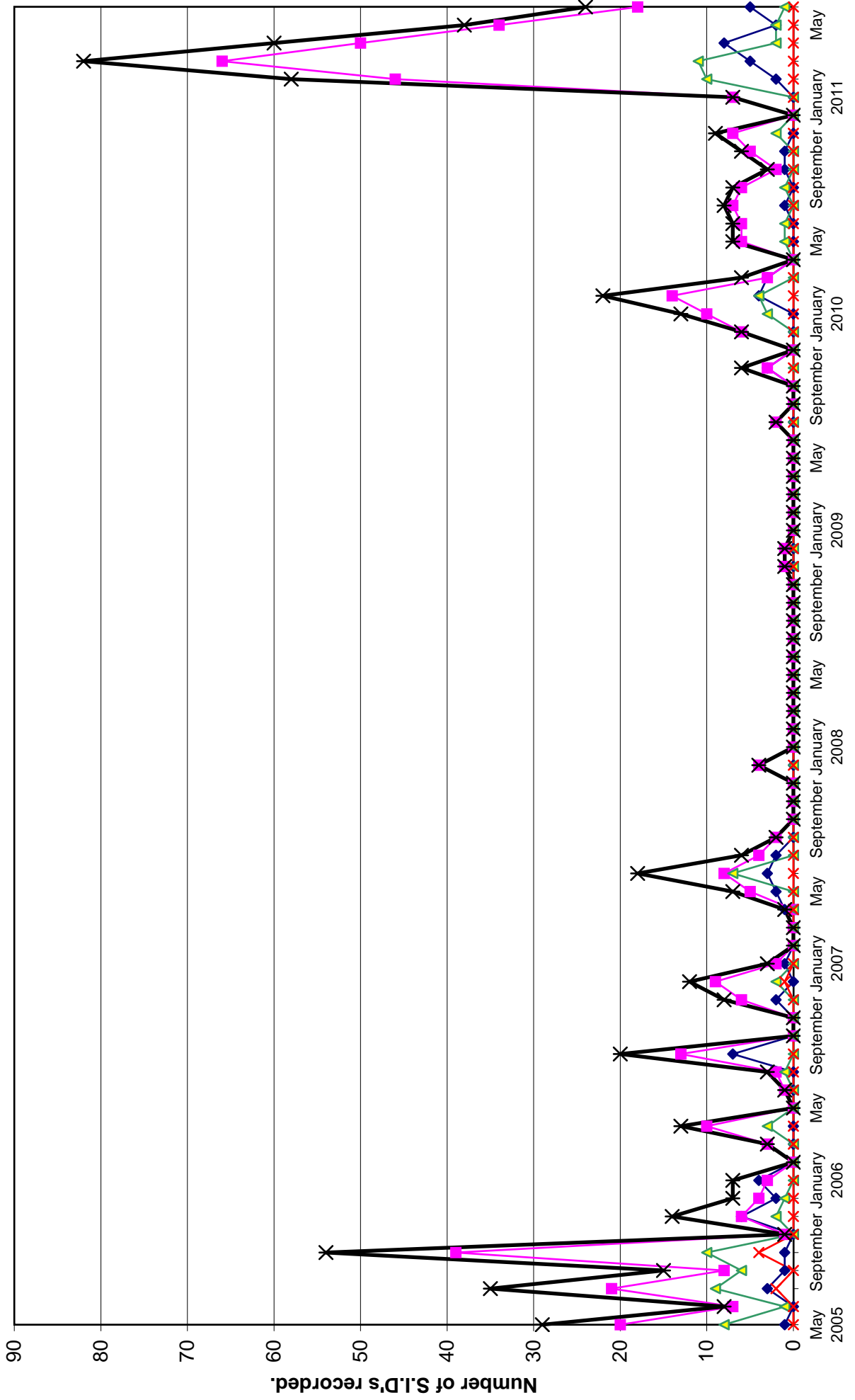


		Paul Hyde (22.1kHz)	Gordon Flander (23.4kHz)	John Elliott (18.3kHz)	Martyn Kinder (18.3kHz/22.7kHz)	Mark Horn (23.4kHz)
		Tuned radio frequency receiver, 0.96m frame aerial.	PC sound card.	Tuned radio frequency receiver, 0.5m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	Tuned radio 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	C1.6	16:15 16:19 ?				
1	C2.9	16:28 16:37 ?				
1	C4.1	16:52 17:04 18:03 2+				
2	C3.7	07:24 07:34 07:37 1-				
2	C2.7					
2	C1.8					
3	C2.5	16:00 16:16 16:46 2+				
6	C1.0	09:46 09:52 09:57 1-				
7	M2.5	06:21 06:45 09:08 3+				
9	C1.0	10:26 10:30 10:34 1-				
10	C2.9					
14	C2.2	11:16 11:30 11:59 2		11:16 11:37 12:03 2+		
14	B7.8	13:20 13:28 13:57 2				
15	C2.6	11:42 11:52 ?		11:43 11:50 12:03 1		
15	? 15	12:01 12:11 12:26 1				
15	B7.9					
15	C3.2	14:29 14:36 15:04 2		14:22 14:35 14:48 1+		
16	C7.1	10:16 10:25 11:18 2+		10:16 10:20 11:13 2+		
16	C1.8	12:03 12:11 12:28 1				
16	C1.0	15:40 15:44 15:58 1-				
19	B8.4	13:35 13:38 13:44 1-				
19	C4.7	15:20 15:25 16:14 2+		15:13 15:22 15:39 1+		
19	C1.5					
27	B7.5	06:30 06:35 ?				
28	B9.6	13:09 13:25 14:03 2+				

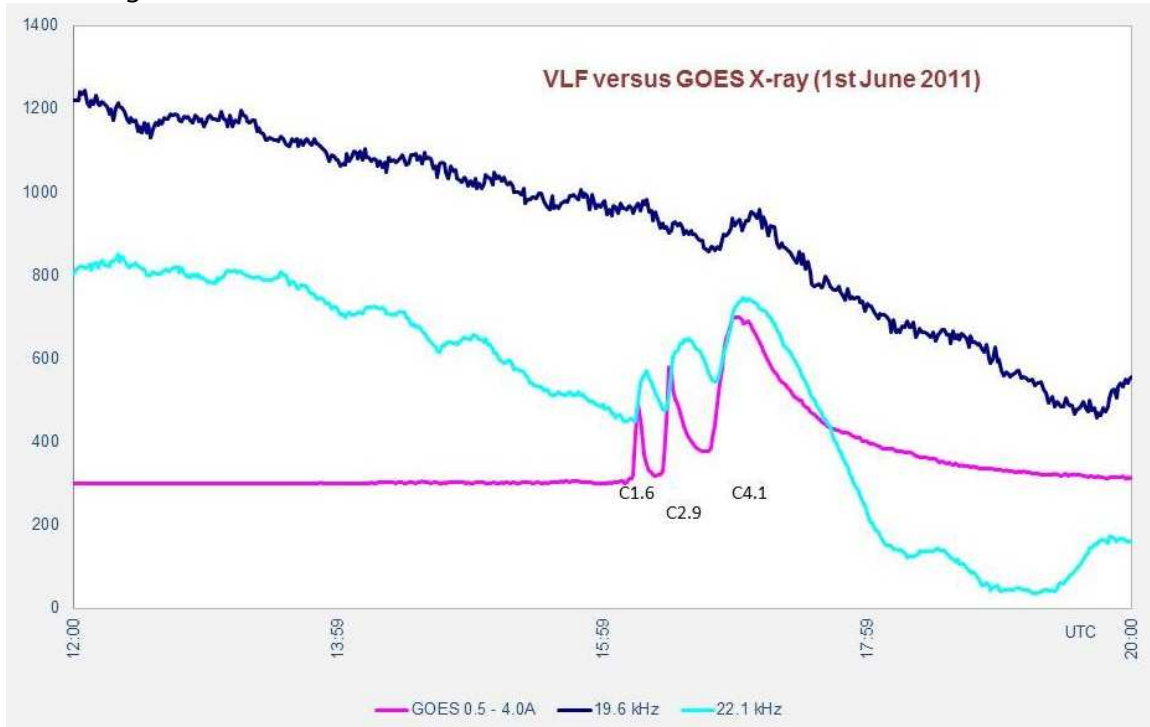
		Steve Parkinson (23.4kHz)	Simon Dawes (various)			
		Tuned radio frequency receiver, 0.96m frame aerial.	PC soundcard and TRF receiver with 1m loop aerial.			
DAY		START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C1.6		16:11 16:15 ?			
1	C2.9		16:25 16:30 ?			
1	C4.1		16:46 16:59 18:08 2+			
2	C3.7					
2	C2.7					
2	C1.8					
3	C2.5		15:57 16:17 16:44 2+			
6	C1.0		06:22 06:29 06:42 1			
7	M2.5					
9	C1.0		17:48 17:54 18:13 1			
10	C2.9		11:14 10:31 12:35 2+			
14	C2.2					
14	B7.8					
15	C2.6		11:42 11:49 ?			
15	? 15					
15	B7.9					
15	C3.2		14:23 14:30 14:58 2			
16	C7.1		10:14 10:21 11:32 2+			
16	C1.8					
16	C1.0					
19	B8.4					
19	C4.7		15:16 15:19 15:50 2			
19	C1.5					
27	B7.5					
28	B9.6					

VLF flare activity 2005/11.



2011 JUNE

June 1st started the month with a trio of consecutive flares in the afternoon, all from Active Region 1226.

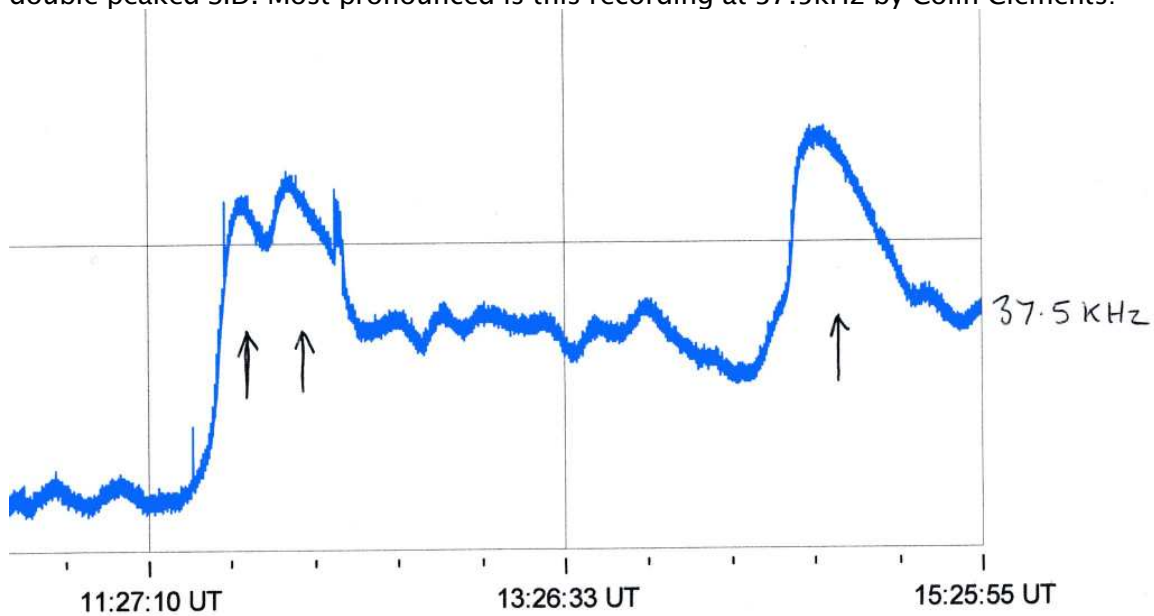


This recording by Paul Hyde includes the GOES data along with signals at 19.6kHz (Anthorn) and 22.1 kHz (Skelton). The transmitters are about 30km apart, yet the 19.6kHz signal hardly shows any response to the first two flares.

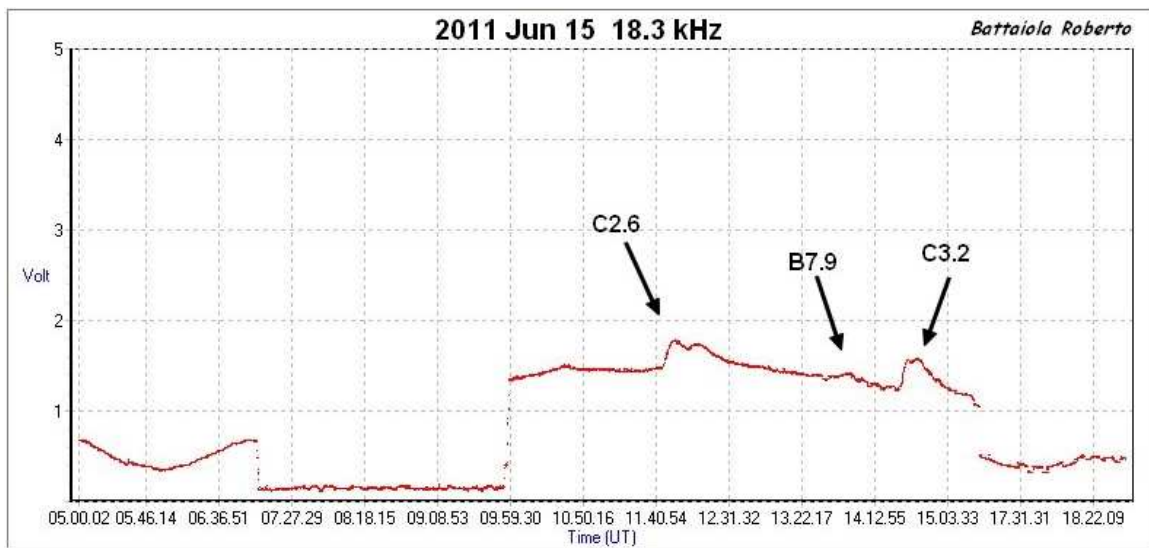


Roberto Battaiola has also recorded them, shortly before the local sunset dip.

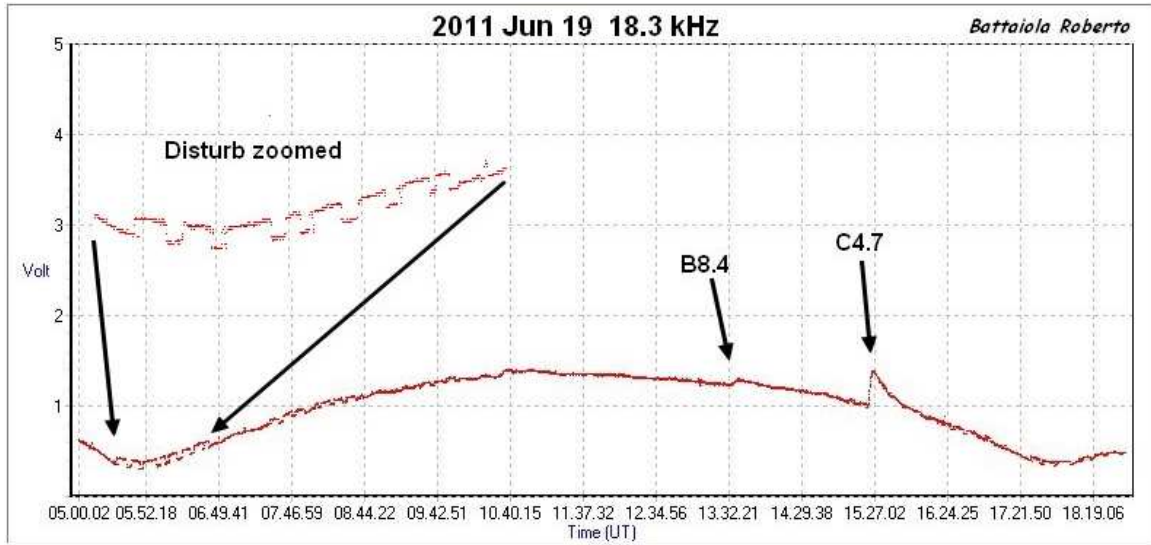
A most odd looking SID was widely recorded on the 15th. Listed in the GOES data at C2.6, the X-ray flux peaked at 11:50. All of the charts that I have received show a double peaked SID. Most pronounced is this recording at 37.5kHz by Colin Clements:



The two distinct peaks are marked, and look like the result of two flares.



This recording from Roberto Battaiola also clearly shows two peaks. Roberto also reported some odd behaviour on the 19th, his chart shows step changes in the signal strength of HWU at 18.3kHz during the early hours of the morning. Starting at about 05:30, there are a series of signal strength increases of about 10 minutes each. These stop at about 06:40. It would be interesting to know if any other observers recorded similar disturbances at 18.3kHz. The chart is on the next page.

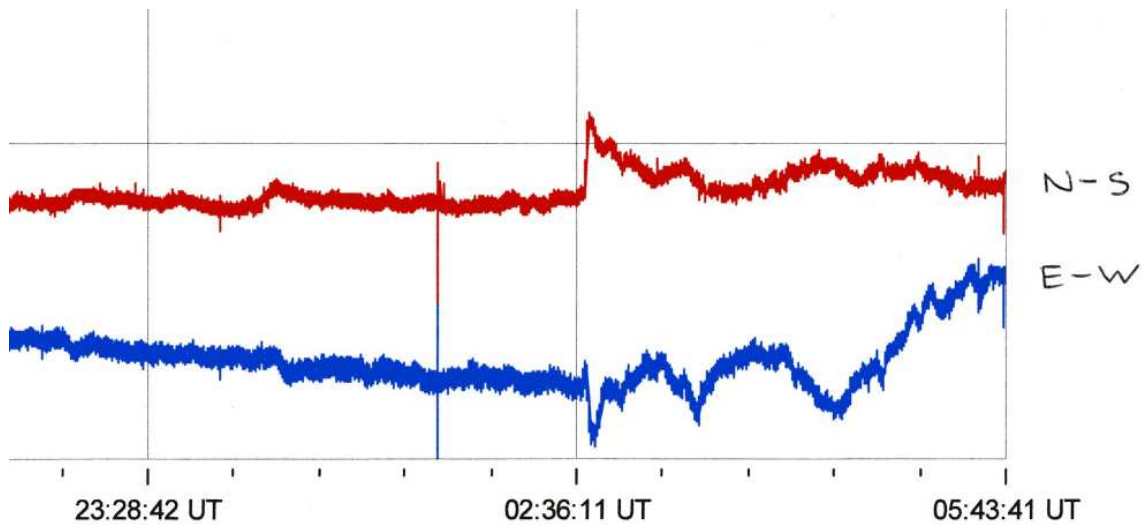


Magnetic Data.

ROTATION	KEY:	DISTURBED.	ACTIVE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).
2407	F	18 19 20 21 22 23 24 25 26 27 28 29 30 31		2010 January 1 2 3 C	2082 4 5 6 7 8 9 10 11 12 13
2408	F	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	20 CCMC MCMCC		2083 1 2 3 4 5 6 7 8 9 CC MCCMMC C
2409	F	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	CC CBM BB		2084 1 2 3 4 5 6 7 8 C
2410	F	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	B		2085 27 28 29 30 31 CC BB
2411	F	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22			2086 23 24 25 26 27 28 29 30 May 1
2412	F	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	C CCM CC		2087 20 21 22 23 24 25 26 27 28
2413	F	29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		2010 June 13 C MCCC	2088 17 18 19 20 21 22 23 24
2414	F	25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13		2010 July 1 C	2089 14 15 16 17 18 19 20 21 CC C
2415	F	22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10		2010 August 1 C M	2100 11 12 13 14 15 16 17 18 C C
2416	F	19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6		2010 September 1 C	2101 7 8 9 10 11 12 13 14 C
2417	F	15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			2010 October 1 2 3 4 5 6 7 8 9 10 11 C B
2418	F	12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30			2102 4 5 6 7 8 9 10 11 C
2419	F	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26			2103 31 1 2 3 4 5 6 7 CC M CM
2420	F	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24			2104 27 28 29 30 2105 25 26 27 28 29 30 31
2421	F	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 27		2011 January 1 C	2106 20 21 22 23 24 25 26 27 CCC C
2422	F	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		2011 February 1 B	2107 16 17 18 19 20 21 22 23 C MCM CCC
2423	F	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 20 21 22		2011 March 1 C	2108 17 18 19 20 21 22 CCC C
2424	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		2011 April 1 C	2109 12 13 14 15 16 17 18 BC C CCCC CCCC CCCC CBCC CB B
2425	F	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 15		2011 May 1 C	2110 10 11 12 13 14 15 C
2426	F	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		2011 June 1 C	2111 4 5 6 7 8 9 10 11 C
2427	F	12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			2011 July 1 2 3 4 5 6 7 8

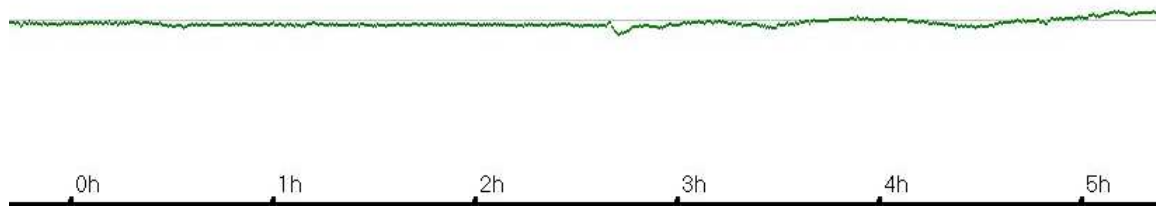
The Bartels chart includes data from Colin Clements and John Cook.

A sudden magnetic impulse occurred at about 02:30UT on the 17th, as a result of a partial halo Coronal Mass Ejection on the 13th. This is easily identified in our recordings:



This chart by Colin Clements shows a typical sudden impulse in the blue (East–West) trace just after 02:36UT, with a very short upwards spike followed by a downwards pulse in field strength. This is followed by small undulations in field strength which were not present beforehand. My own recording shows a similar effect:

2011 June 17



The vertical scale is compressed in my chart, but the sudden impulse characteristic is present, again followed by small undulations. Based on an assumed sensitivity for our magnetometers, Colin has recorded a 26nT change, while I have recorded 23nT. This seems quite reasonable as Colin is further north than I am. The British Geological Survey station at Hartland (Devon) recorded an 18.4nT shift in the horizontal component. The sensitivity figure used is that measured on the prototype UKRAA magnetometer.