

October 9-10, 2005

**KST UHF operation memorandum for the October 9-10, 2005 experiment**

*(Using Netscape might be in trouble on this page.)*

Experiment name: sp\_ni\_vw: arc1 (CP1)

This SP (vw using arc1/CP1) is made to investigate vertical ion/neutral motion in the E-region. PI is Dr Shin Oyama..

elan files: puny :/kst/exp/ni/arc1/arc1.elan

puny:/kst/exp/ni/arc1/scans/vw\_pattern.elan

Pulse scheme: arc1

**Start time: 04:00 UT on October 9, 2005**

**End time: 08:00 UT on October 10, 2005**

Participants: Satonori Nozawa, Kazuhiro Adachi, and Hiroshi Handa

Before our experiment: HFSEE

After our experiment: DLETE (VHF and Heating, not using UHF)

VHF is operated between 0430 and 0830 UT on October 9.

VHF is operated between 0430 and 0800 UT on October 10.

No Heating experiment.

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Note: (time in UT)

October 9

Partly Clear Sky. Temperature is 1 deg.

04:01 START

at EROS4 console (UHF)

**runexp /kst/exp/ni/arc1/arc1 04:00 vw NI**

(183.2 77.2 282.97km is set for tristatic measurements)

04:01 sod runexp /kst/exp/ni/arc1/arc1 04:00 vw NI

kir runexp /kst/exp/ni/arc1/arc1 04:00 vw NI

**04:01 enablerec**

**04:01 sod enablerec**

**kir enablerec**

04:05 at matilda

guisdap -a

04:09 1894 kW

**04:30 VHF starts (UK SP: PAMS)**

05:04 1837 kW sys temperature = 115 K (177.8 K)

06:04 HRP

06:08 1655 kW

06:32 HRP

06:33 1657 kW

06:34 HRP

06:36 1653 kW

06:37 HRP

06:41 1420 kW

06:44 1538 kW

06:58 HRP

07:05 1794 kW

07:22 HRP

07:27 1823 kW

07:55 1812 kW

**08:30 VHF ends**

08:30 HRP (Big noise. I sometimes heard noise at every HRP.

This one is the biggest)

08:35 1828 kW

CLOUDY 12 deg C

08:55 HRP  
08:56 1830 kW  
10:00 HRP  
10:02 1642 kW  
12:07 HRP  
12:09 1641 kW  
12:55 1628 kW  
13:44 HRP  
13:46 1616 kW  
15:13 1600 kW  
16:42 1578 kW

Raining

**18:05 Phone call from Kiruna. Problem at Kiruna.**

**17:58 stop Kiruna**

**18:40 restart Kiruna**

**18:49-18:53 could not record data. Restart Kiruna.**

**18:58 no connection with Kiruna**

**Failure of a GPS clock at Kiruna ?**

**19:08 restart Kiruna (but, it is found later that the start time is wrong)**

20:40 HRP

20:44 1558 kW

October 10, 2005

**00:27 restart Kiruna (with a start-time of 00:24)**

00:36 1872 kW

**04:30 VHF started**

04:40 HRP (big noise)

04:47 1846 kW

04:55 HRP (big noise)

04:58 1629 kW

06:03 HRP (big noise)

06:06 1648 kW

06:15 HRP (very big noise)

06:18 HRP (big noise)

06:24 1420 kW

08:05 stopexp (all sites)

**sp\_ni\_vw**

This experiment addresses the lower ionospheric/thermospheric vertical motion, which is one of the critical aspects of Mesosphere-Thermosphere-Ionosphere coupling at high latitudes. The vertical wind structure is not fully understood, although it is quite significant because one consequence of vertical mixing associated with vertical motions is to modify the thermospheric and ionospheric compositional structure. The goal of this project is to estimate vertical neutral winds using ionospheric parameters observed with the EISCAT UHF radar, and to determine vertical neutral and plasma motions accompanying geomagnetic and climatological activities.

This experiment will be done under collaborations of 2 countries such as Japan (24hrs) and Norway (12hrs).