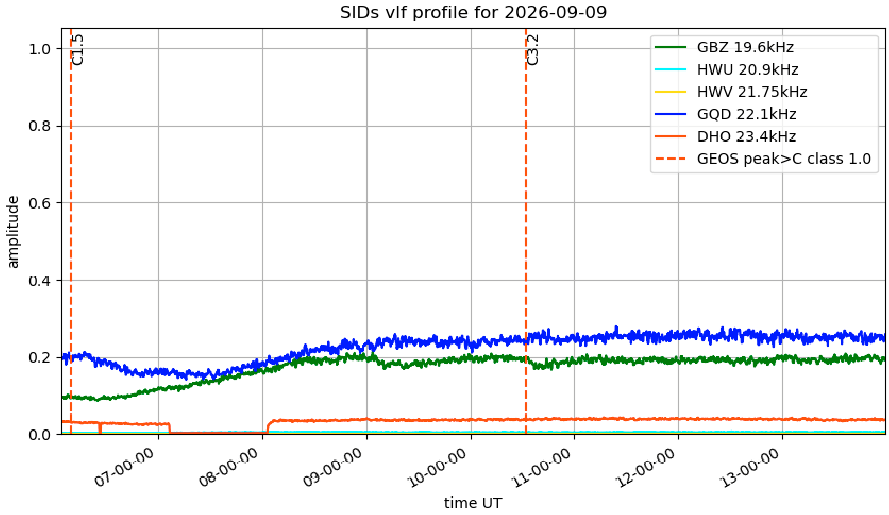
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BAA Radio Astronomy Section. Director Paul Hearn.

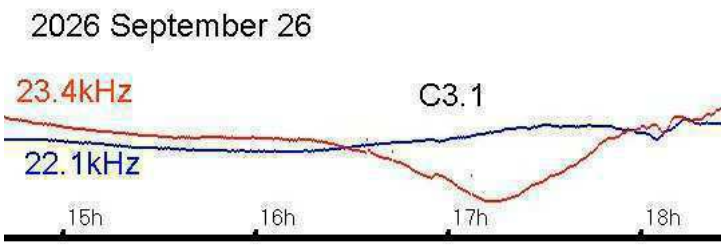
RADIO SKY NEWS 2026 SEPTEMBER.

VLF SID OBSERVATIONS.

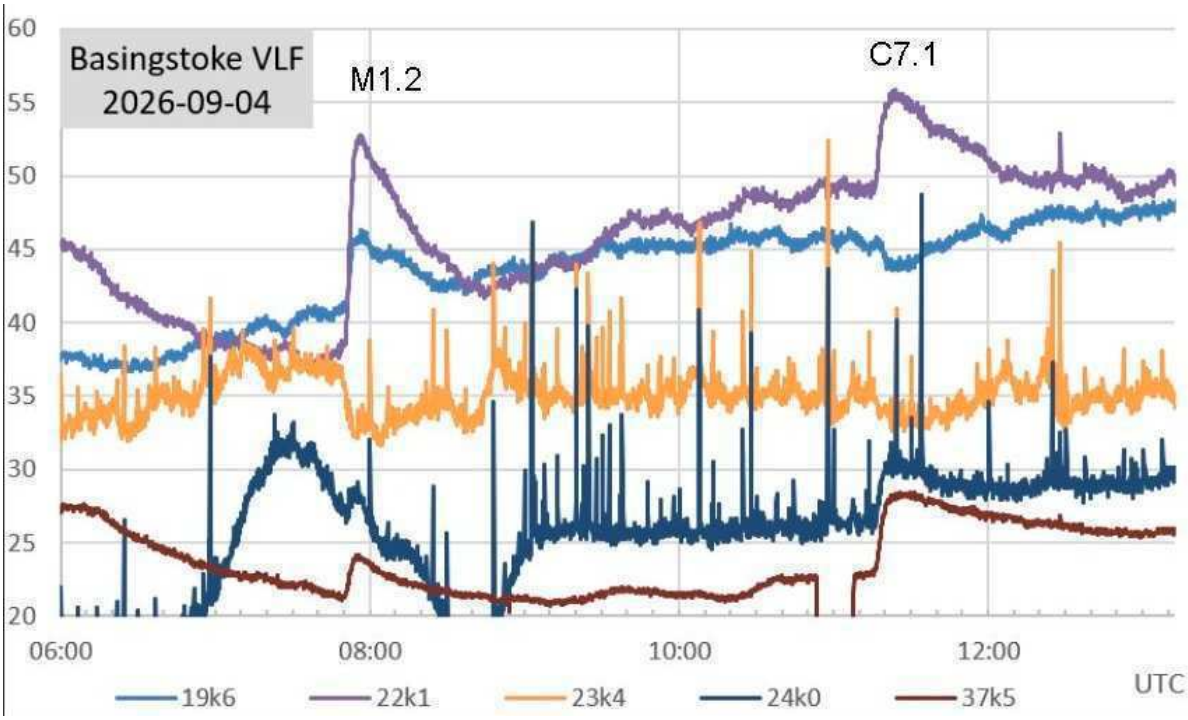
Flaring activity in September was a little higher than last month, although the flares were generally much weaker. We recorded 23 C-flares and 2 M-flares as well as a single B8.4 flare on the 19th. This showed up on Mark Edwards' 24kHz recording, a signal perhaps more sensitive to these weaker events. Most of the activity was during the first week, most of the weaker flares occurring after the 6th. Mark Prescott's recording from the 9th shows a weak SID from a C3.2 flare:



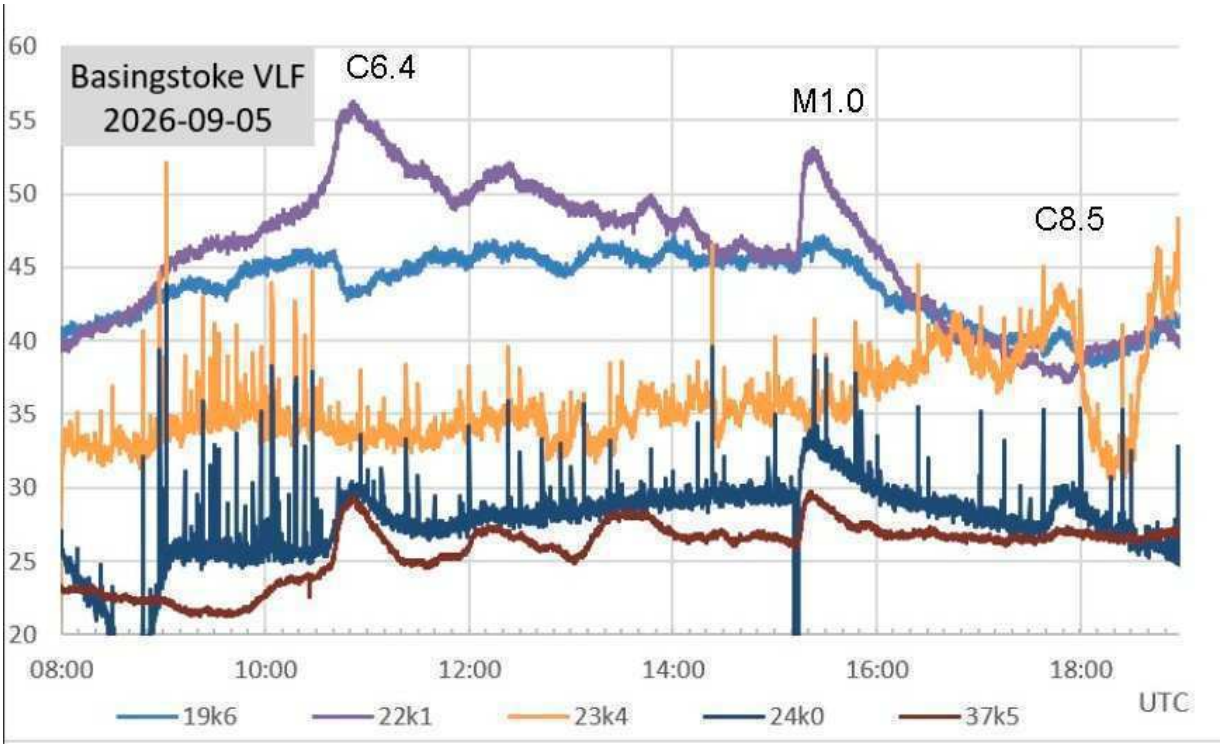
19.6kHz shows a small SID while 22.1kHz shows nothing beyond the general variations. There is also a small 19.6kHz SID from the C3.4 flare at 09:10UT, not marked on the chart. 23.4kHz is unresponsive, just showing the usual 'breakfast' break.



My own recording from the 26th shows a distinct SID from the C3.1 flare. This was well into the sunset dip on 23.4kHz, so surprising to see it so clearly. The SID at 22.1kHz is much smaller and not very clear.

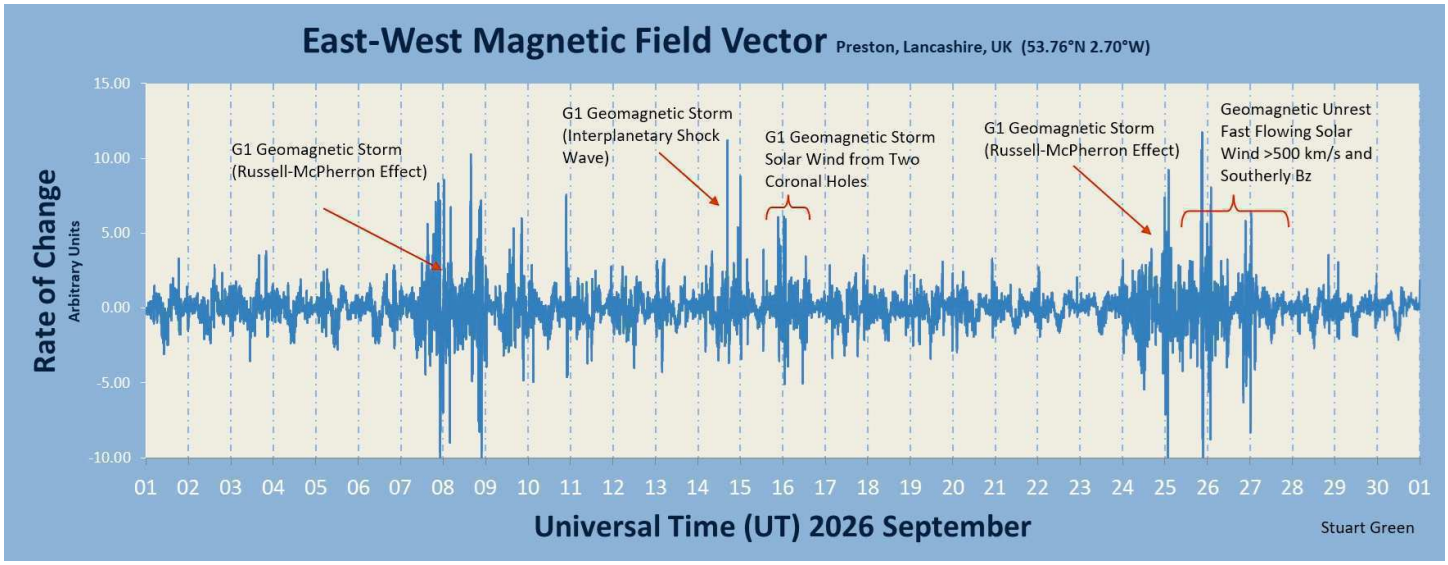


Paul Hyde's recording from the 4th shows some of the stronger activity at the start of September. 22.1kHz and 19.6kHz both show the M1.2 and C7.1 flares very clearly, as does 37.5kHz. The M1.2 flare just before 08UT was a little too early for the longer path at 24kHz, just showing a small SID, but the later C7.1 does show well. Both 23.4kHz and 24kHz are very noisy, also seen in his recording from the 5th:

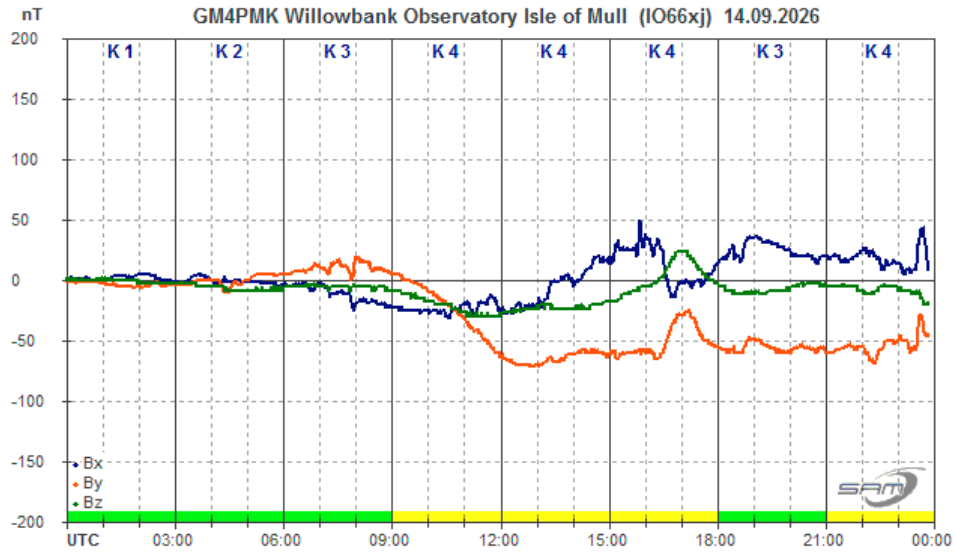


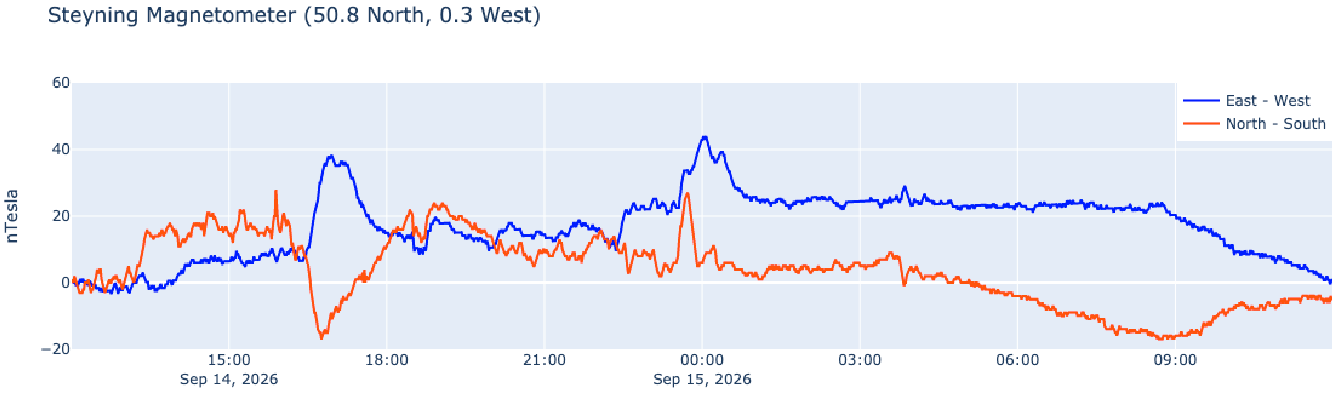
The strong flares again show well at 19.6kHz, 22.1kHz, 37.5kHz and 24kHz. There are also some signal peaks between 12 and 14UT on both 22.1kHz and 37.5kHz. The SWPC satellite data lists a C1.5 flare peaking at 12:02UT, but that does not seem to match the peaks recorded.

MAGNETIC OBSERVATIONS.

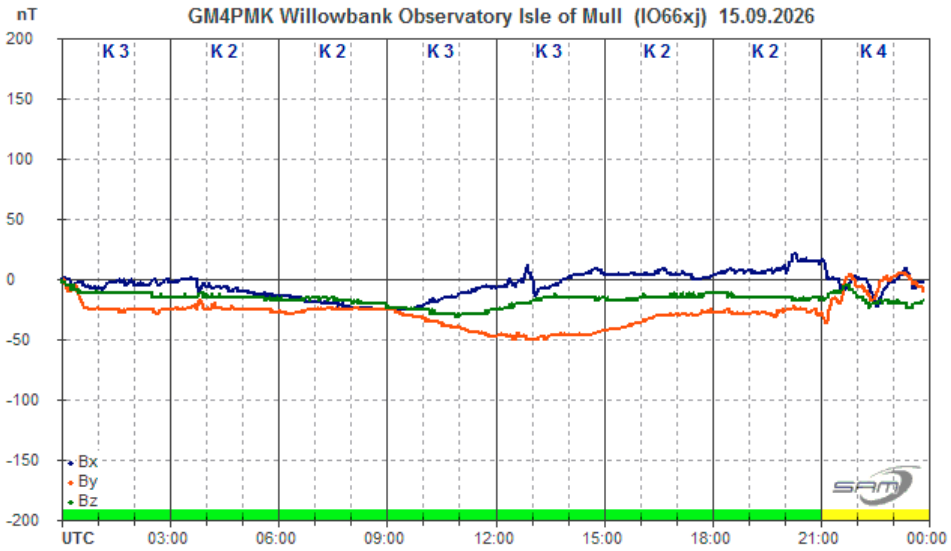


Stuart Green's summary of the month's magnetic activity shows several periods of strong solar winds. These create a stronger magnetic disturbance around the equinox period due to the alignment of the Earth's magnetic field with that of the sun; the Russell-McPheron effect.

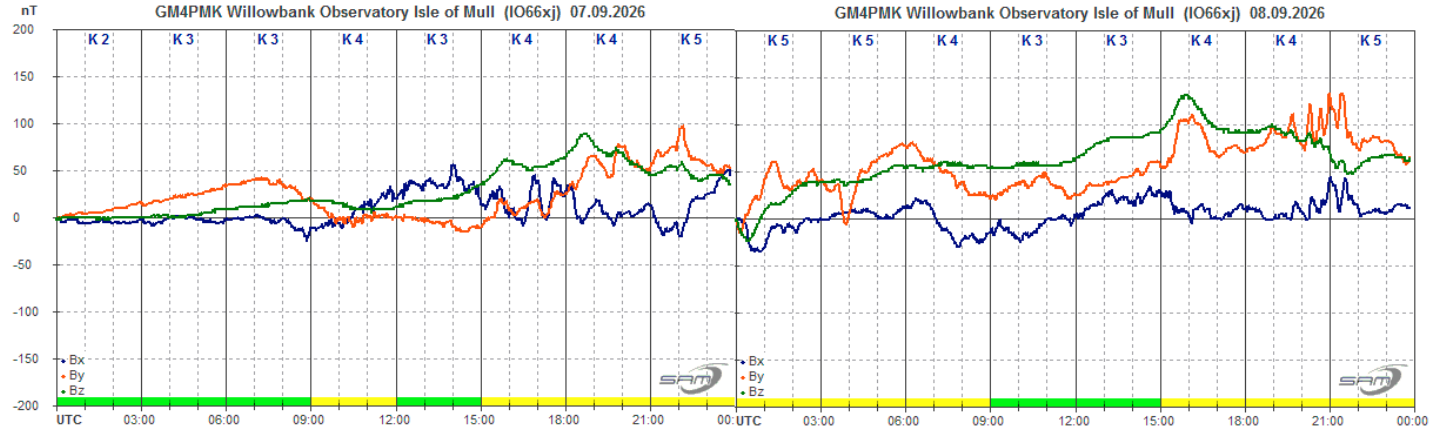




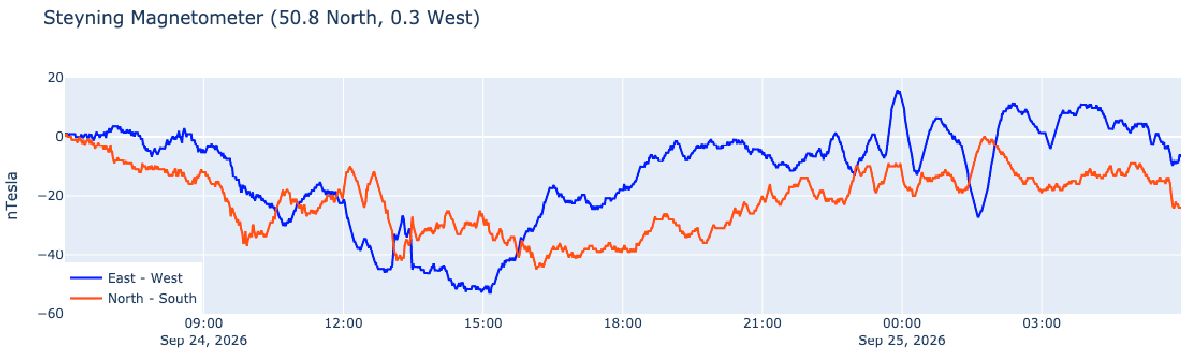
The clearest CME recorded was on the 14th, shown in Roger Blackwell's recording. The sharp spikes between 07 and 08UT appear to be from the CME impact, a stronger disturbance building up after 15UT. This continued for a few hours into the morning of the 15th, seen in Nick Quinn's recording on the previous page.



The STCE bulletin includes a second CME arriving on the 15th. Roger Blackwell's recording does show some small spikes, although its arrival time was probably later in the afternoon. No significant disturbance was recorded into the 16th.

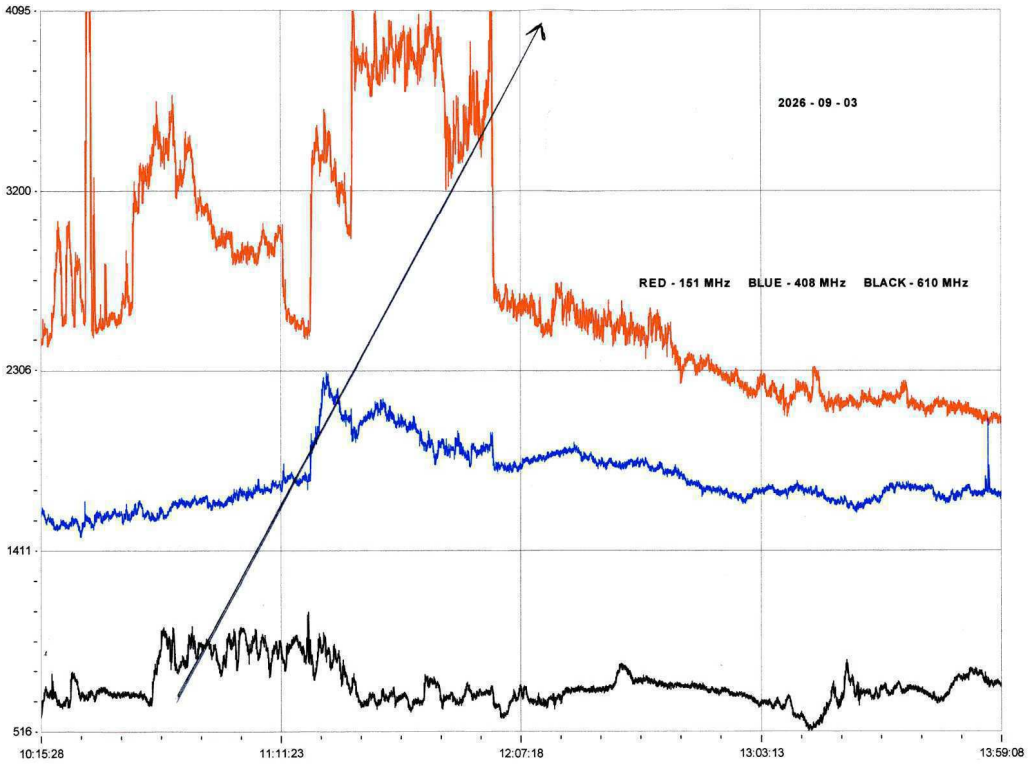


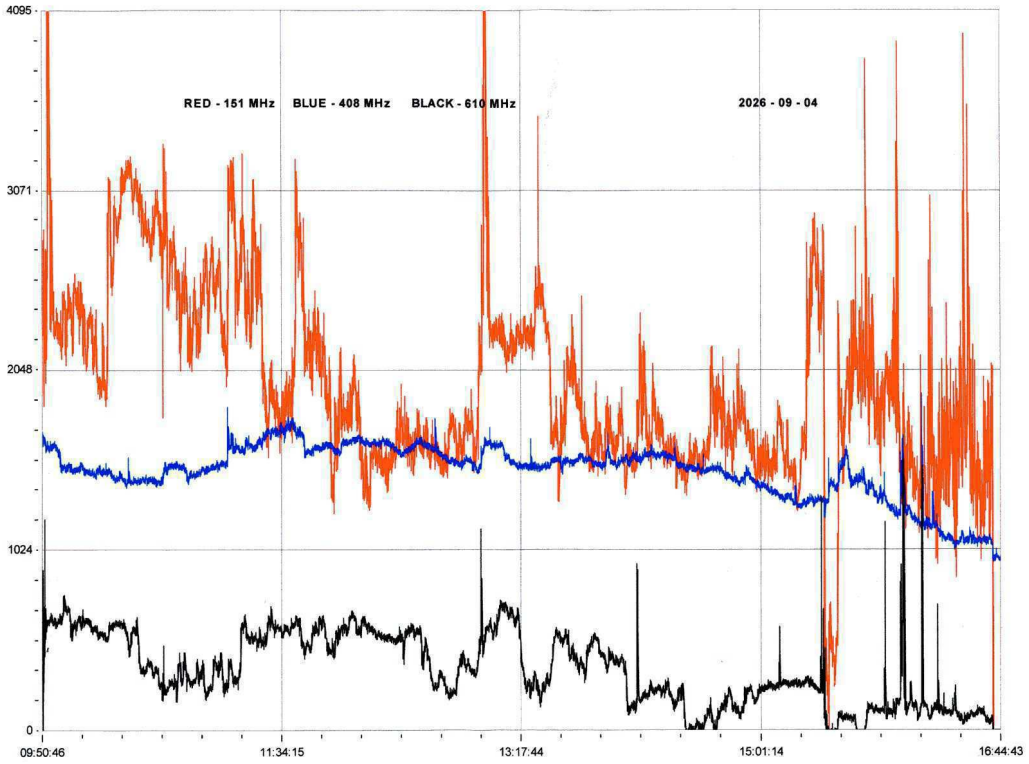
The disturbance over the 7th and 8th was the most active that we recorded. It had faded out in the early hours of the 9th. This was from the fast solar wind, as was the smaller disturbance on the 24th -25th. This continued into the 26th and 27th, although much weaker.



Magnetic observations received from Roger Blackwell, Stuart Green, Nick Quinn and John Cook.

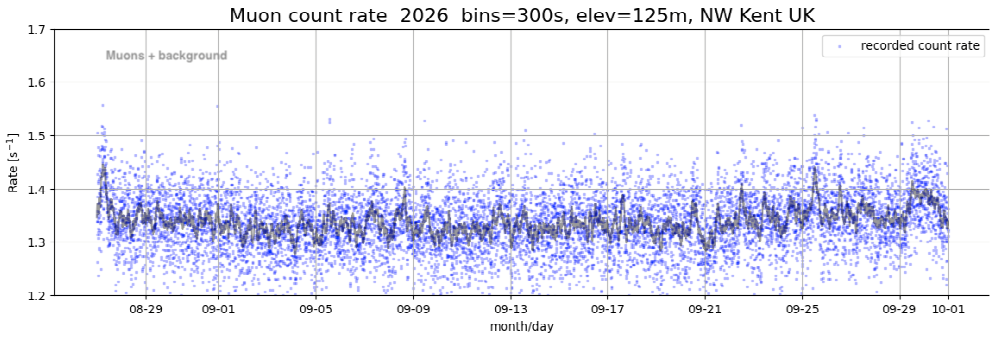
SOLAR EMISSIONS

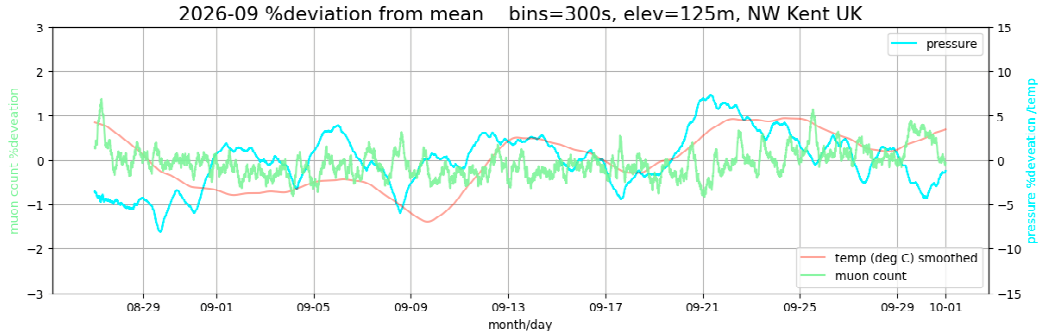


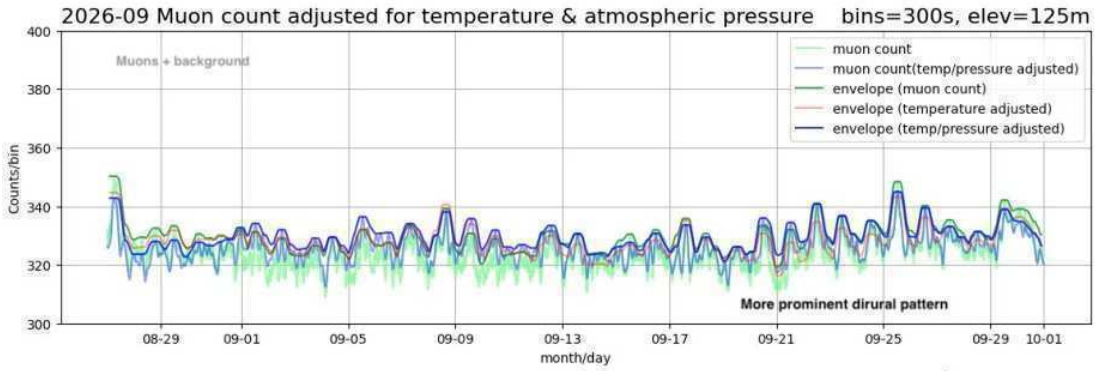


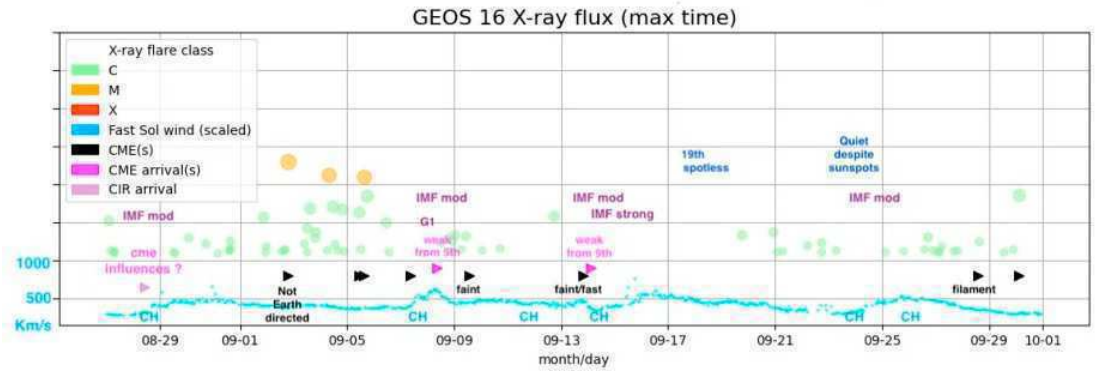
Colin Clements made VHF/UHF recordings on the 3rd and 4th. Emissions on the 3rd seem to be from the early C2.2 flare, 610MHz (black) appearing about half an hour before the lower frequencies. These are all before the stronger C4.2 flare peaking just after 12UT. The picture on the 4th is rather more complex. 408MHz (blue) remains flat while 610MHz shows some mild activity. 151MHz (red) looks much more random, covering most of the flares that we recorded.

MUONS



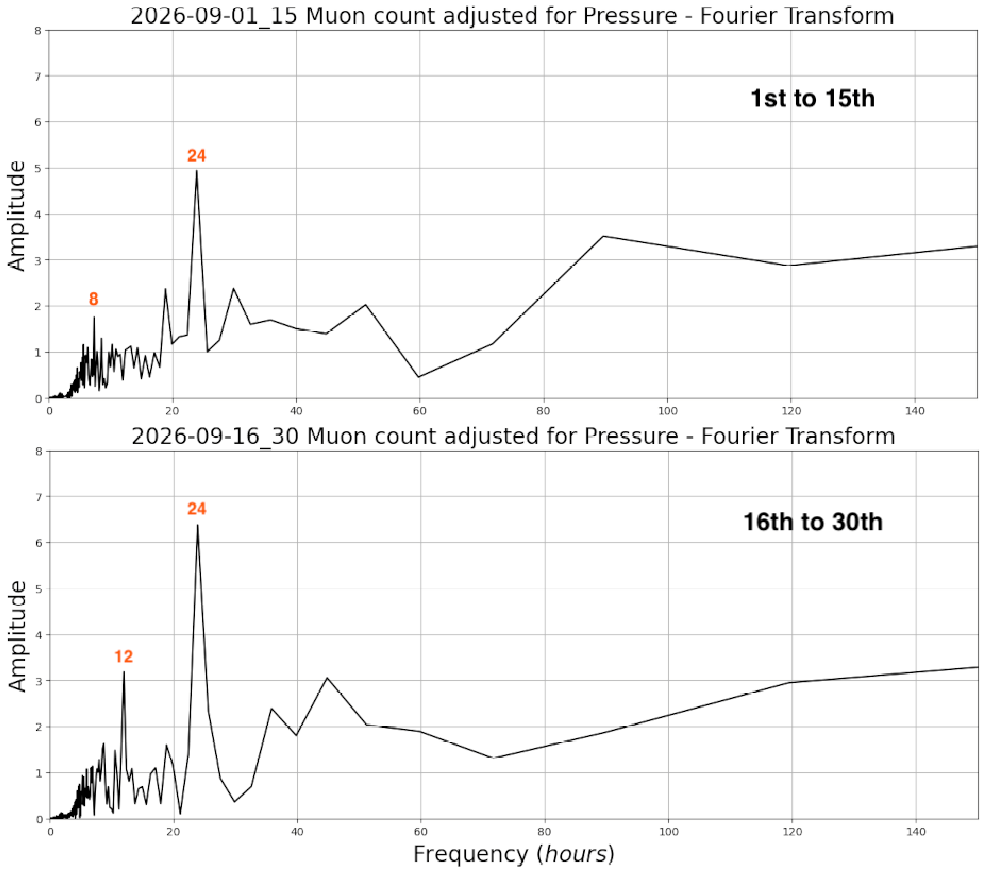






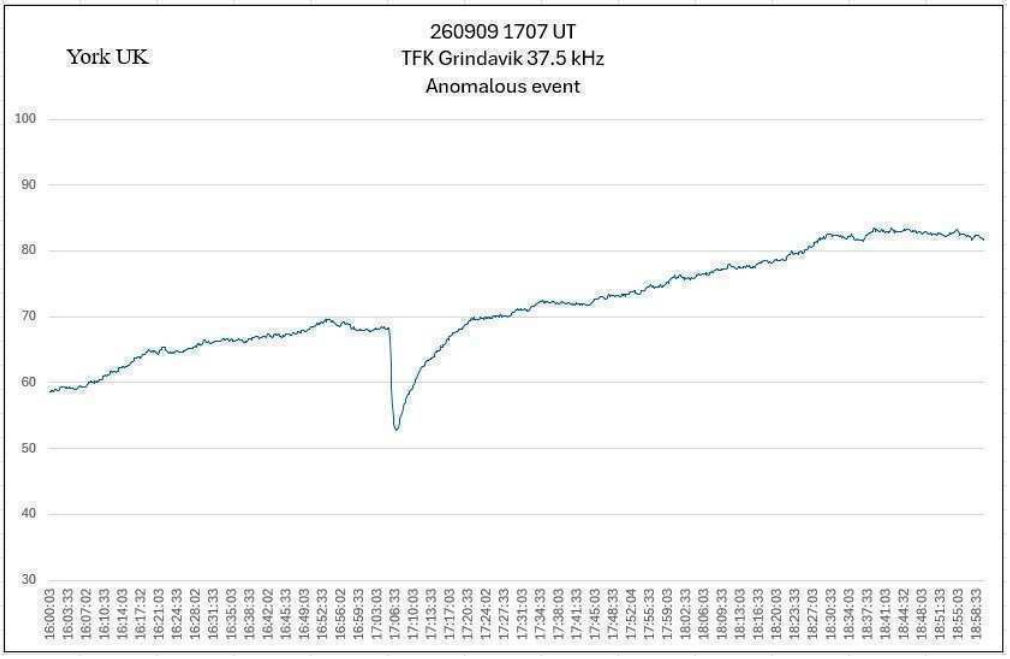
Mark Prescott's Muon charts show a fairly low flux at the start of the month, with some small peaks during the active period from the 5th to 9th. Muon flux increased from the 17th during the period of low flaring activity. These were also periods of higher magnetic disturbance from the solar wind. There were no heat waves in September, so there is no distortion from temperature variations. Mark also noted the change in diurnal patterns from the first half to second half of the month, shown on the next page. The 24 hour period is very clear in both, but there is a shift in the semi-diurnal peak from 12 to 8 hours.

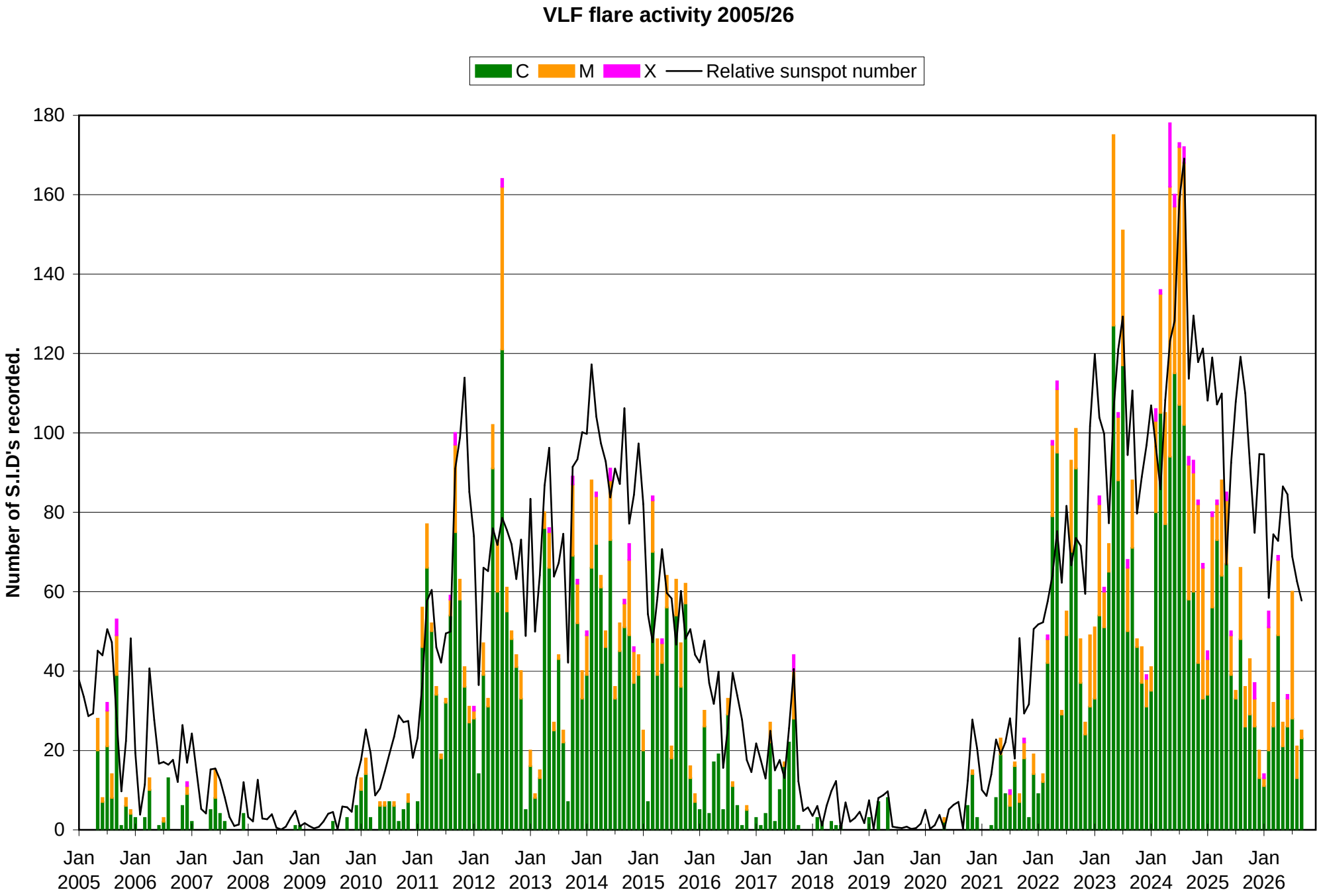
2026-09 Muon count Diurnal and Semi-diurnal signatures



ANOMALOUS EVENT.

Colin Briden noticed a strong negative SID-like feature in the Grindavik 37.5kHz signal at 17:07UT on the 9th. The SWPC satellite data does not list any flares at this time, and the event does not show in any other reports received. Source unknown!




VLF flare activity 2005/26
C
M
X
Relative sunspot number
Number of S.I.D's recorded.
0
20
40
60
80
100
120
140
160
180
Jan 2005
Jan 2006
Jan 2007
Jan 2008
Jan 2009
Jan 2010
Jan 2011
Jan 2012
Jan 2013
Jan 2014
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Jan 2025
Jan 2026

BAA Radio Astronomy Section.

BARTELS DIAGRAM

ROTATION	KEY:	DISTURBED.	ACTIVE	SFE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).

2597

F	6 C	7	8 CC	9	10 CM	11 CCM	12 C	13	14 CC	15	16	17	2280 18	19	20 C	21 CCC	22 C	23 CMMM	24 CCC	25 CCCC	26	27	28 CCC	29 CCC	30 C	31 C	1 CC

2598

F	2024 February 2 CCCC	3 CCCC	4 MMMM	5 CC	6 CC	7 CCM	8 MMMM	9 CXM	10 C	11 C	12 CMCM	13 CC	14 MCCC	2281 15 CCCM	16 XCC	17 C	18 C	19 CC	20 CC	21 CCCC	22 XCCM	23 CMMM	24 MMMM	25 CM	26 C	27 C	28 CC

2599

F	29	2024 March 1	2 CCC	3	4 C	5 CC	6 C	7 CCCC	8 C	9	10 CMCC	11 CC	12 CCCC	2282 13	14 MCC	15	16 CCMC	17 CCCC	18 CCCC	19 CCCC	20 MCCC	21 CC	22 CCCM	23 MMMM	24 MMMM	25 MCCC	26 MMMM

2600

F	27 MCCC	28 MMMX	29 CCCC	30 CCCC	31 CCCC	2024 April 1	2	3	4	5 C	6	7	8	2283 9	10 CCCC	11 CCCM	12 CCCC	13 MCCC	14 CCCC	15 MMMM	16 CCCM	17 CCCC	18 CMCC	19 MCCC	20 CCCC	21 MMM	22 MMMM

2601

F	23 MCCM	24 CCMC	25 CMCM	26 CC	27 MC	28 CC	29 CCC	30 CCMM	2024 May 1 MC	2 CCCM	3 CMCC	4 MMCM	5 XMXM	2284 6 MXMC	7 MMMM	8 XMMX	9 MXMX	10 XMMM	11 MXMM	12 MMMX	13 MMMM	14 XCXM	15 CMMX	16 M	17 CCC	18	19 MM

2602

F	20	21 CCCM	22 CM	23 CMMM	24 MCCC	25 C	26 CCCC	27 XCC	28 CCCC	29 MMXM	30 CM	31 CMCX	2024 June 1 XCXM	2 CMCC	2285 3 MMMM	4 MMCC	5 MMCC	6 CCMC	7 CMCM	8 MMMC	9 MMCM	10 MMXM	11 CC	12 CC	13 CCMC	14 CCCC	15 MCCC

2603

F	16 CCCC	17 MCMM	18 CMMC	19 MCCC	20 CMCC	21 CCCC	22 MMCC	23 MMMC	24 MMCM	25 MC	26 C	27 CC	28 CC	29 CC	2286 30	2024 July 1 MC	2	3 MCC	4 CCMM	5 CCCC	6 CCCC	7 CCMM	8 CMCC	9 CCCC	10 MMMM	11 CMCC	12 CCC

2604

F	13 MMMM	14 MCCM	15 MMCC	16 MCXM	17 MMMM	18 MMCC	19 CMCM	20 MCCM	21 MCCM	22 MCMC	23 CM	24 MCMC	25 CCM	26 MCC	2287 27 MMMM	28 MMMM	29 MMMM	30 MMMM	31 MMMM	2024 August 1 MMMM	2 MMMM	3 MMMM	4 MMMM	5 MMXX	6 CCCC	7 CCMM	8 MMMX

2605

F	9 MMMM	10 CCMM	11 MCCM	12 MC	13 CCCM	14 XMMC	15 CCCC	16 CMC	17 MM	18 MCM	19 MCCC	20 CCM	21 MCCC	22 CCMC	2288 23 CCMM	24 CCMM	25 CCCC	26 CMC	27 CMCC	28 C	29 CCC	30 CMCC	31 MCMC	2024 September 1 CMCC	2 CMCC	3 MCCM	4 CCMC

2606

F	5 MMMC	6 CCCC	7 MCCC	8 M	9 MMMM	10 CMC	11 MMMM	12 MXMM	13 MMMM	14 MCX	15 CC	16 C	17 C	18 C	2289 19 C	20 C	21	22 C	23 M	24 C	25 C	26 C	27 CC	28 C	29 MMM	30 C	1 CCC

2607

F	2024 October 2 CCMC	3 MXM	4 MC	5 MMCC	6 CMM	7 C	8 MCC	9 CCX	10 CMMC	11 CCMM	12 C	13	14 MC	15 MCCM	16 MCM	2290 17 C	18 CCC	19 MCM	20 C	21	22 CCC	23 CCCC	24 MC	25 MCC	26 XMMM	27 CCCC	28 CCMM

2608

F	29 CM	30 CC	31 CMMM	2024 November 1 MCMM	2 MM	3 MCMM	4 MMMM	5 MMMM	6 MMMM	7 MMMX	8 CCCC	9 CCCC	10 M	11 C	12 C	2291 13 CC	14 CCC	15 M	16	17 CC	18 MMMM	19	20	21 CC	22 M	23 M	24

2609

F	25 MC	26 CC	27 CCCM	28	29	30 CC	2024 December 1 CC	2 C	3	4 MC	5 MMC	6 MCC	7 CCM	8 XCCM	9 C	2292 10 MCM	11 MCCM	12 CCM	13 MCM	14	15 CCCC	16	17	18	19 MCCM	20 CCM	21

2610

F	22 CM	23 M	24 MCMC	25 C	26	27 M	28 MM	29 MMMM	30 MMMM	31	2025 January 1 C	2 C	3 X	4 CCX	5 MM	6	2293 7	8	9	10	11	12	13	14 CC	15	16	17 MMMC

2611

F	18 CCCC	19 CC	20 CC	21 M	22 MC	23 CC	24 CCC	25	26 CC	27 M	28 CC	29	30 CC	31 CCMC	2025 February 1 CCCM	2 MMMM	2294 3 MCCM	4 CMMC	5 CCCC	6 MCCC	7 MC	8 MCCC	9 C	10 CC	11 CC	12 C	13 CMCC

2612

F	14 MC	15 C	16 C	17 CCMC	18	19 CC	20 C	21 CMMC	22 C	23 MMMX	24 MCC	25 M	26 CCC	27 C	28 CCC	2025 March 1 CCCC	2 C	2295 3 CC	4 CCC	5 M	6	7	8 CC	9	10	11 MC	12 CCCC

2613

F	13 CC	14 CCCC	15 CC	16 C	17 CCCC	18 C	19 CC	20 C	21 M	22 C	23 CCC	24 CC	25 CC	26 MCCC	27 CCC	28 CXMM	29 CCCC	2296 30 CCMM	31 CMCC	2025 April 1 MCCC	2 CCCC	3 CCC	4 CCC	5 C	6 C	7 CCCC	8

2614

F	9 CCC	10 CCC	11 CCCM	12 MMMM	13 MMMM	14 MMCC	15 CMCM	16 C	17 CCC	18	19 C	20 CMC	21 M	22 M	23 C	24 CC	25	2297 26	27 C	28	29 MMMC	30 CMC	2025 May 1	2	3 CCCC	4 CCCC	5 C

2615

F	6 CCCC	7 CCCC	8 CCCC	9 C	10 CC	11 CCCC	12 CC	13 CX	14 MXMM	15 CM	16	17	18	19 M	20 CCCC	21 C	22	2298 23	24 CCCM	25 MCMM	26 CMM	27 C	28 CCCC	29 C	30 MCCM	31 MMCM	1 CC

2616

F	2025 June 2 MC	3 M	4	5 CC	6 CC	7 CC	8 C	9	10 C	11 CCCC	12 C	13 C	14 CCM	15 MMCM	16 CCMM	17 CX	18 CCCC	19 CCCC	2299 20 CM	21	22	23 C	24	25	26	27	28

2617

F	29	30	2025 July 1	2	3 C	4	5	6	7	8	9	10 CCCC	11 CC	12 MMCC	13	14 CCC	15	16	2300 17 CC	18 C	19 C	20 CCCC	21	22 CC	23 C	24 CCC	25

2618

F	26 C	27 C	28	29	30 CC	31	2025 August 1 C	2 C	3 CMC	4 C	5 M	6 CCCM	7 CMC	8 CCC	9 CCMM	10 CM	11 CCMM	12 CCCC	2301 13 C	14	15 CCC	16	17	18	19	20	21

2619

F	22	23 C	24 CM	25 MCMM	26 CM	27 CC	28 CMM	29 C	30 CMM	31	2025 September 1	2 C	3	4 M	5	6 C	7 CCCC	8	2302 9	10	11 C	12	13	14	15	16 C	17

2620

F	18 C	19	20	21	22 C	23 M	24 MC	25 C	26	27 MCC	28 MCCC	29 MMMC	30 CMM	2025 October 1 CM	2 C	3 CCM	4	5	2303 6	7 C	8	9 M	10	11	12 CC	13 CMCM	14 CCCM

2621

F	15 MCCM	16 CCCM	17 CMMM	18 MCM	19 CC	20 C	21	22	23	24	25	26	27	28	29	30	31	2025 November 1 C	2 C	2304 3 MMM	4 C	5 CMC	6 CCC	7 CCC	8 C	9 X	10 CXCC

2622

F	11 MCX	12	13 C	14 X	15	16 M	17	18	19 C	20 C	21 C	22 C	23	24	25	26	27	28 CC	29 CM	2305 30 CC	2025 December 1	2	3	4	5	6	7 C

2623

F	8 M	9 CCM	10 MCM	11 CC	12 C	13 C	14	15	16	17	18	19 M	20 M	21	22	23	24	25	26	2306 27	28	29 CC	30	31 M	2026 January 1	2	3

2624

F	4	5	6	7	8	9 C	10	11	12	13	14	15	16 C	17 MC	18 X	19 M	20 C	21	22 C	23	2307 24	25	26 C	27 C	28	29	30

2625

F	31 CCCC	2026 February 1 MXMM	2 XMMM	3 MXMM	4 MMXM	5 CMMM	6 CC	7	8 MMMC	9	10 C	11 M	12	13	14 C	15	16	17	18	19	2308 20	21	22	23	24	25 CCCM	26 C

2626

F	27 C	28 CCC	2026 March 1 C	2 CCCC	3 C	4	5	6	7	8 C	9 C	10	11	12 C	13 CMCC	14 CCC	15 M	16 MC	17 M	18 CMCC	2309 19	20	21	22	23	24	25

2627

F	26 MCCC	27 CC	28 C	29	30	31	2026 April 1 C	2 CCM	3 MCCM	4 MMCC	5	6	7 CC	8 C	9 M	10	11	12 C	13 C	14	15	2310 16 C	17	18	19	20	21 CCCC

2628

F	22	23 CMMM	24 XMMM	25 MCCM	26 CMCC	27 MC	28 CMMM	29	30	2026 May 1 C	2	3	4	5 C	6	7 M	8 C	9	10 CCM	11	12	2311 13 CCCC	14 CCC	15	16 CMMM	17	18

2629

F	19	20	21 CCC	22 M	23 C	24	25	26 C	27 C	28	29 M	30 CC	31	2026 June 1	2 CCMC	3 MCX	4	5 CC	6 CCM	7	8	2312 9	10	11 C	12	13	14

2630

F	15	16	17 C	18 C	19	20 M	21 M	22	23	24 CCC	25 CCC	26 CCC	27 C	28	29 CCC	30 MCCC	2026 July 1 MMMM	2 CM	3 MCMM	4 MMMM	5 MMMM	2313 6	7 M	8 M	9	10 C	11

2631

F	12 CM	13	14 CC	15 C	16	17	18	19	20 MC	21 CCCM	22 MCC	23	24	25	26 CM	27	28	29	30 M	31 C	2026 August 1	2	2314 3	4	5	6	7

2632

F	8	9	10	11	12 C	13	14	15 CCC	16	17	18	19 CCCC	20 MCMM	21 CM	22	23	24	25 MCMC	26 MM	27	28	29	2315 30	31	2026 September 1	2	3 CCCC

2633

F	4 MCCC	5 CMC	6 CC	7	8 CC	9 CC	10	11	12 C	13	14	15	16	17	18	19 B	20	21	22 C	23	24	25	26 CC	27 C	28 C	29	30

BAA Radio Astronomy Section. **2026 SEPTEMBER.**

	Xray class	Observers	John Cook (23.4kHz/*22.1kHz*)				Roberto Battaiola 20.3kHz				Paul Hyde (22.1kHz/*24kHz*)				Mark Edwards (24.0/*22.1kHz*)				Colin Clements (21.75kHz)			
			Tuned radio frequency receiver, 0.58m frame aerial.				Modified AAVSO receiver.				Spectrum Lab / PC 1.5m frame aerial.				Spectrum Lab / PC 2m loop aerial.				Tuned Radio Frequency receivers, 0.76m screened loop aerial.			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
2	?	1													13:19	13:30	13:46	1+				
2	?	2													16:27	16:32	16:41	1-				
2	?	1													19:07	19:20	20:33	3				
3	C2.2	1													09:41	09:46	09:58	1-				
3	C4.2	6	11:59	12:02	12:19	1					11:56	12:02	12:32	2	11:58	12:04	12:32	2	11:53	12:05	12:28	2
3	C6.9	7	14:43	14:50	15:12	1+					14:46	14:51	15:47	2+	14:44	14:50	15:55	2+	14:45	15:01	15:49	2+
3	C7.9	7	*16:26*	*16:33*	*17:09*	*2*					16:24	16:30	17:08	2	16:21	16:31	17:19	2+	16:24	16:37	17:06	2
3	C3.0	1													18:29	18:30	18:37	1-				
4	**M1.2**	7	*07:52*	*07:56*	*08:29*	*2*					07:48	07:57	08:44	2+	07:51	07:55	08:08	1-	07:53	07:57	08:22	1+
4	C7.1	6									11:15	11:22	12:21	2+	11:16	11:24	11:51	2	11:17	11:24	12:23	2+
4	C2.1	1													13:04	13:13	13:26	1				
4	C1.3	1													*15:15*	*15:23*	*15:29*	*1-*				
4	?	1													*15:45*	*15:46*	*16:00*	*1-*				
4	C6.7	1													19:10	19:28	19:55	2				
5	C6.4	6	10:41	10:47	11:18	2					10:37	10:46	11:51	2+	10:37	10:48	11:24	2+	10:39	10:52	11:45	2+
5	**M1.0**	8	*15:15*	*15:18*	*15:47*	*1+*	15:02	15:23	15:50	2+	15:12	15:21	16:24	2+	15:14	15:21	15:59	2	15:13	15:25	16:39	3
5	C8.5	3									17:40	17:48	?	-	17:40	17:50	18:18	2				
6	C5.0	5	10:40	10:43	11:01	1					10:39	10:42	10:59	1	10:40	10:44	11:10	1+				
6	C2.4	1	12:23	12:25	12:33	1-																
8	C2.4	3													12:22	12:26	12:36	1-				
8	C2.8	1													17:43	17:44	17:55	1-				
9	C3.4	3	09:02	09:10	09:27	1					09:00	09:07	09:42	2								
9	C3.2	6	10:32	10:34	10:39	1-					10:29	10:35	10:53	1	10:30	10:36	10:50	1				
12	C5.8	1													17:17	17:24	17:42	1				
19	B8.4	1													18:13	18:19	18:34	1				
22	C2.4	1													17:17	17:21	17:42	1				
26	C1.5	3									13:19	13:26	13:54	2	13:21	13:29	13:40	1				
26	C3.1	3	16:55	16:57	?	-									16:54	16:57	17:18	1				
27	C1.2	1													15:57	16:03	16:21	1				
28	C2.5	2													*15:14*	*15:20*	*15:32*	*1-*				

BAA Radio Astronomy Section. **2026 SEPTEMBER.**

	Xray class		Jan Karlovsky (23.4kHz)				Colin Briden				Phil Rourke (23.4kHz)			Mark Prescott (19.6kHz/*22.1kHz*)				John Elliott (18.3kHz)		
											Spectrum Lab, 0.6m frame aerial.			SpetrumLab/Starbase, Active mini-whip aerial.				Tuned radio frequency receiver, 0.5m frame aerial.		
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	START	PEAK	END (UT)		START	PEAK	END (UT)
2	?																			
2	?		16:25	16:30	16:38	1-														
2	?																			
3	C2.2																			
3	C4.2		11:55	12:03	12:33	2	11:57	12:04	12:16	1										
3	C6.9		14:42	14:49	15:23	2	14:45	14:51	15:07	1				14:48	14:56	15:28	2			
3	C7.9		16:22	16:33	16:57	2	16:26	16:34	16:56	1+				*16:29*	*16:36*	*16:58*	*1+*			
3	C3.0																			
4	**M1.2**		07:50	07:55	08:26	2	07:51	07:58	08:21	1+				*07:55*	*08:05*	*08:45*	*2+*			
4	C7.1		11:15	11:21	11:41	1+	11:17	11:22	11:53	2				11:21	11:29	12:02	2			
4	C2.1																			
4	C1.3																			
4	?																			
4	C6.7																			
5	C6.4						10:31	10:52	11:15	2				10:43	10:53	11:42	2+			
5	**M1.0**		15:10	15:21	15:46	2	15:14	15:21	15:36	1				15:20	15:29	?	-			
5	C8.5						17:39	17:48	17:54	1-										
6	C5.0		10:37	10:42	10:57	1	10:39	10:44	?	-										
6	C2.4																			
8	C2.4		12:21	12:25	12:45	1	12:23	12:26	12:30	1-										
8	C2.8																			
9	C3.4		09:00	09:06	09:22	1														
9	C3.2		10:23	10:34	10:56	2	10:29	10:36	10:40	1-				10:33	10:42	?	-			
12	C5.8																			
19	B8.4																			
22	C2.4																			
26	C1.5						13:21	13:28	13:35	1-										
26	C3.1						16:54	16:58	17:06	1-										
27	C1.2																			
28	C2.5						15:14	15:22	15:31	1-										