

Date: March 6, 1996
To: EISCAT Data Representatives
From: Peter Collis
Subject: Common programme results tapes

Data from the following experiments, including all operations to the end of 1995, have now been analysed and a tapes containing results in the standard format will shortly be distributed. Plots of system temperature and transmitter peak power during these experiments are enclosed.

(1995)

CP -1 - K	20 Jun (1500 UT)	to	21 Jun (1800 UT) Sodankylä only
CP -3 - G	21 Nov (1000 UT)	to	22 Nov (1600 UT)
CP -2 - E	18 Dec (0800 UT)	to	21 Dec (0940 UT)
CP -1 - K	21 Dec (1005 UT)	to	22 Dec (1600 UT)
CP -4 - B	18 Dec (0856 UT)	to	22 Dec (0609 UT)

NOTES

1. CP-1-K, 20-21 June, 1995.

These Sodankylä results were missing from the previous result tape that contained the Tromsø and Kiruna results from this experiment. This was an oversight; there were no reported problems with the data.

Note that the Sodankylä results from CP-2-E on 22-23 May 1995 were included on the previous result tape even though the notes accompanying the tape suggested that they were to be omitted because of a problem with the velocities. The qualification regarding the velocities still remains and the Sodankylä results should only be used with great caution.

2. CP-3-G, 21-22 November, 1995.

The Tromsø long pulse modulation used only three (instead of the normal four) channels (the fourth channel was attenuated with 63 dB). The long pulse electron densities during the daytime periods on both days were compared with simultaneous dynasonde data (using just the veryical and near-vertical positions in the CP-3 scan). A calibration factor of 1.31 in the EISCAT analysis was found to give good agreement with foF2 values, until some time between 1144 and 1210 UT on 22 November. (It is difficult to specify a precise time due to the scanning.) From that time until the end of the experiment the EISCAT densities were consistently lower than the foF values. No evidence of any malfunction was reported, but the magnitude of the discrepancy suggested that the signal in one further channel had been lost. The data from 1200 to 1600 UT were re-analysed with a calibration factor of 1.80, which gave reasonable agreement with the foF2 values. (A value of 1.95 was also tried but the EISCAT densities tended to be slightly overestimated.)

Two plots showing the comparisons for 21 and 22 November, respectively, are enclosed. The full circles marked "adjusted" on 22 November are the results using a factor of 1.80; the open circles show the results using 1.31. Note that the UHF klystron was changed at the end of October.

3. CP-2-E, 18-21 December; CP-1-K, 21-22 December, 1995.

F-region densities were very low for most of this period and signals at all sites, especially the remotes, were poor. Otherwise, no reported problems.

4. CP-4-B, 18-22 December, 1995.

No data were recorded between 0130 and 1100 UT on 19 December due to a transmitter problem. The data quality was generally poor due to the low F-region densities, but there were also intermittent irregularities in the data from the phased beam. These had the character of satellite contamination of the background gates but were too frequent to be always real satellites. The enclosed plot shows an example. The disturbances were transient and occurred only in single dumps, on average a few percent of the time. As post-integrations over 150 seconds (15 dumps) were used, however, a significant number of these will have been affected. The results showed reasonable agreement with those from the simultaneous UHF operation. We recommend careful screening of the raw data before they are used for any detailed studies.