BAA Radio Astronomy Group. **2012 MAY**

			John Cook (23.4kHz/*22.1kHz*)				Roberto Battaiola (21.75kHz)				Andrew Lutley (23.4kHz)				Bob Middlefell (22.1kHz)				Mark Edwards (**21.75**/24.0/*37.5kHz*)			
	Xray class	Observers	Tuned radio frequency receiver, 0.58m frame aerial.				Modified AAVSO receiver.				Tuned radios frequency receiver, 0.5m frame aerial.				Tuned radio frequency receiver, 0.5m frame aerial.				Spectrum Lab / PC 2m loop aerial.			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
1	*	1																	18:13	18:14	18:28	1-
2	C3.2	8	11:36	11:44	12:14	2	11:26	11:41	12:04	2									11:36	11:45	12:11	2
2	B7.5	1																	*14:38*	*14:45*	*15:00*	*1*
2	C2.2	1																	18:00	18:07	18:44	2
2	C2.1	1																	18:58	19:06	19:24	1+
3	*	1																	11:45	11:47	11:56	1-
3	C1.6	1																	14:18	14:36	14:53	2
3	C2.3	7	16:41	16:52	18:08	3													16:41	16:52	17:41	2+
4	C1.5	1																	14:49	14:54	15:21	1+
4	?	1																	15:40	15:44	16:11	1+
4	?	1																	*17:38*	*17:52*	*18:06*	*1+*
4	C1.8	1																	19:27	19:29	19:35	1-
4	C2.3	1																	19:38	19:39	19:49	1-
5	C2.1	5	08:34	08:39	08:57	1													**08:34**	**08:42**	**09:19**	**2**
5	C6.8	8	09:33	09:38	10:27	2+													09:33	09:39	10:15	2
5	C2.3	5	10:59	11:00	11:32	2													10:58	11:03	11:26	1+
5	?	2																	12:08	12:13	12:42	2
5	?	1																				
5	C2.7	3	13:15	13:17	?	-													13:14	13:19	?	-
5	**M1.4**	8	13:21	13:32	15:00	3	13:10	13:23	13:59	2+									13:20	13:27	14:32	2+
5	?	1																	***15:29***	***15:36***	***15:51***	***1***
5	C1.8	6	*16:44*	*16:49*	*17:02*	*1-*	16:44	16:49	16:54	1-									16:45	16:50	17:09	1
5	C2.8	6	17:19	17:22	17:34	1-	17:18	17:25	17:36	1-									17:20	17:23	17:56	2
5	C3.4	1																	18:01	18:06	18:26	1
5	C3.7	1																	18:26	18:29	18:48	1
6	**M1.1**	1																				
6	C3.9	1																				
6	C1.7	3																	**07:03**	**07:08**	**07:32**	**1+**
6	C1.4	1																	11:37	11:43	12:00	1
6	C1.4	2																	13:40	13:44	13:58	1-
6	C3.2	6	*16:43*	*16:56*	*?*	-													16:49	16:56	?	-
6	C3.0	5	*17:07*	*17:10*	*17:35*	*1+*													17:08	17:10	17:31	1
6	**M1.3**	6	*17:45*	*17:50*	*18:23*	*2*													17:42	17:51	18:54	2+
6	C2.3	1																	19:26	19:30	19:46	1
6	C4.3	1																	20:08	20:16	20:38	1+
7	C7.1	1																				
7	C4.0	2																				
7	C1.4	1																				
7	C7.9	8	*11:04*	*11:07*	*11:11*	*1-*													11:05	11:10	11:59	2+
7	**M1.9**	9	*14:18*	*14:30*	*14:51*	*2*	14:01	14:27	14:47	2+					14:07	14:15	15:10	2+	14:08	14:29	15:43	3
7	C7.4	9	*17:23*	*17:28*	*18:10*	*2+*	17:19	17:27	17:36	1-					17:21	17:26	18:54	3	17:23	17:30	18:27	2+
8	C1.9	5	*08:33*	*08:37*	*08:50*	*1-*													08:36	08:38	09:08	1+
8	C1.7	5	*09:25*	*09:29*	*09:39*	*1-*	09:24	09:28	09:35	1-									09:26	09:29	09:49	1
8	*	1																	*09:46*	*09:47*	*10:08*	*1*
8	C1.8	2																	10:38	10:42	11:10	1+
8	**M1.4**	11	*13:07*	*13:10*	*13:22*	*1-*	13:00	13:08	13:59	2+					13:23	13:28	14:09	2+	13:05	13:11	14:20	2+
8	C1.5	1																	19:39	19:41	19:52	1-
9	C1.3	1																	**08:40**	**08:45**	**08:53**	**1-**
9	C1.3	1																	09:49	09:51	10:07	1-
9	B9.4	1																	11:37	11:41	12:03	1+
9	**M4.7**	10	*12:26*	*12:34*	*13:07*	*2*													12:24	12:33	13:34	2+
9	**M1.8**	10	*14:07*	*14:11*	*14:20*	*1-*	14:01	14:09	14:49	2+									14:05	14:10	15:00	2+
9	*	1																	15:26	15:28	15:35	1-
9	C2.1	1																	16:34	16:43	17:07	2
9	C1.4	1																	18:13	18:16	18:32	1
9	C9.1	1																	20:51	20:54	20:58	1-
9	**M4.1**	1																	21:02	21:07	21:24	1
10	**M5.7**	1																				
10	C7.9	2																				
10	C8.3	2																				
10	C3.1	1																				
10	C3.6	2																				
10	C1.4	1																				
10	C2.2	1																				
10	?	1																				
10	C4.2	6													13:41	13:45	15:41	3				
10	C3.3	5	*16:56*	*17:00*	*17:11*	*1-*																
11	C1.7	3																	*08:15*	*08:19*	*08:30*	*1-*
11	C2.8	6																	08:33	08:43	?	-
11	*	1																	08:59	09:11	09:37	2
11	C2.3	6	09:43	09:50	?	-													09:43	09:50	10:13	1+
11	C1.3	4	10:15	10:17	10:30	1-													10:15	10:19	10:36	1
11	B9.6	1																				
11	C1.2	1																	11:21	11:28	11:43	1
11	?	1																	11:49	11:50	11:57	1-
11	C1.3	1																	12:03	12:05	12:10	1-
11	C1.5	1																	12:13	12:17	12:30	1-
11	C4.3	6	13:00	13:11	13:42	2													13:00	13:09	14:10	2+
11	C3.5	6	14:21	14:23	14:32	1-	14:21	14:24	14:27	1-									14:21	14:27	14:59	2
11	*	1																	15:19	15:28	15:42	1
11	C2.1	1																	17:16	17:19	17:33	1-
11	C6.1	6	17:35	17:38	17:50	1-													17:34	17:42	18:24	2+
11	C4.1	1																	20:06	20:19	20:44	2
12	C1.7	1																	**06:54**	**07:01**	**?**	**-**
12	C1.5	1																	**07:14**	**07:16**	**07:28**	**1-**
12	*	2	09:20	09:26	09:43	1													09:20	09:30	09:40	1
12	C1.4	3																	12:47	12:50	13:10	1
12	C2.5	7	13:22	13:26	13:52	1+	13:21	13:25	13:42	1									13:22	13:28	14:00	2
13	C4.4	1																				
13	C7.0	10	08:11	08:15	09:10	2+	08:00	08:13	08:56	2+					08:13	18:17	09:13		08:11	08:16	09:22	2+
14	C4.1	5																	**07:34**	**07:39**	**08:46**	**2+**
14	C2.5	5	09:38	09:44	10:18	2													09:39	09:44	10:08	1+
14	?	1																	11:22	11:28	11:41	1
14	C1.0	1																	13:36	13:39	13:47	1-
14	C3.2	5	16:13	16:18	16:35	1													16:12	16:17	17:15	2+
14	C1.7	1																	19:26	19:29	19:35	1-
15	C1.7	4	09:40	09:50	10:05	1													09:40	09:52	10:04	1
15	B8.2	1																	*11:48*	*11:53*	*12:17*	*1+*

15	*	1							17:37	17:52	17:58	1
15	C1.0	1							19:57	20:03	20:04	1-
16	C2.5	6	09:12	09:22	09:39	1+			09:14	09:23	10:03	2+
16	C1.0	3							12:23	12:27	13:03	2
17	**M5.1**	1										
18	C3.6	4							**08:04**	**08:24**	**08:45**	**2**
18	C2.0	3	12:56	13:06	?	-			12:56	13:17	?	-
18	?	1							**13:09**	**13:18**	**?**	**-**
18	C2.1	1							13:33	13:46	14:19	2+
18	C1.3	2	15:53	15:54	?	-			**14:40**	**14:55**	**15:39**	**2+**
18	C1.9	1							15:49	15:58	16:45	2+
18	C1.9	2							***18:52***	***18:59***	***19:16***	***1***
19	C1.0	1							12:10	12:22	12:32	1
24	?	1							11:00	11:07	11:22	1
24	C1.1	2	11:34	11:41	11:55	1			11:36	11:40	11:56	1
24	*	1							14:53	14:56	15:13	1
24	B9.0	1							16:09	16:11	16:31	1
24	B9.8	1							17:36	17:40	18:18	2
24	C1.3	1							18:44	18:48	19:18	2
24	C3.9	1							20:07	20:14	20:52	2
25	C1.6	2	10:12	10:16	10:30	1-			10:11	10:21	10:51	2
25	C1.2	1							**10:57**	**11:17**	**11:53**	**2+**
26	C1.5	2							09:14	09:15	09:49	2
26	C2.7	4							16:09	16:13	16:41	1+
28	B7.4	1							12:48	12:53	13:04	1-
28	B6.8	1							14:16	14:18	14:23	1-
30	C1.0	1										
31	C1.2	1										
31	?	1										
31	C2.2	1										
31	C2.5	4										

BAA Radio Astronomy Group. **2012 MAY**

			Colin Clements (23.4kHz)				Peter Meadows (23.4kHz)			Mike King (20.9kHz)			John Wardle (19.6/23.4kHz)				Peter King (18.3kHz)		
			AAVSO receiver, 0.76m screened loop aerial.				Tuned radio frequency receiver, 0.58m frame aerial.			AAVSO receiver. Tuned loop aerial.			PC soundcard, long wire aerial.				Own designed receiver, 1.4m loop aerial.		
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)	START	PEAK	END (UT)	START	PEAK	END (UT)		START	PEAK	END (UT)
1	*																		
2	C3.2		11:36	11:44	13:24	3							11:36	11:43	12:18	2			
2	B7.5																		
2	C2.2																		
2	C2.1																		
3	*																		
3	C1.6																		
3	C2.3												16:42	16:53	17:31	2+			
4	C1.5																		
4	?																		
4	?																		
4	C1.8																		
4	C2.3																		
5	C2.1																		
5	C6.8		09:33	09:38	10:56	2+							09:31	09:37	10:10	2			
5	C2.3		10:56	11:00	11:36	2													
5	?		12:05	12:15	12:58	2+													
5	?		12:58	12:59	13:10	1-													
5	C2.7																		
5	**M1.4**		13:10	13:27	15:27	3+							13:21	13:28	14:12	2+			
5	?																		
5	C1.8																		
5	C2.8																		
5	C3.4																		
5	C3.7																		
6	**M1.1**																		
6	C3.9																		
6	C1.7																		
6	C1.4																		
6	C1.4		11:07	11:47	15:36	3+													
6	C3.2												16:44	16:59	?	-			
6	C3.0												?	17:13	17:22				
6	**M1.3**												17:42	17:50	18:26	2			
6	C2.3																		
6	C4.3																		
7	C7.1																		
7	C4.0																		
7	C1.4																		
7	C7.9		11:04	11:09	12:22	2+							11:06	11:09	11:41	2			
7	**M1.9**		14:08	14:30	15:57	3							14:13	14:32	15:20	2+			
7	C7.4		17:23	17:24	18:11	2+							17:23	17:31	18:05	2			
8	C1.9																		
8	C1.7																		
8	*																		
8	C1.8																		
8	**M1.4**		13:06	13:10	15:18	3+							13:05	13:09	14:03	2+			
8	C1.5																		
9	C1.3																		
9	C1.3																		
9	B9.4																		
9	**M4.7**		12:24	12:33	14:03	3							12:25	12:31	13:35	2+			
9	**M1.8**		14:03	14:10	15:40	3							14:05	14:12	14:24	1			
9	*																		
9	C2.1																		
9	C1.4																		
9	C9.1																		
9	**M4.1**																		
10	**M5.7**																		
10	C7.9																		
10	C8.3																		
10	C3.1																		
10	C3.6																		
10	C1.4																		
10	C2.2		12:26	12:41	13:13	2+													
10	?		13:13	13:19	13:40	1+													
10	C4.2		13:40	13:58	15:55	3+							13:54	14:00	14:15	1			
10	C3.3																		
11	C1.7																		
11	C2.8		08:29	08:43	09:33	2+							08:31	08:39	08:53	1			
11	*																		
11	C2.3		09:33	09:49	10:54	2+							09:44	09:48	09:56	1-			
11	C1.3																		
11	B9.6																		
11	C1.2																		
11	?																		
11	C1.3																		
11	C1.5																		
11	C4.3		13:00	13:12	14:18	2+							13:01	13:07	13:25	1			
11	C3.5		14:18	14:24	15:09	2+													
11	*																		
11	C2.1																		
11	C6.1												17:34	17:41	18:14	2			
11	C4.1																		
12	C1.7																		
12	C1.5																		
12	*																		
12	C1.4																		
12	C2.5		13:21	13:24	14:25	2+							13:21	13:25	13:52	1+			
13	C4.4																		
13	C7.0		08:10	08:16	09:18	2+							08:11	08:14	08:43	1+			
14	C4.1																		
14	C2.5		09:34	09:45	10:16	2													
14	?																		
14	C1.0																		
14	C3.2																		
14	C1.7																		
15	C1.7																		
15	B8.2																		

15	*														
15	C1.0														
16	C2.5		09:09	09:23	09:37	1+									
16	C1.0		12:22	12:29	13:02	2									
17	**M5.1**														
18	C3.6		08:05	08:23	08:58	2+									
18	C2.0		12:39	13:14	16:24	3+									
18	?														
18	C2.1														
18	C1.3														
18	C1.9														
18	C1.9														
19	C1.0														
24	?														
24	C1.1														
24	*														
24	B9.0														
24	B9.8														
24	C1.3														
24	C3.9														
25	C1.6														
25	C1.2														
26	C1.5														
26	C2.7														
28	B7.4														
28	B6.8														
30	C1.0														
31	C1.2														
31	?		13:26	13:37	14:00	2									
31	C2.2										14:28	14:33	14:50	1	
31	C2.5		15:32	15:34	16:12	2					15:31	15:36	15:47	1-	

BAA Radio Astronomy Group. **2012 MAY**

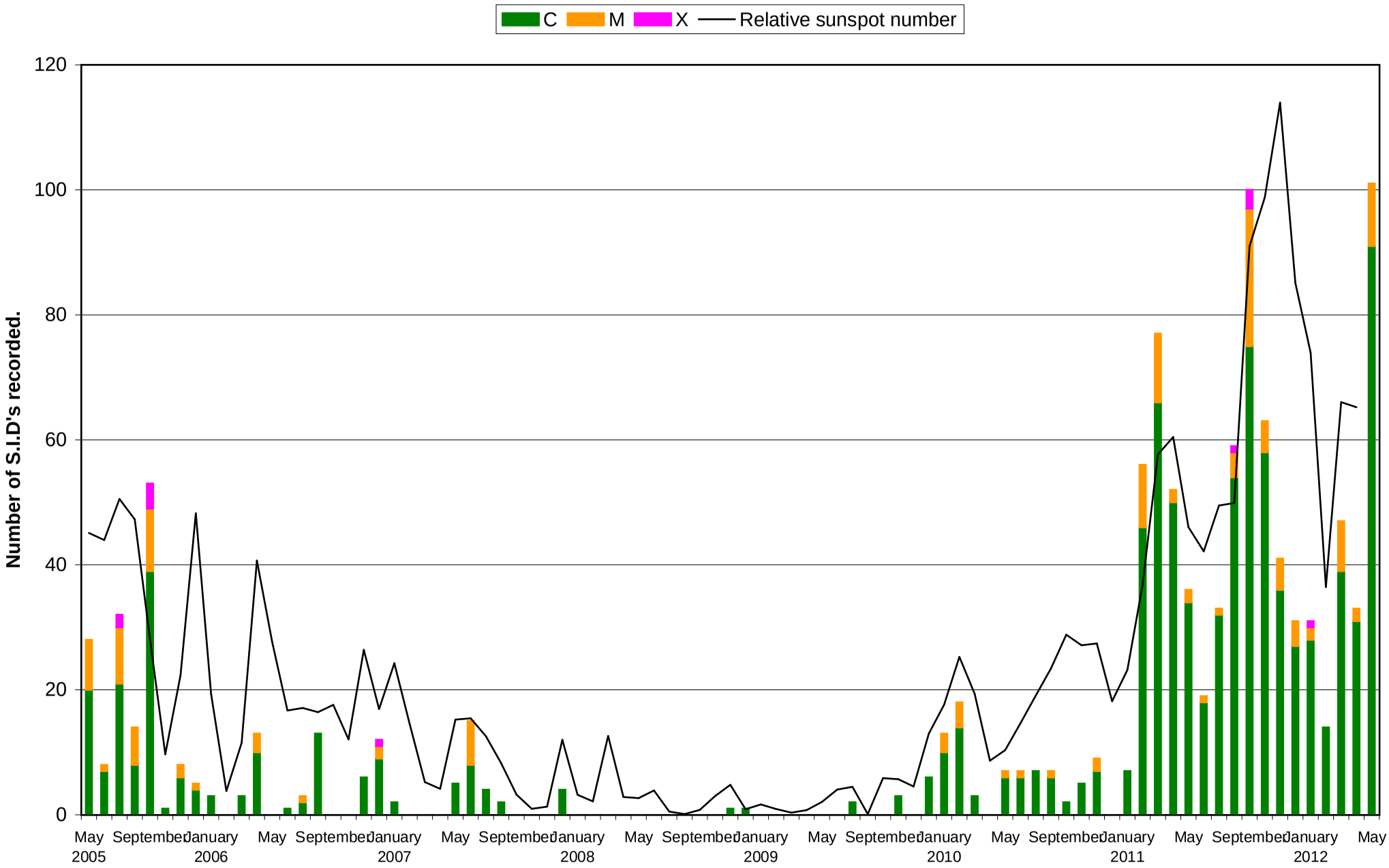
			Paul Hyde (22.1kHz)				Gordon Fiander (19.6/22.1kHz)				John Elliott (21.75kHz)				Martyn Kinder (19.6kHz/*22.1khz*)				Mark Horn (23.4kHz)			
			Tuned radio frequency receiver, 0.96m frame aerial.				PC sound card.				Tuned radio frequency receiver, 0.5m frame aerial.				Tuned radio frequency receiver, 0.58m frame aerial.				Tuned radio frequency receiver, 0.58m frame aerial.			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
1	*																					
2	C3.2		11:35	11:41	12:08	2									11:35	11:42	11:54	1				
2	B7.5																					
2	C2.2																					
2	C2.1																					
3	*																					
3	C1.6																					
3	C2.3		16:42	16:54	17:41	2+	16:40	16:58	17:35	2+					16:41	16:53	17:20	2				
4	C1.5																					
4	?																					
4	?																					
4	C1.8																					
4	C2.3																					
5	C2.1		08:34	08:41	08:52	1-									08:35	08:41	08:53	1-				
5	C6.8		09:33	09:37	10:06	2									09:32	09:35	10:04	1+				
5	C2.3		10:58	11:01	11:34	2									10:57	11:03	11:10	1-				
5	?																					
5	?																					
5	C2.7		13:15	13:17	?	-																
5	**M1.4**		13:21	13:27	14:54	3									13:22	13:27	13:43	1				
5	?																					
5	C1.8		16:44	16:49	17:07	1									16:43	16:50	16:57	1-				
5	C2.8		17:20	17:24	17:38	1-									17:19	17:24	17:36	1-				
5	C3.4																					
5	C3.7																					
6	**M1.1**																					
6	C3.9																					
6	C1.7		07:03	07:06	07:26	1									07:03	07:07	07:15	1-				
6	C1.4																					
6	C1.4																					
6	C3.2		16:50	16:55	?	-									16:44	16:57	17:07	1				
6	C3.0		17:07	17:10	17:33	1+									17:07	17:11	17:27	1				
6	**M1.3**		17:46	17:50	18:47	2+									17:46	17:52	18:14	1+				
6	C2.3																					
6	C4.3																					
7	C7.1																					
7	C4.0		06:47	07:09	07:52	2+																
7	C1.4														08:28	08:31	08:34	1-				
7	C7.9		11:04	11:10	11:50	2+									*11:04*	*11:06*	*11:12*	*1-*				
7	**M1.9**		14:08	14:25	15:27	2+									*14:07*	*14:13*	*14:28*	*1*				
7	C7.4		17:24	17:29	18:14	2+									17:22	17:28	17:46	1				
8	C1.9		08:26	08:37	08:54	1+	08:25	08:35	08:41	1-												
8	C1.7		09:26	09:29	09:41	1-																
8	*																					
8	C1.8		10:37	10:43	10:57	1																
8	**M1.4**		13:06	13:09	13:35	1+	13:07	13:10	14:05	2+	13:07	13:11	14:10	2+	13:07	13:11	13:24	1-				
8	C1.5																					
9	C1.3																					
9	C1.3																					
9	B9.4																					
9	**M4.7**		12:29	12:34	13:36	2+	12:23	12:33	13:15	2+	12:27	12:35	13:16	2+	12:26	12:33	13:12	2+				
9	**M1.8**		14:05	14:10	14:27	1	14:04	14:09	14:40	2	14:07	14:16	14:34	1+	14:05	14:07	14:20	1-				
9	*																					
9	C2.1																					
9	C1.4																					
9	C9.1																					
9	**M4.1**																					
10	**M5.7**																					
10	C7.9														*05:06*	*05:09*	*05:11*	*1-*				
10	C8.3		05:20	05:24	05:37	1-																
10	C3.1																					
10	C3.6		06:21	06:35	06:46	1																
10	C1.4		07:33	07:37	07:52	1																
10	C2.2																					
10	?																					
10	C4.2		13:27	13:48	?	-	13:37	13:40	14:15	2					13:37	13:39	13:45	1-				
10	C3.3		16:56	17:01	17:25	1+	16:57	17:02	17:10	1-					16:56	17:00	17:06	1-				
11	C1.7		08:11	08:18	08:30	1									08:11	08:18	08:22	1-				
11	C2.8		08:31	08:39	08:58	1+									08:31	08:40	09:01	1+				
11	*																					
11	C2.3		09:43	09:50	?	-									09:40	09:50	09:54	1-				
11	C1.3		10:15	10:17	10:23	1-									10:13	10:19	10:22	1-				
11	B9.6														10:37	10:42	10:44	1-				
11	C1.2																					
11	?																					
11	C1.3																					
11	C1.5																					
11	C4.3		13:00	13:12	13:54	2+									*13:00*	*13:06*	*13:18*	*1-*				
11	C3.5		14:22	14:24	14:40	1-									*14:19*	*14:26*	*14:37*	*1-*				
11	*																					
11	C2.1																					
11	C6.1		17:35	17:41	18:41	2+									17:32	17:42	18:06	2				
11	C4.1																					
12	C1.7																					
12	C1.5																					
12	*																					
12	C1.4														09:20	09:24	09:33	1-				
12	C2.5														13:23	13:26	13:37	1-				
13	C4.4																					
13	C7.0		08:10	08:15	09:09	2+									08:12	08:14	08:42	1+				
14	C4.1		07:17	07:40	08:32	2+									07:17	07:39	07:45	1+				
14	C2.5		09:39	09:45	10:25	2+																
14	?																					
14	C1.0																					
14	C3.2		16:12	16:17	16:48	2									16:10	16:17	16:26	1-				
14	C1.7																					
15	C1.7		09:40	09:46	?	-																
15	B8.2																					

15	*														
15	C1.0														
16	C2.5		09:09	09:22	09:57	2+					09:11	09:21	09:42	1+	
16	C1.0		12:24	12:29	12:42	1-									
17	**M5.1**														
18	C3.6										07:56	08:21	08:43	2+	
18	C2.0														
18	?														
18	C2.1														
18	C1.3														
18	C1.9														
18	C1.9										15:47	15:59	16:20	2	
19	C1.0														
24	?														
24	C1.1														
24	*														
24	B9.0														
24	B9.8														
24	C1.3														
24	C3.9														
25	C1.6														
25	C1.2														
26	C1.5														
26	C2.7						16:07	16:15	16:31	1	16:07	16:11	16:17	1-	
28	B7.4														
28	B6.8														
30	C1.0										08:37	08:47	09:04	1+	
31	C1.2										06:36	06:45	06:56	1	
31	?														
31	C2.2														
31	C2.5		15:33	15:37	15:52	1					15:33	15:39	15:50	1-	

BAA Radio Astronomy Group. **2012 MAY**

			Steve Parkinson (19.6/22.1kHz)				Simon Dawes (various)			Gonzalo Vargas (Various)			Tarif Rashid Santo (NWC 19.8kHz)						
			Tuned radio frequency receiver, 0.58m frame aerial.				PC soundcard and TRF receiver with 1m loop aerial.			Spectrum Lab.			Spectrum Lab, half-wave dipole.			15m			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)	START	PEAK	END (UT)	START	PEAK	END (UT)		START	PEAK	END (UT)
1	*																		
2	C3.2		11:36	11:41	12:06	1+													
2	B7.5																		
2	C2.2																		
2	C2.1																		
3	*																		
3	C1.6																		
3	C2.3		16:43	16:52	17:40	2+													
4	C1.5																		
4	?																		
4	?																		
4	C1.8																		
4	C2.3																		
5	C2.1		08:35	08:42	09:07	1+													
5	C6.8		09:31	09:34	10:08	2							09:30	09:35	10:42	2+			
5	C2.3																		
5	?																		
5	?																		
5	C2.7																		
5	**M1.4**		13:21	13:26	14:05	2													
5	?																		
5	C1.8		16:45	16:50	17:05	1													
5	C2.8		17:21	17:24	17:49	1+													
5	C3.4																		
5	C3.7																		
6	**M1.1**												01:12	01:21	01:54	2			
6	C3.9												04:31	04:43	04:55	1			
6	C1.7																		
6	C1.4																		
6	C1.4																		
6	C3.2		16:51	16:57	17:30	2													
6	C3.0																		
6	**M1.3**		17:46	17:50	18:35	2+													
6	C2.3																		
6	C4.3																		
7	C7.1												02:37	02:52	03:04	1+			
7	C4.0												06:48	07:04	07:23	2			
7	C1.4																		
7	C7.9		11:06	11:11	11:52	2+							10:52	11:12	12:08	2+			
7	**M1.9**		14:08	14:23	14:50	2													
7	C7.4		17:24	17:28	18:25	2+													
8	C1.9		08:32	08:39	09:08	2													
8	C1.7		09:18	09:27	09:55	2													
8	*																		
8	C1.8																		
8	**M1.4**		13:06	13:11	13:40	2													
8	C1.5																		
9	C1.3																		
9	C1.3																		
9	B9.4																		
9	**M4.7**		12:25	12:26	13:30	2+							12:26	12:34	?	-			
9	**M1.8**		14:06	14:10	14:40	2													
9	*																		
9	C2.1																		
9	C1.4																		
9	C9.1																		
9	**M4.1**																		
10	**M5.7**												04:16	04:20	04:47	1+			
10	C7.9												05:08	05:12	05:20	1-			
10	C8.3												05:20	05:22	05:52	1+			
10	C3.1												05:53	06:02	06:18	1			
10	C3.6												06:22	06:26	07:00	2			
10	C1.4																		
10	C2.2																		
10	?																		
10	C4.2																		
10	C3.3		16:56	17:01	17:30	2													
11	C1.7																		
11	C2.8		08:34	08:44	?	-													
11	*																		
11	C2.3																		
11	C1.3																		
11	B9.6																		
11	C1.2																		
11	?																		
11	C1.3																		
11	C1.5																		
11	C4.3																		
11	C3.5																		
11	*																		
11	C2.1																		
11	C6.1		17:35	17:42	18:30	2+													
11	C4.1																		
12	C1.7																		
12	C1.5																		
12	*																		
12	C1.4		09:21	09:27	09:46	1													
12	C2.5		13:22	13:28	13:59	2													
13	C4.4												04:05	04:10	04:42	2			
13	C7.0		08:10	08:15	09:00	2+							08:10	08:16	08:56	2+			
14	C4.1		07:33	07:40	08:20	2+							07:20	07:40	08:12	2+			
14	C2.5		09:39	09:46	10:15	2													
14	?																		
14	C1.0																		
14	C3.2		16:12	16:17	16:40	1+													
14	C1.7																		
15	C1.7		09:41	09:55	10:30	2+													
15	B8.2																		

15	*										
15	C1.0										
16	C2.5		09:10	09:22	10:00	2+					
16	C1.0										
17	**M5.1**								01:28	01:46	04:22 3+
18	C3.6		08:01	08:20	09:00	2+					
18	C2.0										
18	?										
18	C2.1										
18	C1.3										
18	C1.9										
18	C1.9										
19	C1.0										
24	?										
24	C1.1										
24	*										
24	B9.0										
24	B9.8										
24	C1.3										
24	C3.9										
25	C1.6										
25	C1.2										
26	C1.5		09:09	09:16	09:50	2					
26	C2.7		16:07	16:11	16:48	2					
28	B7.4										
28	B6.8										
30	C1.0										
31	C1.2										
31	?										
31	C2.2										
31	C2.5										


VLF flare activity 2005/12.
C
M
X
Relative sunspot number
Number of S.I.D's recorded.
120
100
80
60
40
20
0
May 2005
September
January 2006
May
September
January 2007
May
September
January 2008
May
September
January 2009
May
September
January 2010
May
September
January 2011
May
September
January 2012
May

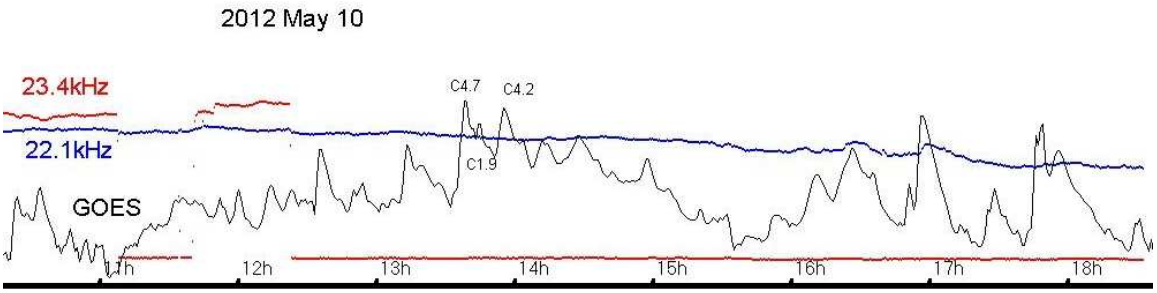
2012 MAY

The busiest month so far in cycle 24, we have recorded 109 SIDs from SWPC classified flares, as well as another 20 that have not been classified. 2011 September was the previous peak with 102 SIDs. Most of this activity was in the first two weeks, due to active region 1476. This reached a span of 20 degrees with about 50 spots on the 10th. The 23.4kHz transmitter was off the air for part of this period, and much of the activity did not record too well on my 22.1kHz receiver.

The 10th produced a strange triple flare. Most reports list them as a single event, so I have listed them here as a single SID at C4.2. The SWPC figures are as follows:

C1.9 13:10 13:47 15:23
C4.7 13:34 13:40 13:44
C4.2 13:52 13:57 14:01

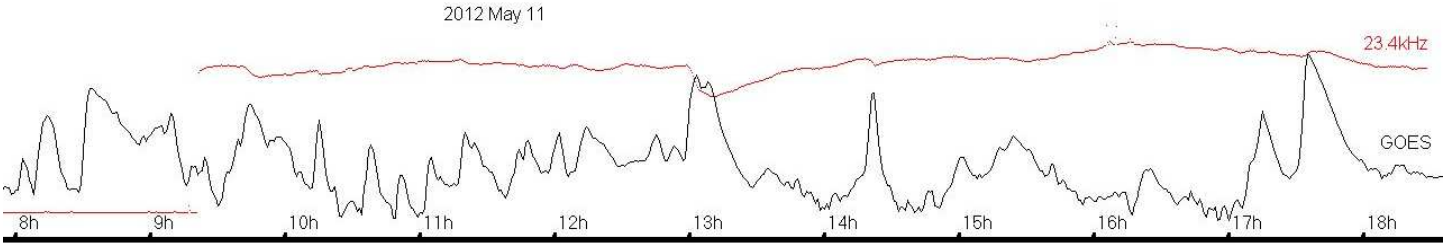
They were all produced by AR1476. They do not show on my 22.1kHz recording, but I am including the GOES data with my own recording to clarify the event for those who did record it.



The C1.9 Flare can just be seen between the two larger peaks.

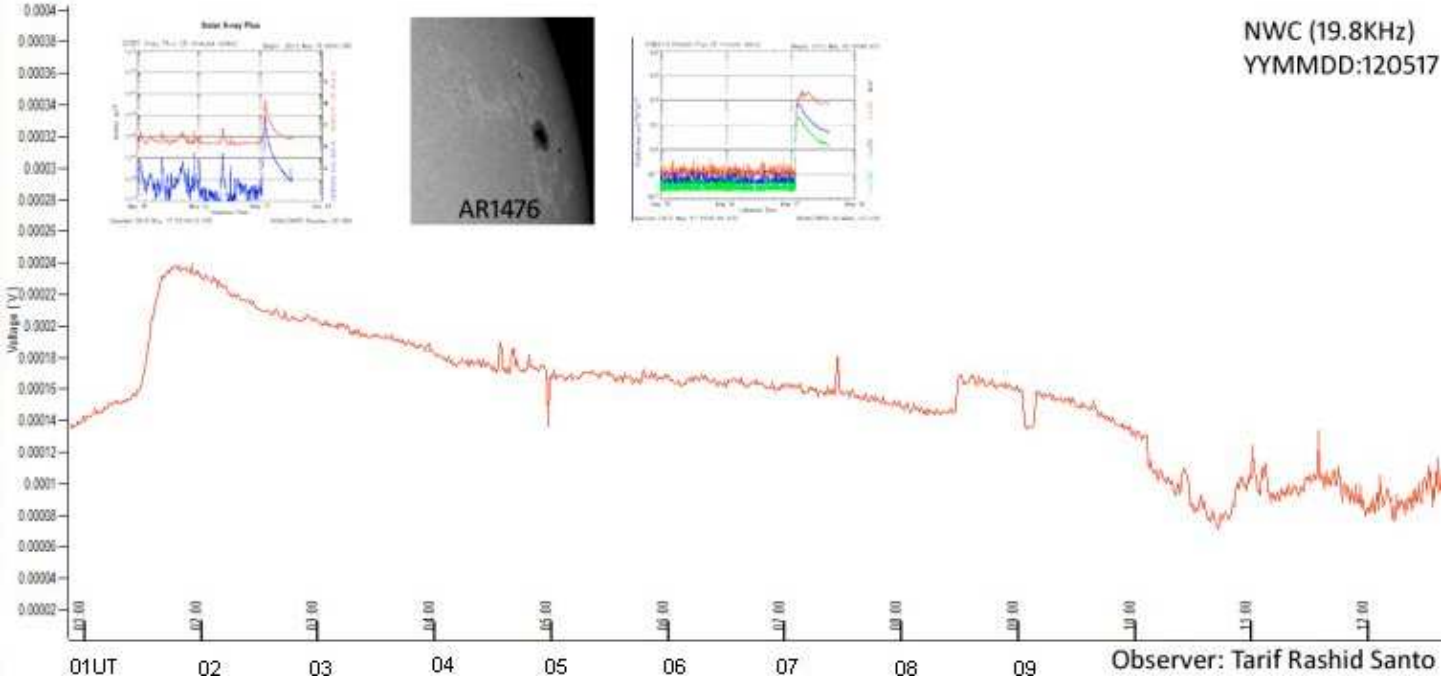
The most energetic flare of the month, at M5.7, was also recorded as a SID peaking at 04:20UT on the 10th. This report was contributed by new member Tarif Rashid Santo. He is based in Dhaka, Bangladesh, and at 90 degrees east our observing time is extended well into the early morning hours. He is monitoring NWC on 19.8kHz in Australia.

A record 16 SIDs were reported for the 11th, all from AR1476.



Most of them do not show as SIDs on my recording above, but the GOES trace shows just how active this spot group was.

Tarif Rashid Santo also caught another early SID from the M5.1 flare peaking at 01:44UT on the 17th. His chart is shown below, together with a picture of AR1476 nearing the solar limb:



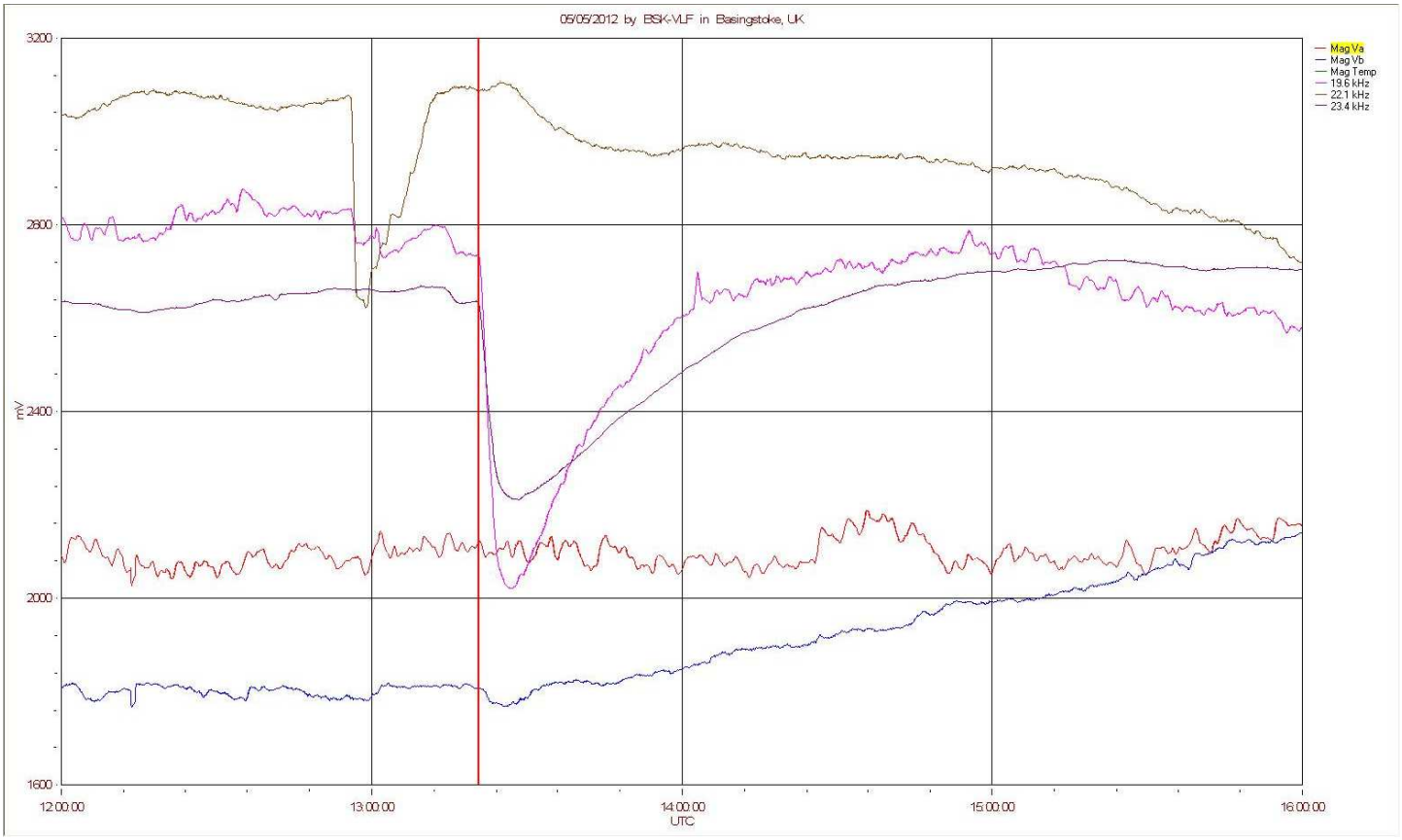
With AR1476 rotated around the limb, activity was much reduced after the 18th, with several smaller groups responsible for the flares.

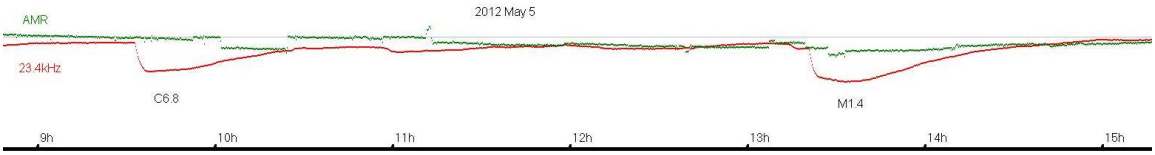
Rapid oscillations were reported by Mark Edwards on the 29th, while Colin Clements found a large amplitude 20 minute oscillation on the 30th.

MAGNETIC DATA.

The Bartels chart shows magnetic activity on most days in May. Most of this was short periods of minor disturbance from enhanced solar wind speeds. More sustained activity was recorded from the 8th to the 10th and 22nd to 25th from Coronal Hole High Speed Streams. Evidence of two CME's were noted by Paul Hyde. The first CME was produced by the M5.1 flare recorded as a SID peaking at 01:46UT on the 17th. The magnetic disturbance began with Paul at 02:13UT on the 20th, giving a transit time of 72h 48m. Colin Clements also recorded this CME arrival at a similar time. The second occurred in the form of a filament eruption at 05:10UT on the 18th in STEREO data. Paul recorded the magnetic disturbance at 19:38 on the 21st, giving a transit time of over 84hours. I also have a disturbance at this time, measuring about 8nT. Occurring in an otherwise quiet period, the effect does seem to be real.

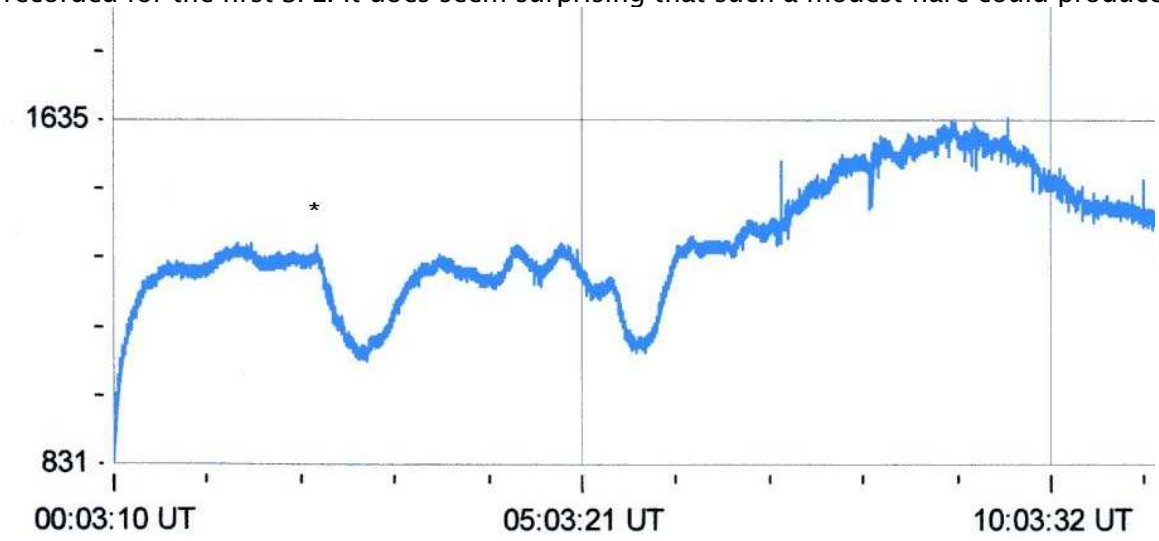
Although there were no X-class flares during May, two flare-induced magnetic effects (SFE's) are reported by SWPC and the BGS. Both were produced by modest flares with very fast rise-times. The first of these is related to the M1.4 flare on the 5th. Paul Hyde and myself have similar magnetic recordings of this, the initial disturbance measuring about 16nT on my recording. With domestic interference these small effects often do not stand out from the background, and can be difficult to interpret. Paul's chart shows a small dip in the east-west (Vb) signal:





My chart (above) shows a similar effect, but with some interference shortly after the SFE.

The second SFE is reported by the BGS at 11:10 on the 7th, probably associated with the C7.9 flare. There is no evidence of this in any of our recordings despite the BGS indicating a greater magnetic disturbance than that recorded for the first SFE. It does seem surprising that such a modest flare could produce an SFE at all.



Colin's Recording of the CME arrival on the 20th at about 02:13UT.

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

ROTATION																															
2407		18	19	20	21	22	23	24	25	26	27	28	29	30	31	2010 January 1	2	3	2092 4	5	6	7	8	9 *	10	11	12	13			
	F																C															
2408		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2093 31	2010 February 1	2	3	4	5	6	7	8	9			
	F						CCMC	MCMCC	C																CC		MCCMMC	C				
2409		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	2094 28	2010 March 1	2	3	4	5	6	7	8			
	F	CC		CBM	CC	C	BB											B						C							
2410		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	2095 27	28	29	30	31	2010 April 1	2	3	4			
	F						B											BB		CC											
2411		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2096 23	24	25	26	27	28	29	30	May 1			
	F																														
2412		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	2097 21	22	23	24	25	26	27	28			
	F			C	CCM		C	CC																							
2413		29	30	31	2010 June 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	2098 17	18	19	20	21	22	23	24			
	F															C	MCCC														
2414		25	26	27	28	29	30	2010 July 1	2	3	4	5	6	7	8	9	10	11	12	13	2099 14	15	16	17	18	19	20	21			
	F															C				C	CC			C			C				
2415		22	23	24	25	26	27	28	29	30	2010 August 1	2	3	4	5	6	7	8	9	2100 10	11	12	13	14	15	16	17	18			
	F		BC								C						M							CC	C	C		C			
2416		19	20	21	22	23	24	25	26	27	28	29	30	31	2010 September 1	2	3	4	5	2101 6	7	8	9	10	11	12	13	14			
	F																			C											
2417		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2010 October 1	2	3	2102 4	5	6	7	8	9	10	11			
	F														C		B		B		C										
2418		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2103 31	2010 November 1	2	3	4	5	6	7			
	F						C	CC																CC		M	CM				
2419		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	2104 27	28	29	30	2010 December 1	2	3	4			
	F				C	CC	C																								
2420		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2105 25	26	27	28	29	30	31			
	F																														
2421		2011 January 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	2106 20	21	22	23	24	25	26	27			
	F														C	C						CCC	C								
2422		28	29	30	31	2011 February 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	2107 16	17	18	19	20	21	22	23			
	F							B							CC		C	BCM	CM	CC	MCM	CCC	MMCC	CCC		CCC		C			
2423		24	25	26	27	28	2011 March 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	2108 16	17	18	19	20	21	22			
	F	MCC	C	C		MC	CCC	C	CC	C	CCCC	CCCC	CMMM	CMM	CMMM	CCCC	CCC	BCCC	CC	CBCM	CCCC	CC						CC	C			
2424		23	24	25	26	27	28	29	30	31	2011 April 1	2	3	4	5	6	7	8	9	10	11	2109 12	13	14	15	16	17	18			
	F	BC	MCB	C			C	C								CC	C		C		BC	C	CCCC	CCCC	CCCM	CBCC	CB	B			
2425		19	20	21	22	23	24	25	26	27	28	29	30	2011 May 1	2	3	4	5	6	7	8	2110 9	10	11	12	13	14	15			
	F	B	BBC	CCC	CCMCC	CC		B			CCCC		CCCC	CB	C	C			C			C			C			C			
2426		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2011 June 1	2	3	4	5	2111 6	7	8	9	10	11			
	F			CCC									BCCC	CCCM	CBCM	CCC															
2427		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2011 July 1	2	2112 3	4	5	6	7	8			
	F																						C					CCCC			
2428		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	2113 30	31	2011 August 1	2	3	4			
	F			C	C						C									CCCM	CCBCC	CCCB	CCCC	CBCC	CCCC	MCCB	MCCM	CCCC			
2429		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	2114 28	29	30	31			
	F	CCCB	CCCC	CCC	CMC	CMXC	CCCC	CC				CB		CC	BC		BB	BC	C		C	BC	C			CCC	CBC	C			
2430		2011 September 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2115 23	24	25	26	27			
	F	CCC	C	CCCC	CMCC	M		X	CMC	C	MC	CCB	C	C	CCCC	CCCC	CCCC	CC	CCC	CC	CCCC	CMCC	CMXC	CCCC	CXMM	MMCM	CCMC	CCCC			
2431		28	29	30	2011 October 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	2116 20	21	22	23	24			
	F	CCM	CC	M	MC	CCMC		C	CCCB	C			C	CCC		CCCC	CCC	CCC	CCCC	CCCC	CC		CC	C	CMC	MC	C			
2432		25	26	27	28	29	30	31	2011 November 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	2117 17	18	19	20			
	F		C		C	CCCC	CCC	M	C	CCCC	CCM	C	CMCC	CC			M		C	C	CC	CCC	MM	C	CCC			CCCC			
2433		21	22	23	24	25	26	27	28	29	30	2011 December 1	2	3	4	5	6	7	8	9	10	11	12	13	2118 14	15	16	17			
	F		C	C				C	C	C		C				C				C			B	C	CCC						
2434		18	19	20	21	22	23	24	25	26	27	28	29	30	31	2012 January 1	2	3	4	5	6	7	8	9	2119 10	11	12	13			
	F	B		C	CCCC		C		CCM	CC	C	CCC	M	CCC	MBM		C		CC	C	C		CC	CC		C	CC				
2435		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2012 February 1	2	3	4	5	6	2120 7	8	9			
	F	CMC	C	CC		CC	CM		C	CC		C		C	CCX	C										C		C			
2436		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	2012 March 1	2	3	4	2121 5	6	7			
	F	CC	CCCC	C							C	C	C					C				C	M		MC	CCCC	MCMC				
2437		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2012 April 1	2	3			
	F	C	CC	CCM		C	M	M	MC	CC			C		BCCC	CCC	C	C					CCCC								
2438		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	2123 28	29	30			
	F	C	BC		C		C	B						M		CCBCC	C	CCC	CB	CC	C	CC	C		MCC	C	CC	CCCC			
2439		2012 May 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	2124 26	27			
	F		CBCC	CC	CC	CCMCC	MCMC	CCMC	CCMC	CBMM	MCCC	CCCC	CCCC	CC	CCCC	CBC	CC	M	CCCC	C					CBBC	CC	CC				
2440		28	29	30	31	2012 June 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	2126 22	23			
	F	BB		C	CCCC																										