October 20, 2006

KST UHF operation memorandum for the October 20, 2006 experiment

Experiment name: sp_ni_con: arc1 (CP1)
pointrheight 185.1 77.5 299.6

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

Pulse scheme: arc1
Start time: 20:00 UT on October 20, 2006
End time: 01:00 UT on October 21, 2006

Participants: Satonori Nozawa, and Takuo Tsuda.

Before our experiment: RIOE2006
After our experiment: Nothing

Other instruments.
Photometer, STEL digital camera (1-min interval), NIPR digital All-sky camera (30-sec interval), STEL proton imager (1-min interval).

Note: (time in UT)
October 20
Clear sky. 19:30

20:01 **runexp** /kst/exp/arc1/arc1 **20:00 cp1 NI**
20:01 sod runexp /kst/exp/arc1/arc1 20:00 cp1 NI
kir runexp /kst/exp/ni/arc1/arc1 20:00 cp1 NI
at EROS4 console (UHF)
TX on (by knut)
20:01 enablerec
sod enablerec
kir enablerec

2064 kW (~1.4 MW)
rtg
webtg
kir webtg
sod webtg

20:06 guisdap –a (at matilda)

20:39 1.3 MW (according to guisdap, while 2086 kW in rtg: rtg is wrong)

21:04 Tx down
21:05 2047 kW (rtg)

21:47 1.4 MW (guisdap)

21:50 Tx down
21:52 2152 kW (rtg)

Partly cloudy. 22:05

22:26 1.3 MW (guisdap)

22:36 2076 kW (rtg)

Cloudy. 22:39

23:06 1.3 MW (guisdap)
23:43 1.3 MW (guisdap)

Cloudy, -4 deg C. 00:23

00:24 1.3 MW (guisdap)
00:49 1.3 MW (guisdap)

01:00 stopexp (all sites)

stopexp 01:00

kir stopexp 01:00

sod stopexp 01:00

disenablerec

kir disenablerec

sod disenablerec

TX off (by knut)

rtg [quit]

sod webtg stop

kir webtg stop

webtg stop

Summary

The sky was clear before 22:30 UT, but it went worse: cloudy after that. The ionosphere was active.

Descriptions of SPs

sp_ni_mi

We will make an optical campaign using aurora cameras, proton imagers and 4-wavelength photometer with tje EISCAT UHF radar. Clear sky and higher geomagnetic activity are desired. Although we made request for 5 nights, we will run only 3 nights depending on conditions.

RIOE2006

The main goal of the experiment is an investigation of the mechanisms of high power radio-wave interaction with F-region ionospheric plasma. The UHF EISCAT radar will run the tau2pl program to measure the spatial and temporal variations of the ionospheric

parameters simultaneously with multispectral optical observations of the HF induced optical emissions by ALIS (IRF) and ASK (KTH). In particular we are going to study: the differences in temporal behavior of the different optical emissions as well as the electron temperature and density; the pump-power dependences of the emission intensities. To conduct the experiment successfully quite geophysical conditions, strong enough ionospheric F region, and clear sky are needed. If ionospheric conditions will be insufficient (critical frequency less than 4 MHz) or there will be strong auroral activity we will run same observations (but the arc1 program will be used instead the tau2pl for the UHF radar) to study the influence of the HF heating on the ionosphere-magnetosphere interaction.