
Journal

of the

Nottingham Astronomical Society

November 2022



In this issue

- E-Services
- Update on Owthorpe poultry farm application
- A Message from the Chairman
- Imaging NGC 281
- Sky Notes for November
- Diary Dates for 2022-23
- Social and Practical Astronomy: meeting report
- Imaging Jupiter
- Imaging the Bubble Nebula
- Partial Solar Eclipse of October 25th
- Advertisements
- Society Information

Thursday, November 3rd

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

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

This evening we welcome

Dr Susan Cartwright

of Sheffield University

who will be speaking on

Galaxies to Atoms

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

Owthorpe poultry farm planning application – an update

As I reported at the Plumtree meeting on 20th October, the Rushcliffe Borough Council Planning Committee unanimously refused planning permission for the proposed poultry farm 1km south of the Society's Observatory near Cotgrave at the planning meeting held on 13th October. Members who are interested can view the planning meeting on Rushcliffe's YouTube channel and read the published decision on the Council's planning portal website. This is an important victory, which the Society has made a huge contribution to. The potential effects of the proposed development on our Observatory were mentioned many times during the planning meeting and appear as some of the reasons given for the refusal of planning permission in the published decision. These concerns also featured in the objections to the poultry farm made at the planning meeting by both Tim Bowden (a barrister living in Owthorpe who coordinated the objections raised by local residents) and Councillor Tina Combella (the ward councillor and Mayor of Rushcliffe) as well as in much of the publicity leading up to it (which included at least two mentions on BBC East Midlands Today breakfast news on the morning of the planning meeting). I believe that the history of our Observatory that I put together based on Brian Griffin's photos, presented to members over Zoom a year ago and printed out on the day (at great expense!) so that each of the councillors at the planning meeting could have a copy, also helped. Fred Hopper's detailed reasoning behind the importance of a clear southern view to the functioning of our Observatory were featured in the press release put out by one of the Owthorpe residents and in a Nottinghamshire Live online article.

Unfortunately, this isn't the end of the matter. Ian Pick, the developer promoting the poultry farm, has indicated to me that he will appeal the Planning Committee's decision (which is allowed 13 weeks after the original decision) and has asked the Society to withdraw its objections to the poultry farm based on possible heat haze because he claims to have written evidence that heat haze isn't a problem in practice. This goes against the experience of many of us and is contrary to what is written in many respected books, journals and magazine articles on astronomical seeing. In order to produce a definitive, scientifically rigorous alternative to Mr Pick's evidence, I (with help from Richard Severn and James Dawson and including input from Leigh Blake) have produced a plan for an experiment to determine whether there is any heat haze rising from existing poultry sheds situated near our Observatory and assessing its potential impact on our observations. Once approved by the Committee and after taking advice from Tim Bowden, we will carry out this experiment (details of which I can share with members in confidence on request) over several nights during the next two months, then fully document the results: hopefully, this should lay the heat haze argument to rest. Our objections to the light pollution that the Owthorpe poultry farm development will potentially cause remain firmly in place.

Watch this space! If you feel that you can help, then please let me or one of the other Committee members know.

Mike Provost

Treasurer, Nottingham Astronomical Society

Chairman's Message, November 2022

Dear Members

The nights get darker, but the rain keeps coming down! We hope to have some telescope evenings in the near future when the weather and people's schedules align. The observatory is looking great now with fresh paint inside and out! Mars, Jupiter and Saturn are all nicely visible, and Uranus too, as we found out at the last Plumtree meeting.

Our next speaker is Dr Susan Cartwright from Sheffield University talking about Galaxies to Atoms. Then for the rest of the year, after a cancellation by a speaker I'm going to be filling in for the December meeting with a talk on how a few crazy rocket ships have been designed over the years to visit the nearest stars. We then have a Christmas party and AGM at the December Plumtree meeting, so I hope you can all come along for that.

So best wishes to all, and hope to see you at the next meeting.

Julian,

NAS chair

Imaging NGC 281

I captured NGC 281, the Pacman Nebula using my Esprit 100 refractor and ZWO ASI533MC camera. The was the first test using a HOO filter, which is a dualband filter, which passes Hydrogen alpha light to the red pixels of the camera and Oxygen III to the green and blue pixels. Just over 3 hours of data was then processed to create this image. As ever, more data would produce a better image and I may return to this when the weather allows. This star forming bright emission nebula contains open cluster IC 1590, the multiple star B 1, and several Bok globules.



Leigh Blake

Sky Notes

November 2022

Compiled by Roy Gretton

All times given below are in Universal Time



PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
First Quarter	November 1 st and 30 th
Full Moon	November 8 th
Last Quarter	November 16 th
New Moon	November 23 rd

This month the Moon is closest to Earth on the 26th, and furthest on the 14th.

THE PLANETS

Mercury will pass through superior conjunction on November 8th, and will be unobservable this month.

Venus is also unobservable this month, having passed through superior conjunction on October 22nd.

Mars alert! The Earth will be closer to Mars during the last week of this month and during the first half of December than it will be at any opposition until at least 2031. In fact, a closer opposition won't occur until June 2033 (favouring southern hemisphere observers). What is particularly favourable about this year's opposition for us in the north is that occurs with Mars in Taurus, and therefore exceptionally high in our sky. As November begins, Mars will be rising before 7 pm after which it will be visible all night. At the start of the month the planet's angular diameter will be 15 arcseconds, and this will grow to above 17 arcseconds before the month ends, while its magnitude reaches almost -2. So let's hope for clear skies during this period!

Jupiter continues to adorn the evening sky, always brighter than Mars this year, even at the end of November, when it will be magnitude -2.5. Jupiter sets at 3 am at the start of November, and at 1 am at the close of the month.

The constant movements of the four brightest satellites are fascinating to observe. Interesting phenomena include: **eclipses** (when a satellite disappears as it enters 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). Of these, shadow transits are probably easiest to observe with a modest-sized 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.

November	Shadow transit of
2 nd	Europa begins 22:30
3 rd	Io 18:58 to 21:12
10 th	Io 20:54 to 23:07
17 th	Io begins 22:50
19 th	Io 17:19 to 19:32
20 th	Europa 17:00 to 19:29
26 th	Io 19:15 to 21:28
27 th	Europa 19:36 to 22:04

Saturn is an evening object in the constellation of Capricornus, setting at 11 pm as November begins, and at 9pm at the end of the month. Its magnitude fades from 0.6 to 0.8, and the angular width of the ring system from 39.5 to 36 arcseconds.

Uranus, in the constellation of Aries, reaches opposition on November 8th, when it will be shining at magnitude 5.6 and have an angular diameter of 3.8 arcseconds.

Neptune is an evening object 4 degrees south of the celestial equator, close to the border between Aquarius and Pisces, shining at magnitude 8. It will be setting at midnight as November ends.

METEORS

The famous Leonids reach maximum activity on November 18th, but will this year be adversely affected by a thick waning crescent Moon.

DEEP SKY – NAKED EYE

Naked eye observers might enjoy an early evening challenge, to spot the most southerly first magnitude star visible from Britain. This is Fomalhaut, the brightest star in the Southern Fish, which is roughly due south between 7:30 and 8 pm in the second week of November (when the Moon has cleared out of the way). You will need a low southern skyline, as Fomalhaut is 29.5 degrees south of the celestial equator, or about 7 degrees maximum above the horizon in Nottinghamshire. This year Fomalhaut forms a triangle with Saturn and Jupiter.

DIARY DATES 2022-23

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
November 3 rd	Galaxies to Atoms	Dr Susan Cartwright Sheffield University
December 1 st	Crazy Interstellar Rockets	Dr Julian Onions Nottingham University
* January 12 th	A Guide to the Nearest Stars	Prof Colin Steele Manchester University
February 2 nd	New Science from the JWST	Dr Henrik Melin Leicester University (STFC James Webb Fellow)
March 2 nd	Stars and Sensationalism: Searching for the First Stars in the James Webb Space Telescope Era	Dr Emma Chapman Nottingham University

***Note unusual date – second Thursday of the month**

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 November 17th

Also, by way of advance notice, on **December 15th**
we shall be holding our **Annual General Meeting**
at Plumtree, to be followed by cheese, wine and cake

Social and Practical Astronomy, Plumtree, October 2022

The October Plumtree saw nine members each present a short talk on an autumn constellation. The request was to talk for 2-5 minutes on a constellation and educate the audience on anything about that constellation. We had a lot of different styles and content which was great.

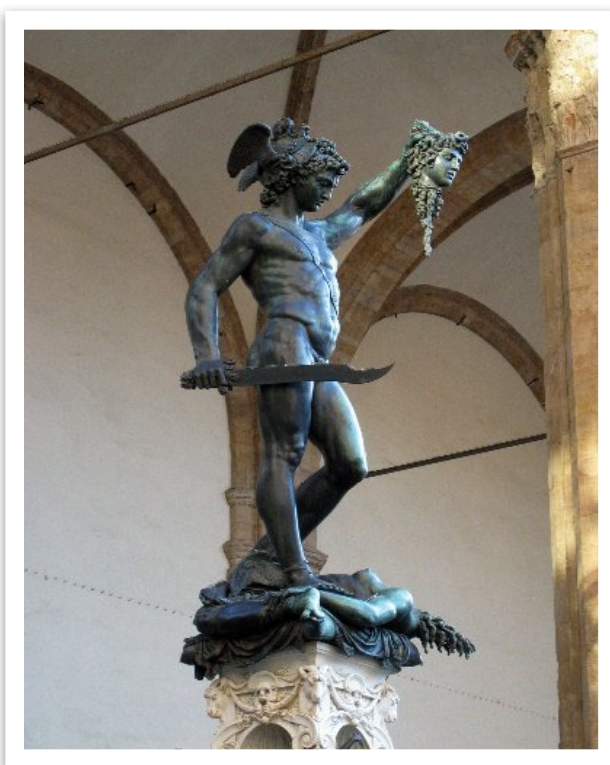


Julian opened the session talking about the history of the constellations, and how we got to the 88 constellation which are recognised today by the International Astronomical Union (IAU). More information on this story can be found on the IAU website:

<https://www.iau.org/public/themes/constellations/>

I'm grateful to the following for their talks:

- Chris Perseus (seen here, right)
- Herbel Pisces
- Holly Andromeda
- Baz (seen above) Pegasus
- Jeremy Aries
- Tony Equuleus
- Mark Delphinus
- David Cepheus
- Dane Aquarius



Jeremy Shears, past president of the British Astronomical Association was in Nottingham with his work and he joined us for the meeting and helped out by presenting one of the constellations. Jeremy focussed on Uranus which is currently residing in the constellation of Aries, and Jeremy encouraged us all to get out there and observe and image Uranus. Thank you Jeremy.

Our treasurer, Mike Provost, gave an update on the planning application neighbouring the observatory. Mike has submitted a separate entry about this in the Journal.

Thanks to all who helped with the evening, and to Chris for the splendid cake, which I think was one the nicest ever! And thanks to Richard for the sales of Bryan's telescopes.

I'm hoping the November Plumtree will be about an individual's journey in astrophotography. The **December meeting** will be the **AGM and social event** with seasonal refreshments.

James Dawson

Observatory Director

helpdesk@nottinghamastro.org.uk

Imaging Jupiter

by Dane Atkin

I used about 60 second RAW video clips using the Altair capture program, at approximately a gain of about 10 and exposures of around 10 msec. I'm afraid I varied the settings a bit, and was having a few problems, so recording exact settings was not a priority. I'll see if I can extract the details. The field of interest was about 800 x 800.

The telescope was an Altair 125mm ED refractor with a 3x Barlow lens, on a Skywatcher HEQ5 pro mount. Tracking appeared to be quite successful.

I processed the video files in Autostakkert followed by Registax 6 to sharpen, and a bit of tweak in Gimp. I'm by no means proficient in the processing and rely on trial and error. I could not get on with PIPP and so left that out.





Imaging the Bubble Nebula by Marcus Stone

The first image includes the open cluster M52 and was taken with a Meade 80mm F6 refractor at ISO 1000, with an exposure of 15 minutes.

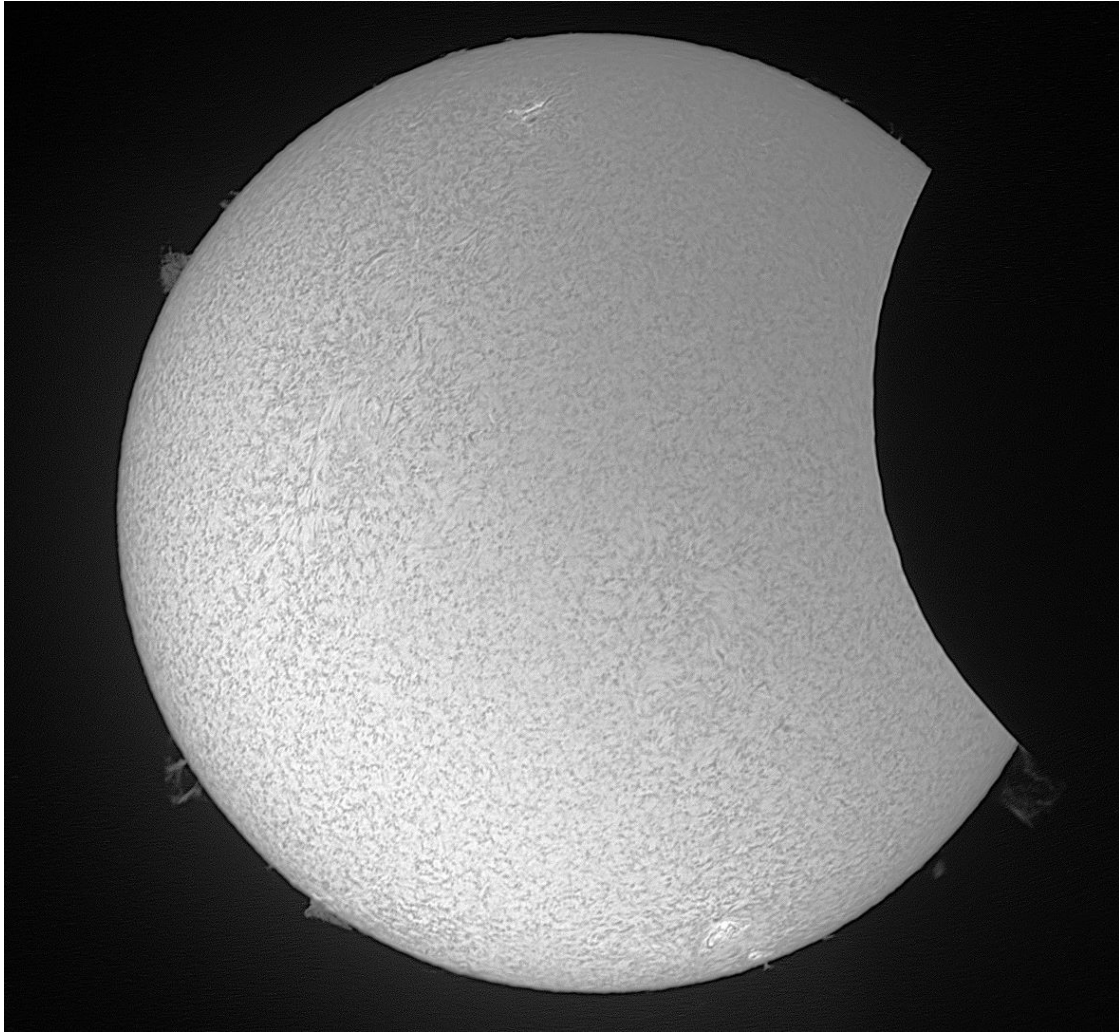


The second image, focusing on the nebula itself, was taken through my 300mm F5.6 Newtonian reflector at ISO 1000. The total exposure exposure time was 20 minutes.



The camera used for both shots was a DSLR 60Da at the prime focus, and they were both obtained on the evening of October 16th, when the sky conditions were exceptionally clear and transparent.

The Partial Solar Eclipse of October 25th



Imaged in hydrogen-alpha at 10:32 BST using a Lunt LS50T solar telescope.
A number of prominences are visible, including one (at 4 o'clock) partly eclipsed by the Moon.

Richard Severn

Advertisements

ASTRONOMICAL EQUIPMENT SALE

Two items remain from the sale of equipment belonging to the late Bryan Lilley. Items are sold on a first come, first served basis, and are sold as seen. The NAS is not responsible for the quality of the items. We can only accept cash or cheques payable to Mrs Averil Lilley. The remaining items for sale are



What it is	Cost new	Second hand price
Baader Hyperion eyepieces. 5mm, 8mm, 10mm, 13mm, 17mm, 21mm, 24mm in nice case – look unused	£1000	£500



What it is	Cost new	Second hand price
OrionOptics Europa reflecting telescope, 8", f/6	£300	£50

FOR SALE

Atik 460EX Monochrome Cooled CCD, with original box and cables - £700
More details and pictures available on request.

Contact leigh@xanthic.co.uk

FOR SALE

Set of four coloured 1.25-inch filters £25

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

FOR SALE

Contact Mark Fairfax at fairf77@icloud.com or at NAS meetings

Celestron accessories:
All in excellent condition

- Celestron Neximage 10 Solar System Colour Imager (model 93708) £180 [new £359]

Easy to use colour camera, provides live video for quick focusing - High performance CMOS imaging sensor with exceptional sensitivity and low noise, High frame rate, Hardware ROI (Region of Interest).

- Celestron X-Cel LX 1.25" eyepiece 18mm £50 [new £85]

Fully multi-coated, 60' field of view, 6-element optical design, twist-up eyecups.

- Celestron Corrector/Reducer f/6.3 (model 94175) £70 [new £139]

Reduces your Focal Length for wider field and brighter images with four-element design to improve field flatness - compatible with all Celestron Schmidt-Cassegrain telescopes.

- Celestron deluxe tele-extender (model 93643) £40 [new £99]

Allows you to use an eyepiece for eyepiece projection photography with your 5 to 14-inch Celestron SCT, to take magnified images of the Solar System.

- Celestron T-adapter for Schmidt-Cassegrain telescopes (model 93633-A) £10 [new £20]

Attaches an SLR or DSLR camera to a Schmidt-Cassegrain telescope for prime focus photography.

Nottingham Astronomical Society

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

CHAIRMAN:

Julian Onions

email: chairman@nottinghamastro.org.uk

VICE CHAIRMAN:

Richard Severn

email: vicechairman@nottinghamastro.org.uk

SECRETARY:

Chris Sneddon

email: secretary@nottinghamastro.org.uk

TREASURER:

Mike Provost

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

OTHER COMMITTEE MEMBERS:

Andrew Green

Holly Gonzalez McNiven

Mark Fairfax

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 2022

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

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.