Date: June 28, 1993
To: EISCAT Data Representatives
From: Peter Collis
Subject: Common programme results tapes

Data from the following experiments have now been analysed and a tape containing results in the standard format will be mailed to you when copies have been made. Plots of system temperature and transmitter peak power during these experiments are enclosed.

(1992)

CP-7-E	05 - 06 May	(1000 - 1600 UT)
CP-7-E	15 - 17 Dec	(1458 - 1849 UT)

(1993)

CP-1-K	16 - 17 Feb	(1000 - 2200 UT)
CP-7-E	16 - 17 Feb	(1122 - 2200 UT)
CP-3-G	17 - 18 Mar	(1000 - 2200 UT)
CP-7-E	17 - 18 Mar	(1908 - 2200 UT)
CP-1-K	20 - 21 Apr	(1000 - 2200 UT)
CP-3-G	18 - 19 May	(1200 - 2200 UT)
CP-7-E	18 - 19 May	(1200 - 2200 UT)

Notes

1. CP-7-E, 5-6 May, 1992.

No reported problems apart from two short gaps on 6 May at 0211 UT (crowbar) and 0830 UT (deliberate stop to change one of the tranamitted frequencies to avoid interference with a local TV transmission).

2. CP-7-E, 15-17 December, 1992.

Crowbars and beam-blocks led to the following data gaps: 15 December, 2157 UT (40 minutes); 16 December, 0357 UT (10 minutes), 1010 UT (30 minutes); 17 December, 0521 UT (20 minutes).

3. CP-1- K, 16-17 February, 1993.

Version K of CP-1 is identical with version J, except that the remote site antennas do not scan, being directed only at the F-region common volume height.

A data gap exists between 01-02 UT due to a computer malfunction; remote site results are missing between 0700 and 0745 UT due to a loss of synchronisation at the transmitter following a crowbar. A furhter short gap was introduced between 1045 and 1100 UT on 17 February while the transmitting antenna was emptied of snow. A postintegration period of 150 seconds was used in the data analysis.

4. CP-7-E, 16-17 February, 1993.

The computer malfunction noted in (3) above prevented the CP-7 operation from being run between

0114 and 0805 UT. A short gap also followed a crowbar at 1127 UT on 17 February.

5. CP-3-G, 17-18 March, 1993.

Version G of CP-3 is identical with version F, except that the direction of scanning has been inverted so that it now begins in the south and ends in the north with the beam-swing position.

The transmitter radar controller program failed to change automatically following a computer stop at 1757 UT on 17 March.Program number one, which is used for the two extreme antenna positions, ran continuously until 1910 UT. Thus remote site signals were lost for all positions except the outermost during this interval.

6. CP-7-E, 17-18 March, 1993.

Although this experiment was started at the same time as the CP-3 operation, the combination of a loose cable and unreliable data recording led to results being available only from 1908 UT.

At about 1745 UT on 18 March it was discovered that two of the local oscillators (connected to channels 3 and 4) had not been set correctly since the start of the experiment, again due to a loose cable (but a different one from that above in this case). The oscillators were reset manually at this time. As CP-7 employs six receiver channels, commutated to produce the single set of ACFs and power profile, the effect of the wrongly set LOs was to degrade the signal to noise ratio by about 30%.

7. CP-1-K, 20-21 April, 1993.

A post-integration period of 2 minutes was used for the data analysis. No reported problems.

8. CP-3-G, 18-19 May, 1993.

Tristatic measurements started at 1200 UT for this experiment, though there are Tromsø results on the tape starting from 1132 UT.During this initial antenna cycle, the heater was on, transmitting at 5.423 MHz. This can be clearly seen in the power profile data for the positions near the centre of the scan, ie. Almost overhead. The heater was switched off at 1202 UT and the first two records of CP-7 data were also affected. These data have been used to accurately calibrate the results. This scheme was repeated also on May 19 between 1141 and 1147 UT.

9. CP-7-E, 18-19 May, 1993.

See (8) for heater effects. Otherwise, no reported problems.