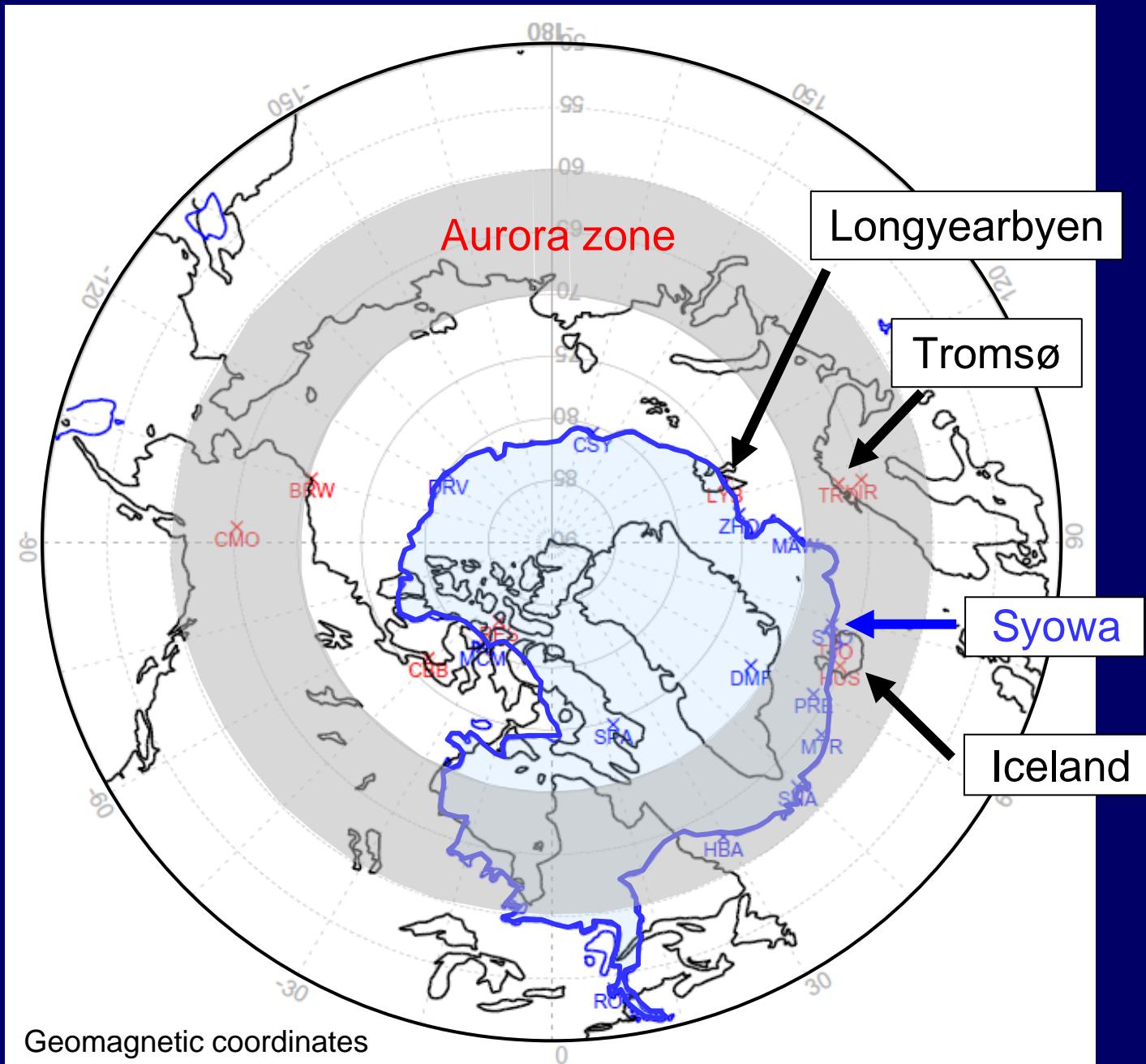


Upper Atmosphere Observations of National Institute of Polar Research

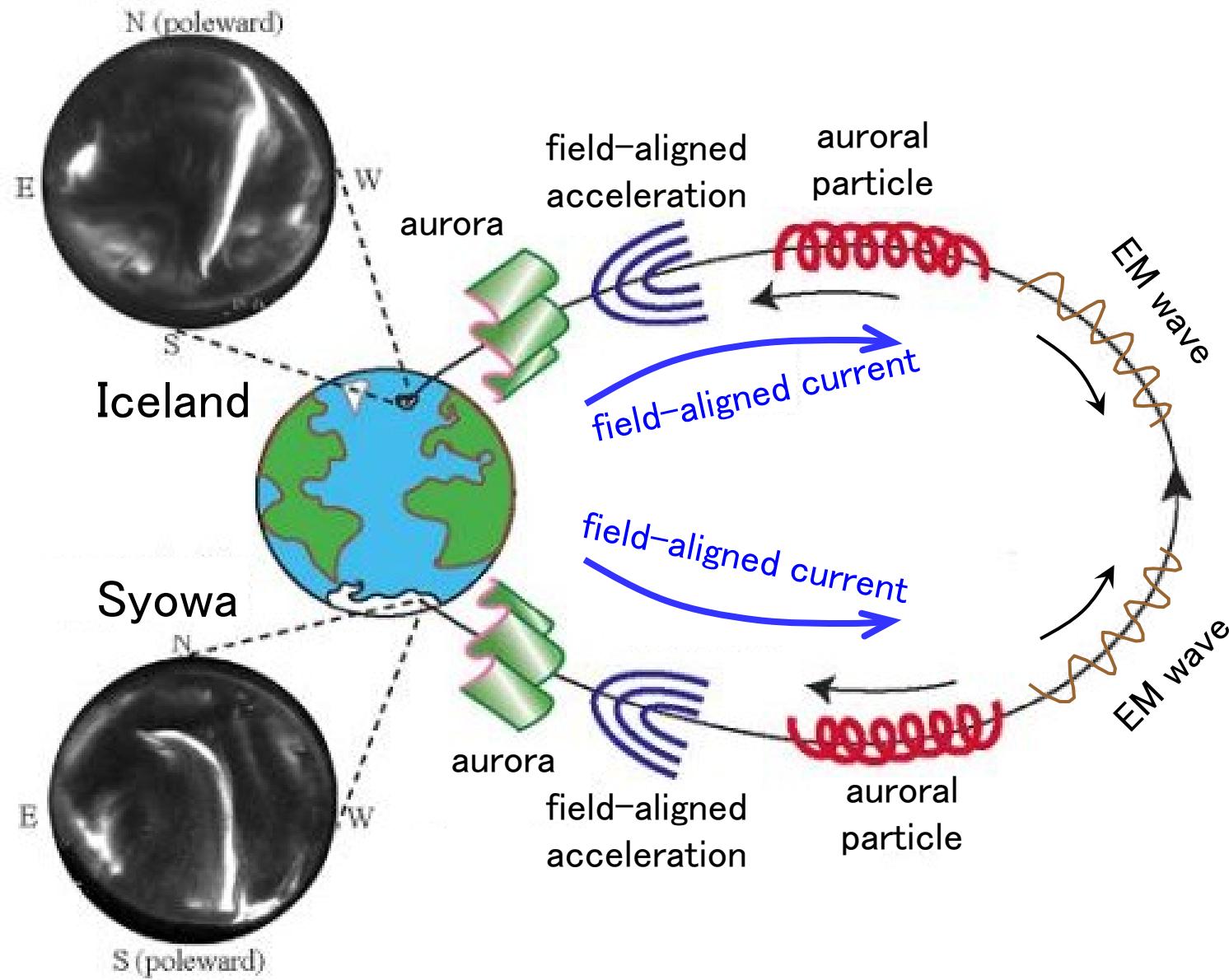
A. Kadokura¹, Y. Ogawa¹, Y. Tanaka¹,
N. Nishitani^{2*}

1: National Institute of Polar Research
2: Solar-Terrestrial Environment Laboratory, Nagoya
University

Stations in Geomagnetic conjugate Map



Syowa-Iceland Auroral Conjugate Observation



Stations & Conjugate point of Syowa in Iceland



Syowa - Iceland conjugate Stations

Husafell Tjornes



Syowa



Instruments at conjugate stations

Instrument	SYO	HUS	TJO
Fluxgate magnetometer	○	○	○
Induction magnetometer	○	○	○
VLF receiver	○		
Riometer	○	○	○
Imaging Riometer	○	○	
All-sky TV camera (ATV) (Night viewer)	○	○	○
All-sky TV camera (Watec)	○	○	○
Wide field-of-view TV camera (WTV)		○ *	○ *
All-sky Color Digital Camera (CDC)	○	○ *	○ *
All-sky monochromatic Imager (CAI)	○	2005-2013	2014 -
Meridian Scanning Photometer (SPM)	○	○	
GPS TEC & Scintillation	○	○	
MF Auroral emission (Tohoku Univ.)		○	

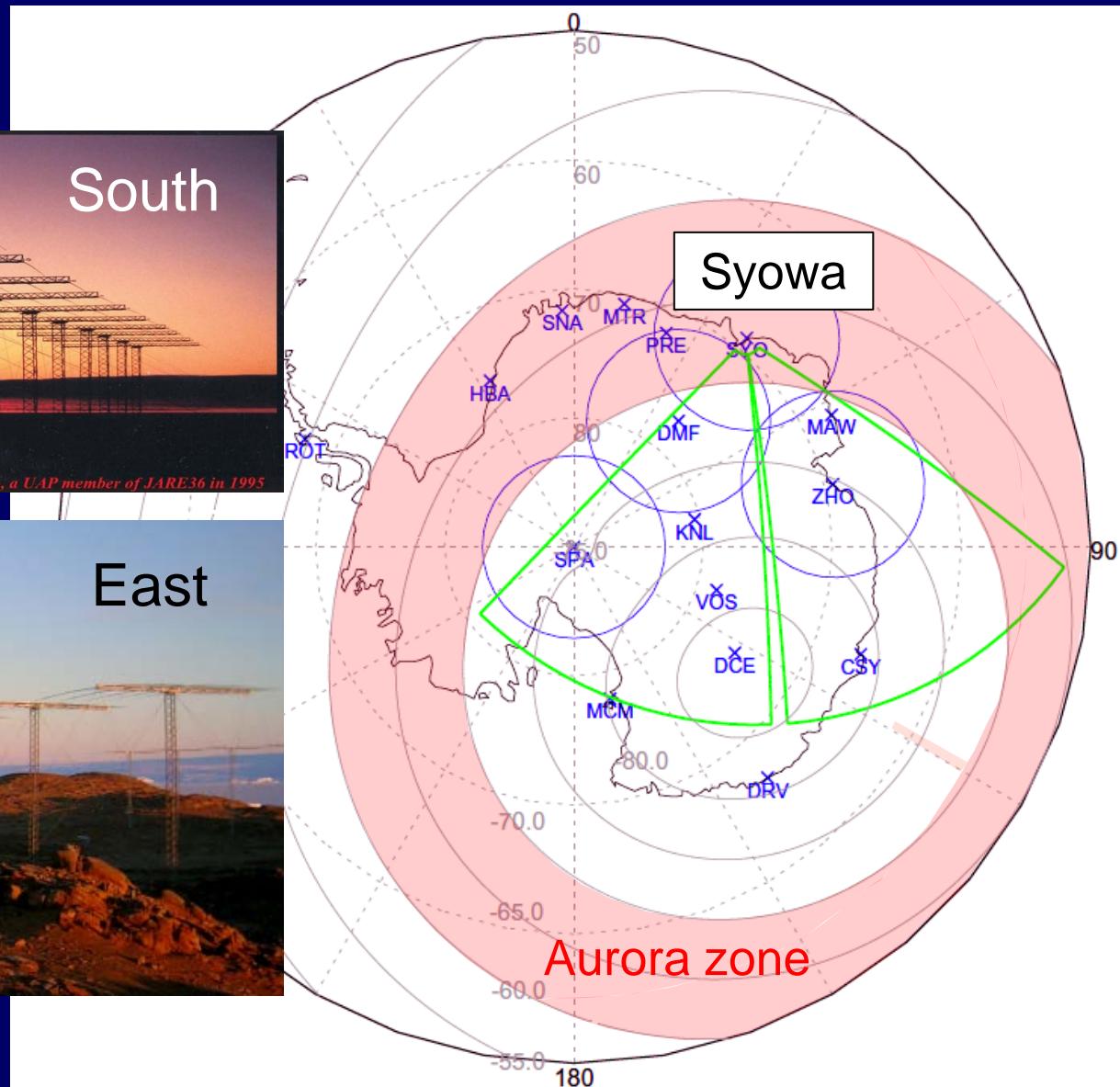
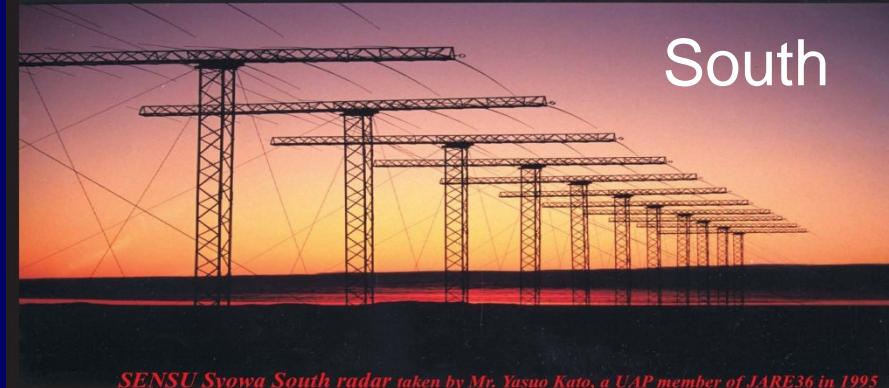
* : Operated only during campaign period

Instruments at conjugate stations

Instrument	SYO	HUS	TJO
SuperDARN radar	○		
Ionosonde (NiCT)	○		
FM/CW radar (NiCT)	○		
Atmospheric Electric Field detector	○		
1-100Hz ELF wave observation	○		
All-sky Airglow Imager	○		
OH Airglow Spectrometer	○		
MF-radar	○		
PANSY Atmospheric Radar	○		
Rayleigh Lidar	○		
Millimetre-wave Spectrometer	○		
DMSP satellite data receiving observation	○		

SuperDARN radars at Syowa Station

Syowa



EISCAT Scientific Association

Associates



Time buyer



Tromsø VHF radar



EISCAT Svalbard Radar



Tromsø UHF radar



Kiruna VHF radar



Sodankyla VHF radar



Optical observations at EISCAT sites

Tromsø



Longyearbyen

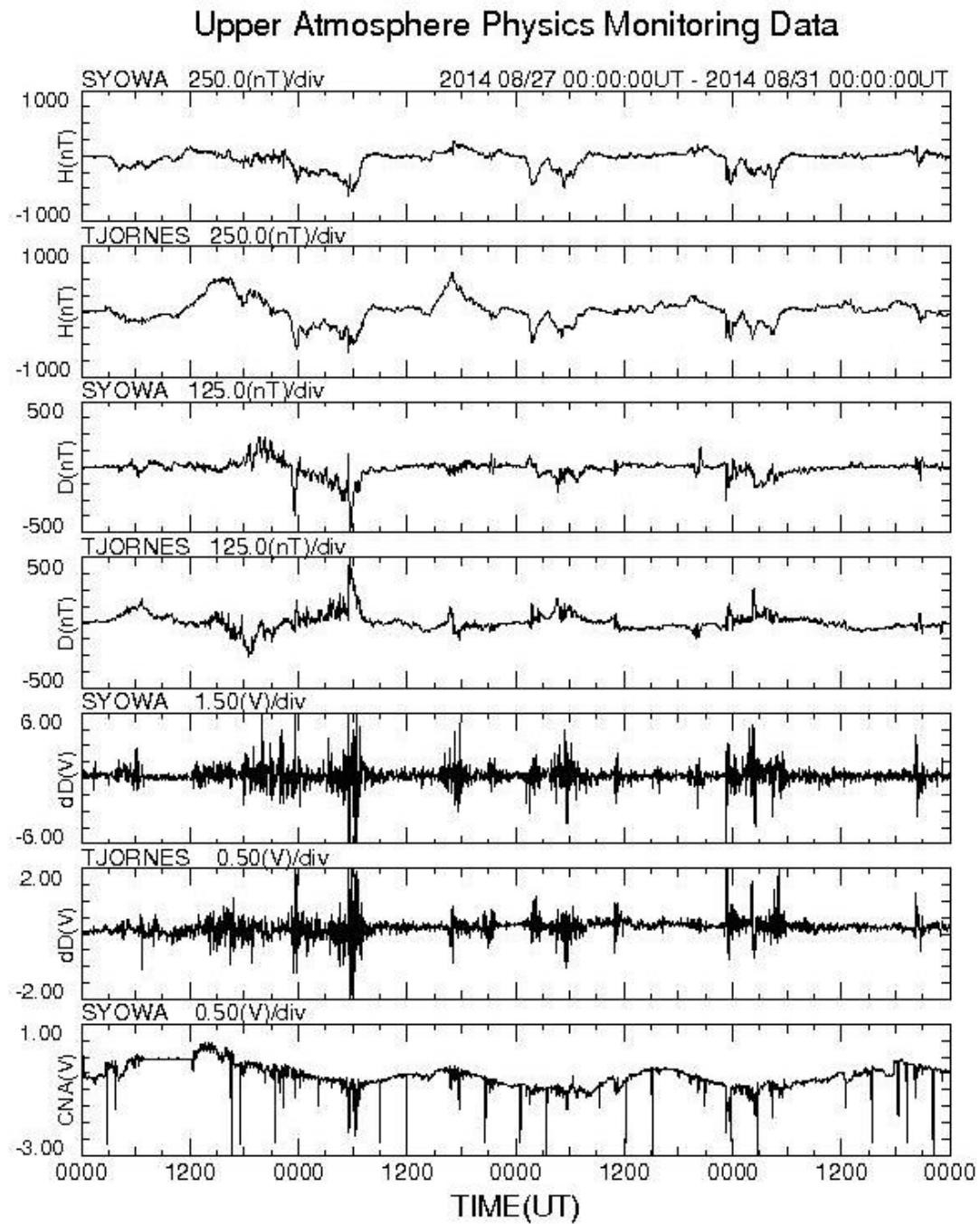


Aug 27-30, 2014

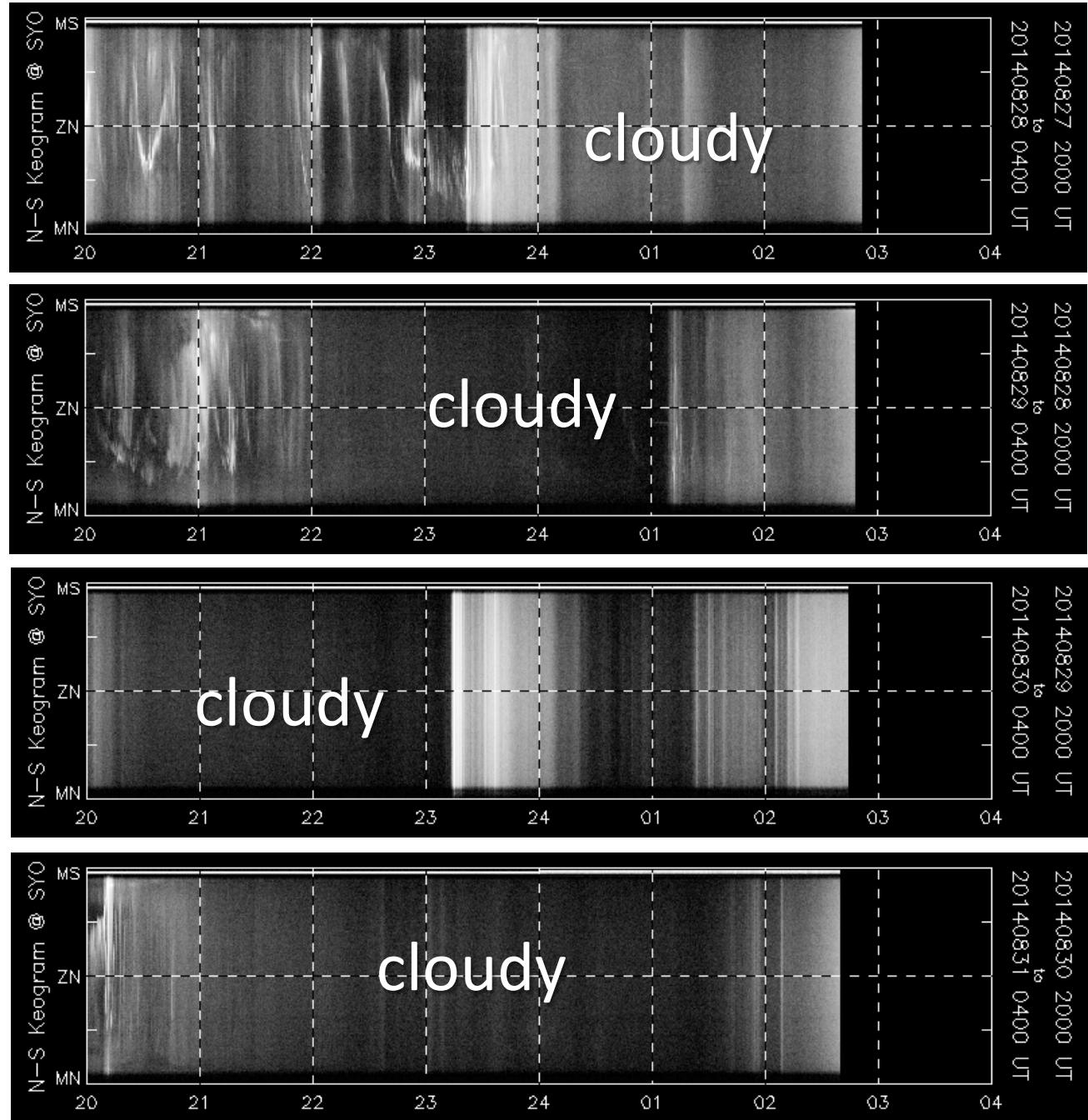
(no Tromso imager data)

Syowa- Iceland
conjugate
observation
data
August
27-30, 2014

fluxgate
magnetometer,
Induction
magnetometer,
Riometer



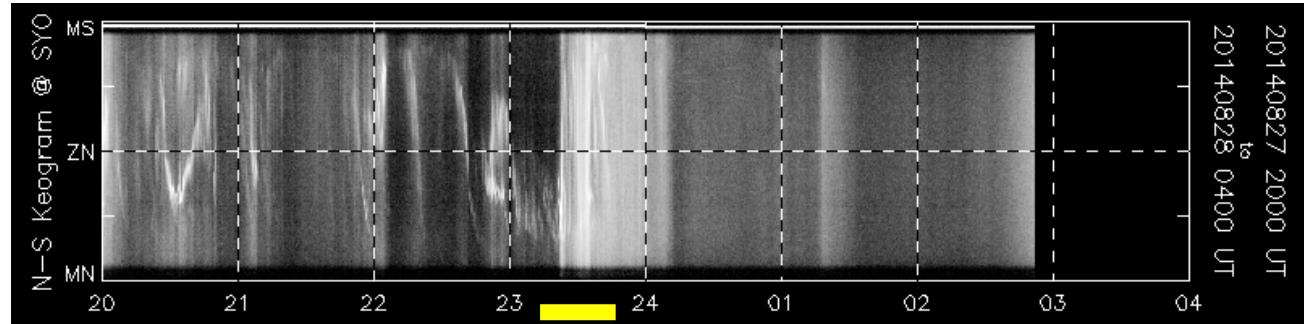
Syowa
All-sky
camera
data
Keogram
August
27-30, 2014



Syowa All-sky camera data

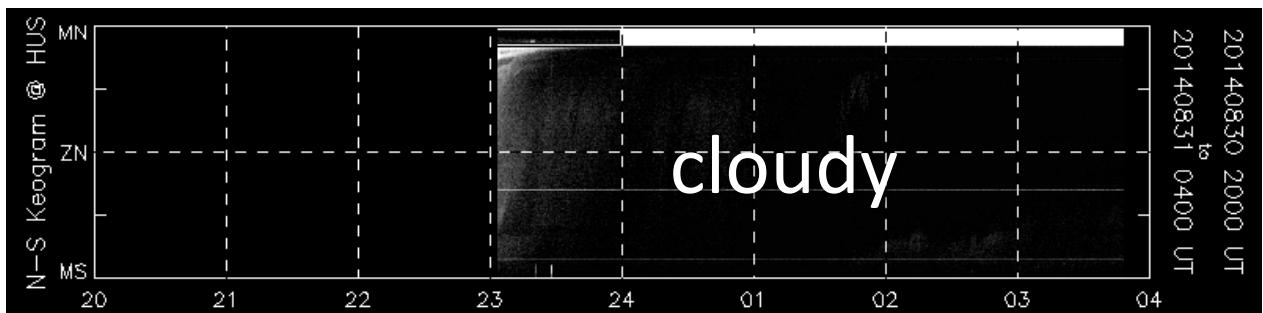
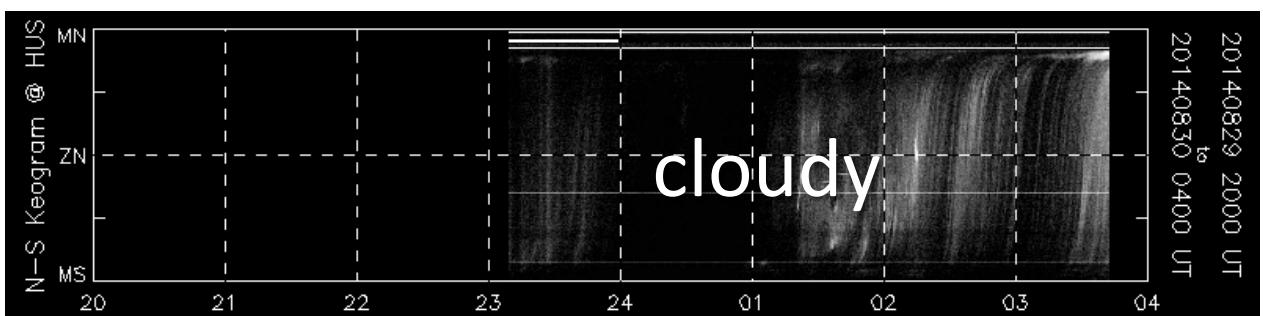
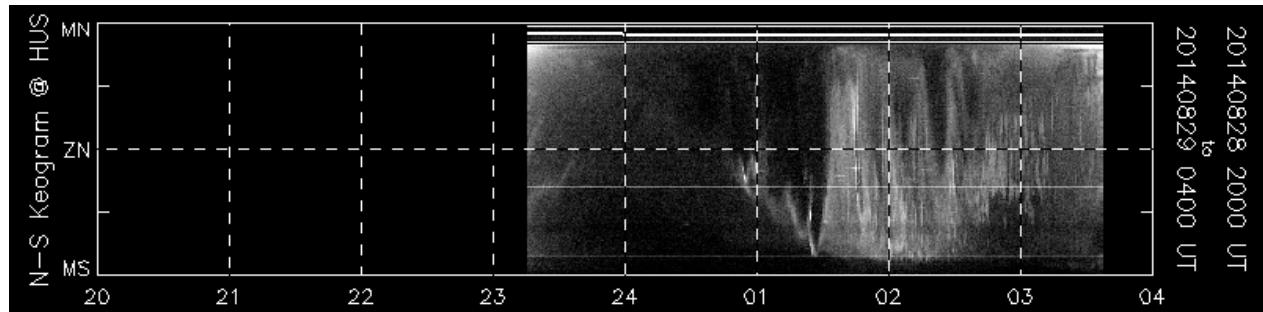
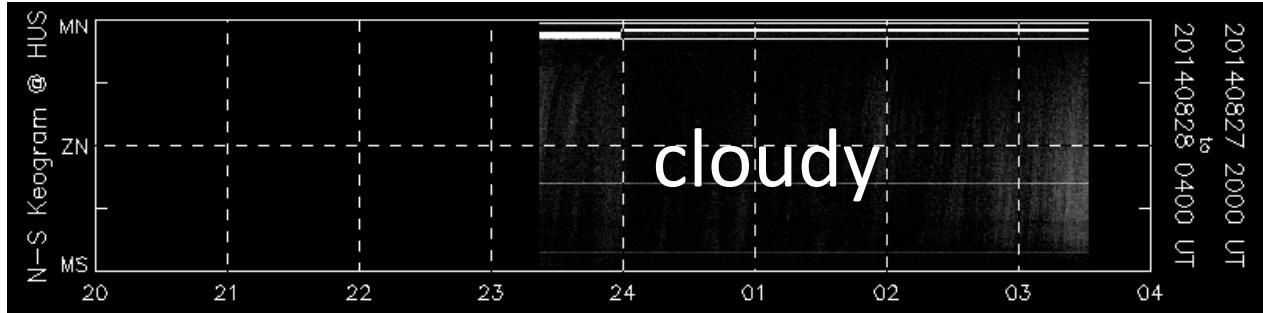
August
27, 2014

Poleward
expansion



Iceland (Husafell) All-sky camera data Keogram

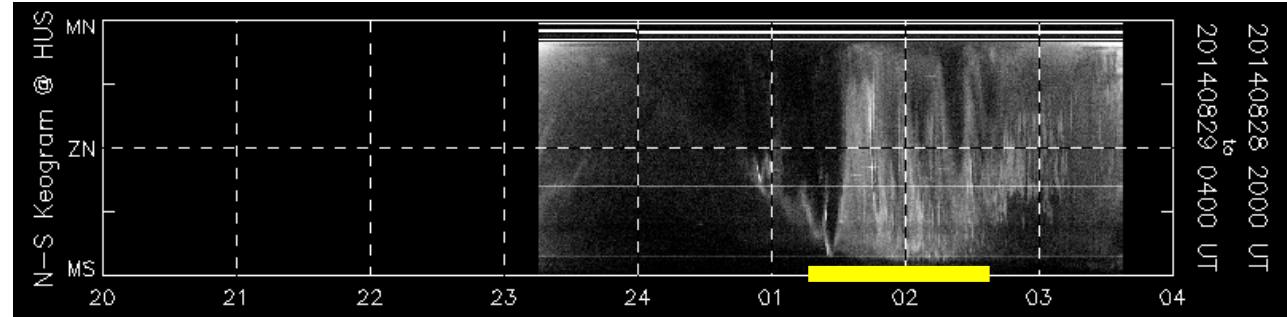
August
27-30, 2014



Iceland (Husafell) All-sky camera data

August
29, 2014

Omega band
&
pulsating
aurora



Sep 11-13, 2014

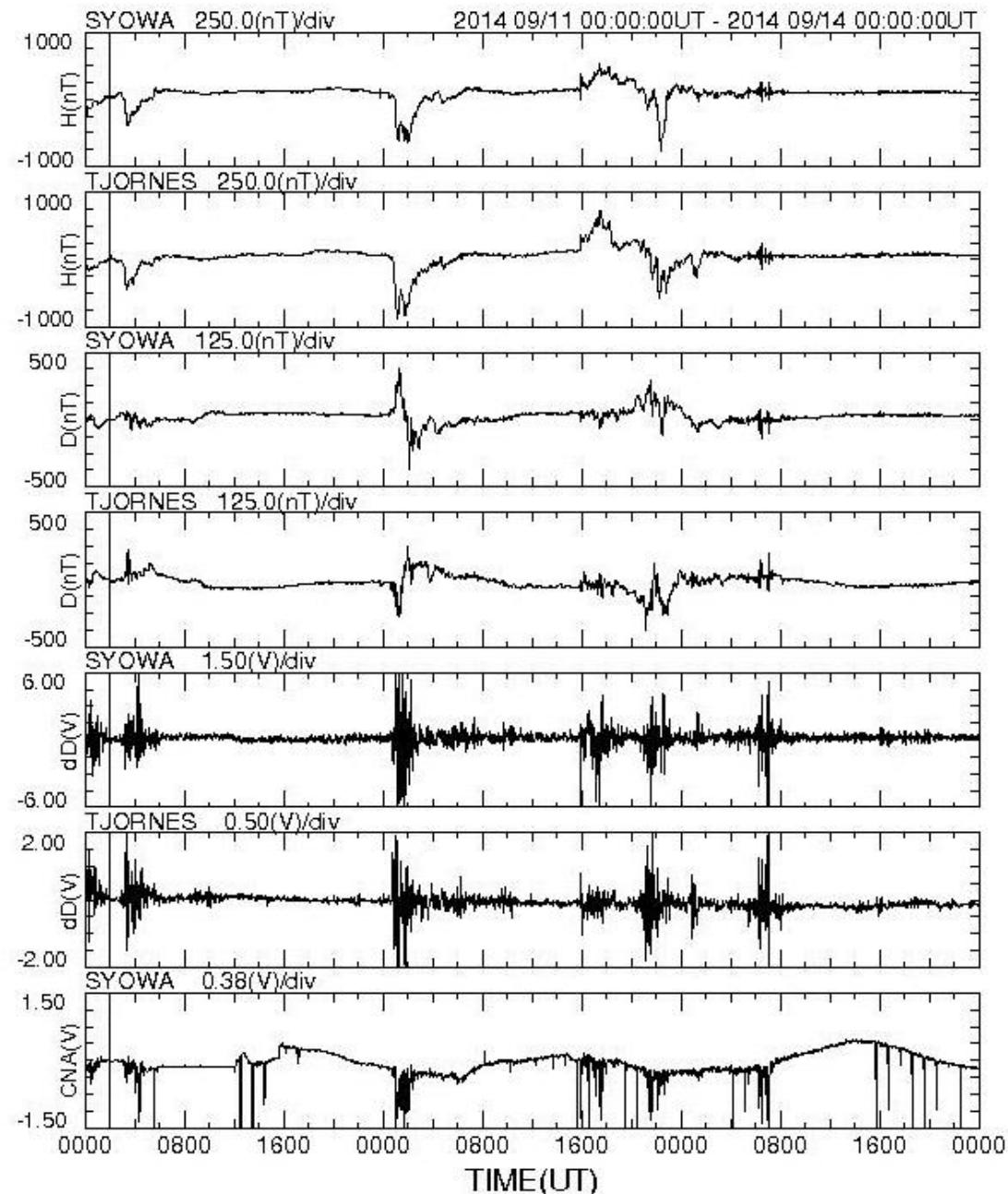
(no Tromso imager data)

Syowa- Iceland conjugate observation data

September 11-13, 2014

fluxgate
magnetometer,
Induction
magnetometer,
Riometer

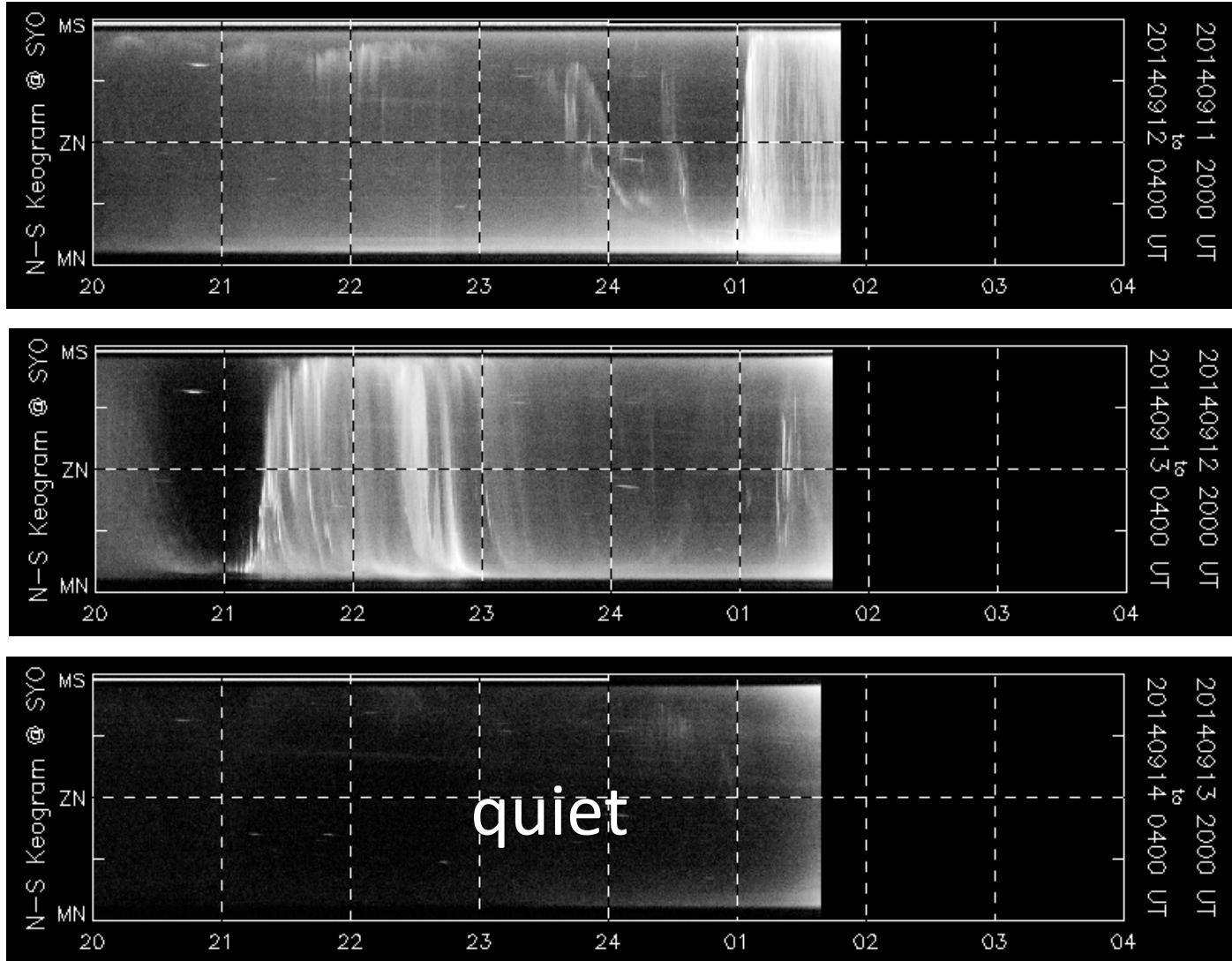
Upper Atmosphere Physics Monitoring Data



Syowa All-sky camera data

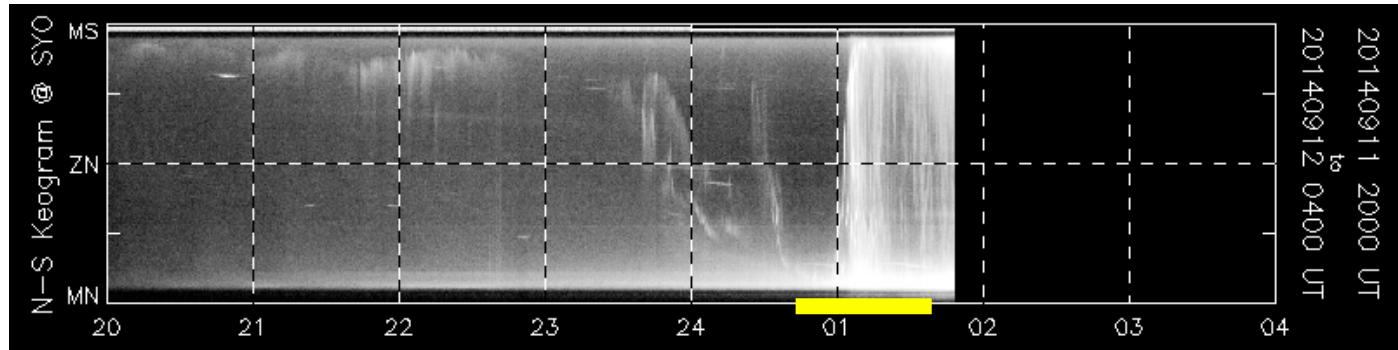
Keogram

September
11-13, 2014

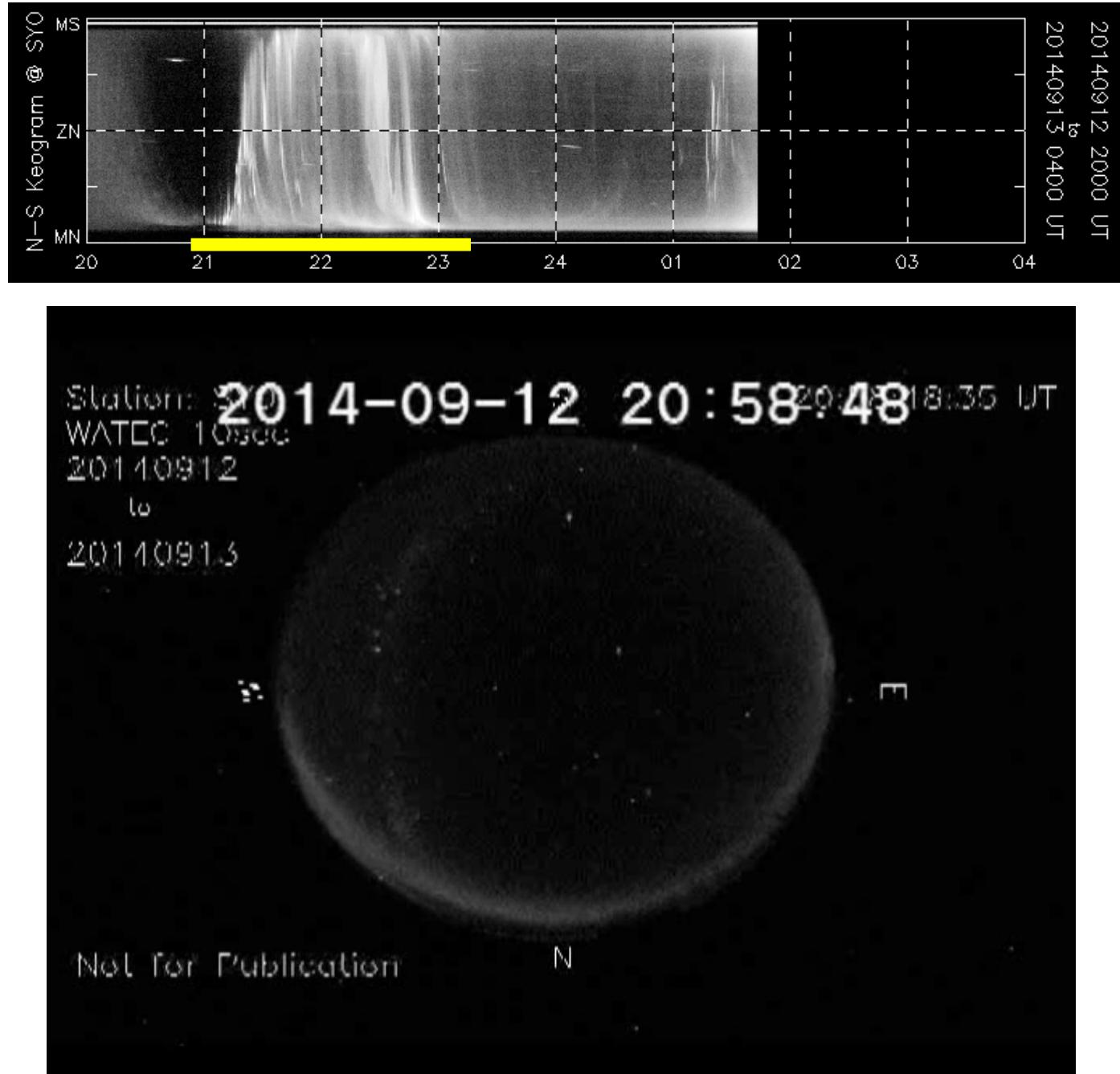


Syowa
All-sky
camera
data
Keogram
September
12, 2014

Poleward
expansion
&
pulsating
aurora

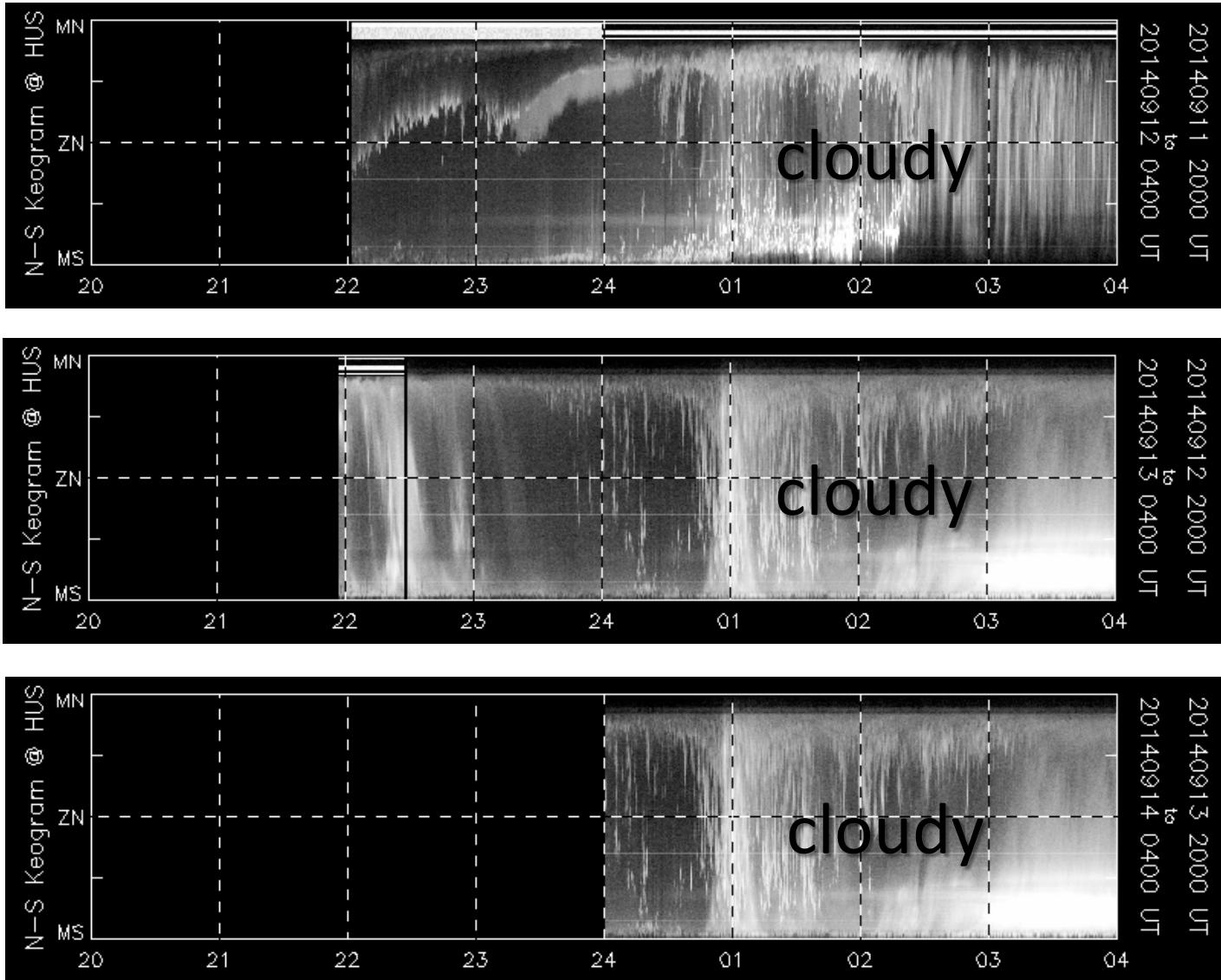


Syowa All-sky camera data Keogram September 12, 2014



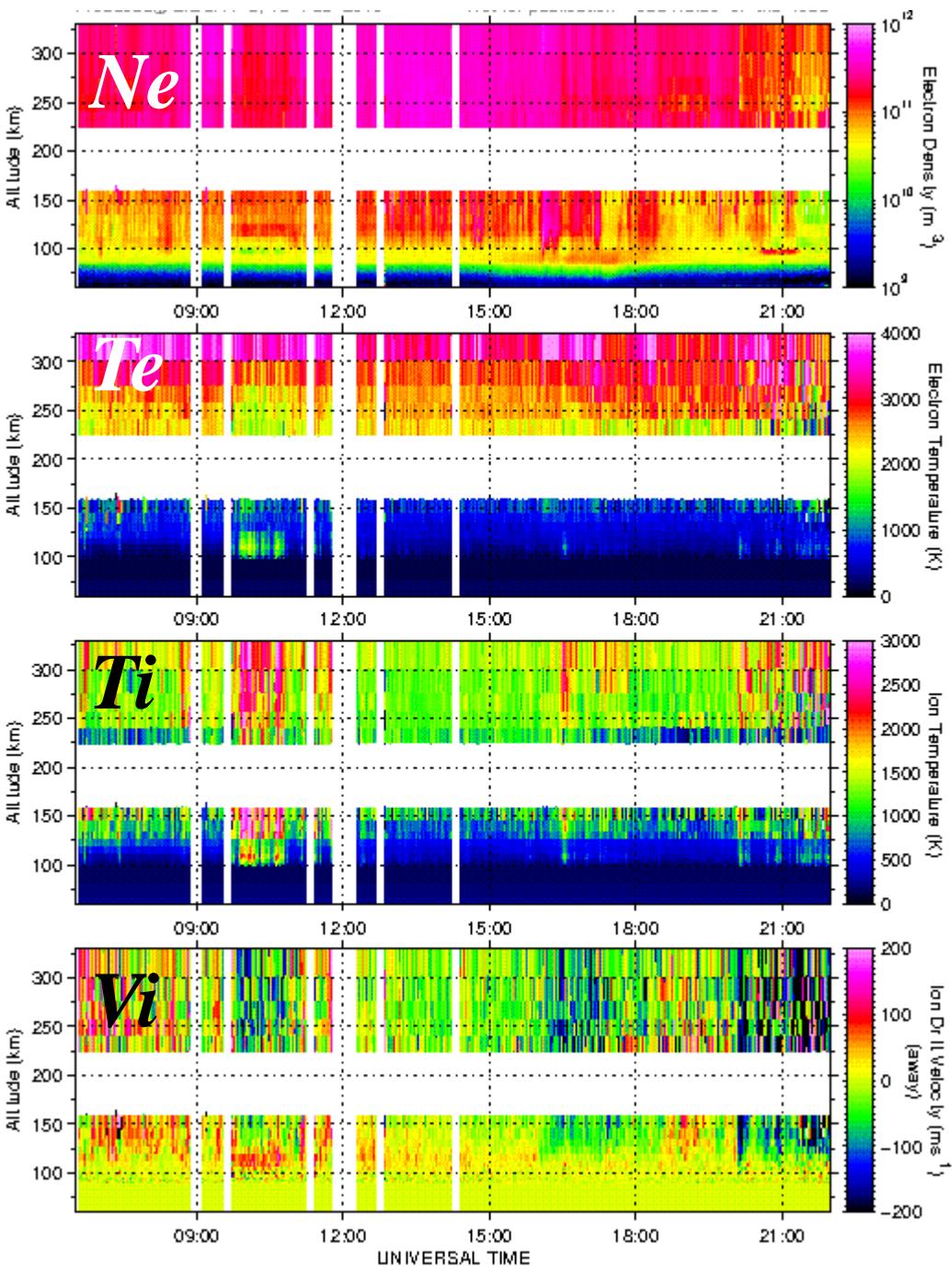
Iceland (Husafell) All-sky camera data Keogram

September
11-13, 2014



Results of EISCAT Svalbard radar data between 06 and 22 UT on September 12

- The radar pointed to the vertical
- High ion temperature due to strong electric fields seen between 10-11 UT
- Enhanced precipitation seen 16 UT

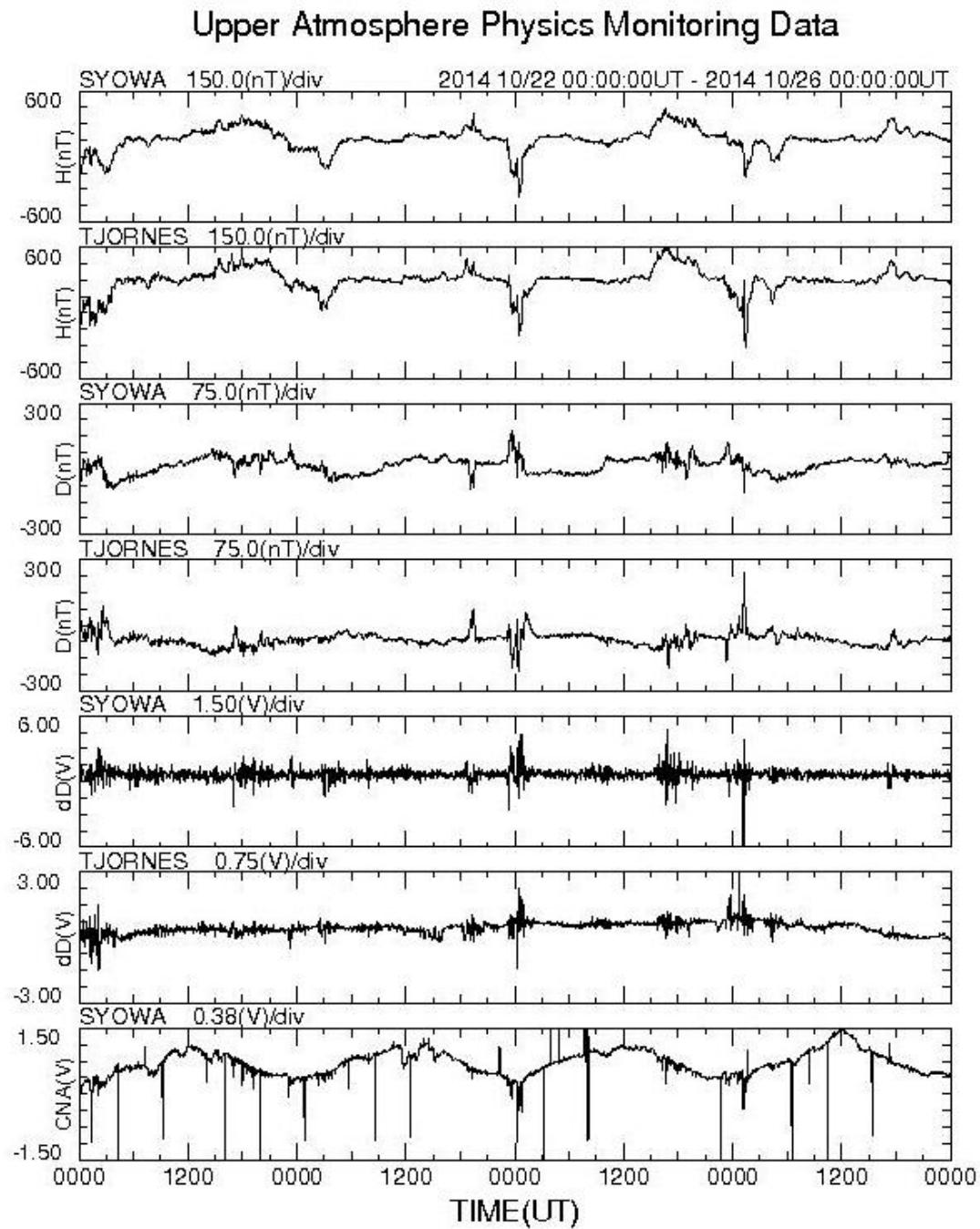


Oct 22-25, 2014

(no Syowa imager data)

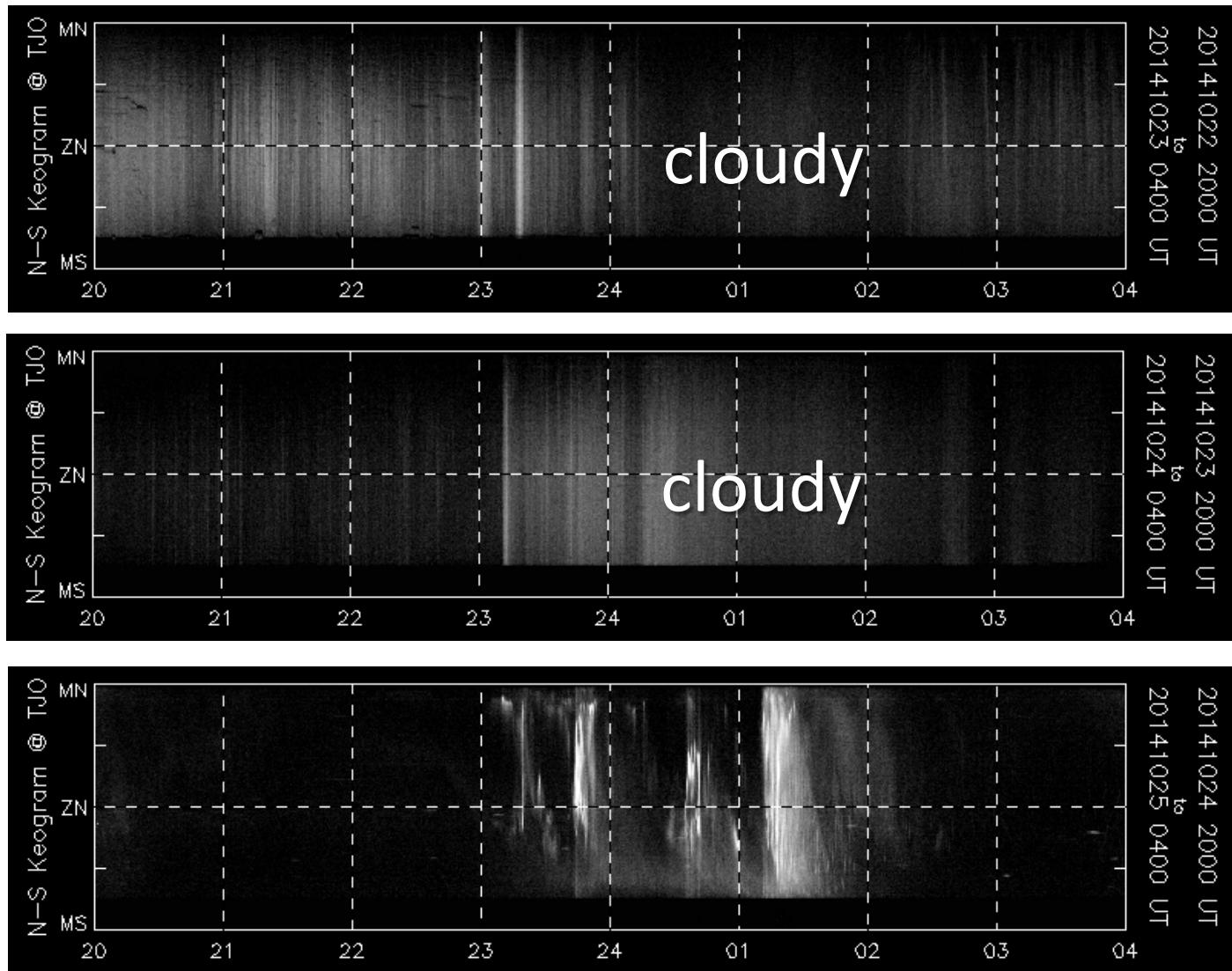
Syowa- Iceland
conjugate
observation
data
October
22-25, 2014

fluxgate
magnetometer,
Induction
magnetometer,
Riometer



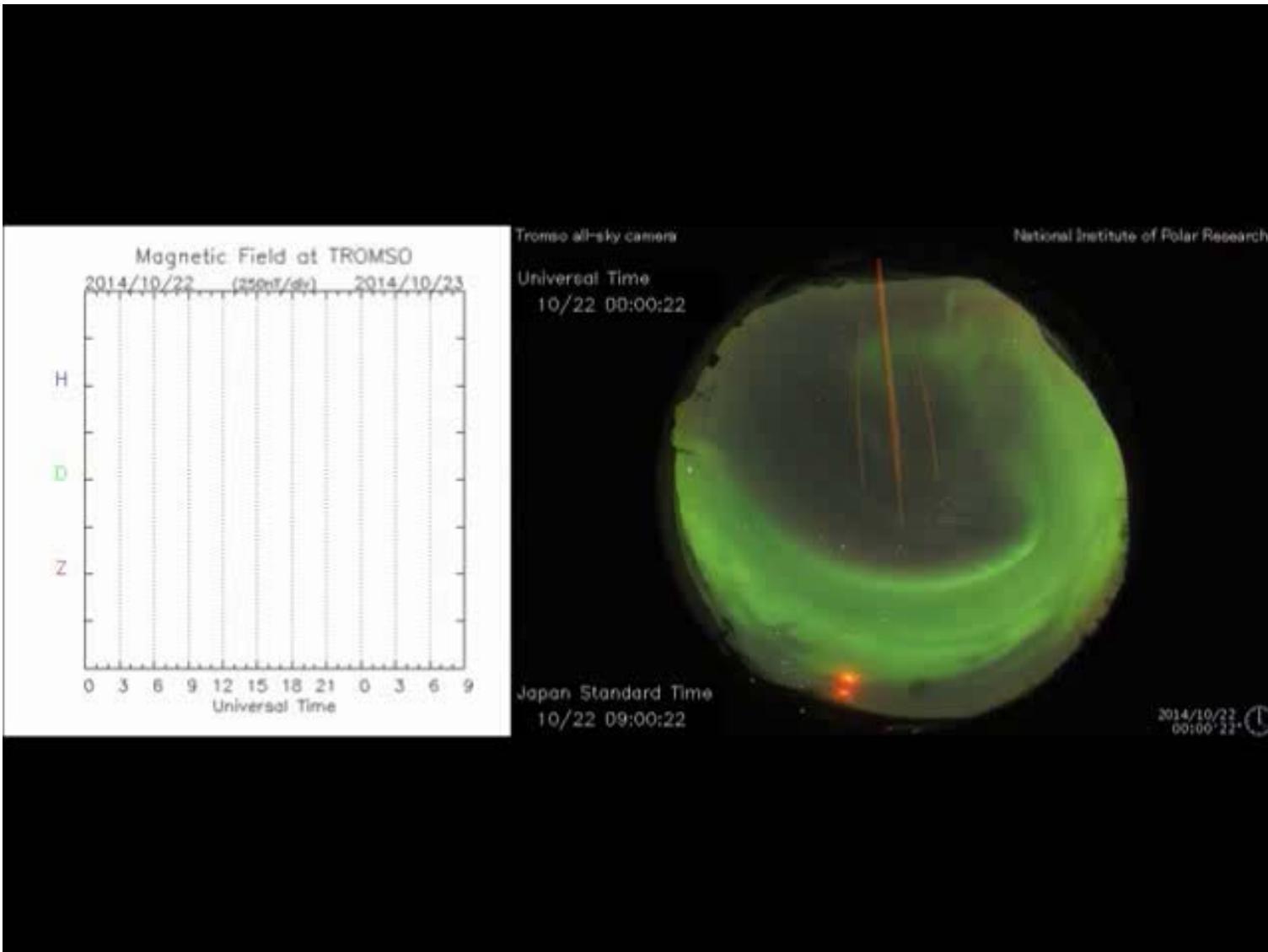
Iceland
(Tjornes)
All-sky
camera
data
Keogram

October
22-24, 2014



Tromso Color All-sky digital camera data

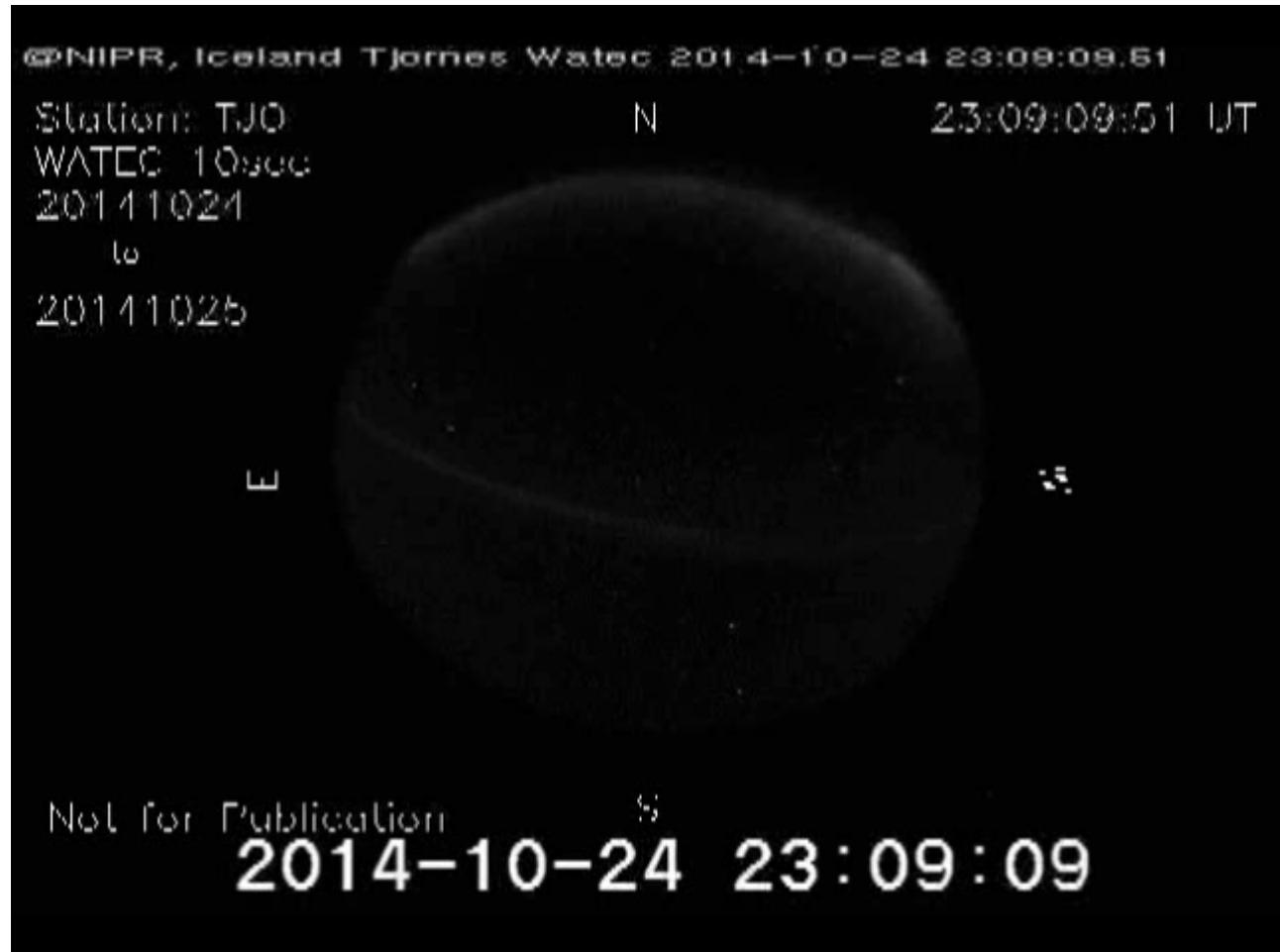
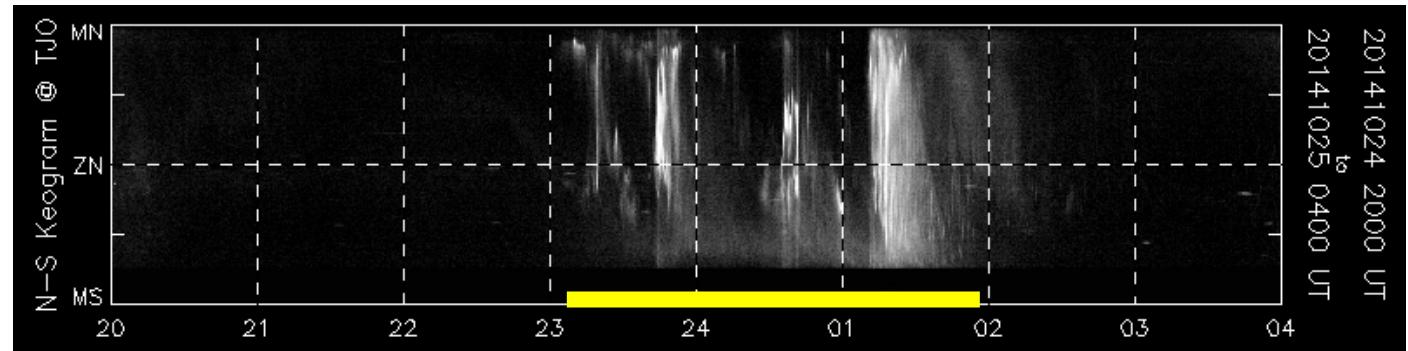
October 22, 2014, Pulsating aurora



Iceland (Tjornes) All-sky camera data Keogram

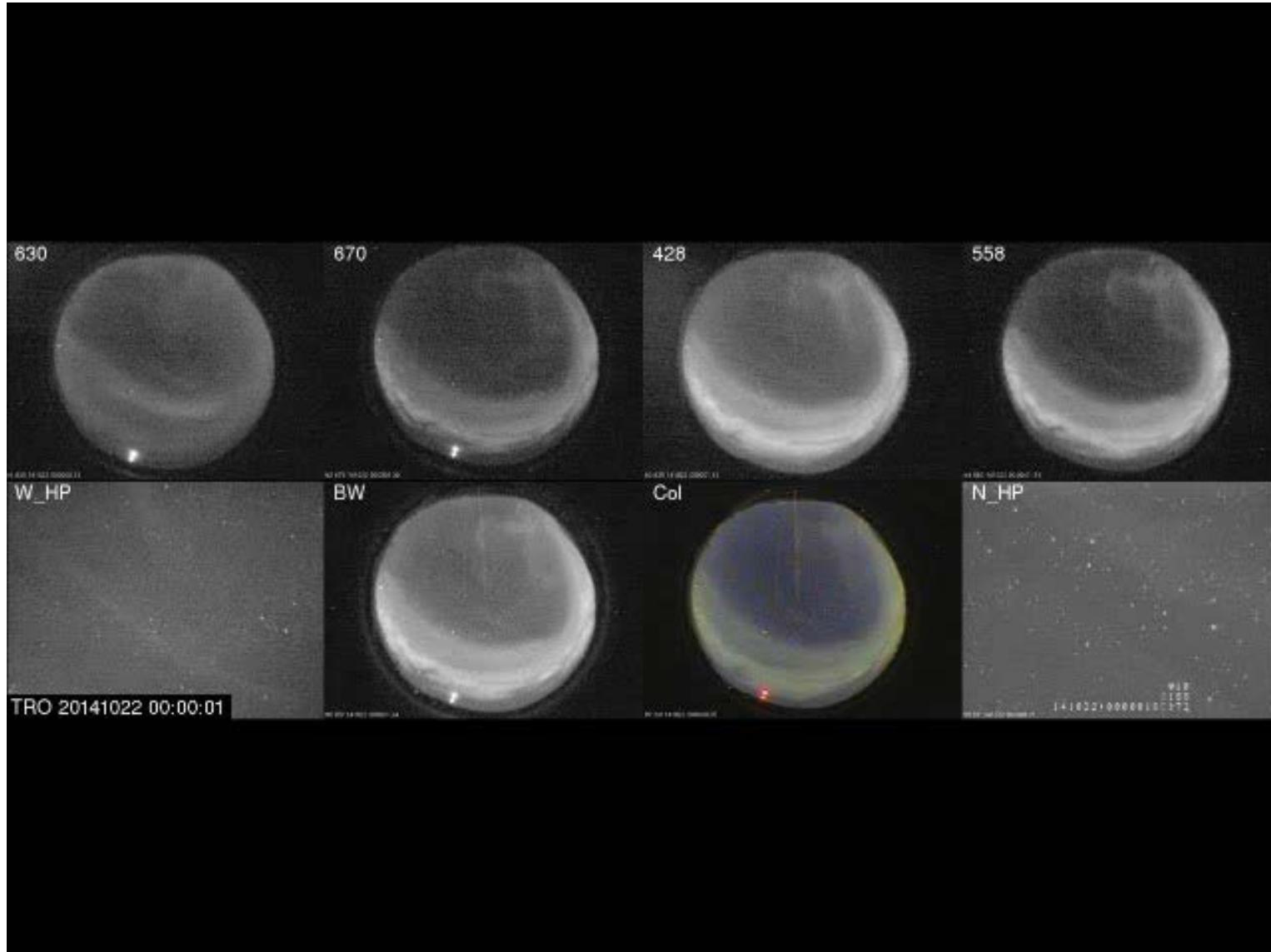
October
24-25, 2014

Poleward
expansion,
NS-aurora,
pulsating
aurora



Tromso Multi-color auroral imager system data

October 22, 2014, Pulsating aurora



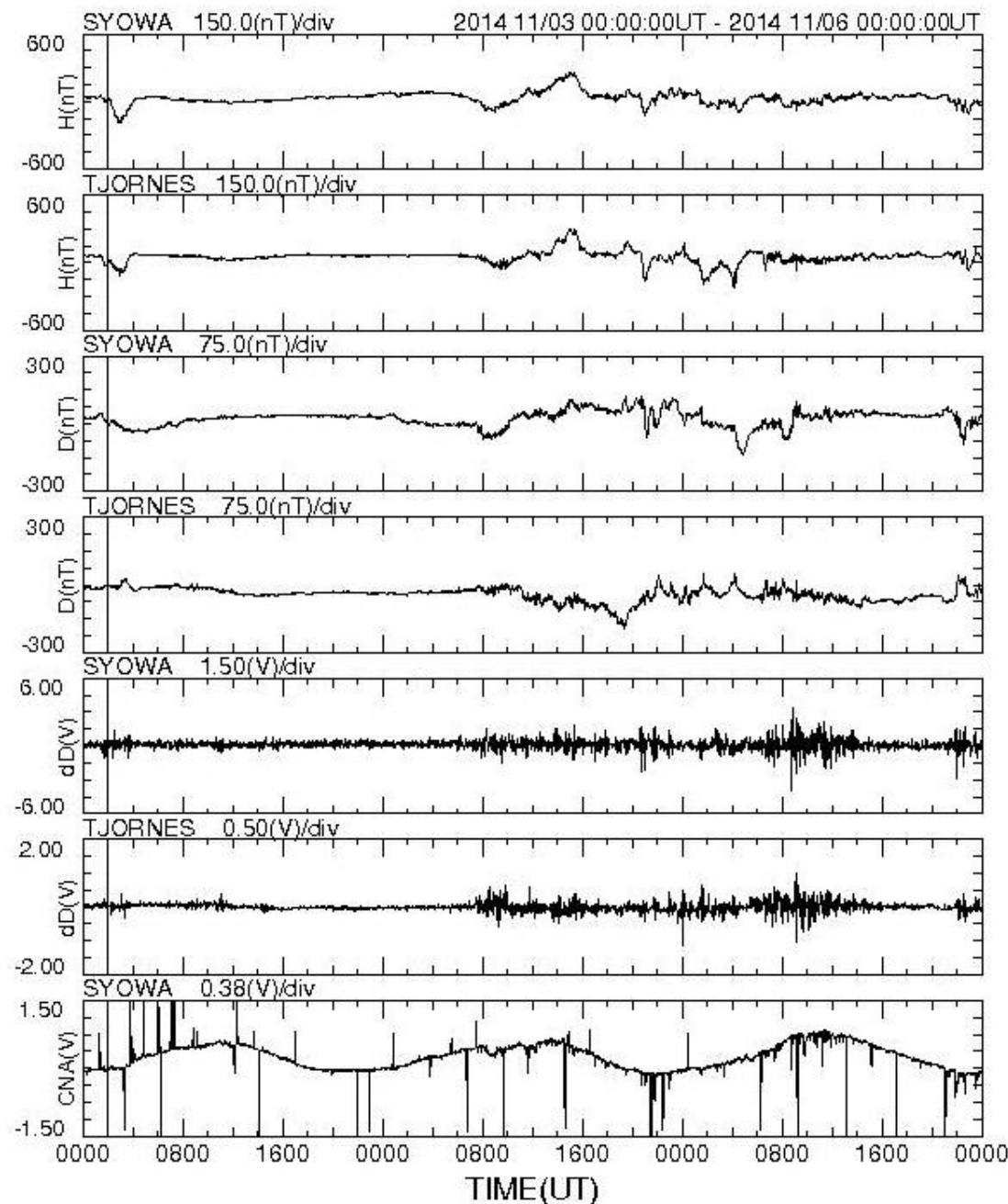
Nov 3-5, 2014

(no Syowa imager data)

Upper Atmosphere Physics Monitoring Data

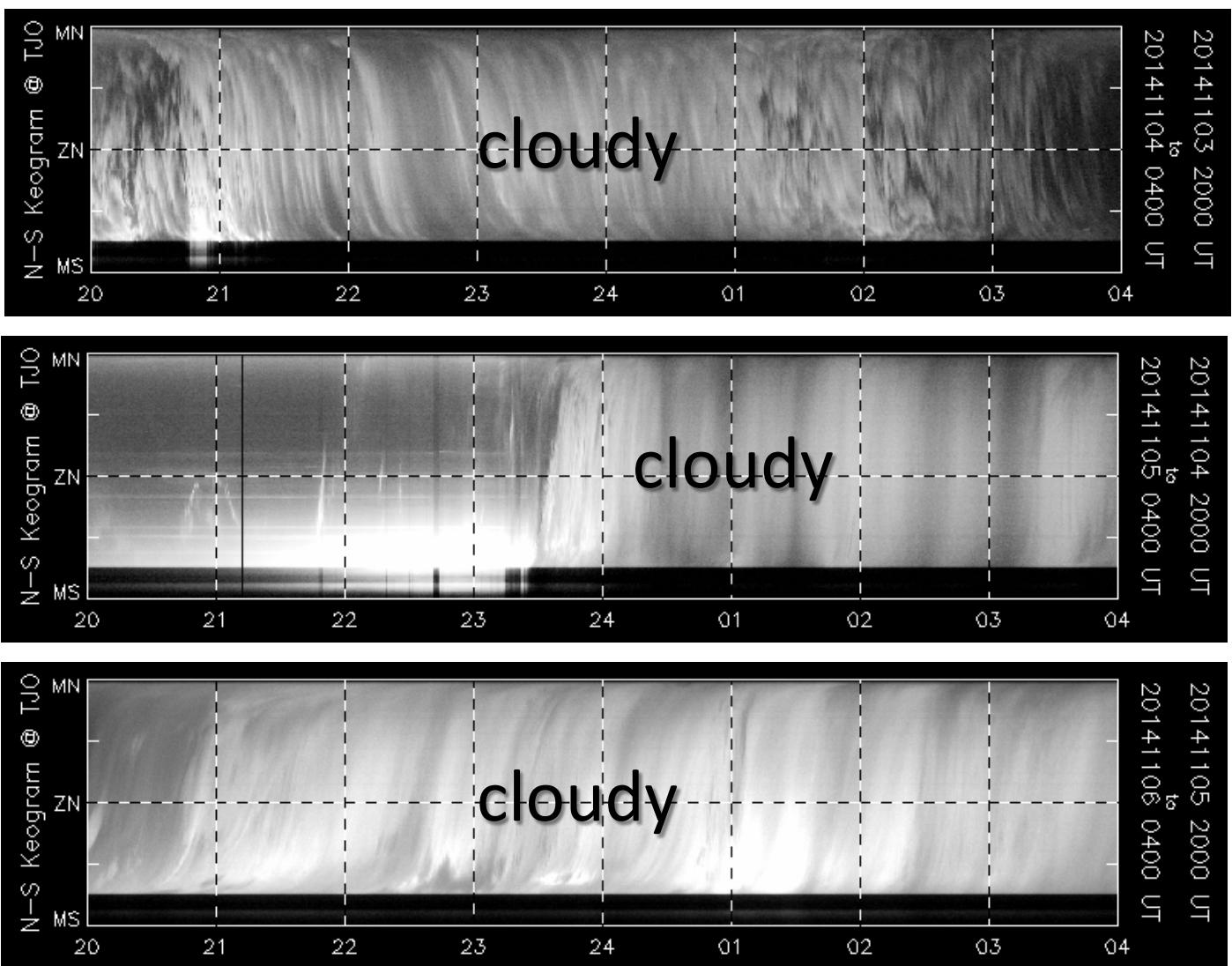
Syowa- Iceland
conjugate
observation
data
November
3-5, 2014

fluxgate
magnetometer,
Induction
magnetometer,
Riometer



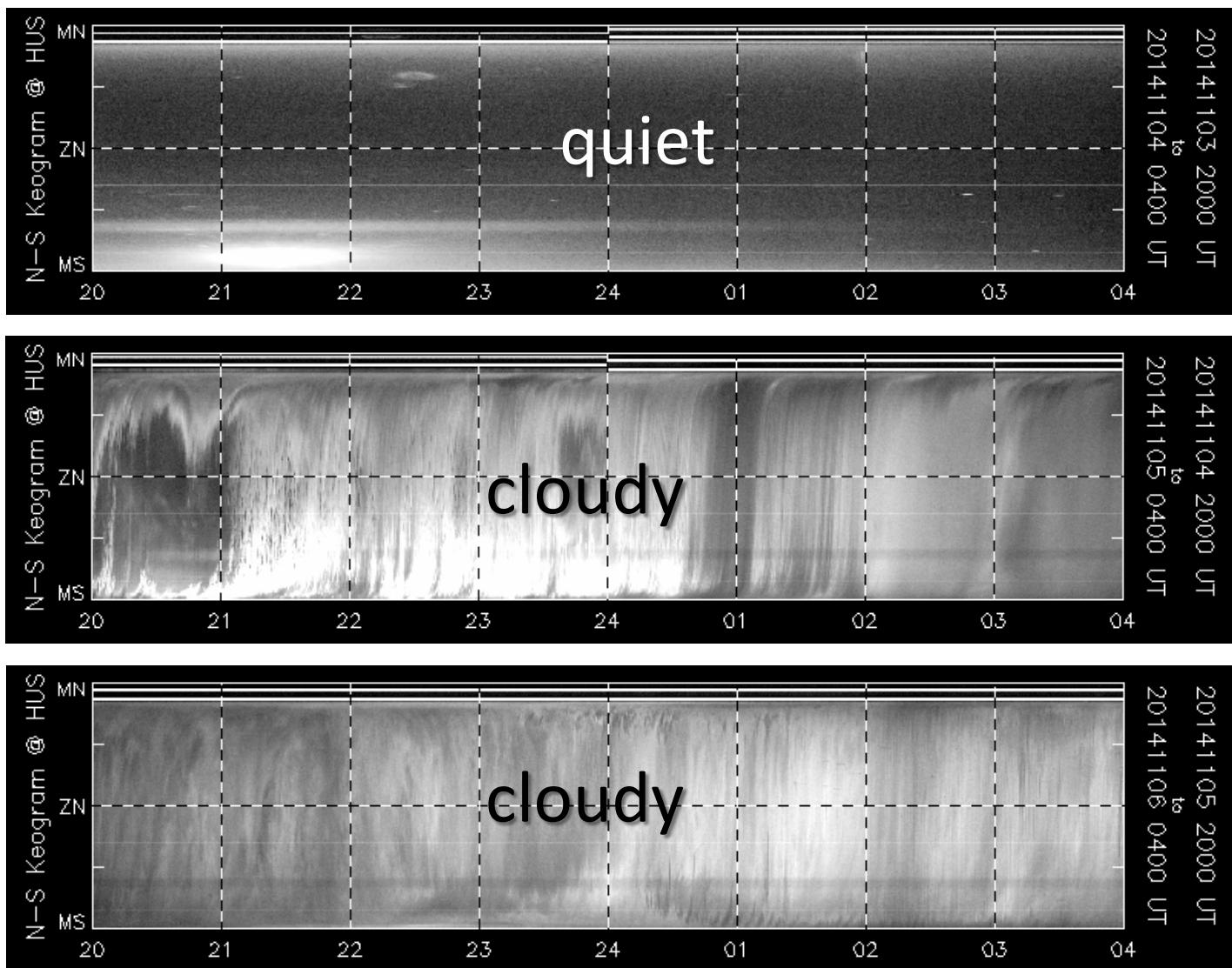
Iceland (Tjornes) All-sky camera data Keogram

November
3-5, 2014



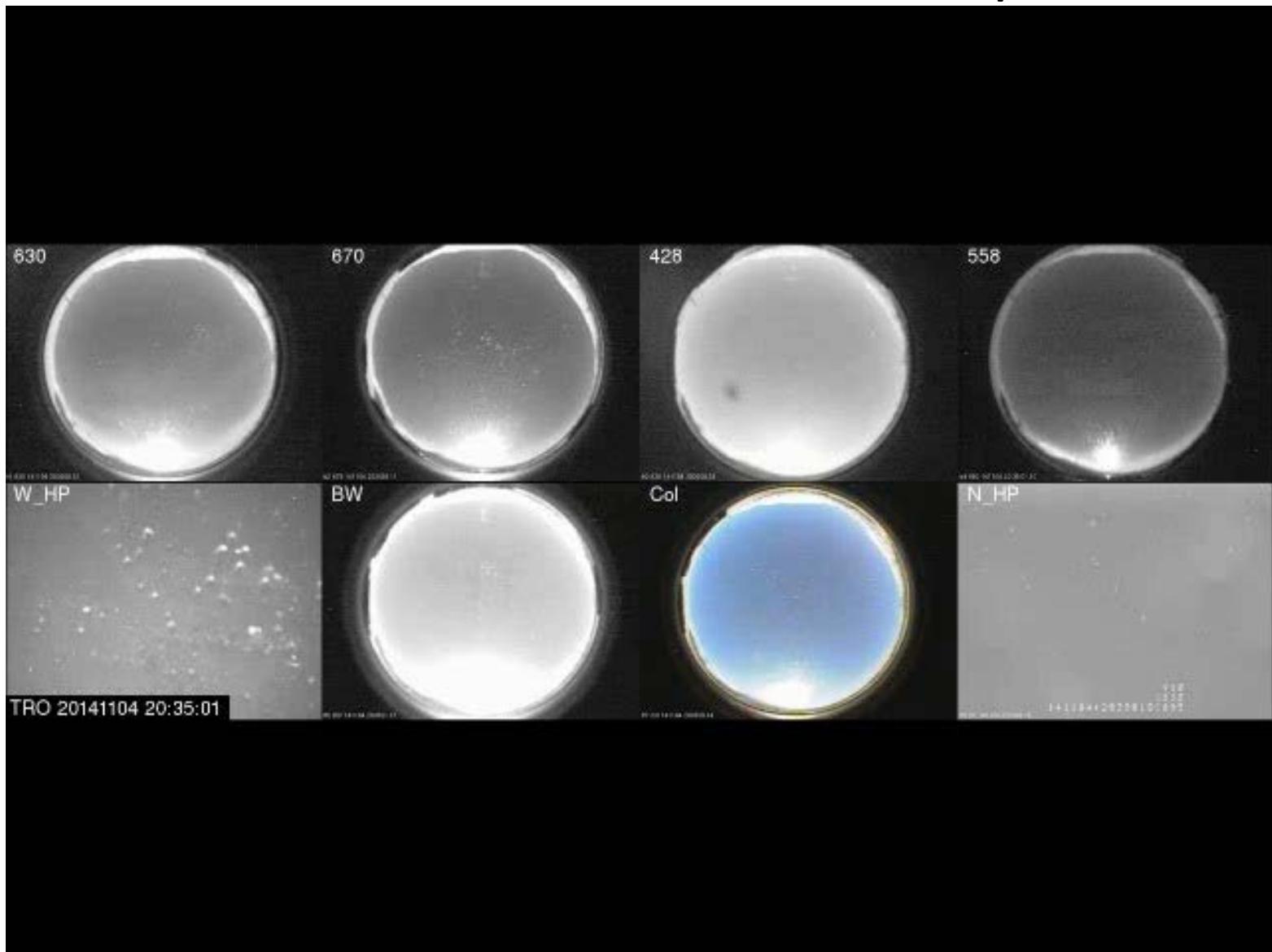
Iceland (Husafell) All-sky camera data Keogram

November
3-5, 2014



Tromso Multi-color auroral imager system data

November 4, 2014, Poleward expansion



Tromso Multi-color auroral imager system data

November 5, 2014, Pulsating aurora

