Founded in 1890

The British Astronomical Association

A company limited by guarantee

Registered Charity No. 210769

PO Box 702, Tonbridge, TN9-9TX 020-7734 4145

www.britastro.org

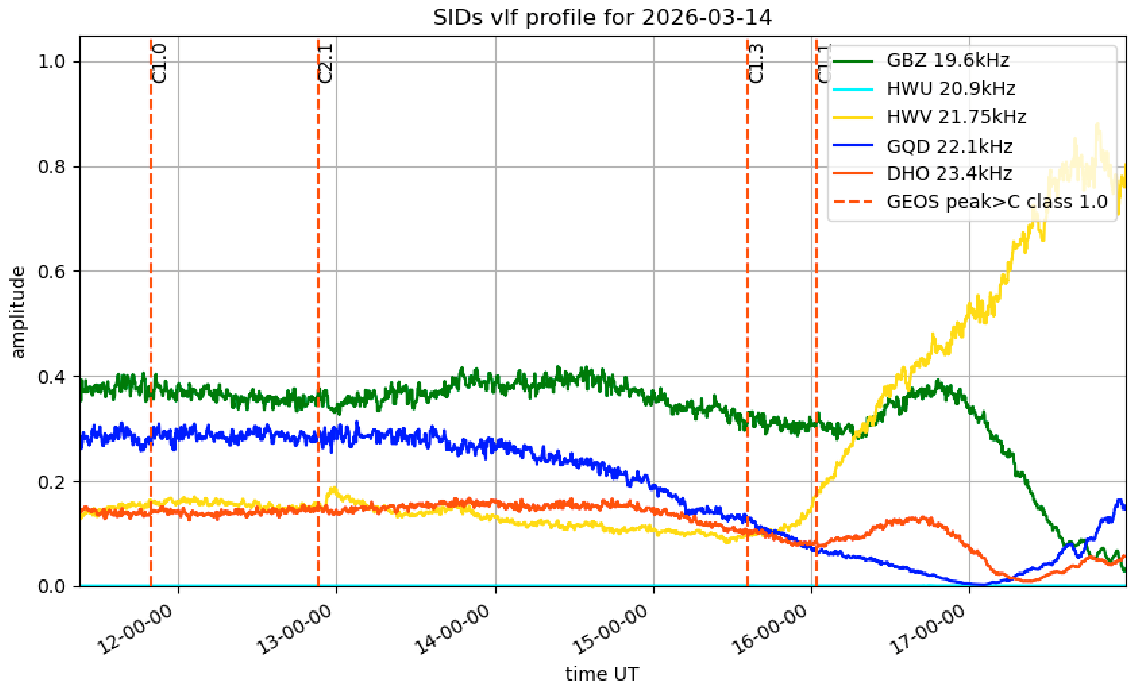
Please send all reports and observations to jacook@jacook.plus.com

BAA Radio Astronomy Section. Director Paul Hearn.

RADIO SKY NEWS 2026 MARCH.

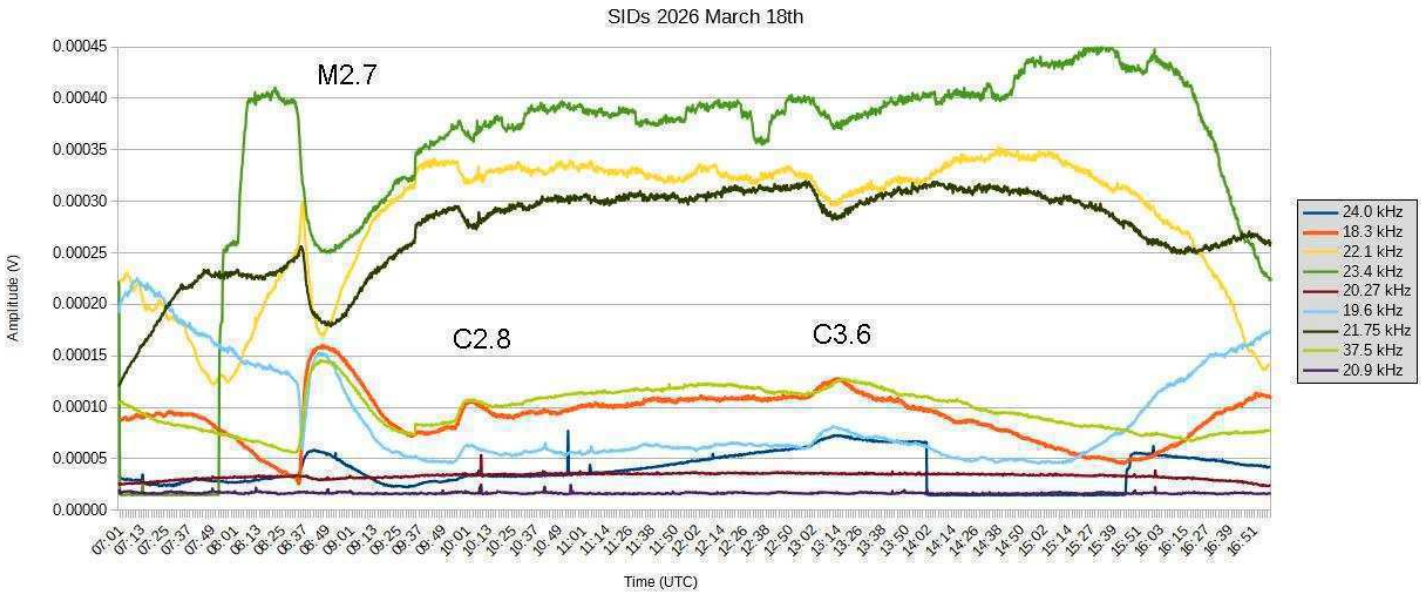
VLF SID OBSERVATIONS.

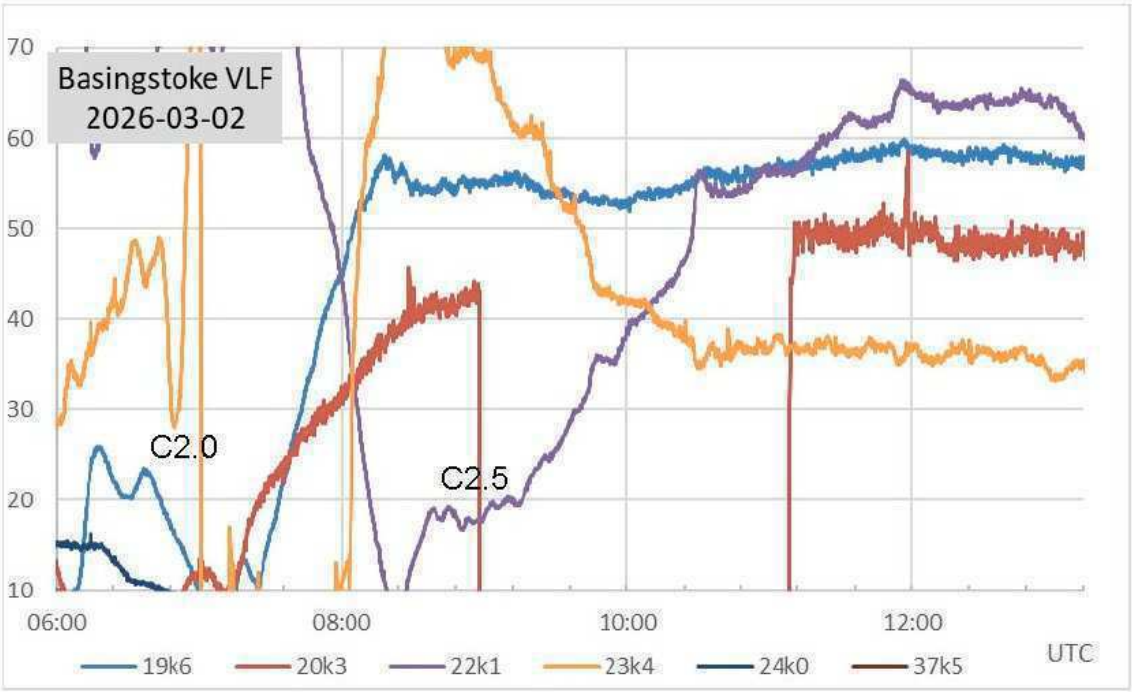
Flaring activity in March was much lower than in February, with a total of just 32 flares recorded as SIDs. There were no X-flares recorded, and six M-flares. The higher solar altitude in March has allowed plenty of the smaller C-class flares to produce clear SIDs against a lower general disturbance noise.



Mark Prescott's recording from the 14th shows some very small C-flares. The C2.1 at 12:59UT has produced a clear SID at 21.75kHz, with a smaller SID at 19.6kHz. There is even a very small dip at 23.4kHz. The two afternoon flares were too late to catch the best conditions, occurring just as sunset was starting. The earlier C1.0 flare has not had any effect.

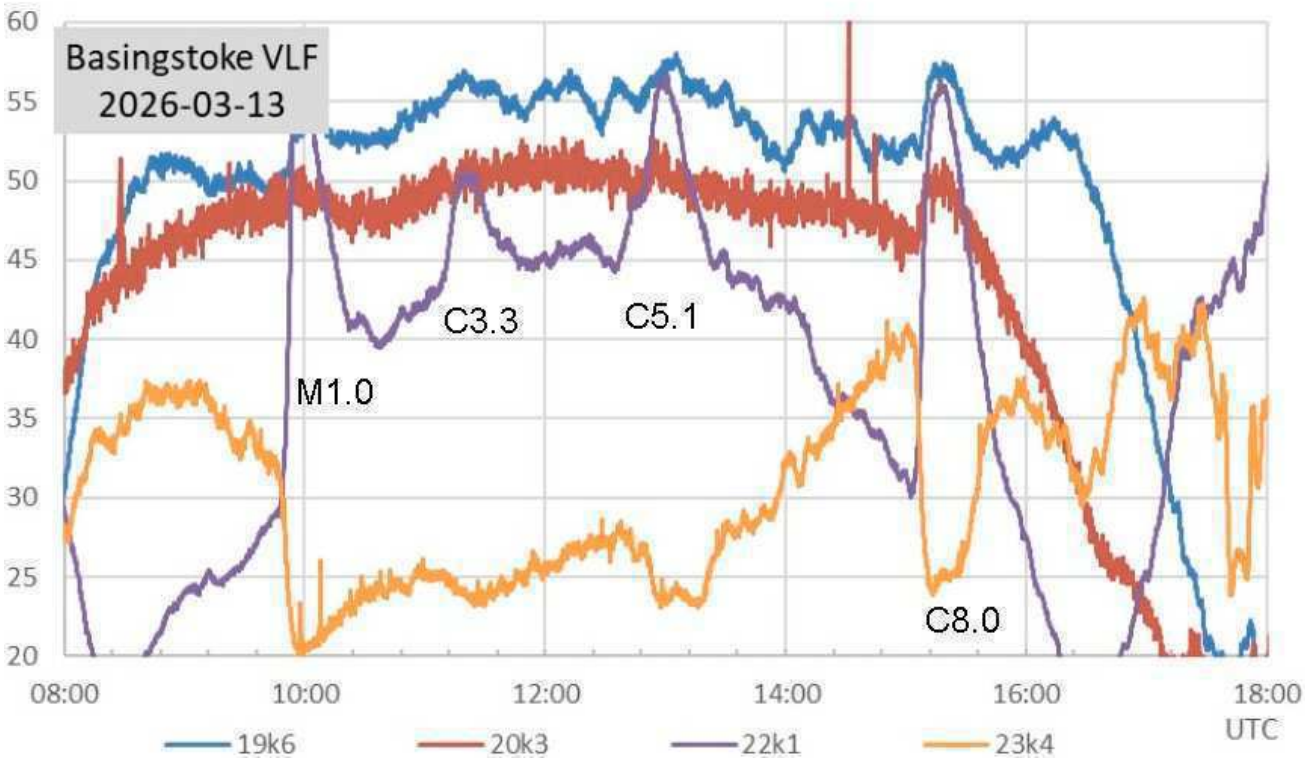
Mark Edwards' recording from the 18th shows a strong M2.7 flare at around 08:40UT, just after the sunrise effect. There are also quite strong SIDs from the two smaller C-flares later on. 23.4kHz is the least clear, as is often the case.





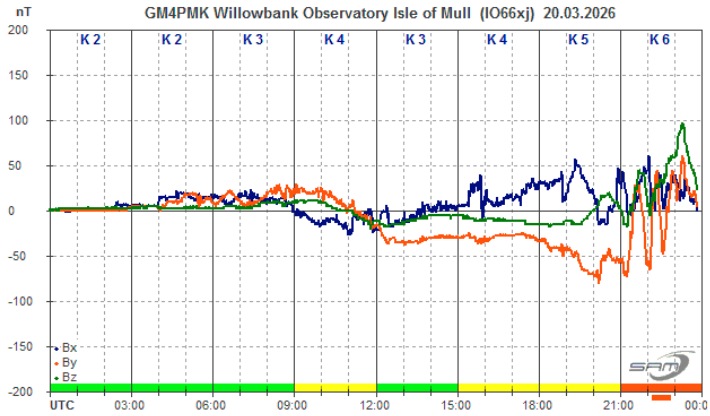
Paul Hyde's recording on the 2nd is much harder to analyse. The two small C-flares appear to have produced small SIDs, but amongst the background noise they are difficult to see. Paul's timings do match the satellite data for these flares.

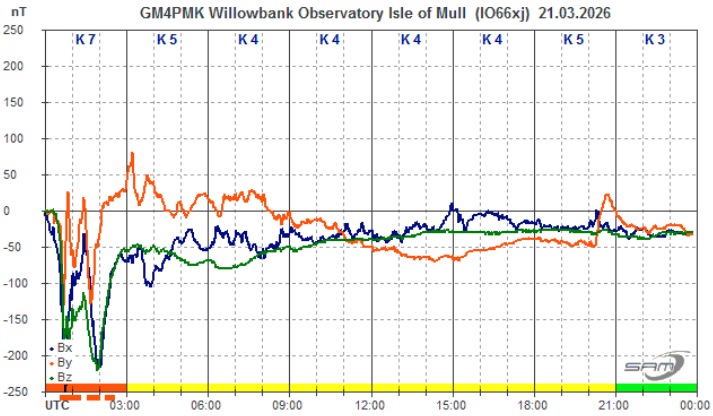
His recording from the 13th (on the next page) shows much clearer SIDs at 22.1kHz, although the other signals do not seem to have responded well. 23.4kHz has some smaller dips in the signal, while 20.3kHz only shows the C8.0 flare. The transmitter site for 19.6kHz is very close to that for 22.1kHz, but it also shows just random noise.

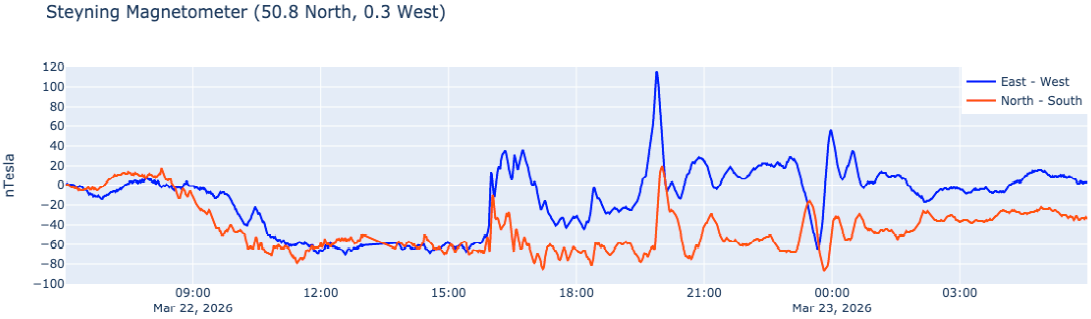


MAGNETIC OBSERVATIONS.

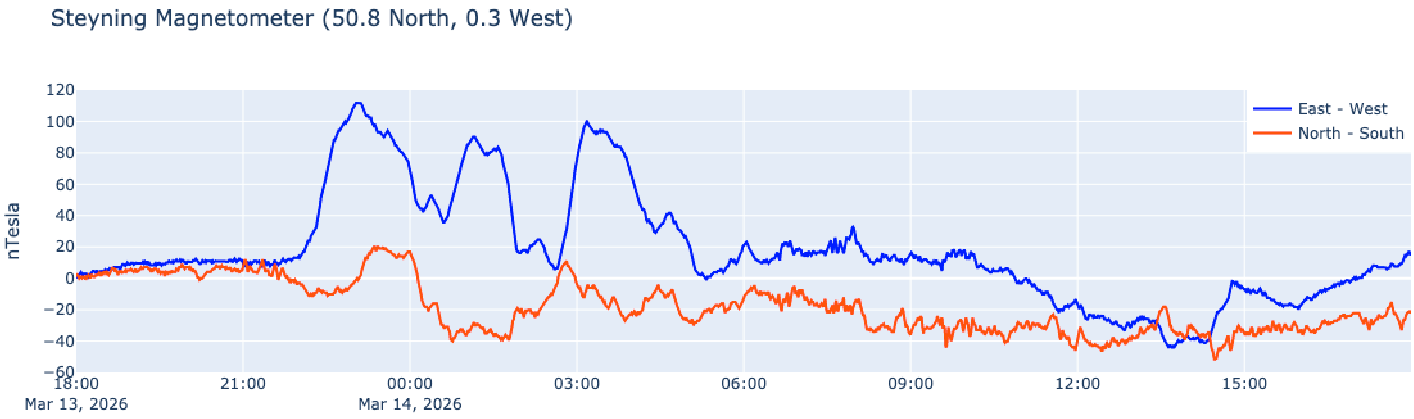
The strong flaring in mid-March along with coronal hole winds created some strong magnetic activity starting on the 20th. Note the change in vertical scale in Roger Blackwell's charts:





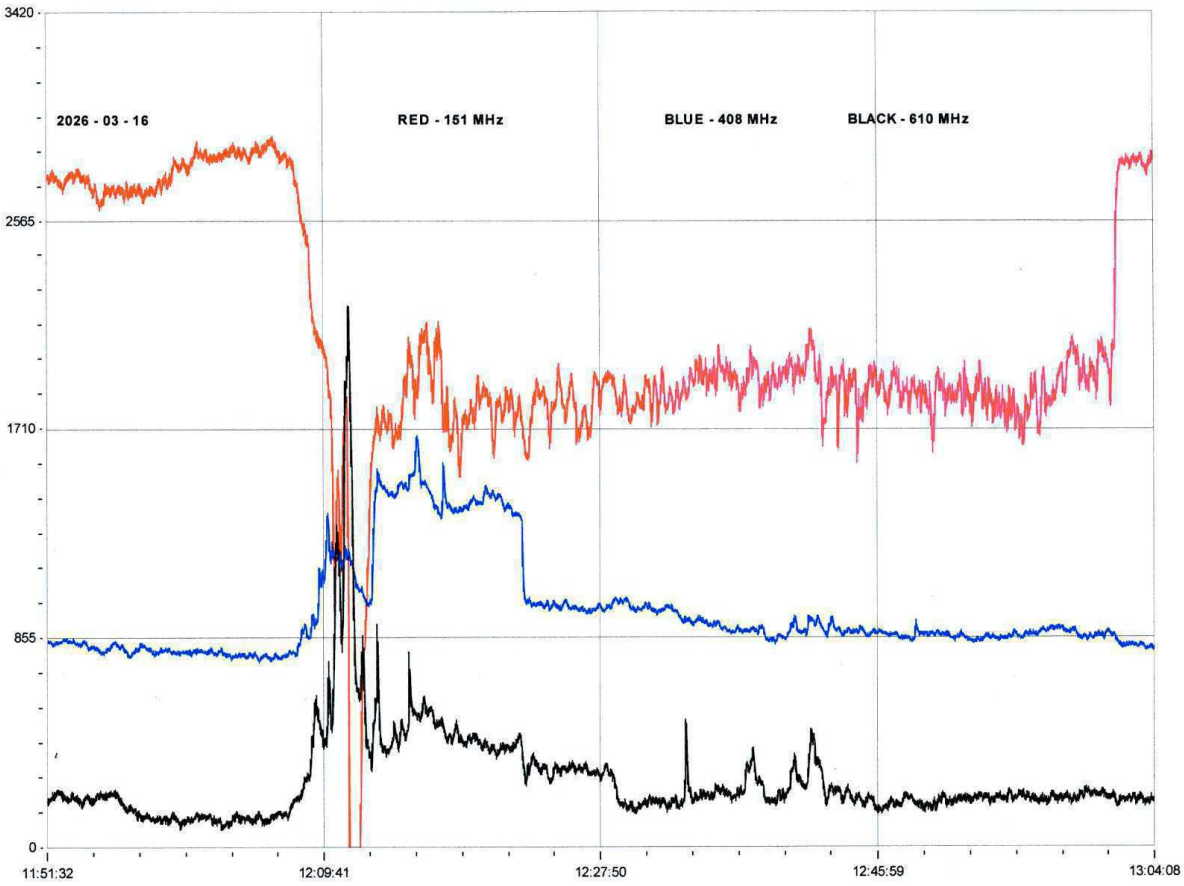


Nick Quinn's chart shows the 22nd and early morning of the 23rd, with a very sharp spike just before 16UT. There were several CMEs shown in the satellite data, so the exact source is not clear. During March the Earth-Sun alignment is such that the solar wind has a stronger effect on the Earth's magnetic field, so increasing the strength of the activity. The decay phase of the current solar cycle is also producing some larger coronal holes with stronger solar winds. Nick Quinn's chart from the 13th and 14th shows a fairly slow disturbance from a solar wind following a week without any strong flaring. A brief active period late on the 3rd was also due to a coronal hole wind.



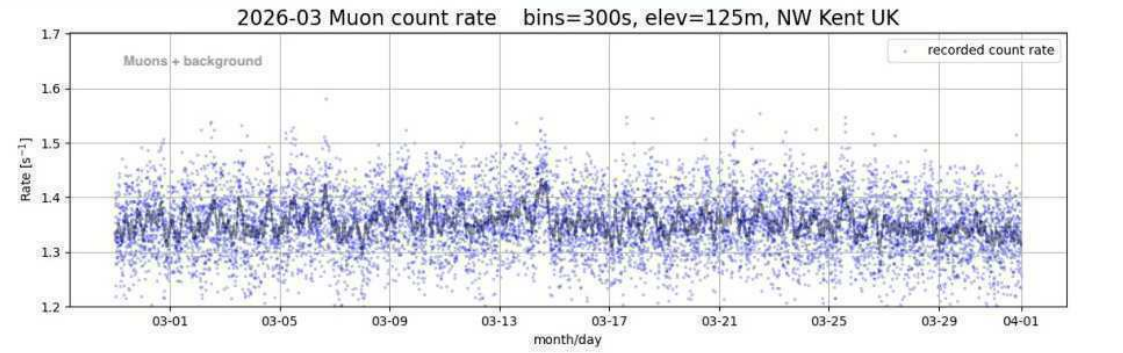
Magnetic observations received from Roger Blackwell, Nick Quinn and John Cook.

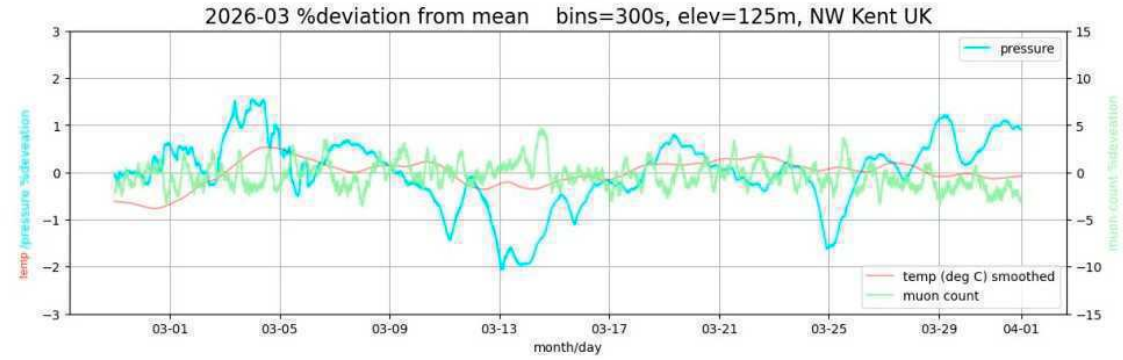
SOLAR EMISSIONS

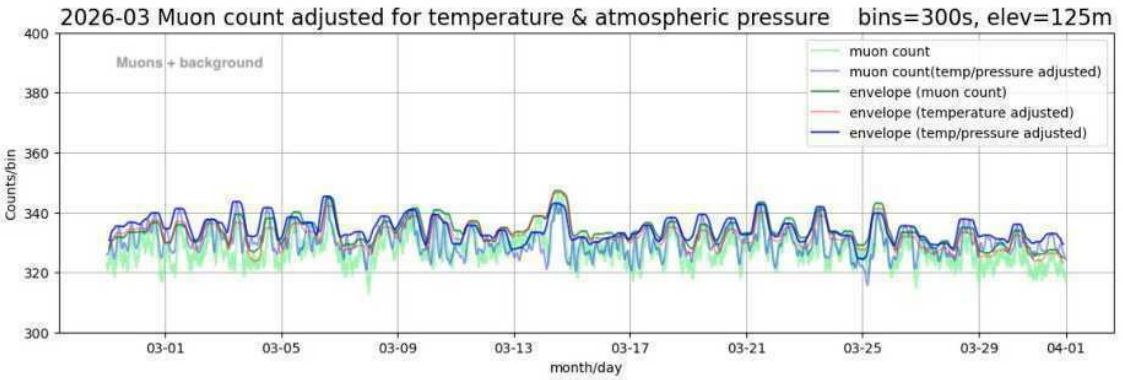


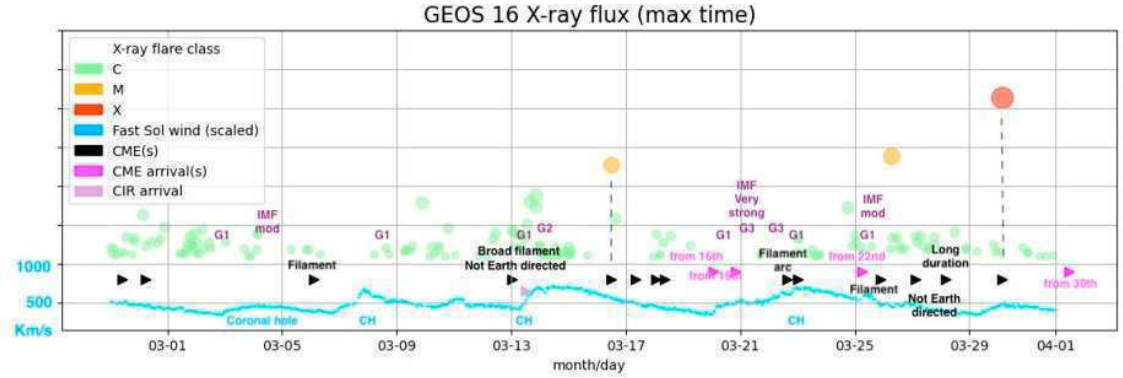
Colin Clements recorded a very strong emission matching the M2.7 flare on the 16th. 408MHz (blue) and 610MHz (black) both show a strong rise in signal strength, followed by a decay lasting about 15-20 minutes. 151MHz (red) shows a very strong drop in signal strength at the flare's peak, rising again after just a few minutes. The SWPC bulletin lists type II and IV noise emissions, along with a 10.7cm burst at the same time.

MUONS

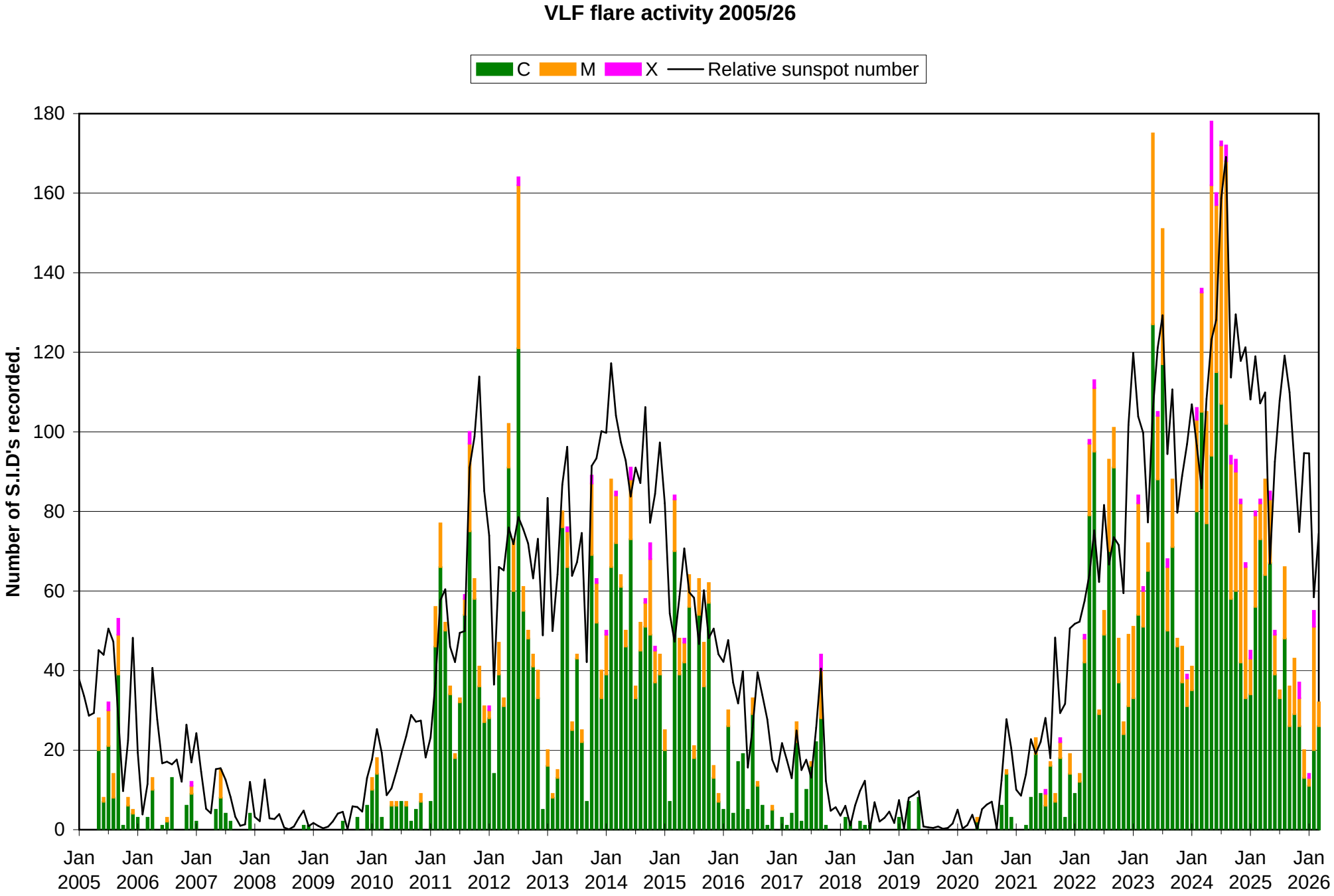








Mark Prescott's Muon charts show mostly diurnal peaks in the pressure/temperature corrected counts, with just a few slightly stronger peaks. The large coronal hole mid-month along with plenty of C-flares produced a larger peak on the 14th (see Nick Quinn's magnetic recording). The series of daily peaks from the 21st may also be from the cornal hole high speed wind. We also recorded a probable CME impact on the 22nd, so adding to the effect.


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).

ROTATION																											
													2280														
2597	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
F	C		CC		CM	CCM	C		CC						C	CCC	C	CMMM	CCC	CCCC			CCC	CCC	C	C	CC
	2024 February													2281													
2598	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
F	CCCC	CCCC	MMMM	CC	CC	CCM	MMMM	CXM	C	C	CMCM	CC	MCCC	CCCM	XCC	C	C	CC	CC	CCCC	XCCM	CMMM	MMMM	CM	C	C	CC
		2024 March												2282													
2599	29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
F			CCC		C	CC	C	CCCC	C		CMCC	CC	CCCC		MCC		CCMC	CCCC	CCCC	CCCC	MCCC	CC	CCCM	MMMM	MMMM	MCCC	MMMM
						2024 April								2283													
2600	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
F	MCCC	MMMX	CCCC	CCCC	CCCC					C					CCCC	CCCM	CCCC	MCCC	CCCC	MMMM	CCCM	CCCC	CMCC	MCCC	CCCC	MMM	MMMM
									2024 May					2284													
2601	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
F	MCCM	CCMC	CMCM	CC	MC	CC	CCC	CCMM	MC	CCCM	CMCC	MMCM	XMXM	MXMC	MMMM	XMMX	MXMX	XMMM	MXMM	MMMX	MMMM	XCXM	CMMX	M	CCC		MM
													2024 June		2285												
2602	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F		CCCM	CM	CMMM	MCCC	C	CCCC	XCC	CCCC	MMXM	CM	CMCX	XCXM	CMCC	MMMM	MMCC	MMCC	CCMC	CMCM	MMMC	MMCM	MMXM	CC	CC	CCMC	CCCC	MCCC
															2286	2024 July											
2603	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12
F	CCCC	MCMM	CMMC	MCCC	CMCC	CCCC	MMCC	MMMC	MMCM	MC	C	CC	CC	CC		MC		MCC	CCMM	CCCC	CCCC	CCMM	CMCC	CCCC	MMMM	CMCC	CCC
															2287					2024 August							
2604	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8
F	MMMM	MCCM	MMCC	MCXM	MMMM	MMCC	CMCM	MCCM	MCCM	MCMC	CM	MCMC	CCM	MCC	MMMM	MMMM	MMMM	MMMM	MMMM	MMMM	MMMM	MMMM	MMMM	MMXX	CCCC	CCMM	MMMX
															2288									2024 September			
2605	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4
F	MMMM	CCMM	MCCM	MC	CCCM	XMMC	CCCC	CMC	MM	MCM	MCCC	CCM	MCCC	CCMC	CCMM	CCMM	CCCC	CMC	CMCC	C	CCC	CMCC	MCMC	MCCM	CMCC	MCCM	CCMC
															2289												
2606	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1
F	MMMC	CCCC	MCCC	M	MMMM	CMC	MMMM	MXMM	MMMM	MCX	CC	C	C	C	C	C		C	M	C	C	C	CC	C	MMM	C	CCC
	2024 October															2290											
2607	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
F	CCMC	MXM	MC	MMCC	CMM	C	MCC	CCX	CMMC	CCMM	C		MC	MCCM	MCM	C	CCC	MCM	C		CCC	CCCC	MC	MCC	XMMM	CCCC	CCMM
				2024 November												2291											
2608	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
F	CM	CC	CMMM	MCMM	MM	MCMM	MMMM	MMMM	MMMM	MMMX	CCCC	CCCC	M	C	C	CC	CCC	M		CC	MMMM			CC	M	M	
							2024 December									2292											
2609	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
F	MC	CC	CCCM			CC	CC	C		MC	MMC	MCC	CCM	XCCM	C	MCM	MCCM	CCM	MCM		CCCC				MCCM	CCM	
											2025 January						2293										
2610	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
F	CM	M	MCMC	C		M	MM	MMMM	MMMM		C	C	X	CCX	MM									CC			MMMC
															2025 February		2294										
2611	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13
F	CCCC	CC	CC	M	MC	CC	CCC		CC	M	CC		CC	CCMC	CCCM	MMMM	MCCM	CMMC	CCCC	MCCC	MC	MCCC	C	CC	CC	C	CMCC
																2025 March		2295									
2612	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	9	10	11	12
F	MC	C	C	CCMC		CC	C	CMMC	C	MMMX	MCC	M	CCC	C	CCC	CCCC	C	CC	CCC	M			CC			MC	CCCC
																		2296		2025 April							
2613	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8
F	CC	CCCC	CC	C	CCCC	C	CC	C	M	C	CCC	CC	CC	MCCC	CCC	CXMM	CCCC	CCMM	CMCC	MCCC	CCCC	CCC	CCC	C	C	CCCC	
																		2297					2025 May				
2614	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5
F	CCC	CCC	CCCM	MMMM	MMMM	MMCC	CMCM	C	CCC		C	CMC	M	M	C	CC			C		MMMC	CMC			CCCC	CCCC	C
																		2298									
2615	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
F	CCCC	CCCC	CCCC	C	CC	CCCC	CC	CX	MXMM	CM				M	CCCC	C			CCCM	MCMM	CMM	C	CCCC	C	MCCM	MMCM	CC
	2025 June																		2299								
2616	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
F	MC	M		CC	CC	CC	C		C	CCCC	C	C	CCM	MMCM	CCMM	CX	CCCC	CCCC	CM			C					
			2025 July																2300								
2617	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
F					C							CCCC	CC	MMCC		CCC			CC	C	C	CCCC		CC	C	CCC	
							2025 August												2301								
2618	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
F	C	C			CC		C	C	CMC	C	M	CCCM	CMC	CCC	CCMM	CM	CCMM	CCCC	C		CCC						
											2025 September								2302								
2619	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
F		C	CM	MCMM	CM	CC	CMM	C	CMM			C		M		C	CCCC				C					C	
														2025 October					2303								
2620	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14
F	C				C	M	MC	C		MCC	MCCC	MMMC	CMM	CM	C	CCM				C		M			CC	CMCM	CCCM
																		2025 November		2304							
2621	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10
F	MCCM	CCCM	CMMM	MCM	CC	C												C	C	MMM	C	CMC	CCC	CCC	C	X	CXCC
																				2305	2025 December						
2622	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7
F	MCX		C	X		M			C	C	C	C						CC	CM	CC							C
																				2306					2026 January		
2623	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3
F	M	CCM	MCM	CC	C	C						M	M									CC		M			
																					2307						
2624	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
F						C							C	MC	X	M	C		C				C	C			
		2026 February																			2308						
2625	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
F	CCCC	MXMM	XMMM	MXMM	MMXM	CMMM	CC		MMMC		C	M			C											CCCM	C
			2026 March																		2309						
2626	27	28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
F	C	CCC	C	CCCC	C					C	C			C	CMCC	CCC	M	MC	M	CMCC							
							2026 April															2310					
2627	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
F	MCCC	CC	C																								

BAA Radio Astronomy Section. **2026 MARCH.**

	Xray class	Observers	John Cook (23.4kHz/*22.1kHz*)				Roberto Battaiola 20.3kHz				Paul Hyde (22.1kHz/*24kHz*)				Mark Edwards (24.0/*19.6kHz*)				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)	
1	C2.6	1													16:59	17:02	17:08	1-				
2	C2.0	1					06:46	06:57	07:10	1												
2	C2.5	1					08:41	08:47	08:54	1-												
2	C2.9	3	10:27	10:30	10:43	1-					10:26	10:29	10:44	1-								
2	C2.1	1									11:51	11:55	12:03	1-								
3	C2.0	2									15:51	15:57	?	-	15:52	15:57	16:09	1-				
8	C2.0	1													15:04	15:11	15:17	1-				
9	C2.3	3									12:53	13:00	13:34	2	12:50	13:01	13:28	2	12:44	13:03	13:57	2+
12	C4.0	8	10:35	10:44	11:03	1+	10:23	10:47	11:12	2+	10:34	10:43	11:09	2	10:37	10:42	11:01	1	10:37	10:46	11:14	2
13	C2.1	1	08:10	08:11	08:16	1-																
13	**M1.2**	8	09:46	09:56	10:37	2+	09:43	09:56	10:42	2+	09:47	09:59	10:36	2+					09:53	09:57	10:26	2
13	C3.3	8	11:11	11:15	11:34	1	11:07	11:19	11:46	2	11:09	11:17	11:49	2	11:11	11:22	11:32	1	11:04	11:20	11:56	2+
13	C5.1	8	12:46	12:55	13:20	2	12:40	12:59	13:23	2	12:34	12:59	13:24	2+					12:44	12:57	13:32	2+
13	?	1													14:01	14:09	?	-				
13	?	1													14:17	14:27	14:44	1+				
13	C8.0	9	*15:05*	*15:12*	*16:04*	*2+*	15:00	15:17	15:51	2+	15:03	15:15	15:57	2+	15:04	15:18	16:03	2+	15:09	15:18	15:36	1+
14	C1.3	1	10:01	10:05	10:11	1-																
14	C2.1	5	12:51	12:54	13:07	1-					12:52	12:55	13:12	1	12:52	12:54	13:01	1-				
14	C1.3	1													15:27	15:37	15:46	1				
15	**M1.0**	9	09:32	09:41	10:06	2	09:28	09:42	10:19	2+	09:28	09:41	10:16	2+	09:32	09:47	09:55	1	09:37	09:42	10:10	2
16	**M2.7**	9	12:07	12:17	13:03	2+	12:05	12:18	13:16	2+	12:07	12:15	13:22	2+	*12:05*	*12:16*	*13:20*	*2+*	12:06	12:19	13:15	2+
16	C5.9	9	14:46	14:54	15:19	2	14:41	14:58	15:23	2	14:44	14:56	15:29	2	*14:47*	*14:58*	*15:14*	*1+*	14:49	15:01	15:26	2
17	**M1.3**	9	08:57	09:04	09:15	1-	08:55	09:04	09:30	2	08:57	09:06	09:40	2	08:57	09:04	09:25	1+	09:03	09:06	09:18	1-
18	C2.7	1					06:39	06:49	07:01	1												
18	**M2.7**	8	08:33	08:46	09:36	2+	08:24	08:48	09:35	2+	08:30	08:44	09:39	2+	08:33	08:42	09:21	2+	08:38	08:48	09:14	2
18	C2.8	4					09:48	10:03	10:25	2	09:53	10:04	10:26	2								
18	C3.6	8					12:55	13:11	13:35	2	12:57	13:15	13:47	2+	13:00	13:15	13:33	2	12:57	13:14	14:17	2+
26	**M3.9**	1					06:17	06:27	06:44	1+												
26	C5.3	3	08:43	08:48	09:05	1	08:35	08:51	09:11	2									08:46	08:56	09:08	1
26	C3.5	1					10:13	10:28	10:48	2												
26	C2.3	2	12:51	12:59	13:05	1-																
27	C2.3	1					08:10	08:16	08:24	1-												
27	C5.4	6	09:52	10:02	10:31	2	09:51	10:03	10:22	1+	09:50	10:04	10:47	2+	09:56	10:03	10:32	2	09:51	10:06	10:42	2+
27	?	1													*10:17*	*10:22*	*10:40*	*1*				
28	C4.1	3	11:35	11:37	11:44	1-	11:31	11:41	12:05	2												

BAA Radio Astronomy Section. **2026 MARCH.**

	Xray class		Steve Parkinson (Various)				Andrew Thomas (18.3kHz)				Phil Rourke (23.4kHz)				Mark Prescott (19.6kHz/*21.75Hz*)				John Elliott (19.6kHz)			
			Tuned radio frequency receiver, frame aerials.				Tuned radio frequency receiver, 0.6m frame aerial.				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)	
1	C2.6																					
2	C2.0																					
2	C2.5																					
2	C2.9										10:26	10:31	10:44	1-								
2	C2.1																					
3	C2.0																					
8	C2.0																					
9	C2.3																					
12	C4.0		10:34	10:44	11:06	1+					10:32	10:44	11:23	2+	10:41	10:48	11:08	1+				
13	C2.1																					
13	**M1.2**		09:49	09:57	10:25	2					09:46	10:00	11:09	2+	09:56	10:00	10:18	1	09:50	09:57	10:30	2
13	C3.3		11:10	11:20	11:42	1+					11:09	11:17	12:11	2+	11:14	11:23	11:42	1+				
13	C5.1		12:46	12:56	13:25	2					12:44	12:58	14:01	2+	12:51	13:00	13:24	2	12:50	12:55	13:35	2
13	?																					
13	?																					
13	C8.0		15:04	15:15	15:50	2+					14:59	15:15	15:57	2+	15:11	15:21	15:35	1	15:05	15:15	15:40	2
14	C1.3																					
14	C2.1										12:50	12:56	13:10	1	*12:55*	*12:59*	*13:22*	*1+*				
14	C1.3																					
15	**M1.0**		09:31	09:41	10:10	2					09:28	09:39	10:28	2+	09:38	09:45	10:04	1+	09:33	09:40	10:05	1+
16	**M2.7**		12:07	12:17	13:20	2+					12:06	12:29	13:49	3	12:11	12:21	13:00	2+	12:06	12:18	13:15	2+
16	C5.9		14:46	14:56	15:22	2					14:45	14:56	15:23	2	14:56	14:58	15:10	1-	14:45	14:55	15:25	2
17	**M1.3**		08:59	09:05	09:30	1+					08:45	09:03	09:38	2+	09:04	09:06	09:18	1-	09:00	09:03	09:25	1
18	C2.7																					
18	**M2.7**		08:33	08:43	09:26	2+									08:40	08:49	09:23	2	08:35	08:45	09:15	2
18	C2.8		09:56	10:04	11:24	3					09:54	10:01	10:26	1+								
18	C3.6		12:59	13:12	13:44	2					12:58	13:13	13:40	2	13:02	13:16	13:42	2	12:58	13:15	13:35	2
26	**M3.9**																					
26	C5.3																					
26	C3.5																					
26	C2.3														12:56	12:59	13:17	1				
27	C2.3																					
27	C5.4														09:58	10:08	10:29	1+				
27	?																					
28	C4.1														11:31	11:41	12:05	2				