columbus, Raleigh & Cook) from yesteryear in his own informative inimitable style.

Much is said in some quarters, often with some force, about how the whole universe was originally formed from a single explosive event rumoured to have occurred some 13.8 billion years ago sending material hither and thither, a theory that conveniently, some might say, ignores how the requisite hydrogen and other gases were created to form the nebula prior to the first spontaneous gravity induced implosion occurring.
If the ‘Hawkings explosion’ occurred 13.8 billion years ago creating all the universe as per the current theory and the single point from which all material expanded from, can those who support that explanation enlighten me as to why an exact copy happened some 10 billion years later, one presumes, not at the original point of unity, to create our own planetary system? If you cannot, the only possible valid explanation on current information in my view is ‘god only knows’ whoever or whatever form that may take, meaning there is no known answer.

As I am writing this script at the end of June 2025, I read that Donald Trump has reduced the NASA budget by 25% cutting many research grants, putative projects and threatening future ones. In the article one project I noted, that of getting humans to Mars, has been excluded from the cut-back. One wonders why until you read that the Chinese are attempting the same feat which, if you remember back to two events in the spring of 1961 – Gagarin’s orbit closely followed by the CIA’s aborted Bay of Pigs invasion of Cuba hoping that Kennedy would be drawn into a prolonged anti-Castro conflict – which together humiliated (and pushed) the new President into allowing America to send people to the Moon as a diversion from the unpalatable news, a feat that I think it is fair to say that Russia was not capable of doing and, if the truth be told, was not really interested in despite its desire to be seen beating the US.
The ‘race’ to the moon cost every US citizen something like $2.00 US per week at a time when the Federal government was actively promoting a ‘reds under the bed’ scare and letting Strategic Air Command consume half of the entire federal US fuel budget to the same end. By the end of Apollo, NASA had to rush Schmitt, the only true scientist to walk on the moon, through the required training as Congress withheld funding for the final batch of flights.
Are the Chinese going to pull the same trick on Trump or is he keeping Musk on side?
How much is the 3-year trip to Mars going to cost the US citizen and is Trump going to fire the starting gun on that one? For one, I would not bet against it happening but for other factors, such as most Senators and Congressmen, not to mention State and metropolitan politicians, would want to spend that sort of taxpayer’s dosh on bribing their own constituents first.
Aside from the cost, there are many other factors which aren’t talked about much that will have to be solved amongst which are early recovery in the event of incapacitation within the crew or spacecraft and conception (which can only be prevented if the crew are the same sex given the expected duration of the flight, which I think is going to be politically impossible).
A couple of years ago I reviewed a book (or did I just read it?) (Imaging the Solar System by Bernard Henin) on the missions that have been launched which indirectly highlighted the amount of junk we are polluting our solar system with (plus all those still hanging around Earth) with no more thought than national or commercial pride (and self-interest of ‘scientists’ no doubt in obtaining future funding) in the name of ‘science’ or ‘to discover the origins of the universe’ under-writing the justification for the mission, often repeating other organisation’s work. Could the (dis)United Nations, for once, get its act together and rise above petty partisan politics to organise a co-ordinating body to collect & disseminate the knowledge and material recovery at a more economic cost to national budgets? Some chance

of that I think, especially when every contributing nation would want their citizens (read interested voters) to have more than their share of the control and spoils!

It seems that space tourism has started in earnest with Bezos's Blue Horizon getting into the swing early with some 52 passengers (11 crewed flights above the Karman line) at the time of writing this, Branson's Virgin Galactic, after a few flights to heights below the Karman line is thought to currently cost $450,000 US per ticket, is currently in a two-year hiatus. Space-X is not offering public space access as far as I am aware and the Russians have had one or two paying American cosmonauts who made it to the ISS but were prohibited from entering the American modules. NASA, as a matter of policy from before Alan Shepard's 15-minute lob into the mid-Atlantic, never has permitted space tourists.
I suppose the kudos of showing other people you can afford the price is akin to seeing, some years earlier, the MACH 2 sign (which was visible only for a short time before starting the descent) and the curved horizon on a trans-Atlantic Concorde flight which we were able to do some 30+ years ago, well before the days of selfies – however, when I flew on it in early 1997 there were more crew than passengers and discovered that caviar was not quite to my taste. I well remember telling the taxi driver when arranging the pick-up that he would be leaving Mansfield before the flight took off!

One final thought, for those of us who were around in the late sixties and early seventies last century will remember Dave Allen, an Irish comedian who famously poked fun at the Roman Catholic establishment, amongst many other equally pompous targets of the time, said at the end of his shows: 'May your God go with you'.
A sentiment I fully endorse.

Neil Mudford
June 29th, 2025

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

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 X
The Society has an X account at https://twitter.com/NottinghamAstro

NAS Journal e-mailing list
To register for your monthly e-mailed link to the NAS Journal, just e-mail membership@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 membership@nottinghamastro.org.uk

Advertisements

Telescopes for Sale

Genuine reason for sale, due to shoulder injury I find it difficult to cope with these larger scopes. Prices are negotiable , but each comes as a complete package, delivery can be arranged.

Scope 1. £800 ono

9.25" Celestron SCT Starlight XLT

Feather touch focuser

Celestron illuminated eyepiece , upright finder

Crayford dual speed focuser with electric control

1.25" star diagonal

1.25" visual back

Antares f6.3 SCT reducer / corrector

9.25" Bahtinov mask

Heated dew shield

Telrad base

Counter weight for balancing scope on mount.

Scope 2. £250 ono

Sky Watcher D=200mm F=1000mm Parabolic Reflector(200PDS)

Crayford dual speed focuser with electric control

35mm extension eyepiece tube and Coma corrector

Bahtinov |Mask

Dew Shield

Finder scope

Telrad Base

Celestron collimating eyepiece, Next Gen Laser Collimator.

Contact Pete Hill at peter_j_hill@hotmail.com

FOR SALE

Celestron Astro Fi **5**” Schmidt-Cassegrain telescope

Excellent condition. **£285** ono.

Also have a selection of eyepieces which could be included, and a Celestron NexYZ 3-axis universal smartphone adapter.

Seller lives in Bottesford but could deliver to the Nottingham area.

Contact Roger on 07960911804 or rbrogerblackburn@gmail.com

6-inch telescope and items for sale

I am thinking of upgrading my 6-inch scope and equipment to 8-inch and would therefore have the following items available for sale:

Celestron NexStar 6SE fitted with Bob's Knobs
Astrozap dew shield
Astrozap dew strip
Farpoint Bahtinov mask
Kendrick solar filter with solar finder
Geoptik pack-in bag for scope transport
Handset bracket 3D-printed by RVO

Please note that the scope includes all accessories, tripod, original packaging etc. as per the manufacturer's specification. The scope and all other items are just over a year old and in excellent condition.

I would prefer to sell these items as a complete set. The buyer would then be ready to start observing immediately. The price would be negotiable, but we could start talking at £900. The items can be inspected at my home in Keyworth, and I would be able to deliver at a reasonable distance.

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

Nottingham Astronomical Society

Affiliated to the **B**ritish **A**stronomical **A**ssociation
Member of the **F**ederation of **A**stronomical **S**ocieties
Supporters of the **C**ommission **f**or **D**ark **S**kies

CHAIRMAN:
Julian Onions
email: chairman@nottinghamastro.org.uk

VICE CHAIRMAN:
James Dawson
email: vicechairman@nottinghamastro.org.uk

SECRETARY:
Chris Sneddon
email: secretary@nottinghamastro.org.uk

TREASURER:
Richard Severn
email: treasurer@nottinghamastro.org.uk

JOURNAL EDITOR:
Roy Gretton
email: journal@nottinghamastro.org.uk

MEMBERSHIP SECRETARY
Richard Severn
email: membership@nottinghamastro.org.uk

WEBMASTER:
Leigh Blake
email: leigh@nottinghamastro.org.uk

OBSERVATORY DIRECTOR:
James Dawson
email: observatory@nottinghamastro.org.uk

LIBRARIAN:
Holly McNiven

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 £5 per meeting for adults (£1 for concessions).

Annual subscriptions 2025

Individual	£40
Family (maximum of two adults, and children/students living at the same address)	£55
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 membership@nottinghamastro.org.uk or speak to any NAS committee member at one of our regular monthly meetings.

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 are not necessarily endorsed by the Nottingham Astronomical Society, its Committee or members.