



OASI News

The newsletter of Orwell Astronomical Society (Ipswich)



Just a sporadic meteor – BUT Get ready for the Perseids!

Photo by Martin RH

Trustees:

Mr Roy Adams

Mr Neil Morley

Mr David Payne

Honorary President:

Dr Allan Chapman D.Phil MA FRAS

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Society Notices

Dear Members,

We use a Zoom Pro account for online meetings. If you would like to join in, please email Paul Whiting, treasurer@oasi.org.uk

I would like to wish everybody clear skies, stay safe and I hope to see you soon.

Andy Gibbs, Chairman

Society Contact details

Email queries: 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**

The CLOSING date is the 15th day of the month

Access into the School Grounds and Observatory Tower

Please use the third gate into the school grounds by the gym.

Areas out of Bounds

Access to the Observatory is only via the black door at the foot of the Observatory tower, which leads to the staircase and thence to the spiral staircase up to the Observatory. If the black door is locked, please phone the observatory mobile during meeting hours. Kindly check/amend the number shown on your 2021 membership card.

Please do NOT explore other routes. When in doubt, ask or call the Observatory mobile.

Remember this is a school and straying into the main part of the school where the pupils reside would cause the society big problems and could see us losing the use of the observatory. Any member found to be anywhere other than the approved access route or the observatory area will face serious sanctions up to and including expulsion from OASI.

Please note that access time for all observatory member nights is after 20:15

Articles for OASI News

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

Please submit your articles in any of the following formats:–

Text: txt, rtf, rtf, doc, docx, odt, Pages, pdf

Spreadsheets: xls, xlsx, OpenOffice/LibreOffice, Numbers

Images: tiff, png, jpg

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."?

Newsletter archive 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 2022

Chairman	Andy Gibbs	Set overall agenda for OASI, Chair committee meetings, Press and publicity,
Secretary	Roy Gooding	Outreach meetings (jointly with Chairman), observatory decoration.
Treasurer	Paul Whiting FRAS	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
	Martin Cook	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 Wilshere	Librarian
	Avtar Nagra	OASI @ Newbourne
Assistants	Martin Richmond-Hardy	Newsletter, OASI @ Newbourne

Committee Meeting

The next Committee Meeting will be on Friday 2 September at 8:00pm via Zoom.

Welcome to new members

OASI and BAA Events

Please note that the listed events may change depending on the progress of the pandemic. For the latest event details, please see www.oasi.org.uk/Events/Events.php

There's a Google Calendar on the OASI web site with the latest dates (and corrections!). 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/1jhs9db71ncki4sojo7092vfv%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	Martin Cook, Roy Gooding	Observatory open
Monday 11 July Newbourne Village Hall	Martin R-H newbourne@oasi.org.uk	OASI @ Newbourne
Friday 15th July 20:00 Zoom	Martin Cook membership@oasi.org.uk	"Exploring the Solar System in X-rays" with Professor Graziella Branduardi-Raymont
Thursday 21st July Zoom	Martin Cook membership@oasi.org.uk	Monthly OASI-on-Zoom meeting.
Monday 25 July 19:30 Newbourne Village Hall	Martin R-H newbourne@oasi.org.uk	OASI @ Newbourne Sky Notes by Bill Barton FRAS
Saturday 23 July 12:00–18:00 Newbourne Village Hall	Pete Richards lectures@oasi.org.uk	OASI Picnic (members & their families)
Saturday 30 July 10– 16:00 Christchurch Mansion Soane St, Ipswich, IP4 2BE,	Roy Gooding secretary@oasi.org.uk	Public Solar Event Set-up from 08:30
Friday 12 August 20:00 Zoom	Martin Cook membership@oasi.org.uk	Zoom Talk (Recorded) "Colliding Stellar Winds - observations and theory" with Dr Julian Pittard
Thursday 18 August 20:00	Martin Cook membership@oasi.org.uk	3rd Thursday Zoom meeting
Friday 2 Sept 20:00 Zoom	Martin Cook membership@oasi.org.uk	OASI Committee meeting via Zoom
Friday 9 September 20:00 Zoom	Martin Cook membership@oasi.org.uk	Zoom Talk (Recorded) "Observing the Satellites of the Giant Planets" with Mike Foulkes
Thursday 15 September	Martin Cook membership@oasi.org.uk	3rd Thursday Zoom meeting

Meetings via Zoom

Paul Whiting has set up an OASI account on Zoom Pro which allows us to accommodate more participants.. To join, please first contact Paul, treasurer@oasi.org.uk – OASI members only. Be sure to install/update to the latest version of Zoom – there's no need to set up an account. Go to <https://zoom.us/join> and enter the meeting ID or personal link name. You will have received a link from the meeting organiser.

As well as for some lectures & talks, we meet via Zoom on the 3rd Thursday of every month at 8pm.

OASI @ Newbourne

Martin Richmond-Hardy newbourne@oasi.org.uk

We meet at Newbourne Village Hall, Mill Lane, IP12 4NP on the 2nd and 4th Mondays from 19:30.

In view of the ongoing Covid situation, we kindly request that attenders wear masks in the village hall to protect others and themselves. Hand gel is available.

Newbourne dates for 2022

July	11	25 (A)
August	8	22 (A)
September	12	26 (A)
October	10	24 (A)
November	14	28 (A)
December	12	26 (may omit as it's Boxing Day)

We open up for all meetings at 7:30pm. Astro News/Star Guide (A) at 7:45pm followed by any Talks (T), Workshops (W) and the occasional Quiz (Q).

Stargazer's Guide

On the last meeting each month, at 19:45, Bill Barton FRAS will give a short presentation of what can be viewed in the following 4 weeks plus a reminder of OASI events. These will be available on our website.

Paul Whiting FRAS will give occasional Astro News briefings.

Astronomy Workshops/Informal talks

Contact Mike Whybray Monday meetings start at 7:30pm. Workshops / Talks start at 8pm

If you are a new OASI member, or haven't been to one of these informal workshops before, they are a mixture of events of different characters including beginners talks, interactive workshops, films, etc., suitable for all.

Do you have a subject you could workshop/talk? You could do a short one, or share the effort with a partner. Drop Mike Whybray a line! workshops@oasi.org.uk

Lectures – via Zoom

Contact: Peter Richards lectures@oasi.org.uk

The start time for all talks will be 8pm and, as usual, the talks will usually be held on a Friday evening. All meetings are currently via Zoom. Contact Paul Whiting if you can't find the details.

Athaneum Astro Society

www.3a.org.uk/index.htm

Meetings (<http://www.3a.org.uk/programme.htm>) have resumed at Whepstead Community Centre, Bury Road, Whepstead, Bury St Edmunds, IP29 4TA <http://www.3a.org.uk/contact.htm>.

LYRA Lowestoft & Yarmouth Regional Astronomers

For events please see <http://www.lyra-astro.co.uk/events/>

DASH Astro

Darsham And Surrounding Hamlets <http://dash-astro.co.uk>

Meetings are normally held at New Darsham Village Hall and all DASH Astro observing sessions will take place at Westleton Common. ASOG observing sessions and locations may be arranged at the time of observation. Unless stated all group meetings will take place from 7:30 pm. on Sundays.

Meetings <https://www.dash-astro.co.uk/Events>

BAA news & webinars

For full details of all meetings or cancellations, please go to <https://britastro.org/meetings/2022>.

Wednesday 20th July 2022 7pm Wednesday Webinar – Backyard lunar mineral prospecting

<https://britastro.org/event/lunar-mineral-prospecting>

The BAA Radio Astronomy Section

Thanks to an initiative by Paul Hearn, the BAA Radio Astronomy Section have been enjoying talks, seminars and tutorials via Zoom.

These are/will be available on the BAA YouTube channel.

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

BAA RA Section Autumn programme 2022

Sep. 2nd. 19:30 BST (18:30 UTC)	Dr Helen Russell School of Physics & Astronomy Nottingham University	x-ray astronomy 'An X-ray view of the Universe'
Oct. 7th. 19:30 BST (18:30 UTC)	Dr Samuel Lander Theoretical astrophysicist. Univ. East Anglia. The main focus of research is neutron stars: the collapsed remnants of a normal star's core following a supernova.	All about Magnetars A magnetar is a type of neutron star with a particularly strong magnetic field. This field powers a range of outburst activity, from X-ray and gamma-ray bursts and flares, to the recently discovered fast radio bursts. This talk will survey the observations and give a picture of how a magnetar releases all this energy.
Nov. 4th. 19:30 GMT (19:30 UTC)	Prof. John Richer The Cavendish Laboratory Cambridge Univ. John Richer is an astrophysicist with expertise in the field of star formation, with a particular interest in radio and submillimetre observations of young stars and protostellar systems.	'On ALMA' Atacama Large Millimetre/submillimetre Array ALMA is a submillimetre interferometer at the Chajnantor site in the Atacama Desert at 5100 metres above sea level. The principle research areas are millimetre and submillimetre imaging and spectroscopic observations of star-forming regions in our own Galaxy, in nearby galaxies, and in the very distant universe. These observations provide an unobscured view of the cold universe.

Dec. 2st. 19:30 GMT (19:30 UTC)	Dr. Emma Chapman Guest star: JWST Royal Society Dorothy Hodgkin fellow based at the University of Nottingham.	Christmas Lecture 'Exploring the Dark Ages of the Universe by Radio' The first stars ever! 400 million years after the big bang. This era has never been observed and constitutes over a billion-year gap in our knowledge.
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The British Astronomical Association

Autumn weekend Meeting

9th – 11th September 2022



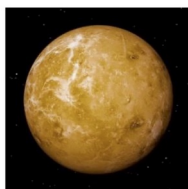
'A Sun and its Solar System'

Moray College UHI, Moray Street, Elgin, Moray, IV30 1JJ.

We will be looking at our Sun, its effects such as aurora and looking at some of our Solar System bodies. Talks by professional speakers and active observers.



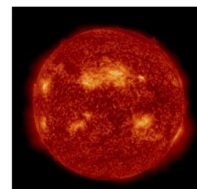
Our speakers for the Weekend will be:—



Dr John Mason

Denis Buczynski
Prof Clare Panell
Sandra Brantingham

Lyn Smith
Dr Paul Abel
Nick James



Friday - Doors Open at 19:00 and the meeting will close at approx. 21:00
Saturday - Doors Open at 10:00 and the meeting will close at approx. 18:00
Sunday - We have a local tour starting at 10:00 and finishing approx. 12:30

Full details can be found on the BAA website <https://britastro.org/event/elgin-2022>
 Booking via Eventbrite <https://elgin-2022.eventbrite.co.uk>
 BAA & SIGMA Member discount is "solar"

Event Organiser: Mrs Hazel Collett, E: meetings@britastro.org T: 07944 751277
Local Co-ordinator: Mr Pete Sherman, E: chair@sigma-astro.co.uk T: 07464 763690

Everyone attending on the Saturday will be entered into a raffle,



Our thanks go to
SIGMA, Moray's Astronomical Club
 for hosting this meeting



Images courtesy of ESA, NASA and BAA Members

The Night Sky in July 2022

Martin RH

All event times (BST) are for the location of Orwell Park Observatory 52.0096°N, 1.2305°E.

Times are BST unless otherwise stated.

Sun, Moon and planets

Sources:

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

Object	Date	Rise	Set	Mag.	Notes
Sun	1	04:39	21:18		
	31	05:15	20:47		
Moon	1	06:20	23:21		First Quarter 07 July 03:14 Perigee 13 July 10:06 Full Moon 13 July 19:38 Last Quarter 20 July 15:19 Apogee 26 July 11:23 New Moon 28 July 18:55
	31	07:48	22:19		
Mercury	1	03:38	19:53	-0.7	Perihelion 10 July Superior Conjunction 16 July
	31	06:39	21:24	-0.6	
Venus	1	02:56	18:46	-3.8	
	31	03:20	19:36	-3.8	
Mars	1	01:16	14:45	0.5	
	31	23:57	14:43	0.2	
Jupiter	1	00:39	12:54	-2.3	
	31	22:40	11:02	-2.5	
Saturn	1	23:21	08:49	0.6	
	31	21:20	06:40	0.4	
Uranus	1	01:49	16:47	5.8	
	31	23:49	14:54	5.8	
Neptune	1	00:19	11:46	7.9	
	31	22:16	09:46	7.8	

Occultations during July 2022

https://iota-es.de/moon/grazing_descrx101.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 July 2022

Source: BAA Handbook 2021 p26-27 and <https://in-the-sky.org/newsindex.php?feed=meteors>

Shower	Normal limits	Maximum	Max RA/Dec.°	ZHR at Max	Notes
α -Capri-cornids	July 3 – Aug 15	July 30	20:28 (307°) -9.0°	5	A good proportion of bright, slow-moving colourful meteors. Very favourable
Southern δ -Aquarids	July 12 – Aug 23	July 31	22:44 (341°) -16.0°	20	Fine southern shower with double radiant. S component is more active. Rich in faint meteors. Very favourable .
Piscis Austrinids	July 15 – Aug 10	Aug 8	23:32 (353°) -21.0°	5	Souther shower in need of observation. Date of maximum and radiant location uncertain. Moonlight interferes.
Perseids	July 17 – Aug24	Aug 13 01:04	03:11 (048°) -21.0°	80+	Rich shower of fast meteors. High proportion of bright events leaving persistent trails. Unfavourable

For radio observation, use reflections from Graves radar on 143.050MHz or the Brams transmitter in Belgium on 49.97MHz and now UK GB3MBA on 50.408MHz <https://www.ukmeteorbeacon.org/Home>

See also https://www.popastro.com/main_spal/meteor/radio-meteor-observing-2020/.

Visible ISS passes $\geq 15^\circ$ max altitude

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

Times are BST. Predictions are approximate (17 June) 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 Jul	-2.8	03:50:37	10°	SW	03:53:42	35°	SSE	03:56:48	10°	E
02 Jul	-2.4	03:03:14	15°	SSW	03:05:12	25°	SSE	03:08:02	10°	E
03 Jul	-2	02:16:11	17°	SSE	02:16:44	18°	SE	02:19:06	10°	E
03 Jul	-3.6	03:49:41	10°	WSW	03:53:00	58°	SSE	03:56:20	10°	E
04 Jul	-3.3	03:01:56	15°	SW	03:04:24	44°	SSE	03:07:38	10°	E
05 Jul	-2.9	02:14:46	26°	S	02:15:50	33°	SSE	02:18:54	10°	E
05 Jul	-3.8	03:48:59	10°	WSW	03:52:21	80°	S	03:55:43	10°	E
06 Jul	-2.4	01:27:33	24°	SE	01:27:33	24°	SE	01:30:03	10°	E
06 Jul	-3.8	03:00:24	10°	WSW	03:03:41	69°	SSE	03:07:02	10°	E
07 Jul	-3.7	02:13:06	22°	SW	02:15:01	55°	SSE	02:18:19	10°	E
07 Jul	-3.8	03:48:18	10°	W	03:51:40	86°	S	03:55:03	10°	E
08 Jul	-3.4	01:25:42	36°	S	01:26:22	42°	SSE	01:29:34	10°	E

Date	Bright-ness (mag)	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
08 Jul	-3.8	02:59:35	10°	W	03:02:57	85°	S	03:06:19	10°	E
09 Jul	-2.8	00:38:10	30°	SE	00:38:10	30°	SE	00:40:46	10°	E
09 Jul	-3.9	02:11:00	11°	WSW	02:14:14	78°	S	02:17:35	10°	E
09 Jul	-3.8	03:47:34	10°	W	03:50:56	75°	S	03:54:17	10°	ESE
09 Jul	-2	23:50:25	18°	ESE	23:50:25	18°	ESE	23:51:50	10°	E
10 Jul	-3.9	01:23:13	19°	WSW	01:25:30	66°	SSE	01:28:50	10°	E
10 Jul	-3.8	02:58:50	10°	W	03:02:12	84°	S	03:05:34	10°	E
11 Jul	-3.7	00:34:53	22°	SW	00:36:47	53°	SSE	00:40:04	10°	E
11 Jul	-3.9	02:10:04	10°	W	02:13:26	87°	S	02:16:48	10°	E
11 Jul	-3.6	03:46:48	10°	W	03:50:04	52°	SSW	03:53:21	10°	ESE
11 Jul	-3.4	23:44:56	10°	SW	23:48:06	40°	SSE	23:51:16	10°	E
12 Jul	-3.9	01:21:18	10°	W	01:24:40	84°	S	01:28:01	10°	E
12 Jul	-3.8	02:58:00	10°	W	03:01:21	65°	SSW	03:04:41	10°	ESE
12 Jul	-2.9	22:56:29	10°	SSW	22:59:25	29°	SSE	23:02:23	10°	E
13 Jul	-3.9	00:32:32	10°	WSW	00:35:52	76°	S	00:39:14	10°	E
13 Jul	-3.9	02:09:13	10°	W	02:12:35	77°	S	02:15:57	10°	ESE
13 Jul	-3	03:46:03	10°	W	03:49:03	30°	SSW	03:52:03	10°	SE
13 Jul	-2.5	22:08:11	10°	SSW	22:10:47	21°	SE	22:13:23	10°	E
13 Jul	-3.9	23:43:47	10°	WSW	23:47:05	64°	SSE	23:50:26	10°	E
14 Jul	-3.9	01:20:25	10°	W	01:23:47	85°	S	01:27:09	10°	E
14 Jul	-3.4	02:57:10	10°	W	03:00:22	41°	SSW	03:03:32	10°	SE
14 Jul	-3.6	22:55:05	10°	SW	22:58:20	50°	SSE	23:01:36	10°	E
15 Jul	-3.9	00:31:36	10°	W	00:34:58	87°	S	00:38:20	10°	E
15 Jul	-3.7	02:08:19	10°	W	02:11:36	54°	SSW	02:14:54	10°	ESE
15 Jul	-2.2	03:45:37	10°	W	03:47:50	16°	SW	03:50:01	10°	S
15 Jul	-3.2	22:06:28	10°	SW	22:09:35	37°	SSE	22:12:43	10°	E
15 Jul	-3.9	23:42:47	10°	W	23:46:08	83°	S	23:49:29	10°	E
16 Jul	-3.9	01:19:29	10°	W	01:22:49	68°	SSW	01:26:09	10°	ESE
16 Jul	-2.6	02:56:27	10°	W	02:59:11	23°	SSW	03:01:55	10°	SSE
16 Jul	-3.9	22:53:57	10°	WSW	22:57:18	74°	SSE	23:00:39	10°	E
17 Jul	-3.9	00:30:38	10°	W	00:33:59	79°	S	00:36:59	13°	ESE
17 Jul	-2.8	02:07:26	10°	W	02:09:43	28°	WSW	02:09:43	28°	WSW
17 Jul	-3.8	22:05:09	10°	WSW	22:08:27	61°	SSE	22:11:47	10°	E
17 Jul	-3.9	23:41:47	10°	W	23:45:08	85°	S	23:48:30	10°	E
18 Jul	-3.3	01:18:30	10°	W	01:21:22	42°	SW	01:21:22	42°	SW
18 Jul	-3.8	22:52:54	10°	W	22:56:15	86°	S	22:59:37	10°	E
19 Jul	-3.8	00:29:37	10°	W	00:32:55	57°	SSW	00:33:29	48°	SSE
19 Jul	-3.8	22:04:01	10°	W	22:07:22	81°	S	22:10:44	10°	E
19 Jul	-3.9	23:40:43	10°	W	23:44:03	70°	SSW	23:45:47	26°	ESE
20 Jul	-1.7	01:17:38	10°	W	01:18:37	16°	WSW	01:18:37	16°	WSW

Date	Bright-ness (mag)	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
20 Jul	-3.9	22:51:49	10°	W	22:55:10	81°	S	22:58:13	12°	E
21 Jul	-2.8	00:28:35	10°	W	00:31:02	31°	SW	00:31:02	31°	SW
21 Jul	-3.8	22:02:54	10°	W	22:06:15	86°	S	22:09:37	10°	E
21 Jul	-3.5	23:39:36	10°	W	23:42:51	46°	SSW	23:43:31	39°	SSE
22 Jul	-3.7	22:50:40	10°	W	22:53:58	60°	SSW	22:56:02	21°	ESE
23 Jul	-1.6	00:27:47	10°	W	00:28:52	15°	WSW	00:28:52	15°	WSW
23 Jul	-3.8	22:01:43	10°	W	22:05:03	73°	SSW	22:08:24	10°	ESE
23 Jul	-2.6	23:38:35	10°	W	23:41:25	27°	SSW	23:41:25	27°	SSW
24 Jul	-3	22:49:31	10°	W	22:52:38	37°	SSW	22:54:00	25°	SSE
25 Jul	-3.4	22:00:29	10°	W	22:03:45	49°	SSW	22:06:37	13°	SE
26 Jul	-2.1	22:48:32	10°	W	22:51:07	20°	SW	22:52:05	18°	S
27 Jul	-2.5	21:59:19	10°	W	22:02:16	29°	SSW	22:04:45	13°	SSE
29 Jul	-1.5	21:58:30	10°	WSW	22:00:34	15°	SW	22:02:39	10°	S

Starlink passes

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

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

Astronomy on the radio

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>

From the Interweb

Astronomers discover how galaxies form through mergers

<https://www.manchester.ac.uk/discover/news/astronomers-discover-how-galaxies-form-through-mergers/>

The Black Hole Information Paradox Is Just About Solved

https://getpocket.com/explore/item/the-black-hole-information-paradox-is-just-about-solved?utm_source=pocket-newtab-global-en-GB

This post originally appeared in Popular Mechanics and was published November 26, 2020.

Meteor Reports

Martin R-H

June report for my station UK0056 is here

<https://archive.ukmeteornetwork.co.uk/reports/2022/stations/Kirton/06/index.html>

The brightest meteor recoded this period was a sporadic on 1 June at 00:45UT, east of Scarborough. Estimated mass 0.83g.



July looks more promising with the Perseids and α -Capricornids at the end of the month.

Alan Smith

A short fireball was imaged by the allsky camera at Grundisburgh early morning (0138hrs UT 29/5/22) between the clouds.

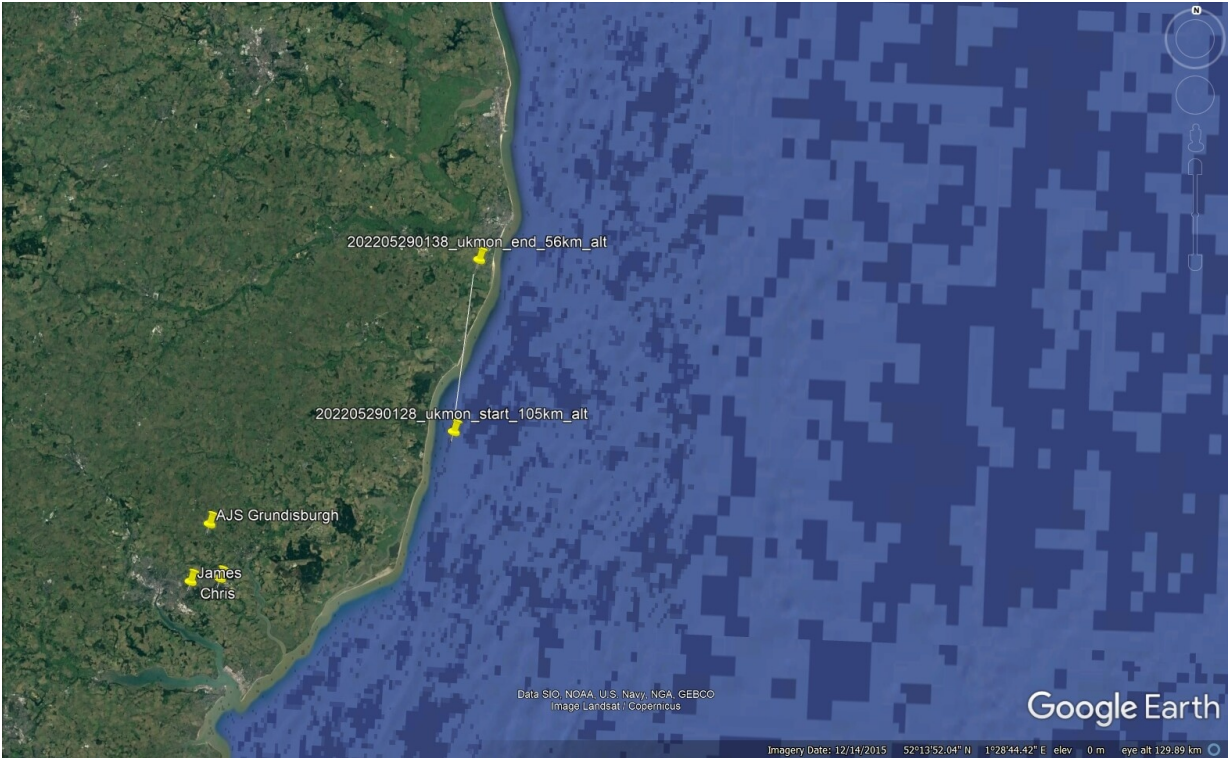
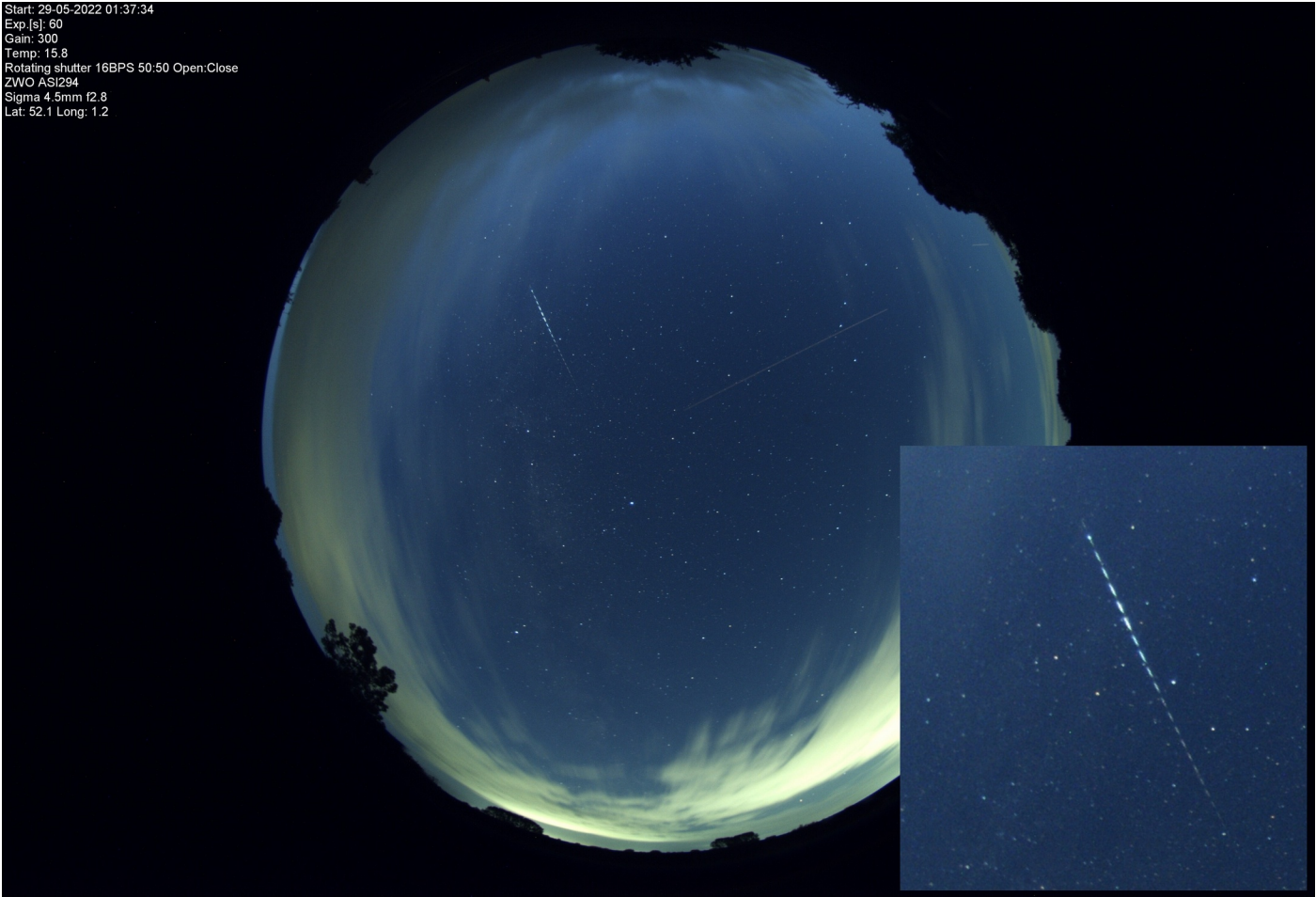
It entered the atmosphere at about 105km altitude just over Sizewell, travelling at about 38km/s. A short visible flight of 1.2secs before it entered dark flight (or more likely burnt out) at about 56km altitude over Kessingland.

The object was also imaged by a number of UKMON cameras and 2 others of the Dutch Meteor Society, but unfortunately the allsky camera operated by James in Ipswich was clouded out.

The allsky image from Grundisburgh is attached as is a video taken by a friend to the south of Ipswich. The breaks in the trail on the allsky image are caused by a rotating shutter operating at 16 breaks per sec.

Thanks to UKMON for the data reduction.

Start: 29-05-2022 01:37:34
Exp.[s]: 60
Gain: 300
Temp: 15.8
Rotating shutter 16BPS 50:50 Open:Close
ZWO ASI294
Sigma 4.5mm f2.8
Lat: 52.1 Long: 1.2



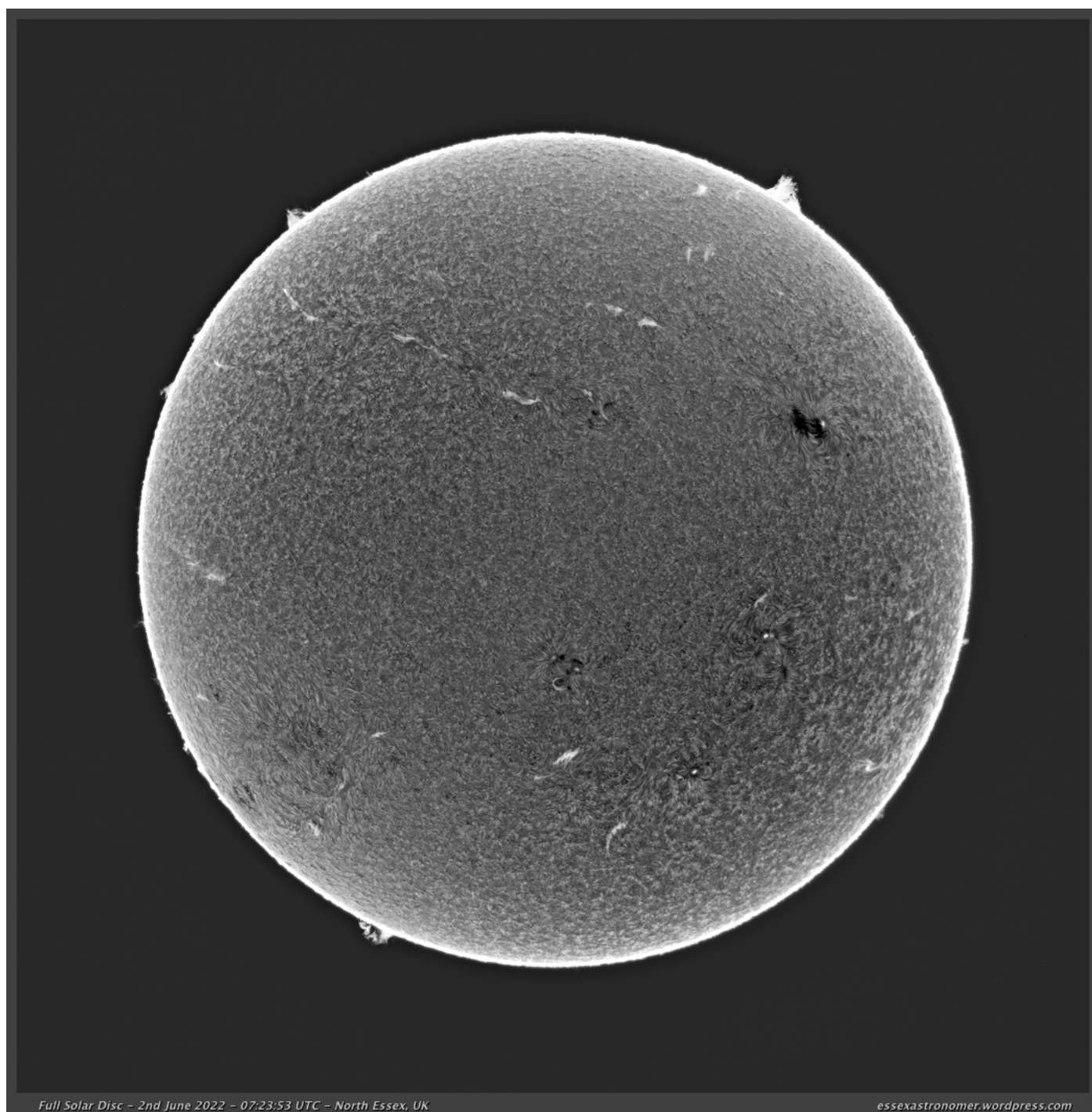
Solar images

John Hughes

Solar Observations 2nd June 2022

All images were captured using the Lunt 60mm DS THa/BI200CPT scope, ZWO ASI174MM camera and SkyWatcher EQ6R-Pro mount. If used, I have included the barlow/powermate details.

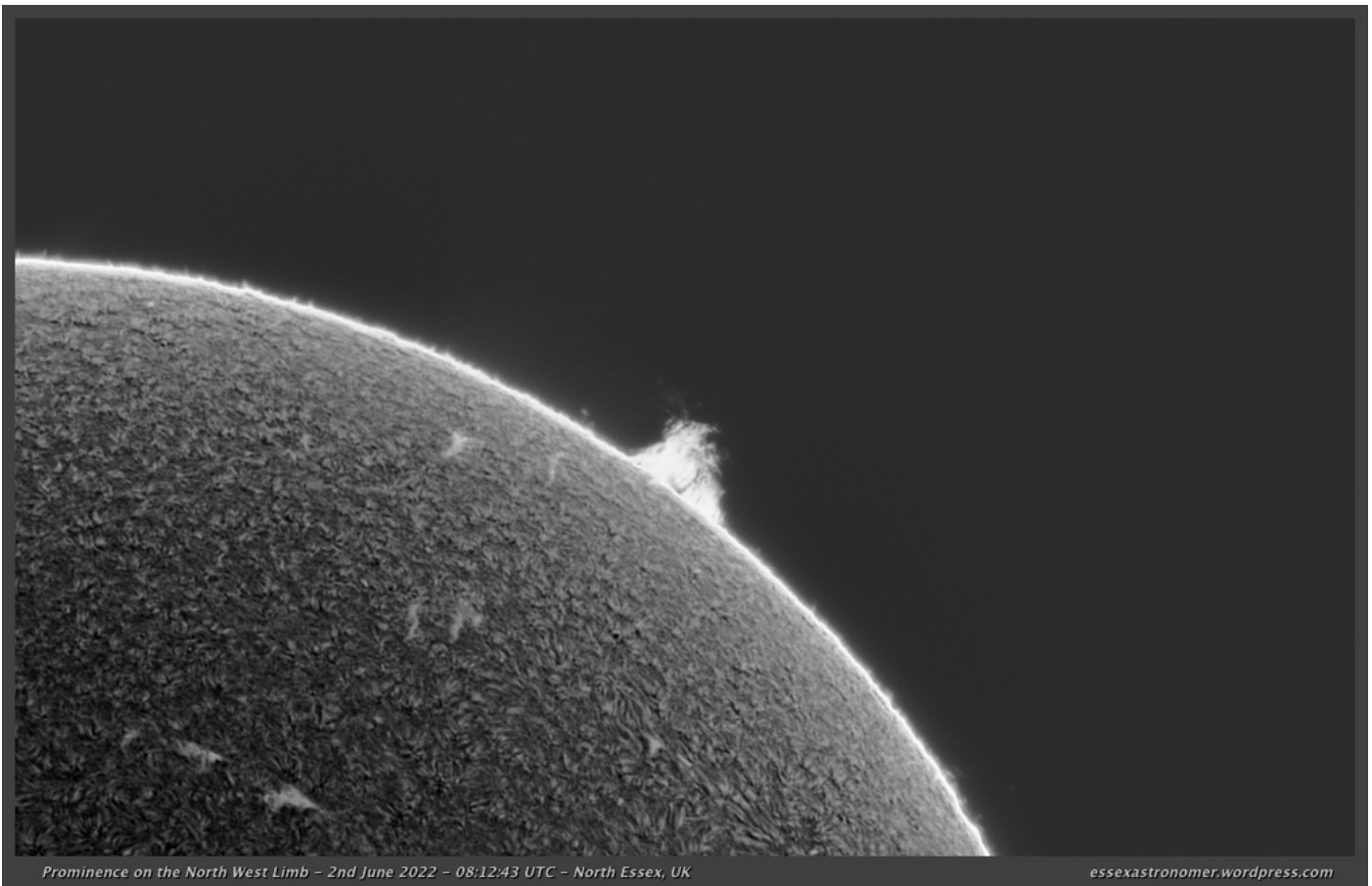
First image is the solar disc. Two nice proms are visible on the north west and south east limbs. There are some groupings of three active regions in the southern hemisphere and a lone region in the north west.



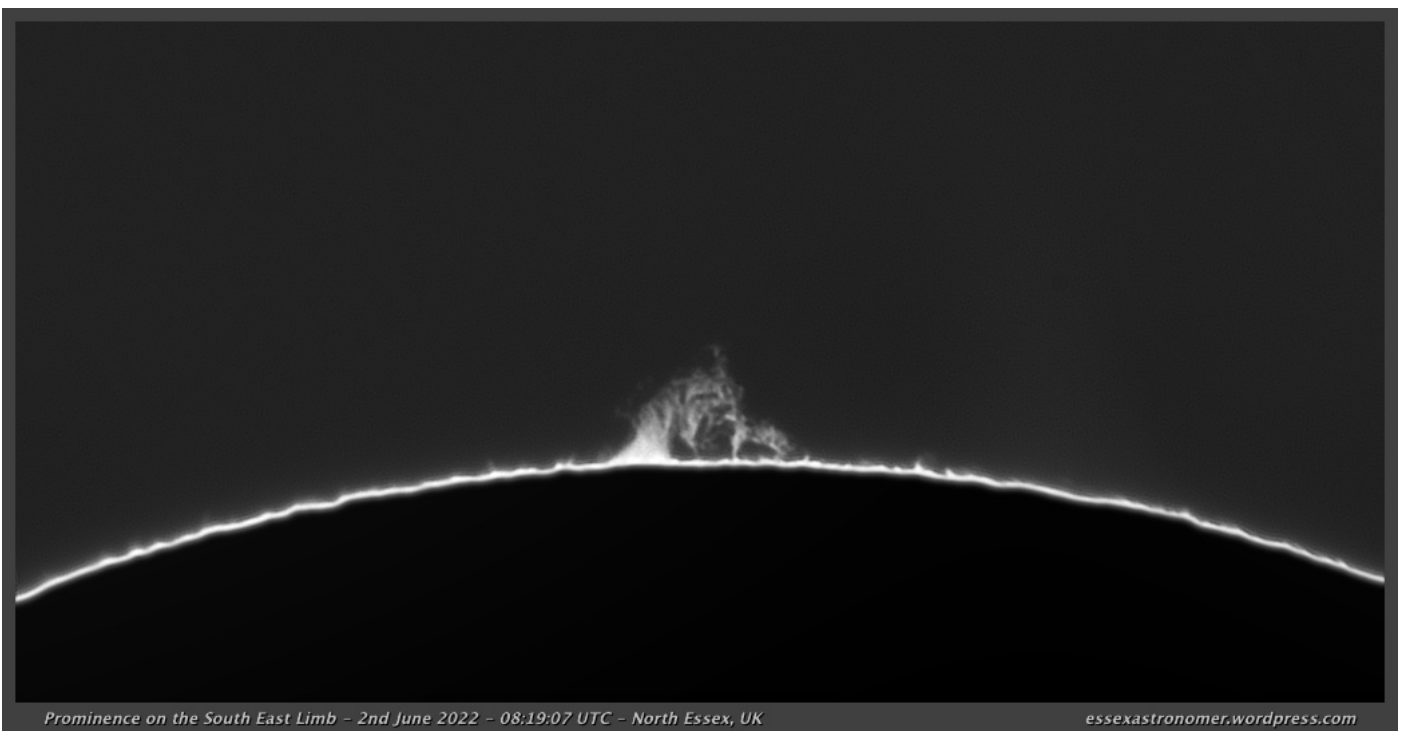
Full Solar Disc - 2nd June 2022 - 07:23:53 UTC - North Essex, UK

essexastronomer.wordpress.com

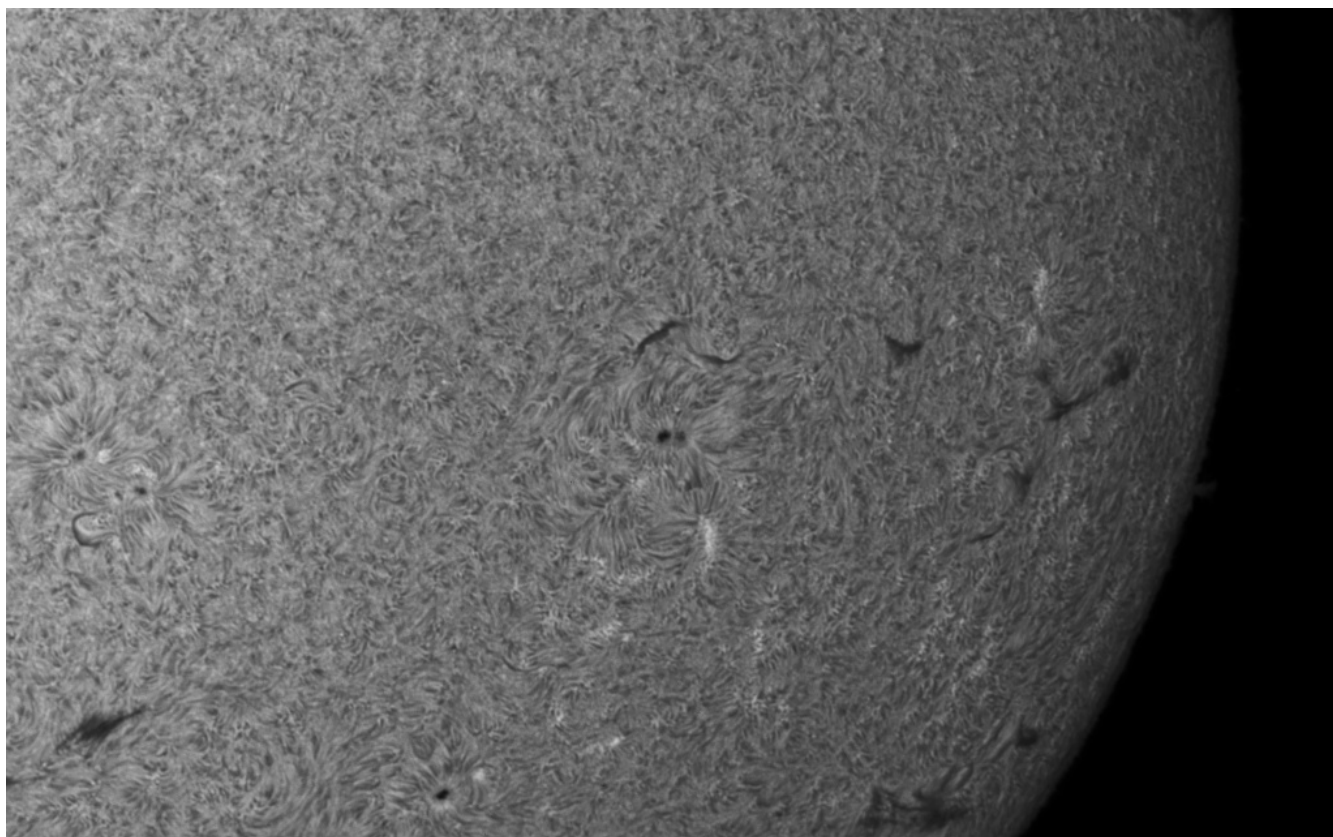
A closer look at the pyramid prom on the north west limb using a TeleVue 4x Powermate.



Moving down to the opposite side of the solar disc we have a smaller prom through the 4x Powermate.



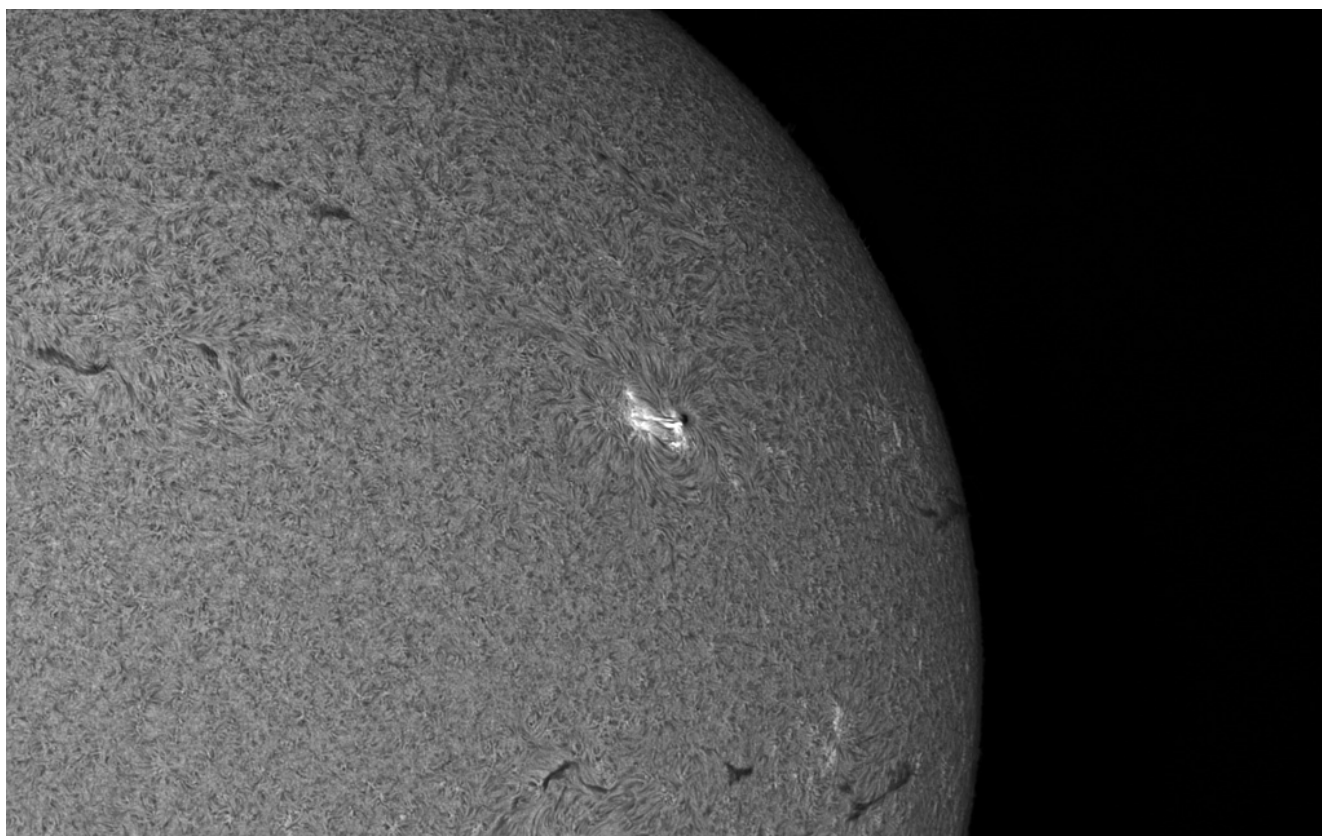
A view of AR13023 in the southern hemisphere. Captured through the 4x Powermate.



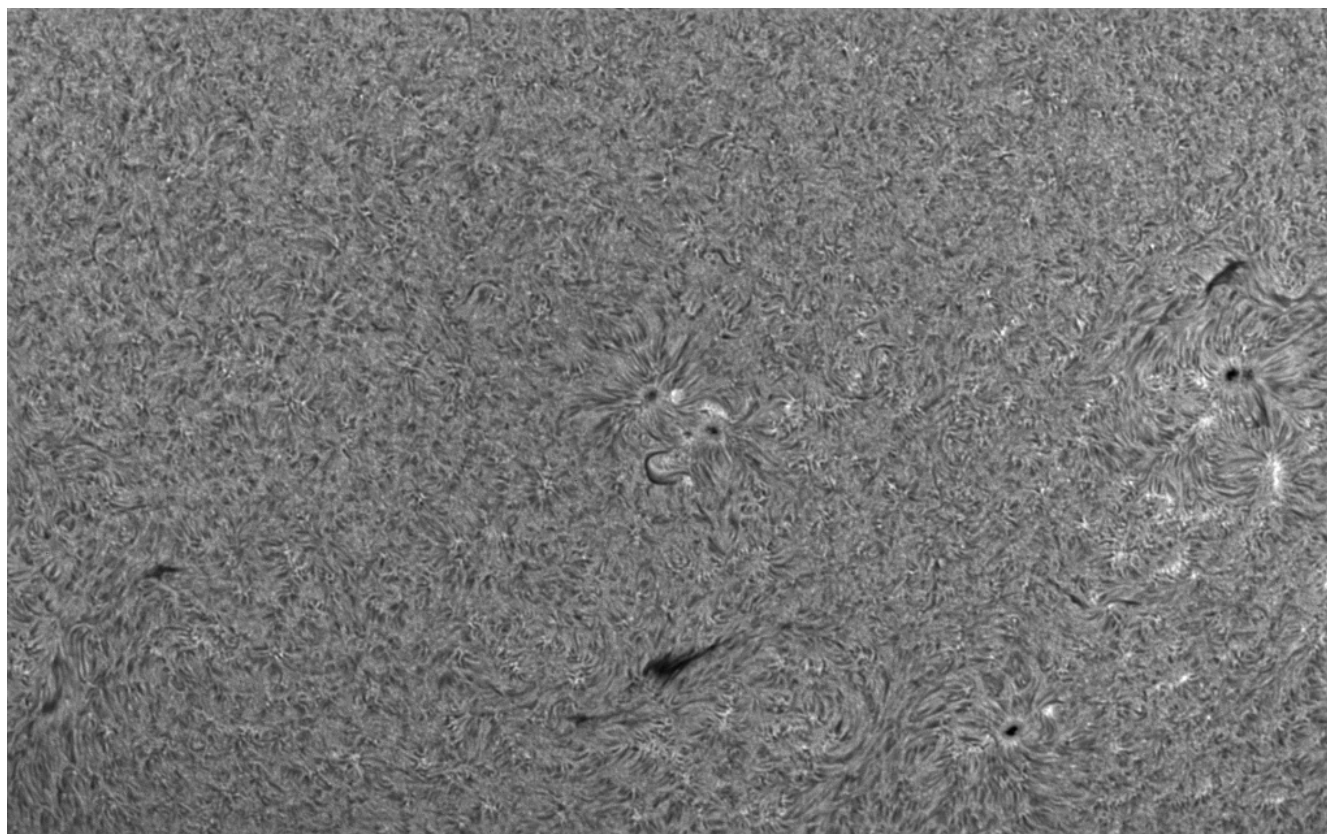
Here we have all three active regions in view. AR13023, AR13024 and AR13027 through an Altair Astro 3x Barlow.



Moving up north we have AR13026 through the Altair Astro 3x Barlow.



AR13027 clearly showing its two sunspots. Captured with the 4x Powermate.



H α Solar observations 16th June 2022

Attached are a few observations from the 16th June 2022. All captured with the Lunt 60mm DS THa/B1200CPT, ZWO ASI174mm and TeleVue 4x Powermate

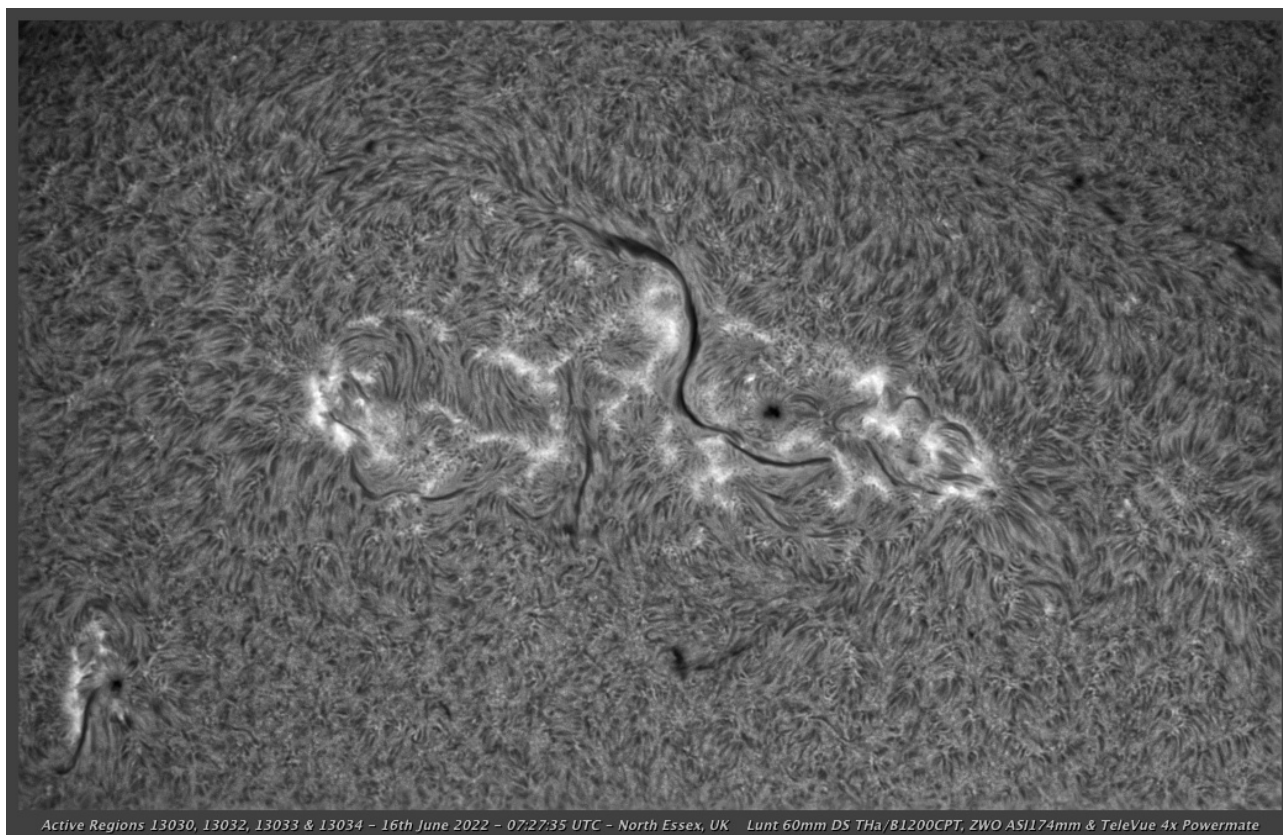


Image 1 - AR's 13030, 13032, 13033 & 13034

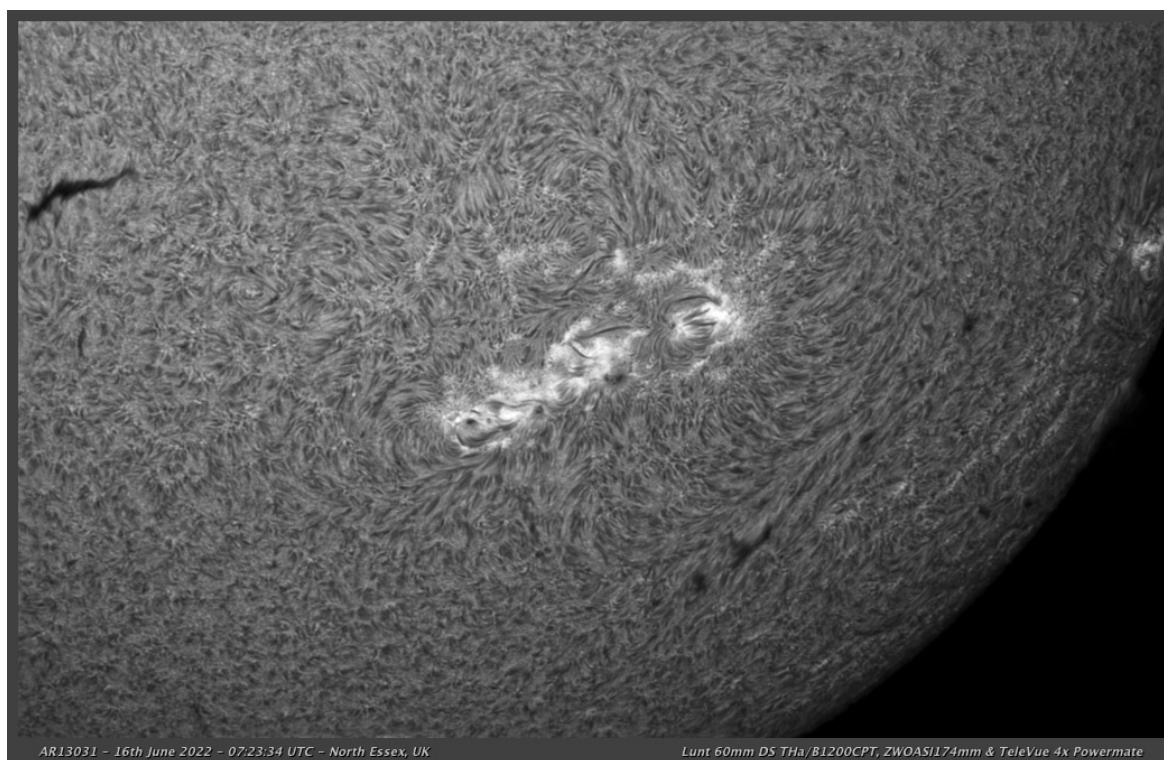


Image 2 - AR13031

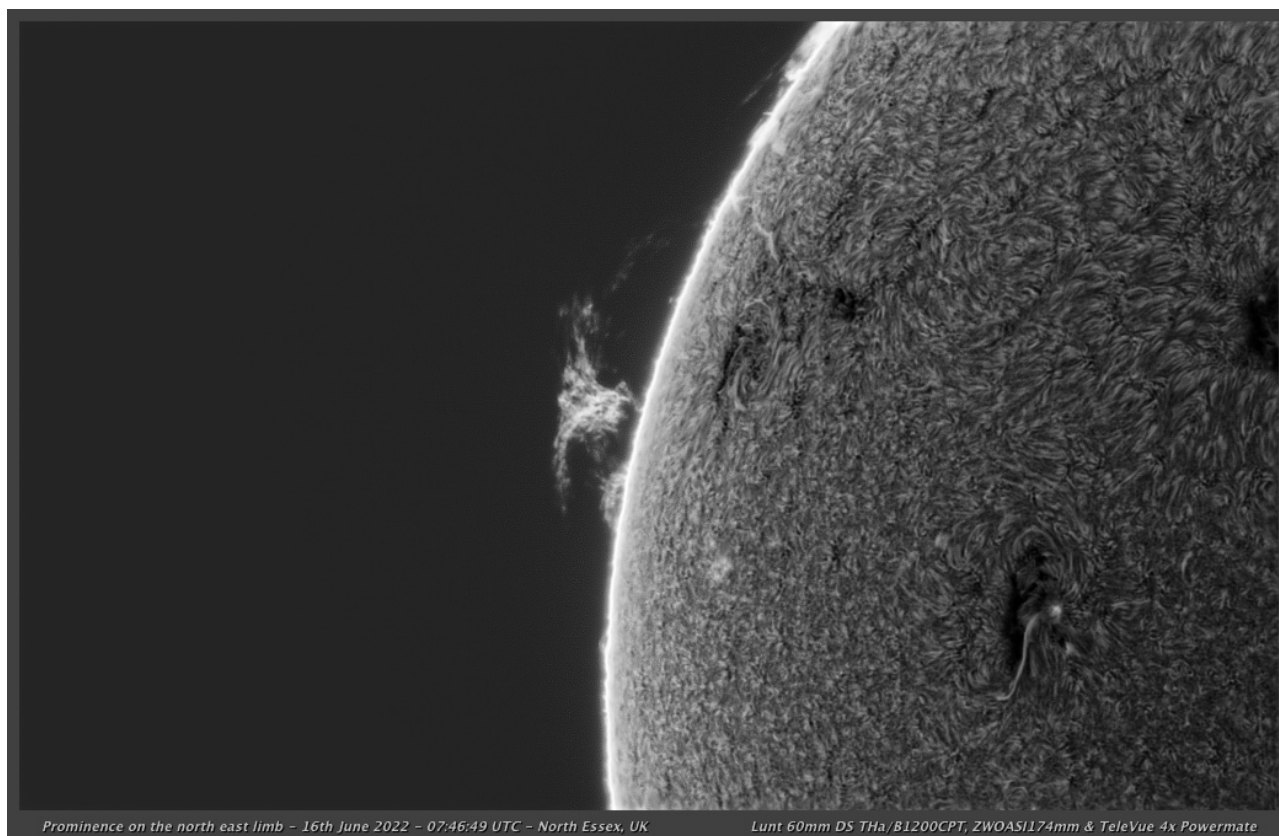


Image 3 - Prominence on the north east limb

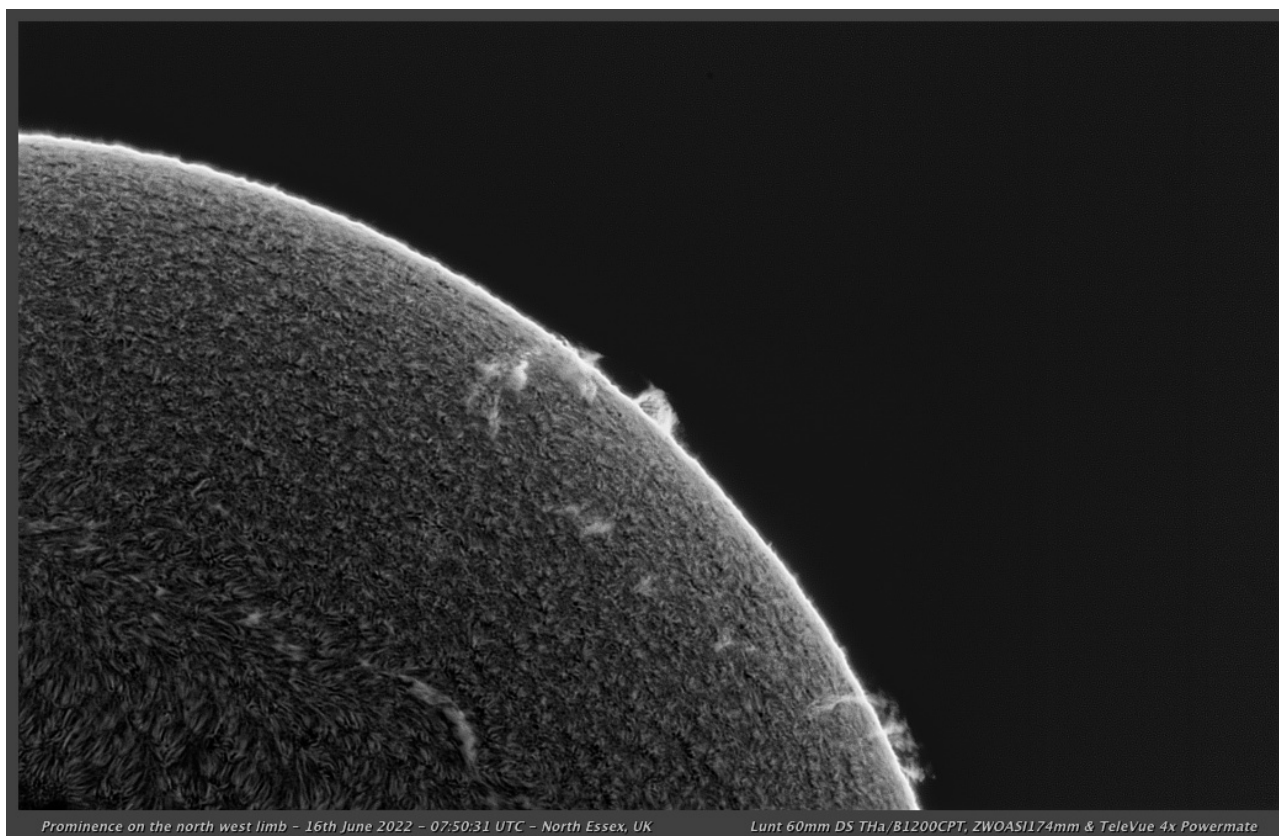


Image 4 - Prominence on the north west limb

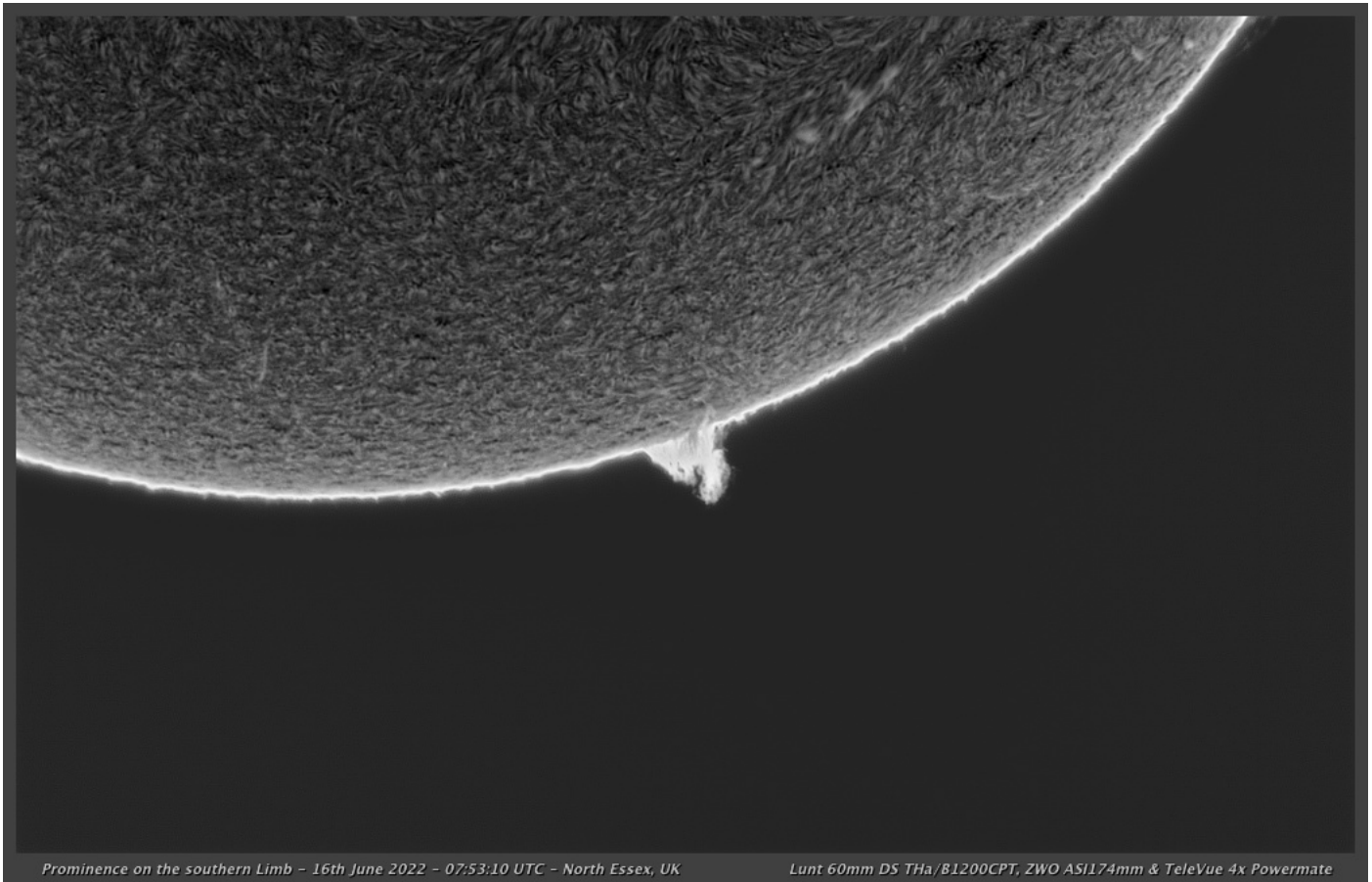


Image 5 - Prominence on the southern limb

Last week's talk "Solar Imaging - A Guide to Data Acquisition and Processing" by OASI member John Hughes is now available on the OASI YouTube channel at <https://youtu.be/mw7RVGSAIG4>

Illustrated with screenshots, John explains how to set up and acquire H α data and then runs through a "live" processing session using AutoStakkert3!, ImPPG and Affinity Photo.

For Sale: Siberia 150 reflector telescope.

Main mirror diameter : 150mm (6"). Focal length 1200mm. Mounting German Equatorial.

Magnification of finder scope *8. Eyepiece focal lengths 15mm, 25mm, 42mm. Clock drive 220v-50Hz. Weight 40kg. Comes with original wooden box.

To discuss price, contact Mr Ed Smiley-Jones. 01664-444526. Mob: 07802 322720.

This item is from the estate of a former OASI member, Mr Reg. More, who passed recently.

The Story of the Standard Model of Physics And the Mass of the W Boson.

A short article from the library

During the years 2002 to 2011, the Fermilab Tevatron, a particle accelerator in the USA, was used to produce W bosons from collisions between protons and antiprotons through quark/antiquark annihilations, set at the 1.96 TeV level. Protons are made up of quarks and antiprotons, antiquarks. It is the collision between these quarks and antiquarks that generate the W boson, which decay so quickly that they cannot be measured directly. An indirect method is therefore used by tracking their decay energy to obtain mass.

Why was the laboratory performing experiments to obtain the W boson and from the results measure its mass? Primarily it is one of the mediators of the weak nuclear force, making it one of the key mechanisms within the substructure of the Standard Model of physics. Within the specifications of particle physics, the mass of the W boson is regarded as being one of the most significant. It is due to our old friend the Higgs boson, that all foundational particle masses are produced in the Standard Model (SM). It was decided to acquire an extremely accurate mass measurement, by analysing 4.2×10^6 W bosons obtained during the above-mentioned period. Prior to this analysis the SM fit was no better than 0.01%, indicating that data obtained before this experiment provided a symmetry among particle characteristics that tightly constrained its limitations. There are many hypotheses that try to present interpretations about the Higgs field and boson. However many of these ideas include dark matter sources which at present constitutes about 84 % of the matter in the universe, but none of them can be explained within the Standard Model.

The events which were to be used in calculations were selected by the use of an off-line trigger analysis system. The trigger system being set to include only pure samples of decays. For the selection of all W boson candidates, the Z boson background was suppressed. When all the data had been calculated, the final result showed that the mass of the W boson $M_W = 80,433.5 \pm 9.4$ MeV, which was a more precise calculation than had been obtained before. Taking the calculation predicted by the Standard Model of $M_W = 80,357 \pm 6$ MeV. This shows a disparity of 76.5 MeV. The calculations show that the mass of the W boson differs from the predicted mass value predicted by the Standard Model by 0.1%.

So the team of scientists having worked through 9 years of results obtained by the Fermilab's Tevatron particle accelerator have found that there is a disparity between W boson values of 0.1%. You may ask yourself, "what difference to my life and society in general will this result make", and the answer will probably be 'not a great deal'. At present we are living in a scientific epoch that has a limited knowledge of at least 84% of the matter in the universe. We can therefore consider these questions:--

Was the math at fault? This is thought unlikely.

Was the experimental protocol at fault? Again it is thought to be unlikely.

This then perhaps leaves us with the startling premise that there is another unknown particle that we simply haven't come across YET!!!

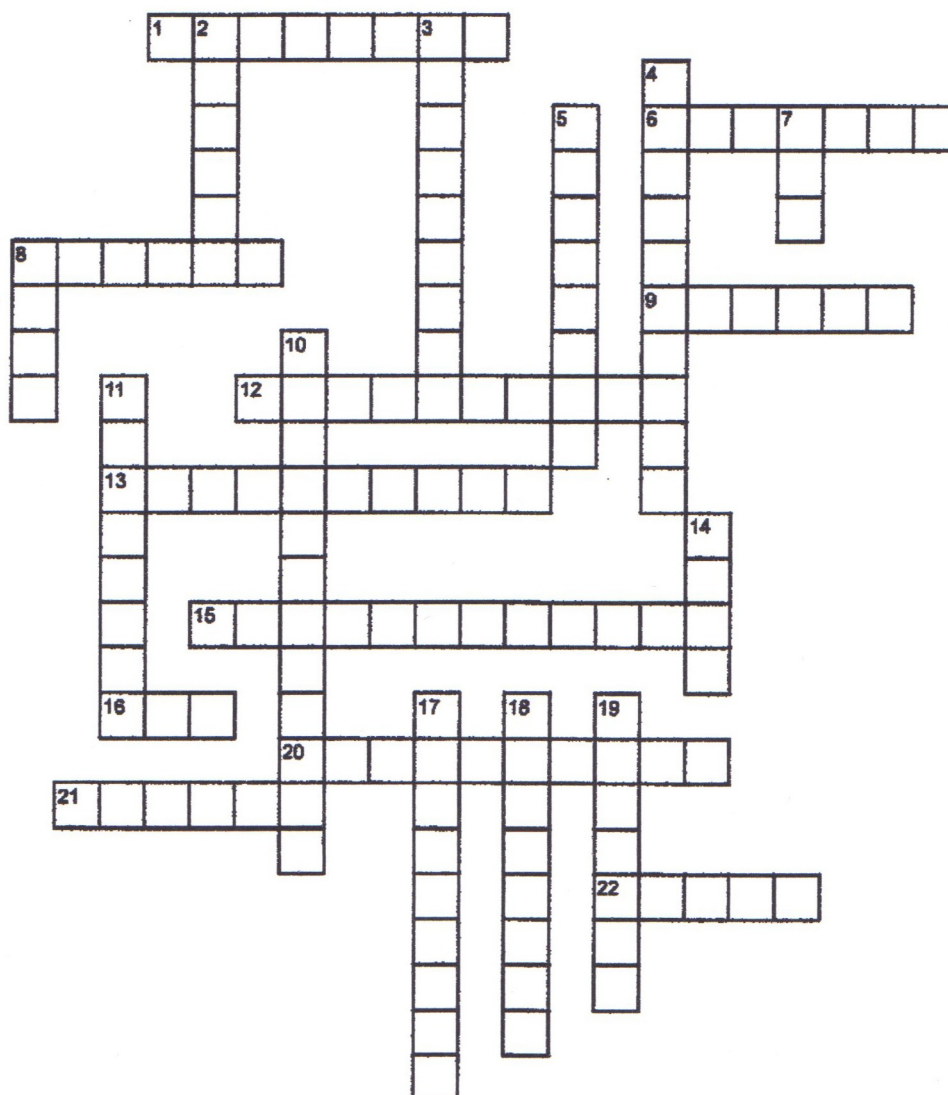
References:

[High-precision measurement of the W boson mass with the CDF II detector \(science.org\)](http://science.org)

[W boson mass measurement surprises physicists – Physics World](#)

[W and Z bosons - Wikipedia](#)

Summer Crossword



Across

- 1 Volcanic craters larger than 1km in diameter.
- 6 Geometric shape that orbits follow.
- 8 Boatman of the dead in Greek mythology
- 9 Brightest star in the constellation of Gemini.
- 12 meteorites that do not contain chondrules.
- 13 Region of the solar system beyond the orbit of Neptune containing many icy bodies.6,4
- 15 Star whose brightness alternates.8,4
- 16 To see this you need a PST.
- 20 Rate at which large planetary bodies are hit by solid objects to cause impact craters.6,4
- 21 A fine grained extrusive igneous rock rich in magnesium and iron.
- 22 Largest of the moons of Saturn.

Down

- 2 Amount of incident light or radiation reflected by a surface.
- 3 Cohesion of matter under the influence of gravity to form larger bodies.
- 4 Layer of earth's atmosphere between the stratosphere and thermosphere.
- 5 Small rocky, metallic body orbiting the Sun.
- 7 Particle, atom or molecule found with a net electric charge.
- 8 Nebulous envelop surrounding a comet's nucleus.
- 10 Deviation of a curve or orbit from circularity.
- 11 Little glassy droplets found at terrestrial impact sites.
- 14 Planet of Phobos and Deimos.
- 17 Degree of brightness of a star.
- 18 Messier 38cluster.
- 19 Zeta Orionis's other name.

The OASI Summer Picnic



Date: 23rd July 2022
Time: 1pm to 6pm
Venue: Newbourne Village Hall

Mill Road
Newbourne
WOODBIDGE
Suffolk
IP12 4NP

OASI members and their family and friends are all invited.

If skies are clear the club's telescopes will be available for anyone who is interested or bring your own.

Bring your own picnic food and drink and chairs and mats etc. Important note: there will be no barbecue this year so bring your own ready to eat food.