



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

BAA Radio Astronomy Section.

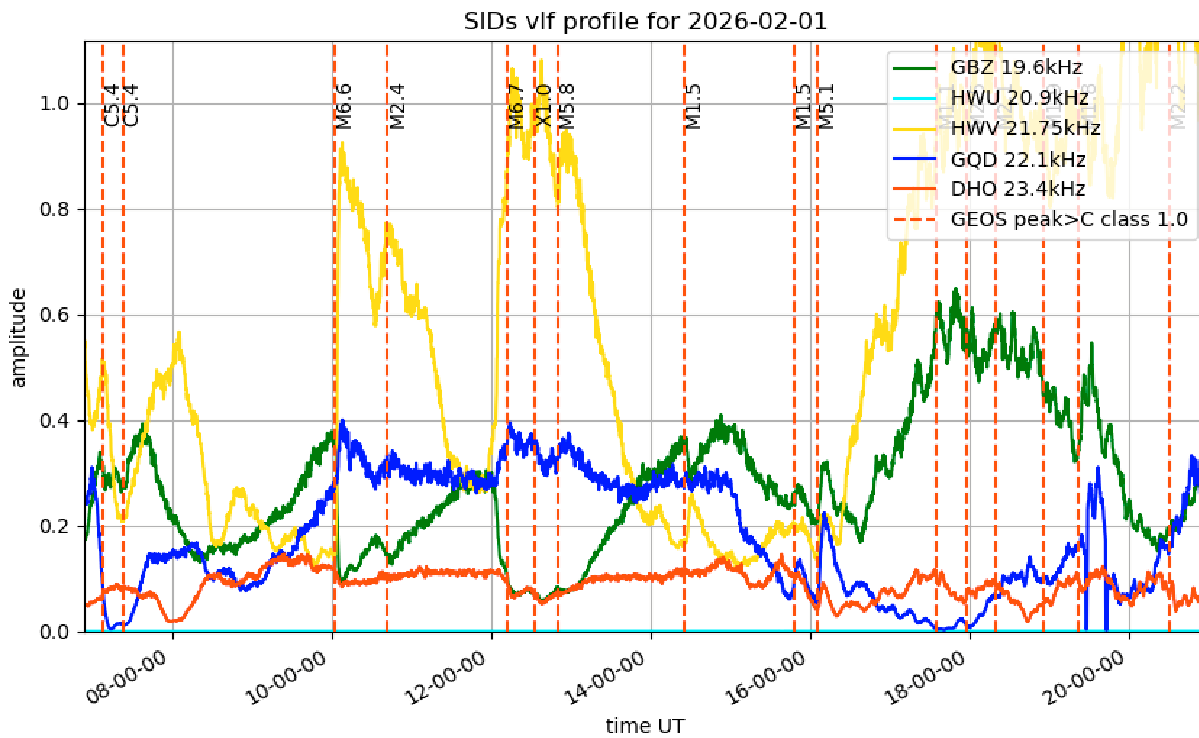
Director Paul Hearn.

RADIO SKY NEWS

2026 FEBRUARY.

VLF SID OBSERVATIONS.

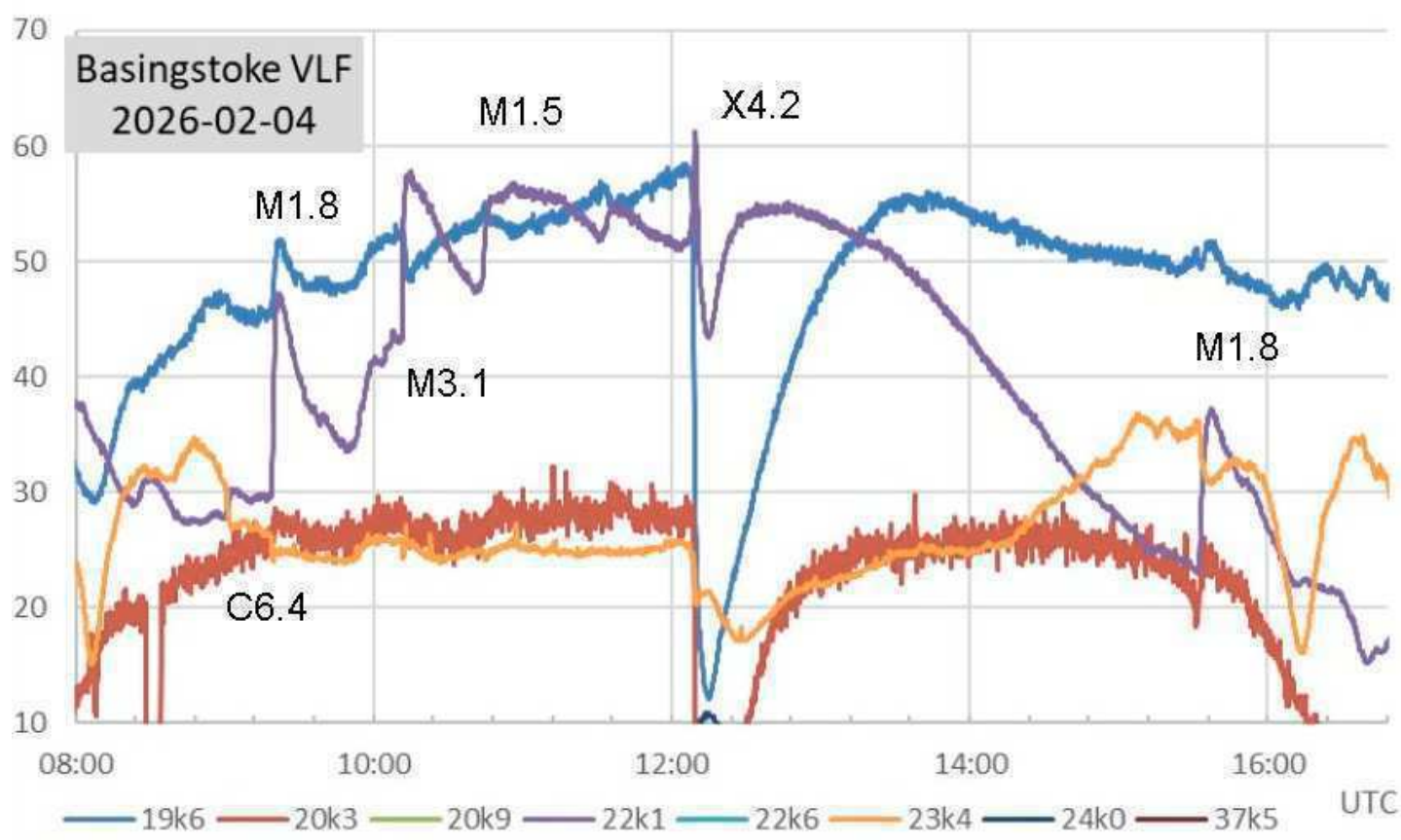
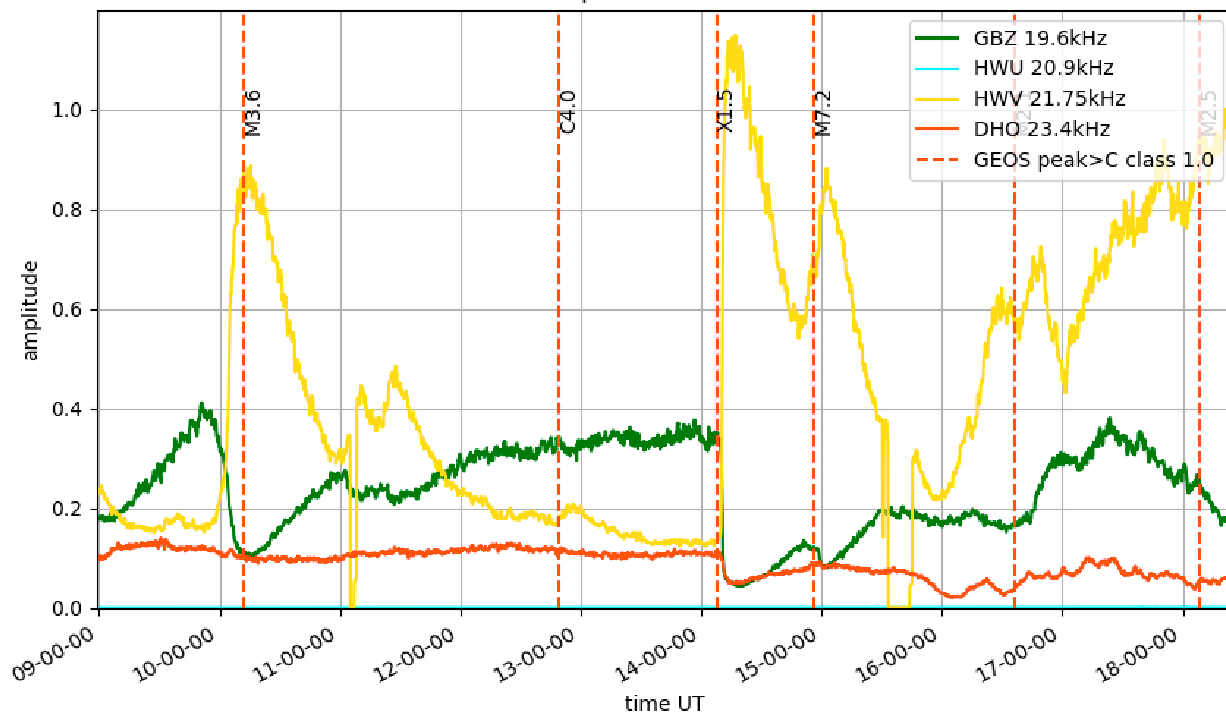
Solar activity in February increased significantly over that in January, with four X-class flares and 31 M-class flares recorded as SIDs. Most of this activity was in the first week, with mostly C-flares recorded after the 8th. Mark Prescott's recording from the 1st shows a very complex pattern of SIDs:



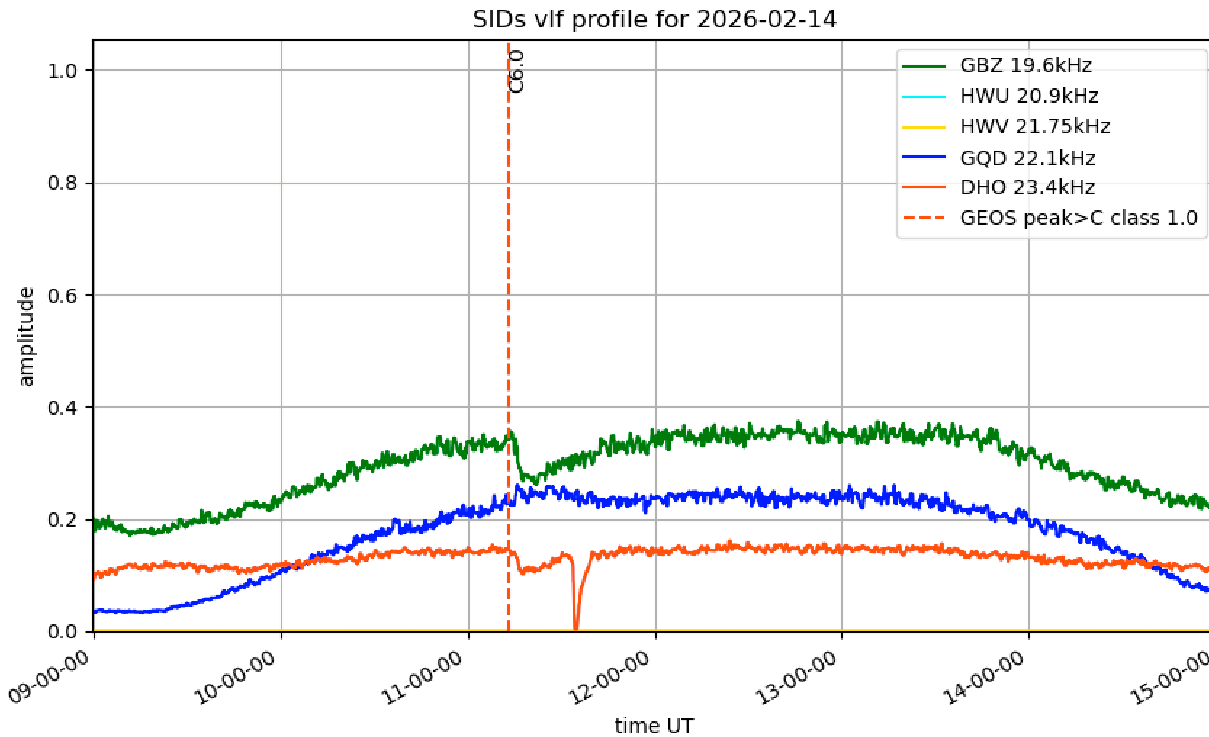
The three flares just after midday have merged into a multi-peaked SID, the X1.0 flare in the centre hidden on some of the signals recorded. 21.75kHz shows the three peaks best, while 22.1kHz looks more like random noise. 23.4kHz is also rather noisy, although the peaks can be identified by comparing with 21.75kHz.

Mark's recording on the 3rd shows a much less complex pattern, the X1.5 flare at 14:10UT very clear on all three active signals. 20.9kHz was off-air at the time. 21.75kHz also shows a very small SID for the C4.0 flare just before 13UT, although no timings were provided for this event. There also two peaks between 11 and 12UT, although there are no flares listed in the satellite data at this time.

SIDs vlf profile for 2026-02-03

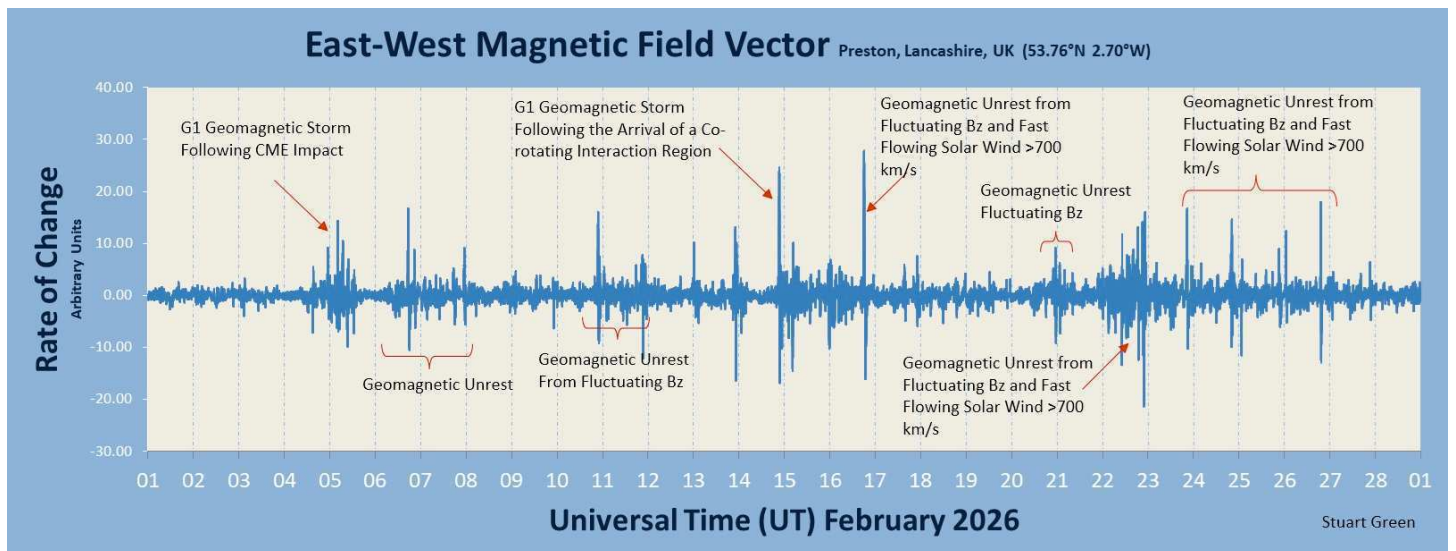


Paul Hyde's recording on the 4th includes the strongest flare in February, magnitude X4.2. 22.6kHz shows a typical 'shark's fin' SID, while the other signals show variations of a 'spike and wave' SID. 20.3kHz shows a very noisy signal throughout the recording, the peak of the SID being lost off the bottom of the chart. The C6.4 flare at 09:04UT is just visible at 22.1kHz.

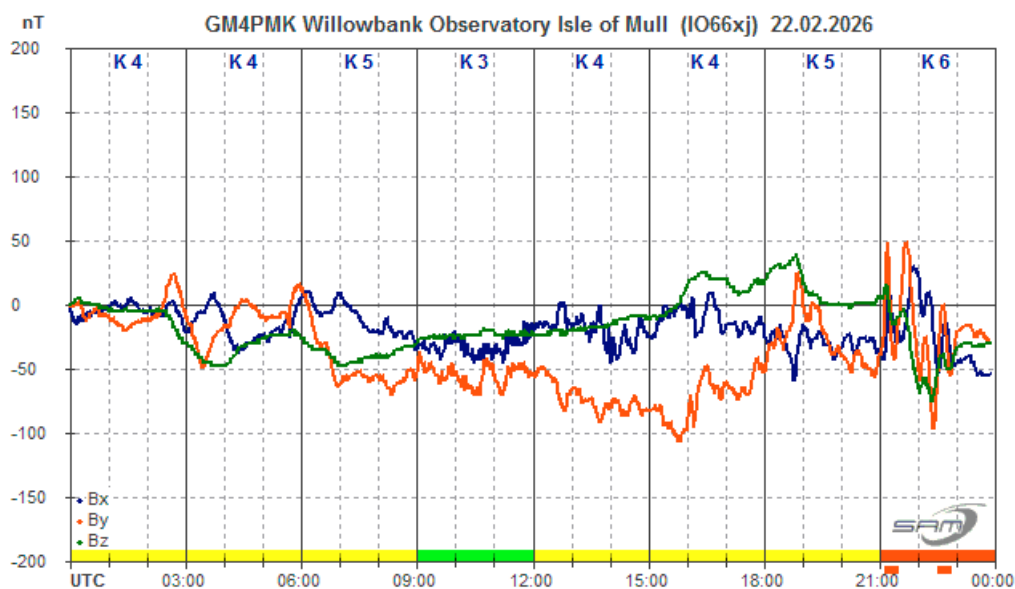
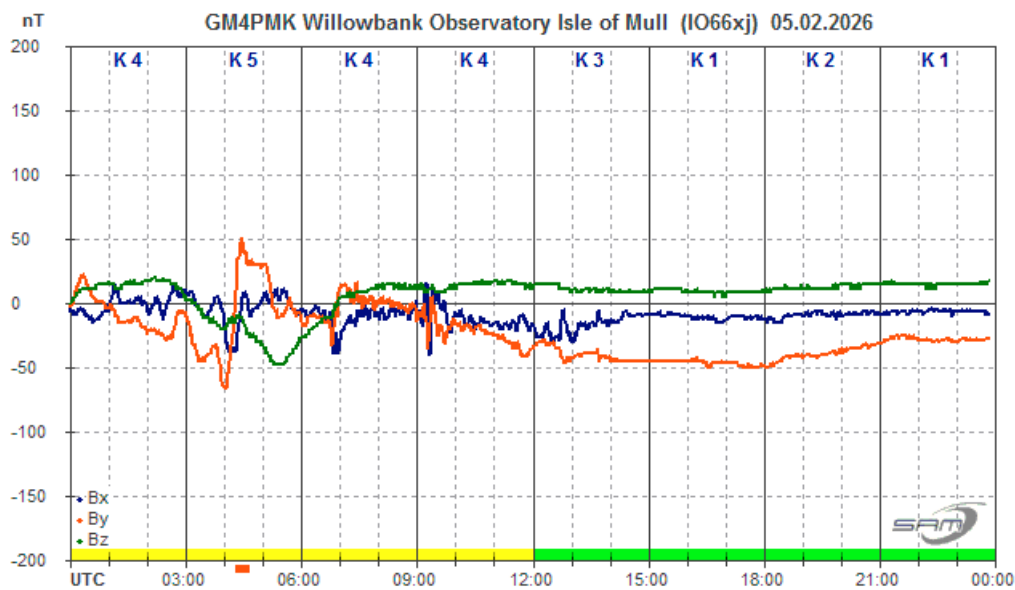


Flaring activity faded out after the 10th, with just a few SIDs recorded. Mark Prescott's recording from the 14th shows an isolated C6.0 flare, together with a 'spike' on the 23.4kHz signal. I have included this chart because these transmitter effects are becoming very common on this signal. They are usually very short, and so easily identified. They can hide genuine SIDs though, so worth checking.

MAGNETIC OBSERVATIONS.

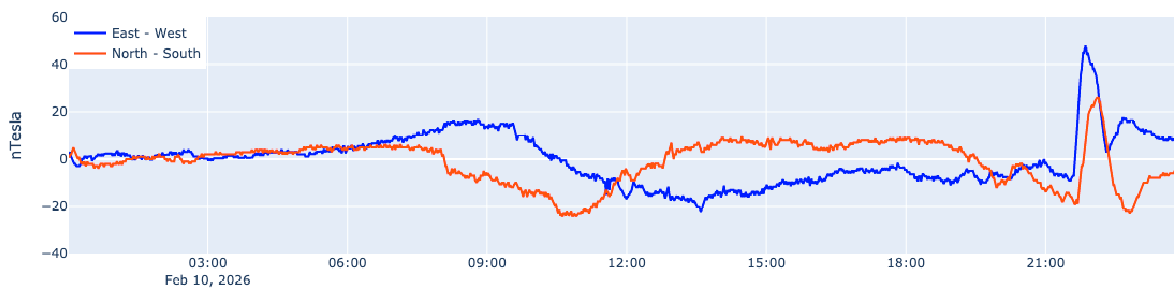


Stuart Green's chart of magnetic activity through February shows plenty of disturbance following a CME impact on the 5th. The STCE bulletin connects the CME to an X8.1 flare just before midnight on February 1st, so not recorded as a SID. Roger Blackwell's recording shows three possible impact features at 04, 07 and 09:20UT, followed by rather mild activity. The next few days showed some mild activity, before another short impact feature on the 14th.



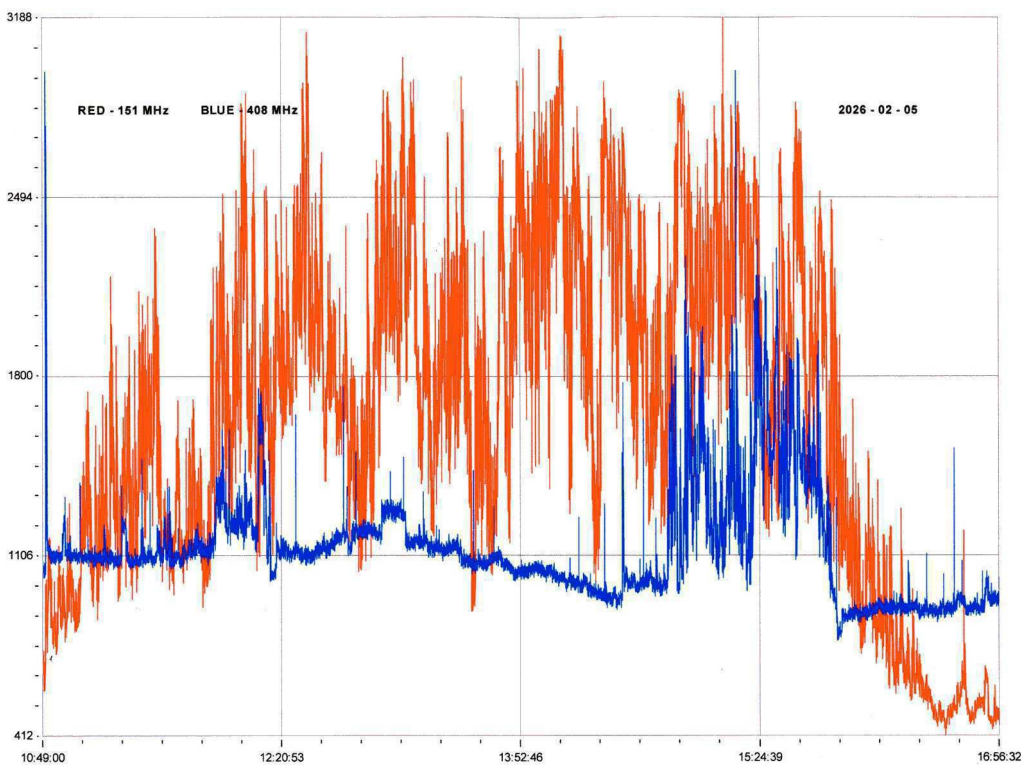
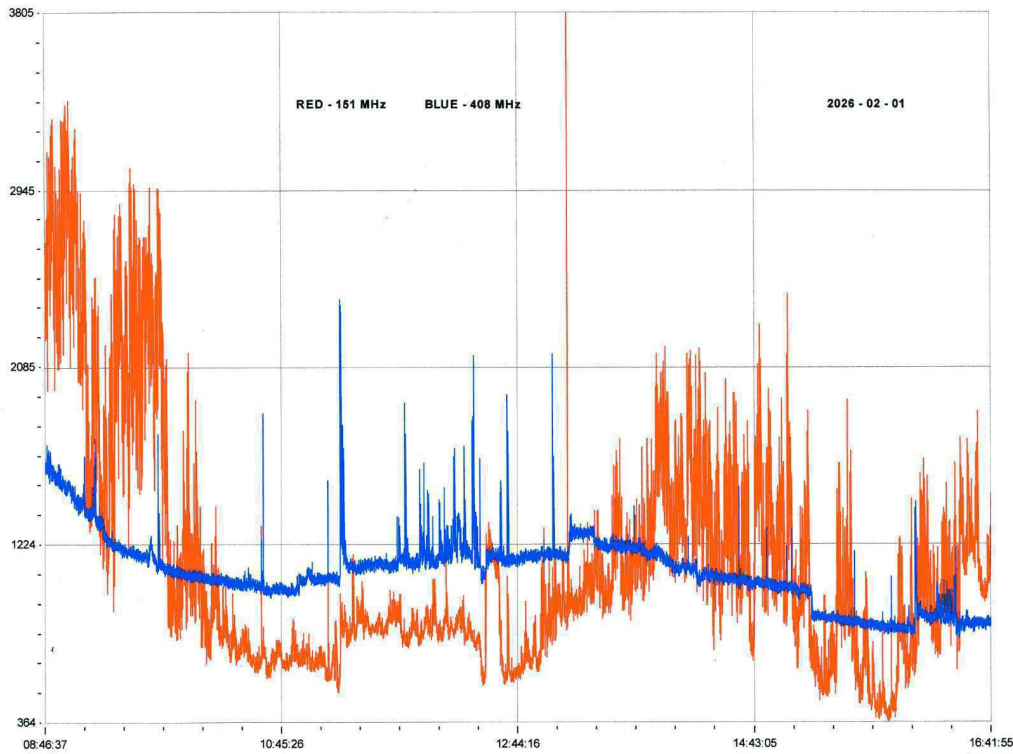
The 22nd showed mild activity through most of the day, with a more active period in the evening and overnight. The majority of this activity seems to have been from fast solar winds, despite the strong flaring at the start of February. Nick Quinn's chart from the 10th shows a short pulse in the evening of the 10th, in an otherwise quiet period.

Steying Magnetometer (50.8 North, 0.3 West)



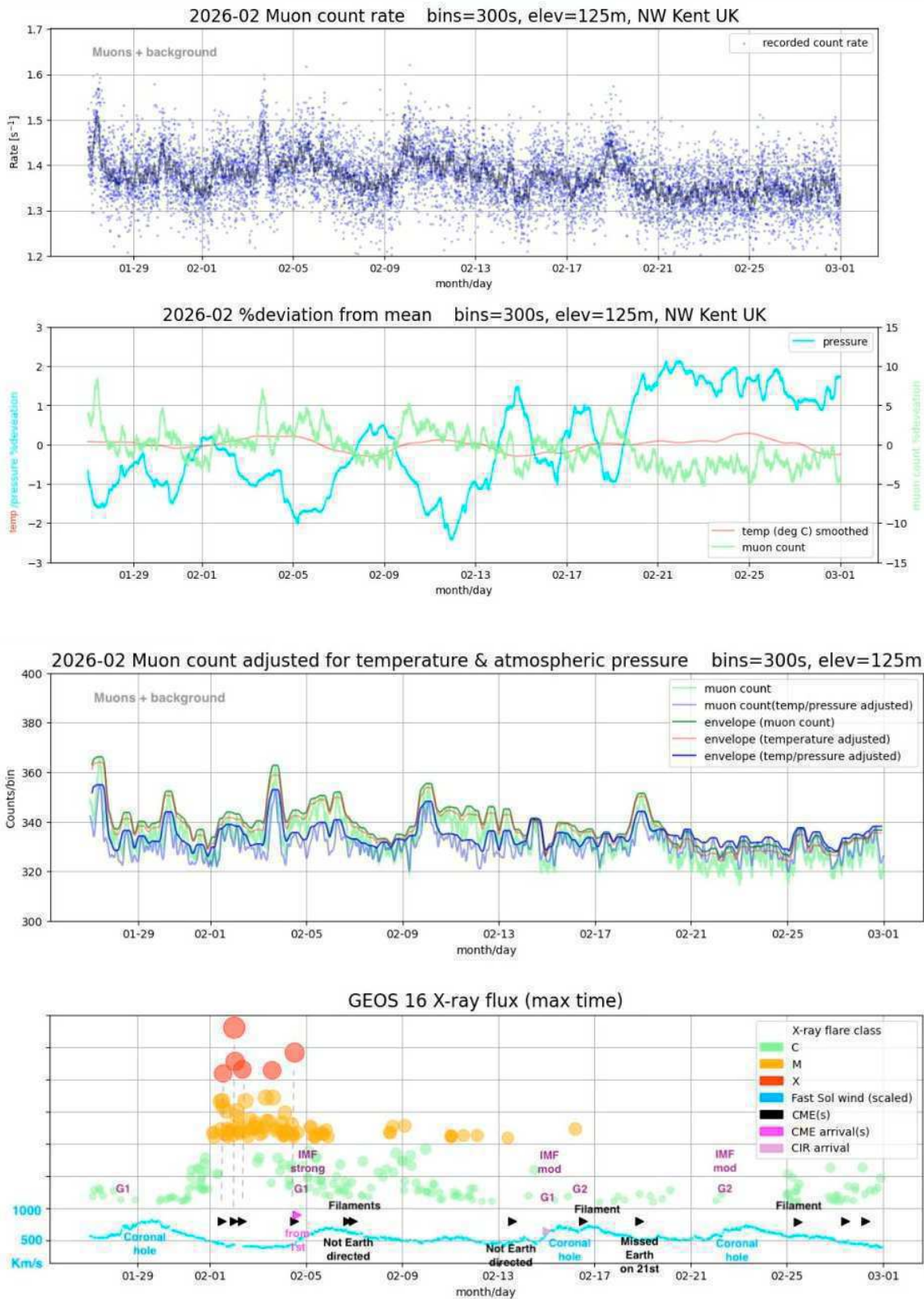
Magnetic observations received from Roger Blackwell, Stuart Green, Nick Quinn and John Cook.

SOLAR EMISSIONS



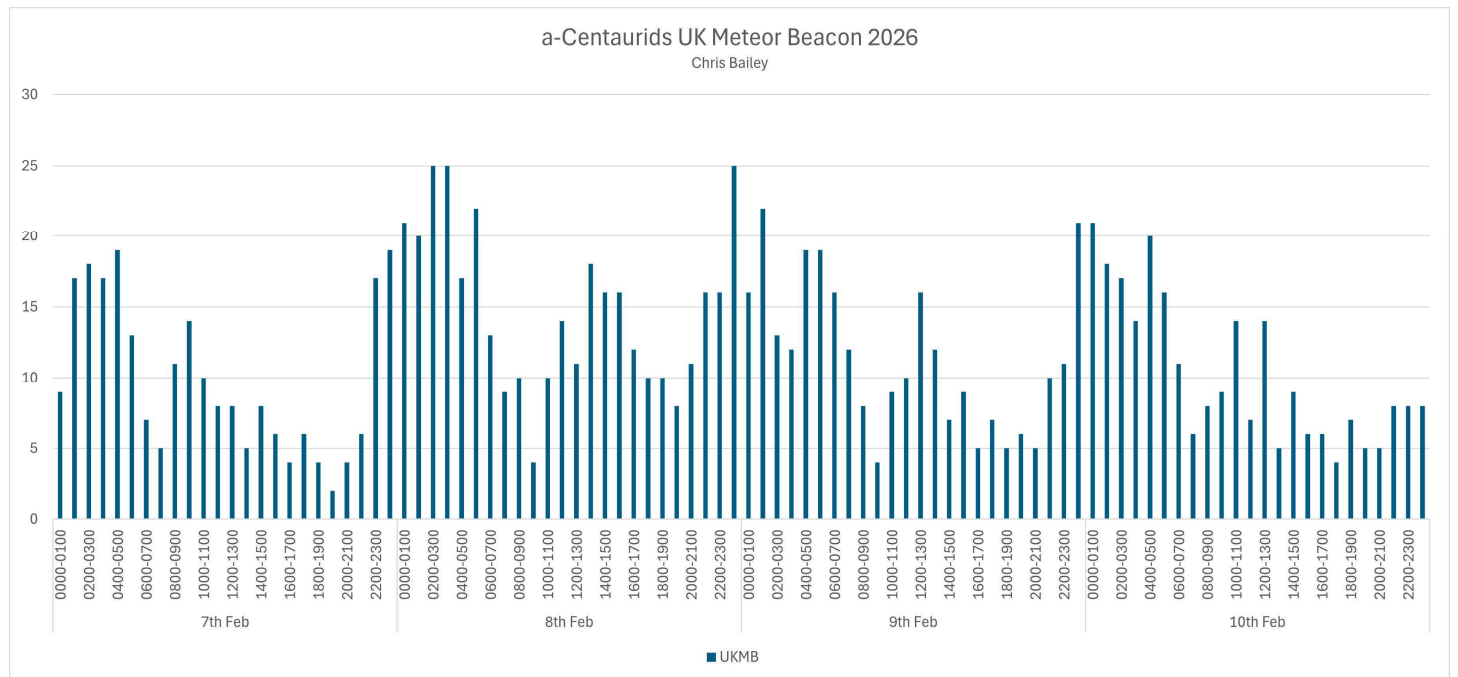
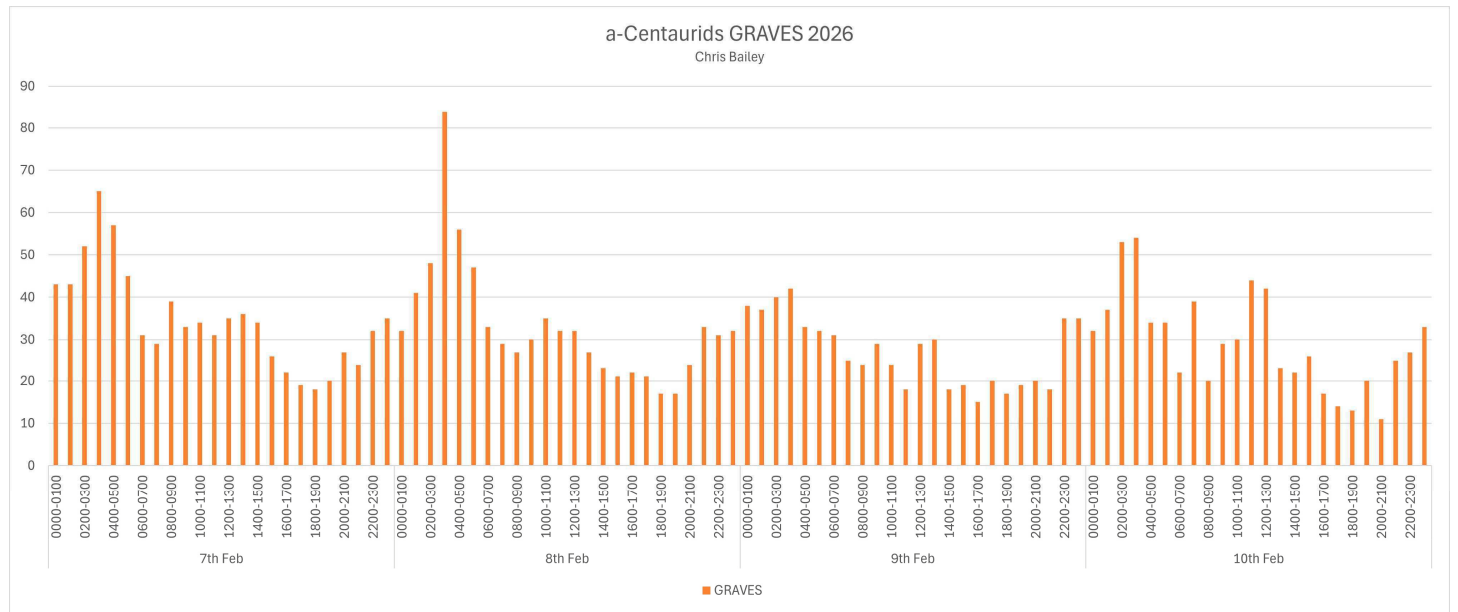
Colin Clements reported that the 1st and 5th were the most active days for solar emissions. The 1st shows some mild 151MHz (red trace) in the early morning, as well as in the afternoon. 408MHz was rather less active. There were 10 flares recorded as SIDs, so identifying individual events is not easy. The chart for the 5th shows much stronger emissions at 151MHz throughout the day. 408MHz also shows some strong activity, mostly from the M1.8 and M1.6 flares in the afternoon.

MUONS



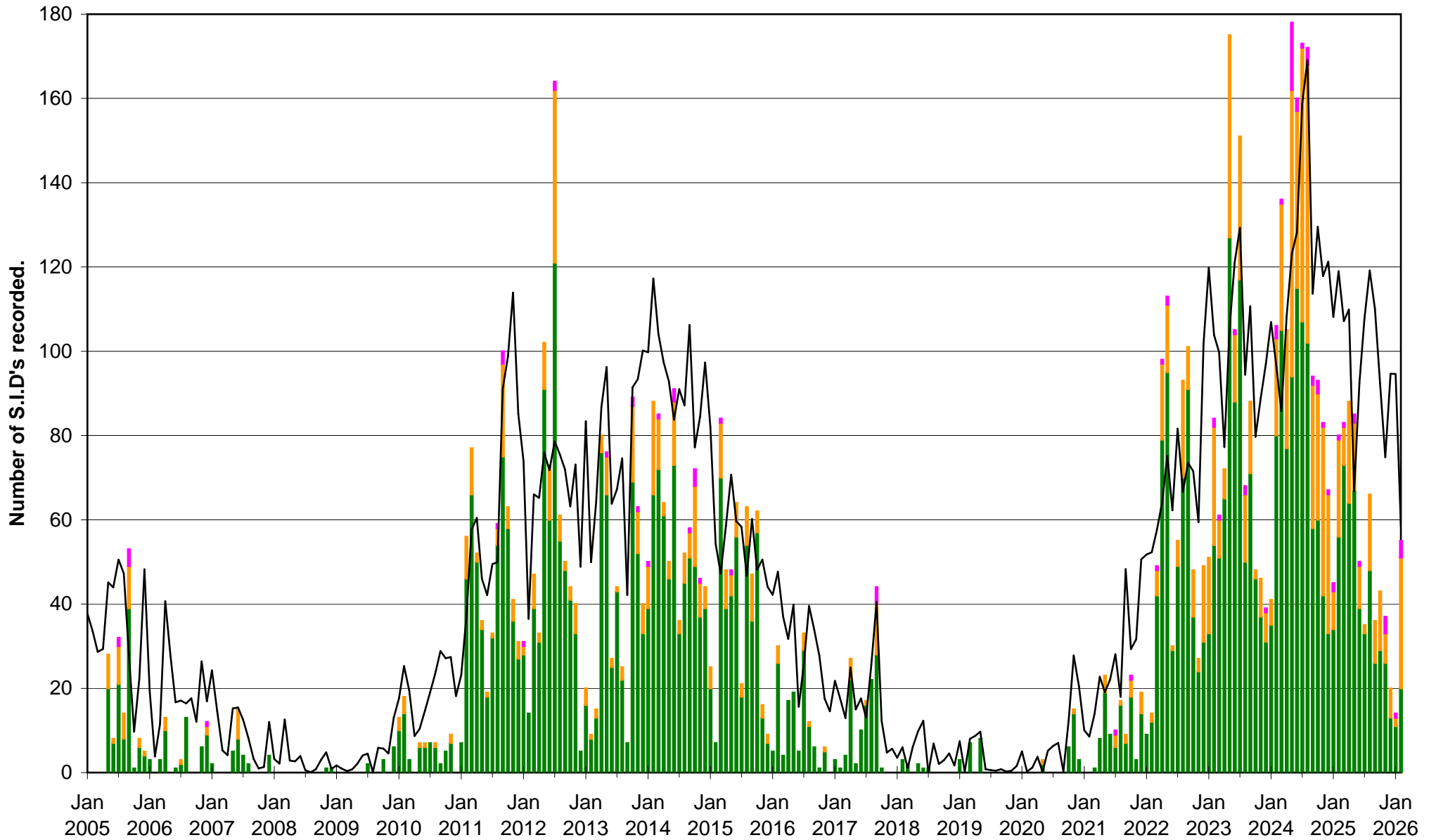
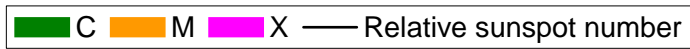
Mark Prescott's Muon charts show some distinct activity peaks. The peak from the 1st to 5th matches the high level of flaring over this period, along with the magnetic disturbances. The source of the peaks on the 10th and 18th/19th is less clear, although they do correspond to large drops in atmospheric pressure. The flux does remain at a lower level after the 18th/19th peak, while the atmospheric pressure was much higher.

ALPHA CENTAURIDS.



Chris Bailey made recordings of the alpha-Centaurid meteor shower using the GRAVES (top chart) and UK meteor beacon (lower chart) with some interesting results. The GRAVES chart shows a distinct peak around 03 to 04UT on the 8th, with a smaller peak at a similar time on the 7th. Counts are much lower on the 9th, rising again in the morning of the 10th. The UK beacon chart shows peaks on all four days recorded, with very low dips during the evening hours. This beacon is located at the Sherwood observatory, a location where the Radio Astronomy Section is planning a meeting in October. The distance and geometry to these beacon transmitter sites will be very different, so it will be interesting to see how they compare for future meteor showers.

VLF flare activity 2005/26



BARTELS DIAGRAM

ROTATION	KEY:	DISTURBED.	ACTIVE	SFE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).
2597	F	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				2280
2598	F	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				2281
2599	F	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				2282
2600	F	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				2283
2601	F	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 19				2284
2602	F	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				2285
2603	F	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				2286
2604	F	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				2287
2605	F	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				2288
2606	F	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				2289
2607	F	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				2290
2608	F	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				2291
2609	F	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				2292
2610	F	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				2293
2611	F	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				2294
2612	F	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 10 11 12				2295
2613	F	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				2296
2614	F	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				2297
2615	F	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				2298
2616	F	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				2299
2617	F	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				2300
2618	F	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				2301
2619	F	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				2302
2620	F	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 14				2303
2621	F	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				2304
2622	F	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 6 7				2305
2623	F	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				2307
2624	F	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				2309
2625	F	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				2310
2626	F	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 23 24 25				2311

DAY	X-ray class	Observers	John Cook (23.4kHz/22.1kHz)				Roberto Battaola 20.3kHz				Paul Hyde (22.1kHz/24kHz)				Mark Edwards (24.0kHz)				Colin Clements (21.75kHz/23.4kHz)			
			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.			
			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
1	M6.6	8	10:00	10:04	?	-	09:53	10:03	10:34	2	09:55	10:04	?	-	09:57	10:03	?	-	09:57	10:05	10:13	1-
1	?	2													10:12	10:15	?	-	10:13	10:16	10:32	1
1	M2.4	4	10:32	10:40	11:48	2+									10:30	10:34	10:50	1	10:31	10:41	10:58	1+
1	M6.7	6	12:00	12:13	?	-	11:51	12:13	12:20	1+	11:59	12:11	?	-	11:59	12:16	?	-	12:01	12:16	12:26	1
1	?	1													12:24	12:29	?	-				
1	X1.0	7	12:30	12:39	13:57	3	12:22	12:32	12:43	1	12:25	12:35	?	-	12:37	12:40	?	-	12:26	12:35	12:47	1
1	M5.8	5									12:45	12:53	13:41	2+	12:44	12:56	13:47	2+	12:47	12:51	13:51	2+
1	?	1													13:55	14:00	14:16	1				
1	M1.5	6	14:21	14:26	15:00	2	14:18	14:24	14:44	1+	14:23	14:28	14:56	2	14:23	14:27	14:49	1+				
1	M1.5	2	15:27	15:55	?	-									15:41	15:48	?	-				
1	M5.1	4	16:07	16:13	?	-	15:59	16:03	16:18	1					16:02	16:08	16:42	2				
1	M1.9	1													18:50	19:05	?	-				
1	M1.8	1													19:15	19:23	19:58	2				
2	X1.6	2	08:06	08:18	10:09	3	07:34	08:17	09:04	3					10:22	10:25	10:40	1-	10:16	10:31	10:54	2
2	M1.6	7	10:21	10:26	10:48	1+	11:13	11:23	12:08	2+	10:18	10:26	10:53	2	11:15	11:25	12:01	2+	11:20	11:27	12:24	2+
2	M6.7	7	11:18	11:24	13:05	3					11:17	11:22	?	-	14:38	14:57	?	-	13:34	13:46	14:12	2
2	M1.1	5	13:35	13:42	14:15	2	13:30	13:38	14:08	2	13:34	13:41	14:10	2					14:57	15:04	15:47	2+
2	M4.0	6	14:56	15:02	?	-	14:52	15:04	15:37	2	14:54	15:04	15:59	2+								
3	M3.6	7	09:55	10:09	10:56	2+	09:41	10:12	10:51	2+	09:31	10:01	10:10	2	09:53	10:06	10:41	2+				
3	X1.5	8	14:06	14:13	?	-	14:00	14:11	14:43	2	14:04	14:10	14:49	2	14:05	14:14	?	-	14:06	14:14	14:46	2
3	M7.2	7	14:55	14:56	15:09	1-	14:48	14:54	15:19	1+	14:54	14:57	15:15	1	14:38	14:57	?	-	14:46	14:59	15:38	2+
3	?	1													15:36	15:42	?	-				
3	?	1													15:54	16:01	?	-				
3	?	1													16:10	16:13	16:23	1-				
3	M2.1	1													16:32	16:40	16:51	1				
3	M2.5	1													17:59	18:29	18:32	2				
4	C6.7	2					08:56	09:01	09:08	1-	09:02	09:04	09:10	1-								
4	M1.8	7	09:19	09:21	09:48	1+	09:18	09:21	09:38	1	09:18	09:23	09:51	2	09:19	09:24	09:32	1-	09:21	09:22	09:33	1-
4	M3.1	6	10:12	10:14	?	-	10:08	10:12	10:31	1	10:10	10:16	10:40	1+	10:11	10:14	10:44	2	10:12	10:15	10:42	1+
4	M1.5	5	10:44	10:47	?	-					10:42	10:46	12:03	2+	10:50	10:58	?	-	10:42	10:57	11:33	2+
4	?	1													11:01	11:07	11:31	1+				
4	M1.1	4	11:34	11:35	?	-									11:34	11:40	11:48	1-	11:33	11:42	12:07	2
4	X4.2	7	12:08	12:14	14:09	3	12:04	12:13	13:05	2+	12:06	12:15	13:31	2+	12:07	12:14	13:56	3	12:07	12:16	14:57	3+
4	M1.8	6	15:32	15:33	15:36	1-	15:26	15:34	15:45	1	15:31	15:38	16:09	2					15:19	15:37	15:47	1+
5	C8.1	1					07:54	08:01	08:12	1-												
5	M1.2	1					08:22	08:30	08:34	1-												
5	C7.9	4	10:10	10:15	10:31	1	09:54	10:12	10:43	2+					10:10	10:14	10:23	1-				
5	C4.3	2	11:39	11:43	11:55	1-																
5	C6.0	2					12:42	12:50	12:53	1-					12:49	12:56	?	-				
5	M1.6	6	13:01	13:06	14:12	2+	12:57	13:05	13:37	2					12:59	13:06	13:51	2+	13:02	13:09	13:25	1
5	M1.8	8	15:11	15:14	?	-	15:04	15:13	15:24	1	15:10	15:15	15:44	2	15:10	15:17	15:54	2	15:11	15:19	15:41	1+
5	M1.6	1													16:27	16:32	16:56	1+				
6	C6.9	7	10:20	10:22	10:27	1-	10:10	10:22	10:39	1+	10:17	10:23	10:34	1-	10:19	10:21	10:29	1-	10:16	10:35	10:49	2
6	C2.8	1													12:01	12:11	12:37	2				
8	M1.8	5	11:17	11:19	?	-									11:18	11:20	11:34	1-	11:18	11:21	11:38	1
8	M1.7	6	11:38	11:45	12:41	2+					11:37	11:45	12:38	2+	11:39	11:52	12:19	2	11:38	11:51	13:34	3
8	M2.7	7	13:49	13:55	14:56	2+	13:50	13:53	14:32	2	13:49	13:58	15:03	2+	13:51	14:00	14:57	2+	13:51	13:59	15:07	2+
8	?	1													15:20	15:25	15:33	1-				
8	C5.6	1													15:53	16:00	16:11	1-				
8	C8.6	1													17:20	17:28	17:40	1				
9	C8.2	1					08:05	08:13	08:39	2												
10	C2.5	4					12:58	13:06	13:16	1-	13:03	13:09	13:20	1-	13:04	13:08	13:19	1-				
11	M1.4	8	12:59	13:12	14:40	3	12:46	13:12	13:47	2+	12:57	13:11	15:37	3+	12:59	13:12	13:34	2	12:59	13:14	14:16	2+
14	C6.0	6	11:10	11:15	11:43	2	11:07	11:15	11:38	1+	11:10	11:15	11:44	2	11:11	11:16	11:29	1-	11:11	11:17	11:35	1
25	C2.6	1																				
25	C3.2	5	09:45	09:47	09:52	1-					09:43	09:49	09:57	1-	09:45	09:48	09:54	1-				
25	C3.9	5	11:19	11:22	11:31	1-					11:15	11:24	11:47	1+	11:20	11:26	11:34	1-				
25	M2.3	6									15:48	16:00	?	-	15:50	16:01	16:16	1+	15:59	16:01	16:06	1-
25	?	1													16:17	16:19	16:52	2				
26	C6.3	1													19:06	19:12	19:19	1-				
27	C3.5	5	12:56	12:59	13:13	1-									12:57	13:01	13:10	1-	12:57	13:01	13:15	1-
28	C2.9	1									09:57	10:03	10:08	1-								
28	C2.2	1	10:24	10:27	10:30	1-																
28	?	1									13:33	13:39	13:57	1								
28	C2.7	2									15:26	15:31	15:43	1-	15:28	15:33	15:40	1-				

