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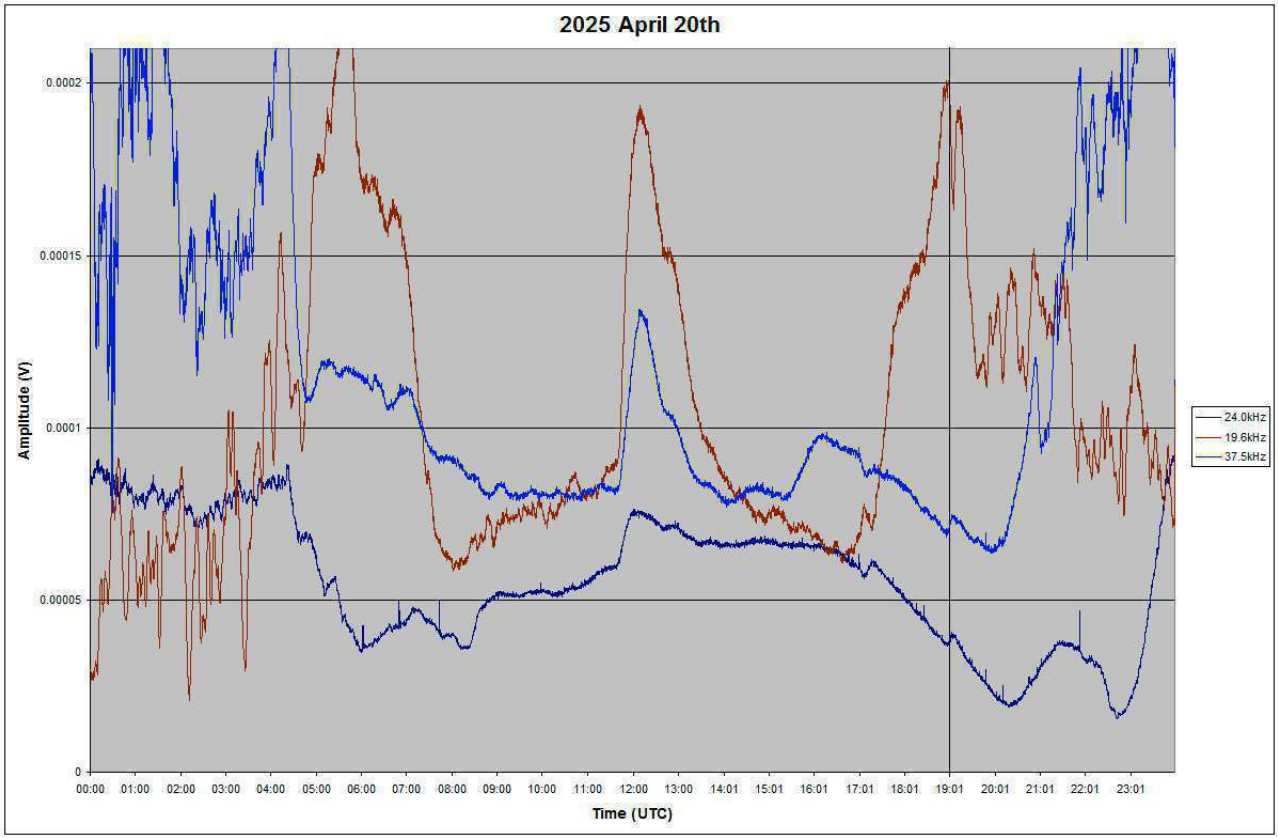
BAA Radio Astronomy Section. Director Paul Hearn.

RADIO SKY NEWS 2025 APRIL.

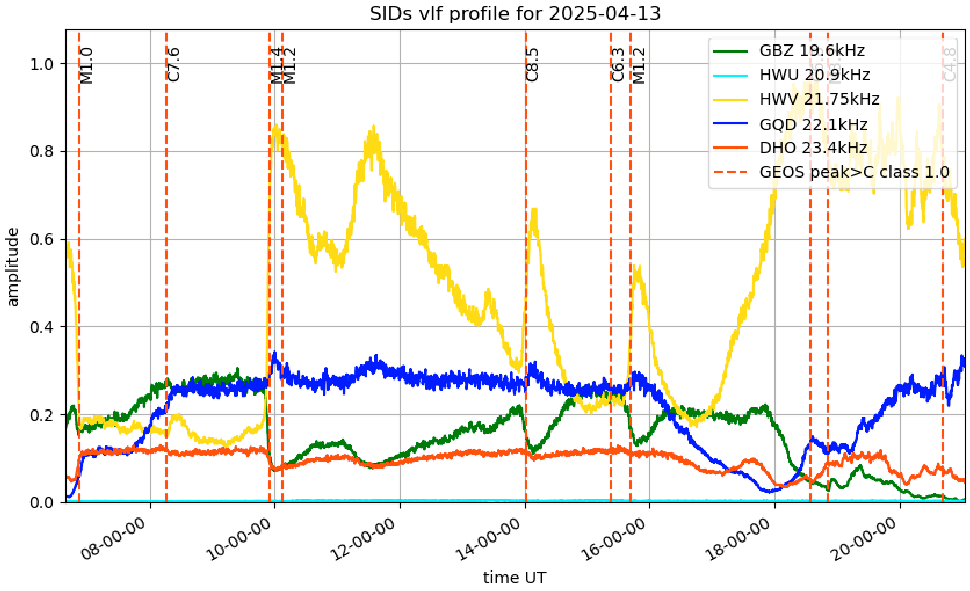
VLF SID OBSERVATIONS.

Solar flaring activity increased slightly in April, with 88 SIDs recorded. The flare strength was however much greater, 27% being M-class compared with 11% in March. There were no X-class flares shown in the SWPC satellite data. We often record a few unlisted SIDs, but three observers noted an unusual SID at 19:00UT on the 20th.

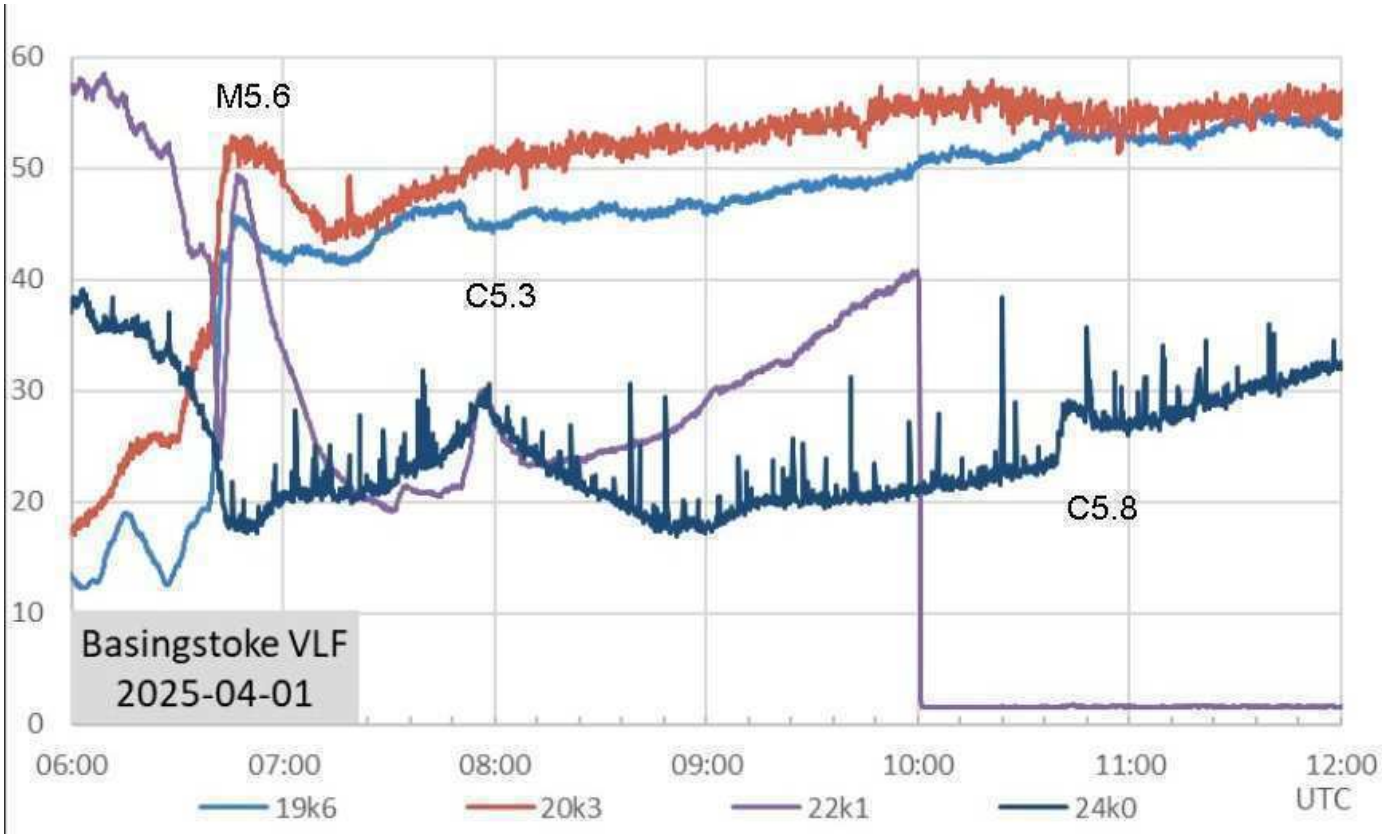


Mark Edwards has added a vertical black line onto his chart to show the alignment of all three signals peaking at 19:07UT. The source is unknown as it does not show in any of the X-ray lists. The strong M1.0 flare at midday also shows well on all of the signals, as does the smaller C4.3 flare at 17:18.

There was also a series of unlisted flares on the 13th, although these did have a solar origin. Mark Prescott's recording shows a strong SID at 11:32UT:

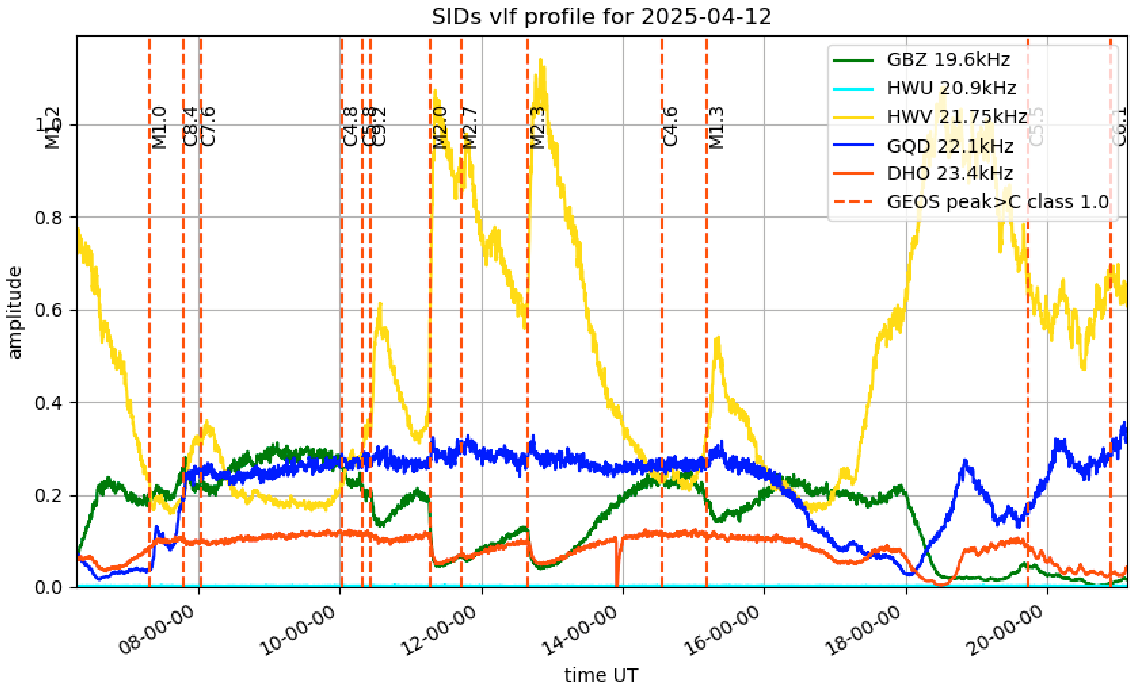


Comparing with the other SIDs shown, it could easily be a large C-class or small M-class flare. Smaller SIDs can also be seen either side on the 21.75kHz signal, with less clear effect at 19.6kHz.

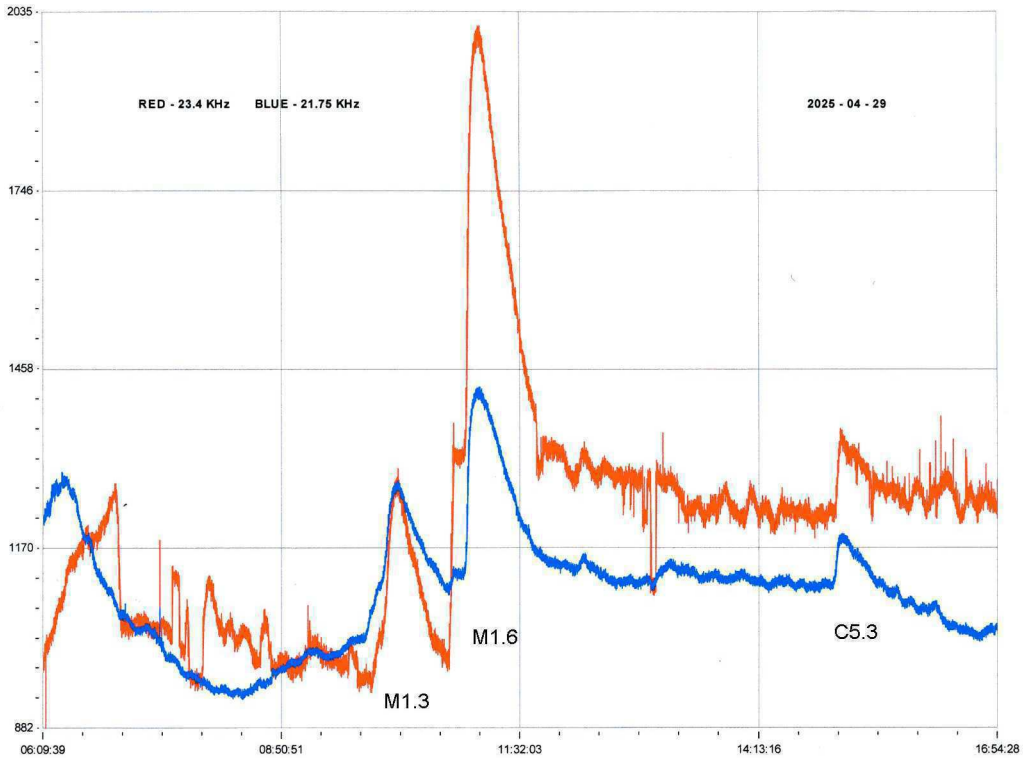


The strongest flare in April was the M5.6, peaking at 06:47UT on the 1st. Paul Hyde's recording shows a strong response on most of the signals, although it was rather early for the 24kHz Trans-Atlantic signal. The small dip shown is mostly from the sunrise at its reflection point. The two C-flares do show at 24kHz, although the C5.3 at 08:00 has produced an unusual shape. The later C5.8 is more typical. Following this burst of activity at the start of the month, we recorded mostly much weaker flares over the next week, and then the 8th showed no flaring at all.

Activity increased again on the 12th, shown in this recording by Mark Prescott:

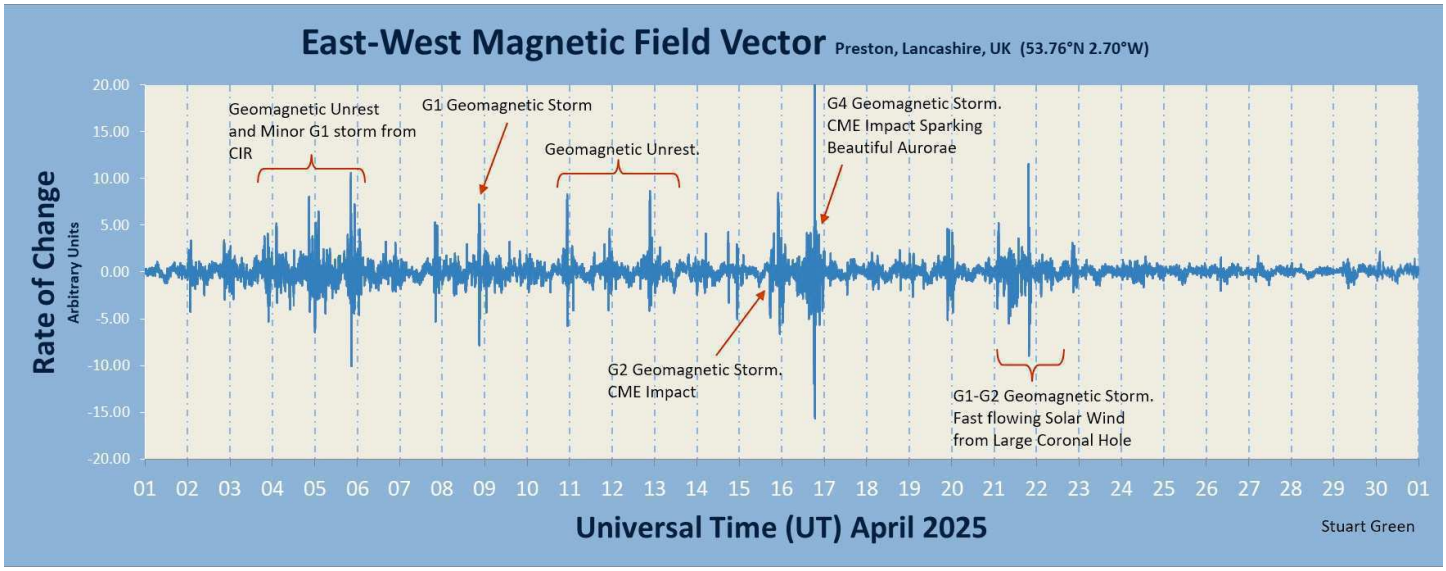


Three strong M-flares have produced overlapping SIDs around midday, with a small unclassified flare clearly seen at 12:05UT on the 21.75kHz signal. The 23.4kHz signal shows a very sharp drop-out just before 14:00, an effect that seems to occur frequently on this signal. Mark Edwards noticed that from 12 to 16UT the 24kHz signal precisely matched the GOES short wavelength X-ray data, something not often seen.

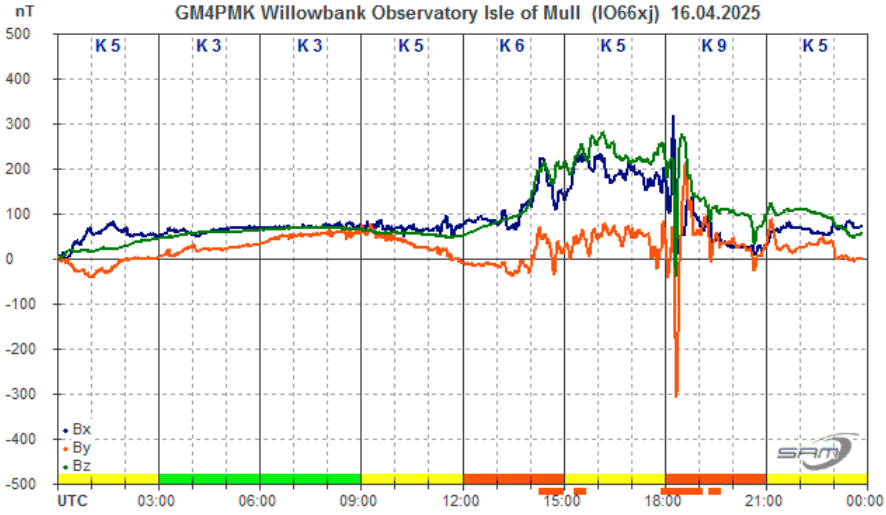


This recording from Colin Clements shows another burst of stronger flaring on the 29th. The SID from the M1.6 flare shows an unusual rise on both signals, an effect not seen on other recordings, and so may be from local interference.

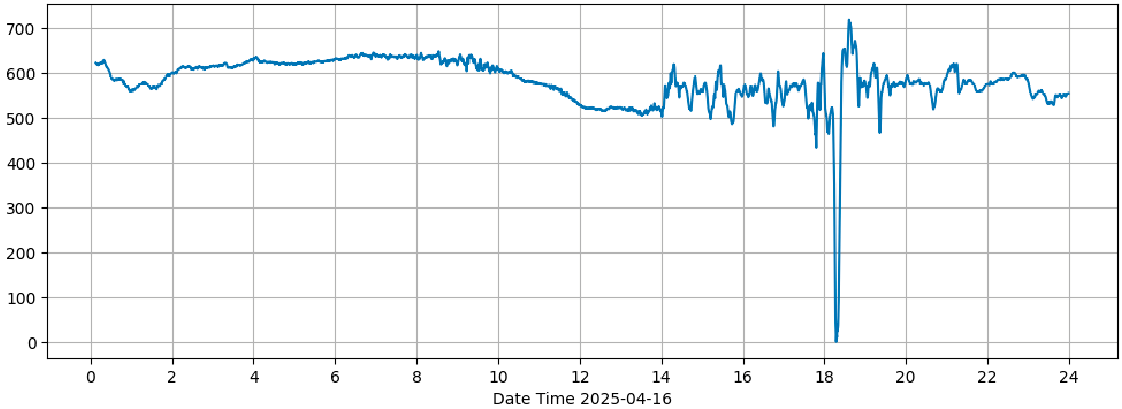
MAGNETIC OBSERVATIONS.



Stuart Green's chart of the month's magnetic activity shows plenty of disturbance during most of April, with a very flat period in the last week.



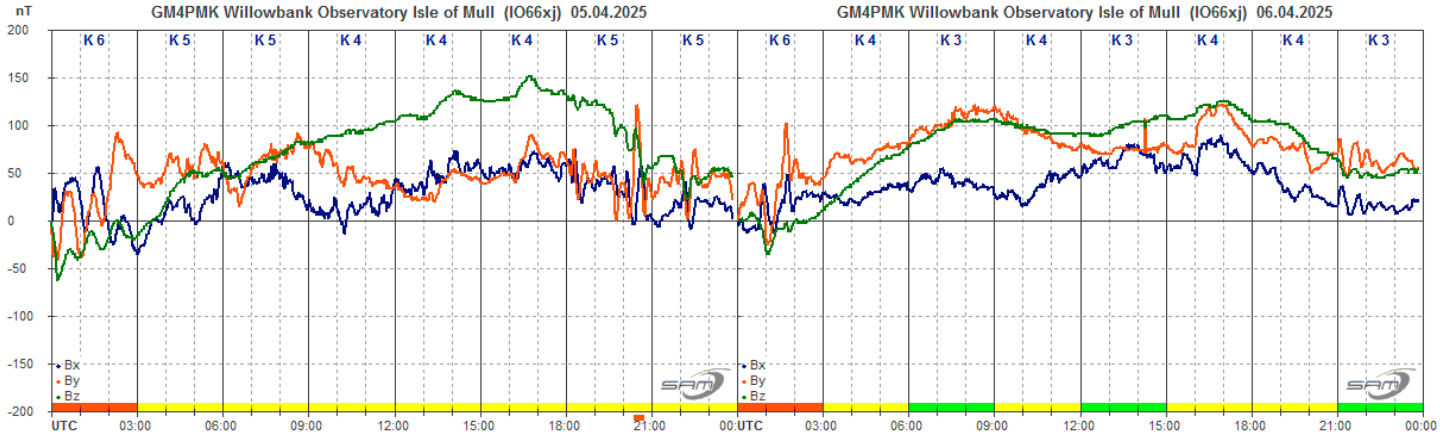
Wasbister Magnetometer (59.17N,3.06W)



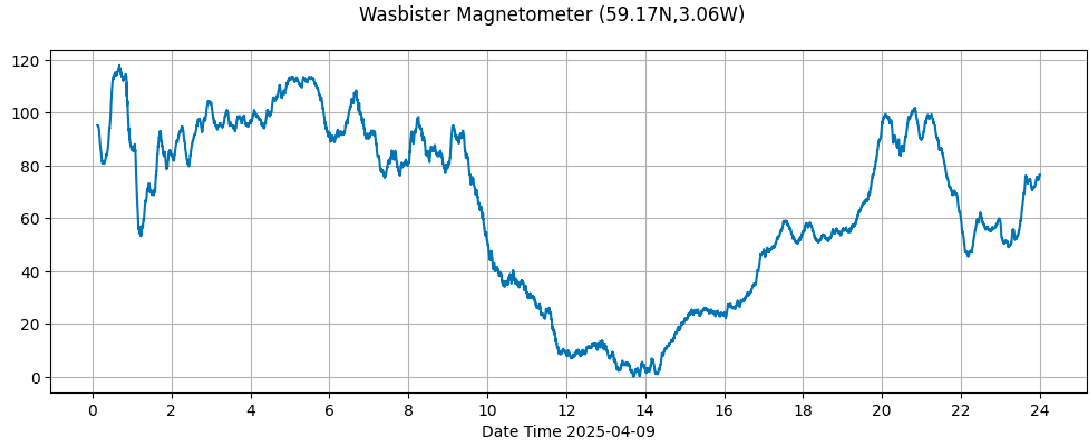
Recordings by Roger Blackwell and Callum Potter on the 16th both show a strong spike at about 18:15UT, with a magnitude of about 500nT. Callum Potter's shows a more distinct impulse at 14:00, marking the start of the disturbance.

There was a series of filament eruptions on the 12th and 13th with CMEs shown in the satellite data. This disturbance appears to be related to these CMEs, as they were the only ones Earth-directed at this time. The disturbance was quite strong, Stuart Green indicating that aurora were seen.

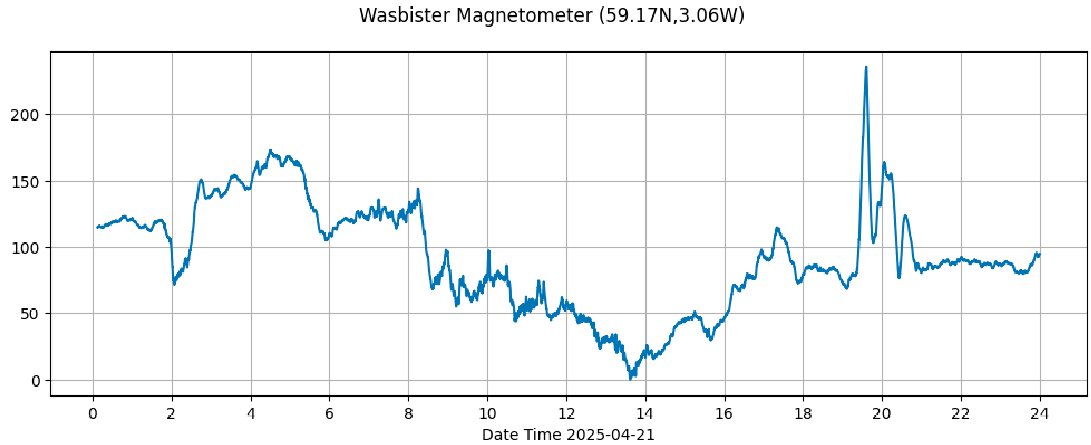
There were disturbances through most of the month, the first three weeks being the most active. Roger Blackwell's recording over the 5th and 6th shows some of this:



The 9th was also quite active, shown in Callum Potter's recording:



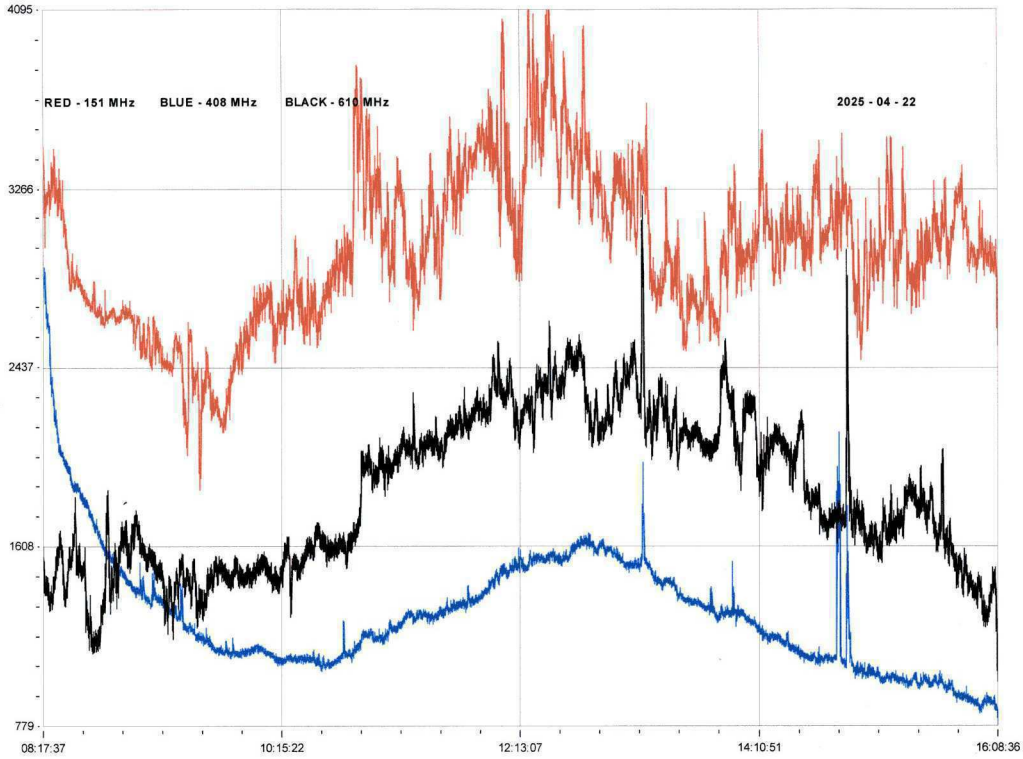
A final active period was recorded on the 21st from a coronal hole high speed wind. Coronal holes usually appear mostly during periods of lower solar activity, perhaps indicating that solar cycle 25 is now on the decline.



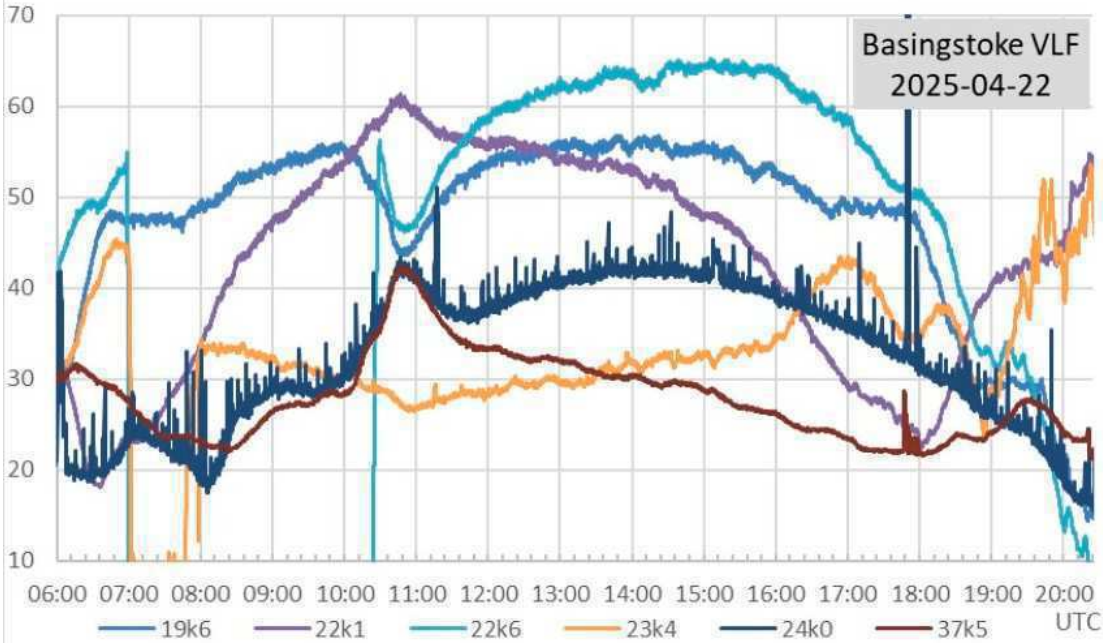
Magnetic observations received from Roger Blackwell, Stuart Green, Callum Potter, and John Cook.

SOLAR EMISSIONS

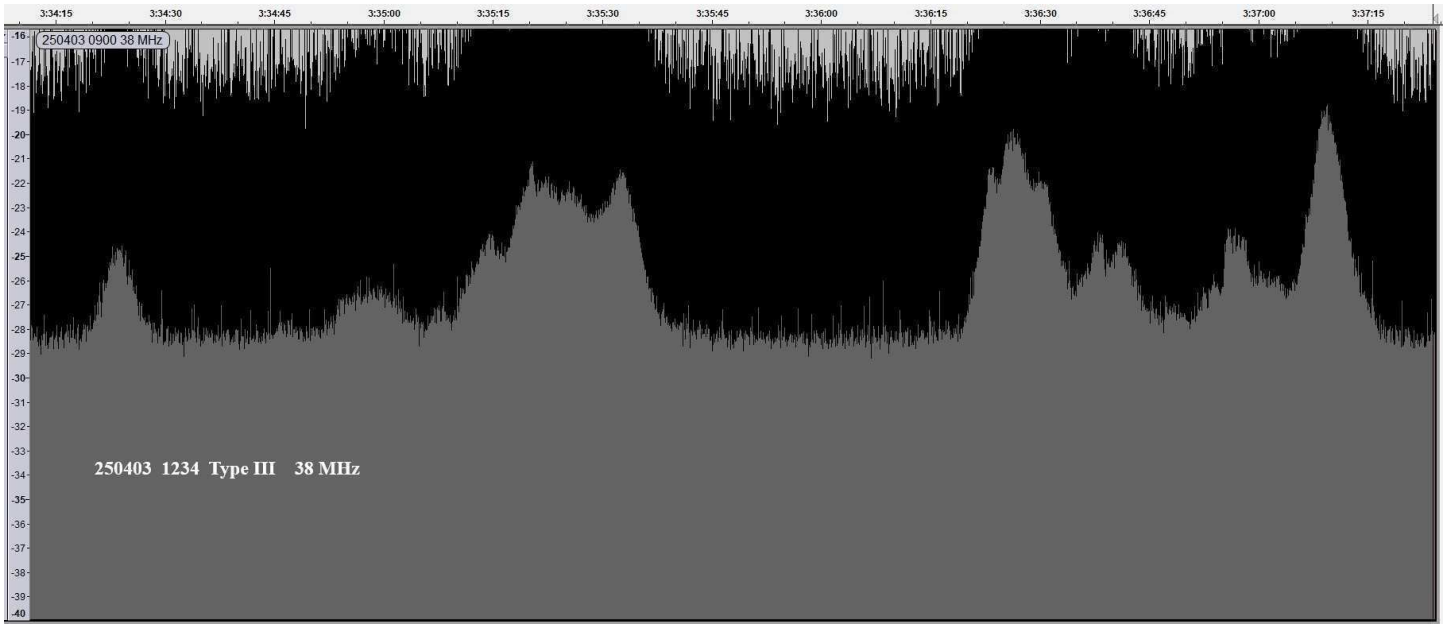
The M1.3 flare on the 22nd was widely observed as a SID, with a peak timing at 10:45UT. Colin Clements also recorded significant VHF / UHF noise over an extended period around this peak, shown in his recording:

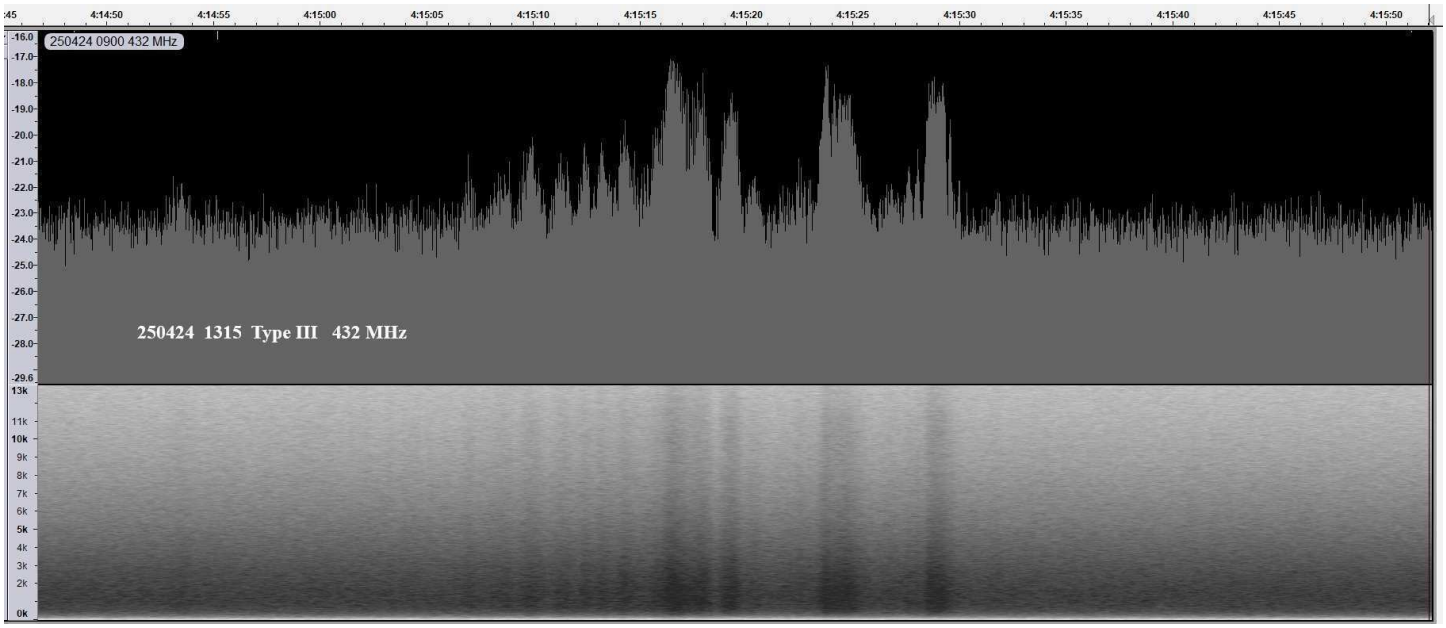


This timing does not match the X-ray peak of 08:29UT in the SWPC satellite listing. Paul Hyde's VLF recording shows an unusual SID shape on the 22.1kHz signal:



It is not at all clear whether this is related. Most of the other signals have a rather symmetrical shape around the peak, while 23.4kHz appears to show a double minimum within a long dip. There are just a few unclassified events in the X-ray data following its entry at 08:29. Colin also recorded smaller noise associated with the C3.2 and C4.9 flares on the 14th.



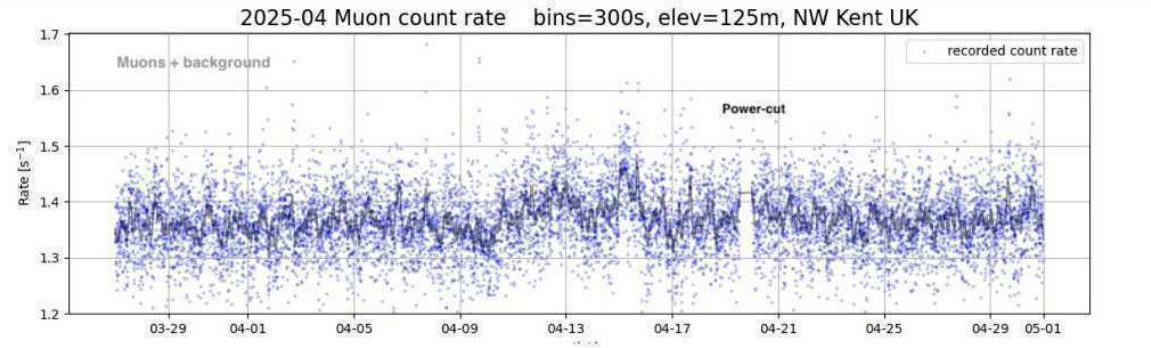


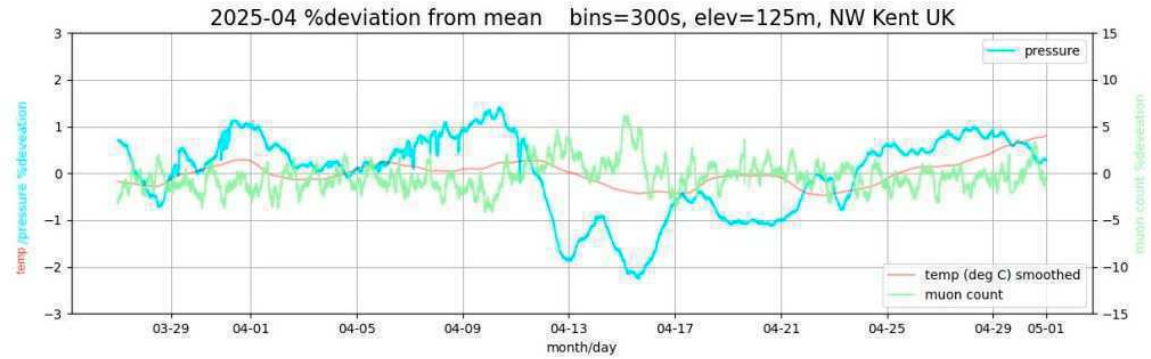
Colin Briden made a 38MHz recording of a type III noise burst at 12:34 on the 3rd, shown in the top recording. The chart runs for 3.5 minutes, the noise peaks being 6 to 8dB above the noise floor. The second recording starts at 13:15UT on the 24th, and was made at 432MHz, at the lower end of the amateur 70cm band. It also shows a type III noise burst, but this recording only lasts for about 45 seconds. It also has an amplitude of about 6 to 8dB. The lower part of the chart covers a bandwidth of 13kHz. Neither of these match with events that we have recorded as SIDs.

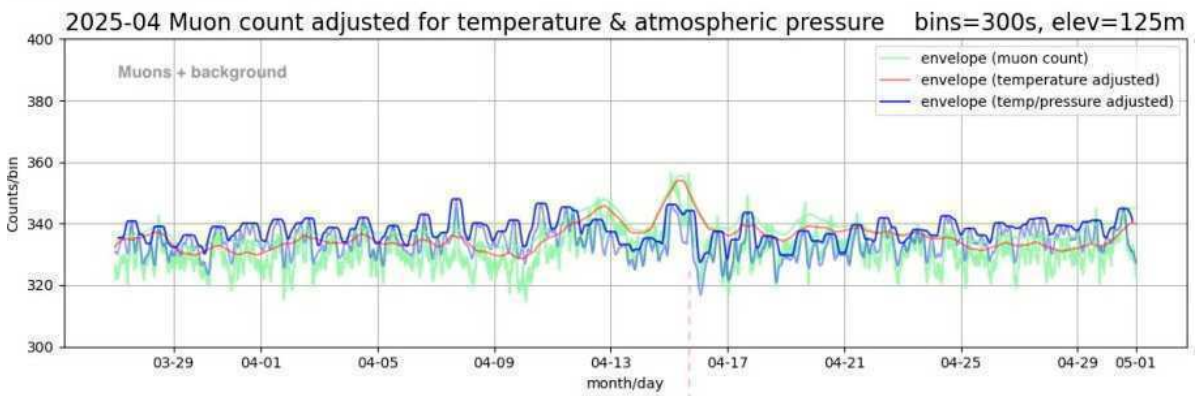
MUONS

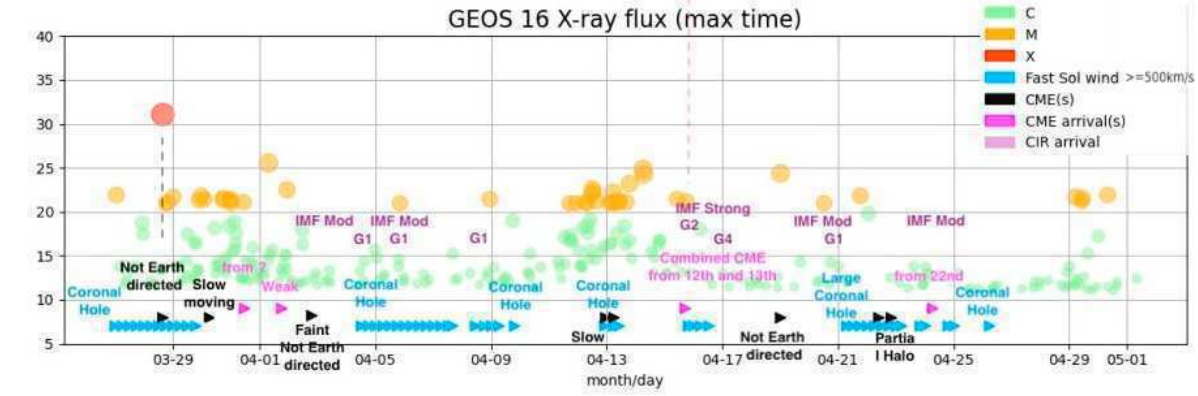
Mark Prescott's muon recordings show a fairly flat count for most of April, with a noticeable increase from the 10th to 17th. There was a large drop in atmospheric pressure over this period, along with an increase in the solar flaring on the 11th to 13th. The temperature / pressure corrected chart shows a small increase in muon flux from the 10th to 13th and on the 15th, followed by a distinct drop on the 16th matching the CME

impacts. The corrected chart then shows a flat count for the rest of the month. There is a small gap during a power cut on the 20th.

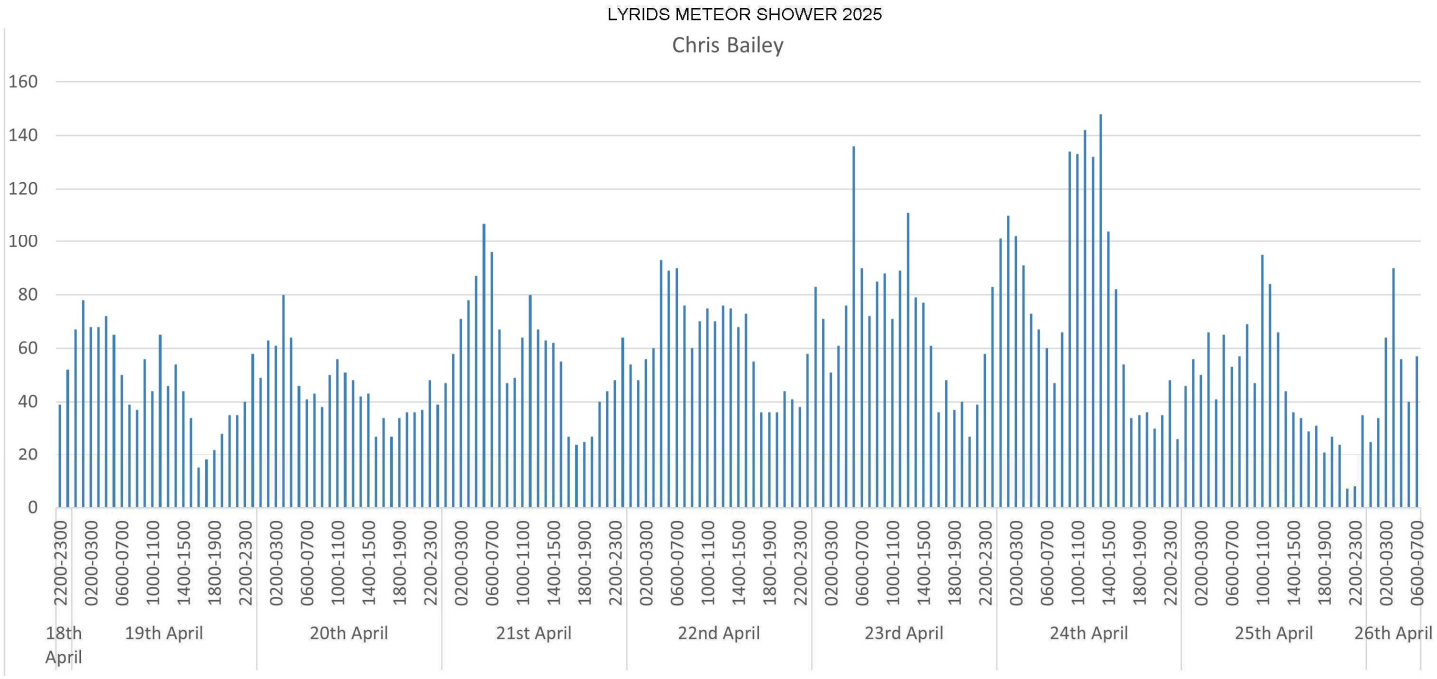




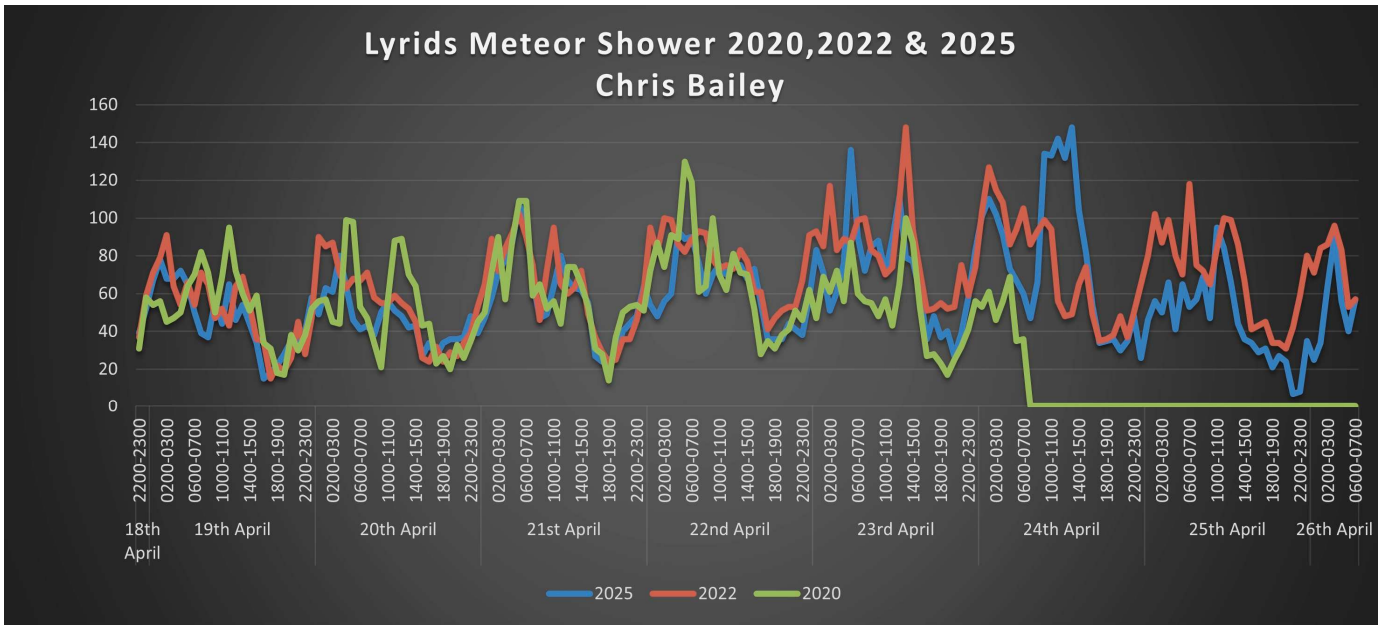




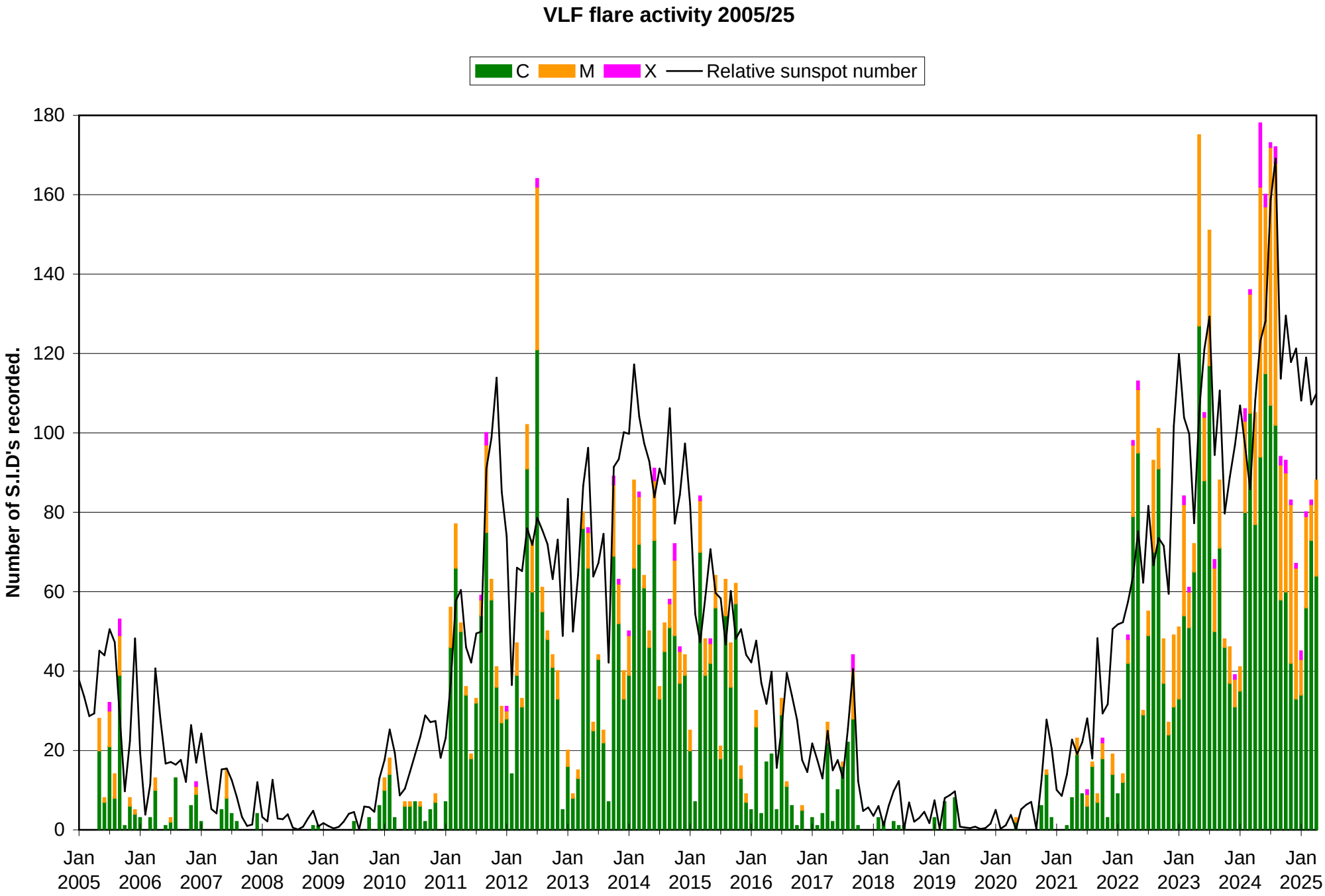
METEORS



Chris Bailey monitored the April Lyrid meteors using the GRAVES signal. His recording shows slowly increasing counts from the 18th reaching a peak on the 23rd and 24th. There seems to be two activity peaks on each day, the first in the early morning followed by the second in the early afternoon. This may be due to the geometry of the activity and the signal source.



Comparing activity in 2020, 2022 and 2025 shows similar rates, although the 2020 data stops on the 24th. The 2020 peak also seems to be a day earlier, on the 22nd compared to the 23rd in 2022. 2022 shows less of the morning / afternoon split in activity compared to 2020 and 2025.


VLF flare activity 2005/25
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

BAA Radio Astronomy Section.

BARTELS DIAGRAM

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

2575

	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	16
F	CCC	CC	CC	CC	CCM	CC	CC	CC												CC	CCMC	C		C	CCCC		C

2258 | 2022 June

2576

	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	13
F	CCCC	CCC	C	CC	C	CC	CC	C	C								BC	C	CC			M	CCCC	CCCC	CM	CCCC	CCC

2259 | 2022 July

2577

	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	9
F	CMCM	CCC	MCM	CCCC		C	CCCC			CCCC	C		C	C						CC	C			CC				

2260 | 2022 August

2578

	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	5
F		C	CC	CCCC	C	CMMM	MCC	CCMM	CMMM	MCCC		C	C			CCCM	CMMM	CMMM	CCMM	CMMM	CCCM		CC	CCCC	CCCC	CCCC	CCMC

2261 | 2022 September

2579

	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	2
F	CC				C	CCCC	CCCC	CCCC	MCCC		MM	M	CC	C	MCCC	M	CCCC	CCCM	CCCC		CCC	CCCC		CC	CCCC	CCCC	CMMC

2262 | 2022 October

2580

	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	29
F	CMMM	M	C		CM	C	CCCC	CM	MMCC	CC	C	M	C	C		C		CC		CB		CC	C	C			

2263 | 2022 October | 2022 November

2581

	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	25
F								C	C			C	MCCM	CC	C	C	CCC	CC	CC	CCC	M			CCC			

2264 | 2022 December

2582

	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	22
F				C			C	M				C				C			MMMM	CMCM	MMMC		CC	CCC	M	C	C

2265 | 2023 January

2583

	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	18
F	CC	C		CCC	CM		CM	CCCM	C							CC	MCCM	MM	MCMM	MC	MCMC	MC	CCC	CM	C		MC

2266 | 2023 February

2584

	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	14
F	MMC	CC	CC	CMCM	C	CCC	MCM	CMCC		C		C	CC		C		C	C	C	CC	CM	MMMM	MCCM	MMXM	MMMM	CCCM	CCM

2267 | 2023 March

2585

	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	13
F	CCCC	C	CX	C	CC	CMCC	MCCM	CCCM	CMCC	CCM	CCMM	CC	CC		CC	CCCC	MCCX	CMMC	CCMC	MCCC	C	MC	CCC	CCCC	C		

2268 | 2023 April

2586

	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	9
F	C		C	CCCM	C	CCC	C	C			C		CC	CCC	CC	MC	M	CC					CCC	MC		CC	CCCC

2269 | 2023 May

2587

	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	6
F	MCCC	MC	CCC	CCCC	CCMC	CCCC	C	CC	CCC	CCC	CCCC	M	CC				C	M	CC	CCCC	CCM	CCMC	CCCC	MMMM	MCCC	CMM	CC

2270 | 2023 June

2588

	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	2
F	C	CCCM	MCMM	MCCC	MCCM	CCCC	CCCC	C	C	CCCM	CCCC	MMMM	MCCM	MMMM	CCCM	CCMC	CCMC	MCCM	CCMC	CCC	CCC	MC	C	MMMC	CMCM	CCCC	CC

2271 | 2023 July

2589

	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	29
F	CC	CCCC	C	CCCC	CMCC	CC	CM	C		CCCC	CCCC	CC	CC	MCMM	CC	M	MC	CCMX	CMMC	CMCC	C	CCMC	CCCC	CCMC	CMCC	MCC	CCCM

2272 | 2023 August

2590

	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	26
F	CCCC	CCCC	CCCC	MCCC	MC	CCCM	CCM	MC	C	CCC	CCCC	MMMM	MMCC	CCCM	MCCC	MMMC	MCMM	CCC	MMMM	CMCM	C	C	CC	CC	C	CCCM	CMCM

2273 | 2023 September

2591

	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	CMCC	CMCC	CCCM	MC	CMCC	MMMM	MMMM	CMCC	CC	MMCX	CM	CMMX	MC	C		CCCC	CCCC	C		C	CC	CCC		C	CC	CC	

2274 | 2023 October

2592

	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	18
F	CCC	C	C	C				C			MC	MCC	CC	MCC	CCCC	CCM	CCC	C	C	CCCM	MCCC	C	CCM	C	CC	C	C

2275 | 2023 November

2593

	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	15
F	MCCC	CMCC	M	CCMM	CCCC	CCMC	C	CC		MCC	CCC	CCCM	CCCC	CCM	CCCC	C	C	CC	CC	CC	CCC	CMCC	CC			C	C

2276 | 2023 December

2594

	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	CCC			C	C					CC	CC			CCCC		MCM	CCM			MCM	C		C	C	C	CCC	

2277 | 2024 January

2595

	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	8	9
F	C	CCCC	C			CM	CC	MCCC	CCCC		CCMC	MC		C				C		CC			CCC	C			MCM

2278 | 2024 February

2596

	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	5
F	CCC	CCCC	CC	C	MMX	MCCM	CC	C	C						MM							C	CCCC	M			

2279 | 2024 March

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

2280 | 2024 April

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

2281 | 2024 May

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

2282 | 2024 June

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	CCCM	CMCC	MCCC	CCCC	MMM	MMMM		

2283 | 2024 July

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

2284 | 2024 August

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

2285 | 2024 September

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

2286 | 2024 October

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	MMXX	CCCC	CCMM	MMMX

2287 | 2024 November

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

2288 | 2024 December

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

2289 | 2025 January

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

2290 | 2025 February

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	

2291 | 2025 March

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	

2292 | 2025 April

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

2293 | 2025 May

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

2294 | 2025 June

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

2295 | 2025 July

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	

2296 | 2025 August

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	C	CC		C		MMMC	CMC					

2297 | 2025 May

BAA Radio Astronomy Section. **2025 APRIL.**

	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*/**37.5kHz**) 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)	
1	**M5.6**	4	*06:41*	*06:48*	*07:13*	*1+*	06:40	06:45	06:50	1-	06:42	06:47	07:26	2	*06:37*	*06:48*	*07:15*	*2*				
1	*	1									07:32	07:35	07:44	1-								
1	C5.3	3					07:47	07:56	08:19	1+	07:50	07:57	08:12	1	*07:51*	*07:58*	*08:12*	*1*				
1	C5.8	8	10:39	10:43	11:24	2					10:39	10:44	10:59	1	10:39	10:44	10:58	1				
1	C2.1	1													15:02	15:05	15:13	1-				
1	C3.5	2									16:48	16:53	17:01	1-	16:49	16:54	17:06	1-				
2	C2.0	1													***10:17***	***10:23***	***10:35***	***1-***				
2	C8.0	9	10:48	10:55	?	-	10:49	10:56	11:14	1	10:44	10:56	?	-	10:48	11:03	?	-	10:50	11:01	11:22	1+
2	C6.2	6	11:20	11:25	11:45	1	11:17	11:27	11:46	1+	11:21	11:29	12:13	2+	11:13	11:31	12:00	2+	11:22	11:29	11:37	1-
2	C2.2	4	14:30	14:31	14:40	1-	14:26	14:32	14:37	1-					***14:30***	***14:32***	***14:47***	***1-***				
3	C2.3	1					08:20	08:24	08:29	1-												
3	C3.4	2	09:13	09:14	09:18	1-	09:11	09:15	09:18	1-												
3	C2.0	1													10:24	10:30	10:33	1-				
4	C3.3	2	10:23	10:27	10:33	1-	10:06	10:25	10:51	2												
4	C2.2	2									13:26	13:30	13:39	1-	13:27	13:29	13:36	1-				
4	C4.4	7	14:42	14:44	14:58	1-	14:36	14:46	15:01	1	14:40	14:48	15:05	1	14:42	14:47	15:09	1+	14:38	14:45	15:07	1+
5	C2.9	1					07:07	07:13	07:17	1-												
6	C2.9	1													15:52	15:56	16:12	1				
7	C2.7	1					06:42	06:47	06:55	1-												
7	C3.0	2									15:00	15:05	15:20	1	***15:00***	***15:08***	***?***	***-***				
7	C3.4	1													***15:12***	***15:15***	***?***	***-***				
7	C5.3	3					15:29	15:34	15:43	1-	15:31	15:36	16:09	2	***15:30***	***15:37***	***15:55***	***1***				
9	C2.7	2													12:24	12:34	12:51	1+				
9	C2.1	1													***15:04***	***15:09***	***15:19***	***1-***				
9	C9.0	2									17:28	17:34	18:04	2	17:27	17:33	17:53	1+				
10	C5.3	3	*07:51*	*07:56*	*08:05*	*1-*					07:50	07:54	08:05	1-	***07:49***	***07:58***	***08:04***	***1-***				
10	C2.7	1									08:16	08:21	08:31	1-								
10	C3.7	3	*16:45*	*16:49*	*17:04*	*1*					16:42	16:54	17:19	2	16:44	16:50	17:14	1+				
11	C4.4	2					07:03	07:13	07:37	2					*07:11*	*07:17*	*07:24*	*1-*				
11	C3.7	7	08:23	08:32	08:55	1+	08:21	08:29	08:48	1+	08:22	08:33	08:54	1+	*08:28*	*08:32*	*08:53*	*1*	07:53	08:20	08:32	2
11	C2.4	3					09:43	09:57	10:13	1+	09:51	09:58	10:07	1-	09:51	09:58	10:09	1-				
11	C7.2	9	11:57	12:18	?	-	11:41	12:13	12:58	2+	11:58	12:19	12:49	2+	11:57	12:20	12:49	2+	11:59	12:19	12:51	2+
11	C4.1	7	13:37	13:40	15:02	2+	13:33	13:38	13:54	1	13:36	13:40	13:57	1	13:37	13:41	13:54	1-	*13:35*	*13:41*	*14:11*	*2*
11	C7.4	4									16:21	16:28	?	-	16:21	16:28	?	-	16:21	16:28	16:35	1-
11	**M1.0**	5									16:35	16:52	?	-	16:35	16:47	17:28	2+	16:35	16:44	16:52	1-
11	C6.8	1													18:45	18:51	19:05	1				
12	**M1.2**	1					05:36	05:45	05:49	1-												
12	**M1.0**	5					07:11	07:19	07:30	1	07:17	07:22	?	-	07:17	07:21	?	-	07:13	07:22	07:32	1
12	C8.4	3									07:36	07:53	08:28	2+	07:35	07:51	08:27	2+	07:32	07:42	07:52	1
12	C7.6	2													*07:56*	*08:04*	*?*	-				
12	?	2									08:40	08:44	09:00	1	*08:41*	*08:44*	*08:56*	*1-*				
12	C4.8	2	09:58	10:07	?	-									09:57	10:07	?	-				
12	C5.8	1													10:10	10:19	?	-				
12	C9.2	7	10:22	10:31	11:02	2	10:18	10:26	10:54	2	10:21	10:28	10:57	2	10:21	10:31	10:47	1+	10:23	10:30	11:05	2
12	**M2.0**	9	11:12	11:18	?	-	11:07	11:14	11:26	1	11:12	11:18	11:38	1+	11:07	11:19	11:40	2	11:05	11:19	11:40	2
12	**M2.7**	5	11:34	11:46	?	-					11:42	11:45	11:58	1-	11:42	11:44	?	-	11:40	11:44	11:59	1
12	?	1													11:58	12:06	12:29	1+				
12	**M2.3**	8	12:36	12:42	?	-					12:36	12:45	14:29	3	12:35	12:44	13:35	2+	12:35	12:47	14:24	3
12	C4.6	2									14:29	14:36	14:51	1	14:32	14:35	14:46	1-				
12	**M1.3**	5									14:52	15:18	15:31	2	14:58	15:13	15:26	1+	14:53	15:19	16:11	2+
12	?	1													***15:28***	***15:29***	***16:14***	***2+***				
12	?	2									17:06	17:10	17:29	1	17:05	17:14	17:29	1				
13	**M1.0**	5	06:42	06:50	07:37	2+	06:39	06:53	07:29	2+	06:40	06:47	06:55	1-	*06:46*	*06:56*	*07:04*	*1-*	06:23	06:43	07:00	2
13	C7.6	5	08:13	08:18	08:58	2	08:10	08:17	08:43	2	08:14	08:20	08:50	2	*08:14*	*08:27*	*08:46*	*1+*				
13	**M1.4**	10	09:47	09:58	10:40	2+	09:39	09:50	10:40	2+	09:46	09:55	10:38	2+	09:47	09:57	?	-	09:49	09:57	10:37	2+
13	**M1.2**	1													10:05	10:09	?	-				
13	?	1													10:20	10:25	10:34	1-				
13	?	1													*10:36*	*10:42*	*?*	-				
13	?	5	11:11	11:30	13:01	3									*10:59*	*11:34*	*?*	-	11:00	11:32	13:14	3+
13	?	1													*12:34*	*12:40*	*13:02*	*1+*				
13	?	1													13:17	13:24	13:41	1				
13	C8.5	9	13:53	14:06	14:56	2+	13:47	14:00	14:55	2+	13:53	14:04	15:04	2+	13:53	14:04	14:33	2	13:52	14:05	15:13	2+
13	C6.3	1													**15:02**	**15:10**	**?**	**-**				
13	**M1.2**	8	15:32	15:42	16:33	2+	15:26	15:41	16:16	2+	15:30	15:43	16:37	2+	15:05	15:41	16:27	2+	15:27	15:45	16:11	2
13	C6.8	1													18:33	18:40	?	-				
13	**M3.2**	2									18:46	18:53	19:27	2	18:42	18:53	19:39	2+				
14	**M1.4**	3					05:58	06:04	06:15	1-	06:01	06:07	06:21	1	*06:02*	*06:08*	*06:21*	*1*				
14	**M4.2**	3					06:34	06:53	07:45	2+	06:43	06:53	07:48	2+	*06:40*	*06:53*	*07:12*	*1+*				
14	C3.9	1									07:47	07:49	07:58	1-								
14	C5.5	10	12:26	12:35	13:16	2+	12:21	12:32	13:10	2+	12:28	12:32	13:41	2+	*12:24*	*12:34*	*13:04*	*2*	12:26	12:34	13:31	2+
14	C3.2	8	14:48	14:56	?	-	14:43	14:52	15:10	1+	14:46	14:54	15:35	2+	*14:48*	*14:55*	*15:34*	*2+*	*14:47*	*14:53*	*15:36*	*2+*
14	C4.9	8	15:35	15:45	16:07	1+	15:30	15:40	16:01	1+	15:37	15:45	16:16	2	*15:37*	*15:43*	*16:15*	*2*	*15:36*	*15:43*	*16:13*	*2*
15	*	7	08:43	08:47	08:53	1-	08:39	08:43	09:00	1	08:43	08:47	09:14	1+	08:44	08:48	08:53	1-	*08:43*	*08:47*	*09:21*	*2*
15	C4.4	8	09:23	09:35	09:47	1	09:16	09:32	09:55	2	09:22	09:28	09:56	2	09:23	09:37	09:45	1	*09:21*	*09:37*	*10:09*	*2+*
15	**M1.5**	10	10:17	10:23	11:30	2+	10:01	10:22	11:23	2+	10:09	10:23	10:56	2+	10:09	10:23	11:04	2+	10:11	10:22	11:30	2+
15	C3.2	2					13:42	13:48	13:57	1-					13:44	13:46	13:58	1-				
15	?	1													17:39	17:49	?	-				
15	**M1.3**	2									18:00	18:08	?	-	17:59	18:11	18:55	2+				
16	C2.4	2													12:31	12:36	12:43	1-				
17	C2.8	3	09:40	09:47	09:53	1-					09:39	09:47	10:13	2	09:42	09:51	10:08	1+				
17	?	1													*12:21*	*12:37*	*12:53*	*1+*				
17	C2.5	2	14:04	14:08	?	-									*14:06*	*14:10*	*?*	-				
17	C4.6	6	14:14	14:20	?	-					14:04	14:22	15:01	2+	*14:14*	*14:24*	*15:17*	*2+*	14:07	14:27	15:00	2+
19	C4.3	1													16:27	16:29	16:39	1-				
20	C2.2	1	07:55	07:59	08:02	1-																
20	**M1.0**	10	11:39	12:06	13:30	3	11:38	12:08	13:18	3	11:38	12:10	14:00	3+	11:41	12:00	?	-	11:34	12:10	15:20	3+
20	?	1													12:42	12:56	?	-				
20	*	1													13:23	13:42	13:56	2				
20	C4.3	1													17:11	17:18	17:41	1+				
20	??	3	19:00	19:07	19:23	1					19:01	19:06	19:26	1	19:01	19:06	19:15	1-				
21	**M1.9**	2									18:35	18:36	19:00	1	*18:34*	*18:43*	*18:51*	*1-*				
22	**M1.3**	9	10:09	10:45	11:50	3	10:03	10:42	11:43	3	10:05	10:46	11:56	3	10:10	10:45	11:42	3	10:24	10:49	12:00	3
23	C3.9	3					14:48	14:55	15:13	1	14:41	14:58	15:15	2	*14:51*	*14:58*	*15:13*	*1*				
24	C2.4	1													14:16	14:33	15:07	2+				
24	C2.0	1													15:40	15:43	15:54	1-				
27	C2.1	1													18:45	18:49	18:57	1-				
29	**M1.7**	1													*05:12*	*05:17*	*05:29*	*1-*				
29	**M1.3**	10	10:00	10:06	?	-	09:40	10:05	10:42	2+	09:47	10:07	10:45	2+	09:48	10:08	?	-	09:51	10:08	10:51	2+
29	**M1.6**	10	10:53	11:00	12:03	2+	10:49	11:02	11:49	2+	10:55	11:01	12:00	2+	10:50	11:02	11:46	2+	10:51	11:04	11:43	2+
29	C2.7	6	12:11	12:13	12:26	1-	12:05	12:11	12:24	1	12:10	12:14	12:34	1	12:11	12:15	12:40	1+				
29	C5.3	9	15:03	15:07	15:43	2	14:57	15:06	15:41	2	15:01	15:08	15:35	2	15:03	15:10	15:38	2	15:03	15:08	15:52	2+
29	*	1													16:46	16:52	17:08	1				
30	C1.5	1													*07:26*	*07:30*	*07:45*	*1*				
30	**M2.0**	10	07:48	07:52	08:53	2+	07:42	07:51	08:45	2+	07:46	07:54	08:40	2+	07:48	07:52	08:22	2	07:50	07:54	09:18	3
30	?	1																				
30	C2.1	1													*15:30*	*15:33*	*15:45*	*1-*				

BAA Radio Astronomy Section. **2025 APRIL.**

	Xray class		Steve Parkinson (Various)				Andrew Thomas (19.6kHz)				Phil Rourke (23.4kHz)				Mark Prescott (21.75kHz/*22.1kHz*)				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)	
1	**M5.6**																					
1	*																					
1	C5.3																					
1	C5.8		10:39	10:43	11:10	1+	10:38	10:44	11:14	2	10:31	10:46	11:34	2+	10:43	10:46	11:20	2	10:38	10:43	11:20	2
1	C2.1																					
1	C3.5																					
2	C2.0																					
2	C8.0		10:47	10:54	12:40	3	10:47	10:57	12:23	3					10:52	11:00	?	-	10:50	10:57	?	-
2	C6.2														11:23	11:31	12:05	2				
2	C2.2		14:29	14:31	14:40	1-																
3	C2.3																					
3	C3.4																					
3	C2.0																					
4	C3.3																					
4	C2.2																					
4	C4.4		14:42	14:48	15:05	1									14:45	14:53	15:04	1				
5	C2.9																					
6	C2.9																					
7	C2.7																					
7	C3.0																					
7	C3.4																					
7	C5.3																					
9	C2.7														12:24	12:38	13:17	2+				
9	C2.1																					
9	C9.0																					
10	C5.3																					
10	C2.7																					
10	C3.7																					
11	C4.4																					
11	C3.7		08:27	08:32	08:55	1+					08:20	08:29	09:30	2+								
11	C2.4																					
11	C7.2		11:58	12:14	12:45	2+	11:57	12:18	13:36	3	12:03	12:17	13:07	2+	12:00	12:20	13:30	3				
11	C4.1		13:37	13:41	14:00	1	13:36	13:41	13:56	1												
11	C7.4														*16:25*	*16:30*	*?*	-				
11	**M1.0**		16:21	16:52	17:40	2+									*?*	*16:52*	*17:17*	-				
11	C6.8																					
12	**M1.2**																					
12	**M1.0**										07:14	07:20	07:34	1								
12	C8.4																					
12	C7.6														07:47	08:07	08:30	2				
12	?																					
12	C4.8																					
12	C5.8																					
12	C9.2						10:23	10:29	10:59	2					10:21	10:34	11:04	2				
12	**M2.0**		11:13	11:20	?	-	11:11	11:19	12:36	2+	11:10	11:19	12:59	3	11:15	11:21	?	-				
12	**M2.7**														11:46	11:47	?	-				
12	?																					
12	**M2.3**		12:36	12:46	14:10	3	12:36	12:47	14:29	3	12:34	12:44	13:42	2+	12:40	12:50	14:25	3				
12	C4.6																					
12	**M1.3**						15:02	15:16	16:06	2+					15:08	15:21	16:10	2+				
12	?																					
12	?																					
13	**M1.0**																					
13	C7.6		08:14	08:22	08:56	2																
13	**M1.4**		09:46	09:57	10:38	2+	09:46	09:57	13:53	3+	09:48	09:57	10:49	2+	09:50	10:01	10:40	2+	09:45	09:57	10:35	2+
13	**M1.2**																					
13	?																					
13	?																					
13	?										11:01	11:29	12:39	3	11:06	11:35	13:05	3				
13	?																					
13	?																					
13	C8.5		13:53	14:05	14:30	2	13:53	14:04	14:49	2+	13:56	14:04	14:57	2+	13:57	14:07	14:27	1+				
13	C6.3																					
13	**M1.2**		15:31	15:44	16:20	2+	15:32	15:45	16:24	2+					15:35	15:45	16:40	2+				
13	C6.8																					
13	**M3.2**																					
14	**M1.4**																					
14	**M4.2**																					
14	C3.9																					
14	C5.5		12:27	12:33	13:15	2+	12:26	12:34	13:18	2+	12:28	12:32	13:13	2	12:30	12:38	13:50	2+	12:25	12:38	13:40	2+
14	C3.2		14:48	14:54	15:10	1					14:48	15:34	15:50	2+	14:52	14:58	15:30	2				
14	C4.9		15:37	15:43	16:10	2	15:38	15:44	16:19	2					15:42	15:46	16:20	2				
15	*		08:42	08:47	09:10	1+	08:43	08:46	09:16	2												
15	C4.4		09:21	09:35	?	-	09:22	09:36	10:04	2					09:26	09:38	10:01	2				
15	**M1.5**		10:09	10:22	11:45	3	10:10	10:23	11:43	3	10:11	10:21	11:44	3	10:13	10:25	11:36	2+	10:08	10:28	12:00	3
15	C3.2																					
15	?																					
15	**M1.3**																					
16	C2.4														12:15	12:39	13:00	2				
17	C2.8																					
17	?																					
17	C2.5																					
17	C4.6		14:04	14:23	14:50	2+									14:17	14:27	15:24	2+				
19	C4.3																					
20	C2.2																					
20	**M1.0**		11:41	12:12	13:20	3	11:40	12:12	14:08	3+	11:42	12:09	14:23	3+	11:44	12:13	13:33	3	12:15	12:15	13:10	2+
20	?																					
20	*																					
20	C4.3																					
20	??																					
21	**M1.9**																					
22	**M1.3**						10:06	10:48	12:28	3+	10:24	10:47	11:198	3+	10:10	10:53	13:50	3+	10:05	10:45	12:30	3+
23	C3.9																					
24	C2.4																					
24	C2.0																					
27	C2.1																					
29	**M1.7**																					
29	**M1.3**		09:47	10:07	?	-	09:47	10:07	10:53	2+	09:55	10:06	10:40	2	09:51	10:11	?	-	09:48	10:08	?	-
29	**M1.6**		10:54	11:03	12:00	2+	10:53	11:03	12:35	3	10:51	11:01	11:34	2	10:57	11:06	?	-	10:53	11:05	12:00	2+
29	C2.7		12:10	12:14	12:25	1-									12:15	12:18	12:40	1				
29	C5.3		15:03	15:07	15:40	2	15:01	15:06	15:34	2					15:07	15:12	15:50	2	15:03	15:07	15:40	2
29	*																					
30	C1.5																					
30	**M2.0**		07:48	07:54	08:55	2+	07:48	07:52	08:43	2+	07:46	07:52	?	-	07:52	07:57	08:45	2+	07:47	07:53	09:10	2+
30	**?**										?	07:57	09:00	-								
30	C2.1																					