



# OASI News

The newsletter of Orwell Astronomical Society (Ipswich)



**A seasonal reminder of the cartoons member Les Lamb used to produce for the OASI Newsletter.**

**This cartoon adorned the front cover in the December 1999 edition.**

Trustees: Mr Roy Adams Mr Neil Morley Mr David Payne

Honorary President: Dr Allan Chapman D.Phil MA FRAS

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As you may have seen from the SHA AGM documentation our own Bill Barton was fortunate enough to receive the Roger Jones Award again this year. The SHA Council have decided that as he has won it so often he may keep the 'Onion Dome' trophy permanently, and they will find something else for future recipients. The award is given for a significant contribution to the SHA County Survey of Astronomers. Bill is the County Survey Archivist for Suffolk.



The SHA Roger Jones Trophy

## Society Notices

**Dear Members,**

As we are approaching solar maximum, the Aurora has again been visible in Suffolk. I have been enjoying viewing images taken by members; let's hope that there will be further displays visible from Suffolk over the coming months.

We are still hoping to hold our open evenings next February, but this does depend on a sufficient number of members volunteering to help run the event. If you are able to help out in any way, please let myself or any Committee member know.

Finally, I would like to wish all members and their families a very Merry Christmas and a Happy New Year.

I hope to see you at the Christmas meal or at any of meetings in December.

**Andy Gibbs, Chairman**

## Society Contact details

Email queries: [info@oasi.org.uk](mailto:info@oasi.org.uk)

Facebook: Orwell Astronomical

Twitter: @OASIPswich

YouTube:  
<https://www.youtube.com/channel/UCHgxe3QAeRVWf7vkjKkCI2Q>

Members-only message board

<https://groups.io/g/OASI>

Observatory (meeting nights only)

07960 083714

**Please send material for the OASI  
web site and newsletter  
e.g. observations, notices of events,  
general interest articles, to  
[news@oasi.org.uk](mailto:news@oasi.org.uk)**

The CLOSING date is the 15th day of the month

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**Members will have the opportunity to renew their subscriptions by card at the Newbourne Village Hall Meeting on Monday December 11<sup>th</sup>. There will also be a Festive Quiz that evening, so bring the family (and booze and nibbles ...)**



## Access into the School Grounds and Observatory Tower

Orwell Park School have changed our access route to the observatory.

The new route will be as follows:-

- Enter through gate 2 (gate 1 being the main gate) and park inside as per the attached map.
- Enter the school through the double black doors as indicated on the map. A key fob will be required to open the door.
- Continue straight through the next two sets of double doors.
- Turn left at the end of the short corridor then immediately right.
- Pass through the single door and on your left you will find the staircase leading to the observatory.
- On no account must you deviate from this route.

When leaving the observatory use the same route but in reverse. Please keep noise to a minimum as there are staff quarters nearby.



## Articles for OASI News

News, pictures and articles for this newsletter are always welcome. Details above.

Please send tables as separate files in one of the above formats.

If you don't feel up to writing a major article, perhaps you might write a short note for OASI News along the lines of "This month I have mostly been observing/constructing/mending/reading/etc."

The Newsletter archive is at [www.oasi.org.uk/NL/NL\\_form.shtml](http://www.oasi.org.uk/NL/NL_form.shtml)

**Authors, please note that your articles will be publicly available worldwide!**

## Reproducing articles from OASI News

If you plan to reproduce an article exactly as per OASI News then please contact the Editor – otherwise, as a matter of courtesy, please seek permission from and credit the original source/author. You may not reproduce articles for profit or other commercial purpose.

## Committee 2023

Chairman	AndyGibbs	Set overall agenda for OASI, Chair committee meetings, Press and publicity
Secretary	RoyGooding	Outreach meetings (jointly with Chairman), observatory decoration
Treasurer	PaulWhiting	Finance, Supervision of applications for grants. Visits by outside groups, Observatory tours, Public appreciation of astronomy, Outreach activities
Committee	James Appleton	Committee meeting minutes, Web site
	MartinCook	Membership, Tomline refractor maintenance & user testing
	Matt Leeks	Safety & security
	Peter Richards	Lecture meetings, Email distribution lists
	John Wainwright	Equipment curator
	Mike Whybray	Astronomy Workshops, Child protection officer, Orwell Park School Astronomy Club
	Andy Willshire	Librarian Newsletter, OASI @ Newbourne

For newsletter and Newbourne please contact Paul Whiting,

## Committee Meeting

The next Committee Meeting will be on Friday 1st December at 8:00pm via Zoom. All members welcome.

## Welcome to new members

Mike Harlow

## OASI and BAA Events

For the latest event details, please see [www.oasi.org.uk/Events/Events.php](http://www.oasi.org.uk/Events/Events.php)

There's a Google Calendar on the OASI web site with the latest dates.

If you want to easily add OASI Events to your own computer/phone/tablet calendar

application click this button on the website Events page (bottom right of the calendar)



or use this address to access this calendar from other calendar applications:

<https://calendar.google.com/calendar/ical/Ijhs9db7Incki4sojo7092vfvc%40group.calendar.google.com/public/basic.ics>

For other astronomy news and astro pictures try our

Twitter feed <https://twitter.com/OASlpswich>

Facebook page <https://www.facebook.com/pages/Orwell-Astronomical/158256464287623>

Date, Time & Location	Contact	Event
Weekly, every Wednesday, from 20:15 Orwell Park Observatory, Nacton	Martin Cook, Roy Gooding	Observatory open <b>(closed 6<sup>th</sup> December)</b>
Wednesday 6 <sup>th</sup> December The Fox, Newbourne	Roy Gooding	OASI Christmas Dinner
Monday 11 <sup>th</sup> Dec from 19:30 Newbourne Village Hall	Paul Whiting	OASI@Newbourne Beginners, new members and families welcome Festive Quiz
Thursday 21 <sup>st</sup> Dec 20:00 Zoom	Paul Whiting	Monthly Zoom Meeting

## OASI @ Newbourne

[newbourne@oasi.org.uk](mailto:newbourne@oasi.org.uk)

We meet at Newbourne Village Hall,  
Mill Lane, IPI2 4NP on the 2nd and 4th  
Mondays from 19:30.

**Visitors are welcome but we do ask you  
to join the Society after two visits.**

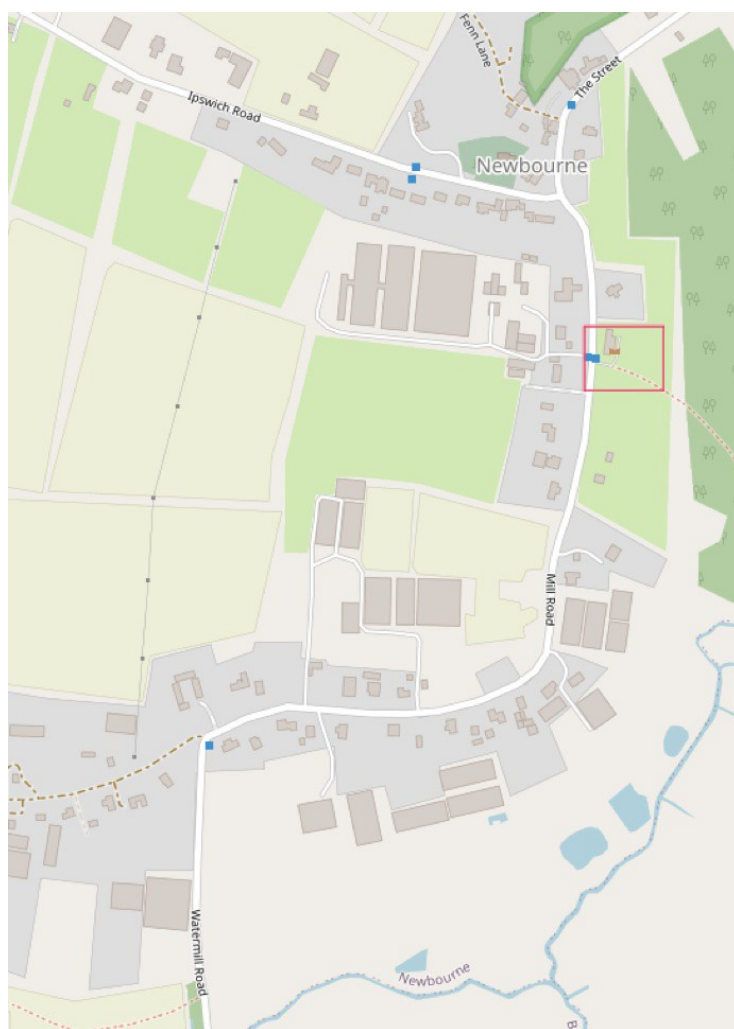
<http://www.oasi.org.uk/OASI/Membership.php>

### Newbourne dates for 2023

December 11 (Q)

### Newbourne dates for 2024

January	15 <sup>#</sup>	22 (S/T)
February	12	26 (A/S)
March	11	25 (S)
April	01 <sup>#</sup>	22 (A/S)
May	06 <sup>#</sup>	27 (S)
June	10	24 (A/S)
July	08	22 (S)
August	12	26 (A/S)
September	09	23 (S)
October	14	28 (A/S)
November	11	25 (S)
December	09 (A/Q)	



We open up for all meetings at 7:30pm. Astro News (A) / Star Guide (S) at 7:45pm followed by any Talks (T), Workshops (W) and occasional Quiz (Q). # indicates a change to the normal monthly pattern.

## BAA news & webinars

For full details of all meetings or cancellations, please go to <https://britastro.org/events/future-events>

**Saturday 9 December 2023 14:30-18:00 BAA Meeting and Christmas Lecture**

*Venue: INSTITUTE OF PHYSICS, 37 Caledonian Road, London, N1 9BU*

## The BAA Radio Astronomy Section

The BAA Radio Astronomy Section have been enjoying talks, seminars and tutorials via Zoom and these are available on the BAA YouTube channel

<https://www.youtube.com/user/britishastronomical/playlists>.

<b>Christmas lecture</b> <b>Fri. Dec. 1<sup>st</sup>.</b>  <b>19:30 GMT</b>	Prof Clive Tadhunter Department of Physics and Astronomy University of Sheffield	<b>Active Galactic Nuclei (AGN)</b> emit at least as much radiation by themselves as the integrated light of all the stars in a typical galaxy, yet this radiation is produced in a region that is smaller than the solar system.
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## The Night Sky in December 2023

All event times are for the location of Orwell Park Observatory 52.0096°N, 1.2305°E. Times are **GMT** unless otherwise stated.

### Sun, Moon and planets

Sources: <http://heavens-above.com/PlanetSummary.aspx> <http://heavens-above.com/moon.aspx>

### December 2023

Object	Date	Rise	Set	Mag.	Notes
Sun	1	07:40	15:47		
	31	08:03	15:53		
Moon	1	19:10	11:50		Apogee 04 December 18:43 Last Quarter 05 December 05:49 New Moon 12 December 23:32
	31	20:35	10:51		Perigee 16 December 18:53 First Quarter 19 December 18:39 Full Moon 27 December 00:53
Mercury	1	09:46	16:40	-0.4	
	31	06:36	14:50	0.8	
Venus	1	03:34	14:12	-4.1	
	31	04:58	13:34	-4.0	
Mars	1	07:26	15:25	1.4	
	31	07:20	14:43	1.4	
Jupiter	1	14:28	04:41	-2.7	
	31	12:26	02:35	-2.5	
Saturn	1	12:36	22:20	0.9	
	31	10:41	20:34	0.9	
Uranus	1	14:50	06:01	5.6	
	31	12:50	03:58	5.7	
Neptune	1	13:14	00:42	7.9	
	31	11:16	22:41	7.9	

### Occultations during December 2023

[https://iota-es.de/moon/grazing\\_descr101.html](https://iota-es.de/moon/grazing_descr101.html) and <http://www.lunar-occultations.com/iota/bstar/bstar.htm>

Observers are encouraged to download and install the **Occult** software program [Windows only] to generate predictions for their own particular site coordinates.



## Meteor showers during December 2023

Shower	Normal limits	Maximum	ZHR at Max	Notes
Sigma Hydrids (HYD)	24/11 - 21/12	06/12	3	fast meteors
Monocerotids	27/11 - 17/12	09/12	2	
Dec Phoenicids	28/11 - 09/12	06/12	variable	very slow meteors
Geminids	30/11 - 17/12	13/12	120	slow meteors
Puppilid/Velids	01/12 - 15/12	07/12	10	
Dec. Leonis Minorids	06/12 - 18/01	20/12	5	fast meteors
Ursids	17/12 - 24/12	22/12	10	slow meteors
Coma Berenicids	24/12 - 03/01	31/12	5	very fast meteors
Quadrantids	28/12 - 12/01	03/01	120	

See also <https://www.rmg.co.uk/stories/topics/meteor-shower-guide>

For radio observation, use reflections from Graves Radar on 143.049MHz or the Brams transmitter in Belgium on 49.97MHz and UK GB3MBA on 50.408MHz <https://www.ukmeteorbeacon.org/Home>

See also [https://www.popastro.com/main\\_spa/meteor/radio-meteor-observing-2020/](https://www.popastro.com/main_spa/meteor/radio-meteor-observing-2020/).

## Comets

Source : <https://heavens-above.com/Comets.aspx> on 21/11.

Comet	Brightness	Date of last reported observation	Angular separation from Sun	Constellation
C/2023 H2 Lemmon	7.5	2023-Nov-20	78°	Piscis Austrinus
12P Pons-Brooks	9	2023-Nov-21	68°	Hercules
62P Tsuchinshan	9.6	2023-Nov-20	106°	Cancer

## Visible ISS passes >30° max altitude for December 2023

Source: <http://heavens-above.com/PassSummary.aspx?satid=25544>

Times are **GMT**.

Predictions are approximate (21/11) due to craft adjustments. Check the day before.

Date	Bright-ness (mag)	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
01-Dec	-3.2	17:15:28	10°	W	17:18:47	56°	SSW	17:21:26	15°	ESE
02-Dec	-3.5	16:27:01	10°	W	16:30:22	70°	SSW	16:33:42	10°	ESE
03-Dec	-2.1	17:15:20	10°	W	17:18:24	33°	SSW	17:21:28	10°	SE
04-Dec	-2.6	16:26:43	10°	W	16:29:57	45°	SSW	16:33:10	10°	SE

20-Dec	-2.8	06:36:49	10°	SW	06:40:04	47°	SSE	06:43:20	10°	E
21-Dec	-2.3	05:49:09	21°	SSW	05:50:47	35°	SSE	05:53:53	10°	E
22-Dec	-3.6	06:34:58	13°	WSW	06:37:51	71°	SSE	06:41:12	10°	E
23-Dec	-3.3	05:47:44	46°	SSW	05:48:24	57°	SSE	05:51:43	10°	E
23-Dec	-3.7	07:21:39	10°	W	07:25:01	86°	S	07:28:24	10°	E
24-Dec	-3.8	06:33:12	19°	W	06:35:29	85°	S	06:38:51	10°	E
25-Dec	-3.9	05:45:42	74°	SW	05:45:55	79°	S	05:49:16	10°	E
25-Dec	-3.6	07:19:11	10°	W	07:22:33	74°	SSW	07:25:55	10°	ESE
26-Dec	-3.8	06:30:55	22°	W	06:32:56	83°	S	06:36:18	10°	E
27-Dec	-3.9	05:43:15	87°	S	05:43:15	87°	S	05:46:38	10°	E
27-Dec	-3.2	07:16:32	10°	W	07:19:50	51°	SSW	07:23:06	10°	ESE
28-Dec	-3.6	06:28:19	24°	W	06:30:09	66°	SSW	06:33:30	10°	ESE
29-Dec	-3.7	05:40:31	76°	SSE	05:40:31	76°	SSE	05:43:45	10°	ESE
29-Dec	-2.4	07:13:47	10°	W	07:16:48	31°	SSW	07:19:48	10°	SE
30-Dec	-3	06:25:29	24°	W	06:27:05	42°	SSW	06:30:17	10°	SE
31-Dec	-3.3	05:37:37	53°	S	05:37:37	53°	S	05:40:35	10°	ESE

## Starlink passes

<https://heavens-above.com/AllPassesFromLaunch.aspx>

For a dynamic 3-D display, see <https://heavens-above.com/StarLink.aspx>

## Bill Barton's Radio Broadcast

ICRFM (Ipswich Community Radio) 105.7 MHz at about 08:25 in the morning of the first Wednesday of each month. I aim to cover what there is to see in the sky and then a little bit on something topical. ICRFM is also available to listen to over the Internet and there is a listen again option on their website. <http://www.icrfm.com>

## Forthcoming Outreach Programmes

All members are welcome to come along and help out at these events – you don't need to be an expert in the subject. Just respond to the email call for help prior to the event.

Please note that not all events are open to the public.

*details about future outreach programmes will appear here.*

∞ ADVERTISEMENT ∞

For those members who missed Paul's *Introduction to Astronomy* course, the course will be repeated at The Ipswich Institute starting 9<sup>th</sup> January 2024. The course is open to anyone, and must be booked directly with the Ipswich Institute. Details from:

[ipswichinstitute.org.uk/courses-for-all](http://ipswichinstitute.org.uk/courses-for-all)

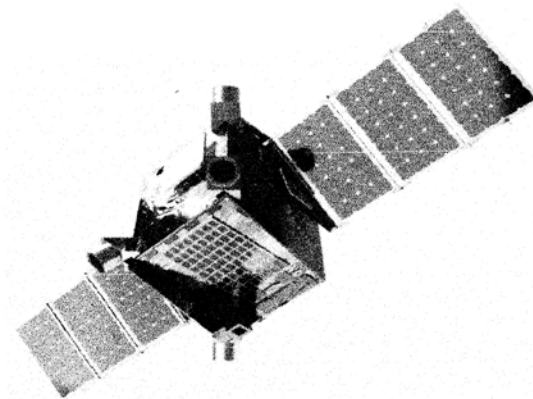
# *Moon Burst Energetics All-sky Monitor (MoonBEAM)*

A short insight into gamma ray bursts in an article from the library.

*Andy Willshire*

This is the third of the four NASA proposals selected for their Explorers program. The previous two have been published in the OASI magazine. Similar to the previous short articles it is hoped that this provides enough information to stimulate interest for further investigation.

Moon Burst Energetics All-sky Monitor is a 3-year gamma-ray mission that will monitor the whole sky instantaneously when triggered, for relativistic energetic detonations. It will operate in a cislunar orbit, and is designed to investigate matter and energy found under exceptional circumstances of a gamma-ray burst and its emission. This will include high-energy radiation occurring from relativistic outflows and events that produce relativistic jets. These observations are necessary for multi-messenger astronomy, which will be disseminated to the astronomical society allowing for speedy alerting which in turn will allow for investigations to begin and follow-up observations to be set in motion. It is imperative to collect as much data as possible in order to acquire an all-inclusive picture of gamma-ray bursts.



Picture credit: [NASA MoonBEAM-Hui-HEAD2022 \(nasa.gov\)](https://www.nasa.gov)

So, what are gamma-ray bursts (G.R.B's) and why are astronomers interested in them? They are thought to originate during the shaping of black holes and are considered to be the most dazzling and powerful explosions generated within the universe, lasting from milliseconds to a few minutes. Data shows that gamma-ray bursts that last between several seconds to over a minute in duration, with an average of approximately 30 seconds, are allied with extremely powerful supernovas known as hypernovas. These are a hundred times brighter than basic supernovas and are generated when stars of between 5 to 10 times the size of our sun, at the end of their lives, implode and form black holes. However, gamma ray bursts that are shorter in duration, < 2 seconds with an average of 300 m.sec, can occur either when two neutron stars collide and merge with each other and forge a black hole, or when a black hole consumes a neutron star, producing an even larger black hole. 30% of gamma ray bursts sit within these parameters. The remaining 70% have a span of more than 2 seconds and are described as long gamma-ray

bursts. This type of event also has the most vivid afterglow, and is therefore easier for observational purposes. In December 2022, data showed evidence for the first time that long gamma-ray bursts could also be produced by neutron star mergers, again with the formation of a black hole as the resultant. Up to this point, they were generally associated with deaths of very large stars, though not all produced gamma-ray bursts. There are several reasons why astronomers are interested in GRB's. Firstly the two classes appear to have different originator mechanisms and secondly the formation of black holes which may allow for evaluation of fundamental theories giving rise to how the universe works.

Data of gamma-ray bursts occurring was obtained by NASA's solar powered satellite, Swift Gamma-ray Burst Explorer, in the mid 2000's. It was launched on 20th November 2004 and surprisingly detected 9 GRB's that year. In 2023 up until June, they had detected 24 GRB's. GRB's can also propagate multi-messenger signals such as gravitational waves, cosmic rays and one of the fundamental particles, neutrinos. Gravitational waves generated by these collisions, above, have been detected by LIGO (Laser Interferometer Gravitational –Wave Observatory), the original observatories being conceived and operated by Caltech and MIT.

MoonBeam's mission goal is to investigate the functioning and response of matter and energy in the most exceptional of conditions, with its primary objective to discover the original mechanisms of GRB's as well as numerous wavelength and multi messenger signals. This would include delving into neutron star mergers culminating in a black hole, a rapidly rotating collapsed star (collapsar) and magnetar giant flares also known as hyperflares. This latter object produces numerous recurrent bursts of soft gamma rays and are considered a separate class to regular GRB's.

It has two further secondary objectives:

- Pinpoint circumstances that would allow short-lived astrophysical jets to be discharged.
- Establish the sources of the monitored high-energy emission found within the relativistic jets.

The mission is designed to have six scintillation detectors on board that are located such that when stimulated there is immediate all-sky coverage. Each detector module consists of a NaI(Tl)/CsI(Na) phoswich and flat panel PMTs, sensitive to 10—5000 keV. The phoswich design enables simultaneous dual-mode observations in order for low-energy X-rays and gamma rays as well as alpha and beta particles to be detected. They allow for dual mode detection for both low background information and wider energy range for spectroscopy. Data is transmitted by a daily downlink.

The maximum orbital distance of the craft from Earth is about 460.000km, with an orbital period of 13.7 days. The initial lifetime of the mission is 3 years.

In order to delve further into GRB's and relativistic astrophysical short-lived emissions, MoonBEAM's capabilities are essential to assemble a thorough picture of stellar explosions.

References:

- Imagine the Universe! ([nasa.gov](http://nasa.gov))
- Proposed Smallsat Mission Concept Selected by NASA for Further Investigation ([usra.edu](http://usra.edu))
- MoonBEAM-Hui-HEAD2022 ([nasa.gov](http://nasa.gov))



This was the October's edition maths question.

**C (484) S**

**B (15625) W**

**F (614656) V**

**K( ? ) T.**

The alphanumerical values of the letters on each line are added together. Thus, C=3 and S= 19.  
This = 22. This figure is then squared.  $22^2 = 484$ .

The next line ,B = 2, W = 23 which when added = 25. This figure is then cubed.  $25^3 = 15625$ .

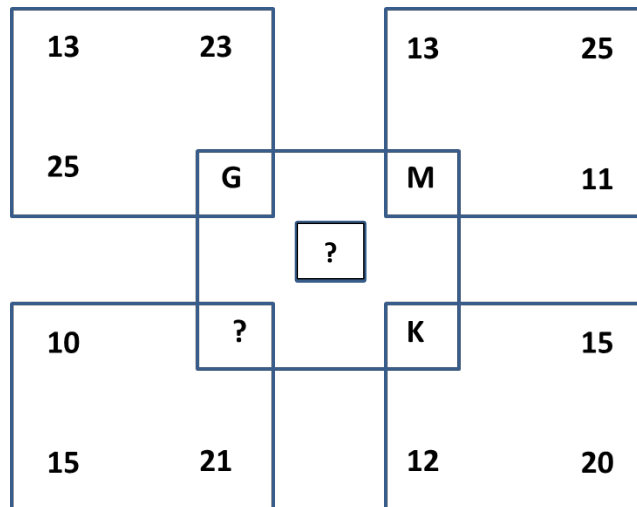
Continue with the next two lines. Line three final figure is to power of four, and line 4 to the power of five.

F=6, V=22 which equals  $28^4 = 614656$ .

Finally last figure. K=11, T=20 which added =  $31^5 = \underline{\underline{28629151}}$

*[I got this one right! Ed.]*

### Have a try at this month's mathematical problem



What letters can be inserted at ‘?’

## Comet C/2023 P1 Nishimura

Nigel Evans

Comet 2023 Nishimura was discovered in August 2023. It was closest to the Earth on 12 September and reached perihelion on 17 September.

By great coincidence we had arranged a trip to La Palma in the Canary Islands from 14 to 20 September. We hire a rural house in the North West located about 1000m above sea level. Often the weather is good enough that we can see the sky from there, but on occasion we would venture up the mountain to about 2000m. We are not allowed to stay and observe overnight in the observatory complex at the top of the mountain. Observatorio del Roque de los Muchachos houses one of the largest telescopes in the world, the 10m Gran Telescopio Canarias(GTC).

Recently a Visitors' Centre has been built close to, but not in, the observatory complex. It is only open during the day. When it closes, the car park closes as well, meaning we can't use it at night ☹️. When we went last year there was a night-guard who shooed us away! However this time we discovered that we can get a (free) permit for us to enter and use the car park at night 😊.

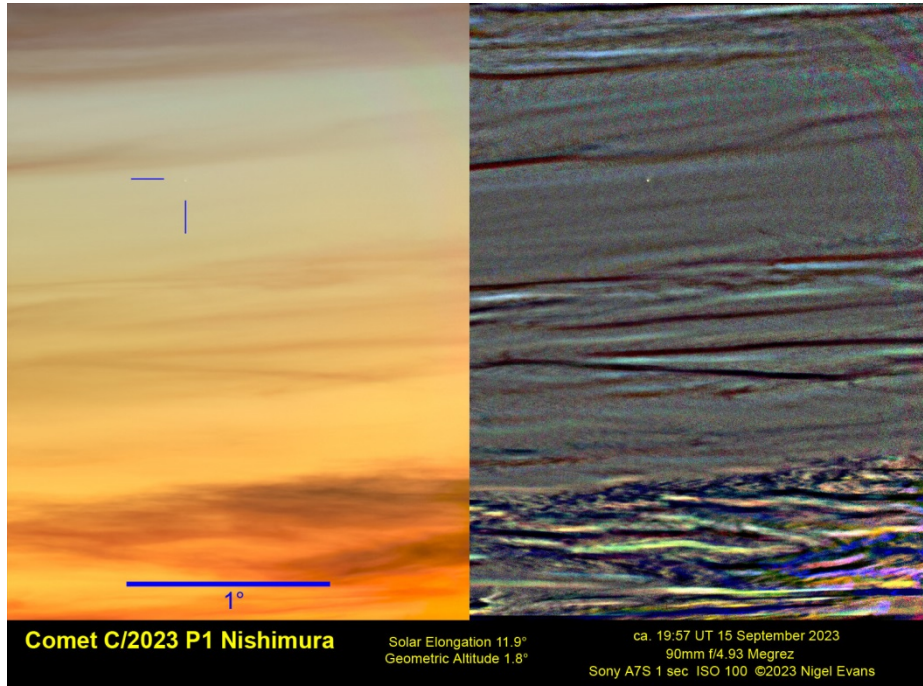
By now the comet was very close to the Sun. Indeed we would not see it in a dark sky, just twilight. Indeed the first evening, the 15<sup>th</sup>, revealed a fundamental problem with twilight comets – how on earth do you find them?

My friend Nick James had a GoTo mount, but Polaris was not yet visible. How to align the mount? The only marker he had was the Sun before it set then, after sunset, other bright objects could come into view of the telescope it was carrying to check the alignment. First was Mars, then later on there was the Moon. As I did not have a GoTo mount, I had to my scope 'point in the general direction'

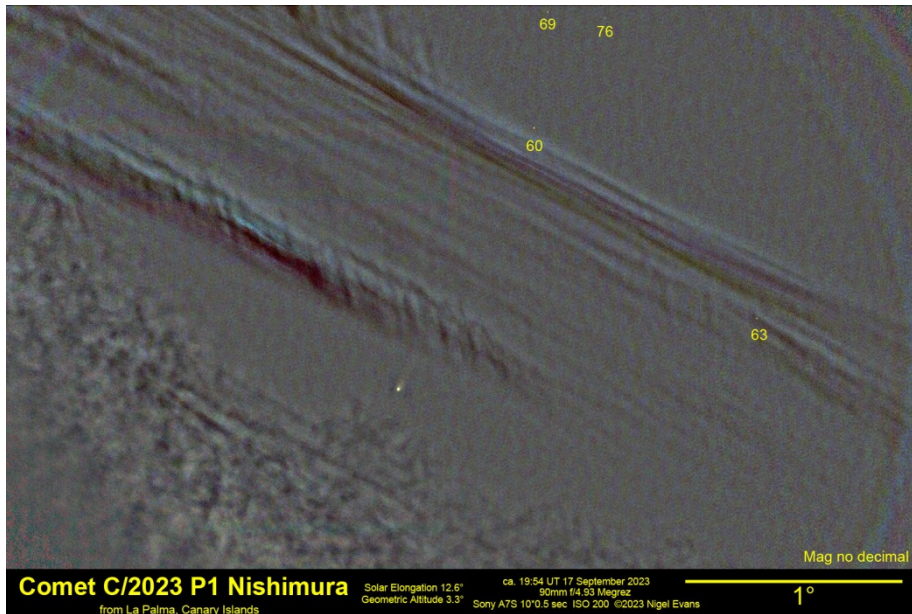
So my cameras were looking in the general direction of a twilight comet. How I did I know that the comet was in the field-of-view? I didn't. Indeed for the 4 evenings that we tried to follow the comet in the twilight we **never** saw it with the naked eye, nor with a small pair of binoculars. For these 4 evenings I was photographing the comet blind. It was only after each session that a review of the latest photos revealed a bright smudge on the bright background.

So how do I show this comet against a light background? Anyone who has ever tried astrophotography will have encountered light pollution giving tilted backgrounds. But twilight isn't light pollution in that sense. In addition, although we were at over 2000m there were cirrus clouds visible in the far distance and we would be looking through them. Remember that the altitude of the comet was only around 2 degrees.

What follows is for this series of photos only and there are no doubt other solutions. For each photo I created a blurred version of itself by translating a set of 9 copies by  $(-x, 0, +x)$  by  $(-y, 0, y)$  pixels, then taking the median value. It is rather like an unsharp mask. I then subtract this blurred copy from the original to highlight the fine detail, rather like the bas-relief effect in photography.

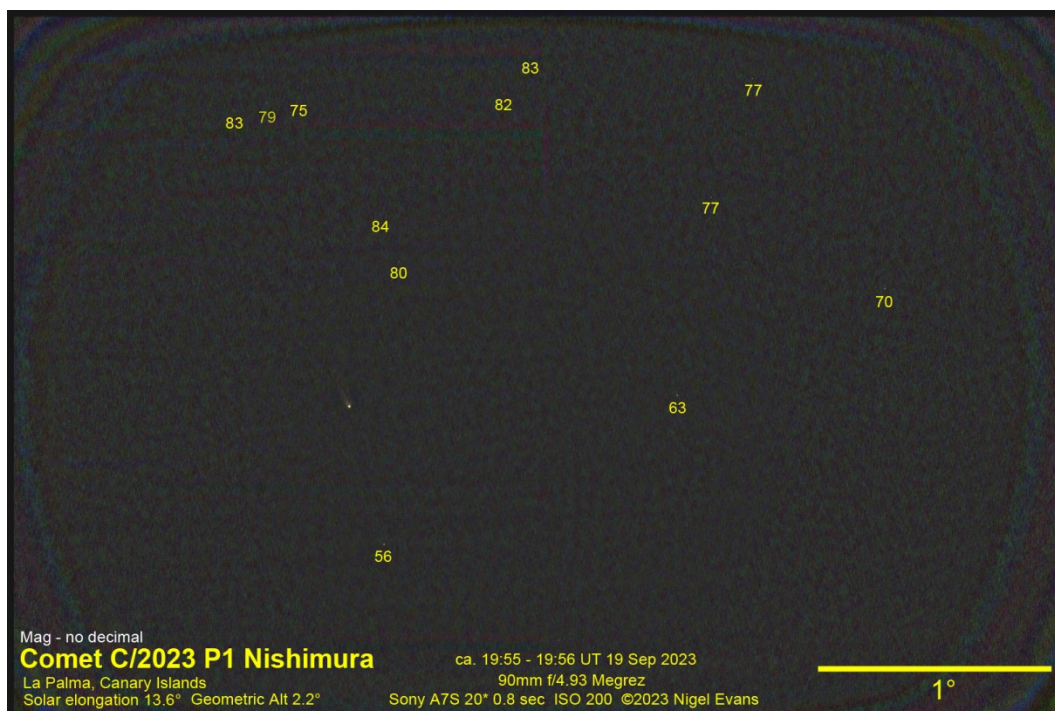


In this view from 15<sup>th</sup> September the comet is actually visible in the standard view, but a pointer certainly helps. In the processed view the comet is much more prominent, and is even sporting a very short tail towards 1 o'clock.



In this view from 17<sup>th</sup> September a series of frames have been aligned on the comet and added. Not only is the tail more visible, but faint background stars become apparent.





In this final view from 19<sup>th</sup> September we were fortunate to have our first cloud-free view, but a 5-day old Moon was now some 40 degrees away. Nevertheless we could find 8<sup>th</sup> magnitude stars next to the comet.



We were not the only people in the Visitor Centre car park. One was a Dutchman, Frank, who had brought his telescope with him – a 30 inch Dobsonian! No, it didn't fit on a plane – it took two days to drive here via ferry. And, Yes, I think that is an 8-inch Schmidt-Cassegrain acting as a *finder*! Later one evening he invited us to look through it – M17, M42 and the Horsehead Nebula. Unfortunately I just could not make out the Horsehead – either I was not dark-adapted enough, or my eyes are a bit too vintage. Nevertheless it was a privilege to look through it.





The author with the 90mm Megrez telescope overlooking the cloud-deck at the Visitor Centre. Note the 'luxury executive' counter-weight. Astro kit is heavy and I left the counterweight at home, thinking I could use a battery pack in its place. No! Plan B was the purchase of 3x 500ml of water that cost less than one Euro.

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## The Aurora Event 5-6 November 2023



Paul Whiting - Felixstowe Ferry Golf Course.  
Nikon D3200 3sec. ISO 3200, Samyang 14mm wide-angle lens

## Fireworks Night with a Twist

The 5th November started out as a normal Guy Fawkes night until 18.00hr when I received a WhatsApp message from Toni Smith (Alan's daughter) with an attached photo of the Aurora taken from Grundisburgh. After a quick response about the fantastic photo Toni sent 3 more Aurora photos taken earlier in the evening with an iPhone 12 Pro Max.



Looking outside I could see the sky was partly cloudy but there was a possible hint of red in the North. I quickly assembled my camera equipment and drove to a farm entrance off Playford Rd, just North of Ipswich, arriving 18.45hr at the view of the northern horizon was much better than at home and I could just make out a glow of the Aurora between the ever-increasing cloud.



The camera was quickly attached to the tripod and several photos taken with a 10 second exposure. Unfortunately, the cloud cover deteriorated to such an extent I could only observe a nearby firework display. Following the display, I decided to return home.



At 22.00hr that night I let our dog out for his night run. Looking at the sky the clouds had almost gone. Again, the camera equipment was quickly bundled into the car ready to go to the observing site. This time I was accompanied by my wife Judith who also wanted to see the display.

There was a faint glow in the North but as soon as the first photos appeared on the camera screen the Aurora was obvious. I continually took photos between 8 and 10 sec exposures. I often had to stop and wait for a car to pass. Surprising how many cars use back roads late at night some of them sounding their horns thinking we were up to something else! The strangest thing that happened was a person on a bicycle, who suddenly passed by, lit only by the glow of the phone screen he was looking at.

The Aurora started to become fainter with more cloud appearing so we called it a night and returned home to warm up.

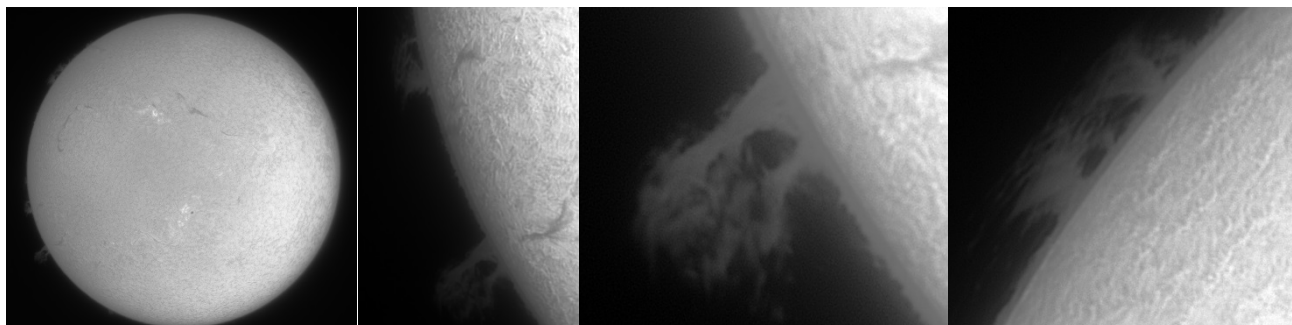


Canon 850d 8sec. ISO 6400

Martin Cook

The Sun imaged in H $\alpha$  light using a Lunt LS60THa/B1200 telescope and ZWO 178mm camera on the 22 Oct. 2023 10:45 UT. Sunspot groups can be seen along with filaments (thread-like features), plages (bright patches surrounding sunspots) and prominences around the edge of the Sun. The close-up views were taken using a 2.5 X Barlow lens and shows 3 of the active prominences.

Martin Cook



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The evening after widespread observations of the Aurora, I captured some images of Jupiter, three days after opposition. The moon Io is visible to left of the planet. In the wider field image, Callisto can also be seen to the left, with Ganymede to the right. Jupiter was shining at mag -2.9, presenting a 49.46 arcsecond disc, at 31 degrees in elevation.

Equipment used: ZWO ASI178mc camera, attached to a Meade 200mm LX200ACF, with a 2x Barlow lens.

Software used: Sharpcap 4, Autostakkert 3, Registax 6 and Affinity Photo 2. I experimented with some different wavelet settings in Registax to try to bring out more detail.

Andy Gibbs.

