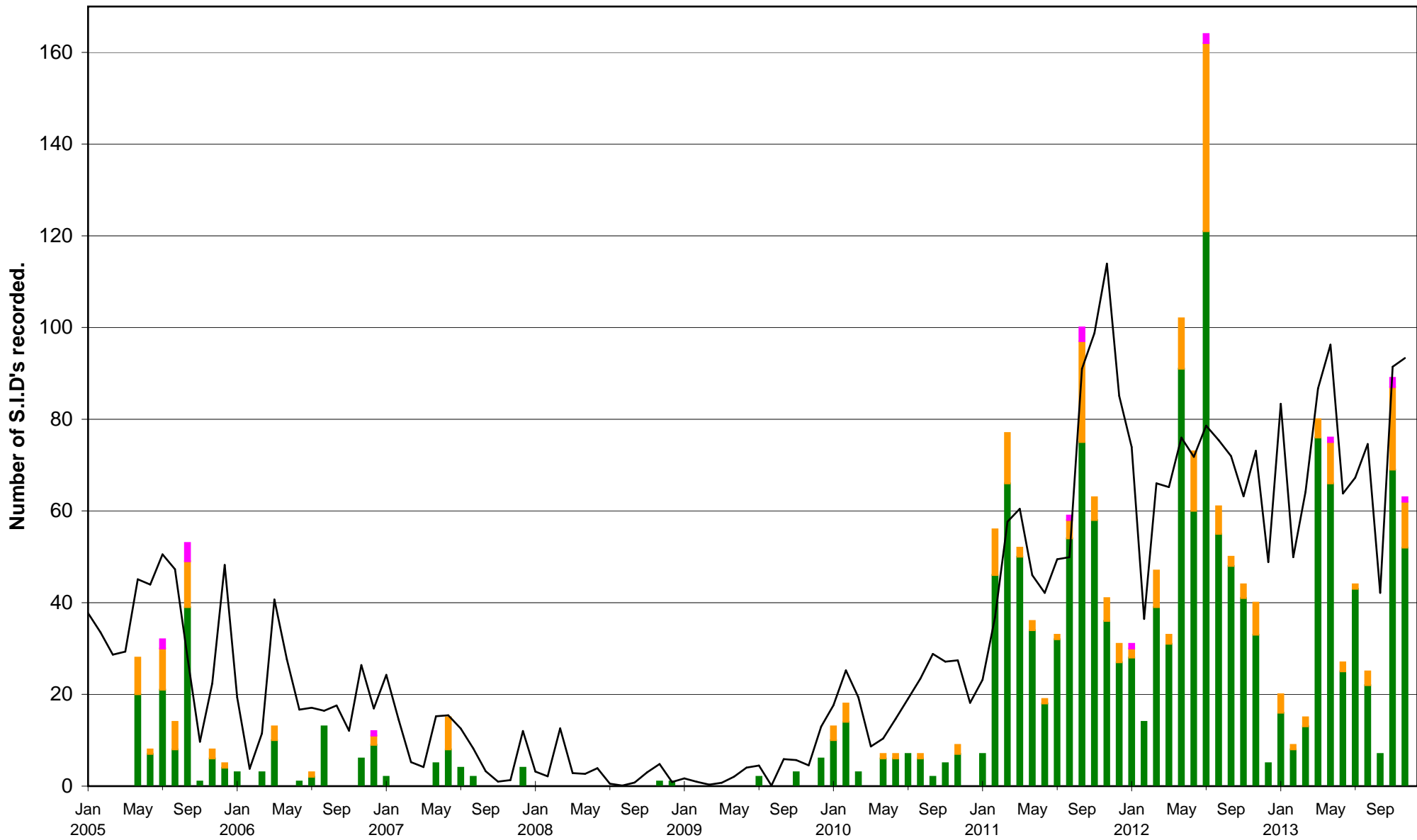
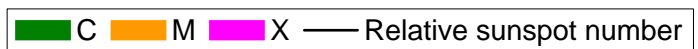


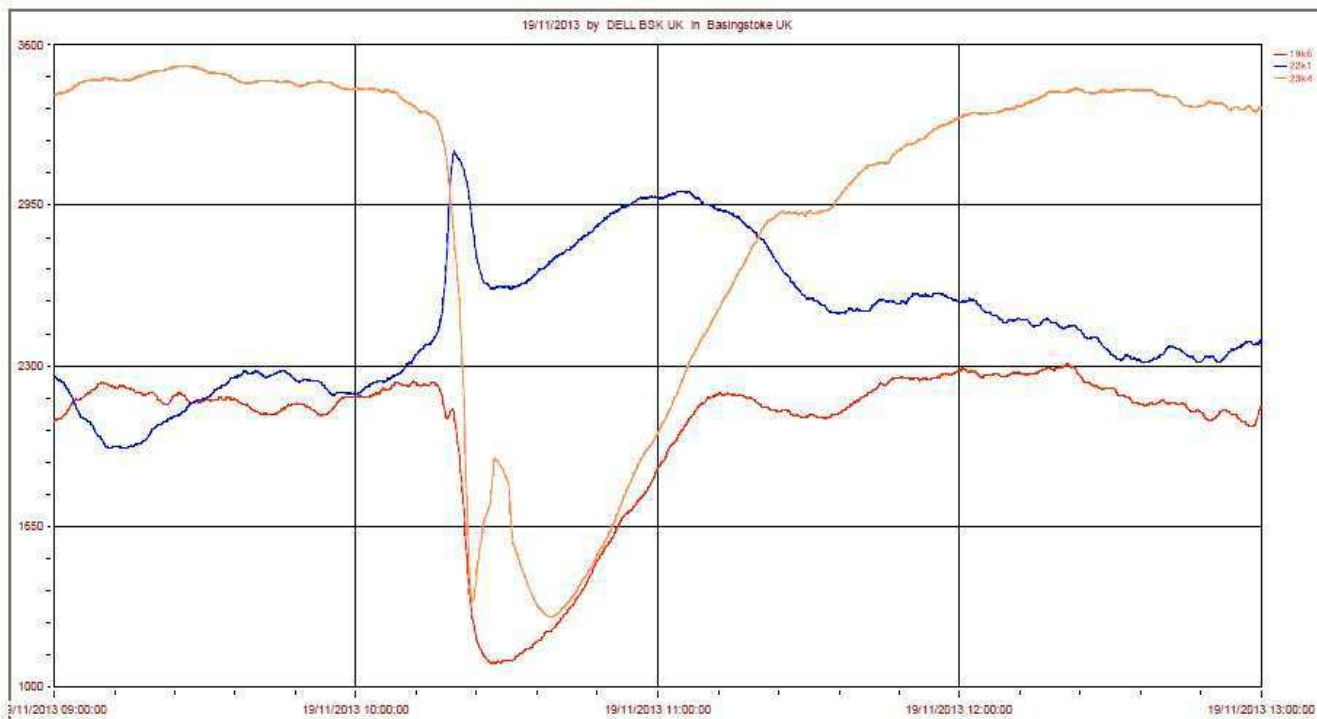
DAY		Simon Dawes (various)	Gordon Fiander (19.6/22.1kHz)	John Elliott (19.6kHz)	Martyn Kinder (19.6kHz/22.1kHz)	Mark Horn (23.4kHz)
		PC soundcard and TRF receiver with 1m loop aerial.	PC sound card.	Tuned radio frequency receiver, 0.5m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.
		START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C3.5					
2	C1.4					
2	C1.6					
2	C4.3					
3	C9.9					
4	C2.6					
4	C2.5					
4	?					
4	C1.0					
5	M2.5					
5	C3.5					
5	C8.0					
5	M1.0					
6	C8.6					
6	C2.4					
6	?					
6	C3.8					
6	C1.8					
6	M3.8					
7	C4.3					
7	C2.1					
7	C5.9					
7	M2.4			14:22 14:25 14:40 1-		
7	C1.6					
7	C1.6					
7	C6.0					
8	M2.3					
9	C1.6					
9	C1.6					
10	C3.2					
10	C3.1					
10	C1.9					
11	C2.3					
11	M2.4					
11	?					
11	C4.8					
11	*					
12	C2.0					
12	C1.3					
13	C2.4					
13	?					
13	C3.5					
13	C2.3					
13	?					
13	?					
13	C2.6					
13	?					
13	M1.4					
14	C4.9					
14	C3.0					
14	C2.3					
15	?					
15	*					
15	*					
15	C7.5					
16	M1.6					
16	*					
16	C2.7					
16	C2.5					
16	?					
17	C3.3					
17	C2.8					
17	C3.0					
18	C1.8					
18	C1.7					
18	C7.0					
19	X1.0			10:18 10:25 11:20 2+		
20	C4.6					
20	C1.2					
21	M1.2					
22	C3.6					
23	C3.9					
23	C5.4					
23	M1.0					
24	C4.7					
24	C3.1					
24	?					

VLF flare activity 2005/13.



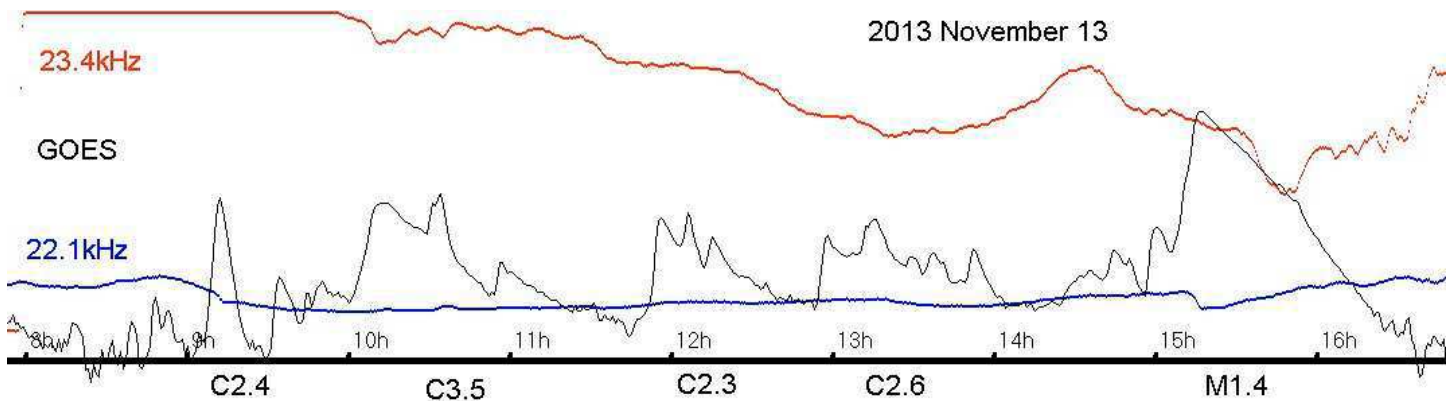
The high level of activity at the end of October continued well into November, with another X-class flare recorded. Looking back through the group's records, I see that we recorded four X-class flares in 2005 September, including a mammoth X17 event. The decay of the Solar Cycle does sometimes produce these large events, so it is well worth keeping watch.

X-ray flux for the X1.0 flare on the 19th peaked at 10:26UT. It was produced by AR1893, a fairly large group close to the western limb of the visible disc. The rise was quite rapid (about 12 minutes), while the decay to background level lasted until after 13UT.



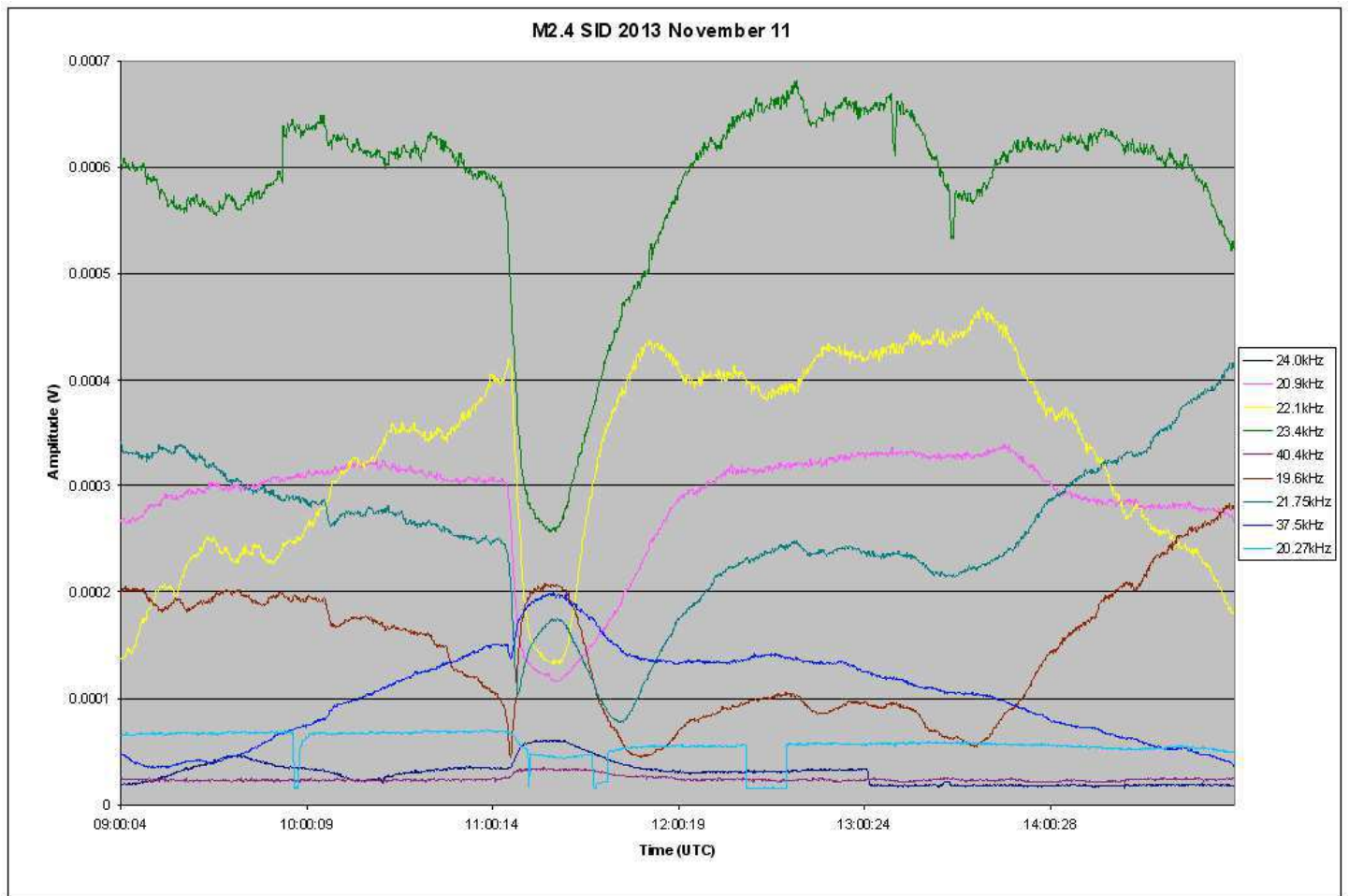
This chart by Paul Hyde shows the SID at 19.6kHz (red), 22.1kHz (blue) and 23.4kHz (yellow). Three further X-class flares are included in the GOES data, the most energetic being an X3.3 at 22:12UT on November 5th.

Several more multiple peaked SIDs have been recorded this month, notably on the 13th when the majority of flares had several peaks:



I have added the GOES X-ray flux data to my own recording, above. The SWPC lists these events as follows: C2.4-09:13UT, C3.5-10:35UT, C2.3-12:07UT, C2.6-13:17UT, M1.4-15:20UT.

The M2.4 flare on the 11th was well timed and recorded by most observers. The recording by Mark Edwards (below) includes SIDs at no less than nine frequencies:



As often happens around the winter solstice, some signals have been very noisy making SID analysis rather tricky. I have also recorded several days in November when the 23.4kHz signal was so strong that the receiver saturated. Charts received from Colin Clements show a similar level of noise, but without any saturation.

Solar cycle 24 has been notable so far for its relatively low relative sunspot number ("R"). When smoothed over a 13 month weighted average, the peak so far is just 70 compared to 140 at the start of 2002 in cycle 23. The variation from month to month remains similar however. I have not attempted to produce a smoothed chart of SID activity, something I may well investigate in the new year.

MAGNETIC OBSERVATIONS.

Magnetic activity has again been less than the SID activity might suggest. We did however record a very clear SFE associated with the M3.8 flare on the 6th. I recorded a dip of about 4nT at 13:47, just 2 minutes before my SID peak. Roger Blackwell shows a slightly larger transient in the By signal from his magnetometer. Colin Clements also recorded a small dip in the Y-field. The M3.8 flare had a rapid rise time of just 7 minutes according to GOES data. AR1890 was responsible, a large and complex group just a little east of the central meridian at the time, well placed to produce an SFE.

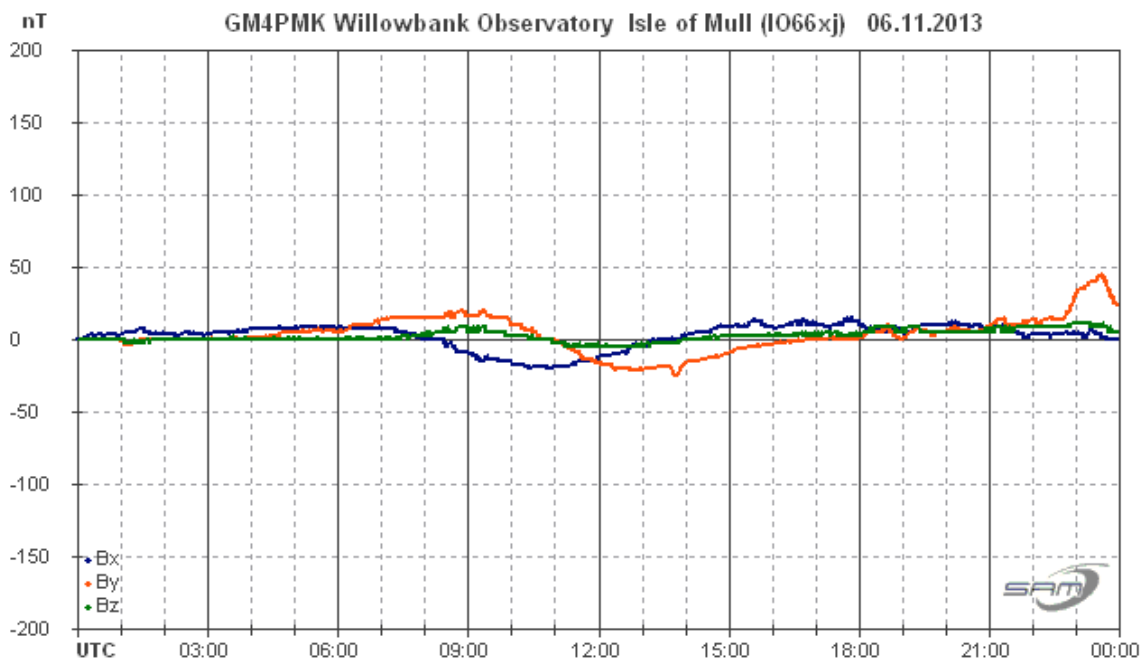
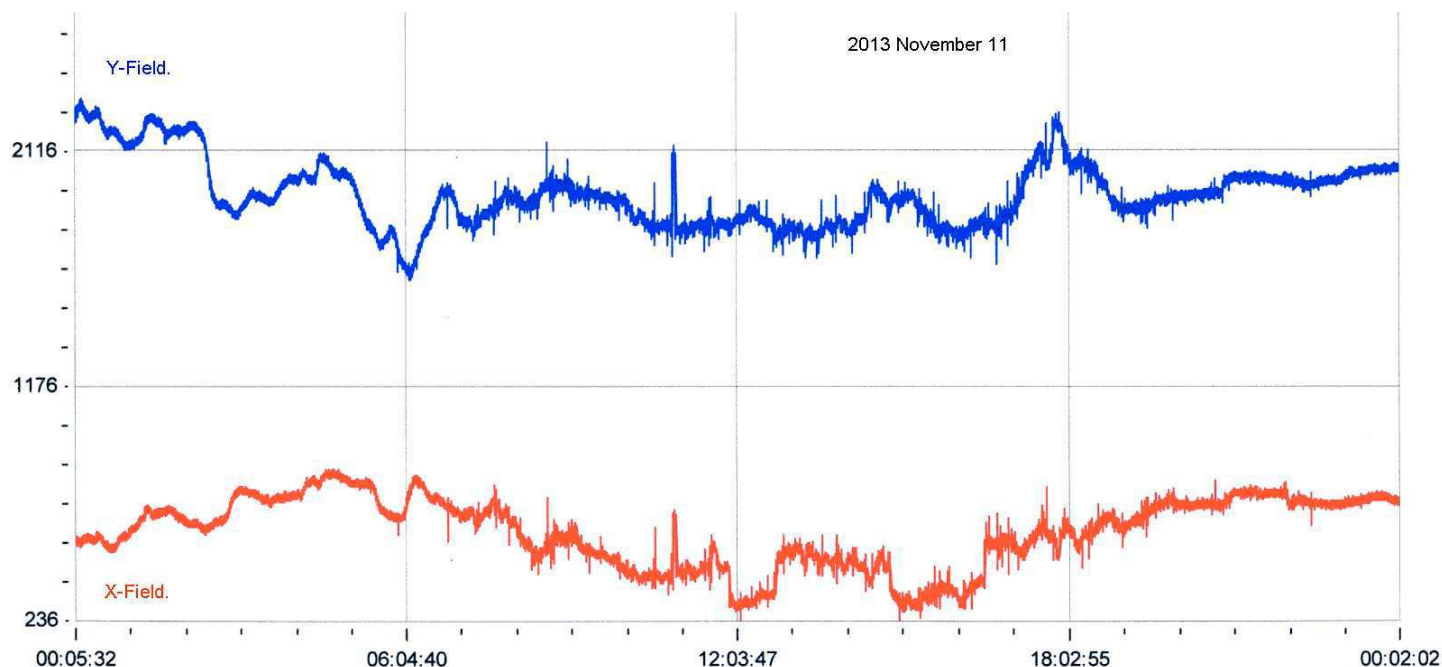


Chart from Roger Blackwell above. There does not seem to have been an associated CME, and no significant disturbances were recorded over the following two days. The BGS bulletin also lists an SFE associated with the X1.0 flare on the 19th, but we did not record its effects.

The largest magnetic disturbances recorded were due to Coronal Hole High Speed Streams. A disturbance of about 45nT was recorded over the morning of the 9th, with similar levels late on the 10th and through the morning of the 11th. Around 22:00 to 23:00UT on the 15th the disturbance reached 65nT.



Colin's chart (above) shows the CHHSS disturbance from November 11th.
Magnetic observations received from Roger Blackwell, Colin Clements and John Cook.

My thanks to all observers and contributors to the group's work over the last year. Have a Merry Christmas and Happy New Year. John Cook jacook@jacook.plus.com.

