THE SIX AND TEN REPORT

April 2004

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Analysis of 28 MHz reports from the UK

28 MHz reports and logs for April 2004 from G2AHU, G3IMW, G3USF, G4UPS, G0AEV, G0IHF and packet cluster reports. Compilation and commentary by G0AEV.

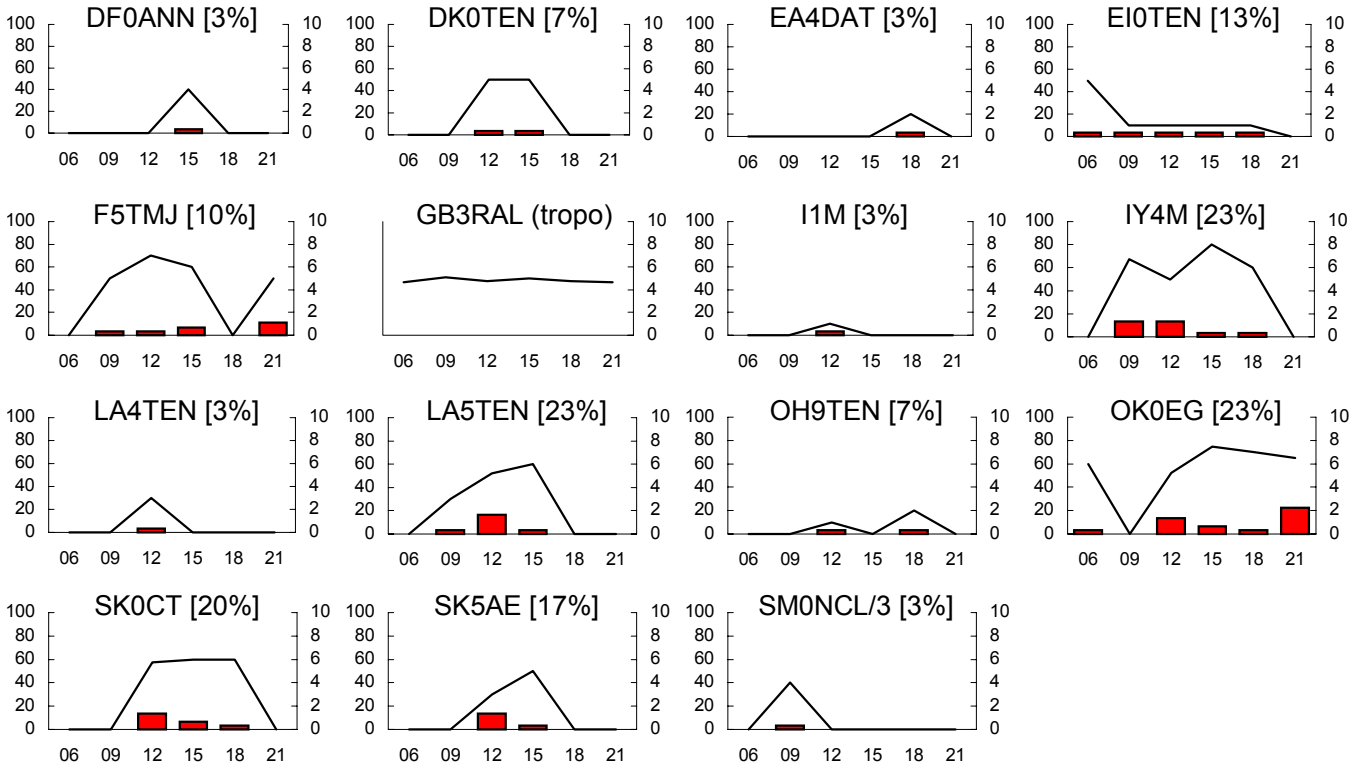
F2 propagation took a further downward turn in April 2004 – both seasonal trends and declining solar activity working in unison to this end – resulting in a complete absence of propagation to continental North America and of equivalent propagation to the east. Paths to the Middle East, Western Australia and South America remained open on many days, though at slightly reduced reliability compared with those seen in previous months, but north-south circuits to African countries were virtually unchanged. "Summer" Sporadic E made an appearance in mid month and by the last week of April openings were recorded between Britain and all regions of Europe within normal one-hop distance.

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

European Beacon Graphs.



Propagation modes for European beacons.

Beacon results show no inter-European F-layer propagation in April (with the possible exception of one report of OH9TEN at the start of the month). F-layer skip distances were too long, even for the UK to SV3AQR path. Likewise there was no obvious F-backscatter either (with signals from EI0TEN being the only candidate for this mode). These features provide confirmation, if confirmation were needed, of the general decline in Northern Hemisphere F2 ionospheric conditions.

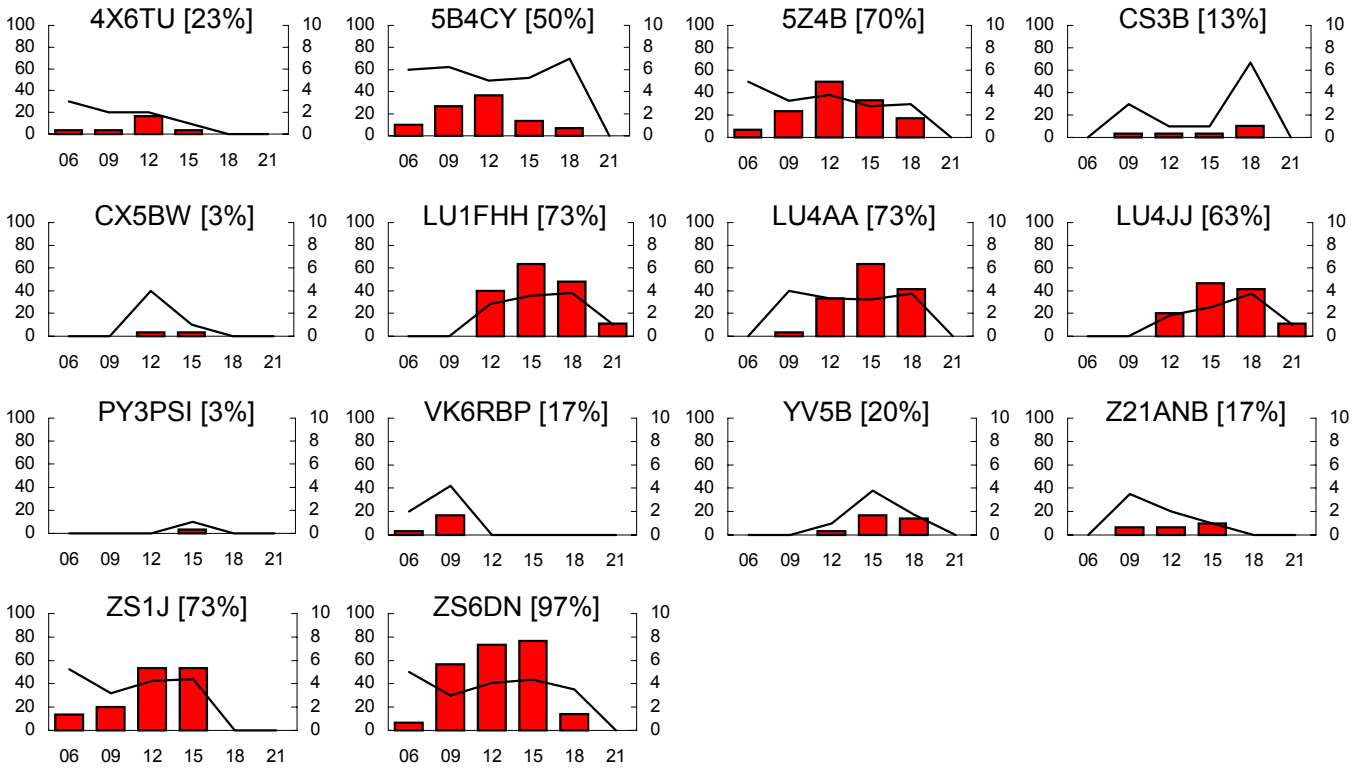
Luckily for 10m listeners, the loss of F layer signals was replaced by the onset of summer Es. On 10m the Sporadic E season started in the second week of April, about a week before Es propagation appeared on 6m, and was widespread on some days near the end of the month. Virtually all the results graphed on the previous page are due to sporadic E (including some Es backscatter). The relatively low reliabilities of the mode in the early part of the season give rise to the somewhat spiky nature of the graphs. The graph of GB3RAL again represents "tropo" at G0AEV.

European Beacon Notes.

As suspected, DL0IGI is clearly off-air again and remained so well into May. DK0TEN is reasonably close to the site of DL0IGI to act as an indicator in the absence of DL0IGI but the high power of the later will be missed when listening for weak signal propagation modes. The new Spanish beacon EA4DAT on 28.263 was reported here for the first time and has been heard quite frequently in May. Another new beacon to listen out for is IK1ZYW on 28.322 MHz, which sends a QRSS transmission plus a 20-wpm identification. IK1ZYW runs only 100mW and has proved elusive so far at G0AEV, even at times when IY4M and I1M have been strong. New beacon OH5RAC on 28.233.5 was not heard in April but I have logged the beacon on several occasions in May. With the return to service of LA4TEN, Scandinavia now has excellent beacon coverage. Unfortunately the IARU/NCDXF beacon OH2B is has not yet been put back on the air.

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

Beacon Graphs.



Suggested propagation modes.

All the beacons shown in the graphs above were heard by normal F-layer propagation: TEP and Es were possible but not specifically mentioned by listeners. Southerly paths continued to do well with the ZS6DN beacon heard on all April days bar one, and reliabilities of all African beacons (except CS3B – see below) were little changed from last month. There was a small reduction in reliability on paths to southern South America (75% of days to Argentina), and rather more on paths to 5B4CY, YV5B and VK6RBP. There was no recorded propagation to eastern Australia or to any parts of Asia except the Middle East.

Beacon Notes. CS3B appears to have been off for a period in the middle of the month – the beacon was not reported by 6&10 listeners in the period 6-27th April. Also the results for 4X6TU are a little poorer than expected, possibly due to weaker signal output or transmission problems rather than outages. However, in both these cases, the rather poor state of F2 propagation means it is difficult to be definitive about the beacon's operational status. CX5BW was heard on one day only (but independently by more than one monitor) – a very intermittent operation. Listeners in North America with reasonably good propagation to South America haven't reported CX5BW at all. Of the other beacons reported, PY3PSI is also intermittent.

10m DX in April 2004

The following list of DX countries worked or heard in the UK comes mainly from packet cluster spots (DX Summit: http://oh2aq.kolumbus.com/dxs/) and from Six and Ten reporters.

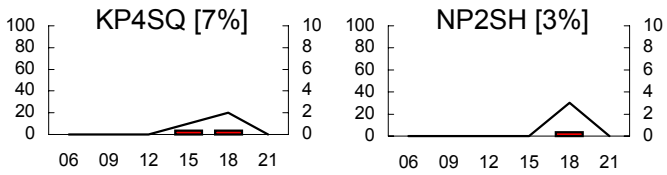
DX in April: 3B9, 3X, 4X, 5B, 7Q, CE, CX, EA8, ET, KP4, LU, PY, TR, TT, TU, UN, VK(6), VP5, VP8, YB, YV, ZS.

There were no W or VE spots (as in March), but no W or VE beacons were reported by 6&10 members either (see below). For comparison, here is the slightly more extensive list of DX reported last month:

DX in March: 3B8, 3B9, 4X, 5B, 5H, 5T, 5V, 7Q, 8P, 9J, 9M2, 9V, 9Y, AP, CE, CX, D4, FY, HI, J8, JY, LU, OD, P4, PY, TJ, TT, V5, VK(6), VP8, VQ, YB, ZC, ZF, ZP, ZS, Antarctica.

Propagation to North America

North American Beacon Graphs



Suggested propagation modes.

These two Caribbean beacons were heard in the first few days of April. These instances seemed to mark the tail end of winter F2 propagation between Britain and North America, the gradual decline of which we have been charting in these pages since December. However, on 22nd April at 19.15z Neil G0CAS in IO93 reported hearing KD4MZM very weakly. Surely this was the last fling for F-layer propagation to USA for the 2004-2004 season? It is possible to have 10m propagation to Florida and the Caribbean in May but the necessary ionospheric conditions are unlikely to be met. Sporadic E is the more realistic candidate for transatlantic sporadic E in May, and as I write this in late May I am aware of at least one instance of transatlantic Es propagation on 10m between DL and W2-W3.

Beacon Notes.

Many reports from our American and Canadian colleagues on the HFbeacons email list continue to show that the 10m beacon network in the US and Canada is live and well. In fact, there are enough beacons in North America in particular to have started a debate on this reflector: are there too many beacons? The consensus, admittedly from a group dominated by operators of beacons in North America, was no – there is sufficient spectrum space, and the variety of propagation modes supported at 28 MHz makes a relatively tight geographical distribution of benefit. However everyone thought they could live without intermittent beacons, beacon with poor signal quality and beacons with long gaps between identification.

Analysis of 50 MHz reports from the UK

UK 50 MHz reports for April 2004 from G2ADR, G3HBR, G3IMW, G3USF, G4UPS and via packet cluster spots. Compilation and commentary by G0AEV.

The very poor propagation of the previous two months continued without respite into the early part of April. With the exception of a couple of auroral events and some digital mode (JT6M, FSK441) meteor scatter activity, very little was worked on 6m from the UK in the first two weeks of the month. The prospect of a third month without propagation of substance loomed - but was never really likely. Although the timing and extent of individual openings is as sporadic as the name of the mode implies, the sporadic E season is almost guaranteed to bring some propagation to 50 MHz before the end of April. For amateurs in Britain in April 2004 there were a few short Es events in the third quarter of the month – but short enough to be missed by most listeners. But on April 23rd the band came to life and 10 different country areas were worked via Es by UK stations. There was at least some Es propagation on all the remaining days of the month. Not only that but some African DX was worked in the same period, and there was a resurgence of interest in meteor scatter and tropospheric propagation, helped by a boost to activity from a contest on 25th.

Our regular reporters didn't find much to get excited about. G3IMW had nothing in his notebook for 6m in April (though Jeremy says there will be something for May!). G2ADR in IO93 picked up the two aurora events at the start of the month (3rd and 5th) and some of the late month Es. Eric writes, "the expression 'be grateful for small mercies' comes to mind". Ever the optimist, G2ADR is now looking for double hop (and perhaps by the time this is read his wish will have come true….). Brian G3HBR writes "23 April between 1620 and 1820 was, I guess, the first sporadic opening of the season for me with OE, YO, LZ, YU, S5 and 9A signals logged. On 28 April I worked EH6VQ in JM19 at 1525 and EH3LL in JN01 at 1543." The log from G4UPS starts with the line "1-21 April 2004: no beacons and no activity heard. If Ted hears nothing there's a good chance there was nothing to hear! G4UPS says he did catch "a few openings this month but far short of what we were expecting".

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.

	CN (3%)	CT Portugal (17%)	DL (7%)	EA Spain (23%)	F (7%)	G-GM (3%)	HB (10%)
D	29	23 24 26 27 29	23 24	17 21 23 27 28 29 30	24 29	27	18 24 29
06							
09		5	8	0 0	9		9
12		0		9 9 7	9	8	9
15	9	5 5 9 9	9 9	1 9	8		7
18			3	0	9		
21							

	I/IS/IT Italy (20%)	LX (3%)	LZ (10%)	OE Austria (13%)	OH (3%)	OK/OM (7%)	OY (3%)
D	18 23 24 25 27 29	24	23 26 27	18 23 24 25	27	26 28	26
06							
09	7 9 7			5 0			
12	9 7 9 9		9	4		0 0	
15	5 9 5	7	5 9 9	9 9			
18	9			9	0		5
21							

	OZ (3%)	SM (3%)	SP Poland (13%)	TF (3%)	UR (3%)	YO (3%)	YU/9A/S5/T9/Z3 (13%)
D	23	23	23 25 26 28	26	19	23	18 23 25 27
06							
09			0				9 9
12			9 9 9	9	5		9
15	7	9	9			9	9 9
18						9	9
21							

The picture presented by these results isn't quite as poor as might be supposed from reading individual reports and logs – Es was actually quite widespread on some days with moderately short skip (G – GM) on one day. Of course any one station is likely to see only a fraction of the total available. Many of the openings were geographically restricted - for example, GM stations had openings to France not available to stations south of the border – and there are many other examples

There was one report of Es backscatter – on 27th at 1851 PE1MZS spotted G7VHF in QSO with LZ1AG "55bs". I suppose this might have been tropo "of the back of the beam" - not uncommonly thought of as backscatter is some quarters (!) – but true E-layer backscatter is quite likely.

DX (F2 and TEP) Propagation

A single DX report last month, this time three! Any 50 MHz propagation between Southern Africa and Britain at this time of year and at this stage in the solar cycle is worthy of special note.

	7Q (3%)	9J (3%)	ZS (3%)	
D	21	17	21	
06				
09				
12				
15	0	2	7	
18				
21				

The three reports (G to 7Q, 9J, and ZS – as tabulated above) took place during the part of the month with highest solar flux and ionospheric critical frequencies. The flux and f0F2[1] levels recorded during this period wouldn't really support openings at 50 MHz at UK latitudes. The obvious answer is to look for a linking sporadic E event to the Mediterranean area from where F-layer paths to the south are more likely to be open. Unfortunately, as the sporadic E summary in the following section shows, there are no good candidates for linking Es events, but these presumably existed.

Sporadic E Summary.

The tables below display total counts of country areas heard/worked, a summary of the detailed tables in the previous sections.

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
06																														
09																		3					1		4	1				
12																		2	1		1				3	4	5	2	4	1
15																	1						10	7		1	4	1	3	
18																							2	4		1	2		2	
21																														

[1] Critical frequencies not available for Chilton this month, but trends are indicated by data from elsewhere.

DX (F2/TEP +/- 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
06																														
09																														
12																														
15																	1				2									
18																														
21																														

Tropospheric propagation

There were very many more reports of semi-local stations, and some respectable DX, via tropospheric scatter reported this month. Many of these reports were during the contest of 25th. Contests always provide a boost to activity but it seems this contest was also blessed with some good tropo conditions.

16 2118 GM8LFB (IO88) > GB3LER/B "sri tropo only" (*"only" tropo!*)
20 1652 G0JHC (IO83) > GB3BAA "419/519 > 260km (*one of many reports of this new beacon*)
1733 F6HRP (IN88) > GB3BAA 539 i
24 1948 F5JKK > G8BCG/P
25 0910 G0CHE > GW8ZRE/P "good signal on the South.Coast", GD0EMG 59, EI3JE/P (IO62)
0946 G7RAU (IO90) > EI3JE/P 59 tropo, GD0EMG 59++ tropo
1010 MM0BSM (IO86) > G8PL 55 heavy QSB
1015 PC7M (JO32) > G4DEZ (JO03) 51 QSB
1041 PA4PA > GD0EMG "good signal"; PE1HWO > M0IPX (IO94)
1131 DF2KY (JO30) > GD0EMG
1307 G4OBK (IO94) > EI3JE/P (IO62)
25 1510 G3JHM (IO91) > F4DXW (IN78)
27 1328 MW0BYS > GB3RMK 55
28 1115 G4UPS hearing GB3BUX 569 "unusually strong"

It must be difficult to get a genuine 59+ signal over a longish haul tropo path even between stations running QRO and 5 gain antennas. I think S-meters on many 6m rigs are over generous! The problem with s-point inflation is that it becomes difficult to differentiate on strength between the strong (tropo, perhaps) signal from the very strong (e.g. sporadic E).

Meteor Scatter

Both this and last month I have noticed a reduction in the number of digital mode MS spots on the DX cluster. In the last Report I supposed that this reduction reflected a trend to lower levels of activity rather than less MS propagation. I am reliably informed that the trend is, at least in part, to do with a reluctance to spot digital mode contacts in the face of some opposition from other cluster users. As it happens, I have struggled to extract useful propagation information from these data, but I would rather all types of contacts are spotted/reported. If the number of non-digital mode MS contacts (listed below) bears any relationship to efficacy of the MS mode, April was quite a good month for meteor scatter:

14th 18z 1923 SM0TSC > G4PCI "Many bursts 8sec longest"
18th 09z 1020 G7RAU> IK5RLP "heard iono constant 42 plus ms"
1022 IK5RLP (JN52) > G7XXX "burst here"
1049 G0TSM > I4YSS "31 with S5 MS bursts"
25th 09z 0921 PC7M (JO32) > GD0EMG "? short ms burst"
0924 SP6MLK > GD0EMG "51 tr+ms" (*ionospheric scatter rather than tropo I think")*
1047 LB6YD (JO59) > G0VHF "burst 54"
12z 1424 G1XUU (JO01) > S57MTA "weak bursts"
29th 10z 1136 IW4EHZ > GM6VXB "59 MS"
15z G2ADR > F station S5 via MS

Aurora

Geomagnetic indices (see section 3) show stormy conditions on the evening of 3rd (continuing into the early hours of 4th). The Lerwick observatory recorded K values up to 8 (in the 18z period). This magnetic event produced a moderately strong radio aurora, including a little auroral E.

3rd	15z	1537	GM8LFB (IO88) spots GB3LER “just gone auroral here.”
		1616	EI7IX (IO53) > GB3LER 51a.
		1732-1800	EI7IX > GM3YZU (IO87) 55a, GM6VXB (IO97); G4PCI (IO91) > GB3LER 52a, GM6VXB 52a, LA8HGA 51a; OZ1DPR (JO45) > GM6VXB 57a; PA3GDY (JO21) > GM6VXBm 48a/53a.
	18z	18z period	G2ADR > ES, GM, LA, OH and OZ;
		1800-1900	GM6VXB reported by PA2DB 53a, OZ1BNN (JO55) 53a, G0CHE 51a; G4PCI > LA8SGA 41a, LA4LN 57a, GMs; EI7IX > GB3MCB 51a
		1900-1920	PA2DB > GM4WJA 55a QTF 359, GM8LFB (IO88) > MM0AMW (IO75) 54a
		2015-2025	GM8LFB > GM3XOQ 53a; G8VHI (IO92) > LB6YD (JO59) 55a QTF 020
	21z	2204	EI7IX > GM4WJA 55a
		2348	GM7PBB (IO68) > OY6SMC 53a
5th	15z	1711-1715	GM8LFB > GB3LER "just gone auroral"; MM0BSM > GB3LER "aurora now"
	18z	1800-1844	G2ADR > GM only; EI3IO > MM0CWJ (IO67) 56a; M0CTP > LB6YD 56a; G4PCI > M0CTP; GM8LFB 55a
6th	12z	1222	GM8LFB > GB3LER "going auroral - also 48.250 video auroral"
15th	21z	2101	MM5AJW (IO88) > JW9SIX "55 with auroral tone"

Auroral E reports:

3rd	18z	1817	G4PCI (IO91) > TF3SIX 529
		1956	G8VHI (IO92) > OH9SIX 41 “aue?”

Solar and Geomagnetic Data for April 2004

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

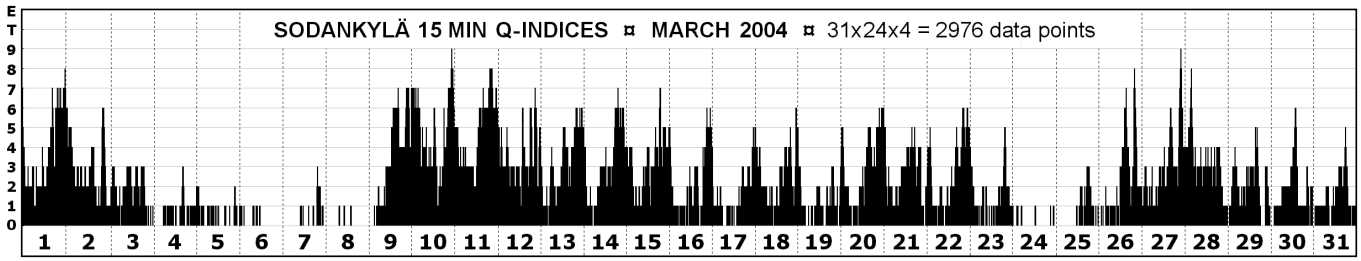
Sunspot numbers (SEC)	Mean 59.3	Max 108 (19th)	Min 16 (11th)
Solar Flux (28 MHz)	Mean 101.3	Max 117 (22nd)	Min 88 (10th)

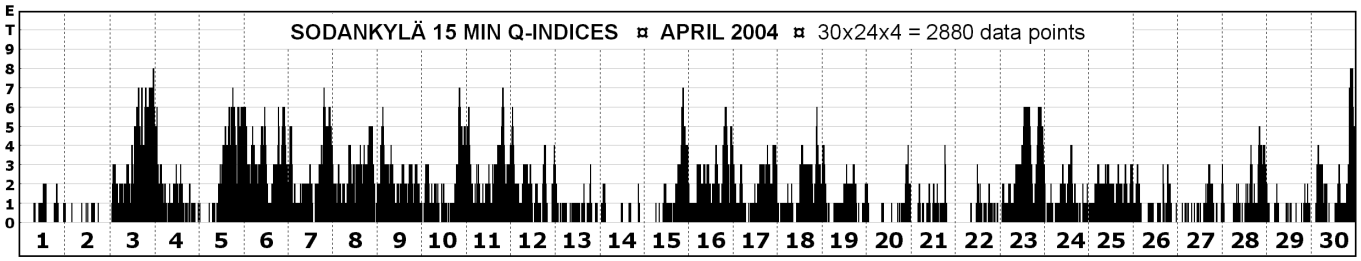
Solar data for April 2004 are presented in the table at the end of this section. Numbers in the 28 and 50 MHz columns of this table are the total daily "areas" worked/heard from the UK for each of several propagation modes and are a summary of the data presented in the first sections of this Report. 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, Aurora and Auroral E. F2 critical frequencies from Chilton in Oxfordshire were not available for April 2004. SIDC spots are 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). There were 7 M-class x-ray events in April (4 in March)

5th	0537-0613	M1.7 1F
6th	1230-1346	M2.4 SF
15th	1637-1648	M1.2 SF
22nd	0203-0224	M1.2 1N
23rd	1141-1152	M1.5
	2102-2114	M1.1 SF
25th	0502-0542	M2.2 1N

Q-indices from Sodankylä, Finland (Thanks OH2LX)





OH2LX's data from Finland for April (lower graph) shows relatively settled conditions compared with the previous month (upper graph). Vaino reports the most disturbed day was 3rd (same as in the UK). Quiet include 2nd and 14th. Global and UK views on geomagnetic activity are given in the K-index tabulations on the following page.

Finnish observatories in April 2004:

Monthly averages
Sodankylä: monthly Ak average = 17.3 (25.6 in March)
Nurmijärvi: monthly Ak average = 12.1

Most disturbed day:
Sodankylä: 3 April, Ak = 57
Nurmijärvi: 3 April, Ak = 88

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

K-indices.

There were 7 disturbed days in April when one or more of the UK K indices or the planetary Kp index was 5 or greater. The following four tables present the 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 (yellow) shading indicates K = 5, darker grey 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
00	0	1	2	5	1	4	3	2	3	3	3	3	2	2	1	2	2	1	2	1	1	0	2	1	1	2	1	1	1	2
03	0	0	3	3	1	4	3	4	5	3	2	2	2	1	1	3	3	2	2	1	3	0	3	2	3	1	1	0	2	3
06	1	0	4	2	0	4	3	4	4	3	3	4	2	1	1	4	2	4	2	1	1	2	4	3	4	3	1	2	1	3
09	1	1	3	1	1	4	2	4	3	2	2	3	2	0	1	3	1	2	2	2	2	1	4	4	3	1	1	1	1	1
12	2	1	4	2	3	4	2	3	2	2	2	2	2	3	2	2	2	3	2	2	2	2	5	3	3	2	2	2	2	2
15	1	2	4	2	4	2	2	3	2	2	2	2	2	2	2	3	3	3	2	2	2	2	4	3	3	2	2	3	2	3
18	2	1	5	1	5	3	2	2	2	3	2	3	2	2	2	3	3	3	2	1	2	1	2	1	2	2	2	4	1	3
21	1	1	5	3	4	2	3	2	2	3	2	1	2	1	3	2	2	2	1	2	1	1	3	2	2	2	2	2	2	4
Σ	8	7	30	19	19	27	20	24	23	21	18	20	16	12	13	22	18	20	15	12	14	9	27	19	21	15	12	15	12	21

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
00	0	1	2	7	0	5	3	2	2	2	3	3	2	2	0	1	1	1	2	1	1	0	1	1	1	2	1	1	1	3
03	0	0	2	3	0	3	2	3	3	2	1	1	1	2	0	3	2	1	1	1	2	0	1	1	2	1	1	0	1	2
06	1	0	1	1	0	3	2	2	3	1	1	1	0	0	0	2	1	1	1	1	1	1	2	1	3	1	0	1	1	2
09	0	0	2	1	1	3	2	2	2	0	1	1	1	0	1	2	1	0	1	1	1	0	2	3	2	0	0	0	0	0
12	2	1	4	1	3	3	1	2	2	1	1	2	1	1	2	2	1	2	1	1	1	1	2	2	1	1	0	1	0	1
15	1	1	6	2	4	1	1	2	2	1	2	2	1	1	1	2	1	2	2	0	2	1	4	2	2	2	2	3	0	3
18	1	0	8	1	7	4	4	2	3	3	3	3	3	0	2	3	2	2	2	1	2	2	2	1	2	2	1	3	1	4
21	1	0	7	1	4	3	3	3	1	3	2	0	1	2	3	3	2	2	1	2	0	1	4	1	2	1	1	3	2	4
Σ	6	3	32	17	19	25	18	18	18	13	14	13	10	8	9	18	11	11	11	8	10	6	18	12	15	10	6	12	6	19

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
00	0	1	2	5	0	4	3	2	3	2	3	3	2	2	1	1	2	1	3	1	1	0	2	1	1	2	0	2	1	3
03	0	0	3	1	0	3	2	3	3	3	2	1	1	2	0	3	2	2	1	0	2	1	2	1	3	0	1	0	1	3
06	1	0	2	1	0	3	3	2	3	1	1	2	1	0	0	3	1	2	1	0	1	1	3	2	3	0	0	1	0	2
09	0	0	2	1	1	4	2	2	2	0	1	1	1	0	2	2	1	0	1	1	2	1	3	3	3	0	1	1	0	0
12	2	1	4	2	4	2	1	3	2	1	2	1	3	1	2	2	1	2	1	1	2	2	3	2	2	2	1	2	0	1
15	1	1	5	3	4	2	2	2	2	1	2	1	2	1	1	3	2	2	1	1	2	1	4	2	3	3	2	4	1	3
18	1	0	5	2	6	4	4	2	3	3	3	4	3	0	2	4	3	2	2	1	2	2	2	1	2	3	2	4	1	4
21	0	0	5	2	4	3	3	3	1	4	3	0	1	2	4	3	2	3	1	2	1	1	4	1	2	1	2	3	2	4
Σ	5	3	28	17	19	25	20	19	19	15	17	13	14	8	12	21	14	14	11	7	13	9	23	13	19	11	9	17	6	20

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
00	0	1	3	5	0	4	3	3	3	2	4	3	2	2	1	1	3	1	3	1	1	0	2	1	1	2	1	2	1	3
03	0	0	3	2	0	3	3	3	3	3	2	2	1	2	0	3	2	2	1	0	3	1	2	1	3	1	1	0	2	3
06	1	0	2	1	0	3	3	3	3	2	2	2	1	1	1	3	1	2	2	1	1	1	3	2	3	1	0	1	1	2
09	1	1	2	1	1	4	2	2	2	0	1	2	1	0	2	2	1	1	1	1	1	1	3	3	3	0	0	1	0	0
12	2	1	5	2	3	3	1	3	1	1	2	1	2	1	2	2	2	1	2	0	1	2	4	2	2	1	1	2	1	1
15	1	1	5	3	3	2	2	2	2	1	2	1	2	1	2	3	2	2	2	0	2	1	4	2	3	3	2	4	1	2
18	2	1	5	2	6	4	4	3	3	4	3	4	3	0	2	4	3	3	2	1	3	2	2	2	2	3	2	4	1	5
21	0	0	6	2	4	3	3	3	1	4	3	1	2	2	4	3	2	3	1	3	1	1	4	1	2	1	2	3	2	4
Σ	7	5	31	18	17	26	21	22	18	17	19	16	14	9	14	21	16	15	14	7	13	9	24	14	19	12	9	17	9	20

April	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-Apr	0	6	0	0	0	0	113	100	55	2	3	7	B2.1	n.a.	n.a.	n.a.	n.a.	2.2E+08	1.2E+06	1.4E+04
02-Apr	0	10	0	0	0	0	108	99	51	2	3	5	B1.7	n.a.	n.a.	n.a.	n.a.	2.5E+08	1.4E+06	1.3E+04
03-Apr	0	14	0	0	9	2	107	68	47	5	23	59	B1.5	n.a.	n.a.	n.a.	n.a.	4.1E+07	8.6E+05	1.2E+04
04-Apr	0	1	0	0	0	0	109	69	55	5	12	22	B1.5	n.a.	n.a.	n.a.	n.a.	8.3E+05	9.4E+05	1.2E+04
05-Apr	1	10	0	0	4	0	109	85	57	5	14	38	B1.7	n.a.	n.a.	n.a.	n.a.	8.5E+05	5.9E+05	1.3E+04
06-Apr	0	7	0	0	1	0	101	66	40	4	21	41	B1.4	n.a.	n.a.	n.a.	n.a.	3.3E+07	8.1E+05	1.2E+04
07-Apr	0	6	0	0	0	0	98	57	39	3	10	24	B1.1	n.a.	n.a.	n.a.	n.a.	3.3E+08	6.0E+05	1.2E+04
08-Apr	0	6	0	0	0	0	94	33	27	4	16	27	B1.3	n.a.	n.a.	n.a.	n.a.	2.6E+08	5.7E+05	1.4E+04
09-Apr	0	5	0	0	0	0	90	18	15	5	16	27	A6.9	n.a.	n.a.	n.a.	n.a.	1.1E+08	1.8E+06	1.4E+04
10-Apr	0	6	0	0	0	0	88	20	13	3	10	21	A7.5	n.a.	n.a.	n.a.	n.a.	1.4E+08	1.9E+06	1.5E+04
11-Apr	3	9	0	0	0	0	90	16	13	3	8	19	A6.5	n.a.	n.a.	n.a.	n.a.	2.5E+07	1.8E+07	1.0E+06
12-Apr	3	6	0	0	0	0	91	37	25	4	11	18	A8.9	n.a.	n.a.	n.a.	n.a.	7.8E+07	4.4E+07	4.3E+05
13-Apr	0	3	0	0	0	0	93	41	35	2	6	13	A8.6	n.a.	n.a.	n.a.	n.a.	1.1E+08	2.0E+06	1.9E+04
14-Apr	1	3	0	0	0	0	95	69	42	3	5	9	B1.0	n.a.	n.a.	n.a.	n.a.	1.4E+08	6.3E+05	1.6E+04
15-Apr	1	5	0	0	1	0	97	60	34	3	6	15	B1.1	n.a.	n.a.	n.a.	n.a.	1.5E+08	5.6E+05	1.4E+04
16-Apr	0	7	0	0	0	0	97	53	31	4	12	27	B1.0	n.a.	n.a.	n.a.	n.a.	5.9E+06	5.0E+05	1.5E+04
17-Apr	1	1	1	1	0	0	98	55	50	3	9	17	B1.0	n.a.	n.a.	n.a.	n.a.	2.3E+07	4.7E+05	1.4E+04
18-Apr	0	3	4	0	0	0	109	92	58	4	11	20	B1.3	n.a.	n.a.	n.a.	n.a.	1.2E+07	3.1E+05	1.5E+04
19-Apr	0	2	1	0	0	0	113	108	63	2	6	11	B1.7	n.a.	n.a.	n.a.	n.a.	2.0E+07	2.2E+05	1.4E+04
20-Apr	1	4	0	0	0	0	111	96	59	2	4	7	B1.4	n.a.	n.a.	n.a.	n.a.	1.9E+07	2.7E+05	1.4E+04
21-Apr	3	7	1	2	0	0	113	98	59	3	5	13	B1.2	n.a.	n.a.	n.a.	n.a.	1.2E+07	3.0E+05	1.5E+04
22-Apr	3	9	0	0	0	0	117	90	57	2	4	7	B2.0	n.a.	n.a.	n.a.	n.a.	1.6E+07	4.2E+05	1.3E+04
23-Apr	2	7	10	0	0	0	115	63	43	5	20	36	B4.4	n.a.	n.a.	n.a.	n.a.	3.5E+06	3.1E+05	1.4E+04
24-Apr	7	8	7	0	0	0	112	64	38	4	11	18	B4.4	n.a.	n.a.	n.a.	n.a.	2.4E+06	3.4E+05	1.3E+04
25-Apr	2	9	4	0	0	0	107	45	31	4	12	26	B2.0	n.a.	n.a.	n.a.	n.a.	4.3E+06	2.5E+05	1.2E+04
26-Apr	2	8	6	0	0	0	100	47	34	3	7	12	B1.2	n.a.	n.a.	n.a.	n.a.	7.5E+06	2.3E+05	1.3E+04
27-Apr	8	9	7	0	0	0	95	28	26	2	5	9	A7.8	n.a.	n.a.	n.a.	n.a.	1.0E+07	2.2E+05	1.3E+04
28-Apr	3	7	3	0	0	0	90	32	23	4	8	20	A6.2	n.a.	n.a.	n.a.	n.a.	7.9E+06	2.2E+05	1.2E+04
29-Apr	2	4	6	0	0	0	89	25	24	2	4	9	A5.6	n.a.	n.a.	n.a.	n.a.	4.8E+06	2.2E+05	1.2E+04
30-Apr	1	1	1	0	0	0	89	46	34	4	12	28	A6.0	n.a.	n.a.	n.a.	n.a.	3.8E+06	2.3E+05	1.3E+04
Sum	44	183	51	3	15	2														
Average	1.5	6.1	1.7	0.1	0.5	0.1	101.3	59.3	39.3	3.4	9.8	20.2	B1.4	n.a.	n.a.	n.a.	n.a.	6.8E+07	2.7E+06	6.0E+04
Maximum	8	14	10	2	9	2	117	108	63	5	23	59	B4.4	n.a.	n.a.	n.a.	n.a.	3.3E+08	4.4E+07	1.0E+06
Minimum	0	1	0	0	0	0	88	16	13	2	3	5	A5.6	n.a.	n.a.	n.a.	n.a.	8.3E+05	2.2E+05	1.2E+04

50 MHz Outside Britain

Compilation and Commentary by G3USF

Europe

Auroral-Related Propagation

Even at OH5IY's geomagnetically high latitude fairly brief and weak openings predominated, with the 3rd the only day of the ten on which auroral-related propagation was reported when openings reached appreciably to the south, with GB3MCB representing the southernmost point reported.

April 3 1440-50 Au>OH5IY 1520-1720 Au>OH5 1530-1610 AuFM>OH5IY 16-1700 OH3(KP10)>OZ(JO54 55a) GB3LER>EI(51a) OH3>SM6(59a) 1640-50 AuFM>OH5 17-1800 OH3>SM6(JO58 59a) OH3>SM6(JO68 55a) OY6SMC>EI(51a) GM(IO87)>EI)IO53 55a) LA(JO59)>EI(IO53 55a) GM(IO97)>EI(IO53) GM(IO97)>OZ(JO45 57a) GM(IO97)>PA(JO21 48a) 1700-40 AuFM>OH5 1730-40 Au>OH5 18-1900 GM(IO97)>PA(53a) ES6>PA ES2(KO29)>PA(55a) OH3(KP20)>PA(55a 000) SM7>SP2(mode?) LA>PA(mode?) GB3MCB>EI(51a) SM7>PA(mode?) 19-2000 GM>PA(55a/539) SM7>PA(55a 345) 2000-2110 Au>OH5 20-2100 OZ>SM0(mode?) OZ>EI(51a) OH6>SM0(mode?) OH3>SM0(mode?) 2010-20 AuFM>OH5 21-2200 OZ>SM0(mode?) OH6>OZ(55a) OH3>PA(41a 345) 2140-2400 Au>OH5 2200-10 AuFM>OH5 22-2300 GM>EI(IO53 55a) ES0SIX>SP2(57a) 2220-30 AuFM>OH5 2250-2320 AuFM>OH5 2350-2400 AuFM>OH5

April 4 0000-0130 Au>OH5 0000-40 AuFM>OH5 0140-0220 Au>OH5

April 5 1720-1830 Au>OH5 1750-1820 AuFM>OH5 18-1900 GM(IO67)>EI(56a) LA>OZ(55a) LA>SM0 SP4>SM0(mode?) JW9SIX>SM2(559 AE) JW7SIX>SM0(mode?) ES2>OZ SM7>SP2(JO94 55a 320) SM7>DL(JO72 53a) 19-2000 GM>PA(54a 345) JW9SIX>OH6(KP)2 AE) JW9SIX>SM0(579) 2230-2300 Au>OH5

April 6 0010-20 Au>OH5 0050-0100 Au>OH5 0120-50 Au>OH5 0200-30 AuFM>OH5 0240-50 AuFM>OH5 0300-10 AuFM>OH5 0540-0620 AuFM>OH5 0650-0700 AuFM>OH5 1210-30 Au>OH5 1215 49750>OH6(KP02 53a)

April 7 20-2100 JW9SIX>SM0(599) JW76SIX>SM0(559) JW7SIX>SM2(599) OH6>SM2(55a) JW9SIX>LA(569) OH6>SM0(55a) JW7SIX>LA(559 ae) OH6>LA

April 10 2022 OH9SIX>SM2(55a)

April 15 1853 JW7SIX>SM2(KP15 599) 20-2100 JW9SIX>SM2(599) JW7SIX>LA(JP53 559 AE) JW9SIX>SM0(529)

April 23 1320-1420 Au>OH5 1404 49750>SM5(56a) 1500-1620 Au>OH5 1540-1600 AuFM>OH5 16-1700 OH9SIX>SM2(KP15 57a) LA>OZ(JO54 51a)

April 28 1959 JW7SIX>SM2(579) OH9SIX>SM2(56a)

April 30 2140-2200 Au>OH5 2210-20 Au>OH5

Other Modes

In a month when the solar flux spent most of the time below 100 - albeit with generally lowish geomagnetic levels - there was still a certain amount of DX propagation. Southern Africa was worked from the Mediterranean on 21 days (2003 28). Unsurprisingly, the drop was greater for northern Europe - from 11 days to a mere 3. The prevailing mode along the Mediterranean - all of which benefited substantially, from 5B across to CT - appears to have been tep, mostly during the afternoons. (Some openings, however, came rather early in the day for classic tep.) The 5th (flux above average at 109, but a somewhat unsettled Ap 14) was particularly, almost like old times, with a lengthy and widespread opening and some strong signals.

It is less certain what explains the 4 days (2003 11) when propagation reached further north. Perhaps even the 5th can be put down to early sporadic-E, though Es has not been specifically identified at the relevant times in the relevant areas. By the 17th and 21st, the other days with northern extension, there were clearer signs that the Es season was under way. The 20th-22nd, when north-south propagation was relatively good, had the highest flux figures of the month and were also particularly quiet in geomagnetic terms.

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
Med	+	+	+	+	+		+	+	+	+	+	+	+	+			+		+	+	+	+		+	+					+
North					+							+					+				+									

	Mediterranean	'North'
ZS	13 days 1-5 7 11 12 20-22 24 25	2 days 5(DL,LZ) 12(LZ) 21(GW)
9J	11 days 1 3-5 11 17 20-22 25 30	2 days 17(G) 21(PA)
7Q	0 days 7 10 11 14 20 -22 24 25 30	1 day 21(G)
Z2	7 days 1 3 7 11 12 21	
D2	7 days 3 4 5 8 10 13 19	1 day 5(DL,LZ)

By comparison with southern Africa, West and Equatorial Africa were in steep decline. The Mediterranean reported propagation on only 9 days (2003 26, 2002 10), while there were no reports at all from the north (2003 6, 2002 2). It may be that 2003 was the aberration and this would normally be a poor month for this region. As always, however, there is uncertainty over the level of activity, with TR0A the only station in the region known to be consistently operational. (It was down from 19 days to 8). 5T5SN is known to have been active more frequently than the results suggest - indeed to have fared better with the Caribbean than with Europe, reporting 9& on the 24th and 27th and V4 and FJ on the 27th. S9 was worked from Cyprus but was not reported on the European mainland.

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
Med	+			+	+						+			+					+					+	+					+
North																														

	Mediterranean	North
TR	8 days 1 4 5 11 14 19 24 25 30	
5T	1 day 5	

The 3B9C expedition completed operation, but with apparently diminishing fortunes. They were reported into the Mediterranean on the 2nd, 5th, 7th and 9th, with a northern extension to YO on the 7th. FR was worked from Italy on the 5th. Although the return of the FR5SIX is promised it appears still not to be operational from its new location.

During the many long hours when no DX was available operators using JT6M made a considerable number of contacts, mostly fairly early in the day and apparently by MS but in many cases the propagation mode is a matter of conjecture. From around the 17th the arrival of the sporadic-E season was increasingly apparent. The first day with sustained, widespread openings was the 27th. However, in the nature of this mode, although Es was reported on the remaining days of the month openings were as yet brief, geographically limited and relatively unstable.

April 1 12-1300 ZS6AVP>SV1DH,IT9GSF(using 10w to wire) 13-1400 ZS6DN,ZS6TWB>IK5YJY ZS6AVP>4X 4X>5B ZS6NK>IH9GPI SV1>IT9 14-1500 ZS6TWB>SV8CS ZS6NK>9H1TX 15-1600 Z22JE>9H1TX 3Ctv>SV1 JY>5B 7Q7RM>9H1TX 17-1800 OD>5B 18-1900 Z22JE,9J2KC,9J2HK>SV1DH 19-2000 9J2KC>IK8HJC TR0A>SV1DH

April 2 0733 LY0SIX>SP6(ms) 1053-8 3B9C>9H1TX,IK8DYD 1511 3B9C>5B4FL 1822 LW3EX>EA7KW 21-2200 ZD7MY>CT1EPC ZD8VHF>EA7KW

April 3 0651 I4>OE5(t) 151600 ZS6TWB>EA6VQ ZS6NK>SV1DH 16-1700 I9>I8 Z22JE>IS0GQX ZS6TWB>SV1DH,IW5DHN ZS6NK>SV1DH,EA6VQ ZS6GVD>SV1DH 17-1800 ZS6NK>IH9GPI ZS6DN>9H1TX aurora 18-1900 D2PFN>9H1TX,IT9KSS 19-2000 D2PFN>IH9GPI ZS6TWB>9A6R ZS6OB>S57RR,IZ5EME,9A6R,IW4DQY ZS6TWB>IW4DQY D2PFN>9A6R,IK7IMO,F6FHP, 9H1YZ,IW9HHH,EH3LL 20-2100 D2PFN>9A6R,9A4K,IH9GPI 9J2HK>I5MXX,9A4K,IZ1EPM

April 4 0748 I3>I5 08-0900 I3>DL I3>OH2 I3>I4 09-1000 9H>4X I3>I0(t) I3>DL(ms) I3>I2 10-1100 OE8>I1 I3>PA(wkEs) 1139 SM7>OZ 1234 5Ztv>SV1 1428 SM0>OH1 1558 ZS6NK>9H1YZ 1623 TR0A>EA6VQ 1745-8 9J2HK>9H1TX,SV1DH 19-2000 D2PFN>EA7KW,SV1DH,9H1YZ,9A6R 20-2100 D2PFN>CT1EAT,IT9GRR

April 5 07-0800 LY0SIX,OE3XLB>SP6 10-1100 3B9C>5B4FL 11-1200 3B9C>IW4BET,SV8JE, F8BBL,IK8DYD,IK2GSO,I7CSB,IK0BAL,LZ2HM,I2AND ZS6AVP>IK8DYD,IK5MEN 12-1300 FR1AN>IK0BAL FR1GZ>SV1DH,9H1YZ,IH9GPI 3B9C>IK8DYD,IK2GSO,SV1DH, EH3LL,S59D,9H1YZ,9A1Z,9H1XT,EA6NB,4Z4DX ZS6WB>IK8DYD,LZ2HM,IW4EGP ZS6OB>IZ5EKV,LZ2HM,I6CXD ZS6AXT>LZ2HM,I8LPR ZS6DN>SV1DH ZS6TWB>SV1DH ZS6ANZ>LZ2HM,IK5RLP 13-1400 ZS6DAE>I6CXD ZS6AVP>9A8A,IK4CIE ZS6TWB>9A8A,F6HTJ ZS6DN>9A8A,F6HTJ,S59F ZS6WB>9A5FM,CT1EEB ZS6OB>9A4SL,IZ1DXS,DK2EA ZS6ANZ>I8LPR I7>I9 14-1500 ZS6OB>IH9GPI,9A6Z ZS6WB>F6HTJ,IK0BAL ZS4MB>IH9GPI,IK0BAL,IT9RZR ZS6NK>EA7RM,F6HTJ(1.5w GP),EA5/G0KOM ZS6AVP>IH9GPI ZS6ANK>EA5/G0KOM 15-1600 ZS6DN>EA5/G0KOM ZS6NK>EA6VQ 16-1700 ZS6TWB>SV1SB ZS6OB>9A8A,SV1SB 9J2HK>SV1DH 17-1800 9J2HK>SV1DH,5B4FL,S59Z, 9A4K, 9A8A,IW4BET,SV1DH,9A4K, IS0GQX,9A6R aurora 18-1900 9J2HK>IK1RLI KC4XX/ZS6>IW1AZJ,IK0BAL 5T5SN>9H1TX,IT9AMQ ZS6GVD>EH3LL,EH5AGR D2PFN>IK1EGC,IZ1ERW,IH9GPI,9A4K, 9H1LE,IK0BAL,IZ1EPM 9J2KC>9H1XT,EH3LL ZS6OB>EA7CU,IH9GPI ZS6NK>IZ1EPM 19-2000 ZS6GVD>EA7CD ZS6NK>IK0BAL

KC4XX/ZS6>EH3LL 9J2KC>IK0BAL D2PFN>IK5YJY,IW4BET,F5HRY,9A1Z, 9A2TN, 9H1YZ,IK7IMO,9A4K(skew 160) ZD8VHF>IK5YJY,IK1EGC,S57RR,9A1Z, IW4BET,9A1K,SV1DH 3Ctv>SV1 20-2100 ZD8VHF>9A6Z,IW4DQY,IV3HLS D2PFN>SV1CER,IK5RLP,DL7QY,S53J, F5TND,LZ1ZP,F4PAN I4>I5 PY1RO>9H1TX 47.9(CE)>EA7 ZD8VHF>I0JX,9A6R,F4PAN,I2SVA TR0A>SV1DH,F4PAN 21-2200 ZD8VHF>I0JX,9A6R

April 6 17-1800 LW3EX,LU1DMA>EA7KW 18-1900 LU7FA>EA7KW LW3EX>IH9GPI

April 7 07-0800 LY0SIX>SP6(ms+t),OZ(t),SP1 09-1000 OE3XLB>SP6 11-1200 ZS6TWB> SV1DH,IK0BAL ZS6DN>SV1DH 1236 3B9C>YO2IS(skew 180) OM3>YO2(bs) 13-1400 ZS6NK>EA7KW,9H1X ZS6OB>EA7RM,EA7KW,EA7HG ZS6AVP>EA7RM Z22JE>EA7KW LZ2>5B ZR6ZL>EA7KW 7Q7RM>EA7KW 15-1600 3B9C>SV1DH,5B4FL 16-1700 3B9C>SV1DH 17-1800 LU1DMA,LW3EX,LU8DCH,LU9EHF>EA7KW 18-1900 LW1DZ>EA7KW LW3EX>CT1EPS

April 8 16-1700 LU1DMA,LW3DX,CX3AN>EA7KW 1704 LW1DZ>EA7KW 1928 D2PFN>IS0GQX

April 9 1009 3B9C>IK2GSO 1651 ON>LA 1701 I9>I8 1800-1 SM0>ON SM7>SM0

April 10 1029 SV3>9H 1144-55 S5>IS0,9A,I0,9H 12-1300 I5>I1 S5>I2 I3>S5,I2 13-1400 I0>S5 1428 9H>I9 1508 I0>I5 18-1900 PA>I4 I9>9H D2PFN>9H1YX,IK0FTA,5B4FL 19-2000 S9TX>5B4FL,5B4AV 7Q7SIX>I2 D2PFN>I2AND/IG9

April 11 0736 I3>OZ(ms) 08-0900 LA>I4(ms) S5>I5(ms) G>I4(ms) 09-1000 I4>S5(ms) I3>I0 10-1100 SM7>I0 1554-7 ZS6TWB,9J2HK>EA6VQ 16-1700 SM7>SM0 TR0A>F,EA6 ZS6WB>I5 ZD8VHF>EA6 ZS6TWB>I5 ZS6NK>EA5VQ 9J2HK>EA5FX,9H1LE,IW9FBS Z22JE>9H1LE, IK8DYD,IK8JVG SM7>SM0 17-1800 9J2HK>IK4HPU,IW5DHN,EA7CU, IK8BHA TR0A>9H1YZ,IK8DYD 7Q7SIX>EA6VQ Z22JE>I0WTD 1809 9H>I9

April 12 08-0900 LA>I2 09-1000 G>S5 1111 ZS6NK>IK0FTA 1235 SM7>I0 13-1400 PA>S5 SM7>I4 S5>LA G>I5 ZS6GZ>IW0GIV G,I5>PA I0JX>ZS6WGH ZS6GVD>I0WTD,IZ8FGH ZS6TWB> EA5/K0KOM ZS6NK>IZ8FGH,9A8A 14-1500 ZS6AVP>9A8A,9A4K,IZ8FGH I3>PA ZS6NK> IK4ADE,IW0GIV,IW3HWT,I8JIT,I8NHJ,IK7UFL,IW2LC,9A4SL LZ2CC,LX0SIX, 9H1SIX, IK5ZUL> ZS6WGH ZS6TWB>9H1TX ZS6DN>9H1TX ZS6GVD>IK4ADE ZS6WB>G4PCI,IW2LC Z22JE> 9H1TX 15-1600 ZS6WB>IW2LC ZS6AVP>IZ8FGH ZS6OB>I8LPR ZS6GZ>IK8HJC,I8LPR ZS6NK>I8LPR,SV1OH, EA5/G0KOM 16-1700 9J2HK>EA76KW I8>I4 9J2BO>9H1TX 20-2100 PY1RO>EA7KW

April 13 0948 I5>I2 1100 OK2>I5 1136 OE3XLB>SP6 1850 F>PA 19-2000 PA>ON I5>I0 D2PFN>9H1TX 2047 I5>I4

April 14 1510 OK1>LA 16-1700 SM7,I2>OZ 17-17800 3Ctv>SV1 7Q7SIX,TR0A>I2ADN/IG9 1923 G>SM0(ms)

April 15 0939 I5>I0 1132 I0>I2 G>I0 18-1900 PA>LA 1955 IS0>I0

April 16 09-1000 G>S5 OE3XLB>SP6 1103 G>I0 1334 I8>I0,S5 16-1700 3Cv>SV1 G>LA 1826 I4>I0

April 17 0659 G>S5 07-0800 LY0SIX>SP6(ms) S5>I2 09-1000 I3,SM7>I0 11-1200 9A,I2,I4,I3>I0 I0>PA S5>9H 12-1300 I9>PA I4>I0,SP6 ON>I5(ms) 13-1400 I3>I4 14-1500 I6>I4 I4>I8 W7GJ>PA(EME) 1547 i3>i8 16-1700 I4>S5 17-1800 9J2HK>SV1DH,EA6VQ,EA7KW, G4IGO GW>EA7

April 18 07-0800 SM7>OZ,SM6 LA>OZ 08-0900 OZ,T7,I3,OK1>I5 I9>I4,SP6 T7>I4 I3>I9 S5>9A,I5 09-1000 G,I3>S5 S5>9A OE3XLB>SP6 I5>OM5,SP2 10-1100 F>I5 I5>I1,I0 I8>I9 S5>SP2,I5 I4>OZ OE5>DL 11-1200 G>OE5 S5>9A HB9SIX>EI T7>I4 GM>I1 12-1300 G>I0 T7>S5,F I2,I1,I5,I0>EI

F>9A(ms) G>E5(ms) 1418 K7AD>IW5DHN(eme) 16-1700 SP6>I5(eme) 1746 SM7>I3 19-2000 F>SM6

April 19 0851 I0>I8 18-1900 D2PFN>IW9GUR,SV1DH TR0A>SV1DH 19-2000 D2PFN> IH9GPI,IW0GPN,IK5YJY,EA7CU,CT1EPS,IK5RLP

April 20 12-1300 EUtv,3Ctv>SV1(bs) 16-1700 7Q7SIX>EA6VQ,SV1DH ZS6TWB>SV1DH,IK0BAL KC4XX/ZS6>SV1DH 17-1800 KC4XX/ZS6>5B4FL,I8LPR 7Q7SIX>I2AND/IG9 ZS6TWB>I2AND/IG9 ZS6DN>I2AND/IG9 ZS6WB>IW0FFk GB3BAA>F 18-1900 LU1DMA, LU9EHF,LW1DZ>EA7KW CX3AN>CT1EPC 9H2HK>I0WTD 19-2000 PY1RO>EA6VQ 3Ctv>SV1 I0>I1 I5>9H 20-2100 ZD8VHF>SV1DH,9H1YZ,I2ADN/IG9 7Q7SIX>I2ADN/IG9 2119 GM>OZ

April 21 13-1400 IK5ZUL,IZ1EPM>EI G>EA7 3Ctv>SV1 14-1500 GB3MCB,GB3BAA>EA7(Es) EH8>EA7 CT0SIX>ON EI>EA5 KC4XX/ZS6>SV1DH 15-1600 ZS6TWB>EA6VQ 7Q7RM>I2AND/IG9 ON0SIX>EA6 ZS6NK>GW3MFY 16-1700 I9>F 7Q7SIX>I2AND/IG9,G8BCG,SV1DH ZS6TWB>I2AND/IG9 GB3MCB>EI Z22JE>SV1DH,EA5/G0KOM I9>SV1(bs) 17-1800 I9>PA(Es),I2 9J2HK>EA5/G0KOM,EH3LL,PE1MZS,EA5AAJ OE5>DL 7Q7SIX>SV1DH

April 22 08-0900 LY0SIX>SP6(ms) OE3XLB>SP6 09-1000 9A>PA SV1SIX>SP6 G>SM5 11-1200 I0>PA 16-1700 GM>SM7 OZ>F 17-1800 G>I4 7Q7SIX>SV1DH CT0SIX>IS0 18 -1900 OH0>OZ KC4XX/ZS6>IW9GXW,IW9HBY 9J2HK>SV1DH 7Q7SIX>SV1DH LW1DZ,CX4CR>EA7KW OH0>LA 19-2000 SM7>I2 EA2>PA(ms) HB9SIX>DL 2203 ZD8VHF>EA7KW

April 23 0946 EI>DL 10-1100 LZ2CC,LZ3>OZ LY0SIX>9A,I0 UT5G,LZ2,YO7>DL YU1ACR,Z3,LZ1>OZ 11-1200 Z3,LZ3>OZ YO3KWJ>ON SV1SIX,YU7(Es)>DL 1338 GB3MCB>EI 1448-54 SV1SIX>SP6,SP8 15-1600 SV1SIX>PA,OZ,SP9 UT5G>I0,I5 LZ3,SV8>DL I0>I5 16-1700 LA>I4(Es),I3,IS0 I5>OZ I3,OE6,YT1>PA 4N1>EI,PA,GW GM>I3,9A SM7>SV1,I2 OZ>I0 T9,SP8>DL SP4,SP6,SP7,SP8>F GI>SP9 G>9A SQ9>EI 17-1800 YO5>DL,PA F>SP6 OE3>F LY>EA1 PA>LZ2 SP4>I2 SP5>HB HB>SP5 LZ2,YU1>PA LY0SIX,SP4>I2 OZ>I0 PA>LZ2 I9,T9,YU1,LZ3>OZ I0>LA UT5G,YO5, YO8>ON LY>I5 OZ>I8 18-1900 SP4>I5 YO3KWJ>DL LY>I2,I3,I5 9A,YU1,LZ3>OZ 47.9(CE)>EA7 EA7>EI I4,I0>ES6 YO2>PA SP4>I3 ES4>I0 LW1DZ>EA7 1909 G>EA7

April 24 0748 I4>9H 08-0900 I8>I9,I0 15-1600 ZS6NK>9H1TX I1,I5>EI 17-1800 TR0A,7Q7SIX, 3Ctv>SV1DH 9Y4AT>5T5SN GB3LER,OY6SMC>F GM>I1,OE5,I2 7Q7RM>EA8JF GW>DL 18-1900 GW>DL GM>I2,DL(Es),F G>DL 21-2200 3Ctv>SV1 ZD8VHF>EA7

April 25 07-0800 OH9SIX>SP6 G,S5>ON 08-0900 I5>IS0 SM7>I5 G>PA GD>PA(ms),SP8 I5>9H,DL OM3>SP9 EI>OZ 10-1100 G,GD>PA EI>OE5 I8>EA2 11-1200 I5,IZ1EPM>OZ G>S5,OE6 12-1300 G>I5,F,ON GD>OE6,SP6 EI>F 14-1500 3Ctv>SV1 I3>S5 15-1600 G>F 16-1700 7Q7SIX>SV1DH,I2ADN/IG9,EA6VQ,9H1YZ ZS6TWB>9H1YZ ZS6NK>EA6VQ 17-1800 9J2HK>EA6VQ,SV1DH UU5SIX>DL 18-1900 N6RMJ>IW5DHN(eme) GB3MCB>F 19-2000 SU1SK>LX(?) TR0A,3Ctv>SV1DH

April 26 0908 OH9SIX,LY0SIX(ms)>SP6 11-1200 IZ1EPM,F>EI 12-1300 YO4>I1 OY6SMC>EI 14-1500 LZ1>PA,ON I5>OZ LZ3>PA I0JX,LY>OZ YU1>PA YO4,YO8>F LZ2>ON 15-1600 YU1,LZ1,LZ3>PA YO4>HB G>OK2 LZ3,YU1>DL I0>SP5 SP2>I9 YU1>EA3 LY>I5 16-1700 ON>F,PA EI>LA 1829 LA>EI 2045 OH9SIX>PA 21-2200 YU1,IK5ZUL>EH5

April 27 12-1300 S55ZRS>EI GM>I2,I0 OK2>SP9 IW3FZQ>EI G>I5.I0 I0JX>GM 13-1400 HB9SIX>EI F1GTU>DL EI>EH3,I3 PI7SIX,I5>EI GB3BUX>I0 G>I4 F>OZ YO3KWJ>DL GM>EH7 14-1500 EH2>DL,OZ GB3BAA,GB3BUX>EA7 EI>LA CT0SIX>EI LZ3,EH7>OZ CT>OE5 OZ,4N1ZNI>DL YO4,EH1,EH7>PA 15-1600 LZ1JH,LZ2CC,YO3,9H1SIX>DL CU3URA>EI HB>PA LZ1,LZ3>OZ UT1>I0 SP6>8 GB3MCB,EI>I4 YO3>ON,HB SV1SIX>OZ SP3>9H I9>OK1 YO7>F I8>SP2

LY>I8,I0 YO5>I2 LZ2>PA 16-1700 YO7>I1,I3 LY>9A YO4>OE2,I2 SR9FHA>EA6 YT1,LZ1,LZ3,I9,OZ>DL I0>SP9 YU7>I1,EA3 9A>HB I0>LY 4N>DL,I3 IS0>OK1,OE5 SV1SIX,LZ3,YZ1>PA YU7>EA3,I2 SQ9>I5 17-1800 OZ>DL,I8 9A,PA,YO7,YU1>F 9A,I9,YU1>PA YU7>EI,EH3,F OZ>I8(Es),ON(t) I4>S5 T9>DL,PA G>ON SP1>I0 S5>EA5,EA3 SM7>I8 I0>OZ I7>DL V44KAI,FJ5DX>5T5SN 18-1900 I4,LY,SP6>I0 OZ>IS0,I0,I8 YO5>I2 I5,YO5>F I7>OZ LZ1,T9,YT1,9A,G>PA ON>9A,YU1 YU1>HB YU7,YO5>HB F>ON S5>EA3,I1 DL>9A 9Y4AT>5T5SN 19-2000 SK7,PA>OZ OZ>DL,S5 I4>HB I4>I0 20-2100 OZ>DL I3>I5 I4>I0,DL S5>DL(t)

April 28 08-0900 UT5G>OZ 09-1000 UT5G,UU5SIX>DL UR>OZ 12-1300 RA3CQ>5B GB3LER>OM5 GM>SP9 13-1400 GB3RMK>SP9 LZ2CM>LA LX0SIX>EA7 EH7>PA 14-1500 EH7>PA,EI,I1,SP6 OM3>SM5 ES4>DL LA>S5,9A LZ2>LA DL>EH7 15-1600 CT0SIX>DL EH6>EI CT>OE5,I4 F>EA5 EA2>I2 16-1700 EH2>OE5 CT>DL,ON EH1>I5

April 29 08-0900 CT3>PA UT5G>DL 09-1000 UU5SIX>OE6 LY0SIX>PA 10-1100 UR>9A GB3LER>I4 11-1200 GM>I4 GB3LER>4U F>LA,PA 12-1300 G>I0 F>LA G>I2 1857-9 I9>IS0,I4(ms)

April 30 10-1100 OZ>I5,I0 DL>I5 11-1200 I1>LA EH2,EH4>PA 12-1300 GB3BAA,OZ>PA 16-1700 7Q7SIX>SV1DH,8H1YZ 17-1800 TR0A>SV1DH,I4BET 9J2HK>IT9IPQ,EA6VQ, IW0EUI, IK0FTA, SV8CS 7Q7SIX>SV8CS JR2HCB>IW5DHN(eme) 20-2100 ZD8VHF>SV1DH, I2ADN/IG9 3Ctv>SV1 7Q7SIX>I2ADN/IG9 21-2200 ZD8VHF,3Ctv>SV1DH

50MHz PROPAGATION REPORT FOR APRIL 2004 BY SV1DH

1. Data for all days (30), 8-13 Internet data only.
2. Relatively good days on: 1,3,5(+),20,21,25,30
3. 48 MHz AF video (3C or 5Z) on: 1-7,14-17,20-21,24-26,30 (R=57%)
4. 55 MHz AF video (5N) on: NIL
5. Opening to ZS6 on: 1,3,5,7,12,20,21,25 (R=27%)
6. " to 7Q on: 20,21,22,24,25,30 (R=20%)
7. " to Z2 on: 1,3,12,21
8. " to 9J on: 1,4,5,17,21,22
9. " to TR on: 1,5,19,24,25,30 (R=20%)
10. " to D2 on: 3,4,5,19
11. " to ZD8 on: 5(up 22z+),20,30(up 21z) (R=10%)
12. " to FR on: 5
13. " to 3B9 on: 5,7 (R=17%)
14. " to 4X on: 7(B)
15. " to I on: 1,21(B) (R=7%)
16. " to YU on: 5(B)
17. " to PA on: 5,23(E)
18. " to SP on: 22,23(E)
19. " to DL on: 23,27(E)
20. " to OZ on: 23,27(E)
21. " to F on: 27(E)

22. Special events on:
    1 (0915 3B9 to JA short + 1345 VQ9 to YB+ 1530 VQ9 to VR)
    2 (1045 9H to 3B9 short + 1500 5B to 3B9 short + 1830 EH7 to LU)
    3 (2115 9H to ZD8)
    4 (0715-0800MUF to HZ>45Mhz+1200-1230 3B9 to JA late+1445 VQ9 to VR2)
    5 (0715-1200! 3B9 to JA+1045-1245 3B9 to E.MED+1500 ZS6 to CU+2030 9H to PY1)
    6 (0745-0830 3B9 to JA+1328 M2.4 flare+1745 EH7 to LU)
    7 (0300 KH6 to SA+1100-1130 MUF to HZ>45Mhz+1230 YO to 3B9 bsc over AF+1700 EH7 to LU)

8 (1630 EH7 to LU)
9 (0915-1015 3B9 to JA)
10 (0800-0815 3B9 to JA)
11 (1630 EH6 to ZD8)
12 (2000 EH7 to PY1+R=16 Min)
15 (1644 M1.2 flare)
17 (1730 G to 9J, Es link)
20 (1830-1900 EH7 to LU+CX)
21 (1630 G to 7Q+Z2, Es link)
22 (0219 M1.2 flare+1830 EH7 to LU+CX +2230 EH7 to ZD8)
23 (1230-1345 foF2>10, max 10.5 (MUF=32) at 1315 +1830 EH7 to LU+Es season starting)
24 (2145 EH7 to ZD8)
25 (0537 M2.2 flare+1300-1400 foF2>10, max 10.6 (MUF=32) at 1315+ 2200 EH7 to ZD8)

23. DXCC entities heard/worked during April 2004 : 17 on 3 cont
24. DXCC entities heard/worked on 5th April 2004 : 9 on 2 cont. 73 COSTAS

The Americas

Auroral-Related Propagation

April 3 20-2100 VA3(FN03)>VA2(FN25 53a) VA3>W1(55a) W8>W1(57a) W8>W3(FM18 55a) 21-2200 W8>W3(FM18 55a) W1(FN41)>W8(EN82 55a) K0KP>W0 K0KP>W1(56a) 22-2300 VE2(FN48)>W1(FN41) W9>W0 K0KP>W9(EN62 55a) VE3>W1(FN32) VE2(FN46)>W1(FN32) N0UD>VE5 VE2(FN48)>W1(FN43) N0UD>W0(DN70 52a) VE4ARM>W0(42a) K0KP>W2(33a) VE3>W1(FN32) W8>W0(EN34 59a) 23-2400 W9(EN44)>W0(DN70 41a) W1(FN32)>W1(FN42) VE4(EN19)>W0(EN43) W3>W1(mode?) W9>W8 W8>W8(mode?) W8>W1(mode?) W1>W1(FN35) N8PUM>W3(FM18 55a) W1>W9(mode?) W9(EN44)>W0(mode?) VE2>W3(FM18 57a) VE4ARM>W8(EN82 52a) VE3UBL>W1(58a) K9MU>W1(44a) VA2MGL>W1(56a) W1>W2(59a)

April 4 00-0100 W0(EN35)>VE2(FN25 52a) VE3>W2(mode?) VE2RCS>W1(34a) N8PUM>W1(56a) W0(EN22)>W1(56a) W0(EN36)>W0(mode?) W0(EM48)>W1(FN43) K0KP>W9(59a) N8PUM>W9(EN44 57a) W0(EN27)>W9(EN44) W0(EN10)>W9(EN44 52a) W0(EN10)>W0(DN70 52a) 0210 W9(EN27)>W0(EN10)(mode?)

April 9 0400 VE4ARM>W9(52a) untimed VE8BY>VE6

April 10 0343 VE8BY>VE6(559a) untimed VE8BY>VE6

April 11 0133 VE4ARM>W9(EN44 41a) 0236 VE4ARM>W9(EN44 53a) untimed VE8BY>VE6

April 12 0425 VE8BY>VE6(559a)

Other Modes

While propagation between Europe and Africa held up reasonably well, paths between the Mediterranean and the mainland of South America suffered more than most - down from 24 days in 2002 and 21 in 2003 to a single day. Iberia was down less, from 17 days in 2002 and 22 days in 2003 to 9 days, a solitary report of PY1RO by EA7KW. There were no reports from countries further north.

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
Med					+	+																								
Iberia		+			+	+	+	+				+								+		+	+						

Europe<>South America

	Mediterranean	Iberia	North
LU	1 day 5 6	7 days 2 6 7 8 20 22 23	
CX		3 days 8 20 22	
PY	1 day 5	1 day 12	
ZD7		1 day 2	
ZD8	3 days 5 20 30	3 days 2 22 24	

More generally, the Americas had a lean month. There was an opening between HC and W4 on the 3rd. The OA beacon was copied in W5 on the 5th and W4 on the 6th. LU<>W4 was reported on the 3rd, 4th and 6th, and with W4 and W5 on the 5th. HC8 was worked from W4 and W0 on the 3rd and from W4 on the 15th. The 3rd appears to have been a reasonable day, but even then there were remarkably few reports.

A few contacts were reported between the Caribbean or Central America and South America, but these were down on the previous couple of months.

The only trans-Pacific reports were of KH6 into PY2 and LU on the 7th, when KH6SX also reported the OA beacon, and W6 and XE2 on the 8th, with HC8GR into KH6 on the same day. (A single report of W9<>VR2 on the 4th is surely fanciful or an error.)

Good sporadic-E occurred on the 28th - the relatively small number of entries covering a considerably larger batch of similar reports. Otherwise there were fewer signs of the developing Es season than in Europe. However, there seems no way of telling whether this was because of a deficiency of propagation or whether operators thought their contacts not worth reporting.

April 1 0146 PJ2BVU>LU2NI 02-0300 PJ2BVU,YV5SSB>PU2OCZ,PU2WCX

April 2 0244 W5>W3 2138 ZLtv>W6

April 3 1728 W1>W1 1934 48.2(CE)>W4 20-2100 HC3AP,HC8GR>K4RX HC3AP>NW5E/4 KP4>W4(bs) HC8GR>N0JK 21-2200 LU9DFN,LW1DZ>K4RX LW3EA>NW5E/4 aurora 23-2400 V44KAI,YV4AB,9Y4AT>PU2OCZ

April 4 2017 LW1DZ>WP4LNY 2156 47.9(CE)>W4 2211-52 FJ5DX>FG1GW LU1DMA>W4SO

April 5 21-2200 OA4B,LU1DMA>N5AW LU8EOT,LW3EA>KC4PX 22-2300 TI4DJ,TI2NA>K5IX KP4>W4 W7>W5

April 6 1348 W5>W5 14-1500 K4AHO>W4 W4>W2,VE3 VP9GE,W4>W3 VP9GE>W8,VE3 15-1600 W4>W2 W2>W5 18-1900 CT3FT>LU 19-2000 CO8LY>LW3EX LU8DWR>KD4ESV,WP4NIX OA4B>KD4ESV FY7THF>HP1 20-2100 LU8DWR>NW5E/4 OA4B>LU

April 7 02-0300 TI2NA>LU FJ5DX,K5BSX?>PU2OCZ 03-0400 KH6SX>PU2OCZ 0450 W6>W7(eme) 1203 W5>W4 18-1900 LU8DWR>WP4NEG FY7THF>TI2ALF 20-2100 N2OBH/CX, LU8DCH>WP4NEG LU3HR>FG1GW CX3AN,LU8MBK>WP4NEG 2222 CEbc>W5

April 8 0158 KH6SX>KB6NAN,XE2ED 0451 SM7>W0(eme) 1743 FY7THF>TI2ALF 18-1900 FY7THF>TI4DJ W4>W5 1929 FY1FL>TI4DJ 2110 HC8GR>YV1

April 9 2021 PY2DSC>TI2AF 2132 K0KP>VE6(ms)

April 10 0104 W3>W89 0238 W0>W5 16-1700 W7>W0 K6FV>VE6(ms) 1746 W6>XE2

April 11 no reports

April 12 1442 VE3>W2 1943 W4>W4 CN8MC>PY1RO 20-2100 CT/EAtv>PY1

April 12 0014 W4>W4

April 13 1428 W4>W4 1900 ZD8VHF,3Ctv>PY1

April 14 1450 W4>W4

April 15 1225 SM7>W7(eme) 1842 WA7X>W0 22-2300 49.2(CE),HC8GR,W5>K4RX 9Y4AT>N6XQ

April 16 23-2400 XE1KK>W4 W5>W4(bs)

April 17 2154 W1>W1

April 18 1355 W1>W4(sc) 15-1600 W0>W9

April 19 no reports

April 20 0159 CE3>YV5 0217 W4>W4

April 21 0228 W8>W8 2058 47.9(CE)>W6

April 22-4 no reports

April 25 1450 W4>W9 15-1600 N0UD,WA7X>VE6 W6>W7

April 26 1547 W0>W5

April 27 1458 W4>W8 16-1700 W7>W5

April 28 01-0200 VE2>W9 W9>VE9 W1>W0 02-0300 VE9>W9 VE3>W0 N0LL,W0MTK,W8>VE6 W7,W0,VE5>VE2 VE4>W2 K0GUV>W8 VE8BY>W0 03-0400 VE4VHF>W8 W9,W0>W7 1434 W3>W3 1559 V31RR>W5

April 29 0200 W7>W7 1621 W2>W9 2109-29 W8>W3 W3>W9

April 30 13-1400 W3>W7 W5>W9

Asia/Pacific

Japan

Hatsuo, JA1VOK, notes the fall-off in JA reports in the second half of the month due to the decline in solar activity. Certainly his report is shorter than at this stage last year and devoid of contacts outside the Asia-Pacific region, apart from reports of VQ9LA and 3B9C - which was copied in Japan on the 1st, 4th, 5th, 6th, 9th, 10th and 13th. However, the VK path held up reasonably well (though ZL, heard on 13 days in 2003, does not figure at all). VK was reported on 25 days (2003 30), though almost always in terms of the easier VK4,6 and 8 areas. A substantial proportion of the reports were provided by beacons - always an indicator that activity was lower than it could have been - though newcomer VK4KDD operating /6 was an exception.

	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
VK	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+			+	+	+	+	+	+		+	

Japan<>Australia

VK3 1 day 5
VK4 19 days 1-3 5-13 15-19 23 24
VK5 1 day 3
VK6 25 days 1-13 15-19 22-27 29
VK8 19 days 1-3 5 6 8-12 15-17 19 22-25 29

6m DX results in JA during April (JA1VOK)

DATE	TIME(UTC)	STATIONS		
4/1	0220-1300	FK8SIX/B, VK4,6RSX/b,8MS,8RAS/b, YB0ARA/9,YF1OO/B		
	0915-1000	3B9C (JA6)		
2	0300-1100	FK1TK,8GX,8SIX/B, V73SIX/B, VK4,6RSX/b,8RAS/b		
3	0300-1030	C21SIX/b, FK1TK,8CA,8GX,8SIX/B, V73SIX/B, VK4,5ZBK, VK6RSX/b,8RAS/b		
4	0630-0800	VK6RSX/b	1040-1130	VK6RSX/b
	1150-1230	3B9C (JA4-7)	1500-1530	VQ9LA (JR6)
5	0300-0700	FK8SIX/B, VK3SY,VK4,6WD,6RBU/b,6RPH/b,6RSX/b,8RAS/b		
	0710-1000	3B9C	0930-1000	XV3AA
6	0150-0500	DU1EV/B, FK8SIX/B, VK4RTL/b,6RSX/b,8RAS/b		
	0750-0830	3B9C		
7	0330-0500	VK4ABP/b,4RTL/b,6RSX/b		
8	0430-0700	VK4,6RSX/b,8RAS/b		
9	0530-0700	FK8SIX/B, VK4RTL/b,6RSX/b,8RAS/b		
	0920-1030	3B9C	1030-1130	VK4KDD/6,6RSX/b
10	0300-1030	C21SIX/b, 4F2KWT,DU1EV/B, FK8SIX/B, T33C, V73SIX/B, VK4ABP/b,4RTL/b,4KDD/6,6RPH/b,6RSX/b,8RAS/b		
	0750-1030	3B9C		
11	0440-1030	9M2TO/B, C21SIX/b, FK8SIX/B, 6K2DHP, V73SIX/B, VK4,VK6RO,4KDD/6,6RBU/b,6RPH/b,6RSX/b,8RAS/b		
12	0230-0900	FK8SIX/B, VK4,4KDD/6,6RSX/b,8RAS/b		

13	0430-1300	DU1EV, FK8SIX/B, VK4,4KDD/6,6RSX/b		
	0540-0610	3B9C		
14	1130-1140	YB0ARA/9		
15	0700-1230	FK8SIX/B, V73SIX/B, VK4,6RSX/b,8RAS/b		
16	0720-1000	FK8SIX/B, VK4RTL/b,6RSX/b,8RAS/b		
17	0450-1100	VK4ABP/b,4RTL/b,4KDD/6,6RSX/b,3BDL/8,8RAS/b		
18	0600-1100	VK4RTL/b,6JQ,4KDD/6,6RSX/b		
19	0530-0930	9M2TO/B, V73SIX/B, VK4,4KDD/6,6RSX/b,8RAS/b		
22	0340-0400	FK8SIX/B	0640-0700	VK6RSX/b,8RAS/b
	1130-1330	VK8MS, YB9AZJ,YB0ARA/9,YB0DPO		
23	0415-1000	C21SIX/b, FK8SIX/B, V73SIX/B, VK4,6RSX/b,8RAS/b		
24	0600-1230	V73SIX/B, VK4,4KDD/6,6RSX/b,3BDL/8		
25	0730-0900	VK6JJJ,4KDD/6,6RSX/b,3BDL/8,8RAS/b		
26	0750-0930	VK4KDD/6,6RSX/b		
27	0930-1000	VK4KDD/6,6RSX/b		
28	0800-0830	HL1LTC		
29	0520-0930	T88JY, VK6RSX/b,8RAS/b, VR2SIX/b		
	1220-1400	9M2TO/B, VK6RSX/b, YB1EHR (JR6)		
30	0046-0050	BD4SDB (JR6)	0530-0700	VK6RSX/b
	0910-1030	6K2DHP,HL1LTC		

Elsewhere

April 1 0008 KH6HI>KH6(bs)

April 3 0321 VK8RAS>KG6DX

April 4 14-1500 VQ9LA,KB9AZY>VR2

April 5 0743 3B9C>DS2BGV,HL2FDW

April 6 02-0300 FK8SIX,VK8RAS,VK4RTL>HL1

April 7 03-0400 HC8GR,LU6QI,OA4B>KH6SX 0450 V73SIX>KH6 0650 FK8SIX>KH6

April 8 2326 HC8GR>NH7RO

April 9 02-0300 XE2HWB,V73SIX,VK8MS T33C>VK4 0348 C21SIX,VK4>NH7RO 04-0500 T33C,VK8MS>NH7RO 1409 VQ9LA>VR2

April 10 VK4KDD/VK6>DS1 0926 VK4KDD/VK6>HL2 10-1100 VK6RSX,VK4KDD/CVK6>HL1

April 12 07-0800 VK6RSX,VK4KDD/VK6>HL1

April 13 04-0500 T33C,V73SIX,VK8RH>NH7RO 0550 VK6RSX>HL1 0957 VK4KDD/VK6>HL1

April 17 0757 VK6RSX>HL1

April 22 1256-7 YB1BGC,YB9AZJ>VR2 1300 VK4KDD/6

April 28 0802 JG1GZW>HL1(Es)

April 30 09-1000 JG1GZW>HL1(Es)

Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

Beacon News

28185 VA3SRC Burlington ON running 5 watts to dipole. This was formerly VA3SRC on 28263. Currently not fully 24/7 operation (June)
28204.6 NU4G Manchester TN (EM65WL) new beacon reported (May) (K0HA)
28238 KB2SEO in Eton GA new beacon running 1 watt to GP (KB2SEO)
28239.7 IZ2DAY new beacon in JN45PM running 10 watts to GP 130m asl. Fairly fast morse with 30-second gap between transmissions (June)
28241.5 Watch for this one from southern France. Proposed beacon for 24/7 operation, F5ZOK applied for.
28250 W3ATV Trevose PA (FN20) runs 1 watt to dipole (W3ATV).
28276 K4FUM has moved to Danville KY (EM77NP) and changed call to K4UKB (June)
28300 W7NTI Washington State (CN87TB) reported here. No further information (N7RAF)
50015 YS1YS new beacon runs 15 watts to an extended double zepp hung vertically to provide about 3.2dBd gain radiating omnidirectionally Location is EK53jq and the message sequence is vvvvvv de ys1ys ek53jq el salvador. Operator is Andy YS1AG (G5AYU), who says he has been struggling to get this beacon for 15 years
50023 SR5SIX returned to service 26/4 (SP5XMU)
50069 W9VW new beacon running 12 watts to turnstile at 70' from Indianapolis IN (EM69WT) (W9IND) transmits A1a 15wpm with 10 second pause VVV DE W9VW/B W9VW/B EM69WT INDY. Station is operated by The Legion of Indianapolis Dxers
50072 W9AFB Elk Grove IL (EN51) new beacon running 3 watts to dipole 24/7 (W9AFB)
50073 WA6LIE new beacon at Salinas CA (CM96EQ) running 5 watts to 4-element beam @ 8 metres, beaming 020, equalling 40 watts erp. Message QST QST de WA6LIE/B CM86EQ WA6LIE/B at 20 wpm (WA6LIE). Beacon will be turned off during openings.
50229.7/50203 F6IKY unofficial beacon now qrt owing to operator relocating.

28 MHz Worldwide

The geomagnetic cycle seems to be 'officially' in decline; certainly this April was quieter than last which, by our conventional rule of thumb, had no fewer than 20 'disturbed' days compared with only 5 this year. Ap averaged 19.7 then to 9.8 now. Solar flux levels are of course also down, averaging 101.3 against 126.5. As in March, most paths returned poorer results this year than last, with the more difficult time periods unworkable or highly marginal. Thus the path from Africa to North America in the African afternoon was down from 40 per cent reliability to only 13 per cent, while Europe reported South America in the morning with 20 per cent reliability in 2003 and only 6 per cent this year. And so on.

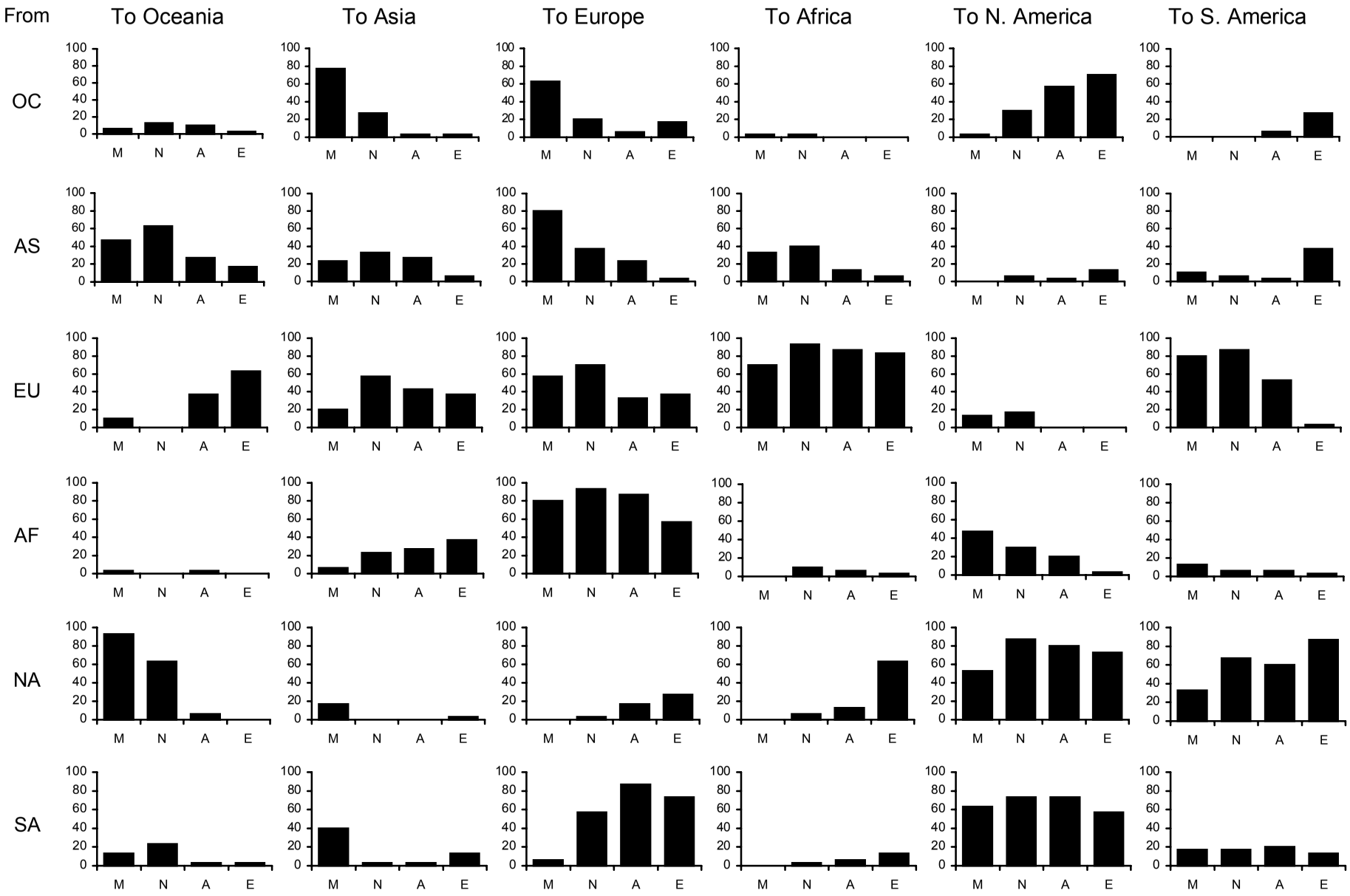
The better time periods continued to hold up quite well for north-south paths, as the results for Europe<>Africa, Europe<>South America and South America<>North America show. In fact, North America worked South America every day, as Europe did Africa and South America. East-West paths were understandably poorer, with Europe reporting signals from North America and the Caribbean on only 8 days and Asia reporting North America on 7 days. Surprisingly, perhaps, Europe had propagation from Oceania on no fewer than 22 days - but the majority of these openings were to southern or central Europe. A much small number reached western or northern Europe. By the same token, apart from contacts with T33C (which doubtless helped sustain the record), a high proportion of reports featured VK6, probably the easiest destination.

A number of reports as usual stood out as being out of the ordinary for the time of day, the season or the stage in the cycle. Despite the generally poor state of the path to Asia W2IK (GA) reported JH7RTQ at 0032 on the 3rd, while K6TA worked VK9LU at the (for him) lateish hour of 0802 (0002 LST), also on the 3rd. That was an interesting day elsewhere too. It was, as we saw earlier, the most disturbed day of the month. OH9TEN was reported by DL1RG at 1845 by auroral E, followed by SK0CT logged by RA1OZ at 1858 at 599. During that evening, with auroral working under way on 50MHz, a number of Europeans worked into the mid-west of the US, while IK4GRO reported W6VPH in LA at 1834. Later, EA1DWE worked CE3SBQ and CE5JZO at 2109-10. Still later, during the North American evening, there was a strong opening between the US and Oceania.

Another contact at a late hour featured EA7ELY and KB0LCO at 2307 on the 4th. Contacts between K0HA and F8DGY at 1742 on the 23rd and NP4A<>SV1CIB at 2020 on the 25th were less remarkable but by no means routine. For that matter, an opening between JA and SM and HA around 0820 on the 10th was something of a rarity. Also noted were EA7GYU<>VK4CQ at 2045 on the 17th, a rare long-path report. The contact between EA8TH and VK4JSR that followed at 2047 was probably also long path. EA7 and EA8 are of course particularly favoured in respect of this path (and many others!). Finally, VR2XMT<>PP5ZP at 1247 on the 21st looks a little out of the ordinary. By contrast, A report of a contact between AG4EX and 9A7ZZ at 0156 on the 22nd seems one step too far from the ordinary in the absence of supporting context or confirmation.
In both Europe and North America sporadic-E propagation, initially occasional and brief, was the most prominent mode from around the 19th-21st. As yet, there were no occasions when multi-hop was reported and, as yet, substantial openings had still to reach Scandinavia.

(28 worldwide graphs on the following page)

28 MHz Worldwide - April 2004



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