Journal

of the



Nottingham Astronomical Society

January 2022

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Thursday, 6th January

8pm: ONLINE

Tonight we will be holding our

ANNUAL GENERAL MEETING 2020-2021

This will be a members-only event

Participants will need to have Zoom software (free to download) installed on their device

A HAPPY NEW YEAR TO ALL MEMBERS AND SUBSCRIBERS TO THE JOURNAL

A couple of planetary events to look forward to in 2022

- The opposition of **Mars** that will take place on December 8th. While by no means the closest to Earth (the angular diameter of Mars will be little more than 17 arcseconds) the planet will be unusually high in our sky, 25 degrees north of the celestial equator, so could hardly be better placed for UK observers.
- This year **Jupiter** moves into the northern hemisphere after some years in the south. At opposition on September 26th the planet will be almost on the celestial equator, so we should enjoy the best view we've had for a long time.

Chairman's Message – January 2022

Dear all,

Well, what a year it has been! I started out being elected Chairman, a job I was not expecting and rather ill equipped for. With the support of the rest of the committee though, we all seem to have come through and the NAS is still thriving.

We had plans for the observatory at the beginning of the year, to try out a new telescope in place of the 24", to make the site more accessible by getting some sort of toilet and a better road way installed. This all seemed somewhat ambitious given we were in lockdown at the first meeting. However with the enthusiasm of several members (and not much of my own work I hasten to add), by the end of the year we had achieved most of those goals.

We also had plans to move the meeting location to somewhere more central and with more facilities for speakers. This we have mostly achieved with the move to Emmanuel school, although there are now a few hiccups with it being shut for the current outbreak. However it is a great place to hold meetings with lots of parking, close to public transport and some great AV setup (despite a few teething issues!). So we have hopes that this will all work out nicely when things improve.

We had a great selection of speakers for last year thanks to the previous Chairman, and we have some speakers in place for next year too.

Our next event is the AGM on January 6th, which will be on Zoom. Please attend if you can so we can pass the motions and re-elect the committee. Speaking of which we would very much like any additional members to join the committee. The more there are, the easier it is to spread the load. So please apply if you have a few spare minutes a month to contribute.

It just remains to wish you all a Happy New Year.

Julian,

NAS chair

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: <u>www.nottinghamastro.org.uk</u>

NAS on Facebook

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

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 <u>secretary@nottinghamastro.org.uk</u>

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

Sky Notes January 2022



Compiled by Roy Gretton

All times given below are in Universal Time

Earth's Perihelion, when we shall be closer to the Sun than at any other time during 2022, will occur on the morning of January 4th. On that occasion Earth's distance from the Sun will be 98.3 per cent of its mean distance.

PHASES OF THE MOON

| Phase | Date |
|---------------|--------------------------|
| New Moon | January 2 nd |
| First Quarter | January 9 th |
| Full Moon | January 17 th |
| Last Quarter | January 25 th |

This month the Moon is closest to Earth on the 1st, and furthest on the 14th.

As the New Year begins, there is a dearth of visible planets in our sky. Saturn has disappeared into the sunset glow, with Jupiter following close behind. Mercury may just be spotted low down in the southwest after sunset in mid-January, but after a week or so it too will have disappeared. Venus is invisible as the year begins, but emerges into the morning sky by mid-month. Elsewhere, we can look forward to a Moon-free display of the Quadrantids on the 3rd, if the sky is clear.

Meanwhile the winter constellations are seen at their best. In mid-evening in early January, Perseus with its Double Cluster is almost overhead, to be replaced by Auriga and the brilliant Capella an hour later, as Orion strides across the meridian.



THE PLANETS

Mercury, some 20 degrees south of the celestial equator, will be at greatest eastern elongation (19 degrees) on January 7th. Very low in the southwest, and setting little more than one hour after the Sun, it will be very difficult to spot before rapidly moving in toward inferior conjunction on January 23rd after which it becomes a morning object.

Venus will be unobservable as the year begins, passing through inferior conjunction on January 8th. By the close of the month it will have returned to visibility as a morning object, and will remain visible before sunrise until the autumn.

Mars is at present an unremarkable magnitude 1.5 object in the morning sky, about 23 degrees south of the celestial equator and presenting a disk little more than 4 arcseconds across.

Jupiter continues to be visible in the evening sky, but increasingly difficult to observe. At the end of January it will be setting about two hours after the Sun.

For practical purposes, **Saturn** must now be regarded as unobservable as it heads toward conjunction with the Sun early in February.

Uranus, in the constellation of Aries, continues to be well-placed for observation in the evening.

As January begins, Neptune, in the constellation of Aquarius, will be setting at 10 pm.

METEORS

With January offering so little in the way of planets, we turn our attention to a prominent meteor shower, the **Quadrantids**, which put in a very favourable appearance this year. Peak activity occurs on the evening of January 3rd, just one day after New Moon, which is near-perfect. Under ideal conditions, up to 100 meteors per hour may be seen. The bright ones sometimes leave trails that persist for several seconds. Quadrantids may be seen in any part of the sky, but they always appear to radiate from a point close to the handle of the Plough. This point is called the "radiant" of the shower.



The radiant of the Quadrantids

DIARY DATES 2022

Monthly Meetings of the Nottingham Astronomical Society

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

There will, unfortunately, be a brief period when we shall not be able to meet at the school, and meetings will have to be held online again. This, as far as is known at present, will apply to the January and February 2022 meetings only

> Held on the FIRST Thursday of each month except August Doors open at 7:30pm for 8pm 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 | Торіс | Speaker |
|------------------------------------|---|--|
| January 6 th ONLINE | Annual General Meeting | |
| February 3 rd ONLINE | Astronomy without light? The new field of multi-messenger astronomy | Dr Phil Evans University of Leicester |
| March 3 rd | Exoplanets | Dr Don Pollacco University of Warwick |
| April 7 th | Our Island Universe: the Milky Way, its place in time and space | Prof Ian Morrison Emeritus Gresham Professor of Astronomy |
| May 5 th | Supernovae | Dr Matt Nicholl University of Birmingham |
| June 2 nd | Imaging from light polluted sites | Peter Jenkins FRAS |

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 January 20th

CHRISTMAS STAR PARTY

NAS held a Christmas star party at the Observatory on Thursday 9th December.

Despite poor weather over 25 members attended the evening with a wealth of Christmas food and Chris kept the chill out with her fabulous warm Mulled Wine. Thanks to all who attended, the event was a good test for the new observatory track which worked really well after several days of heavy rain.



Richard

Social and Practical Astronomy, Plumtree, December 2021

There was a good turnout of people to the December meeting despite the uncertain times. We had a wonderful selection of drinks and food from Chris to get us started. The main topic of the meeting was ideas about the Christmas star as a bit of seasonal fun.

However, we started the meeting with a few words from Barry in memory of Bryan Lilley who died in November. This was followed by a minute's silence to honour his memory. Barry had made a nicely framed version of the funeral service to put in the observatory. An obituary for Bryan will appear in a future edition of the Journal.



We then had an introduction from Julian, possible timescales and the written "facts" about the star, framing it in a time. Then Leigh gave a talk on a possible supernova candidate and where it might be and what we might know about the remnant. Roy then spoke about a triple conjunction of Jupiter and Saturn which are very rare and could have been the inspiration. Julian then talked about possible comets it could have been. Then a surprise 4th idea from Sam who proposed it was pure fiction and just helped to sell the rest of the story.

We then voted on which ones we liked, and it was a tie between Roy and Sam. We then feasted on more food and drink!

The January 2022 Plumtree meeting will most likely be online, but this is under constant review, the topic is yet to be decided.

Julian Onions

chairman@nottinghamastro.org.uk

Are you a photic sneezer?

At the Plumtree meeting in November, I somehow got onto the subject of how the Sun makes me sneeze and asked the audience if there were other Sun sneezers and there were three others. The rest of the audience looked bemused...

It is estimated that 25% of the population may exhibit this phenomenon, causing a reflex which makes the individual sneeze when exposed to bright lights. Women seems to be more affected than men, with 67% of sun sneezers being female, and it is Caucasians are predominantly impacted with 94% sun sneezers being white. The pattern of inheritance is complicated but it may be autosomal dominant, meaning only one parent needs to be affected to pass it on to the children. It has been known about for centuries with Aristotle in 500 BCE hypothesizing that the Sun warmed the inside of the nose which resulted in a sneeze. Francis Bacon in the 17th century noted that if the eyes were closed and the individual faced the sun, the sneeze reflex was avoided. There are no obvious evolutionary advantages, and for affected individuals who have turned a corner in the car and faced the sun, there is possibly in modern day life an evolutionary disadvantage. The cause is also unclear which no compelling theory of why it occurs. It is sometimes referred to as ACHOO syndrome (autosomal dominant compulsive helio-ophthalmic outbursts of sneezing), but whatever it is called, if you are affected then you are not alone, and if you are not affected remember not all sneezes are caused by colds, hayfever or dust.

James Dawson



Lunar Detail

An image obtained at the NAS Observatory when the C14 telescope was being commissioned

Winter Images from an eVscope

Winter is definitely here with the return of a favourite target in Orion. I braved the icy temperatures on November 28th for a rare clearish night of viewing with my eVscope and the newly fitted dew shield. It seemed to help with the stray light & humidity. Clouds and snow stayed away in my part of Nottinghamshire and a bonus of a few meteors too around 10pm near Andromeda & Taurus high overhead.



M42

M33



M31

AND...who would have thought that after the torrential downpour on the NAS Observatory star party & social (mince pie fest) that the following evening would be one of the best in a while for stargazing?

A couple of eVscope images from the night, Fri 10th Dec from Fernwood, Newark:



Mark Fairfax

The Moon over Fernwood

A rare clear night sky on Wed 15th Dec around Fernwood, Newark - so I had a go with my old telescope on the well-positioned Moon. (Celestron Astro Fi 125mm Schmidt-Cassegrain telescope)

Definitely a lot more 'faff' with the old telescope - 3 Star alignment took 3 attempts, neck craning, back stretching and colder too. When I'm so used to the eVscope and it's quick, easy set up and going into the warm inside & leaving it to do it's thing.

1.) **Afocal Projection** - when you mount your smartphone with its lens on the eye-piece of the telescope via an adaptor. (My smartphone is an Apple iPhone XR and the adaptor a Celestron NexYZ 3-Axis Universal Smartphone Adaptor)



2.) **Prime Focus** - when you attach your camera directly to a telescope, without the lens. (My camera is a Canon EOS 750D DSLR)



Mark Fairfax

Winter Images from Herbel Pabla

I took these photos on 15th December from 10pm to 12.30 am, the only clear night we had for a quite a long time. Using my Nexstar 6SE on an Alt-Az Mount and aligned using 3 star Sky align. The Celestron reducer /Flattener was attached to give an F6.0. My Sony a6000 APC compact camera was used for the whole moon photos (speed 1/2000, ISO 2000)





Using My ZWO ASI 462 I managed to take nice shots of certain areas of the Moon (Tycho Crater, Plato crater and Copernicus Crater). The settings were Exp 0.105 ms, gain 300, frames 2000, RAW8.



I tried various exposures for the Orion Nebula (speed 1sec, ISO 2000), (speed 5 sec, ISO 640) and (speed 25sec, ISO 800)



Advertisements

FREE! Pulsar 2.1-metre Observatory Dome and Track

A 7-foot diameter dome made by the leading UK manufacturer of glass-reinforced plastic observatory domes.

The dome and the track are each fabricated in four segments that bolt together. The track is intended to be fixed to a flat roof (and could be used for converting a roll-off roof observatory into a domed one).



Flat-roofed shed under construction



The track mounted on the shed



The dome sections bolted together



The finished observatory

FREE OF CHARGE

Contact Roy Gretton on 07483868162

or journal@nottinghamastro.org.uk

FOR SALE

Now that I have sold my telescope and gone over to electronically assisted observing, I still have some bits and pieces for sale. <u>The following are currently available:</u>

Tele Vue solar finder set of four coloured 1.25-inch filters 1.25-inch oxygen-III filter 1.25-inch 13% Moon filter 2-inch 13% Moon filter 2-inch broad-band light pollution filter 2-inch narrow-band light pollution filter Geoptik variable artificial star for collimation

By the time you read this, some items may have been sold via my adverts on astrobuysell.com.

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

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, 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 open7:30pmMeetings start8:00pmMeetings end9:30 pm

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

Annual subscriptions 2022 (subject to ratification at this month's AGM)

| 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 <u>secretary@nottinghamastro.org.uk</u> or speak to any NAS committee member at one of the regular monthly meetings.

The Nottingham Astronomical Society

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