

March 1, 2003

## **KST UHF operation memorandum for March 1 BY S. Nozawa**

Experiment name: arc1 (normal arc1 with the field-aligned-position:(184.0,77.1, 292.9))

We will make an optical campaign using high resolution aurora cameras and 4-wavelength photometer with EISCAT UHF radar. We strongly hope to use the ARC mode (at field-aligned position) with the UHF radar. Sweden will contribute 8hrs to this campaign. Also Norway will contribute 16hrs. NI(18), SW(8), NO(16)

elan files: arc1-u.elan, arc1-k.elan, arc-s.elan (just use arc1 series)

directory: /kst/exp/arc1-u (arc-k, arc1-s )

Pulse scheme: arc1

Start time: 19:00 UT on March 1, 2003

End time: 01:00 UT on March 2, 2003

Participants: Satonori Nozawa, Shuei Tomida, Hiroshi Miyaoka, and Maarten Blixt

Before our experiment: Nothing

After our experiment: ALTA (see below)

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Note: (time in UT)

March 1

Cloudy.... Some activities are going, on though...

**19:00 START (enablerec; kir enablerec; sod enablerec)**

1308 kW

19:02 The Kiruna antenna is offline.

19:37 Now kiruna works well. We can see signals at Kiruna.

No signals at Sodankyla.

20:34 1432 kW

**21:00 stop experinent**

tau2at\_cp1 started (at all the sites) to do test for Sodankylaa.  
The Sondakylaa problem was not solved.

21:26 stop experiment

21:28 arc1-u started

21:30 no signals from kiruna and sodankyla

21:58 stop experiment

**22:00 arc1-u started** (runexp arc1-u.elan 22:00)

enablerec

22:02 We can see signals at Kiruna.

enablerec at Kiruna

22:09 We see signals at Sondakyla!!

enablerec at Sodankyla

22:52 1312 kW

23:26 Heating on!!! About 4 MHz.

Since it is cloudy, then I give my approval.

**00:41 correlator error**

Interrup error

could not analuze data, rtg could not handle the data neither.

Need to restart the experiment, but I have only 10 minutes. So I decided to quit  
the  
experiment.

**00:50 stopexperinet**

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**Summary:**

**Moderate Tx power (about 1300 kW).**

**Tx is very stable (amazing).**

**Cloudy for all the time (bad..)**

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**ALTA UK(40), GE(40), SW(20) Mike Kosch**

This is the UHF part of the artificial aurora and Langmuir turbulence experiment. The mode will probably be similar to previous artificial aurora campaigns, namely tau2 on the UHF with a dedicated Langmuir turbulence experiment (developed by Brett Isham) on the VHF and simultaneous heating.

This experiment needs good optical conditions, but low geomagnetic activity.

It can therefore be treated as an alternative to the CP1-ARC experiment on days when both are scheduled, as conditions for these are mutually exclusive. Because of the requirements on optical conditions, there will almost inevitably be some degree of cancellation.