THE SIX AND TEN REPORT

October 2003

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Analysis of 28 MHz reports from the UK

28 MHz reports and logs for October 2003 from G2AHU, G3IMW, G4TMV, G4UPS, G0AEV, G0IHF, GM4WJA and packet cluster reports. Compilation and commentary by G0AEV.

October band conditions ranged from very good to very poor. John GM4WJA thought that "as far as 10m was concerned the month started well with good world-wide propagation and ended with a huge Aurora - just a pity about the bit in between." I'd say that was a good summary!

In the early part of the month moderate solar activity and proximity to the autumn equinox helped produce 10m openings to all parts of the globe (if only marginally), including into the difficult northern "corners" – these being, from a UK perspective, Japan and the N American north-west. In the first two weeks of October (1-13th) F-layer daily "area" counts averaged 16.3 (see section 3 of this Report), there were no magnetic storms, and solar flux was mostly above 100 though falling. Autumnal sporadic E was much in evidence in week two – the 6th-8th being the best period. Sporadic E was detected through out the month except for days with significant geomagnetic disturbances.

In the third quarter (14th-23rd October) flux rose steadily and dramatically from the lowest levels of the month but any advantage this might have conferred on 10m propagation was negated by geomagnetic activity - there were magnetic storms every day and average daily area counts could only manage a meagre 6.8. At the end of the month a very active sun produced several very large X-class flares and solar flux peaked at 298 units. In the period 24th –28th October F-layer area counts averaged 18.6 – the best of the autumn season to date, though at much lower than those seen in recent years when flux was not only high but consistently high. In the last 3 days there was very severe magnetic storms (K-indices to 9) and F-layer propagation fell to almost zero. The storming provided strong aurora and interesting 10m propagation including transatlantic aurora/auroral E multi-mode propagation.

Beacon graphs legend

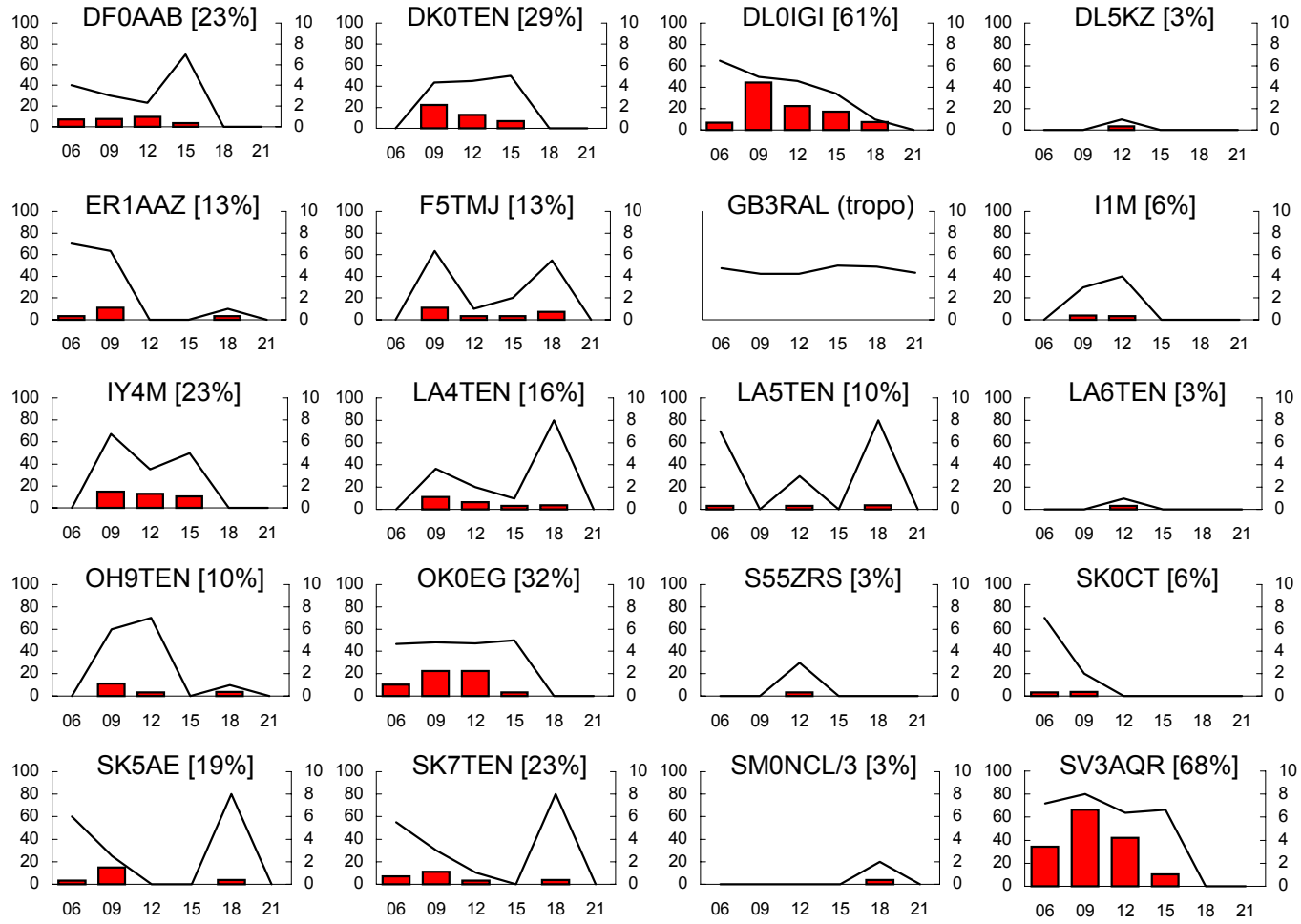
Legend for all beacon graphs in this section: - graph bars (left Y-axis): beacon reliability as the percentage of days a beacon was heard by any UK observer within each time band. Graph lines (right Y-axis): signal strength as the average of the daily maximum signal reported by any observer in each time band. Time band codes (X-axis): 6=0600-0900, 9=0900-1200, 12=1200-1500, etc. Callsigns are followed by daily reliability figures, the percentage of days per month when the beacon was reported.

European Propagation / Beacons

Propagation modes for European beacons.

Sporadic E was particularly good this October – as good as might be expected at the peak of the winter season. Sporadic E was responsible for most of the results from the European beacons (shown over the page), with the exception of SV3AQR and ER1AZZ (F-layer) and GB3RAL (by tropo at G0AEV). OH9TEN was by a mixture of F and E layer modes. There was some F2 backscatter and this contributed to the results for DL0IGI, LA4TEN, OH9TEN and SK7TEN, but this mode was much reduced compared with a year ago, the reduction being in proportion with the drop in F2 propagation generally.

The strong peaks in strength seen in the 18z period on some Scandinavian beacons are due to auroral E occurring during the big auroras of the 29th and 30th. There were also a few aurora backscatter reports from beacons during this period. Both aurora and auroral E was available in the 21z period but no one logged any beacons - G0AEV was busy operating at the time but reported aurora from GB3RAL, DL and SM beacons in the 00z period not shown in the graphs



European Beacon Notes.

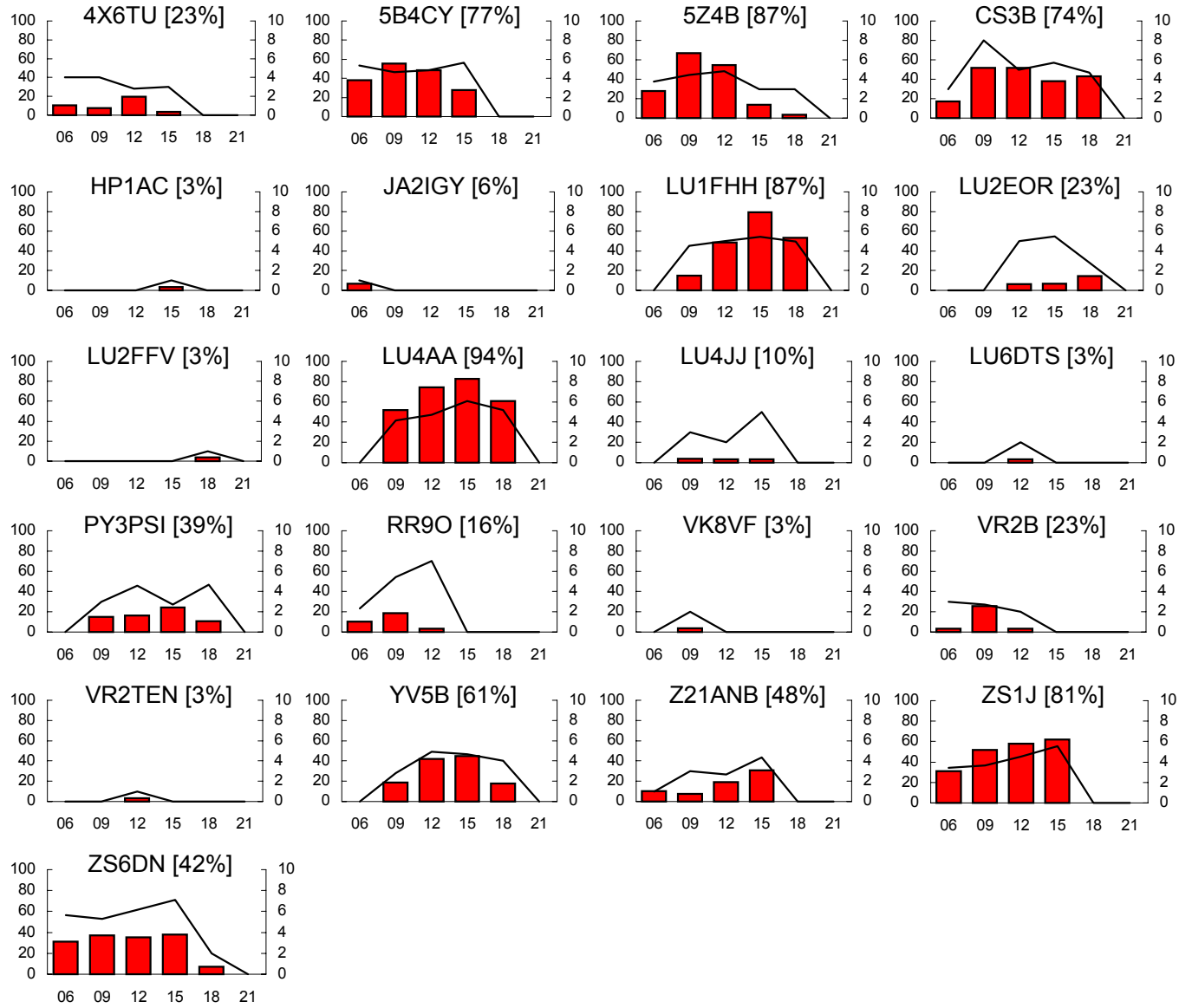
GB3RAL returned to service on the 16th and has been operating continuously since, apart from an outage late 19th to early 22nd October (possibly the period of re-siting of the RAL shack). EI0TEN was QRV from October 26th with a new set-up of 25w to a dipole. It has been heard by backscatter in Britain in November. F5FCK, not reported in October, has also been heard by backscatter in November. New beacon LA6TEN (28.282) in the northernmost part of Norway (KP49) was reported once by 6&10 listeners. OH2B remains QRT. S55ZRS has been heard less frequently than other beacons in nearby regions and may have experienced outages. It has been heard several times recently, though.

Propagation to Asia, Africa, Oceania, South and Central America

Suggested propagation modes.

The propagation responsible for the results shown in the graphs (next page) was normal F-layer. There may have been TEP contributions on paths to southern Africa, although this can not be determined from the beacon logs received. At 0030 on 31st G0AEV heard CS3B via aurora (QTF 300; nothing on a direct path) – clearly mixed mode involving auroral backscatter linking with, presumably, an F2 circuit.

Despite many days of geomagnetic storming there were only 2 days in October (30th and 31st) when no beacons were reported. LU4AA was heard on all 29 days when propagation was reported (daily reliability of 94%). The other normally very reliable path – to ZS6 – could not be assessed as ZS6DN was off air for half the month. Good results were obtained from other African beacons (5Z, CS, ZS1) and form 5B4CY. 4X6TU was poor (compared to 5B4CY) suggestive of outage(s). Seasonal improvements in propagation are indicated by the return of openings on DX circuits to the JA2, RR9, VR2 and VK8 beacons.



Beacon Notes.

4S7B is probably off-air. 4X6TU may have had short outage(s) during October (as discussed above). Argentine beacons LU2FFV and LU6DTS are intermittent while LU1FHH and LU4AA are continuous. The status of LU4JJ and LU2EOR are uncertain but are likely to be intermittent from the evidence of 6&10 reporters. OA4B continues to be QRT. VK8VF (28.268) returned to service during October after an absence of several years – it was the only VK beacon reported this time. VK6RBP was again absent: it has been heard in the UK in November. A keying fault on ZS1J (it was sending dots only) was corrected on 15th. ZS6DN was QRT from 13th October to 7th November.

10m DX in October 2003

DX (non-European) countries worked or heard in the UK during October are listed below.

All DX in October: 3B8, 3B9, 3C0, 3V, 3W, 3X, 4L, 4S, 4X, 5B, 5H, 5N, 5R, 5U, 6W, 6Y, 7Q, 7X, 8P, 8R, 9J, 9L, 9M2, 9N, 9V, 9Y, A4, A6, AP, BV, BV9P, C5, C6, CE, CE0A, CN, CO, CP, CT3, CX, D2, D4, DU, EA8, EK, EX, EY, FG, FM, FO, FP, FR, FY, HC, HC8, HK, HK0/a, HL, HP, HR, HS, HZ, JA, JY, KH6, KP2, KP4, LU, OA, OD, P4, PJ2, PJ7, PY, PY0F, PZ, S9, SU, TA, TG, TI, TR, TU, UA9/0, UN, V2, V3, V4, V5, VE, VK, VK9C, VK9X, VP2E, VP5, VQ, VR, VU, W, XE, XW, XZ, YA, YB, YI, YN, YV, Z2, ZC4, ZD7, ZD9, ZP, ZS, Antarctica.

The 114 countries in the DX list represents a big increase on the 62 for September. The rise is in part due to propagation (flux increases and seasonal advantages) and part to higher activity levels engendered by contests, and the CQWW SSB contest in particular. The list data comes from packet cluster spots (seceral sources to cover down periods on DX Summit) and logs from G0AEV, GM4WJA and others. For comparison, G0AEV worked 83 DX counties (130 counties in total) on 10m in the CQWW SSB contest (25th-26th October). More counties than this were actually available from the UK on 10m during this weekend.

DX worked by G0AEV in CQWW: 3V, 3W, 3X, 4S, 4X, 5B, 5H, 5R, 5Z, 6Y, 8P, 8R, 9J, 9M2, 9V, 9Y, A4, A6, AP, C5, C6, CE, CE0A, CN, CO, CT3, CX, D4, DU, EA8, EK, EX, FM, FO, FY, HC, HC8, HK, HK0/a, HP, HR, HS, HZ, IG9, JY, KP2, KP4, LU, OA, P4, PJ2, PJ7, PY, PY0F, PZ, S9, SU, TA, TG, TI, TU, UA9, UN, V2, V3, V4, V5, VE, VP2E, VP5, VP9, VQ9, W, XE, YA, YB, YI, YN, YV, Z2, ZC4, ZS, Antarctica. Heard but not worked included BY and VK.

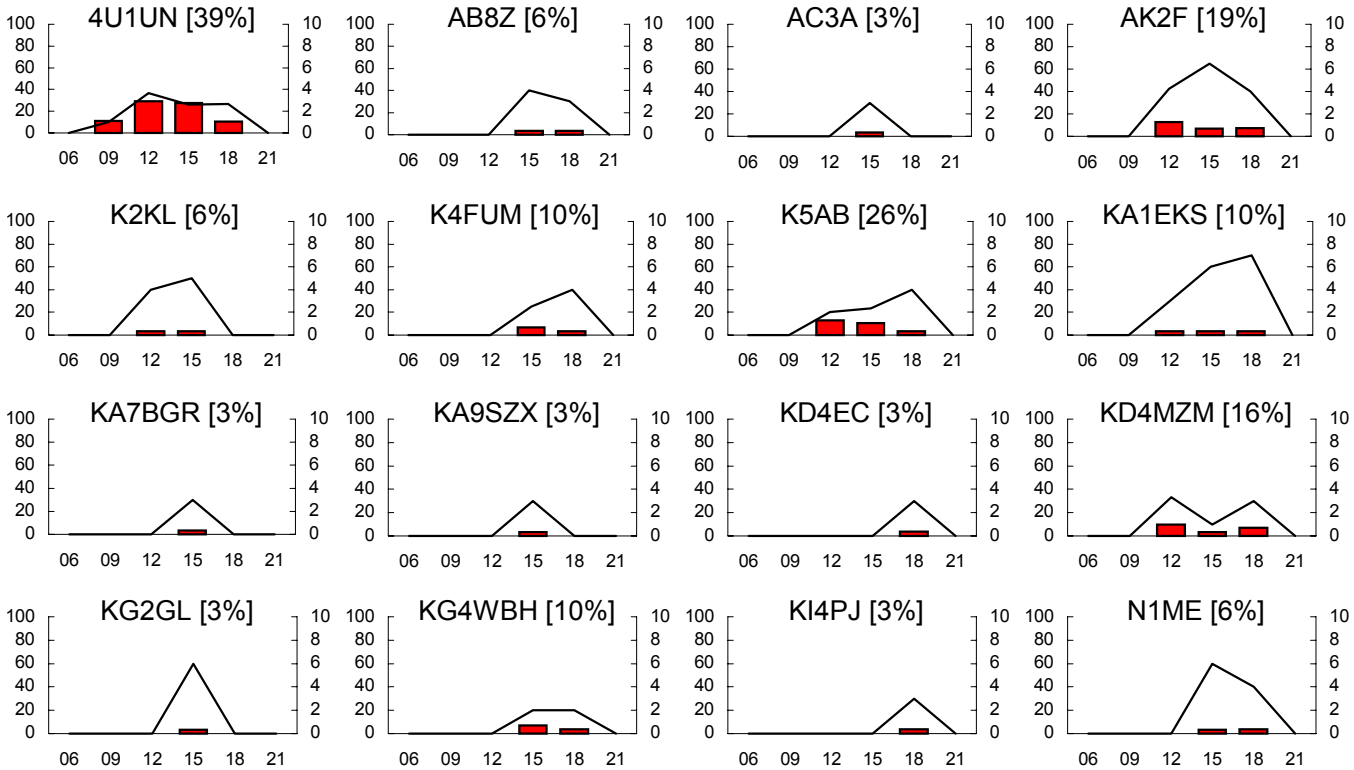
Propagation to North America

Suggested propagation modes.

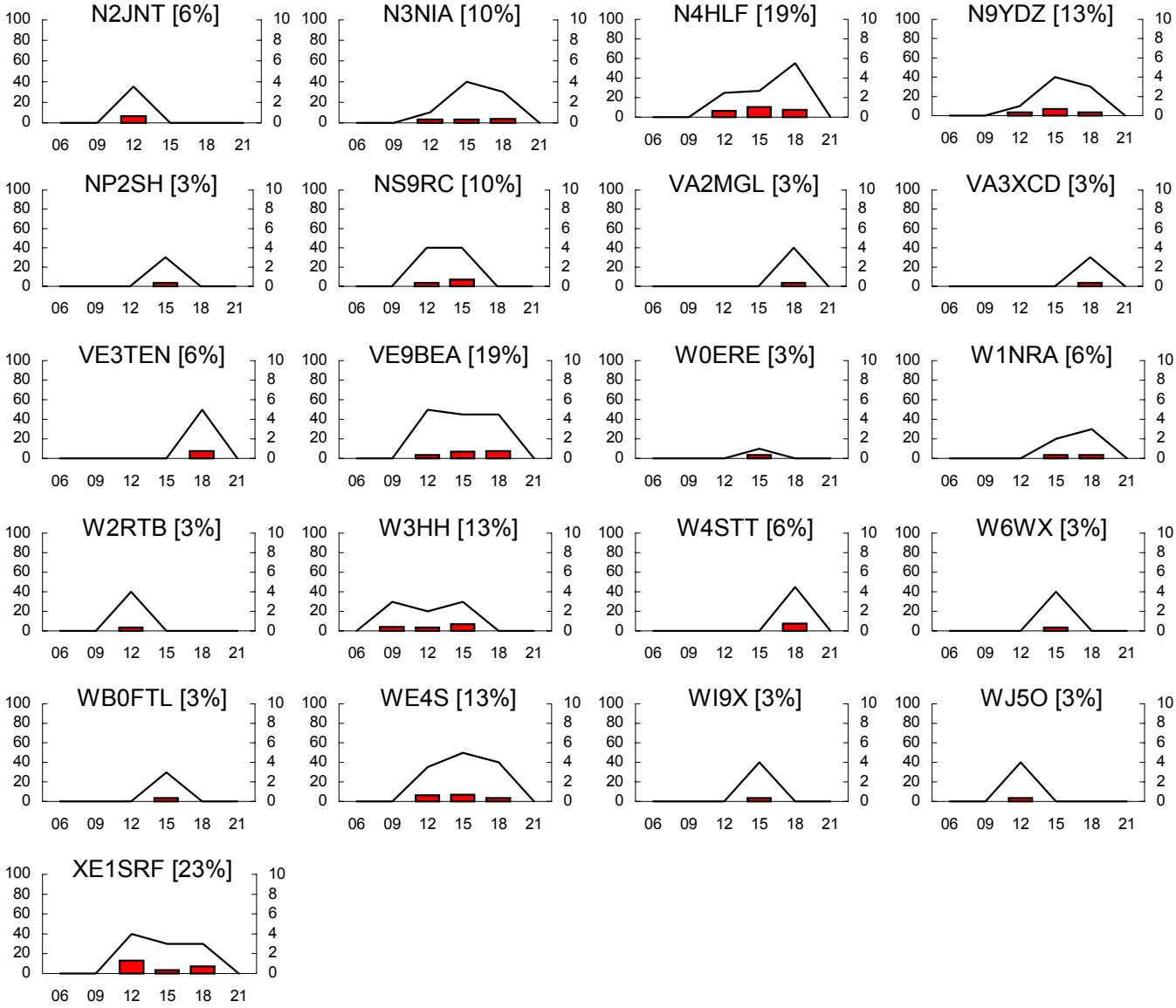
37 North American beacons were reported in October – 4 more than in September – but 22 of these were heard on only one or two days. Even the QRO beacon 4U1UN was reported on only a third of days. These are poor results in comparison with those obtained for the month of October in the years around the solar peak. Geomagnetic disturbances played a part in the low monthly reliability but even in the quiet times propagation was often poor. These results are a marker for things to come!

Propagation was by normal F2 in most cases, but in the late evening of 39th and early morning of 31st UK stations worked North Americans via aurora/auroral E (see discussion below). The beacon VE9BEA was heard with auroral tone on the 31st in the 00z period (so not making the graphs below)

North American Beacons



Graphs continued overleaf….



Beacon Notes.

New beacons reported in the UK for the first time this month include K4FUM (28.276) in Florida KG4WBH (28.222) in Georgia, KI4PJ (28.255) also in Florida.

10m Aurora

Its not often that 10m aurora is reported, but the events on 29th and 30th were easily strong enough to give widespread auroral backscatter propagation for all parts of the UK. GM4WJA worked many stations on 30th including 9A, DL, ES, EU, F, G, GM, HA, HB, LA, LY, OK, ON, OY, OZ, SM, SP, UA3, VE3, VO1, W2, W3, YL - all with auroral tone. AH7H was heard very weakly. Further south, G stations worked as far west as California, again with auroral tone.

The DX auroral contacts can not have been by aurora alone – the backscatter geometry precludes station-to-station distances much greater than 1800 km. However, auroral E was also strong during these events (see data in section 2 of this Report) and could have provided a range-extending mechanism. Late on 30th some North Americans were heard without auroral tone, and this may have been multi-hop auroral E, working in the same way as multi-hop sporadic E.

Analysis of 50 MHz reports from the UK

UK 50 MHz reports for October 2003 from G2ADR, G2AHU, G3HBR, G3IMW, G4UPS, GM4WJA and via packet cluster spots. Compilation and commentary by G0AEV.

The loss of DX Cluster spots from DXSummit near the end of October (at a rather critical time of intense solar and geomagnetic activity) made good coverage of propagation data it difficult to achieve this month. I am particularly thankful, therefore, for the log contributions from out regular correspondents. All logs even if described as “a modest offering” (thanks G2ADR!) are always valuable because they provide a broader base of information than cluster spots, which generally represent the special and ignore the commonplace. Luckily G3USF was able to provide spots from other sources to fill most of the gaps in DXsummit coverage.

High solar activity (including several substantial X-class flares) and consequent severe geomagnetic storms were the dominant features of the month. High solar flux, and possible pre-auroral enhancements, in the last week of October brought several brief, local but impressive DX openings to VK and several countries in Africa. Aurora on 29th and 30th were very intense and widespread. Equally interesting in my opinion, though perhaps not as spectacular, was the unusually high number of sporadic E openings reported this month.

Sporadic E

Sporadic E results below are in tables grouped by country area and ordered alphabetically by country prefix. Percentages following the country name are the daily reliability values (the number of days when propagation was reported). The first row of each table, “D” is the day of the month, subsequent rows give the maximum signal strength reported from the UK in each of three hour time bands (“06” for the band 0600 - 0900, “09” for the band 0900 - 1200, etc.). A figure of “0” indicates that signal strength was not reported.

	4X (3%)	5B (3%)	9H Malta (13%)	CN (10%)	CT Portugal (16%)	DL Germany (13%)
D	28	28	12 19 25 27	9 25 28	6 8 26 27 28	7 8 26 27
06						
09	9	9	9 9	9	9 0	9 9 9 9
12			5	6 5	0 9 9	
15			0 0		7	
18				9	6	
21						

	EA Spain (19%)	F (6%)	HB (10%)	I/IS/IT Italy (32%)	LZ (3%)	OE (6%)
D	9 12 25 26 27 29	6 27	7 26 28	6 7 8 9 12 18 19 26 27 28	28	7 26
06						
09	9 9 7 0	9	6 9 9	7 9 9 9 9	9	9 9
12	6 7 4	9	8	9 9 1 9 0		
15	0 7			5 5		
18				9 0		
21						

	OK (6%)	SM (3%)	SP Poland (13%)	SV (6%)	UR (3%)	YO (6%)	YU/9A/S5/T9 (19%)	ZB (3%)
D	7 28	8	7 8 12 28	26 28	7	7 26	7 12 19 26 27 28	25
06								
09	9 5	9	9 5 7	5 9	0	7 5	9 9 9 8 9	
12			7				9 5 8	9
15								
18								
21								

The tables on the previous page record a significant number of sporadic E openings for the time of year. These openings occurred in two main periods: 6th-8th and 25th-28th. As regular readers of this newsletter will recall, October often provides operators with some "out-of-season" Es events, and October 2003 appears to have been particularly good in this respect.

Sometimes the concentration of events in October can be interpreted as the tail of the main summer sporadic E season, sometimes as part of a broader winter Es season, but most often the distribution is discrete and can define a distinct "autumn season". Interestingly there is never any equivalent spring season. The nature of the October 2003 openings – summer tail, broad winter, or discrete autumna season - will only become clear in the light of data for November and December.

DX (F2 and TEP) Propagation

	TR (10%)	TY (3%)	VU (3%)	VK4 (3%)	VK6 (6%)	ZD8 (6%)	ZS (3%)	
D	4 25 29	25	7	27	28 29	28 29	26	
06				5				
09	1 9	0	9		0 2	1	5	
12								
15	2							
18								
21						1		

At this stage in the solar cycle, and at UK latitudes, DX openings on 6m are expected to be far and few between. This was the case for most of the month but the massive increase in solar activity in the last week of October pushed MUFs on favoured DX paths to 50 MHz. The localised openings to VK on 26th, 27th and 28th October are worthy of particular mention.

Such exceptional events may be due more to the influence of eruptive events and the ionospheric enhancements these can produce than to increased background levels of sun activity (as indicated by the solar flux). However there were so many flares and other eruptive events that it is just about impossible to relate any one opening to a particular solar event. There is another factor to consider – the coincidence of these openings with sporadic E, which is discussed later under "comparison of Sporadic E and DX propagation". The list below presents the (known) DX spots originating from UK stations in October.

4th	15z	1627	MW1MFY > TR0A 529
7th	09z	0945	G4FUF > VU2ZAP (MK82) 59+ (*remarkable signal report! G0AEV*)
25th	09z	1107-1115	MW1MFY > TR0A 519; G4FUF > TY5ZR
26th	09z	1119-1137	G6YIN > ZS6; M0BCG > ZS6NK; G0CHE > ZS6NK 559
27th	06z	0846-0853	G4FUF > VK4ABW 539, later 559 working G station(s)
28th	09z	1146	MW1MFY > VK6 "heard calling CQ, very weak"
	21z	2114	G8BCG > ZD8VHF 419 flutter (*TEP*)
29th	09z	1058-1116	G8BCG > TR0A 599, VK6RSX 429 flutter, ZD8SIX 519 flutter; G4RGK, MW1MFY > TR0A 559.

Backscatter.

7th	09z	1000	G8BCG (IO70) >G4FUF 559 backscatter QTF 100
25th	09z	1122-1145	G0CHE > PE1MZS; PE1MZS > MW1MFY; MW1MFY > ON7GB QTF 180

Claimed backscatter contacts, listed above, are contemporaneous with direct path DX openings – G > VU on the 7th, and G > TR and TY on the 25th. But in both cases there was also sporadic E propagation in the direction of the scatter point. It is not clear, therefore, if the scatter involved the F or the E layer.

Comparison of Sporadic E and DX Propagation.

The tables below display total counts of country areas heard/worked as summarised from the results tables on the first two pages of this section of the Report.

Es Summary

	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	28	29	30	31
06																															
09						3	8	4	1										3						3	8	6	9	1		
12						1	3	1	2			3						1							4	1	1	1	1		
15												3															3				
18								1																			1	2			
21																															

DX Summary

	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	28	29	30	31
06																											1				
09							1																		2	1		1	3		
12																															
15				1																											
18																															
21																												1			

Inspection of these tables shows that most of the reported DX openings (and backscatter events too) took place at times when there was also sporadic E. When DX to the east (VU, VK) was reported there was sporadic E to the east, and when DX to Africa was noted there was sporadic E to southern Europe (one exception was the G > ZD8 at 21z on 28th, identified as TEP).

Is this correlation coincidence or a necessary component for DX propagation at a time of falling solar activity? I don't think its possible to give a definitive answer. Coincidences of favorable season (for F2) and high solar activity with a reasonable probability of sporadic E are rather limited. Summer conditions favour sporadic E but not F2. October has good F2 possibilities and, as we have discussed previously, some possibilities for Es. Mid-winter might provide another opportunity – mid to late December (when the 27-day solar rotation should see the return of the active sun) would be a good time to look. Happy holiday DX hunting!

Meteor Scatter

A token selection of meteor scatter reports listed here – operator interest was placed elsewhere, I think.

4th	09z	1044	IW5DHN > G8APB MS 52
7th	09z	1055	SP1DID > G4FUF "only pings in JO73"
19th	09z	0936	9A4K > G3MEH "contest, bursts"
29th	09z	0922	F6FHP > GB3RMK "steady weak Aurora (?) signal + MS"

Tropospheric propagation

Many of these were "tropo" but the propagation mode was not always clear. Some may be scatter.

8	1102	GW3LEW (IO71) > ON6AA (JO11)
11	1952	F6FHP (IN94) > GB3MCB 529 tropo
18	0725	G4UPS >GB3BUX 589 (strong)
19	0939	ON7GB > GD0EMG JO21(>IO74
19	1100	EI2JD > G4ODA 44, G3MEH 44
19	1114	PA0O, EI2JD > GD0EMG (IO74)
22	0710	MM5AJW > GB3LER 55 (normal 41)
27	0906	G3KWK > EI4IO
28	2004	PE1MZS (JO21) > G4DEZ 55 (JO03)
30	2210	PA4PA (JO22) > GJ3YHU

Aurora

As discussed elsewhere in this report (UK 10m, worldwide 6m and solar data sections), exceptional visual and radio auroras occurred on 29th and 30th October. Auroral E was also very good during both events. On the 29th, GM4WJA had a very bright visual display in the North in the early evening later on in the evening it filled the whole sky. John thought this was probably one of the biggest auroras for a number of years. Yet there were also many smaller events as the detailed listing below confirms .

1st	21z		GM4WJA (IO87) reports an aurora in mid to late evening, with W6, W7.and FO heard over the N. Pole on 10m in the late evening *(local K=4)*
13th	18z, 21z		Aurora in mid evening at GM4WJA. *(local K = 4)*
14th	15z, 21z		GM4WJA reports aurora in late afternoon to late evening. *(local K = 6-8 but no other aurora reports)*
15th	15z	1615	EI7IX > GB3LER 53a, GB3RMK 51a
16th	18z, 21z		Aurora all evening (GM4WJA) *(local K=4)*
18th	15z		GM4WJA reports aurora in late afternoon *(even though local K only 3)*
19th	15z, 21z		Aurora in late afternoon to late evening. GM4WJA *(local K=5)*
20th	15z, 21z		Another aurora in late afternoon to late evening at GM4WJA *(local K=5)*
21st	15z, 21z		GM4WJA aurora in mid afternoon to late evening *(local K=5).*
22nd	15z	1630	G1INK > GB3LER 52a aurora "just starting (in IO93)
		1632-1644	EI7IX > GB3LER 51a, G1INK > GB3RMK 53a
24th	15z	1511	First report: MM0AMW (IO75) > GB3LER 53a
		1529-1605	Many G <> GM QSOs; MM0AMW > ON7GB 52a, DL7HG (JO62)> GB3LER 55a in JO62, G3IMW > OZ0JX 51a, OZ7NB 51a
		1605-1828	Aurora "all gone" at G3IMW: no UK aurora reports or spots
	18z	1828-1900	EI7IX > GB3LER 51a "just starting" (at 18.28), G4UPS > GB3BUX 55a
		1900-1929	GW3MFY > GB3RMK "just back 55a rising" (at 1900), G4PCI (IO91) > GB3RMK, GM7PBB, EI7IX > GB3RMK 51a, GM7PBB 52a, GM7PBB > GM0HBF 59a
25th	18z		GM4WJA detected aurora in mid evening (*local K only 3*)
26th	21z	2209	GM4WJA > GB3LER 55a
29th	06z	0651	G0JHC > GB3RMK 59a
		0704	F6FHP (IN94) > GB3MCB 53a
	09z	0908	G4IFX > GB3RMK 42a "aurora again"
	12z	1320	G3HBR > GM3XOQ 56a
		1330-1400	G > G, GM. GM > PA2V. OZ1DJJ > G4DEZ 56a. ON4IQ > G4DEZ 59a
		1400-1438	G3HBR > GB3RMK 57a. G, GM > PA2V. G4ASR > DL7GL 53a QTF 045
	15z	1500	DL1EJA > G4DCJ 57a
		1650-1656	GM7PBB (IO68) > OZ1KEF 56a, G4IGO > GB3MCB 54a QTF 060
		1717	G0JHC > LA6UKA 59a "now QTF 000, earlier 060"
		1717-1800	G > F (IN94), GM, OZ, PA. GM > F, G, GM, PA.
	18z	1800-1900	G > EI, F, G, GI, GM; GM > EI, LX, ON. G3HBR > LY2BAW 55a; G4UPS > SM7AED 56a, G6YIN > OZKEF 59a, G6YIN > SP2BDR 59a. 1806 9A4K (JN86) > G0RUZ 55a. Auroral E also in this period
		1900-2000	G4UPS (IO80) > DL, EI, GI, GM, LA, ON, OH, SM, SP. Other G reports: G > G, SM, SP. 1950 G4IFX (IO91) > F8OP (JN26) 53a QTF 060. Also much auroral E, initially to GM and northern G, later to southern G (see below)
		2043-2049	F6FHP (IN94) > G8BCG/P (IO70) 57a, G1YLE JO02 55a.
	21z	21z period	G2ADR (IO93) > F, LA, LY, ON, OZ, PA, SM all via aurora. Much auroral E in the 21z period (see below)
		2101	G8BCG (IO70) > GW3MFY 59a (working SM3RYO)
		2135-2200	OH0RJ > G3YUM 59a, PA4PA > G0RUZ, OK1MP (JO70) > G0RUZ 55a QTF 355, G4UPS > LA0HV 56a, OZ1KEF 56a, OZ7YY 55a
		2200-2300	Many QSOs. G4UPS > EI/GI, G/GW, GM, LY, ON, SM, SP. Other UK reports: G > GM, PA, SP. GM > G, PA
		2300-2310	G7KHF > GI3VAW, G4UPS > GM0OEG 56a, PA2V > GB3LER 55a
		2327-2338	G4FVP > OZ7YY 57a, OZ1DJJ.

30th	00z	0013	G4FVP > OK1DX 55a. (Clive reported good visual aurora in IO94)
		0119-0128	G3HBR > GB3BUX 57a, GB3RBK 55a, GB3LER 51a, SP9HMC/1 55a, GM3SEK 55a. No later reports – everyone asleep?
	12z	1432	First report (to/from UK): OZ1DJJ (JO65) > G4DEZ 55a
		1441-14.53	G4ASR (IO81) >GB3RMK 52a, GM4WJA 55a, GM3XOQ QTF 010 53a; EI7IX > GM4WJA 41a
	15z	1531	G4OBK (IO94) > GB3RMK 54a (only signal)
		1603-1656	1603:MW1MFY (IO81) > GM4WJA 57A (1603z), > GB3RMK 55a (1656z)
		1728-1800	G > G (QTF 060), GM; LA2OG (JP42) > GM3XOQ 44a, G4UZN > SM3GSK
	18z	1800-1816	G <> GM; G4IGO > SM3GSK 54a, PA4PA > G4DEZ 55a, EI7IX > GB3LER 51a , LY2BAW > G4DEZ
		1837-18.50	MW1MFY > G4DEZ 59a, MM0CWJ 59a QTF 010, G4UZN > ON7GB 58a
		1900-19.26	Some G <> G, GM; ON1DNF > MW1MFY (in QSO with DJ6XV), SM2HTM (KP07) > G4DEZ (JO03) 59a, MW1MFY > ON7GB 57a IO81>JO21. Also auroral E QSOs from 19.12 (see below)
		1950	GW6TYO (IO81) > F6FHP 55a during period of predominantly Auroral E.
		2001-2013	PE1MZS (JO21) > G0BLB 57a, SQ2RH (jo94) > GB3LER 59a, F6FHP > G3RDC 55a. Period of predominantly Auroral E.
		2037-2048	ON1DNF (JO20) > GM7PBB 51a, 2048 GM7PBB (IO68) > G1YLE 52a
	21z	2114-2145	DL1YD (JN48) > GM0TGE 59a QTF 020, PA4PA > GM0TGE 55a , F6FHP (IN94) > GD0TEP IO74 59a, G25429 (IO93) > LX1LX 55a. Period of predominantly auroral E to 2135.
		2202-2230	Many G > G, GM QSOs; G3HBR > SP6GWB 55a, F5HRY (JN18) > GJ3YHU 57a, DL1YD (JN48) > GJ3YHU 55a, G3IMW > SM7FJE 51A, I2SVA > G3TCT 55a, EI7IX > GJ3YHU.
		2253	DJ9KG (JO42) > GJ3YHU, presumably auroral.
		2300-23.50	G2ADR (IO93) > EI, DL, OK, SP, 9A all aurora; G4FVP > DF9OX (JO53), SP6GWB (JO80) 57a QTF 090; G > EI
31st	00z	0046-0057	G4DBL > IZ1EPM (JN35) 53a, GI4FUE > IZ1EPM "QTF 150!"
		0108-0116	GM0EFT > ES0SIX 53a, 9A4K 55a; G0PQO > IZ1EPM QTF 150
		0133	G4FVP > ON5UE 55a
	06z	0726	GM7PBB > GB3LER 51a, GB3RMK 51a
	09z	1126	G4ASR spotted 49750 video via aurora "getting louder"
	12z	1248	G4ASR > GB3RMK 55a QTF 030
	15z, 21z		GM4WJA has aurora in late afternoon to late evening. (*local K = 4 to 5*)

Auroral E

21st	21z		G2ADR > LA (S9), SM (9) – presumably auroral E
24th	18z	2023-2047	MM0CWJ > JW9SIX 539, MM5AJW > JW9SIX 54, LA7SIX 539
29th	18z	1809	G0HVQ > GM7PBB "strange like Es not auroral" (presumed Auroral E)
		1910-1913	G6YIN > OH9SIX 579, OH1LEU > GB3LER 599
		1920-2000	Many Auroral E QSOs with strong signals. G > ES2QH, LA, LY2BAW, OH, SM, SP. GM > DL, OH, SM
		2000-2040	G > ES, OH, SM. No GM reports or spots of aurora/auroral E activity
		2040-2128	No auroral E. Little aurora backscatter in south only (see above)
	21z	2128-2200	G > ES, LA, OH; G0CHE > OY6FRA 57; GM > ON, PA; OK1MP > GB3LER 579; GI4OWA > SP3MGM 599. Aurora backscatter at same time. G4PCI (IO91) > GM0HB (IO67), GI6ATZ (IO74) – auroral E or aurora?
		2200-2215	G > ES, LA, OH, SM, GI > PA, GM > DL. G4UPS > GB3LER 589, OY6SMC 559. At 2213 G4UPS > SM7FJE 59 "pure signals - auroral Es. SM7FJE is only a few miles away from SM7AED who is still very auroral"
		2229-2234	G6YIN > OH9SIX (aurora then auroral E), G4UPS > SP2CNW 569
		2341	G4FVP heard R1 2M Moscow TV at 59 via auroral E.

30th	18z	1912-1923	ES6DO > GB3LER 559-579, MW1MFY > OH9SIX 599, OH6YF > MM0CWJ, G6YIN > LY2BAW. (Aurora backscatter declining at this time).
		1934-2000	Many strong auroral E signals. G/GW > ES, LA, OH, OZ. GM > DL, SP
		2000-2046	Many strong auroral E signals. G/GW > ES, OH, SM. GM > DL, PA
	21z	2109-2134	G/GW > OZ, SP. GM > OK, PA. (Aurora backscatter now increasing).
		2331	G4DBL (IO91) > SP6GWB 538 (auroral E here, via aurora further north)

Aurora / Auroral E Comparison

Aurora (backscatter)

	00	03	06	09	12	15	18	21
29			2	1	6	8	13	13
30	3				3	4	10	12
31	4		1		1			

Auroral E

	00	03	06	09	12	15	18	21
29							7	10
30							9	4
31								

The tabulation shows a summary of the areas worked/heard in the UK by aurora and by auroral E in 3 hour periods for the major events at the end of the month. Some aurora was reported during most times of the day - the lack of data for the 03z period being due more to sleep patterns then propagation – but aurora is clearly concentrated in the afternoon and evenings. Auroral E was restricted to the evenings. Both distributions are as expected from theory.

In the detailed listings it can be seen that auroral E predominates over aurora backscatter during both events in the period 1900 – 2200, and that aurora is more prevalent before and after these times. However, there were many instances when both aurora backscatter and auroral E occurred at the same time. Sometimes there was a distinct geographical separation in the areas available by Auroral E and by aurora. There were also instances where the separation appeared minimal - for example, at 22.13 on 29th G4UPS reported SM7FJE with strong T9 auroral E signals while signals from SM7AED, only a few miles from SM7FJE, had an auroral tone. Such cases might be explained by beam headings, which will be quite different for the two modes.

Generally the timings reported fit with auroral E occurring at the Harang discontinuity but with a considerable mode overlap, probably due to the intensity of the events

Solar and Geomagnetic Data for October 2003

Data supplied by G0CAS (Sun Mag[1]) and from Internet sources. Compilation by G0AEV.

Sunspot numbers (SEC)	Mean 118.9	Max 330 (29th)	Min 24 (14th)
Solar Flux (28 MHz)	Mean 153.1	Max 298 (26th)	Min 92 (14th)

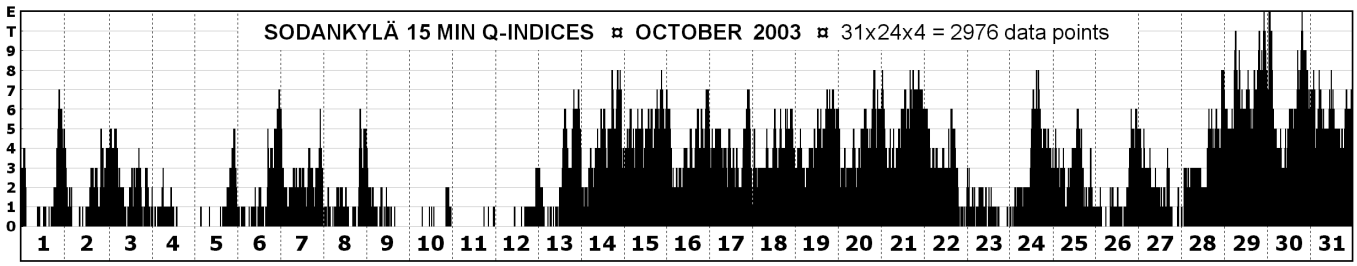
Solar data for October 2003 are presented in the table at the end of this section. Numbers in the 28 and 50 MHz columns of this table are the total daily "areas" worked/heard from the UK, a summary of the data presented in the first sections of this Report. On 28 MHz "areas" refer to the number of beacons reported via Es and F-layer, on 50 MHz the number of countries via Es, F-layer and Aurora. F2 critical frequencies are from Chilton in Oxfordshire, SIDC spots from SIDC, and other solar data from the joint USAF/NOAA daily summaries or directly from SEC.

Energetic Events (Flares of M and X class).

Following a month and a half of quiet sun, the second half of October produced some of the most intense events recorded - 7 X-flares, including one of X17.2!

1st	0444-0459	M1.4 1F
4th	1542-1549	M1.0 SF
19th	0608-0641	M1.9 1F
	1629-1704	**X1.1**
	1921-1930	M1.0 SF
20th	0645-0743	M1.9
21st	0821-0831	M1.0 SF
22nd	0328-0521	M3.7 SF
	0830-0853	M1.7
	0937-0959	M1.7
	1506-1513	M1.4 SN
	1557-1604	M1.2 SN
	1922-0305	M2.4
	1947-2028	M9.9 SF
	2156-2217	M2.1
23rd	0235-0244	M2.4 SN
	0702-0710	M3.2 1N
	0819-0849	**X5.4** 1B
	1049-1055	M2.7
	1950-2014	X1.1 1N
24th	0227-0314	M7.6 1N
	0504-0516	M4.2 1F
	1842-1905	M1.3
	2135-2145	M1.0 1N
25th	0417-0528	M1.2 2N
	0544-0626	M1.7 SF
	1026-1045	M1.5 SF
	2135-2145	M1.0 1N
26th	0557-0733	**X1.2** 3B
	1721-1921	**X1.2** 1N
	2134-2148	M7.6 2N
27th	0412-0508	M1.2 SF
	0557-0733	**X1.2** 3B
	0751-0924	M2.7 2F
	0921-0932	M5.0 SF
	1227-1252	M6.7 SF
	2146-2205	M1.9 SN
28th	0951-1124	**X17.2** 4B
29th	0026-0208	M1.1 1F
	0408-0554	M3.5 SN
	2037-2101	**X10.0** 2B
30th	0156-0229	M1.6 1F
	1515-1537	M1.5
31st	0608-0628	M1.1 SF

Q-indices from Sodankylä, Finland



Date	Sodankyla	Nurmijarvi
28.10.2003	Ak = 44	Ak = 25
29.10.2003	Ak = 239	Ak = 277
30.10.2003	Ak = 245	Ak = 220
31.10.2003	Ak = 106	Ak = 151

Thanks to Väinö, OH2LX, for the Q-index data graphic (above) and for the summary of the A indices recorded at the two Finnish observatories during the intense geomagnetic storms at the end of October (table opposite).

[1] Sun Mag: Sunspot and Magnetic data compiled by Neil Clarke G0CAS. Email neil@g0cas.demon.co.uk

K-indices.

There were 14 disturbed days in October when the UK K index or Kp was 5 or greater: on 3 of these Kp reached 9. The following four tables present the planetary Kp index (from SEC) and the Lerwick ("KL"), Eskdalemuir ("KE"), and Hartland ("KH") K-indices (from the British Geological Survey). Each table is set out with the day of the month in the top row followed by rows containing the K-values or each 3-hour period. The bottom row of each table is the sum of the K-values for the day. Pale shading indicates K = 5, darker shading indicates K > 5.

Planetary K (Kp)

Kp	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	28	29	30	31
00	3	2	3	1	2	2	4	2	4	2	2	1	3	3	3	5	4	4	3	3	5	4	3	2	3	2	3	4	8	8
03	2	3	5	2	2	2	2	2	2	1	1	2	2	4	4	3	5	5	4	4	5	5	2	2	3	2	3	4	3	7	7
06	2	2	3	4	1	2	2	2	2	1	2	1	2	6	7	4	5	4	5	5	5	6	2	2	2	2	4	4	9	6	6
09	3	2	3	2	2	2	3	2	2	2	1	3	2	6	6	5	5	4	5	5	5	5	2	4	2	3	3	4	8	5	5
12	2	2	3	3	2	3	3	3	2	2	2	2	3	6	4	4	4	4	5	4	5	4	2	5	4	2	2	3	7	5	5
15	2	3	3	2	3	3	3	3	2	2	2	2	3	4	4	4	3	3	4	4	4	4	2	7	4	3	3	4	7	8	8
18	3	3	3	2	3	3	3	3	2	1	1	2	3	5	4	4	3	4	4	4	4	3	2	4	3	3	3	3	9	9	9
21	3	3	2	2	4	3	3	3	2	2	2	2	4	6	4	4	3	4	4	5	5	2	2	5	3	3	1	4	8	9	9
Σ	20	20	25	18	19	20	23	20	18	13	13	15	22	40	36	33	32	32	34	34	38	33	17	31	24	20	22	29	55	57	47

Lerwick K (Shetlands)

KL	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	28	29	30	31
00	3	2	3	1	0	2	4	1	3	0	1	0	3	2	2	5	4	3	3	3	5	5	1	0	3	2	3	2	3	9	9
03	1	2	3	1	0	0	1	1	2	0	0	0	3	3	3	2	4	3	4	2	3	4	0	1	1	2	2	3	3	9	6
06	1	1	2	2	0	0	2	1	1	0	0	0	1	4	4	2	4	3	2	4	3	3	2	1	2	1	2	2	9	3	7
09	0	1	1	1	0	1	2	1	1	0	0	1	1	3	3	3	3	2	2	3	3	2	1	2	2	1	1	4	7	4	6
12	1	2	3	2	0	2	2	1	1	1	1	1	2	3	3	3	3	3	4	3	5	3	1	4	4	1	2	2	7	5	7
15	1	2	3	0	1	1	3	0	1	1	0	0	3	4	4	4	2	3	4	3	6	4	0	7	3	1	2	4	8	7	4
18	3	3	3	0	2	2	3	1	0	0	0	1	2	8	4	4	3	2	5	5	5	3	0	6	1	3	1	3	9	9	4
21	4	3	2	0	3	3	2	2	0	1	0	2	4	8	6	4	3	4	5	6	7	0	0	4	3	3	1	3	9	9	4
Σ	14	16	20	7	6	11	19	8	9	3	2	5	19	35	29	27	26	23	29	29	37	24	5	25	19	14	14	23	55	55	47

Eskdalemuir K (southern Scotland)

KE	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	28	29	30	31
00	3	3	3	1	0	2	4	1	4	0	1	0	3	3	2	4	4	3	3	3	4	4	2	0	4	3	3	3	4	8	9
03	1	2	3	1	0	1	1	1	2	0	0	0	3	3	3	3	4	3	4	2	3	5	1	1	2	2	2	4	3	5	6
06	1	1	3	2	0	1	3	1	1	1	0	0	1	4	4	3	4	4	3	4	4	3	2	1	2	1	2	3	9	4	5
09	0	1	1	1	0	2	3	1	1	1	0	1	1	4	4	3	3	2	2	3	4	2	2	1	2	2	1	4	7	4	6
12	1	2	3	2	1	2	2	2	2	1	1	1	3	3	3	3	3	3	4	3	4	4	1	4	4	2	2	3	8	5	7
15	1	2	3	0	2	2	4	1	1	1	0	0	3	4	4	4	2	3	4	3	5	5	1	5	3	1	2	4	8	5	5
18	3	2	3	0	3	3	3	2	0	0	0	2	3	6	5	4	3	3	5	5	5	3	0	4	1	4	2	3	9	9	4
21	4	3	2	0	4	3	2	3	0	2	0	2	4	6	5	4	4	4	5	5	5	1	0	5	3	4	1	4	9	9	4
Σ	14	16	21	7	10	16	22	12	11	6	2	6	21	33	30	28	27	25	30	28	34	27	9	21	21	19	15	28	57	49	46

Hartland K (SW England)

KH	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	28	29	30	31
00	3	3	3	1	0	2	4	2	4	0	1	1	4	4	2	4	5	3	4	4	4	4	2	0	4	3	3	3	5	7	9
03	2	2	4	2	1	1	2	2	2	0	0	0	3	3	4	3	4	4	4	2	3	5	1	1	2	2	2	4	3	6	6
06	1	1	3	2	0	1	3	2	1	1	0	0	1	5	4	3	5	4	4	4	4	4	2	2	2	2	3	3	9	4	5
09	1	1	1	2	0	2	3	2	1	0	0	1	1	4	5	4	4	3	2	3	4	2	2	3	2	2	1	5	7	3	6
12	1	2	4	3	1	3	3	2	2	1	1	1	2	3	3	4	3	3	4	3	4	4	1	4	4	1	2	3	7	4	6
15	1	2	4	1	2	2	4	1	2	1	0	1	3	4	5	5	2	4	4	4	5	5	1	5	4	1	2	4	6	6	4
18	4	2	3	0	3	3	3	2	1	1	0	2	4	7	5	4	3	4	5	5	5	4	0	5	1	4	2	3	8	8	4
21	4	3	2	0	4	3	3	3	0	2	1	2	5	6	5	4	4	4	5	5	5	2	0	5	3	4	1	4	8	9	4
Σ	17	16	24	11	11	17	25	16	13	6	3	8	23	36	33	31	30	29	32	30	34	30	9	25	22	19	16	29	53	47	44

October	28 Areas		-- 50 Areas --				2800	- Spots -		Max			X-ray	Max foF2		Min foF2		-- Particle Fluences --		
2003	Es	F	Es	DX	A	AE	Flux	SEC	SIDC	Kp	Ap	Aa	b.gnd	MHz	Hour	MHz	Hour	2MEV Elec	1MEV Prot	10MEV Prot
01-Oct	0	13	0	0	0	0	137	126	76	3	10	18	B5.0	7.0	17	3.0	04	6.7E+06	6.2E+05	1.2E+04
02-Oct	0	11	0	0	0	0	125	75	68	3	9	16	B4.4	8.2	12	2.3	05	1.6E+06	1.5E+05	1.3E+04
03-Oct	0	9	0	0	0	0	120	104	62	5	16	29	B4.0	8.0	13	3.0	06	6.9E+06	3.1E+05	1.2E+04
04-Oct	1	12	0	1	0	0	119	89	49	4	9	11	B3.5	7.8	11	3.5	05	8.2E+06	3.4E+05	1.2E+04
05-Oct	0	15	0	0	0	0	110	101	57	4	9	13	B2.2	9.1	11	3.2	05	1.4E+07	8.0E+05	1.3E+04
06-Oct	8	28	3	0	0	0	112	93	41	3	10	20	B1.8	10.1	11	3.0	05	1.1E+06	3.0E+05	1.2E+04
07-Oct	10	17	9	1	0	0	112	76	41	4	13	32	B2.6	9.3	12	3.0	06	5.7E+06	8.2E+05	1.1E+04
08-Oct	7	17	5	0	0	0	113	69	43	3	9	14	B2.0	n.a.	n.a.	n.a.	n.a.	1.1E+07	4.6E+05	1.1E+04
09-Oct	1	12	3	0	0	0	111	68	47	4	8	13	B1.9	8.4	12	3.2	06	2.0E+07	3.9E+05	1.1E+04
10-Oct	0	17	0	0	0	0	112	79	45	2	5	6	B2.0	8.9	13	3.5	05	2.3E+07	3.8E+05	1.2E+04
11-Oct	1	14	0	0	0	0	106	77	41	2	5	3	B2.1	8.8	10	2.1	06	2.3E+07	2.8E+05	1.2E+04
12-Oct	5	31	1	0	0	0	98	35	25	3	6	9	B1.8	8.9	14	2.9	05	3.0E+07	4.9E+05	1.2E+04
13-Oct	1	16	0	0	0	0	94	25	13	4	13	31	B1.7	n.a.	n.a.	2.3	04	1.9E+06	3.8E+05	1.2E+04
14-Oct	3	10	0	0	0	0	92	24	13	6	48	80	B1.0	9.3	12	3.1	05	1.9E+06	2.3E+06	1.2E+04
15-Oct	0	5	0	0	1	0	96	29	13	7	42	64	B1.1	6.8	16	1.9	05	1.3E+08	1.3E+07	1.2E+04
16-Oct	0	5	0	0	0	0	95	28	19	5	26	47	B1.5	6.5	13	2.0	04	6.8E+08	3.3E+06	1.1E+04
17-Oct	0	6	0	0	0	0	99	66	30	5	31	49	B1.4	7.0	12	2.0	02	5.0E+08	2.6E+06	1.2E+04
18-Oct	4	12	1	0	0	0	109	91	41	5	27	41	B2.4	7.4	13	n.a.	n.a.	3.6E+08	1.1E+06	1.2E+04
19-Oct	2	5	3	0	0	0	120	89	41	5	32	54	B5.6	5.7	13	n.a.	n.a.	3.1E+08	4.3E+06	1.3E+04
20-Oct	0	7	0	0	0	0	135	113	47	5	30	49	B6.5	5.8	16	n.a.	n.a.	2.3E+08	1.9E+06	1.2E+04
21-Oct	0	9	0	0	0	2	152	144	59	5	39	66	C1.4	7.3	13	n.a.	n.a.	1.4E+08	5.0E+06	1.3E+04
22-Oct	0	3	0	0	2	0	154	117	58	6	33	56	C4.9	6.2	13	n.a.	n.a.	1.9E+08	6.3E+06	2.2E+04
23-Oct	3	6	0	0	0	0	183	122	61	3	7	12	C3.0	8.0	12	n.a.	n.a.	1.2E+08	7.5E+06	6.4E+04
24-Oct	1	11	0	0	6	2	191	160	75	7	34	59	C1.6	9.3	12	2.1	05	1.4E+08	1.1E+08	6.5E+04
25-Oct	0	33	4	2	0	0	222	139	88	4	14	36	C1.6	9.2	16	n.a.	n.a.	5.3E+06	4.9E+06	1.9E+04
26-Oct	2	13	9	1	1	0	298	191	89	3	10	23	C2.2	10.4	11	n.a.	n.a.	1.1E+07	1.7E+07	4.7E+06
27-Oct	5	10	7	1	0	0	257	238	133	4	15	17	C3.6	8.9	12	n.a.	n.a.	1.2E+07	5.0E+07	9.6E+06
28-Oct	3	26	11	2	0	0	274	230	165	4	20	43	C3.2	11.6	13	2.1	04	4.8E+06	2.8E+08	1.8E+08
29-Oct	1	7	1	3	16	11	279	330	167	9	189	298	C3.3	6.0	16	n.a.	n.a.	4.7E+06	3.0E+09	7.7E+08
30-Oct	0	0	0	0	16	10	271	293	167	9	162	230	C2.8	n.a.	n.a.	n.a.	n.a.	1.9E+07	7.7E+08	1.4E+08
31-Oct	0	0	0	0	6	0	249	266	160	8	93	180	C1.8	n.a.	n.a.	n.a.	n.a.	3.4E+06	9.8E+07	7.0E+06
Sum	58	380	57	11	48	25														
Average	1.9	12.3	1.8	0.4	1.5	0.8	153.1	118.9	65.6	4.6	31.4	52.2	C1.1	8.1	13	2.7	05	9.7E+07	1.4E+08	3.6E+07
Maximum	10	33	11	3	16	11	298	330	167	9	189	298	C4.9	11.6	17	3.5	06	6.8E+08	3.0E+09	7.7E+08
Minimum	0	0	0	0	0	0	92	24	13	2	5	3	B1.0	5.7	10	1.9	02	1.1E+06	1.5E+05	1.1E+04

50 MHz Outside Britain

Compilation and Commentary by G3USF

Europe

Auroral-Related Propagation

Auroral-related events were observed on 22 days. Most were unremarkable, with moderate geomagnetic disturbances giving 'OH5 auroras' (as usual thanks to OH5IY for his results and to OH2LX for forwarding them and a substantial report from OH0RJ). One or two of these auroras crept sufficiently south to be reported in EI at roughly the latitude of Manchester and the event on the 24th was worked down to JO22/32. So far, so much like what we have often seen in recent months. But the event that began late on the 28th and continued, albeit with ebbs and flows, until the end of the month, was on a very different scale.

At its peak it was viewable throughout Britain where the sky was clear, and as far south as southern Florida. Auroral-related propagation was reported on 28, 70, 144 and 432MHz in Europe, plus 220MHz in North America. It produced the largest crop of 50MHz yet experienced. This is not to say this was the 'best ever' because access to 50MHz was much less widespread until the last few years and, even now achievement is limited by the absence of the former Soviet Union and Hungary. In Europe, 50MHz contacts were reported as far south as 9A (JN86), I1 and I2. The Italian contacts are assumed to have been auroral but this was not explicit. (Many reports were incomplete, resulting in a '?' in the listings, where it was unclear whether the mode was 'a' or 'AE'. Where there is no specific mention or query the mode is understood to have been 'tone a' but no signal report was given. Some reports specifically indicate AE and 't9' is assumed to be AE. '569a' reports remain ambiguous!

The event appears not to have reached EA (as happened at least once previously), or YO or LZ. Few reports mentioned beam headings; where they did, these were almost all within 30 degrees of North. However, there was one report of a 250 degree heading and another of 270 degrees. Unadventurous use of the rotator may have lost some interesting contacts.

A marked feature of the October 29-31 events was the number of t9 reports. Many of these involved stations at very high geomagnetic latitudes. OH2LX notes that, at Sodankyla, in Lappland, 'normal type au' (backscatter) 'does not work' - unlike his location at 65 degrees north in southern Finland, where he experiences the characteristic 'rusty' note. Vaino says that observations at Sodankyla over a twenty-year period suggest that the 'AuEs' recorded there is very probably different from the 'Harang type' discussed by G2FKZ in his book on aurora, and observed this month by OH0RJ, among others. The Harang discontinuity, is sometimes portrayed as a fairly clear-cut period of changeover in the current system. While the detailed listing shows times when all reports were 'a' and others when 't9' were preponderant, at other times reports were a mix of 'a' and 'AE', from fairly close locations; with signals occasionally varying between 'a' and 'AE'.

Oct 1 2140-2340 Au>OH5IY
Oct 5 2200-10 Au>OH5 2230-2320 Au>OH
Oct 6 20-2100 OH9SIX>SM2(KP15 57a) Au>OH5
Oct 7 0000-20 Au>OH5
Oct 13 1500-1700 Au>OH5 2020-30 Au>OH5 2040-2220 Au>OH5 2250-2400 Au>OH5
Oct 14 1200-1245 1520-30 AuFM>OH5 1550-1620 Au>OH5 1650-1730 Au>OH5 AuFM>OH5 18-1900 GB3LER>ON(59a) LA>OZ(58a) 1950-2000 Au>OH5 2010-2240 Au>OH5 2030-40 AuFM>OH5 2110-30 Au>OH5 22-2300 GM(IO68)>PA(55a) 2220 AuFM>OH5 GB3LER(53a),GB3RMK(51a)>EI 23-2400 GM>OZ(59a) OH2>OZ(55a)
Oct 15 0330-40 Au>OH5 0940-1020 Au>OH5 1200-20 Au>OH5 1310-20 Au>OH51340-1410 Au>OH5 1500-10 Au>OH5 2020-2140 Au>OH5 2050-2100. AuFM>OH5 2340-50 Au>OH5

Oct 16 1300-50 Au>OH5 17-1800 49750>OZ(55a) JW5SIX>OH6(KP02 AE) 48,49MHz>SM0 2350-2400 AuFM>OH5
Oct 17 2130-2200 Au>OH5
Oct 18 1200-40 Au>OH5 1510-20 Au>OH5 1530-1600 Au>OH5 1727 JW5SIX>SM2(KP15 599 AE) 22-2300 OH9SIX>OZ,LA(559 JO59) LAtv>OZ (?) LA7SIX>OZ(519)
Oct 19 030-40 Au>OH5 1200-1420 Au>OH5 1350-1400 AuFM>OH5 1530-1710 Au>OH51640-50 AuFM>OH5 1910-20 Au>OH5 1950-2120 Au>OH5 2050-2110 AuFM>OH5 2340-50 Au>OH5
Oct 20 1240-1300 Au>OH5 1310-40 Au>OH5 1410-1520 Au>OH5 1940-2020 Au>OH5. 2300-20 Au>OH5 2340-50 Au>OH5
Oct 21 0040-0210 Au>OH5 1200-1730 Au>OH5 1410-30 AuFM>OH5 1640-1710 AuFM>OH5. 1850-1910 Au>OH5 2020-30 Au>OH5 2040-50 AuFM>OH5 2050-2300 Au>OH5. 2110-30 AuFM>OH5 2150-2230 AuFM>OH5 2320-40 Au>OH5 2350-2400 Au>OH5
Oct 22 0020-0210 Au>OH5 1540-1640 Au>OH5 1632 GB3LER>EI(51a)
Oct 24 1147 49750>OH6(KP02) 1300-1720 Au>OH5 1400-20 AuFM>OH5 15-1600 ON>OZ(55a 300) GB3LER>DL(JO62 55a) SM0>PA(JO32 57a) ES2>OZ(59a) OZ(JO45)>PA(JO22 58a) 1540-1620 AuFM>OH5 16-1700 OH9SIX>OH5(57a) LY>OH5(59a) OH7>OH5(59a) 18-1900 GB3LER>EI(51a) 49750>OZ(58a 000) 19-2000 SM6>OZ(JO57) OZ>OH2(55a) SP1>OH2(55a) GB3RMK>EI(51a) SM6(JO57)>DL(JO32 55a) JW5SIX>SM2(KP15 599) JW9SIX>SM2(KP15 579 AE) JW5SIX>SM5(559 JO89) GM>EI(52a) 1930-40 Au>OH5 20-2100 Au>OH5 2110 20 Au>OH5 2113-7 48,49tv>SM0(59a) OH3>OZ(55a) 2230-40 Au>OH5 2310-2400 Au>OH5
Oct 25 0000-30 Au>OH5 1350-1550 Au>OH5 1444-54 OZ>OH5(58a) Au>LY 1630-1700 Au>OH5 1852 JW5SIX>SM2(KP15 569) 2243 JW5SIX>SM2(KP15 599)
Oct 26 1945 49750>SM2(59) 2010-2100 Au>OH5
Oct 27 0210-30 Au>OH5 1700-10 Au>OH5
Oct 28 1550-1600 Au>OH5 1824 LA>PA(51a) 2250-2400 Au>OH5

Oct 29 0000-40 Au>OH5 0610-50 Au>OH5 0618 UAtv>OZ 0700-10 Au>OH5 07-0800 GB3MCB>F(IN94 53a) LY>OZ(55a) LY>SP6(JO80 52a) SP7>OZ(55a) SP3>OZ(55a 350) SP2(JO83)>DL(JO72 59a) OZ>PA(55a 040) 0720-40 Au>OH5 13-1400 G>PA(52a) G>ON(59a) G>OZ(51-6a) OZ(JO57)>PA(JO21 57a) OZ(JO57)>DL G>PA(58a) LA>OZ(JO59 59a) OH0(JP90)>OZ(55a) 0810-20 Au>OH5 1240-1640 Au>OH5 14-1500 LA>OH0(52a) OZ>OH0(55a) SM4(JP70)>OH0(55a) OH7(KP42)>OH0 OZ(JO54)>OH0(55a) SP5>OH0(57a)15-1600 G>DL(57a) SM7>PA(59a 060) LY>DL(JO32 54a) OZ>SP6(JO80 52a) PA>LA(58a) ES2(KO29)>OH0 59a) OZ(JO55)>OH0(59a) LY(KO25)>OH0(59a) SM6(JO78)>OH0(55a) 1430-1640 AuFM>OH5 16-1700 SM7(JO65)>OH0(59a) SM7(JO75)>OH0(57a) OZ(JO55)>OH0(59a) SM0(JO89)>OH0 OH7(KP32)>OH0(59a) LA(JO59)>OH0(559) GI(IO64)>OH0(599) GI(IO74)>OH0(599) G(IO94)>OH0(59a) OZ>DL(41a) OH0>OZ(41a) GB3LER>OZ(57a) SM5(JO78)>DL SM0(JO89)>SP2(JO94 000) LA>DL(JO70 41a) SP2(JO83)>SP2(au/t) 1700-50 Au>OH5 1700-10 AuFM>OH5 17-1800 LY(KO24)>OZ(JO54 55a 045) ON>OZ(57a 030) SP2>LA(59a 060) OH2>EI(55a) ES2>SP7(?) OH9SIX>PA(52a) OZ>LA(59a) G>OZ(55a) G(IO91)>F(IN94 57a) OZ(JO46)>SP5(KO02 59a) GM(IO86)>PA(JO22 57) ES2>ON(55a) ES7>OZ(55a) GM>F(55a) OZ>OH6(KP02 53a 270) ES2(KO29)>DL(JO72 59a) GM>PA(JO33 55a) SM7>DL(JO50 59a) ON>ON EI>F(IN94 56a) G>PA(59a) SM7(JO65)>DL(JO70 59a) ON>PA(JO33 55a) GM>PA(JO21 55a) LY>DL(?) 1756-1831 AuFM(G,UA)>OH3 18-1900 G>9A(JN86 55a) GM(IO68)>ON(JO20 59a) ES2>PA OH6>PA(?) LY>ON(59a) GB3RMK>EI(52a) GM(IO88)>ON(JO20 55a) GB3MCB>EI(51a) GM>LX(?) PA(JO33)>PA(JO33 58a) OH2>LY(?) F>ON(58a) F(IN94)>PA DL(JN59 54a)>PA(JO21 55a) GM(IO88)>ON(JO20 57a) LA>SP3 SM7>PA(?) GB3MCB(IO70)>PA(52a) OH6(KP20)>DL(JN59 55a) OZ(JO46)>LX(JN39 59a) PA(JO32)>LX(JN39 59a) LX>SM7(53a) DL(JO41)>EI(IO53 ?) LX>PA F(IN94)>SM0(JO89 53a 250) 19-2400 Au>OH5 19-2000 SM0(JO89)>OH0(JP90 55a) OZ(JO65)>OH0(JP90 55a) OH2(KP20)>OH0(JP90 55a) LA(JO59)>OH0(JP90 55a) SM7>DL(59a) OH9SIX>LA(JO59 55a 030) GB3LER>OH1(599 AE) LA7SIX>SM0(559) OY6SMC>OH1(539 AE) OH9SIX>OZ(JO47 599) OK1(JO60)>OZ(JO54 55a 060) OY6SMC>SM0(55a) SM0(JO89)>F(IN94 51a) G(JO03)>SM2(59) OH9SIX>OZ(AE?) ON>F(57a) LA7SIX>OZ(JO75 599) LA7SIX>SP5(?) SM2>OZ(?) GB3LER>SM0(599)

LA7SIX>DL(JO50 599 AE) GM(IO67)>OH6(KP02 57 AE) LA7SIX>PA(JO21 569 AE) LA(JP64)>PA(59 AE) GM(IO68)>OH2(599) SM2(KP15)>OZ(JO55 59 AE) LA7SIX>PA(JO22 AE) OH8(KP25)>OZ LA7SIX>PA(JO21 ?) SM3>EI(IO53 AE) OK1>9A LY(KO25)>SP3(JO92 59a) SM2>DL(55) OH9SIX>PA(AE) LY(KO25)>PA OH7(KP42)>OK1(JO60 599 AE 060) SM3>PA(AE) GM>DL() SM2(KP07)>ON(59 AE) LA(JO59)>ON(JO20 55a) LA(JP42)>DL(JO50 59 AE) SP6>OK1(JN79 559/a) LY>OE3(59a 030) SP3(IO92)>9A(JN96 010) OZ(JO54)>9A(JN86) OZ>OM7(55a) G>PA(59a) OH9SIX>OZ(JO75 599) LA7SIX>OZ 599) GM(IO97)>SM5 GM>SM7(57) EI>ON(59a) SM3(JP93)>PA(AE) SP6>ON(?) GB3LER>DL(JO50 599 AE) SM3(JP62)>PA(JO22 599 AE) EI>OH2(?) SM3>PA(59 AE) OH9SIX>PA(599) SM3(JP83)>ON(?) OY6SMC>ON(JO20 ?) SP3>LA(JP53 579 AE) OH8(KP25)>PA SM3(JP73)>PA 1935-52 AuFM(EI,G)>OH3 1935-2000 AuE(EI,G,LA)>OH2 1943-2004 AuE(EI,G)>OH2 20-2100 G(IO94)>OH0(JP90 59a) SM3(JO92)>SP3(JP92 59/59a) F>PA(?) OZ(JO47)>OH0(JP90 59a/599) LY(KO24)>OH0(55a) SM0(JO89)>OH0(JP90 55a) OZ(JO65)>OH0(JP90 55a) OH2(KP20)>OH0(55a) LA(JO59)>OH0(55a) SP4(KO12)>OH0(57a) DL(JO44)>OH0(58a) DL(JO63)>OH0(57a) G(IO93 599) G(IO80>OH0(599) G(IO92)>OH0(599) G(IO91)>OH0(599) OH4(KP20)>OH0(59a) SM5(JO88)>OH0(57a) SM3(JP62)>OH0(59a) ES1>OH0(59a) OH6(KP23)>OH0(JP90 59a) ON(JO20)>OH0(JP90 55a) LA(JO59)>OH0(JP90 55a) PA(JO22)>OH0(57a) ON(JO32)>OH0(57a) SP3(KO83)>OH0(57a/559) G(JO08)>OH0(JP90 57a) PA(JO33)>OH0(57a) ES1(KO29)>OH0(55a) OH3(KP21)>OH0(44a) DL(JO32)>OH0(JP90 55a) LY>OK1(JO60 59a) LY>PA(JO21 AE) SM2(KP04)>OZ(59) OH6(KP02)>ON(59) SM3(JP62)>DL(579) YL3(JP31)>DL(57a/599AE) EI>ON(52 330) LY>LA(599 AE) SM3(JP62)>ON(?) ES2>DL(?) OH9>DL(?) ES4>PA(?) OH6(KP02)>PA(JO20 59) OH9>DL(?) OH6(KP02)>PA(JO21 57 AE) OH0(JP90)>DL(JO44 ?) LA>ON(?) SM3(JP83)>PA(?) ES2(KO92)>SP3(JO92 57a 000) SM3(JP83)>ON(?) OH9SIX>DL(599) ES2>OZ(59a) SM5(JO73)>SP3 ?) OY6>PA(59a) SM6>OK1(?) SM3>LA(55a) ES1>LA(59a) OE5>OK1(?) ES4(KO39)>SP3(JO92 57a) SM3(JP83)>PA(JO22 ?) YL2>OZ(59a 025) G(IO70)>F(57a) G(JO02)>F(IN94 55a) G>F(JN09 55) SP3(JO73)>SM7(?) 21-2400 AuFM>OH5 21-2200 LA(JO59)>SP3(JO92) ES2>PA(55a) OH6(KP02)>DL(JN59 57a) GM>PA(?) OZ>PA(?) OZ7IGY>EI(419) ES1>LA(55a) SM7>EI(55) GB3LER>OK1(JO70 579) SM0(JO89)>SP3(JO89 55a) OY6SMC>DL(JO50 539 AE) GB3LER>ON(59) ES2>PA G>PA LA(JO59)>PA AE) G>OK1(55a 355) OZ>PA OZ>EI(59) SM7>PA) LA>F(?) OY6(IP62)>F(?) GM(IO67)>PA(59 AE) EI>PA(?) 22-2300 GI>PA OZ>PA OH3>SP3(JO92 57a 330) OH0>PA(?) ES2(KO29)>OK1 ES2>OK1(JO70 59a) DL>I2(53a) SM7>OK1(JO70 59a 350) 22-2300 OZ>PA(59a 310) PI7SIX>EI(539) GI>PA(59 AE) G>SP3(JO93 55a) GM>PA PA>DL(59a) GM>DL AE) SM7>DL(55a) HB(JO41)>DL(59a 060) LY>9A OZ>OZ SM7(JO87)>DL(JO71) PA>PA EI>PA 23-2400 OH9SIX>PA GB3LER>PA(55a) SM0(JO89)>SP5(KO02 57a) OZ(JO65)>DL(JO31 559a 350) I1>DL(?) GM(IO67)>EI LA>PA(59a) OH7(KP42)>PH3 GM(IO87)>OK1(JN69) SM0>SP7(?) SM0(K)02)>SP5(JO89 57a) SM0>SP7 LA,SM,GM,G,DL,ES>PA OZ)JO65>DL(JO31 559a 350)

Oct 30 0000-0350 Au>OH5 0000-0330 AuFM>OH5 00-0100 EI>PA(57a) LA(JP50)>OZ(55a) OZ>PA OZ(JO64)>SQ2(JO94 59a) OK1(JN69>PA(JO22 55a) 01-0200 PA(JO21)>OK1(JN69) 14-1500GM>EI(41a) 1030-40 AuFM>OH5 1300-40 Au>OH5 1410-1510 Au>OH5 1520-1610 Au>OH5 17-1800 GM>LA(JP42 44a) LY>DL (53a) TF3SIX>SM3(KO25) SM5>LY(59a) 1720-50 Au>OH5 18-1900 LY>DL(JO50) GB3LER>EI(41a) G>LY OH9SIX>OZ(599AE) ES2>OZ(599 AE) OZ>OH6(KP02) OZ(JO57)>SM0(JO99) 1810-30 Au>OH5 1810-20 AuFM>OH5 1840-50 Au>OH5 1900-2240 Au>OH5 1810-20 AuFM>OH5 1840-50 Au>OH5 1900-2240 Au>OH519-2000 OY6SMC>LY(599) SM3>DL(JO62 Es??) SM3>DL(589 AE) GM>OH6 LA7SIX>DL(JN59 559) SM3(JP62)>SQ2(JO94 599) LA(JO83)>SP6 59) SM4(JP70)>PA(JO22 599) LA>SP6(JO82 59) OH2>EI(51 AE) OH7(KP32)>ON SM4(JP70)>DL(JO31 599 AE) OH8(KP34)>DL(JN59 59) ES2>OZ(?) OH7(KP42)>DL(JO31 599 AE) PA>ON(JO21) OH8(KP25>DL(AE) OY6SMC>DL(JO62 559) 1905-35 AuE(FM:EI,G)>OH2 1918-37 AuE(FM:G)>OH2 1918-23 AuE(FM:G)>OH3 1928-50 AuE(G,PA,OK)>OH6 20-2100 PA>ON 59a) DL(JO53)>DL(JO62 57a) G>OH2(59) OZ>OK1(JO70) SP3>DL LA(JP32)>DL(JN59 59) LA>ON(?) OZ(JO57)>DL(JO31 51a) LA(JP50)>DL(JN59 59) G>F(55a) SM3(JP62)>DL(JN59 599) GB3LER>DL(JO62 599) LA(JP53)>DL(JN59 57) PA>OH2(?) OH3>LA(55a) LA(JP32)>DL(JN59 59) ES5>SP2(59a) LA(JO28)>DL(JN59 55a) GM>PA(59)

SM7>F(IN94 53a) 21-2200 PI7SIX>EI(519) GM>DL(JN48 59a 020) OZ(JO75)>F(IN94 55a) LA7SIX,OY6SMC,OH9SIX>DL(?) LX>EI(41a) GD(IO74)>F(IN94 59a) PA>DL(?) ON>DL(?) G>DL(?) LAtv>9A(57a JN86) OZ>DL(?) SM7(JO65)>SP3(JO92 57a) SP6(JO80)>9A(JN86 59a 000) OK1>I1(55a) SP2(JO92)>9A(JN86) 4N7(JN95)>SP3(JO92 55a) SP6>OK1(?) 22-2300 GJ(IN89)>PA(JO22) GJ(IN89)>F(57a JN18) SP6>F(55a) GJ>DL(JN48 55a) I3>DL(JN48) DL(JO53)>9A(JN86) G>I2(55a) OZ(JO54)>9A(JN86 ?) GJ>EI(?) I4(JN54)>DL(JO51 59a) SM7(JO65)>9A(JN86 59a 000) GJ(IN89)>DL(JO42 ?) F>PA(?) 2230-40 AuFM>OH5 2250-2400 Au>OH5 2250-2300 AuFM>OH5 23-2400 SM7>DL(JO65 ?) SP6>I1(51a) EI>F(?) OK1>OZ(55a) 2310-30 AuFM>OH5 2350-2400 AuFM>OH5

Oct 31 0000-10 AuFM>OH5 0010-50 Au>OH5 0040-0250 AuFM>OH5 0100-0310 Au>OH5. 0300-10 AuFM>OH5 0320-50 Au>OH5 0440-50 Au>OH5 0530-0610 Au>OH5 0540-50 AuFM>OH5 0620-30 Au>OH5 0620-30 AuFM>OH5 0640-50 AuFM>OH5 0700-20 AuFM>OH5 0730-0810 AuFM>OH5 0820-40 AuFM>OH5 1120-30 Au>OH5 1150-1210 Au>OH5 1220-40 Au>OH5 1300-1400 Au>OH5 1440-50 Au>OH5 1510-40 Au>OH5 1550-1640 Au>OH5

Other Modes

Preliminary note: The OH2AQ DX Summit suffered several outages in the last ten days of October. Data for several days is missing or incomplete, with the exception of the auroral listings, for which an alternative source was available. Comments must be read in that light. Callsigns given in full as usual indicate either 'dx' or beacons.

It was scarcely to be expected that such a relatively disturbed October three years after the peak of the cycle would yield a bumper crop of Asian or Pacific DX. So it proved. Unlike October 2002 when, for instance, JA worked into Europe on 13 days and VK in17, there were no JA reports, just one of VK4 into G and SV (but surely not only in those two countries) on the 28th and VK6 into the UK on the28th and 29th. (Again, it is a little hard to credit that the UK was uniquely favoured, but the only reports were from the UK.) Apart from that we know only of A4 into Greece on the 9th and VU on the 7th (G,PA) and 9th (SV).

Southern Africa gave rise to more reports but was clearly well down on 2002, even allowing for incomplete data. It is known to have reached northern Europe on only two days - EI on the 18th and G on the 26th - compared with 15 days in 2002. We know of Mediterranean contacts on 10 days, compared with 27 in 2002.

Europe>Southern Africa

	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	28	29	30	31
Med			+	+		+	+		+			+	+	+							+		+							
North																		+												

	Mediterranean	North
ZS6	10 days 3 4 6 7 9 10 12 13 21 23	2 days 18(EI) 26(G)
Z2	2 days 12 14	
V5	2 days 30	
7Q 1 day 24		

Western Africa offers a similar picture. Northern Europe was down from 21 days in 2002 to four with the UK apparently the main beneficiaries. There were known openings to the Mediterranean on 17 days compared with 28 in 2002. TR0A was the only regularly activated country; elsewhere activity was intermittent, but as in September the relatively poor showing of sought-after dxpedition operations in 3C, TY and S9 again suggests an absence of propagation. However, even in these unpromising circumstances Costas, SV1DH, managed to work the 3C operation for his 225th 'entity'. However, Costas' 32 'entities' this month compare with 50 a year earlier.

Europe<>West Africa

	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	28	29	30	31
Med	+	+	+	+		+		+			+	+	+				+	+			+	+	+	+	+					+	
North		+		+																			+		+				+		

	Mediterranean	North
TR	15 days 1 3 4 6 8 11-13 17 18 22-25 30	2 days 4(G) 23(G) 25(G) 29(G)
TU2	5 days 3 4 6 18 30	
3C0	1 day 2	1 day 2(DL)
5U	2 days 11 21	
C5	1 day 30	
TY	1 day 17	1 day 25(G)
S9	1 day 3	

Apart from CN, EA8 and CT3 there were no reports from other parts of Africa. VQ9LA reached Cyprus on the 9th and 10th but is not known to have worked into mainland Europe. Note, however, that SV1DH reports 48MHz video from 3C and 5Z on every day in the month.

While October is not among the more fruitful months for sporadic-E, there were a respectable number of reports, especially but not exclusively from SV1DH, suggesting this as the mode for intra-European contacts on several days. Reports also suggest that ionization was at times sufficiently high to sustain backscatter.

Oct 1 0606 IZ1EPM>I2 07-0800 T7,IQ4AD>I2 1309 IQ4AD>I2 14-1500 ZD8VHF>SV1 3Ctv>SV1,EA7 TR0A>EA7 I9>9A 15-1600 IK5ZUL>S5 9H>I0 18-1900 3Ctv>SV1 19-2000 ZD8VHF>9H 20-2100 ZD8VHF>I0,EH3,EA5 ZD7MY>9A,CT,EA5,EA3 21-2200 ZD7MY>I8,CT PY1RO>EA7,EA5 22-2300 TR0A>CT3 2355 3C0V>CT3

Oct 2 13-1400 5Ztv>SV1 14-1500 3C0V>5B 3Ctv>9A 15-1600 3C0V>SV1,EA7,I0,9A,I9,5B,DL 16-1700 3C0V>SV1,I0 OM3,3Ctv>9A I9>ON,DL 17-1800 3Ctv>EA7 1852 3C0V>9A 20-2100 3Ctv>EA7,I9,I8,CT3

Oct 3 1100 OM3>9A 14-1500 3Ctv>SV1 TR0A>I5 15-1600 3Ctv>I0,SV1,9A 16-1700 ZS6NK>SV1 S9TX>EA7,IS0 17-1800 V51E>5B ZS6TWB>IS0 TU2OJ>CT 18-1900 ZS6TWB>SV1 3Ctv>SV1 5Ntv>SV1 1928 ZD7MY>CT

Oct 4 1044 G>I5(ms) 1253 OE5>9H 13-1400 OE5>DL I9>OK1 13-1400 3Ctv,TR0A>SV1 ZS6NK,ZS6TWB>9H 14-1500 IS0>I2 3Ctv>I0 TR0A>I5 15-1600 3Ctv>I1,9A ZS6TWB>IS0 TR0A>GW V51E>9H Z22JE>9H,I0 S5>9A 17-1800 ZS6GVD>EA7 7Q7RM>EA7 ZS6DN,ZS6TWB>I5 ZD7MY>5B TU2OJ>CT 18-1900 ZS6NK>EA5 ZS6BTE>EA5,I0 ZD8VHF>SV1 3Ctv>SV1 5Ntv>SV1

Oct 5 14-1500 LX0SIX>EA7 1554 CT0SIX>EA7 16-1700 9H,F>SV1(bs) ZD8VHF,3Ctv,5Ntv>SV1 2!38 PP1CZ>EA7

Oct 6 05-0600 OH5SIX,ES0SIX>SP6 08-0900 ON>LX 09-1000 SV1SIX>PA,SP6 1150 SV1SIX>F 12-1300 SV1>I1 I9>SP1,OK1 I7>I8 9H1SIX>DL 13-1400 I0JX>DL G>I5 DL>SP6 1450 GB3LER>F 1548 TR0A>9H 16-1700 ZS6NK>I0 I9>HB 17-1800 LZ3>I0 TU2OJ>EA7 1944 ZD8VHF,5Ntv,3Ctv>SV1 20-2100 ZD8VHF>I7 PP1CZ,PY2TVI>EA7 21-2200 ZD8VHF,I9>9H

Oct 7 07-0800 OH5SIX>SP6(ms) UT5G>SP6 08-0900 UT5G>OZ,DL UU5SIX>DL UR>ON SV1SIX>SP6 YO7>DL 09-1000 I2,9A>LY2 OH5SIX>S5 LY>I4,I5(Es),I1 UR>DL,PA LZ2,YO5>ON VU2ZAP>G,PA SQ8>I5 10-1100 UT5G>ON UR>I2 SM5>I5 F>SP2,SP5 LZ3>DL EI>OE3 11-1200 EI>OE3 GB3MCB,F,GB3IOJ>DL GM>I2 G>SP9,S5(Es) I5,F,IQ4AD>SP7 LZ1>PA 12-1300 I2>SP7 YT1,LZ3,LZ2>PA G>9A,I7 9A>DL,PA OK2>I1 SM7>I5 F>DL 13-1400 S5>ON EI>I3 14-1500 IQ4AD>EI 3Ctv>SV1 1501 9H>I0 17-1800 ZS6NK>5B ZS6TWB>I4

Oct 8 0542 ES0SIX>SP6 10-1100 SM5,ES0SIX,LY>EI GB3LER>SP6,DL GB3RMK>DL OY6SMC>SP6,SP1,OM3>DL YU1>SM5 11-1200 GW>ON GM>OK1,SP1,DL SM0>PA EI,9H1SIX,GB3RMK>DL CT0SIX>F OZ7IGY>EI 12-1300 DL>EI GB3RMK>I4 EH5,EH7>9A 13-1400 IQ4AD,IZ1EPM>EI EI>HB 18-1900 GB3BUX>IS0 EH2,EH1,CT>9A OZ>EA6 I0>F F>I5 EA5>HB DL>EA5 ON>PA

Oct 9 10-1100 GB3RMK>I4 11-1200 IQ4AD>EI VU2ZAP(F2+Es),OD5SIX,4X4SIX,5B4CY>SV1 12-1300 3Ctv>SV1 EH7>DL 13-1400 SV1,SV8>9A SP9>PA A45WD,5B>I0 SV1>S5 14-1500 SV1>9A A45WD>I0,5B,I5 SV1SIX>OE3,9A 4X,OD>I0 15-1600 A45WD>5B 5B>I0 SV1>OE3,DL,9A VQ9LA>5B 16-1700 LZ2>F YU1>F,I1 ZS6DN>SV1 SV1SIX>DL 17-1800 SV1SIX>SQ9 S5>9A 18-1900 SV1SIX>SP9 2135 PY1RO>CT ZP4KFX>CN

Oct 10 11-1200 UX0>9A 9H>I1 13-1400 ZS6TWB>I5,SV1 ZS6NH>IS0 16-1700 VQ9LA>5B ZS6TWB>IS0 1713 ZS6WB>5B 1837 3Ctv>SV1(tep) 1952 ZD8VHF,3Ctv,5Ntv>SV1

Oct 11 0817 LX0SIX>DL(t) 0950 49750(UA)>I0 10-1100 UR>S5(Es),I4 12-1300 3Ctv>9A 13-1400 3Ctv>SV1 TR0A>I0 14-1500 I9>I8 TR0A>F F>EA5 15-1600 i9>5B 5U7JB>9H,I2,F 16-1700 S9TX>EA7 5U7JB>F 9H>I0(bs) TR8CA>EA7,9H 1952 GB3MCB>F 2135 PY1RO>EA7

Oct 12 0922 I6>I2 10-1100 I9>I8 I8>I0 11-1200 I6>9A DL>EA7 12-1300 HZtv>SV1 YU1>9A 13-1400 I1>EI A45WD>5B F>9A,ON CT0SIX,LX0SIX(t)>DL F,G>SP6 TR0A>I0 ON>DL GB3BUX>I5I0>PA G>9A SM5,ON,OZ>OH1 14-1500 TR0A>F HB>PA HB>ON 15-1600 9H,F>I1 16-1700 9H>IS0 ZS6NK>IS0,I0,PA 1755 EH5>SP6,DL 18-1900 Z22JE>IS0

Oct 13 11-1200 ZS6TWB>9H,I0 3Ctv>SV1 12-1300 CN>EI 16-1700 ZS6GVD,ZS6NK>EA7 20-2100 ZD8VHF>9H

Oct 14 18-1900 PA>ON 3Ctv>SV1 aurora

Oct 15 0542 YO7>9A 08-0900 SP7>SP3 11-1200 LZ2>LZ3 aurora

Oct 16 0414 S55ZRS>OE6 1125 CN8MC>F 1453 I9>9A 1750 UR>5B 18-1900 PY1RO>EA7,I9 1907 LY2>ON

Oct 17 0821 48250>9A(070) 14-1500 3Ctv>SV1,EA7 TR0A>EA7,SV1,I0 SV1,EA7>9H(bs) 1655 TY5ZR>I8 21-2200 3Ctv,ZD8VHF>EA7 2233 GD>OZ

Oct 18 09-1000 IQ4AD>I1,I2 UR>SV1 10-1100 UT5G>I8 I9,I8,SV1>LY LY>I2 UU5SIX>I5,9A 9H>I9 EH7>I1 SV8>LY,SV1 11-1200 UU5SIX>EA7 CN8MC>I4,I5 OE5>LZ5 CN>I1 SV1SIX>SP6 I5>CT SV1>DL OE5>PA 12-1300 W7GJ>LY,PA(eme) UR>I9 LZ2>I4,I6 1351 LZ1>I5 14-1500 TR0A,3Ctv>SV1

EA5>ON 15-1600 5B,3Ctv>SV1 ZS6WB>EI UR>9A 16-1700 GD>DL IZ1EPM,TR0A>EA7 CT0SIX>I5 FM5WD>EA7(skew) EH7>I1 17-1800 TU2OJ>IS0,EA7 9Y4AT>EA7 OH1>OZ JW5SIX>OH6(mode?) 18-1900 LX0SIX>DL 9Y4AT,YY5AFD>D44TD 19-2000 PY1RO>CT,EA7 PP1CZ,PY2RO,PY2FSY,PY2XB>EA7 22-2300 PP1CZ>CT 2341 UT5G>OZ(Es)

Oct 19 07-0800 48250(Asia)>SV1 I7>9A(t) S5>I1(t) 09-1000 I5,I8,I0,I9,IS0>OZ G>I2 SP1>I9 I0,YU1,GD,I8>ON F>9a(Es) I0>PA,DL I5>PA I8>DL G>9A YZ1>F 10-1100 DL>I9 S5>F EH2>S5,9A I9>SP6 IS0>PA I0JX>EA1 EH5>SP6 GD>S5,I9 9H>PA PA>ON 11-1200 9H,I0>DL GD>PA,S5 EH5>I0,I4 S5>EA7 LY>SP3 SP3>SP6

Oct 22 1142 5Ztv>SV1 1216 3Ctv>SV1 1646 S5>I4

Oct 23 11-1200 LX>ON 3Ctv,5Ztv>SV1 12-1300 FX4SIX>SP6 LZ3>PA,DL,ON SV2,LZ2>PA I9>ON 1323 I7>PA 14-1500 TR0A,3Ctv>SV1 15-1600 I9>PA TR0A>I0 16-1700 TR0A>SV1,IS0 ZS6WB>G ZS6NK>I0 3Ctv>SV1 19-2000 PY2XB,49.2(CE)>EA7 20-2100 3Ctv,TR0A,ZD8VHF>SV1 21-2200 PY2CDI>EA7 PY1RO>9H ZZ2TGR>EA7 2225 CE0Y/SP9EVP>EA7 11-1200 5Ztv>SV1 12-1300 3Ctv>SV1 TR0A>SV1,I5 aurora 1530 3Ctv>I1 1556 TR0A>I0 1636 ZS6WB>G

Oct 24 aurora 20-2100 EH5>9A S5>EA5 aurora

Oct 25 49750,F>I1 09-1000 9H1SIX>DL,OE5 5Ztv,UAtv>SV1 10-1100 DL,PI7SIX,LX0SIX,OK1>EA7 EH5>DL(Es),PA 11-1200 EH5>DL,PA,9A GW>PA CN>F F>EA5 ON>EA7 12-1300 I9>DL,PA SV1>I1 IK5ZUL>EA1 ZB2>F CT0SIX>I1 13-1400 CN>PA aurora 17-1800 HB>ON(t) LU9EHF,LU1DMA>EA7 1848 LU3EO>EA7

Oct 26-28 data other than aurora missing

Oct 29 data missing up to 1642/aurora 2041 ZD8VHF>TR8CA 2101 KP4EIT,KP2A>CN8KD 3Ctv>SV1

Oct 30 10-1100 TR0A,C56JHF,TU2OJ>9H 11-1200 TR0A,3Ctv>I0 12-1300 I9>TR8CA C56JHF>9H,SV1 SV1>TR8CA 5Ztv>SV1 13-1400 C56JHF>ON(?) 1458 TR0A>I5 15-1600 TR0A>IS0,I0 TR8CA>EA7,5B 16-1700 TR0A>F I9,5B,V51E>EA7 17-1800 aurora I7>F 19-2000 GW>ON aurora 1930 TR8CA>CN aurora

Oct 31 data missing

50MHz PROPAGATION REPORT FOR OCTOBER 2003 BY SV1DH

1. Data for all days (31),except on 31st Internet data only.
2. Relatively good days on: 1,5,9,13,21,23,26,27,28

3.	48 MHz AF video (3C+5Z)		on:	1-31	(100%)
4.	55 MHz AF video (5N)		on:	3-6,8,10,23,26	(26%)
5.	"	to ZS6	on:	3,4,9,10,13,21,23	(23%)
6.	"	to TR	on:	4,8,13,17,18,22-25,30	(32%)
7.	"	to 5U	on:	11,21	
8.	"	to C5	on:	30	
9.	"	to ZD8	on:	1,4,5,6,8,10,23,26	(26%)
10.	"	to ZD7	on:	1	
11.	"	to 3C0	on:	2(1450-1615)	DXCC entity wkd
12.	"	to PY	on:	21	
13.	"	to VK4	on:	28(0800-0810)	
14.	"	to 5B	on:	9,28(E),18(B)	
15.	"	to 4X	on:	9,28(E),26(B)	

16.	"	to OD	on:	9,28(E)	
17.	"	to VU	on:	9(F+E)	
18.	"	to A4	on:	9(F?)	
19.	"	to F	on:	5(B),6(E)	
20.	"	to I	on:	2,6,11(B),21,24-29(E)	
21.	"	to EH	on:	17(B),26(E)	
22.	"	to 9H	on:	2,5,7,11,12,17,21,24,26(B)	(30%)
23.	"	to DL	on:	9,18,27,28(E)	
24.	"	to SP	on:	6,7,9,18,28(E)	
25.	"	to OK	on:	18,28(E)	
26.	"	to 9A	on:	9(E)	
27.	“	to S5	on:	9(E)	
28.	“	to OE	on:	27,29(E)	
29.	“	to PA	on:	6,26,28(E)	
30.	“	to ON	on:	28(E)	
31.	“	to GW	on:	28(E)	
32.	“	to YU	on:	9(E)	
33.	“	to OE	on:	9(E)	
34.	“	to LY	on:	18(E)	
35.	“	to UR	on:	18(E)	
36.	“	to YO	on:	18(E)	

37. Special events on:

1 (0451 M1.4 flare+0945 KH6 to EU on 10m LP+1315/1445 A6 to YB +2130 9H+EH7 to PY1)
2 (1030 KM18 foF2>10 /MUF>32Mhz+1300 MUF to HZ>43Mhz)
3 (0915 KM18 foF2>10 /MUF>31Mhz+1400 MUF to HZ>43Mhz)
4 (1230/1400 A6 to DU)
5 (1115 A6 to XZ+VK6 at 8800Km+1545 A6 to YB+VQ9+2030 CEMuzak+2130 EH7 to PY1)
6 (08-09 JA to EU on 10m+foF2>10 / MUF>33Mhz+2045 EH7 to PY+2200 9H to PY)
7 (0930 DL to VU F2+Es +1500 A6 to I2?)
8 (0930 A6 to JA2 sc+1000 HZ to VK6+1345 A4 to DU +1530 A6+HZ to VK9X+VU+VQ9)
9 (0900-1145 foF2>10 / MUF>32Mhz, max 10.6M+1245-1330 MUF to HZ>44M+1315 A6 to YB+1500 5B+A6 to VQ9)
10 (03-15z k=0! +0930-1200 foF2>10 / MUF>32M, max 11.1M+1100 A6 to VR+KG6 +1200 MUF to HZ>44M+ 1330 A6 to DU+1530 W6 on 10m)
11 (1000 A6 to VR +0845-1115 foF2>10 / MUF>32M ,max 10.5M)
12 (0915 HZ to XZ+ 0915-1500 foF2>10 / MUF>33M, max 11.0M +1130-1300 MUF to HZ>44M+1215 HZ to DU+1515 W6 on 10m S9+)
13 (0845-1045 foF2>10, max 11.1 / MUF=37Mhz)
14 (First spotless day since last min, R=25 +0815-1245 foF2>10, max 12.4 MUF=42Mhz)
15 (0615-1045 foF2>10, max 11.7 / MUF=37Mhz+1200 OD to A7)
16 (1845 IT to PY)
18 (1700-1740 EH7 to FM+9Y scatter)
19 (0629 M1.9+1650 X1.1+1926 M1.0+Xray bgn C1!+07-08z AS video on 48Mhz+MUF to HZ>44Mhz+2030 9H to PY1)
20 (0722 M1.9)
21 (11C+3M, max M2.5 at 2329+Xbgn C5!+0945-1130 foF2>10, max 10.9/MUF=36Mhz)
22 (3C+8M flares, max M9.9 at 2207+ Xbgn C5!+1645 9H to PY1)
23 (2C+5M+2X flares, max M3.2 at 0708+X1.1 at 2004+X5.4! at 0835+Xbgn C4+0130 JA to PY first season+1900 EH7 to PY+CEM+2100 9H to PY+ 2230 EH7 to CE0Y!)
24 (9C+4M flares, max M7.6 at 0253+Xbgn C1+1115 MUF to HZ>44Mhz+1500 W+G on 10m)
25 (13C+3M+Xbgn C2+0730-1045 foF2>10, max 11.2Mhz+0800 VU to VR2+0930-1100 MUF to HZ>44Mhz)
26 (7C+2M+2X! flares, max M7.6 at 2140+X1.2 at 0654+X1.2 at 1819+Xbgn C4!+0745-1430 foF2>10,

max 11.6Mhz+0645-1115 MUF to HZ>44Mhz+1115 9H+N EU to ZS6 early+2130 9H to ZP+PY)
27 (10C+5M flares , max M6.7 at 1243 +Xbgn C3+0200 9Y to TR/B+SF=298, SSN=191+0745-foF2>10,
28 max 12.4/ MUF 40 Mhz+0815 VU to VK4+A6 to VK6+0845-0930 N EU to VK4+1030 I1+EH5 to VK4(F2+Es)+2200 EH+N EU to PY1+2300 IH9 to PY1)
28 (5C+5M+1X, Xbgn C3, max M8.4 at 1048+ X17.2!! at 1110+SF=257,SSN=238+0745-1245 foF2>10,max 13.9/MUF=40Mhz+0645 VU to JA+VK+0745-1300 MUF to HZ>44Mhz+0830 48Mhz AS video+W3 reported by SV1OE+1115 ALL HF blackout)
29 (5C+4M+1X, max 0511 M3.5+2049 X10.0! flares+Xbgn C3+SF=274,SSN=230+SEV STORM 0700z, K=9 at 0900+0600-0715 foF2>10, max 10.3Mhz+0930-1100 foF2>13, max 14.3Mhz! at 1015+0945 A6 to JA+9H+EH+1030 LZ+Z3 to VK6+100 G to VK6+ZD8!+2100 CN8 to KP4+2100 VP9/B to W2 Auroral)
30 (SF=279,SSN=330!!+0600-0800 MUF to HZ>44Mhz early)
31 (SF=271,SSN=ND)

38. DXCC entities heard/worked during OCT 2003 : 32 on 5 cont
39. DXCC entities heard/worked on 9th OCT 2003 : 12 on 3 cont.

73 COSTAS

The Americas

Auroral-Related Propagation

This was the most substantial crop of auroral reports we have yet seen from the US, though still well short of European levels. As in Europe, the openings reached further south than usual, to include most notably VP9 (32 degrees North). This was further south, geographically, than in Europe, being roughly the same latitude as the northern fringe of North Africa. However, this was not the most southerly reach. Sadly, numerous reports failed to provide locators, but those that did included North Carolina, Georgia, Tennessee, southern Texas and EL97, which is well down in Florida, between 27 and 28N! Further west, the aurora seems not to have ventured unusually southward to the same extent, but there was at least one report from southern California. A relatively small number of reports specifically identified auroral-E, but it is possible that some that did not have been filed in the 'other modes' listing. Indeed, on this occasion, there is a very clear linkage between contacts included here and the excellent propagation recorded in the course of the storm and included in the 'other modes' listings.

Oct 14 2155 W0>W0(DM79 52a) 22-2300 K0KP>W9 W8(EN76)>W8(EM79 559a)

Oct 29 17-1800 W0(EN36)>W8(55a) W3(FM18)>W8(56a) 18-1900 W9(EM69)>W8(55a) 19-2000 W3>W1(59a) W8(EN84)>W9(EM69 54a) W4(FM17)>W1(FN42) W3(FM28)>W8(EN82 57a)W3(FM28)>W1(FN42) W4>W1(55a) W6(CM98)>W7(CN84 59a) W7(DN06)>W7 W3(FM29)>W2(54a) W3(FN20)>W2(55a) W3(FM18)>W9(EM69 55a) W4(EM83)>W3(57a) W3(FM06)>W4(55a) W4(FM06)>W8(55a) W8(EM79)>W3(59a) W8(EM79)>W9(EM59 55a) W4(EM83)>W3(FN00 55a) W4(EM66)>W9(EN60) W4(EM96)>W3(FN00 55a) 20-2100 W4(FM05)>W8(EN82) W8(FM19)>W3(FN00 55a) W0(DM70)>W5) W4(EM86)>W2(FN20 55) W4(FM06)>W9(EM69 55a) W4(EM75)>W8(EN82 55a) W8(EN82)>W8 W2(FM12)>W3(FN00) W0(DM79)>W0(EM17 57a) W4(EM96)>W3(FN00 552) W0(EM39)>W3(55a) W4(FM06)>W8(EN82) W4(EM85)>W9(EM69) W3(FM18)>W3(FN00 56a) W4(FM14)>W3(FN00) W3(FM15)>W4(FM24 59) W4(FM15)>W2(FN20 58) W9(EN41)>W1 VP9DUB>W1RA(52a) W4>W9(EN90 59a) 21-2200 W0>W5(449a) VP9DUB>WA2BPE(075) VP9DUB>K3TKJ(55a) W3>W4(FM15 57) W4>W1(449a) W5(EM21)>W9(EM69) W4(FM06)>W8(55a) W0>W5(599a) W8>W0(59) WA7X>W7(090) W3HH>W8(EN82 55a) W5(EM12)>W4 55a) W5(EM00)>W9(EM69 57a) W9>W5(339a) W0(DM91)>W7(55a) OX3VHF>VE1(55a) VE1SMU>VE1(59a) W8>W2(32) W8>W4(59) W5(EM12)>W8 55 AE) 22-2300 VE8BY>VE1(mode?) VE1>VE1(FN66) W1>VE1(FN84) W9(EM52)>W9(EM69 56a) VE2(FN25)>W2(?) OX>VE1(59a/59) OX>W1(559)

W3(FM17)>W8(EN82 57a) W9(EN52)>W0(EM28 55a) OX>VE1(599) VE8BY>W8(57a) W3(FM19)>W1(FN32) W1>W1 W3(FN24)>W8(EN82) W1>OX(559) W9(EN60)>W9(EM69 55a) W8(EN82)>W9(EN52) W9(EN50)>W8(EN82 57a) W1(FN42)>W8(EN82) W4(EM95)>W3(FN00 55a) W9(EN60)>W8(EN82) W8(EN82)>W2(FN30 57a) W4(EM95)>W3(FN00 55a) W1>W0(?) K0KP>W9(EM69 55a) W8(EM79)>W9(EM69 55) W9(EN51)>W9(EM69 55a) 23-2400 W9(EN52)>W9(EM69)(?) W8(EN82)>W1(FN32) W9(EN53)>W3(FM19 57a) W1(FN42)>W1(FN32) 23-2400 VA2MGL>VE1(FN47 55a) W3(FN10)>VE3(59a) W8(EN83)>VE3(FN03) W1(FN42)>VE3(55a) W1(FN43)>W1(FN32) VE2>W4(57a) W9(EN52)>W5(EM13) W3>W9 W8(FM06)>W4(?)

Oct 30 00-0100 W4(EM95)>W9(EN62)W3>W4 W9(EN44)>W0(EN36) W0>W1(FN20) W9(EN60>W1) VE4VHF>W1(579 AE) W0(EN63)>W9(EN43) W2(FN30)>W0(EN36 AE) W8(EM79)>W1 W0>W2(FN30 59 AE) W1>W3(55a) 01-0200 W0>W0(EM17 59a) W1(FN31)>W9(EN52) VE6(DO33)>W9 VE1 FN57)>W9(EN52) 02-0300 VE2>W0(AE) VE2(FN46)>W9(EN52 ?) VE4VHF>W2(?) KL7NO>VE6(59a) K0KP>W2(FN30 599) 04-0500 VA2MGL>W9(559) W1(FN44)>W9(EN36) VA3UBL>W9(EN36) WZ8D>W9(EN36) visual au>W7 1954 W4(EL97)>W4(EM83 55a) 2014 W3>W3 2024 W4(FM27)>W4(EL98 55a) 2028 KG7BGR>N6KK(watery at 30 N) 2041 W5(EM12)>W9(EM69 57a) 21-2200 W3(FN20)>W3(FN00) W8(FM19)>W3(FN20) W8>W3(FM16) W8>W2(57a) W3>W1 W4>W1 22-2300 W1(FN32)>W3 W3>W3 W1>VY2(?) 23-2400 AL7JK(BP41)>W6(559) NL7ZW(BP71)>W6(?) KA7BGR>W5 59+30 AE?) KL7CDG>W6

Other Modes

Europe<>Mainland South America

	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	28	29	30	31
Med						+										+					+	+	+			+				
Iberia	+	+			+	+		+	+		+					+		+					+		+					
North																															

Here, as elsewhere, data are missing for several days. That said, as in Europe propagation was clearly well below 2002 levels. Mainland South America was worked from the Mediterranean countries on 5 days (30), Iberia on 10 days(28) and not at all from further North (7), though the ZD8 beacon was heard in the UK on two days, including the stormy 29th.

Europe<>South America

	Mediterranean	Iberia	North
PY	5 days 6 16 21-23 26	9 days 1 2 5 6 8 9 11 16 18 23	
LU		1 day 25	
ZP	1 day 26		
ZD8	0 days 1 4 5 6 8 10 13 17 23 26		2 days 28(G) 29(G)
ZD7	1 day 1	2 days 1 3	
CE0Y		1 day 23	

In a, by now, familiar pattern, there were openings between the two continents reported on 13 days compared with 27 in 2002 and 17 in 2001, and with the south-eastern states prevailingly favoured. Note that there were openings on both the 29th and 30th, despite or because of the high levels of geomagnetic activity. The 30th in particular also brought enhanced openings into Central America.

North<>South America

	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	28	29	30	31
			+	+	+		+	+	+								+	+				+	+		+				+	+	

LU	9 days 3(W4) 4(W4) 5(W4) 7(W5) 8(W4,W8,W0) 9(W8) 17(W5) 18(W4) 25(W4,W5)
HC8	3 days 22(W3,W5) 29(W5,W6,W7,W9,W0) 30(W5,W7)
PY	3 days 4(W4) 5(W5) 9(W4)
HP	2 days 29(W6) 30(W5,W0)
ZP	3 days 4(W4) 5(W4) 9(W4)
YV	2 days 29(W7,W0) 30(W5)
HC	2 days 25(W5) 29(W5)
PZ	1 day 18(W1,W4)
CE	2 days 4(W4) 5(W4)
FY	1 day 8(W4)
CX	2 days 4(W4) 5(W4)
HK	1 day 30(W4,W6)
CE0Y	2 days 23(W0) 30(W5)

However, the enhancement was not confined to Central America. It can be seen in the preceding tabulation. There was also an opening between TR and PY on the 30th (in addition to one on the 1st). Above all, there were the openings to Hawaii, which began on the 29th (for which data are incomplete) and repeated on the 30th. (We have no data for the 31st). This is the longest and most widespread event of its kind we have recorded to date, and must almost certainly be attributed to the increased low-latitude ionization.

Americas<>Asia/Pacific

KH6	9(ZP) 24(W6) 25(W6) 29(W4,W5,W7,W9) 30(W4,W5,W6,W9,W0,HP2,VE3,8P)
JA	23(LU,PY,ZP)
ZL	16(W6)
V7	30(W4)

Oct 1 0240 KH6SX>PU2WDX 22-2300 TR0A,ZD8VHF>PY1RO K4AHO>W4

Oct 2 1724 CP6XL>WP4NIX 2104 EA7KW>PY1 22-2300 3Ctv,ZD8VHF>PY1

Oct 3 0044 PJ2BVU>ZZ2TGR 0100 PJ2BVU>PU2WDX 0405 W7>W6 2142 LW1DZ>NW5E./4 2208 LW3DX>W4SO

Oct 4 00-0100 WP4KJJ>PU2WDX 01-0200 PJ2BVU>PY2RO YS2MRL,PJ2BVU>PU2WDX 0321 FY7THF>YV1 14-1500 W1>W9(sc) W1>W4(sc) 21-2200 LW3EX>W4VQ TI2ALF>W4 22-2300 LU8DIO>W4VQ TI4DJ>NW5E/4 CX4AAJ>NW5E/4,N4US CE4WJK>K4RX,NW5E/4 CX4CR>NW5E/4 LW3EX>W4VQ LW3EX>N4US,NW5E/4 LU2DEK,LU8DIO>NW5E/4 23-2400 LU8DIO,LU1DMA,LW1DZ,CX3AN,PY1RO,PY2BT>NW5E/4 PY0FF/PY1, PY2PA>NN4X ZP5PT>W4VQ PY2DO,LU3EO,KP4>W4 ZP5PT>K4RX

Oct 5 00-0100 PY2BT,PY1RO>W5PR PY0FF/PY1,LU8MB,LU2DPW>NW5E/4 PY2>PR7 ZP5PT,LU8ERR,KP4,PY2GR,XQ3SIX>W4SO CX4CR>KB4ET LU8MB>KB4ET,N4US 01-0200 XQ3SIX>KB4ET,N4US CX4AAJ>N4US,KB4ET LW3EX>N4US CE3RY>NW5E/4,W4VQ LU8HER>NW5E/4 K4AHO>W4 ZP5AA,LU1DMA>K9VV/4 WP4KJJ>PY4OY 0200 HK4>PY4 2157 ZF1DC>LW6DC 22-2300 LW3DX>NW5E/4 LU7YA>W4SO K4SUS>LW6DC 23-2400 KP4RP>PU2WDX

Oct 6 0024 W4>W4 2211 9H1TX>PT2GE 2300 WP4NEG>PP5LD
Oct 7 2021 W6>W6 2257 W3>W5 23-2400 WP4NG,PJ2BVU>PP5JD LW3EX>K5CM ZP4KFX>WP4NIX
Oct 8 00-0100 CE4WJK,LU9EHF>PT2 01-0200 PJ2BVU>LU,PT2 1937 EH4SV>PY1RO 2104 W4CHA>W0(Es) 22-2300 LW1DZ>K4RX LW3DX>K8WW 2300 LW3DX>N0JK
Oct 9 00-0100 LU9EHF>K8WW 4M9YY>YV1 01-0200 ZP6CW>K4RX W4SO>PY1RO 0220-3 KH6HI,4M>ZP6CW
Oct 10 00-0100 PJ2/W9EFL,PJ2BVU>PP5 01-0200 4M9YY>PP5,PY2 PJ2/W9EFL,TI2NA,YV4AB 23-2400 4M9>PP5,PY3
Oct 11 00-0100 4M9>PP5 LU3LR>WP4NIX PJ2BVU>PU2WDX 0113 LU1DMA>YV1 21-2200 CT1HZE>PY1RO 22-2300 CO8DM,9Y4AT>PY2EX NP3S>PP5LD ZP6>PT2
Oct 12 00-0100 LU8DCH,PJ2BVU>PT2GE 0130 W0>W5 1831 EUtv>PY1
Oct 13 01-0200 W0>W0 W4>W1(Es) 4U1UN>W1,W4 02-0300 4U1UN>W2
Oct 14 no reports
Oct 15 no reports
Oct 16 00-0100 PJ2BVU>PY4 PY8>PP5 1851 IH9YIT>PY1 23-2400 ZL3NE,ZL2TPY(10w),VK2ZXC>N6XQ 9Y4AT>ZP6
Oct 17 00-0100 WP4HVS>LU LU8DIA>W6 01-0200 PJ2>XQ3SIX 9Y4AT>LU HC8GR,LU1DMA>YV1 02-0300 PJ2BVU>LU 19-2000 W4>W8(Es) W8>W4
Oct 18 18-1900 VP9DUB>HC2 FY7THF>NW5E/4 CN8MC>PY1 LU7WW>K9VV/4 PZ5RA>K4RX,NW5E/4,W1RA 19-2000 EH9IB>PY1RO 20-2100 FM1DQ,YV4AB,PJ2BVU>HC2 EH8JF>PY2RO 23-2400 FM5WD>HC2 PY7THF,PY2>YV1 TI5XP>PY2
Oct 19 00-0100 LU9EHF,ZP5AA,LU8DCH,LU1DMA>PT2 TI2NA>PP1 01-0200 W5>W0(Es) W7>W4 W5,W6>W5 W3>W1 K0UO>W4 W7,W5SIX>W5
Oct 22 1237 48250(EA)>W2 1639 IG9/I2AND>PY1 18-1900 HC8GR>N5AW,N3DB 2231` FJ5DX>PP5,P43L 23-2400 ZY5JP,YV5MM>KP4 W6,W7>W0
Oct 23 00-0100 W7>W5 PY2>HP2 W4>W0 01-0200 CE0Y/SP9EVP>HP2 K5AB,W5VAS,W5RP>W0 HK0/N2WB>PP1 W7>W4,W5 YV4AB,V44KAI,HP3XUG>PP1 JA6JKD>PP1CZ,PY1RO PJ2BVU,ZP6CW>PP1 FY1>HC3 JS6CDB>PP1CZ CE0Y/SP9EVP>K0GU W6>W5 02-0300 W7>W0 LU>PP1 W6,W7>W5 FY1>LU PZ5AA,P43JB>PP1 JS6CDB>LU2NI PR7>PP1,PU2 HC3>YV1 HP3>HC3 03-0400 PJ2,TI2>HC3 TI2>PU2 2055 9H1TX>PP1 21-2200 CE0Y/SP9EVP>PP1,PY1 22-2300 CE0Y/SP9EVP>PY1 23-2400 W1>W1 FY1>HP2
Oct 24 00-0100 W2>W1 CO8LY>PY1 D44TD,FY1>HC2 0205 CE0Y/SP9EVP>HP2 2356 NH7RO>W6
Oct 25 0015 NH7RO>W6 0344 VP9DUB>W1 13-1400 W1>W1 W8>W4 1756 FJ5DX>W4 18-1900 49(CE),W5VAS>W0 LU1DMA>NW5E/4 W1,W4>VE2 W0>W2 K4TQR>W0 FJ5DX>W4(bs) VE3>W4 W5>W4(bs) W3>E8 W1>W4 W5UWB,XE1/VE3OQC>HC3AP LU3EO>K4RX 19-2000 HC1AP>AE5B 49.2(CE)>W4 W1,W8,VE3>W4 W4>W2 W8>W8 20-2100 VE3>W4 LU6WBH>NW5E/4,K5XX W4>W1 2149 LU>KP4 22-2300 W1>W9 W4>VE3,W9 KE4SIX,W5VAS>W1 23-2400 W1,W2,W3>W1

Oct 26-28 data missing

Oct 29 2140-2200 aurora HC8GR>N6KK,KA9CFD,N0VSB TI2NA>W6 22-2300 W6>W7(bs) HC8GR>W5 TI5KD>W6,W7 TG9NX>W6 HC3AP>W5OZI KH6/K9FD,KH6HI>KA9CFD TI5KD>W6 KH6HME>KA9CFD NH7RO>NA4M,W5OZI,NW5E/4,W5GAI,W9RM KH6IAA>WD5K,AE5B,K4EA YV4YC>N0VSB,W7GJ W5>W9(bs) 23-2400 HP3XUG>W6 HC3AP>W5 NH7RO>W2GFF/4, K5AM,N0VSB,W5CIA HC8GR>KF7E KH6/K9FD>KY5N,W7TS W7>W5(bs) TI2ALF,TI2OHL, TG9NX,TI5KD>W6 XE1AVM,KI6CG>HP2CWB

Oct 30 00-0100 PJ2BVU>HP2,W0,W5 AH6RE>K7EY,K7ZD PJ2,FG5,KP2,KP4>HP2 KH6/K9FD>K7EY YV4YC>AE5B,K5UIC TI2TLF>W6 PJ2BR>W5 V44KAI>HP2 01-0200 HK3YHY>K4EA HP1,H5IX,KP2>HP2CWB KH6IAA>K7ZD WH6XM>W7GDU,K7ZD KH6BTV>K7ZD YV4DDK>K5IX,K5UIC YV4YC>K5IX TI5KD>KP4 HP1AC>K5IX aurora W5UWB,NH7RO>HP2CWB,KB6NAN KP4>HP2 02-0300 W2>W4 KH6SX>N7CW,KB6NAN WH6XM,KH6IAA KH6/K9FD>N7CW AH6RE>K7XC NH6YK>KB6NAN,N6HY

KH6/WA2HFI>KB6NAN,K7XC W7>W7 03-0400 WH6XM>KB6NAN AH6LE,KH6AFQ>K7IDX W3XO/5,K0UO>HP2CWB KH6/WA2HFI>W0RLI,K7XC HP2CWB>N0RQ,K5CM,KY5N,K5OG TI5KD,TI2NA>YV1 KH6SX,KH6/W4MDL>K7XC AH7G>NK7C LU4DPH>ZF1DC NH6YK>K7ZD 4-0500 YV4AB,TI2ALF,TG9NX>HP2 HC8GR>YV1 aurora 05-0600 K5AB,K0ETC,NE0P,WW2R/5,K0EC>HP2CWB TI5KD,TI2CDA,TI2NA>W2 06-0700 W0IJR,N5XXM,K0YW>HP2CWB TI5KD>W5,W7 TI2ALF>W9 CE0Y/SP9EVP>WW2R/5 W7>W9(Es/ms) 15-1600 K0UO>W7 W7>W5 VO1ZA>W1 1736 W7>W6 18-1900 W7>W0(Es) aurora 20-2100 TR8CA>PY2 HC8GR>W5THT W3>W2 KH6SX>K7ZD,N6CA NH7RO>KR7O 21-2200 TI5KD>W7,W4 KH6SX>KR7O,N5WE/4 NH7RO>KB6NAN,K6QG,KG6I W6>W4 V31MD>W7,W6 V73SIX>K9VV/4 TG9NX>W6 TI5XP>W7 KH6BTV>W7EW W6>W4 22-2300 ZF2BI>W6 HC8GR>KR7O KH6SX>K4KJZ,HP2CWB NH7RO>K4EA,WB9Z,VE3FGU,W9VW, KE4MBF,AA7CQ,K9HMB,HP2CWB KH6/K9FD>AA5XE,K0FF,W5GAI,K4EA,AF9R KH6IAA>K9HMB,HP2CWB KH6/WA2HFI>K9HMB,AA5XE ZF2BI>W6 TI5XP>W6 TI5KD>W7 W4>W3 HK3JRL>N6KK 23-2400 aurora VE6,W7>W5 XE2>W7 KH6IAA>HP2CWB KH6/WA2HIF>KB9PJL FJ5DX>FG1GW

Oct 31 no data

Asia/Pacific

Japan

JA1VOK's report shows a wide range of openings within Asia and the Pacific islands, with the usual array of exotic prefixes. However, longer-distance openings were again limited, the most notable being one to South America (LU,ZP,PY) on the 23rd. There were openings to ZL on October 16, 17 and, perhaps more surprisingly, on the stormy 29th. This compares with 9 days in 2002 and 7nin 2001. VK was worked on 15 days. Full details are not available, but this included VK3 1 day (23), VK4 5 days (11,13,23,28,31), VK6 on 6 days (2,9,12,14,15,31) and VK8 on 7 days (9,12,13-15,23,31). There were no reports of Africa, Europe or North America. There were also no clear indications of exceptional propagation on the 29th-31st.

6m DX results in JA during October from JA1VOK

DATE	TIME(UTC)	STATIONS
10/ 1	0300-1400	C21SIX/b, FK8EB,8GX,8HA,8SIX/B, V73SIX/B, VK.
	0820-0830	XZ7A (JA5-6)
2	0750-1100	9M2TO/B, VK6JQ,6RSX/b
3	0420-1000	9M2TO/B, FK8SIX/B, V73SIX/B, VK, XU7ACD, XZ7A
4	0300-1000	9M2TO/B,9M2/JI1ETU/b, C21SIX/b, DU1EV/B, VK, XU7ACD,XZ7A
5	0315-1500	9M2TO/B, DU1EV/B,N7ET/DU7, FK8SIX/B, V73SIX/B, VK,XU7ACD, XZ7A, YB0ASG,YC1MH
6	0600-1330	9M2TO/B, DU1EV/B,DU1/GM4COK, VK, YC1MH
7	0400-1330	9M2TO/B, C21SIX/b, DU1EV/B,N7ET/DU7, V73SIX/B, VK
8	0620-1400	DU1/GM4COK, FK8SIX/B, VK, YB1BGI,YC1MH,YC1BYO,YC1EHR
9	0310-1000	FK8SIX/B, VK6RPH/b,6RSX/b,8RAS/b
10	0240-1230	3W22S, C21SIX/b, DU1BP,1EV/B,N7ET/DU7, FK8SIX/B, VK
11	0340-0720	DU1EV/B, VK, YB0DPO,YC1MH,YF1OO
12	0440-1200	9M2TO/B,9M2/JR1WZI, N7ET/DU7, VK6RSX/b,8RAS/b, YB
	0920-0930	XZ7A(JA6)
13	0255-0800	9M2TO,9M2TO/B, FK8SIX/B, VK4NW,8RAS/b
14	0405-0430	V73SIX/B, VK8RAS/b
	0815-0830	YC1MH
	1130-1200	VK6RSX/b

15	0045-0130	DU1EV/B, VK6RSX/b,VI8NT, XV3AA
	0113-0115	KH6SX
	1304-1310	VI8NT
16	0200-1210	C21SIX/b, DU1BP,DU1EV/B, FK8EB,8GX,8SIX/B, HL1LTC, KG6DX, V73SIX/B, VK, ZL1VHF/b
17	0310-1030	3W22S, C21SIX/b, FK8GX,8SIX/B, V73SIX/B, VK, XU7ACG
	2300-2340	ZL3NW,3TY,3SIX/b
18	0225-1020	C21SIX/b, DU1EV/B, FK8SIX/B, KH0C,KH2VL/KH0, V73GOD, V73SIX/B, VK, XU7ACG, YC1MH,YC1BYO
19	0310-0930	V73SIX/B, VK, XU7ACG, YB1BGI
20	0230-1000	3W22S, DU1EV/B,N7ET/DU7, FK8SIX/B, DS1CCU, KH6SX, V73SIX/B, VK
21	0335-0830	C21SIX/B, DU1EV/B,N7ET/DU7, FK8GX,8SIX/B, HL1LTC, kG6DX, KH6SX, V73SIX/B, VK, XV3AA
	2355-0100	V73SIX/B
22	0006-0150	CE0Y/SP9EVP (JA1,9), KH6SX,KH6HME/B,NH7RO, V73SIX/B
	0300-1050	DU1EV/B, V73GOD,V73SIX/B, VK, XU7ACG, YB1BGI
23	0100-0500	DU1EV/B, FK8SIX/B, V73SIX/B, VK3DUT,VK4
	0130-0230	LU2NI, PP1CZ,PY1RO,ZZ2TGR, ZP5ZR,ZP6CW (JA6/JR6)
	0700-0800	N7ET/DU7, VK6RSX/b (JA6/JR6)
	0903-0905	4W4W (JA1)
	1015-1400	4W4W, VK6RSX/b
24	0610-1000	4W4W, N7ET/DU7, VK
	2240-0000	DU1EV/B,N7ET/DU7, KG6DX, V73SIX/B
25	0700-1330	4W4W, 4F8BOF, 9M2/JI1ETU/b, V73SIX/B, VK
26	0010-1010	KH6SX,KH7MS,NH7RO,KH6HI/B,KH6HME/B
	0225-0600	9M2TO/B, C21SIX/B, DU1EV/B, FK8SIX/B, V73SIX/B, VK,VR2BG,KW,XZK,ZXP
	0710-1400	3W22S, 4W2DN,4W4W, 9M2TO,9M2/JI1ETU/b, DU1EV/B, DU1/GM4COK,N7ET/DU7, VK, VR2XMT
27	0429-0930	9M2TO/B, N7ET/DU7, VK, XU7ACG, XV3AA
28	0010-0100	FK8CA/b,FK8SIX/B, VK4RGG/b
	0230-0240	PY2DM (JR6)
	0415-0800	DU1EV/B, V73SIX/B, VK6RSX/b,8RAS/b, XV3AA
	0638-0800	VU2LO
	0900-1100	N7ET/DU7, VR2PX (JA6/JR6)
29	0300-1130	9M2TO, BG9BA, C21SIX/B, DU1ZV,DU1EV/B, FK8SIX/B, FO5RA, V73SIX/B, VK, ZL3TY
	0734-0800	VU2LO (JA6/JR6)
	0945-1000	A61AH (JA6/JR6)
	2310-0010	DU1EV,DU1EV/B (JA6/JR6)
30	0800-0830	9M2TO/B (JA3-6)
	2300-0000	DU1EV,DU1EV/B, V73SIX/B
31	0349-0400	VU2LO
	0645-1030	9M2TO, V73SIX/B
	1230-1600	BA7IA, DU1BP,1EV,N7ET/DU7, VK4ABP/b,6RSX/b,8RAS/b

Elsewhere

It is perhaps a little surprising that there were no auroral reports from VK/ZL at the end of the month. A look at the map suggests that 'tone a' might well have reached South Korea, but we have no reports. Indeed, very much a routine month, very much slimmer than October 2002 despite the stimulus of the XZ dxpedition and increased activity from HL.

Oct 1 04-0500 FK8SIX,VK4RTL>HL1 0829 XZ7A>HL3 1054 VK6RSX>HL1 14-1500 XZ7A>VR2
Oct 2 0914 VK6RSX>HL1 1044 VK6JQ>HL1
Oct 4 0312 VK4RTL>HL1 0436 VK4FNQ>HL1 05-0600 XZ7A,VK6RSX>HL1 06-0700 XZ7A>HL1,HL2 09-1000 XZ7A,XU7ACD>HL5
Oct 5 0423 VK4CXQ>HL2 08-0900 XU7ACD,XZ7A>HL2 1123 XZ7A>A61AH
Oct 10 0631 VK6RSX>HL1 08-0900 3W22S>HL1,DS1 13-1400 KG6DX,A61AH>VR2 1003 A61AH>VR2 1232 YC1BYO>VR2
Oct 12 0816 YB9AY>HL1
Oct 16 0403 FK8HA>HL1 0511 JA1>VK3 06-0700 JE7YNQ,VK6RSX>HL1 07-0800 KG6DX,DU1EV,DU1BP>HL1 KG6DX>DS1 0859 JA1ZYK>HL1
Oct 17 0732 XU7ACG>DS1 3W22S>HL1 0906 VK6RSX>HL1
Oct 18 0509 VK4JH>HL1 0658 XU7ACG>DS1 10-1100 JA6YBR,JA3>VK3
Oct 19 1031 VK4RGG>VK3 1203 VU2VVP>VR2
Oct 22 0748 XU7ACG>DS1
Oct 23 0203 FK8SIX>HL1 1636UN7QX>EX8MLE
Oct 25 0351 BV2B>DS4 0810 VU2MKP>VR2
Oct 30 0116 8P9HW>NH7RO 0958 JA6YBR>HL1

Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

Beacon News

10130 OK1IF runs 500mw from JO40HG
28239 KD5LWU Cortez CO(DM57QI) new beacon. Web page http://hamcams.servepics.com/beacon.html. (KD5LWU)
28270.2 K4AIS Marietta GA new beacon (various) with 75 sec gap between transmissions. Web page www.grz.com/detail/k4ais, email mike@k4ais.com
28191 VE6GTE (Bassano, Alberta) returned but operating intermittently (VE6GTE)
28322 IK1ZYW from Torino (Turin), JN35TC with 100mw. (IK1ZYW)
50009 P43L new beacon (P43L) status uncertain
50015 9Y4AT is located on Trinidad (9Y4AT)
50028 XE2ED Colonia Guerrero (DM10) running 15 watts to 1/2 Vertical (N6XQ)
50042 YF1OO experimental beacon (YB0ASG) status uncertain
50065 VQ9SIX change of call now effective.
50066 VE9MS QRT, though may eventually return (VE9MS)
50058 IQ4AD Parma (JN54DT) 7w to GP
51030 ZL2MHB in RF80, a new RTTY beacon. (VK2GJH)
50288 VK2RHV QSYd to this new frequency. (VK2GJH December)

28 MHz Worldwide

If there was a surprise in this month's results it was that, despite heightened geomagnetic activity, 28MHz provided so much propagation on this third autumn since solar maximum. There was some propagation on even the most disturbed days, though mainly over low-latitude and trans-equatorial paths. High latitudes fared as poorly as might be expected for much of the month, apart from the rare, even novel, experience for some of auroral working on Ten. (I saw no reports of 'tone a' QSOs below 28MHz.)

So, at some stage of every day, there was propagation between (parts of) Europe and (parts of) Africa and South America, as indeed there was within Europe (if auroral contacts are included). 'Parts of' is a crucial proviso because, as G0AEV showed earlier, not one (admittedly medium- or low-powered beacon was 100% reliably into the UK. With the same proviso, North America was worked from Europe on 27 days (but 4U1UN<>UK, the most reliable beacon, scored only 13 days) and Asia on 28. Europe<>Oceania, achieved only 23 days.

From North America, South America was worked every day as, more surprisingly, was Oceania (Dxpeditions and contests aiding). Contacts within North America were made in almost every period of every day. By contrast, more east-westerly Asia was contacted on only 24 days and Africa on 27 days. Asia worked into Oceania on 24 days. Asia<>South America worked on 25 days, mainly reflecting the consistency of the evening path from South America into the Japanese morning. Other paths produced weak results, but several of these have relatively few active amateurs and/or expensive internet connections, so the figures probably do not reflect the true position.

October's seasonal improvement also brought the return of reports of long-path working, though details were scanty. They included G8NOF working D88S in Antarctica at 1540 on the 14th, GB7DXS and JT1CO at 1005 on the 1st, a contact between XZ7A and PT2GE at 0418 on the 7th , G0REK's QSO with KH7Y at 0711 on the 12th and a contact between JA0UH and CX1TA at 0937 on the 25th - to mention only reports

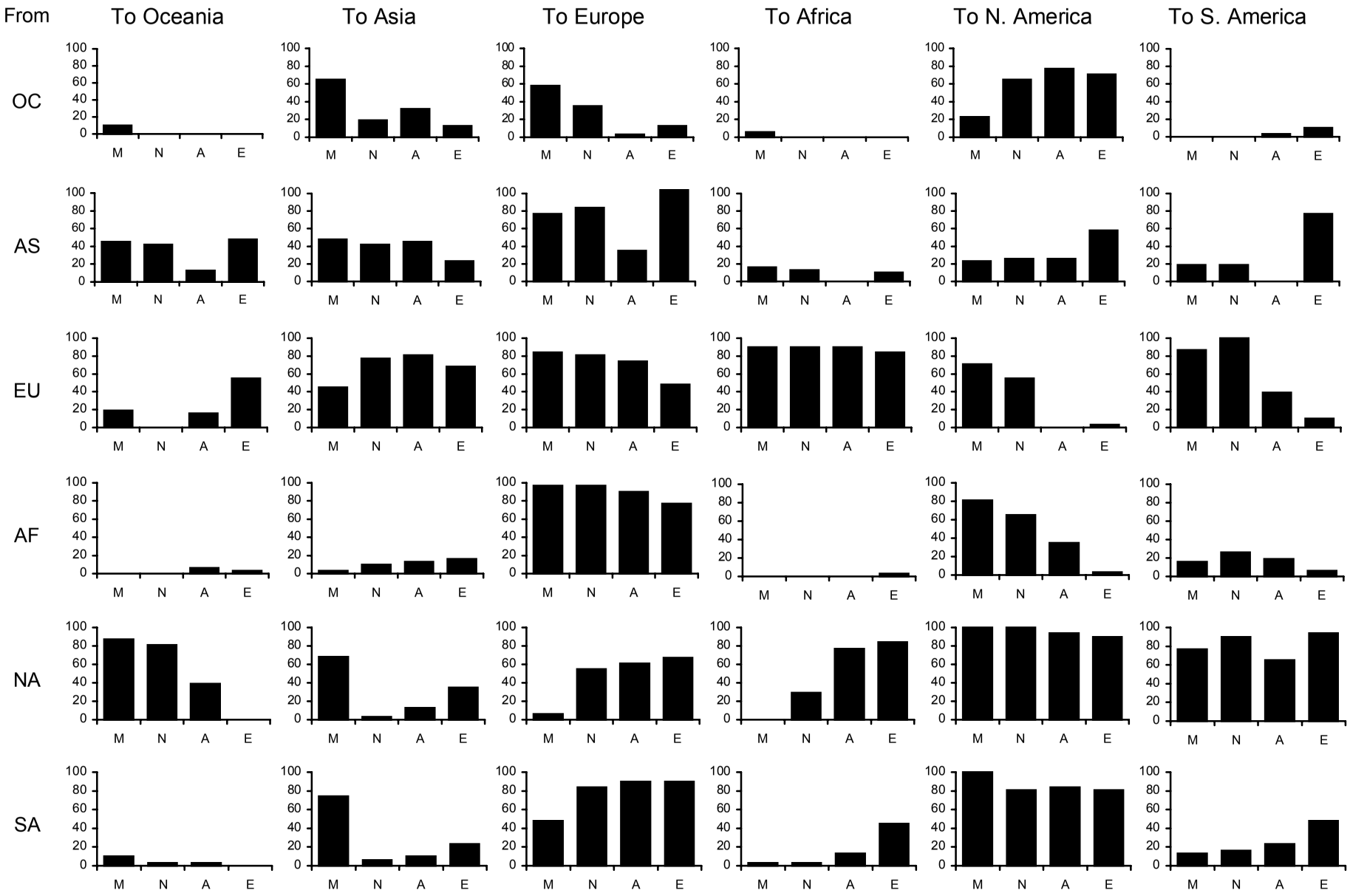
specifically stating 'lp'. Unusually late contacts were reported between East Coast Ws and LU at 0300 and after on the 25th.

However, the most interesting period came during the ionospheric storms at the end of the month. As the storm expanded on the afternoon of the 29th, with auroral working at 50 and 144MHz, 18, 21 and 24 and 28MHz web spots became increasingly scarce. 14MHz was also degraded. So far, so expected. However, from around 1650UTC stations along the Mediterranean were working the CE0Y expedition, LU and PY. Subsequently, DD3DJ worked EA8BQD at 1947, while G3IFB and M5PLY reported contacts with PY2 around the same time, as did SQ5RK, who also worked LU. There were very few reports from North America, mainly relating to the CE0Y operation. Later, though, KH6DV reported P40A at 2029 and KH6BBC was reported by N5TW(TX) at 2043 and W0RLI/7(OR) reported TI2 and LU around 2200. These were the only reports in line with the more substantial openings noted earlier on 50MHz. By contrast, we have no notable 50MHz reports from Asia, but on 28 JG2TKH reported the KH6AP beacon at 2216, followed by XE1SRF beacon at 2220. KH6AP was again reported in JA1 at 2306.

In continental Europe, as in GM4WJA's earlier report, 28MHz auroral working began about 1800, continuing until around 2315 and involving the entire UK, OH,SM,DL,UA1,UA3,LA,ON,OK,LY,PA,EI and, possibly HA, A handful of 28MHz 'tone a' contacts were reported from North America towards the end of this period. AE were much scarcer on 28 than on 50 (why?) but included reception of the SK7TEN beacon by EI7EX at 1840, presumably by AE, as was LY2KW<>UA9CR at 1852.

The 30th was particularly notable for trans-Atlantic contacts. These included SM6CNN<>W1RM at 2210, KI1G<>IK4UPB at 2226 (56a), W6CYX<>G5LP 44a at 2220, N6PN<>IK4UPB at 2230, DJ7YE at 2248, SM6CNN at 2304 (and 9M6OO at 2250!). Other contacts noted on the 31st included HB9XJ<>VO1TA at 0001 57a, W8ALP<>DL5RBW 0011(58), VE3GIB<>DL5RBW at 0015(52a), W8ALP<>ON5UR at 0015, VO1SO<>DK8MZ at 0029 53 and IZ5CML<>DL5RBW at 0033 57a. Later, late in the local day, KC4GL(NC) reported the HP1AC beacon at 0400 on the 31st and XE1SRF at 0411. Finally, at 2253 on the 31st OH5CW reported K0JPL. An intriguing batch of reports, if ever there was one, but sadly the propagation modes can only be a matter for conjecture.

28 MHz Worldwide - October 2003



Time bands: M=Morning, N=Noon, A=Afternoon, E=Evening - used for the "To" continent