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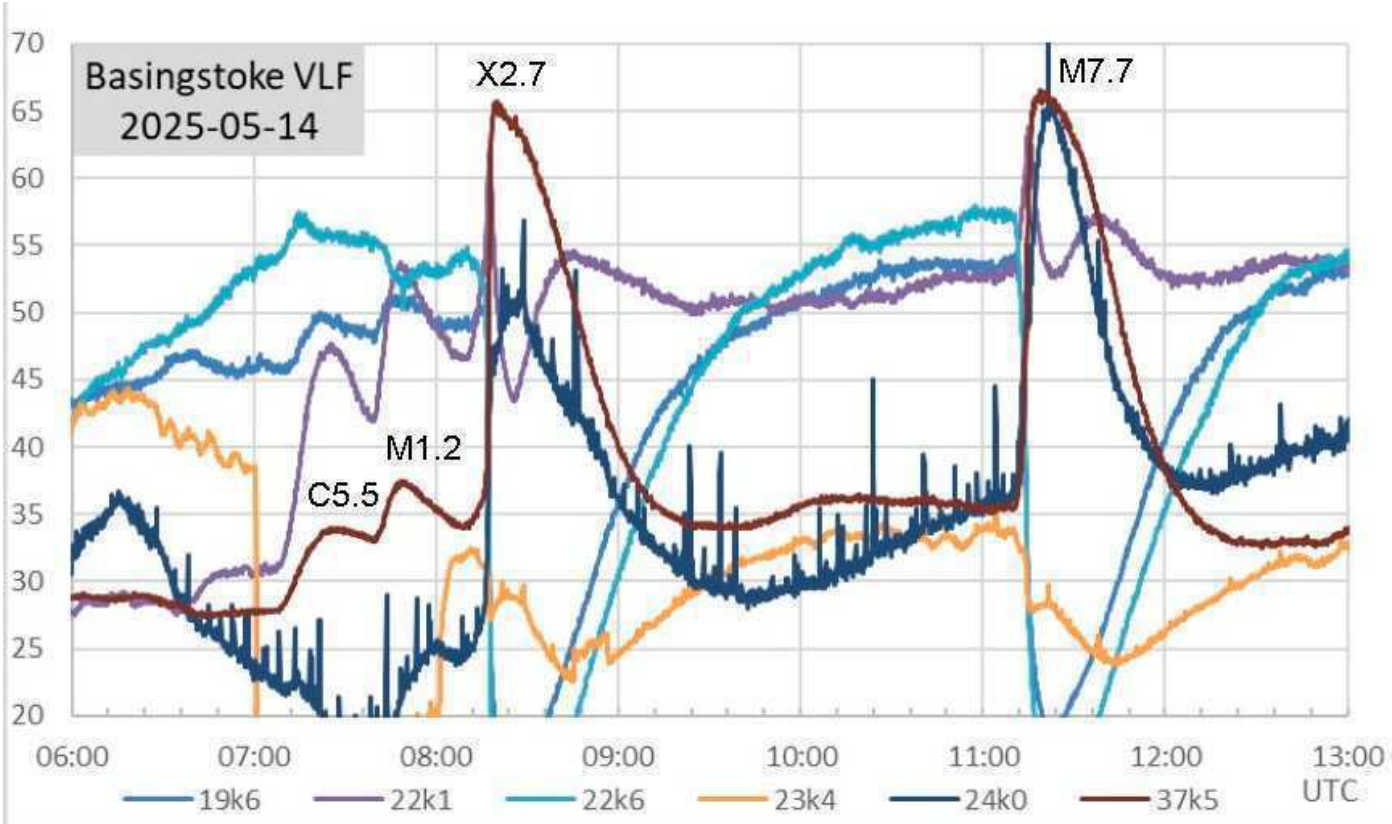
BAA Radio Astronomy Section. Director Paul Hearn.

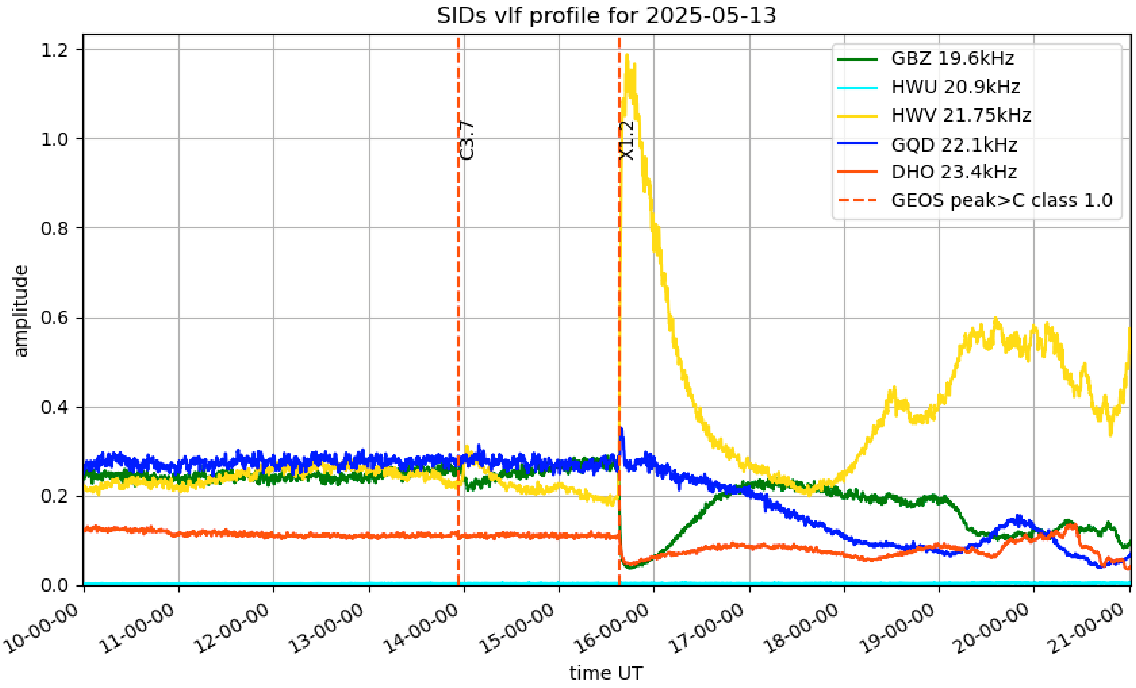
RADIO SKY NEWS 2025 MAY.

VLF SID OBSERVATIONS.

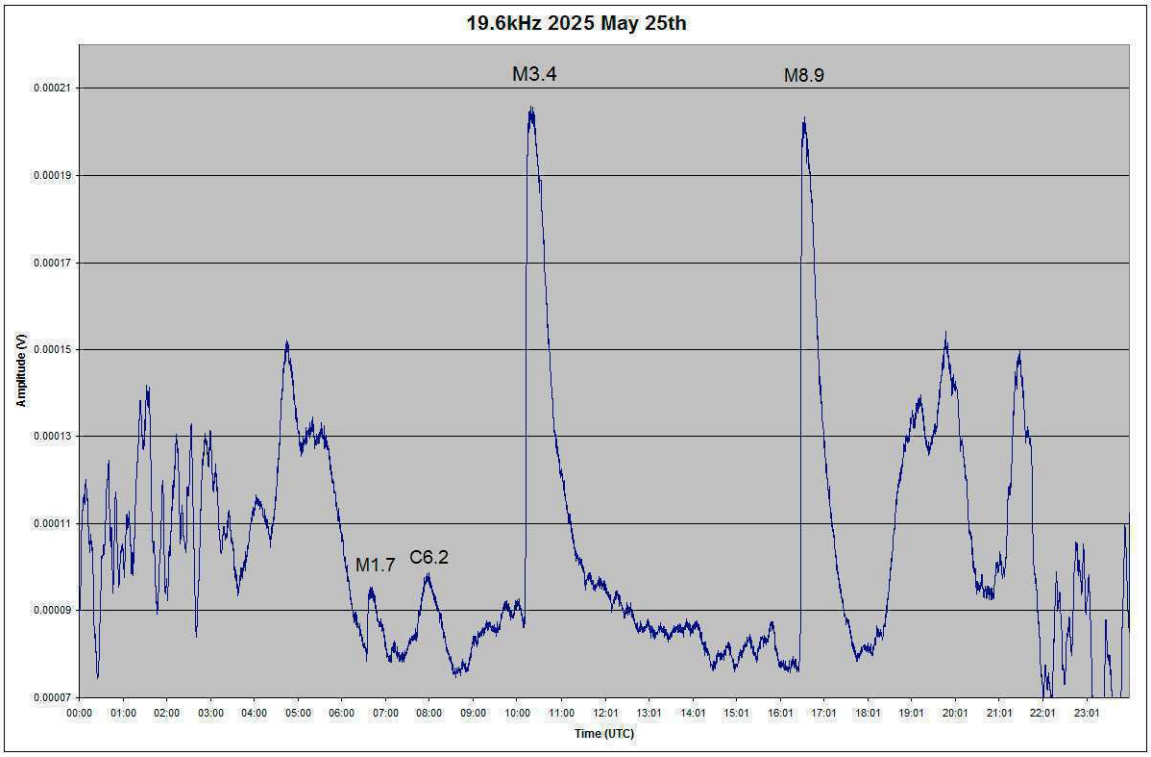
Solar flare activity in May was at a similar level to April, although we did catch two X-class flares. There were also plenty of smaller C2 flares recorded during quieter periods. The SWPC satellite lists include plenty of B-class flares, although we have not seen any as SIDs since 2022.



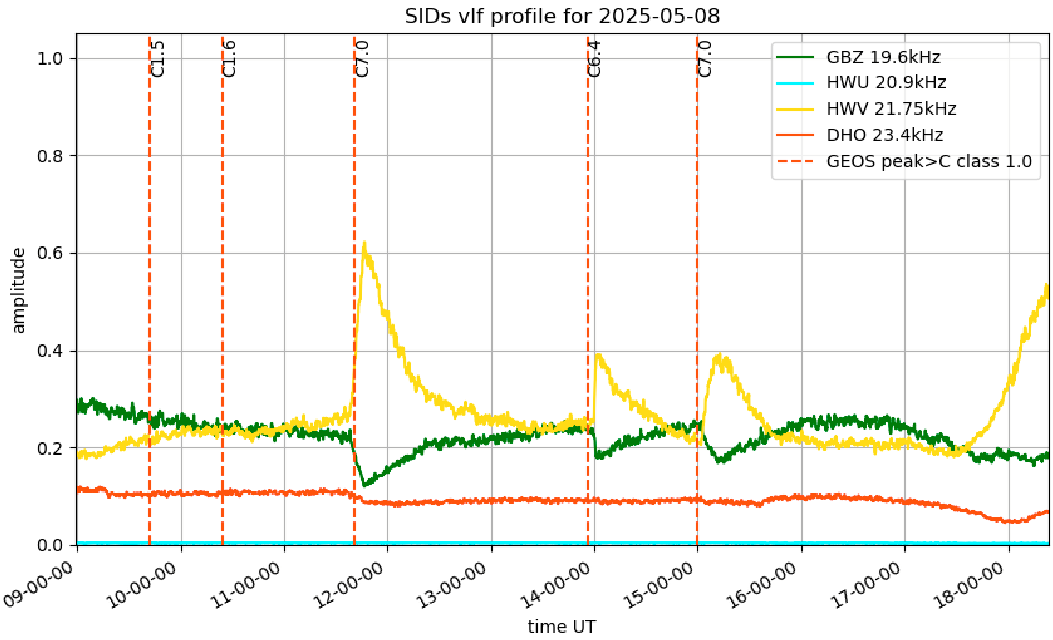
The X2.7 flare on the 14th was quite early in the morning, peaking about 08:30UT, and shows very strongly in Paul Hyde's recording. It is interesting to compare the SID strengths on the various signals. 37.5kHz shows similar SIDs for the X2.7 and M7.7 flares, while 23.4kHz makes the M7.7 look stronger than the X2.7. The longer day length in May has helped, with 24kHz also showing a strong SID for the X2.7 flare. AR14087 was responsible for these flares, along with much of the activity over the following few days. It was not a particularly complex active region, although the primary sunspot was quite large.



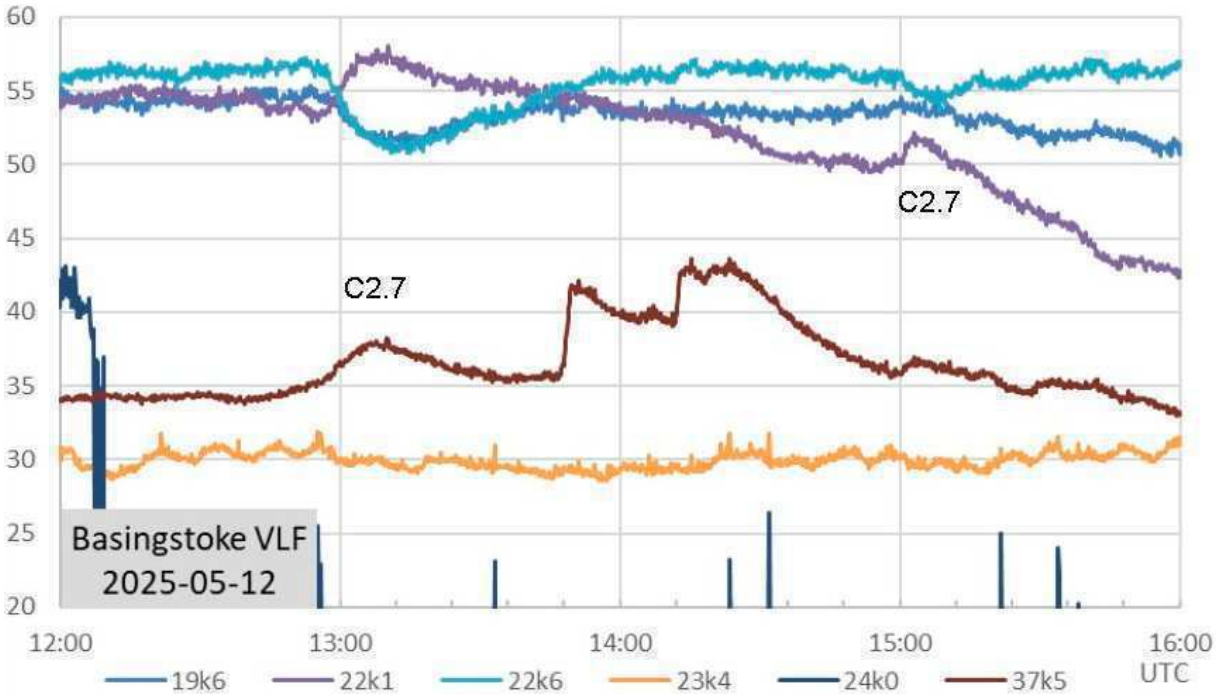
Mark Prescott's recording shows the X1.2 flare in the afternoon of the 13th. 21.75kHz shows a very strong SID, although with a simple 'shark fin' shape. 22.1kHz appears at first to show a very short spike lasting just a few minutes, but it is followed by a very subtle rise up to 16UT before gently falling away again. It is a rather unusual 'spike and wave' SID, where the wave portion is almost flat. The earlier C3.7 flare has produced small SIDs at 21.75kHz and 19.6kHz.



Activity increased again at the end of the month, Mark Edwards' recording showing some strong M-flares on the 25th. The M1.7 was very early at around 07UT, appearing just after the sunrise ends on the 19.6kHz signal. There was another X1.1 flare on the 25th, but occurring at 02UT it was far too early for us to record.



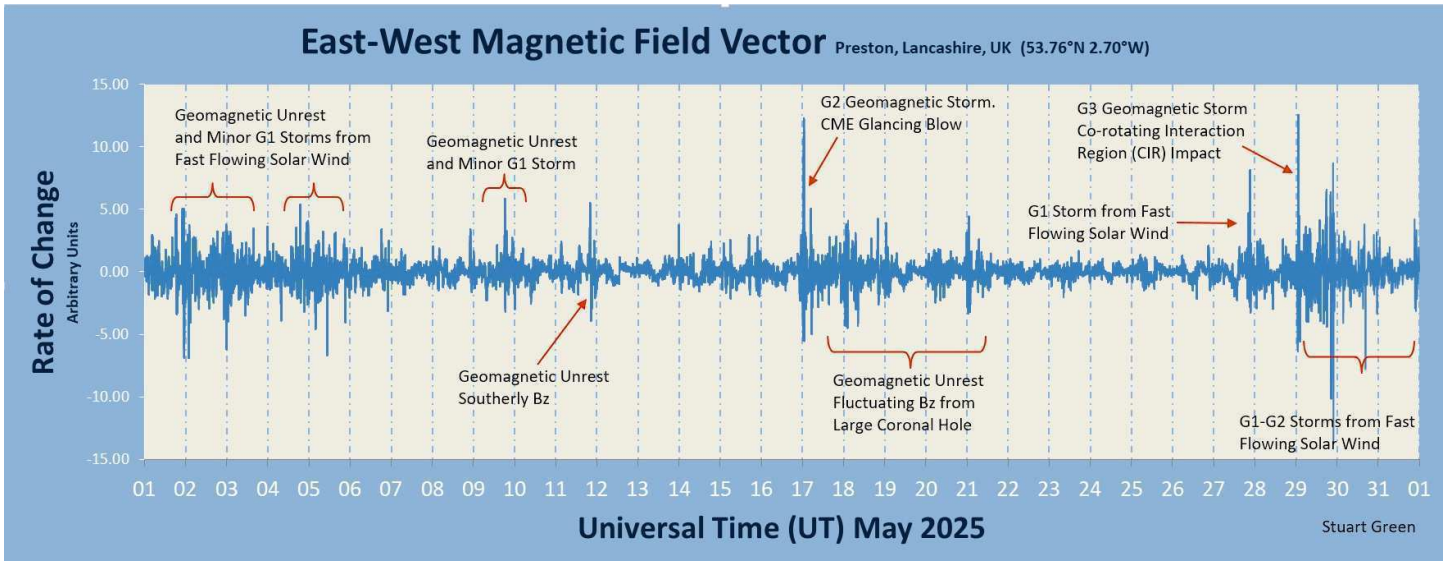
This clean recording by Mark Prescott from the 8th shows a trio of mirror-image SIDs at 21.75kHz and 19.6kHz. 23.4kHz seems to be very unresponsive to these stronger C-class flares.



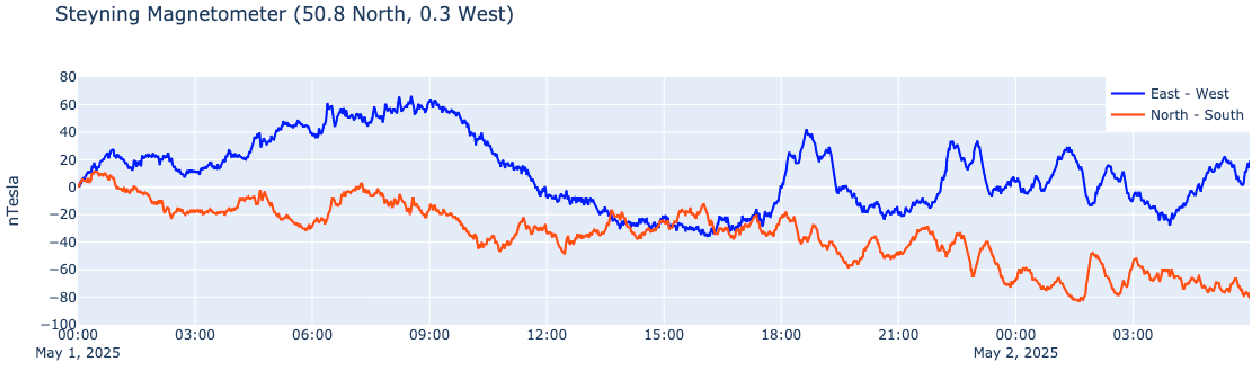
Paul Hyde's recording from the 12th shows a pair of smaller C2.7 flares. 22.1kHz shows both flares very clearly, while 23.4kHz again seems to be unresponsive. 37.5kHz has a very strong double event around 13:45-15:00, with no clear source. There is nothing listed in the satellite data at this time, and no magnetic activity recorded either.

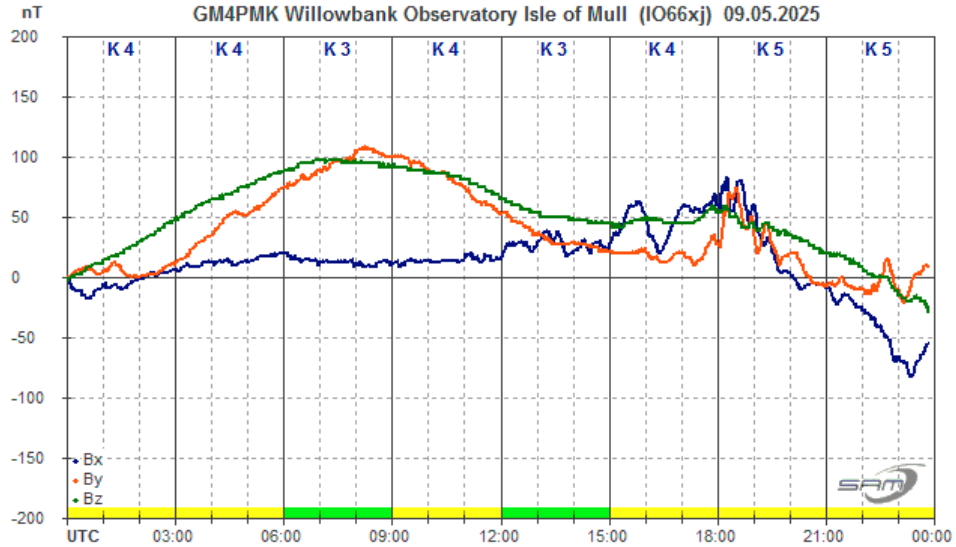
We also recorded some much weaker C-class flares, the weakest being a C1.3 on the 11th. There were C1.4 flares recorded on the 3rd, 4th and 29th; C1.7 flares on the 4th, 6th and 7th; and a C1.8 on the 28th. These were mostly during periods when the background X-ray flux was at a low level.

MAGNETIC OBSERVATIONS.

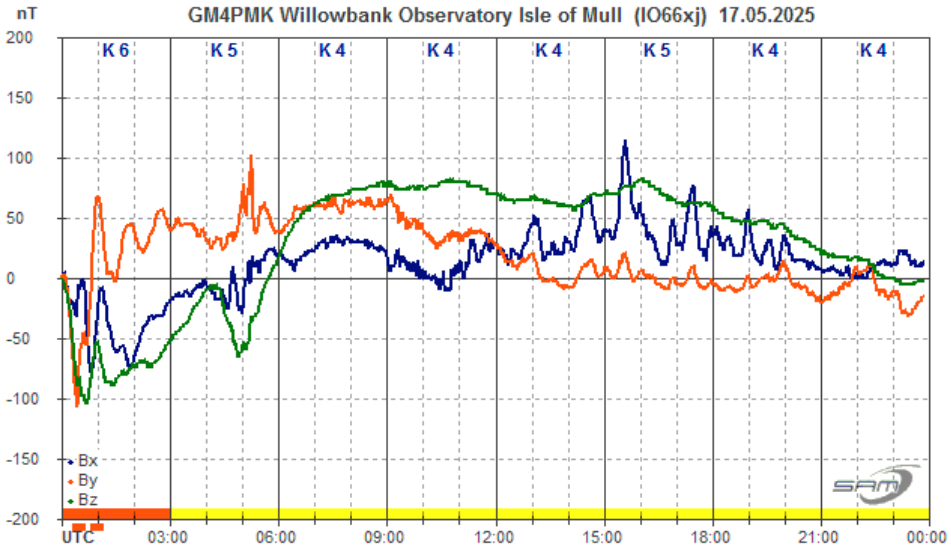


Stuart Green's summary of the month's magnetic activity shows several periods of activity, mostly from solar wind effects. Coronal holes are starting to be more common compared to earlier in the solar cycle, a strong wind from a coronal hole producing some mild disturbance to start the month. Nick Quinn's recording from the 1st showing activity increasing after 18:00UT:

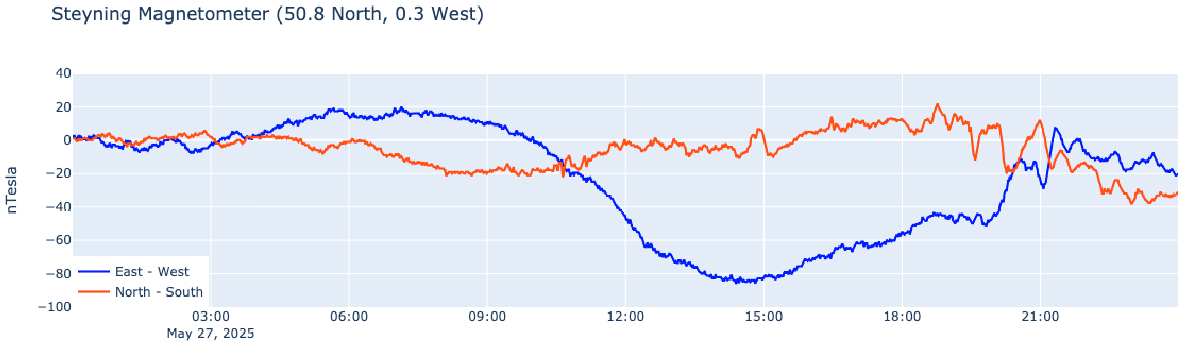


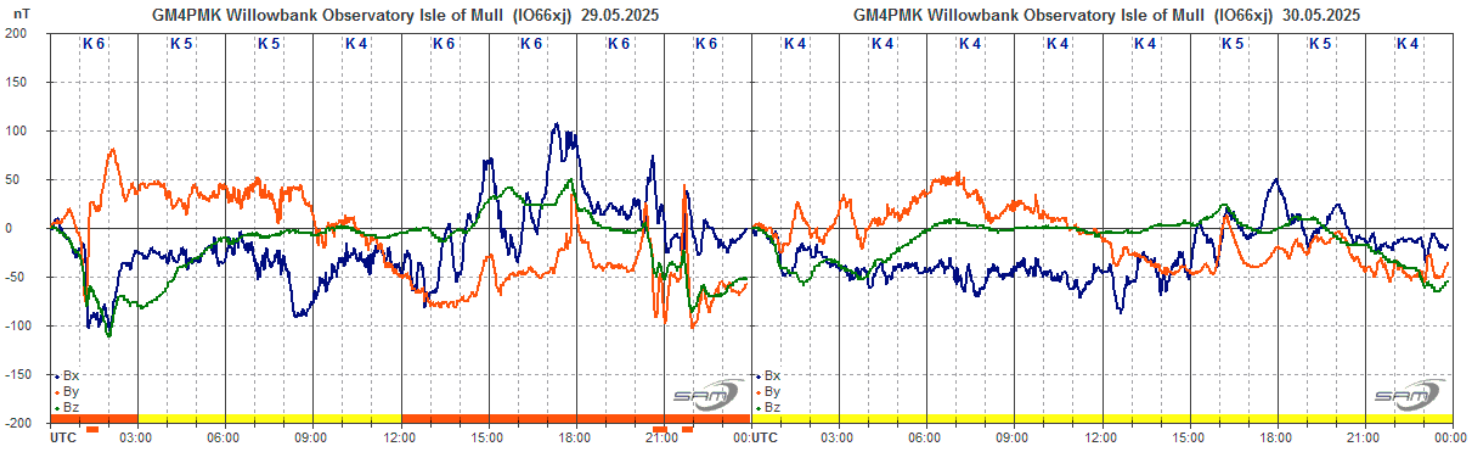


Mild disturbance continued over the next few days, slowly fading, but increased again in the afternoon of the 9th, shown in Roger Blackwell's recording. The STCE bulletin gives the source as a CME, although it is not linked to a specific flare. Coronal hole high speed winds continued to create mild magnetic disturbances over the next few days.



The first really active period started on the 17th, shown in this recording by Roger Blackwell. The STCE bulletin gives a filament eruption on the 12th as the source. This was followed by more coronal hole solar winds producing mild disturbances. Nick Quinn's recording from the 27th is typical of this period:



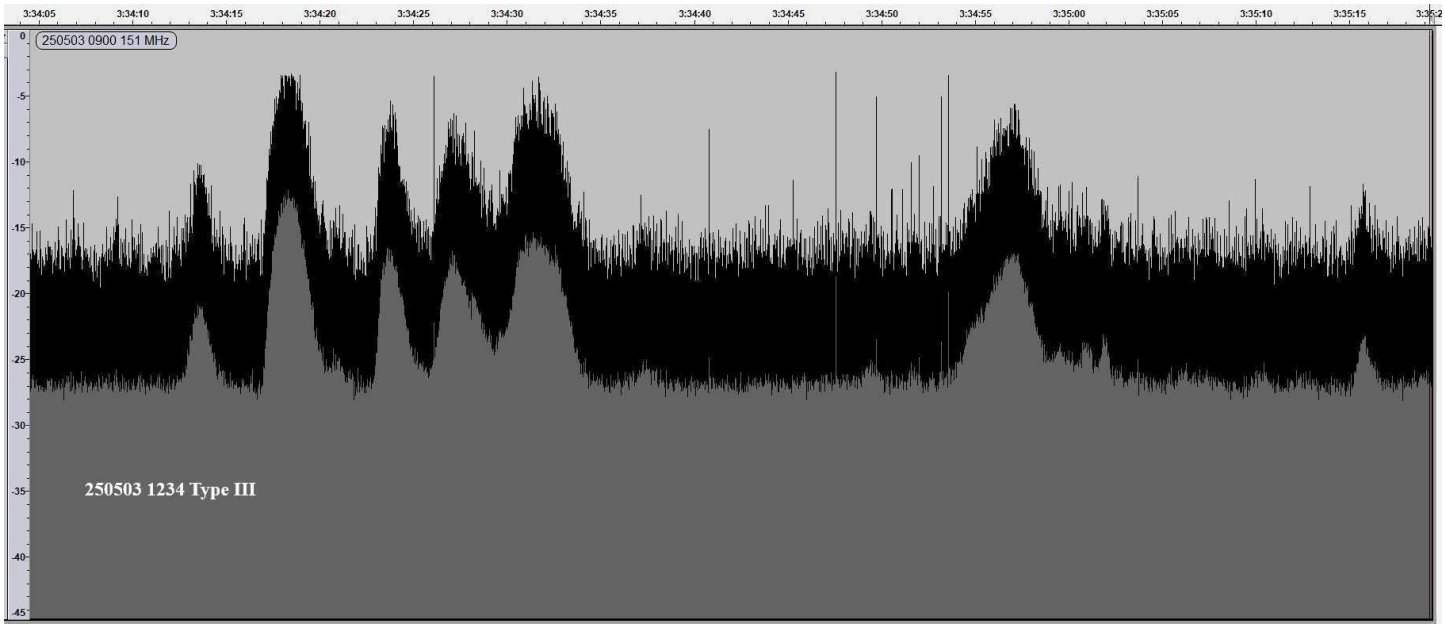


The most active period started early on the 29th, lasting right through to the end of the month. This also seems to be from interacting strong solar winds. Compared with the storms recorded in 2024 May, this was very mild.

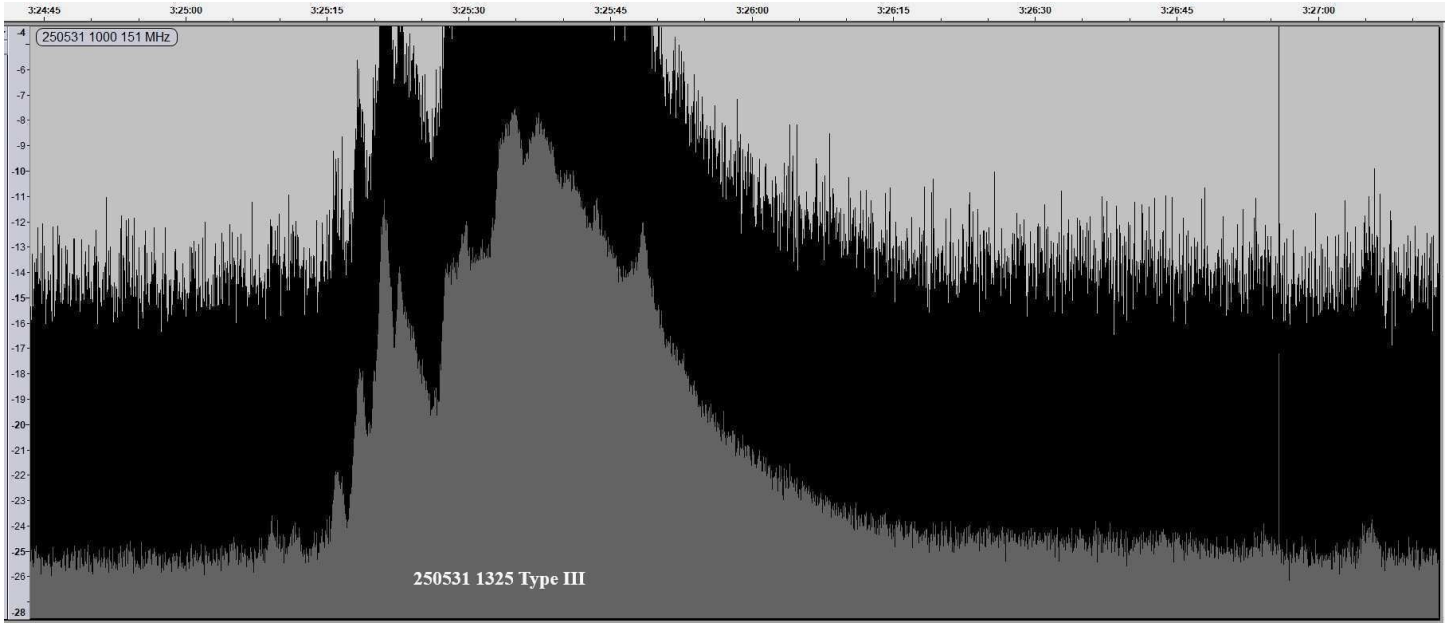
Thomas Mazzi noticed that this magnetic activity was causing disturbances to the GPS signals. This is another way of detecting ionospheric disturbance as the turbulent magnetic field moves its boundaries.

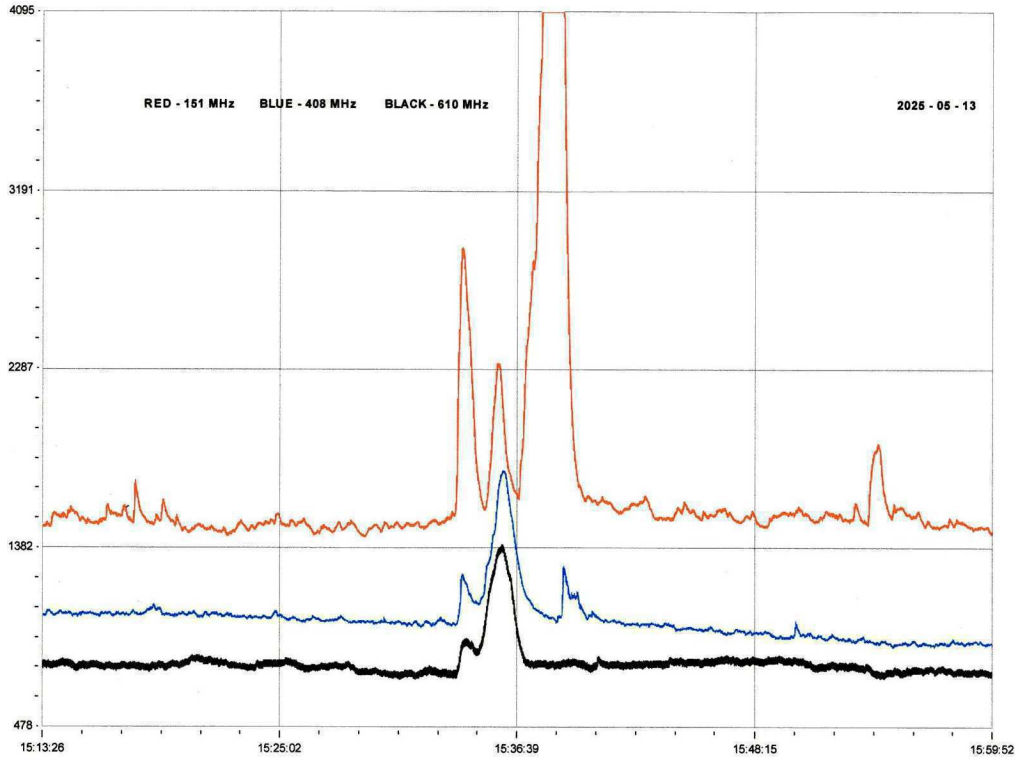
Magnetic observations received from Roger Blackwell, Stuart Green, Thomaa Mazzi, Nick Quinn and John Cook.

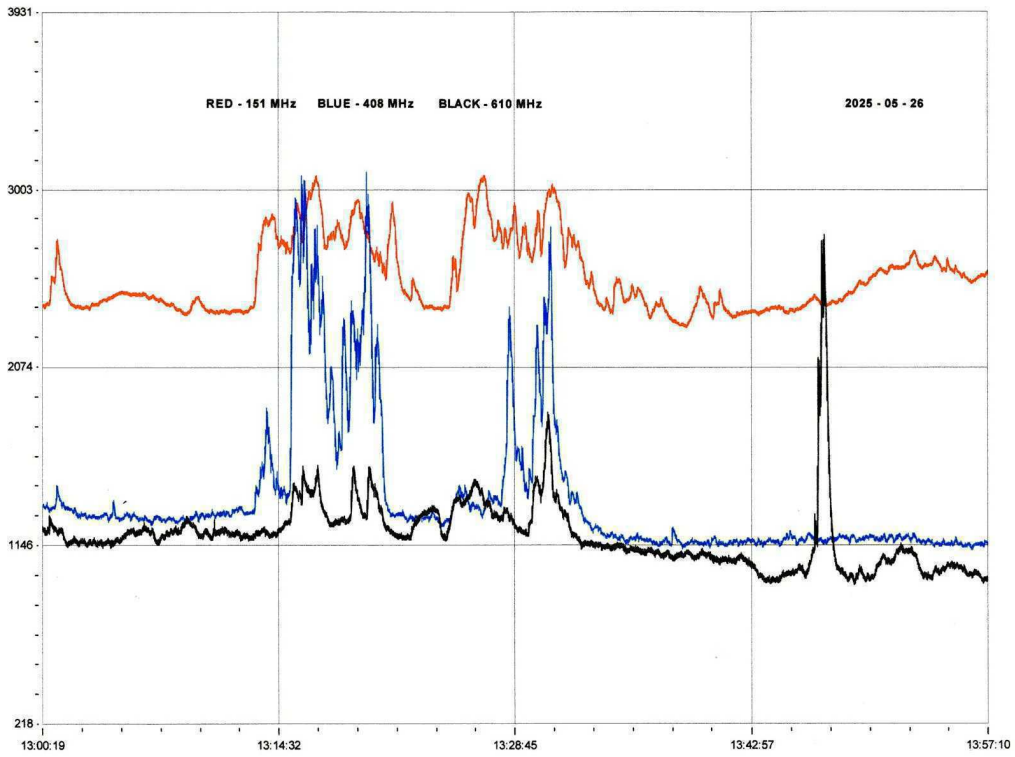
SOLAR EMISSIONS



Colin Briden recorded two type III 151MHz solar emissions. The first started at 12:34UT on the 3rd, and matches the timing of a C1.5 flare in the SWPC satellite lists. It is not one that we recorded as a SID. It has an amplitude varying about 15 to 20dB with multiple peaks. The second starts at 13:25 on the 31st, matching the C6.5 flare. It has an amplitude of 18dB, and lasts for about two minutes. This has several peaks, but they are all merged into a single event.

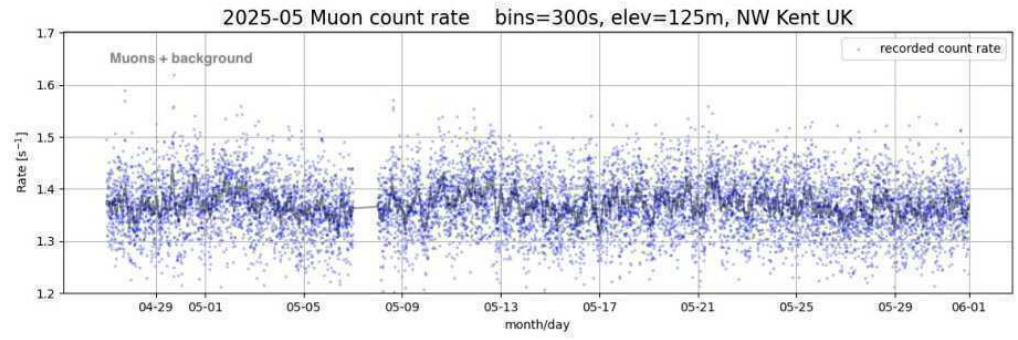


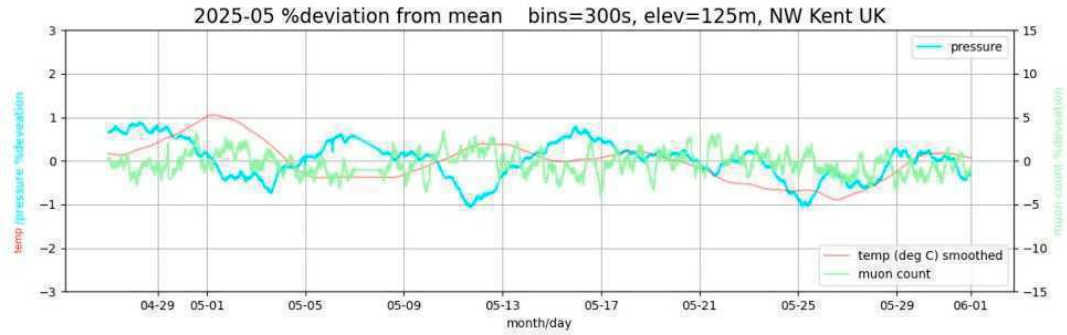


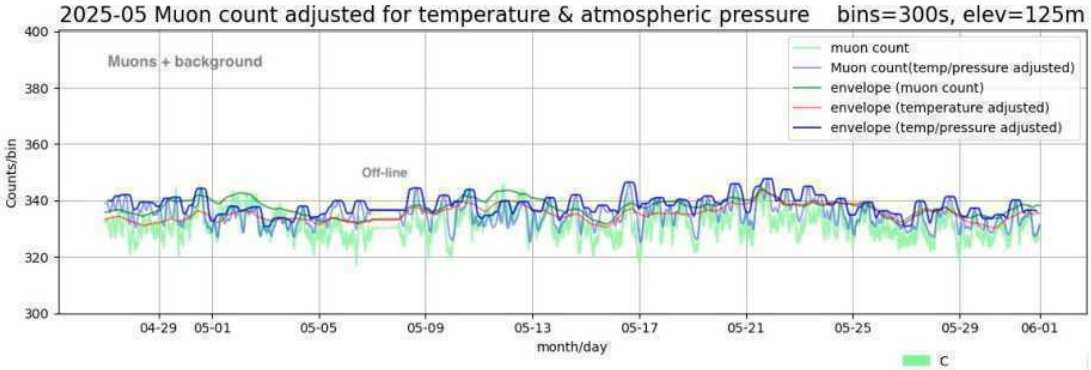


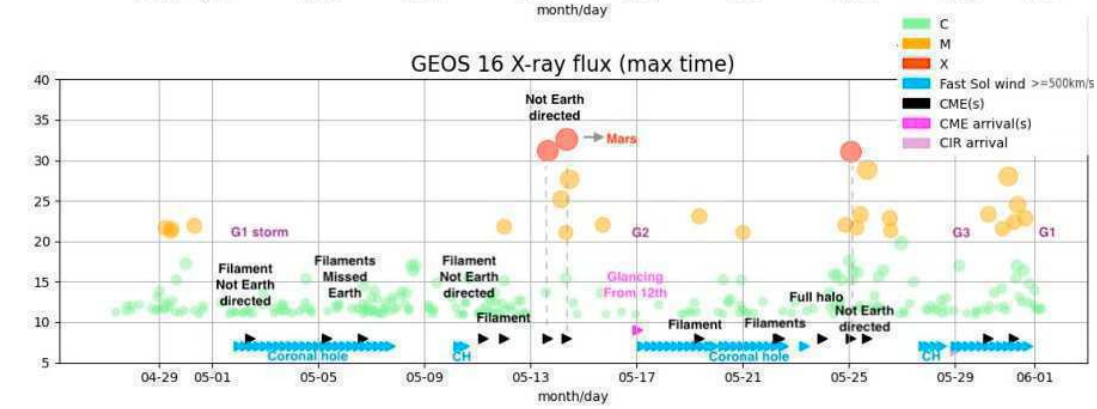
Colin Clements recorded a strong emission from the X1.7 flare on the 13th. All three frequencies show the burst, 151Mhz going off-scale. The M-flares on the 26th also produced strong emissions shown in the lower chart. 610MHz has its strongest peak after the other signals have returned to normal, although it is still within the decay phase of the M1.4 flare. Colin also reported emissions on the 8th from the C6.4 flare around 14:00UT, 610MHz showing much lower noise levels this time.

MUONS



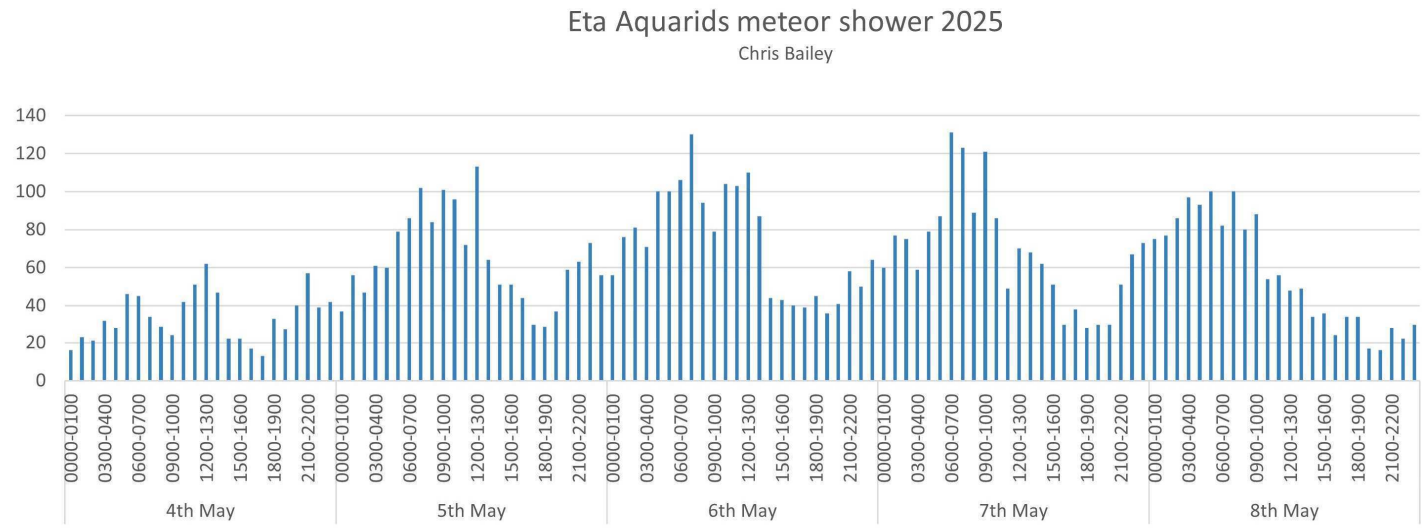


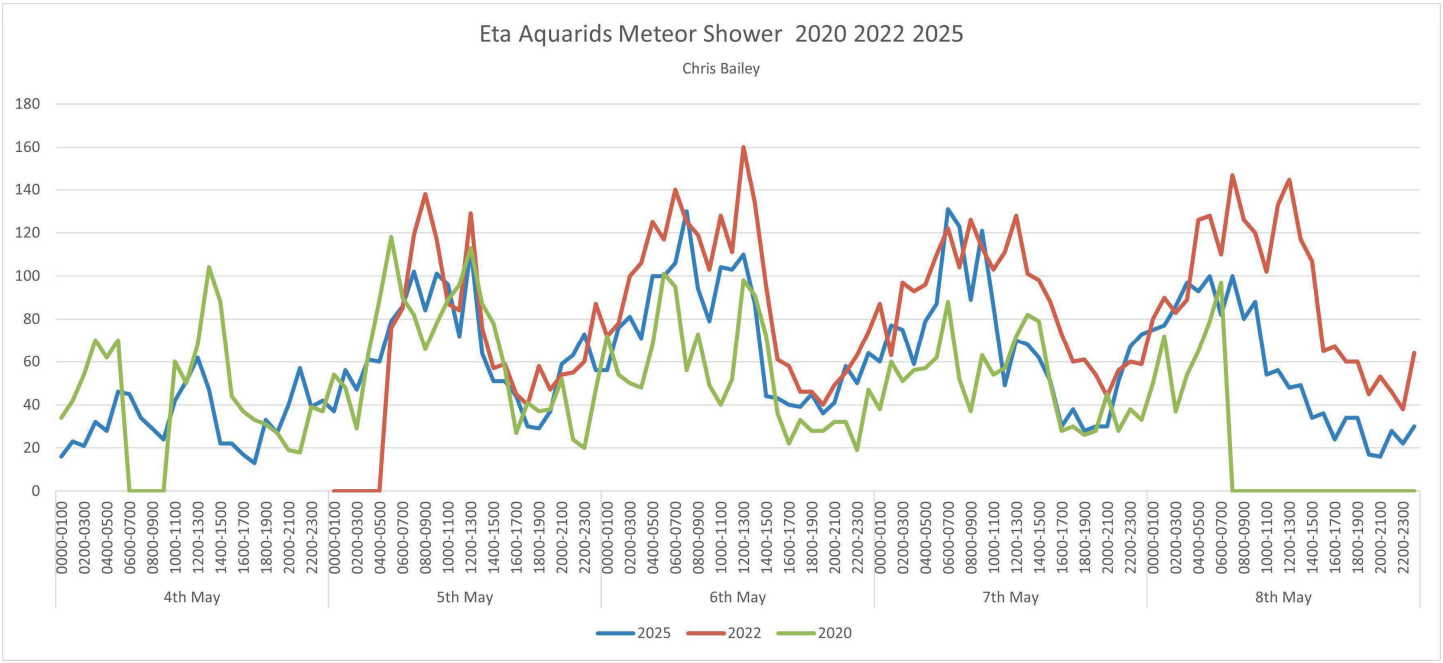




Mark Prescott's muon charts show a fairly stable flux through the month, with slightly lower counts in the first and last weeks with the faster solar winds. There is a short break when the sensor was off line on the 7th. The counts increased slightly around the 20th – 22nd despite the continuing faster solar wind. There is also a small peak on the 16th / 17th during the period with only very weak flaring. It also matches the active magnetic disturbances shown on page 5 of this report.

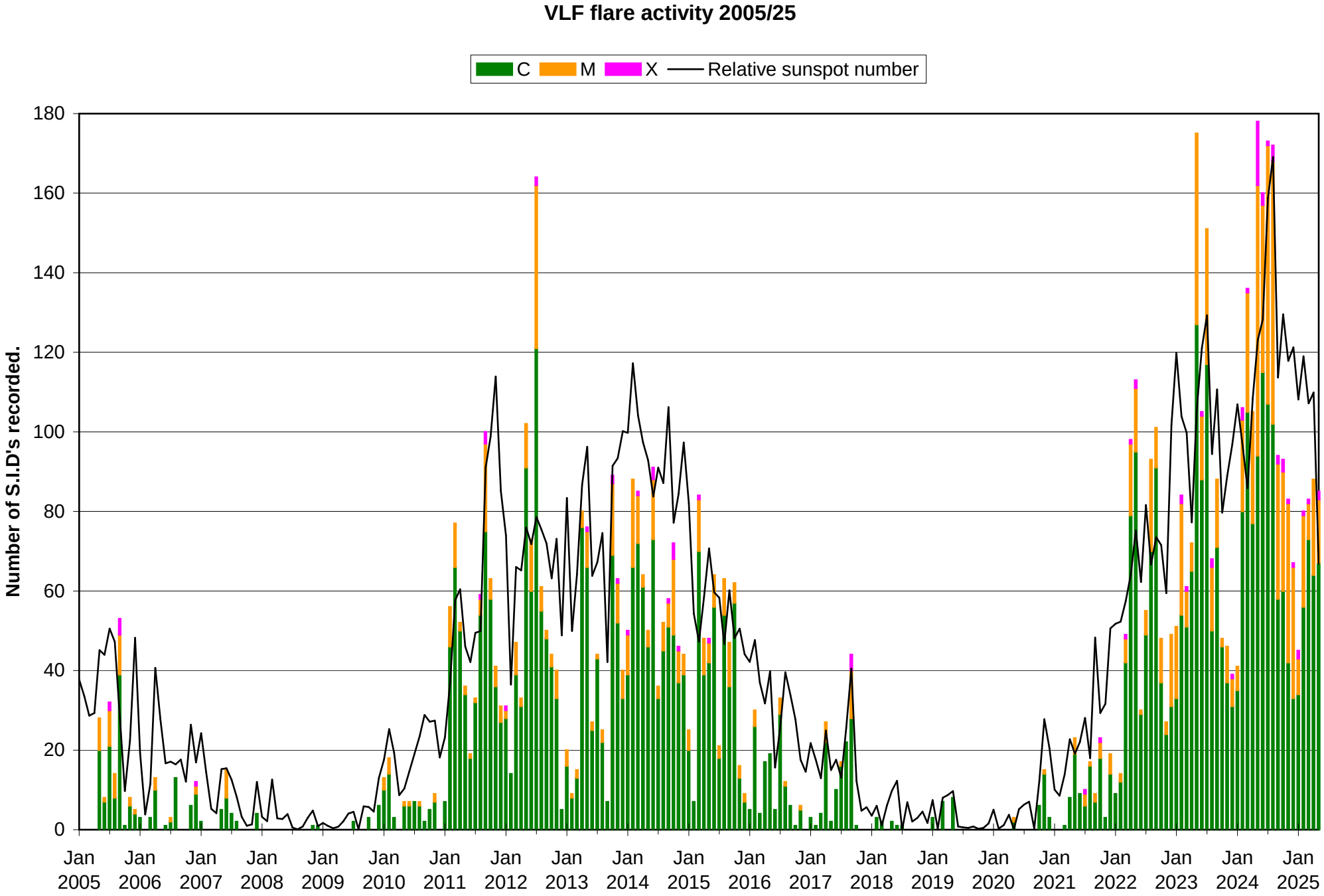
METEORS.





Chris Bailey recorded meteor counts during the Eta-Aquarid shower over May 4th to 8th. The top chart shows just the 2025 data, the highest counts being around 08 to 10UT in the morning. There is also a strong peak at 12-13UT on the 5th. The lower chart compares these figures with those from 2020 and 2022. The 2020 counts were generally lower, while the counts in 2022 were higher, showing much more activity on the 8th. Midday peaks are also evident in all three years.

Radio Sky News started as a summary of the monthly SID recordings in 2005 May. We had just four or five observers, and I produced a simple list of the timings reported along with a few lines of text and the occasional chart. The current activity chart shows the low level of activity at the end of solar cycle 23. Magnetic data was included in 2011, and the number of observers had increased considerably. Many more recordings could be included, marking the start of solar cycle 24. The 'summary' was renamed Radio Sky News in 2022. Thanks to all of our observers, and I hope that it continues to be of interest as cycle 25 fades.


VLF flare activity 2005/25
C
M
X
Relative sunspot number
Number of S.I.D's recorded.
180
160
140
120
100
80
60
40
20
0
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

BAA Radio Astronomy Section.

BARTELS DIAGRAM

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

2575
2022 June
F CCC CC CC CC CCM CC CC 2258 CC 1 2 3 4 5 6 7 8 9 CC 10 CCMC 11 C 12 13 C 14 CCCC 15 16 C

2576
2259
F CCCC CCC C CC C CC CC 24 C 25 C 26 27 28 29 30 2022 July 1 2 3 BC 4 C 5 CC 6 7 8 M 9 CCCC 10 CCCC 11 CM 12 CCCC 13 CCC

2577
2260
F CMCM CCC MCM CCCC C 19 20 21 22 CCCC 23 24 C 25 26 C 27 C 28 29 30 31 2022 August 1 CC 2 C 3 4 CC 5 6 7 8 9

2578
2261
F C CC CCCC C 10 11 12 13 14 15 CMMM 16 MCC 17 CCMM CMMM MCCC 18 19 20 21 C 22 C 23 24 25 CCCM 26 CMMM 27 CMMM 28 CCMM 29 CMMM 30 CCCM 31 C 2022 September 1 CC 2 CCCC 3 CCCC 4 CCCC 5 CCMC

2579
2262
F CC C CCCC CCCC CCCC MCCC 6 7 14 15 MM 16 17 M 18 CC 19 C 20 MCCC 21 M 22 CCCC 23 CCCM 24 CCCC 25 26 CCC 27 CCCC 28 CC 29 CCMM 30 2022 October 1 CC 2 CMMC

2580
2022 October
2263
F CMMM M C CM C CCCC CM 3 4 5 6 7 8 9 MMCC 10 CC 11 C 12 13 M 14 C 15 C 16 17 C 18 CC 19 20 CB 21 22 CC 23 C 24 C 25 26 27 28 29

2581
2022 November
2264
F C 30 31 1 2 3 4 5 6 7 8 9 10 C 11 MCCM 12 CC 13 C 14 C 15 CCC 16 CC 17 CC 18 CCC 19 M 20 21 22 CCC 23 24 25

2582
2022 December
2265
F C 26 27 28 29 30 1 C 2 3 M 4 5 6 7 C 8 9 10 11 C 12 13 14 MMMM 15 CMCM 16 MMMC 17 18 CC 19 CCC 20 M 21 C 22 C

2583
2023 January
F CC 23 C 24 25 CCC 26 CM 27 28 CM 29 CCCM 30 31 C 1 2 3 4 5 6 7 CC 8 MCCM 9 MM 10 MCMM 11 MC 12 MCMC 13 MC 14 CCC 15 CM 16 C 17 18 MC

2584
2267
2023 February
F MMC 19 CC 20 CC 21 CMCM 22 C 23 CCC 24 MCM 25 CMCC 26 27 28 C 29 C 30 CC 31 1 C 2 C 3 4 C 5 C 6 C 7 CC 8 CM 9 MMMM 10 MCCM 11 MMXM 12 MMMM 13 CCCM 14 CCM

2585
2268
2023 March
F CCCC 15 C 16 CX 17 C 18 CC 19 CMCC 20 MCCM 21 CCM 22 CMCC 23 CCM 24 CCMM 25 CC 26 CC 27 28 CC 1 CCCC 2 MCCX 3 CMMC 4 CCMC 5 MCCC 6 C 7 MC 8 CCC 9 CCCC 10 C 11 12 13

2586
2269
2023 April
F C 14 C 15 C 16 CCCM 17 C 18 CCC 19 C 20 C 21 22 23 C 24 25 CC 26 CCC 27 CC 28 MC 29 M 30 CC 31 1 2 3 4 CCC 5 MC 6 7 CC 8 CCCC

2587
2270
2023 May
F MCCC 10 MC 11 CCC 12 CCCC 13 CCMC 14 CCCC 15 C 16 CC 17 CCC 18 CCC 19 CCCC 20 M 21 CC 22 23 CC 24 CC 25 26 C 27 M 28 CC 29 CCCC 30 CCM 1 CCMC 2 CCCC 3 MMMM 4 MCCC 5 CMM 6 CC

2588
2271
2023 June
F C 7 C 8 CCCM 9 MCMM 10 MCCC 11 MCCM 12 CCCC 13 CCCC 14 C 15 C 16 CCCM 17 CCCC 18 MMMM 19 MCCM 20 MMMM 21 CCCM 22 CCMC 23 CCMC 24 MCCM 25 CCMC 26 CCC 27 CCC 28 MC 29 C 30 MMMC 31 CMCM 1 CCCC 2 CC

2589
2272
F CC 3 CCCC 4 C 5 CCCC 6 CMCC 7 CC 8 CM 9 C 10 11 CCCC 12 CCCC 13 14 CC 15 CC 16 MCMM 17 CC 18 M 19 MC 20 CCMX 21 CMMC 22 CMCC 23 CC 24 CCMC 25 CCCC 26 CCMC 27 CMCC 28 MCC 29 CCCM

2590
2273
2023 July
F CCCC 30 CCCC 1 CCCC 2 MCCC 3 MC 4 CCCM 5 CCM 6 MC 7 C 8 CCC 9 CCCC 10 MMMM 11 MMCC 12 CCCM 13 MCCC 14 MMMC 15 MCMM 16 CCC 17 MMMM 18 CMCM 19 C 20 C 21 CC 22 CC 23 C 24 CCCM 25 CMCM 26

2591
2274
2023 August
F CMCC 27 CMCC 28 CCCM 29 MC 30 CMCC 31 MMMM 1 MMMM 2 CMCC 3 CC 4 MMCX 5 CM 6 CMMX 7 MC 8 C 9 10 CCCC 11 CCCC 12 C 13 C 14 CC 15 16 CC 17 CCC 18 19 C 20 CC 21 CC 22

2592
2275
2023 September
F CCC 23 C 24 C 25 C 26 27 28 29 30 C 31 1 2 MC 3 MCC 4 CC 5 MCC 6 CCCC 7 CCM 8 CCC 9 C 10 C 11 CCCM 12 MCCC 13 C 14 CCM 15 C 16 CC 17 C 18 C

2593
2023 October
F MCCC 19 CMCC 20 M 21 CCMM 22 CCCC 23 CCMC 24 C 25 CC 26 27 28 MCC 29 CCC 30 CCCM 1 CCCC 2 CCM 3 CCCC 4 C 5 C 6 CC 7 CC 8 CC 9 CCC 10 CMCC 11 CC 12 13 14 C 15 C

2594
2277
2023 November
F CCC 16 17 18 19 C 20 C 21 22 23 24 25 CC 26 CC 27 28 CCCC 29 30 1 MCM 2 CCM 3 4 MCM 5 C 6 7 C 8 C 9 C 10 CCC 11 12

2595
2278
2023 December
F C 13 CCCC 14 C 15 16 17 CM 18 CC 19 MCCC 20 CCCC 21 22 CCMC 23 MC 24 25 C 26 C 27 28 C 29 30 1 CC 2 3 4 5 CCC 6 C 7 8 MCM 9

2596
2279
2024 January
F CCC 10 CCCC 11 CC 12 C 13 MMX 14 MCCM 15 CC 16 C 17 C 18 19 20 21 22 23 24 MM 25 26 27 28 29 30 C 31 CCCC 1 M 2 3 4 5

2597
2280
F C 6 7 8 CC 9 CM 10 CCM 11 C 12 13 14 CC 15 16 17 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
2281
2024 February
F CCCC 2 CCCC 3 MMMM 4 CC 5 CC 6 CCM 7 MMMM 8 CXM 9 10 C 11 C 12 CMCM 13 CC 14 MCCC 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
2282
2024 March
F 29 1 CCC 2 3 4 C 5 CC 6 C 7 CCCC 8 C 9 10 CMCC 11 CC 12 CCCC 13 MCC 14 15 16 CCMC 17 CCCC 18 CCCC 19 CCCC 20 MCCC 21 CC 22 CCCM 23 MMMM 24 MMMM 25 MCCC 26 MMMM

2600
2283
2024 April
F MCCC 27 MMMX 28 CCCC 29 CCCC 30 CCCC 31 1 2 3 4 C 5 6 7 8 9 CCCC 10 CCCM 11 CCCC 12 MCCC 13 CCCC 14 MMMM 15 CCCM 16 CCCC 17 CMCC 18 MCCC 19 CCCC 20 MMM 21 22 MMMM

2601
2284
2024 May
F MCCM 23 CCMC 24 CMCM 25 CC 26 MC 27 CC 28 CCC 29 30 CCMM 1 MC 2 CCCM 3 CMCC 4 MMCM 5 XMXM 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
2285
2024 June
F 20 CCCM 21 CM 22 23 CMMM 24 MCCC 25 C 26 CCCC 27 XCC 28 CCCC 29 MMXM 30 31 CM 1 CMCX 2 XCXM 3 CMCC 4 MMMM 5 MMCC 6 MMCC 7 CCMC 8 CMCM 9 MMMC 10 MMCM 11 CC 12 CC 13 CCMC 14 CCCC 15 MCCC

2603
2286
2024 July
F CCCC 16 MCMM 17 CMMC 18 MCCC 19 CMCC 20 CCCC 21 MMCC 22 23 MMMC 24 MMCM 25 MC 26 C 27 CC 28 CC 29 CC 30 1 MC 2 3 MCC 4 CCMM 5 CCCC 6 CCCC 7 CCMM 8 CMCC 9 CCCM 10 MCCC 11 CC 12 CCMM 13 CMCC 14 MCCM 15 MCCC

2604
2287
2024 August
F MMMM 13 MCCM 14 MMCC 15 MCXM 16 MMMM 17 MMCC 18 CMCM 19 MCCM 20 MCCM 21 MCMC 22 CM 23 MCMC 24 CCM 25 MCC 26 MMMM 27 MMMM 28 MMMM 29 MMMM 30 MMMM 31 1 MMMM 2 MMMM 3 MMMM 4 MMXX 5 CCCC 6 CCMM 7 MMMX 8

2605
2288
2024 September
F MMMM 9 CCMM 10 MCCM 11 MC 12 CCCM 13 XMMC 14 CCCC 15 CMC 16 MM 17 MCM 18 MCCC 19 CCM 20 MCCC 21 CCMC 22 CCMM 23 CCMM 24 CCCC 25 CMC 26 CMCC 27 C 28 CCC 29 CMCC 30 MCMC 31 1 MCCM 2 CMCC 3 MCCM 4 CCMC

2606
2289
F MMMC 5 CCCC 6 MCCC 7 M 8 MMMM 9 CMC 10 MMMM 11 12 MXMM 13 MMMM 14 MCX 15 CC 16 C 17 C 18 C 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
2290
2024 October
F CCMC 2 MXM 3 MC 4 MMCC 5 CMM 6 C 7 MCC 8 CCX 9 CMMC 10 CCMM 11 C 12 13 MC 14 MCCM 15 MCM 16 C 17 C 18 CCC 19 MCM 20 C 21 22 CCC 23 CCCC 24 MC 25 MCC 26 XMMM 27 CCCC 28 CCMM

2608
2291
2024 November
F CM 29 CC 30 CMMM 31 MCMM 1 MM 2 MCMM 3 MMMM 4 MMMM 5 MMMM 6 MMMX 7 CCCC 8 CCCC 9 M 10 C 11 C 12 13 C 14 CCC 15 M 16 17 CC 18 MMMM 19 20 21 CC 22 M 23 M 24

2609
2292
2024 December
F MC 25 CC 26 CCCM 27 28 29 CC 30 1 CC 2 C 3 4 MC 5 MMC 6 MCC 7 CCM 8 XCCM 9 C 10 MCM 11 MCCM 12 CCM 13 MCM 14 CCCC 15 16 17 18 19 MCCM 20 CCM 21

2610
2293
2025 January
F CM 22 M 23 MCMC 24 C 25 26 27 M 28 MM 29 MMMM 30 MMMM 31 1 C 2 C 3 X 4 CCX 5 MM 6 7 8 9 10 11 12 13 CC 14 15 16 17 MMMC

2611
2294
2025 February
F CCCC 18 CC 19 CC 20 M 21 MC 22 CC 23 CCC 24 25 26 CC 27 M 28 CC 29 30 CC 31 CCMC 1 CCCM 2 MMMM 3 MCCM 4 CMMC 5 CCCC 6 MCCC 7 MC 8 MCCC 9 C 10 CC 11 CC 12 C 13 CMCC

2612
2295
2025 March
F MC 14 C 15 C 16 CCMC 17 C 18 CC 19 C 20 CMMC 21 C 22 MMMX 23 MCC 24 M 25 CCC 26 C 27 CCC 28 CCCC 29 1 CCCC 2 C 3 CC 4 CCC 5 M 6 7 CC 8 9 10 MC 11 CCCC 12

2613
2296
2025 April
F CC 13 CCCC 14 CC 15 C 16 CCCC 17 C 18 CC 19 C 20 M 21 C 22 CCC 23 CC 24 CC 25 MCCC 26 CCC 27 CXMM 28 CCCC 29 30 CCMM 31 CMCC 1 MCCC 2 CCCC 3 CCC 4 CCC 5 C 6 C 7 CCCC 8

2614
2297
2025 May
F CCC 9 CCC 10 CCCM 11 MMMM 12 MMMM 13 MMCC 14 CMCM 15 CC 16 C 17 CCC 18 19 C 20 CMC 21 M 22 M 23 C 24 CC 25 26 C 27 28 29 MMMC 30 CMC 1 2 3 CCCC 4 CCCC 5 C

2615
2298
F CCCC 6 CCCC 7 CCCC 8 C 9 CC 10 CCCC 11 CC 12 CX 13 MXMM 14 CM 15 16 17 18 19 M 20 CCCC 21 C 22 23 CCCM 24 MCMM 25 CMM 26 C 27 CCCC 28 C 29 MCCM 30 MMCM 31 1

BAA Radio Astronomy Section. **2025 MAY.**

	Xray class	Observers	John Cook (23.4kHz/*22.1kHz*) Tuned radio frequency receiver, 0.58m frame aerial.				Roberto Battaiola 20.3kHz Modified AAVSO receiver.				Paul Hyde (22.1kHz/*24kHz*) Spectrum Lab / PC 1.5m frame aerial.				Mark Edwards (24.0/*19.6*/**21.75kHz** Spectrum Lab / PC 2m loop aerial.				Colin Clements (23.4kHz/*21.75kHz*) 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)	
3	C2.3	3	14:08	14:10	14:15	1-					14:07	14:11	14:19	1-	14:07	14:10	14:18	1-				
3	C1.4	1													14:39	14:43	14:47	1-				
3	C2.0	1													15:00	15:05	15:07	1-				
3	C2.1	3									15:54	16:02	16:29	2	15:57	16:02	16:19	1	15:50	16:05	16:13	1
4	C1.7	1													**10:05**	**10:16**	**10:55**	**2+**				
4	C2.4	4	11:29	11:38	11:41	1-									11:29	11:36	11:45	1-				
4	C5.4	9	12:28	12:35	12:50	1	12:24	12:33	13:08	2	12:28	12:34	13:42	2+	12:28	12:35	13:06	2				
4	C1.4	1													16:05	16:06	16:19	1-				
5	C2.1	1									14:56	14:59	15:06	1-								
6	C1.8	4	10:47	10:52	11:07	1					10:46	10:53	11:17	1+	10:49	10:54	11:02	1-				
6	C1.7	4	11:50	11:53	12:05	1-					11:49	11:53	12:20	1+	11:49	11:56	12:03	1-				
6	C2.3	4	*16:20*	*16:23*	*16:33*	*1-*					16:20	16:24	16:36	1-	16:21	16:22	16:31	1-				
6	C4.5	4					17:00	17:07	17:30	1+	17:04	17:08	17:41	2	17:05	17:09	17:40	2				
6	C1.6	1																				
7	C1.7	1													**10:00**	**10:05**	**10:16**	**1-**				
7	C1.7	1													*12:06*	*12:12*	*?*	-				
7	C2.4	1													*12:25*	*12:33*	*?*	-				
7	?	1													*12:42*	*12:47*	*13:21*	*2*				
7	C2.7	1													17:49	17:53	18:03	1-				
7	C3.2	1													19:03	19:06	19:18	1-				
8	C2.2	1					06:37	06:52	06:45	1-												
8	C7.0	11	11:35	11:43	12:36	2+	11:30	11:43	12:03	2	11:34	11:41	12:14	2	11:35	11:43	12:22	2+	11:35	11:45	12:20	2
8	?	1													*12:38*	*12:41*	*12:54*	*1-*				
8	C6.4	10	13:56	13:58	14:50	2+	13:53	13:57	14:14	1	13:55	13:58	14:29	2	13:55	13:59	14:22	1+	13:56	13:58	14:28	1+
8	C7.0	9	14:58	15:05	?	-	14:56	15:06	15:25	1+	14:58	15:08	15:43	2	14:59	15:08	15:41	2	14:56	15:12	16:06	2+
9	C4.9	9	11:19	11:23	11:48	1+	11:16	11:21	11:41	1	11:20	11:22	11:47	1+	11:19	11:24	11:44	1	11:19	11:26	11:55	2
10	C2.4	2																	12:06	12:32	13:42	3
10	C5.5	7	16:19	16:22	16:35	1-	16:17	16:21	16:35	1-	16:18	16:23	17:00	2	16:18	16:22	16:41	1	16:03	16:22	16:32	1+
11	C1.3	1													**10:58**	**11:01**	**?**	**-**				
11	C3.2	8	11:09	11:16	?	-	11:07	11:14	11:23	1-	11:10	11:17	?	-	**11:09**	**11:17**	**?**	**-**	*11:09*	*11:17*	*11:27*	*1-*
11	C2.6	6	11:26	11:35	11:56	1+	11:22	11:28	12:03	2	11:27	11:32	11:58	1+	**11:27**	**11:32**	**12:24**	**2+**	*11:27*	*11:33*	*12:12*	*2*
11	C3.8	5	14:56	15:06	15:27	1+					14:55	15:06	15:44	2+	14:58	15:08	15:31	2	*14:55*	*15:10*	*15:57*	*2+*
11	C2.6	4					16:05	16:17	16:59	2+	16:16	16:18	16:36	1	16:14	16:21	16:53	2				
12	C2.7	9	12:57	13:07	13:41	2	12:55	13:05	13:42	2+	12:56	13:07	13:54	2+	*12:57*	*13:09*	*14:29*	*3*	12:47	13:12	14:31	3
12	C2.7	5	15:00	15:03	?	-					15:00	15:03	15:39	2	*15:01*	*15:03*	*15:10*	*1-*	*15:00*	*15:05*	*15:24*	*1*
13	C3.7	5	13:56	13:58	14:10	1-	13:51	13:57	14:18	1+	13:54	13:58	14:12	1-	13:56	13:57	14:23	1+				
13	**X1.2**	9	15:34	15:41	17:04	3	15:28	15:54	16:23	2+	15:34	15:38	17:27	3	15:33	15:40	16:20	2+	15:35	15:40	16:24	2+
14	C5.5	4	*07:09*	*07:21*	*?*	-					07:09	07:26	?	-	*07:13*	*07:30*	*?*	-				
14	**M1.2**	5	*07:40*	*07:45*	*?*	-					07:39	07:49	?	-	*07:39*	*07:49*	*?*	-				
14	?	1													*08:10*	*08:19*	*?*	-				
14	**X2.7**	9	08:13	08:24	10:03	3	08:05	08:22	08:43	2	08:10	08:25	10:20	3+	*08:28*	*08:30*	*09:28*	*2+*	08:17	08:26	09:34	2+
14	**M7.7**	9	11:11	11:22	12:57	3	11:05	11:17	12:02	2+	11:12	11:24	12:59	3	11:10	11:23	12:11	2+	11:11	11:22	12:38	3
14	C2.4	1													14:19	14:28	14:36	1-				
14	C1.8	1													17:50	17:56	18:04	1-				
14	**M4.7**	8	*18:05*	*18:10*	*18:55*	*2+*	18:02	18:08	18:33	1+	18:06	18:14	19:14	2+	18:05	18:08	18:55	2+	18:08	18:16	18:34	1+
15	C3.6	4									15:23	15:28	15:44	1	15:23	15:29	15:54	1+				
15	**M2.1**	8	*17:14*	*17:21*	*18:12*	*2+*	17:07	17:23	17:49	2	17:14	17:23	18:09	2+	17:14	17:19	18:10	2+	17:18	17:25	17:37	1
16	?	1					09:37	09:48	10:36	2+												
19	**M3.2**	9	08:20	08:25	09:38	2+	08:18	08:23	08:48	1+	08:21	08:25	09:27	2+	08:20	08:25	09:23	2+	08:20	08:27	09:17	2+
20	C5.3	1													*05:47*	*05:56*	*06:12*	*1*				
20	C2.7	2	10:15	10:22	10:42	1+									10:15	10:28	10:35	1				
20	C2.5	2	10:57	11:04	11:09	1-									*10:57*	*11:07*	*11:37*	*2*				
20	C2.9	7	13:07	13:12	13:18	1-					13:08	13:13	13:34	1+	13:06	13:12	13:41	2	13:08	13:18	13:42	2
21	C2.6	1													18:05	18:08	18:20	1-				
24	C5.9	9	10:31	10:35	?	-	10:27	10:31	10:57	1+	10:29	10:39	11:15	2+	10:30	10:37	?	-	10:32	10:40	11:30	2+
24	C2.1	2	10:50	10:52	11:22	1+									10:52	10:54	11:12	1				
24	C6.0	9	12:41	12:45	13:12	1+	12:35	12:42	13:22	2+	12:42	12:47	13:36	2+	12:38	12:46	13:10	1+	12:31	12:51	12:58	1+
24	C2.3	1													15:33	15:34	15:54	1				
24	C2.6	2									16:08	16:14	16:19	1-	16:08	16:14	16:22	1-				
24	C5.3	6	16:45	16:52	17:30	2					16:47	16:57	17:30	2	16:46	16:55	17:18	1+	16:28	16:46	16:58	1+
24	**M2.1**	2									20:21	20:29	21:04	2	20:20	20:25	21:07	2+				
25	**M1.7**	8	06:35	06:37	07:23	2+	06:28	06:36	07:17	2+	06:35	06:40	07:34	2+	06:34	06:38	06:55	1				
25	C6.2	9	*07:44*	*07:51*	*08:18*	*2*	07:38	07:48	08:04	1+	07:43	07:53	08:33	2+	*07:44*	*07:57*	*08:34*	*2+*	*07:34*	*07:59*	*08:39*	*2+*
25	**M3.4**	11	10:12	10:20	11:49	3	10:10	10:19	10:54	2	10:11	10:19	11:06	2+	10:11	10:17	11:13	2+	10:14	10:22	11:14	2+
25	**M8.9**	11	16:28	16:34	17:51	2+	16:27	16:33	16:58	1+	16:26	16:33	17:51	2+	16:26	16:33	17:19	2+	16:29	16:35	17:00	1+
25	C2.0	1													19:39	19:41	19:48	1-				
26	C6.5	8	*07:09*	*07:18*	*07:55*	*2+*	07:09	07:18	07:37	1+	07:11	07:20	08:32	2+	*07:10*	*07:21*	*07:37*	*1+*				
26	**M2.9**	11	*13:03*	*13:08*	*?*	-	12:58	13:07	13:28	1+	13:02	13:08	?	-	12:58	13:04	?	-	13:03	13:09	13:30	1+
26	**M1.4**	8	*13:30*	*13:37*	*13:50*	*1*	13:29	13:36	14:00	1+	13:29	13:38	15:21	3	13:31	13:38	14:24	2+	13:30	13:38	14:30	2+
27	C5.0	2	10:11	10:13	10:20	1-									10:10	10:16	10:29	1				
27	?	1													10:42	10:48	10:52	1-				
28	C1.8	1													***05:43***	***05:49***	***05:59***	***1-***				
28	C2.8	3	10:40	10:46	10:55	1-	10:40	10:46	10:57	1-					10:41	10:47	10:57	1-				
28	C2.0	5	11:43	11:49	11:56	1-	11:40	11:48	11:59	1	11:42	11:48	12:09	1+	*11:43*	*11:49*	*12:01*	*1-*				
28	C3.0	4	*16:27*	*16:30*	*16:52*	*1*					16:26	16:34	17:00	2	*16:26*	*16:32*	*16:42*	*1-*				
29	C1.4	1													18:13	18:26	19:08	2+				
30	**M3.4**	10	*06:04*	*06:11*	*07:04*	*2+*	06:00	06:14	06:37	2	06:08	06:17	07:54	3	06:07	06:19	07:04	2+	06:09	06:18	06:36	1+
30	C2.1	1													***07:01***	***07:07***	***07:17***	***1-***				
30	C3.6	8	10:49	10:57	11:22	2	10:44	10:53	11:14	1+	10:47	10:57	11:47	2+	10:49	10:59	11:39	2+	*10:19*	*11:04*	*12:13*	*3*
30	C4.2	1													18:14	18:19	?	-				
30	**M1.6**	3									18:26	18:47	19:40	2+	***18:28***	***18:35***	***19:09***	***2***				
30	?	1													18:22	18:45	19:30	2+				
31	**M2.4**	6	*05:16*	*05:19*	*05:47*	*1+*	05:14	05:18	05:48	2	05:16	05:21	05:50	2	*05:16*	*05:19*	*05:38*	*1*				
31	C5.5	3	07:01	07:09	?	-									***07:03***	***07:05***	***07:13***	***1-***				
31	C7.0	8	07:26	07:28	07:40	1-	07:23	07:28	07:40	1-	07:25	07:31	07:45	1	*07:26*	*07:29*	*07:37*	*1-*	*07:18*	*07:37*	*08:08*	*2+*
31	**M4.5**	10	08:17	08:20	09:31	2+	08:13	08:21	08:48	2	08:14	08:22	09:32	2+	08:17	08:21	09:21	2+	08:19	08:23	09:43	2+
31	C3.2	9	10:14	10:17	11:09	2+					10:12	10:16	10:52	2	10:12	10:16	10:40	1+	10:15	10:17	10:38	1
31	C2.6	1													11:36	11:44	11:50	1-				
31	C6.5	9	13:27	13:30	14:25	2+	13:26	13:29	13:37	1-	13:27	13:31	14:17	2+	13:27	13:30	14:08	2				
31	*	1													*13:37*	*13:48*	*14:13*	*2*				
31	**M2.9**	11	15:44	15:51	17:22	3	15:40	15:51	16:11	1+	15:45	15:52	17:20	3	15:43	15:46	16:11	1+	15:38	15:54	16:25	2+
31	C4.8	1													19:04	19:06	19:16	1-				

BAA Radio Astronomy Section. **2025 MAY.**

	Xray class		Steve Parkinson (Various)				Andrew Thomas (19.6kHz/*22.1kHz*)				Phil Rourke (23.4kHz)				Mark Prescott (19.6/*20.9*/**21.75kHz**)				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, mini-whip aerial.			Active	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)	
3	C2.3																					
3	C1.4																					
3	C2.0																					
3	C2.1																					
4	C1.7																					
4	C2.4		11:28	11:37	12:10	2									11:34	11:40	?	-				
4	C5.4		12:28	12:35	13:20	2+	12:27	12:35	13:02	2					12:32	12:39	13:35	2+	12:27	12:33	13:20	2+
4	C1.4																					
5	C2.1																					
6	C1.8																					
6	C1.7														**11:52**	**11:56**	**12:30**	**2**				
6	C2.3																					
6	C4.5																					
6	C1.6																					
7	C1.7																					
7	C1.7																					
7	C2.4																					
7	?																					
7	C2.7																					
7	C3.2																					
8	C2.2																					
8	C7.0		11:35	11:43	12:15	2	11:35	11:44	12:30	2+	11:36	11:42	12:43	2+	11:38	11:46	12:30	2+	11:35	11:43	13:00	2+
8	?																					
8	C6.4		13:56	13:58	14:15	1	13:54	13:58	14:34	2					13:59	14:02	14:45	2+	13:56	13:58	14:40	2
8	C7.0		14:59	15:07	15:35	2	14:59	15:08	15:44	2					15:02	15:11	15:45	2	14:48	15:08	15:50	2+
9	C4.9		11:19	11:22	11:50	1+	11:20	11:24	12:07	2+					11:22	11:29	12:30	2+	11:18	11:22	12:30	2+
10	C2.4														**12:07**	**12:32**	**13:28**	**2+**				
10	C5.5		16:18	16:23	16:50	1+																
11	C1.3																					
11	C3.2		11:10	11:18	12:12	2+	11:08	11:26	12:06	2+					11:12	11:20	?	-				
11	C2.6														11:29	11:34	12:20	2+				
11	C3.8		14:57	15:05	15:24	1+																
11	C2.6		16:15	16:18	16:30	1-																
12	C2.7		12:56	13:12	13:48	2+	12:57	13:10	13:43	2+					12:59	13:15	14:00	2+	12:55	13:10	14:00	2+
12	C2.7		15:00	15:03	15:18	1-																
13	C3.7						13:54	13:59	14:20	1+												
13	**X1.2**		15:34	15:40	16:50	2+					15:33	15:39	17:59	3+	15:37	15:44	17:15	3	15:33	15:43	17:10	3
14	C5.5						07:10	07:24	07:39	1+												
14	**M1.2**		07:40	07:48	?	-	07:39	07:46	08:07	1+												
14	?																					
14	**X2.7**		08:11	08:17	09:50	3	08:07	08:26	10:30	3+					08:19	08:29	09:50	3	08:15	08:18	09:55	3
14	**M7.7**		11:11	11:20	12:30	2+	11:08	11:20	12:57	3					11:14	11:27	?	-	11:10	11:18	13:00	3
14	C2.4																					
14	C1.8																					
14	**M4.7**		18:06	18:14	19:10	2+	18:05	18:12	18:32	1+					*18:11*	*18:16*	*19:05*	*2+*				
15	C3.6		15:23	15:28	15:50	1+									*15:27*	*15:34*	*16:10*	*2*				
15	**M2.1**		17:15	17:23	18:05	2+									*17:20*	*17:30*	*18:25*	*2+*	17:15	17:23	18:05	2+
16	?																					
19	**M3.2**		08:20	08:26	09:40	2+					08:18	08:24	09:32	2+					08:20	08:25	09:55	3
20	C5.3																					
20	C2.7																					
20	C2.5																					
20	C2.9		13:06	13:11	13:40	2	13:04	13:11	13:33	1+					*13:10*	*13:17*	*14:00*	*2+*				
21	C2.6																					
24	C5.9		10:30	10:34	11:15	2	10:28	10:37	11:32	2+					10:33	10:45	11:30	2+				
24	C2.1																					
24	C6.0		12:39	12:45	13:15	2	12:38	12:45	13:24	2+					12:44	12:48	13:40	2+				
24	C2.3																					
24	C2.6																					
24	C5.3		16:46	16:54	17:15	1+																
24	**M2.1**																					
25	**M1.7**		06:33	06:38	07:28	2+	06:28	06:38	07:14	2+					*06:38*	*06:43*	*07:20*	*2*				
25	C6.2		07:42	07:55	08:30	2+	07:43	07:52	08:26	2					*07:48*	*08:05*	*08:35*	*2+*				
25	**M3.4**		10:12	10:22	11:30	2+	10:13	10:20	11:45	3	10:12	10:19	11:48	3	10:15	10:24	11:30	2+	10:12	10:20	12:05	3
25	**M8.9**		16:27	16:35	18:00	3	16:29	16:36	17:51	2+	16:27	16:33	18:05	3	16:32	16:38	17:30	2+	16:28	16:35	17:55	3
25	C2.0																					
26	C6.5		07:10	07:20	08:00	2+	07:12	07:18	07:58	2+					*07:15*	*07:23*	*08:15*	*2+*				
26	**M2.9**		13:00	13:11	14:08	2+	12:57	13:29	14:36	3	13:01	13:07	?	-	13:05	13:13	?	-	13:00	13:08	15:10	3+
26	**M1.4**										?	13:37	15:04	-	13:34	13:40	14:30	2+				
27	C5.0																					
27	?																					
28	C1.8																					
28	C2.8																					
28	C2.0														*11:47*	*11:51*	*12:35*	*2+*				
28	C3.0																					
29	C1.4																					
30	**M3.4**						06:08	06:15	07:12	2+	06:03	06:15	07:02	2+	06:12	06:20	07:02	2+	06:12	06:17	07:25	2+
30	C2.1																					
30	C3.6		10:47	11:00	11:40	2+	10:49	10:56	11:48	2+					10:52	11:02	11:40	2+				
30	C4.2																					
30	**M1.6**		18:29	18:46	19:05	2																
30	?																					
31	**M2.4**						05:17	05:20	05:36	1												
31	C5.5																					
31	C7.0						07:24	07:28	07:58	2					*07:29*	*07:36*	*08:04*	*2*				
31	**M4.5**		08:16	08:23	09:45	3	08:17	08:22	09:46	3	08:15	08:20	09:38	2+	08:20	08:26	09:35	2+				
31	C3.2		10:13	10:17	11:00	2+	10:12	10:17	10:49	2					10:16	10:19	10:55	2	10:13	10:18	11:10	2+
31	C2.6																					
31	C6.5		13:28	13:30	13:35	1-	13:27	13:33	14:17	2+					13:31	13:44	14:10	2	13:28	13:30	14:40	2+
31	*																					
31	**M2.9**		15:44	15:52	16:32	2+	15:44	15:52	17:14	3	15:42	15:52	17:39	3	15:47	15:56	16:40	2+	15:43	15:57	17:05	2+
31	C4.8																					

BAA Radio Astronomy Section. **2025 MAY.**

	Xray class		Chris Bailey			Colin Briden											
			Spectrum Lab.			Spectrum Lab. Frame aerial.			1.2m								
DAY			START	PEAK	END (UT)	START	PEAK	END (UT)		START	PEAK	END (UT)	START	PEAK	END (UT)	START	PEAK	END (UT)
3	C2.3																
3	C1.4																
3	C2.0																
3	C2.1																
4	C1.7																
4	C2.4																
4	C5.4					12:30	12:36	12:48	1-								
4	C1.4																
5	C2.1																
6	C1.8					10:47	10:53	11:06	1								
6	C1.7																
6	C2.3					16:21	16:24	16:28	1-								
6	C4.5					17:06	17:10	17:15	1-								
6	C1.6					17:45	17:49	17:53	1-								
7	C1.7																
7	C1.7																
7	C2.4																
7	?																
7	C2.7																
7	C3.2																
8	C2.2																
8	C7.0					11:35	11:44	11:57	1								
8	?																
8	C6.4					13:57	13:59	14:04	1-								
8	C7.0																
9	C4.9																
10	C2.4																
10	C5.5					16:19	16:21	16:27	1-								
11	C1.3																
11	C3.2																
11	C2.6																
11	C3.8																
11	C2.6																
12	C2.7																
12	C2.7																
13	**X1.2**																
14	C5.5																
14	**M1.2**																
14	?																
14	**X2.7**																
14	**M7.7**																
14	C2.4																
14	C1.8																
14	**M4.7**																
15	C3.6																
15	**M2.1**																
16	?																
19	**M3.2**					08:20	08:27	09:10	2+								
20	C5.3																
20	C2.7																
20	C2.5																
20	C2.9																
21	C2.6																
24	C5.9					10:32	10:38	10:53	1								
24	C2.1																
24	C6.0					12:41	12:47	12:58	1-								
24	C2.3																
24	C2.6																
24	C5.3					16:45	16:53	17:03	1-								
24	**M2.1**																
25	**M1.7**					06:35	06:40	06:55	1								
25	C6.2					07:44	07:52	08:08	1								
25	**M3.4**					10:13	10:22	10:42	1+								
25	**M8.9**					16:26	16:35	16:49	1								
25	C2.0																
26	C6.5					07:05	07:18	07:30	1								
26	**M2.9**					13:02	13:08	?	-								
26	**M1.4**					?	13:38	13:55	-								
27	C5.0																
27	?																
28	C1.8																
28	C2.8																
28	C2.0																
28	C3.0					16:28	16:33	16:42	1-								
29	C1.4																
30	**M3.4**					06:05	06:10	06:49	2								
30	C2.1																
30	C3.6																
30	C4.2																
30	**M1.6**																
30	?																
31	**M2.4**					05:17	05:21	05:29	1-								
31	C5.5					06:59	07:07	07:14	1-								
31	C7.0					07:25	07:31	07:43	1-								
31	**M4.5**					08:17	08:24	09:08	2+								
31	C3.2					10:14	10:18	10:24	1-								
31	C2.6																
31	C6.5					13:28	13:31	?	-								
31	*																
31	**M2.9**					15:43	15:51	16:08	1								
31	C4.8																