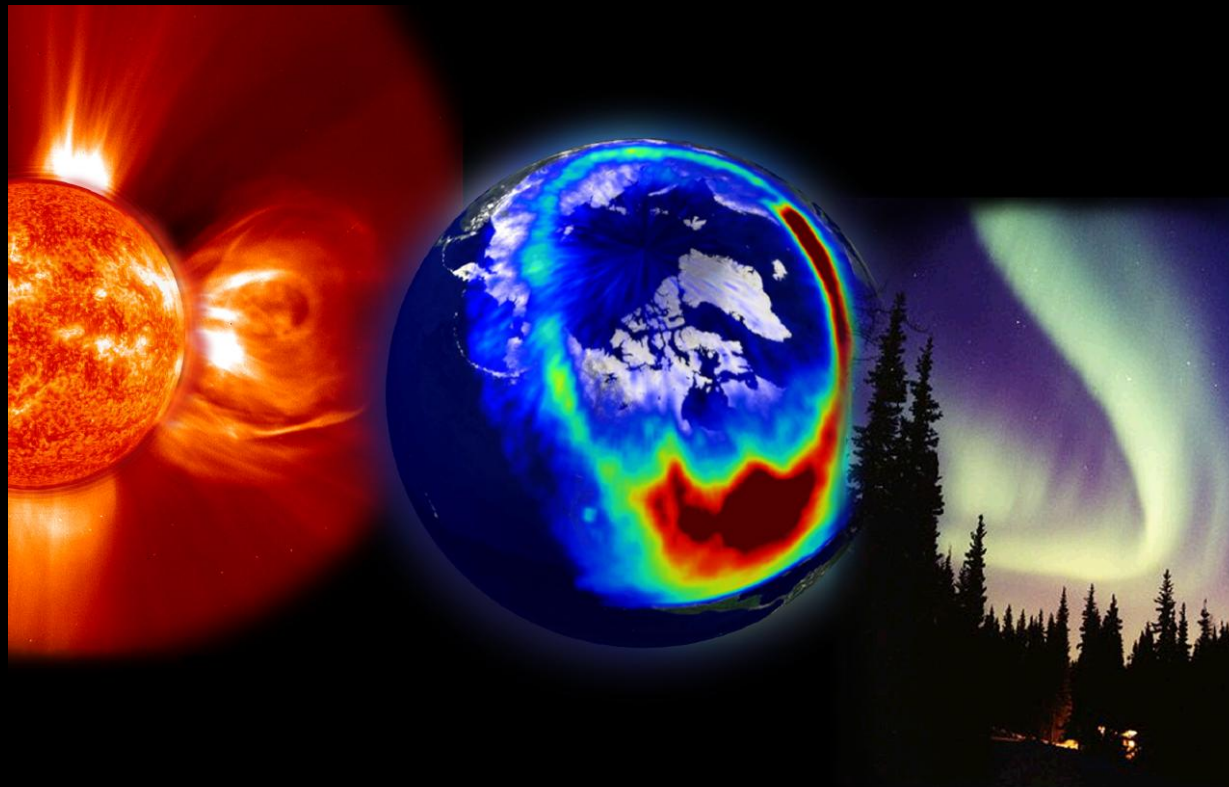


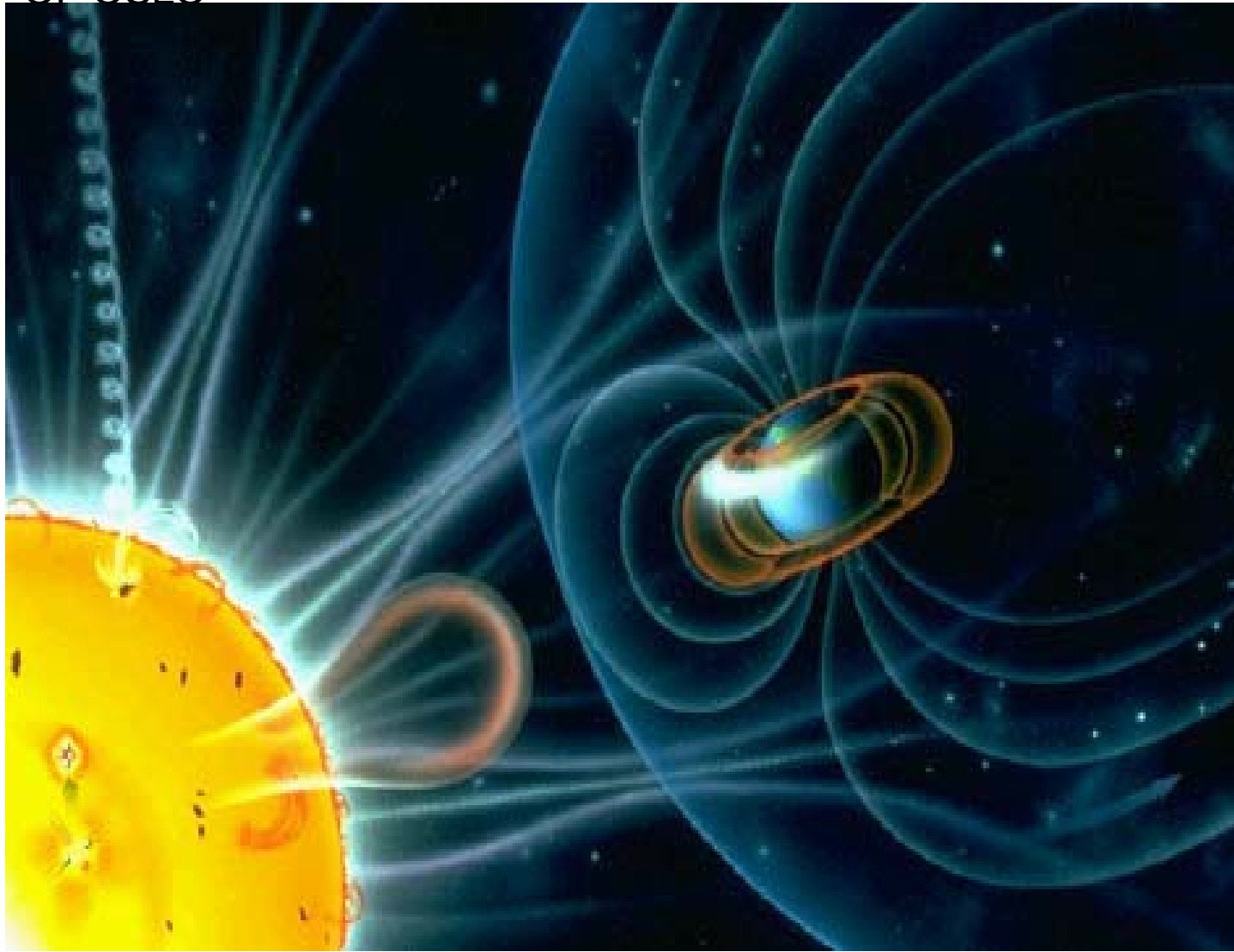
FYS 3610 – Space Physics

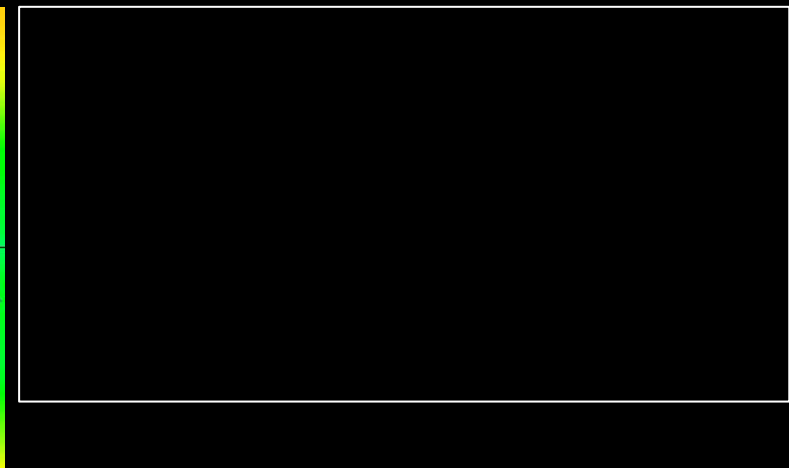
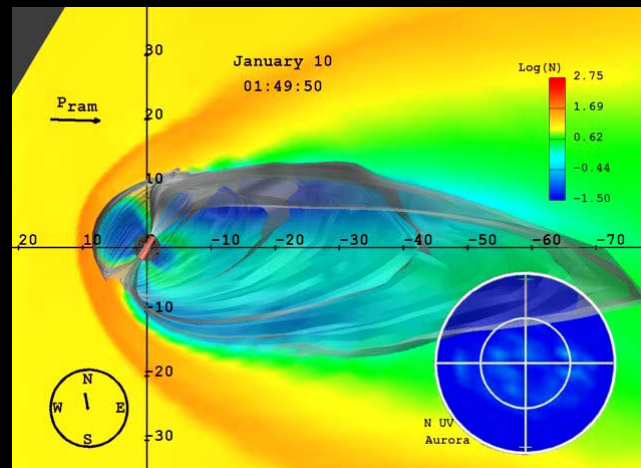
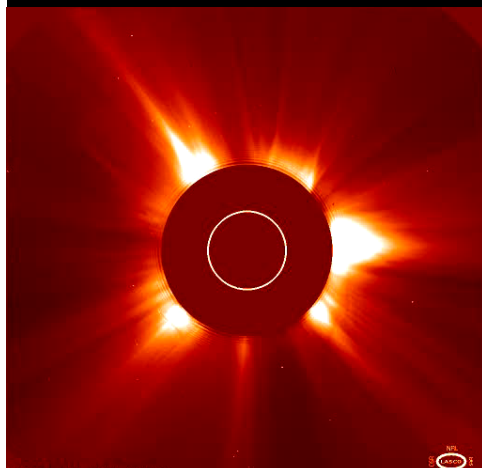
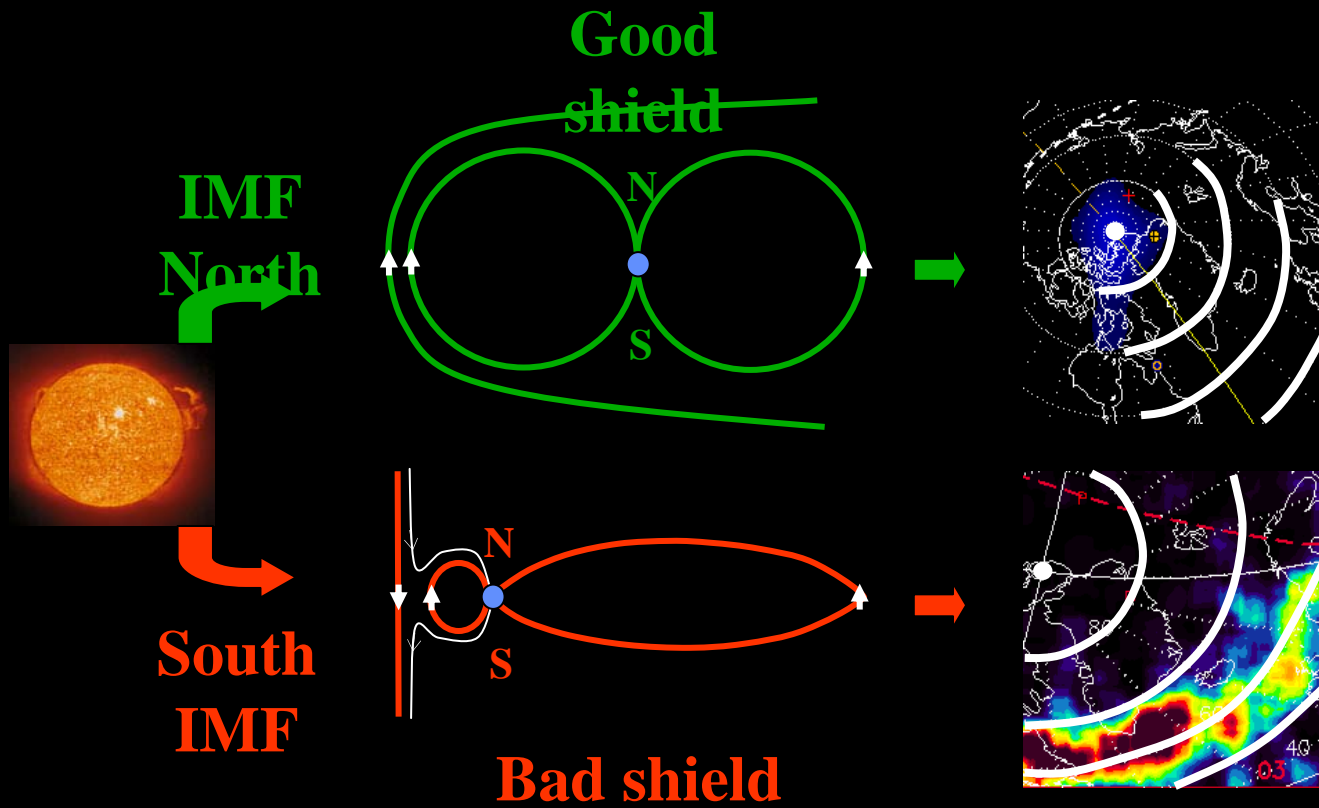
Aurora Borealis





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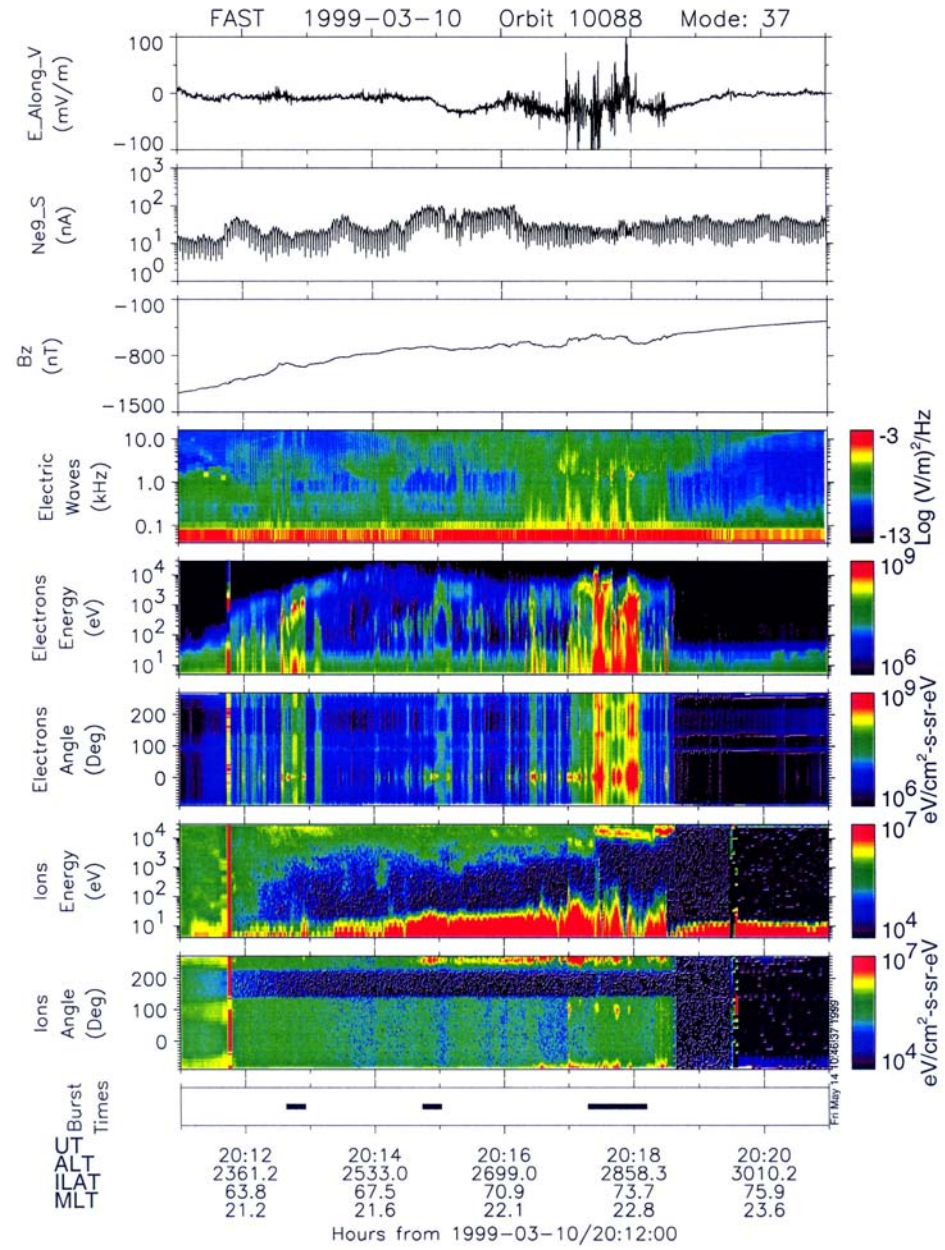
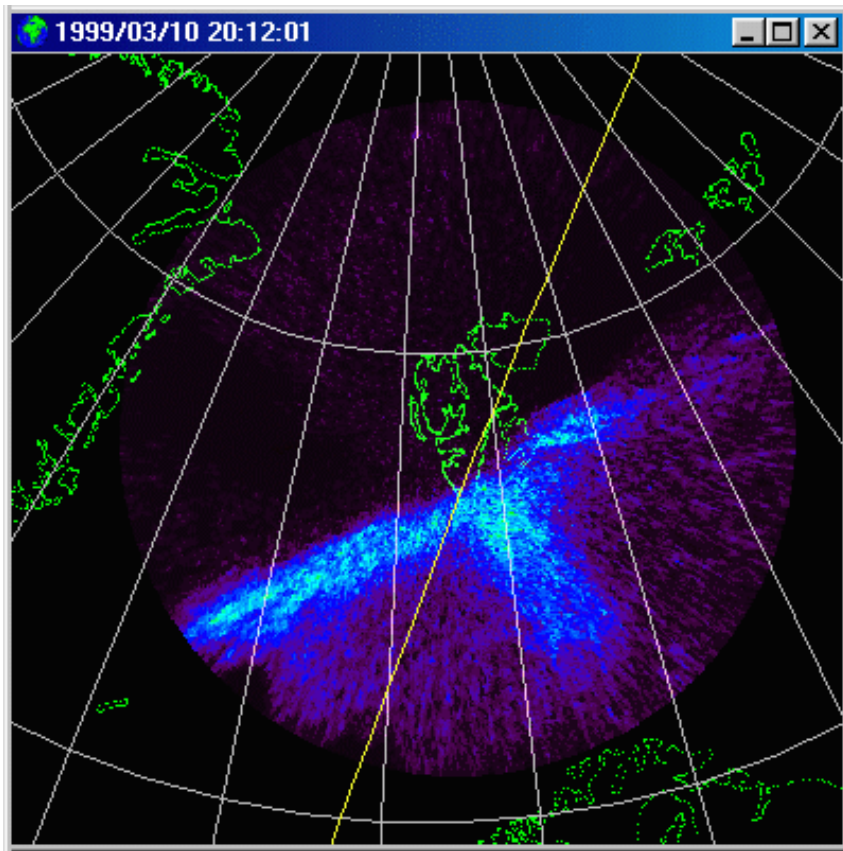




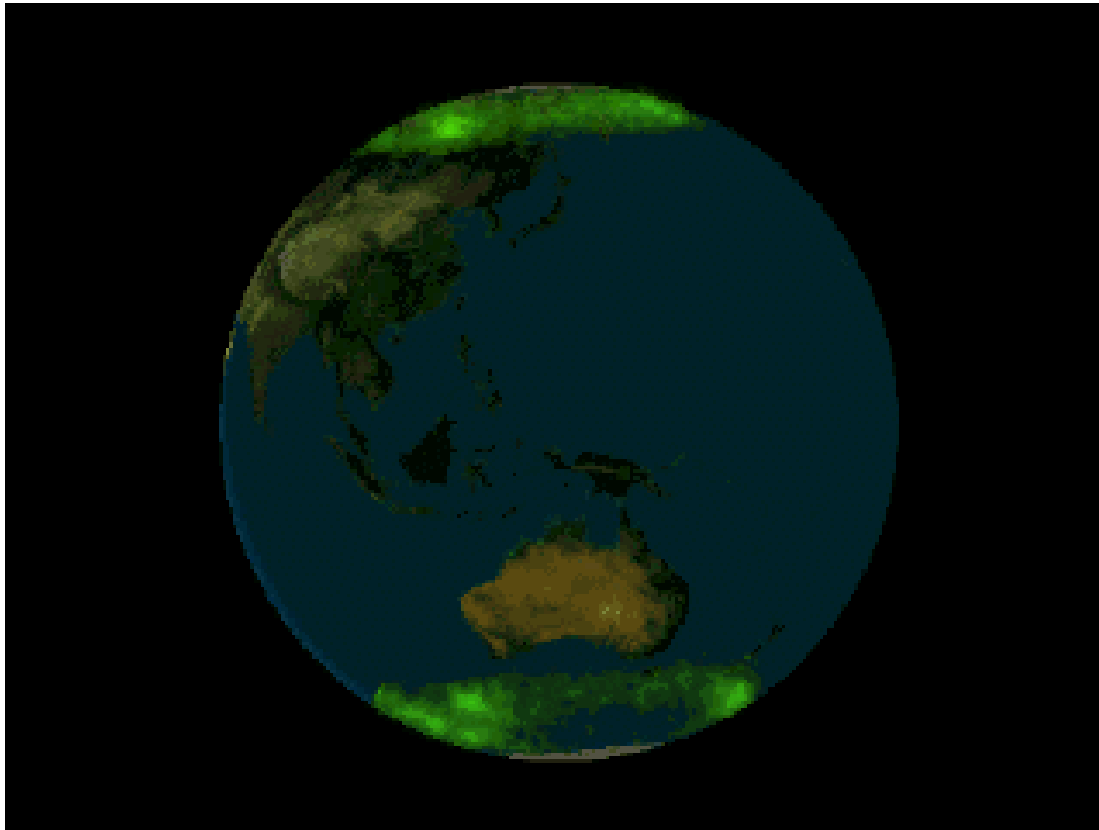




FAST – cutting through the Aurora

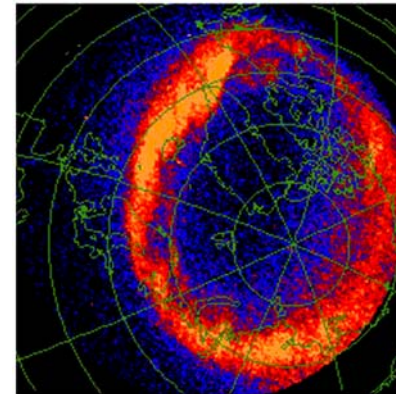


Aurora Borealis – Aurora Australis

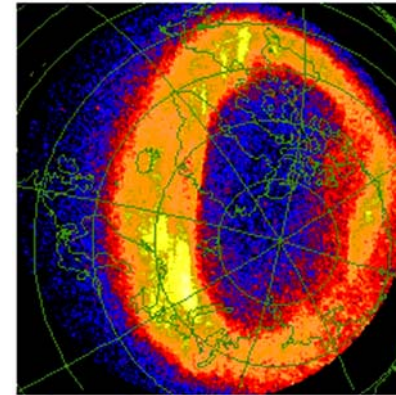


UVI/Polar

980924 23:28:47 UT

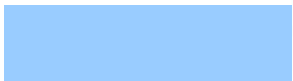
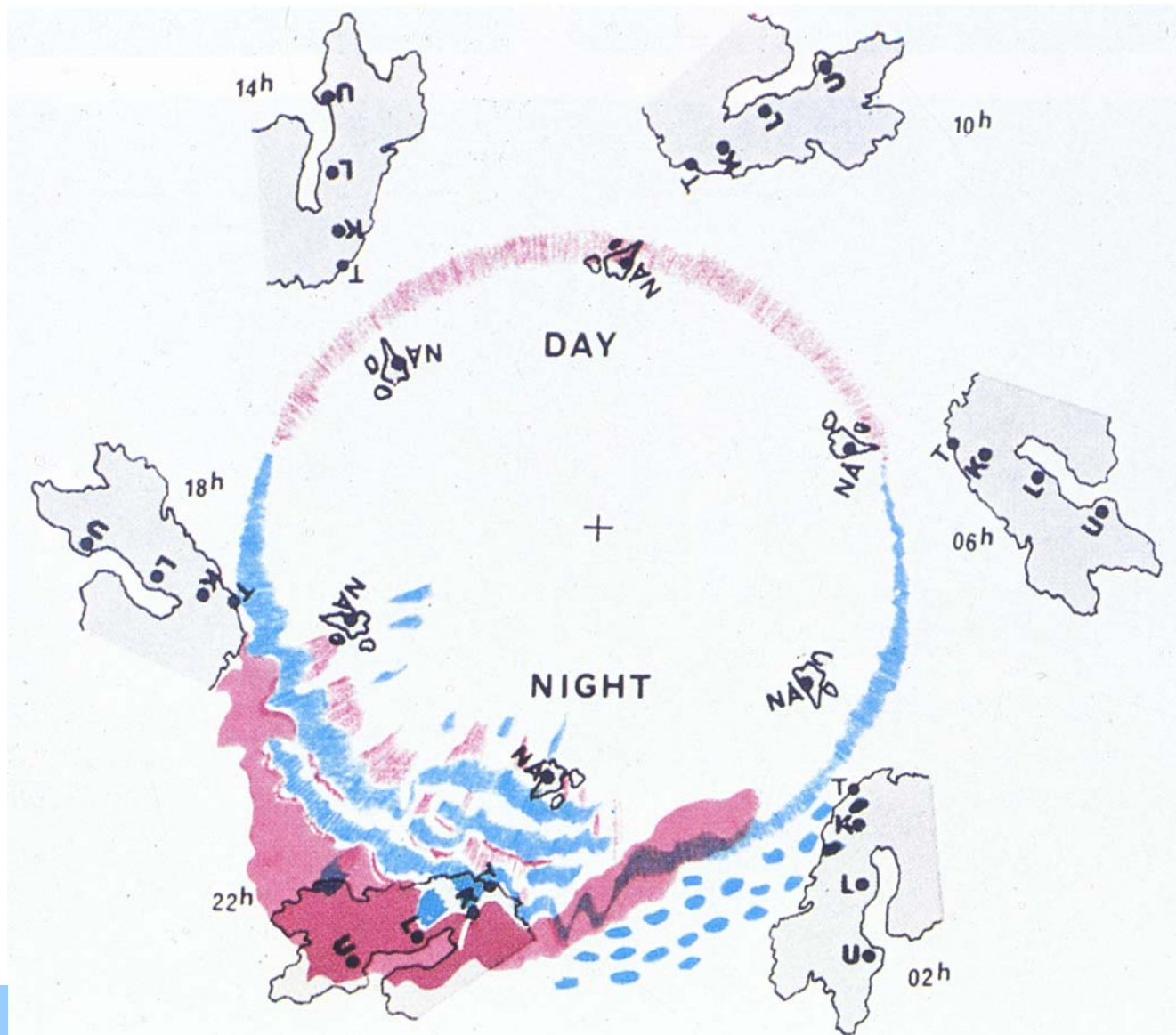


980924 23:57:37 UT



ergs/cm²/s
1 10 100

The Earth rotates underneath the auroral oval

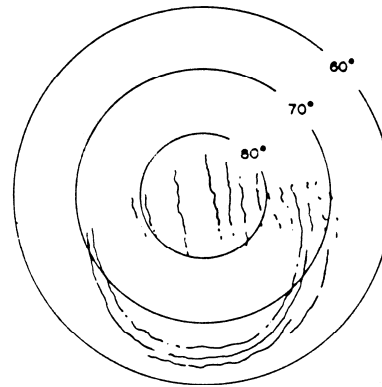


DYNAMICS IN THE AURORA

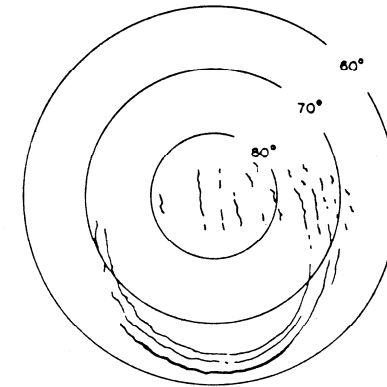


Fairbanks, Alaska

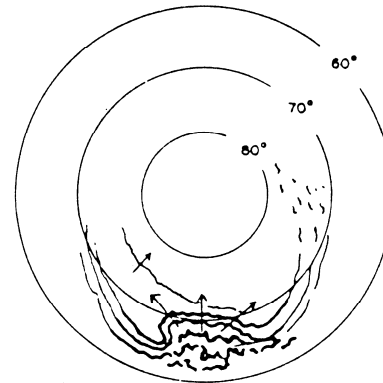
The Substorm Phases



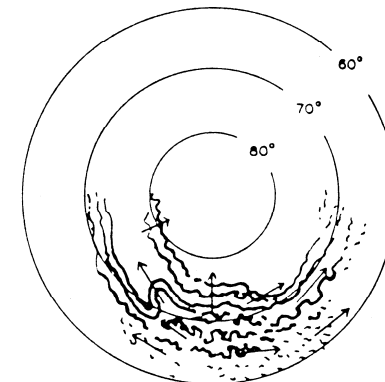
T=0



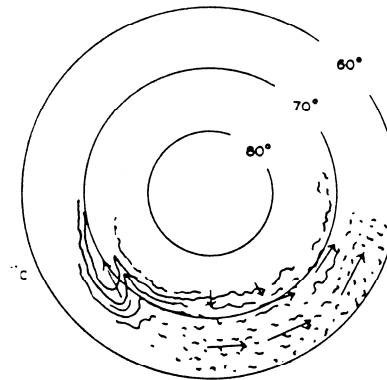
T=0-5 min



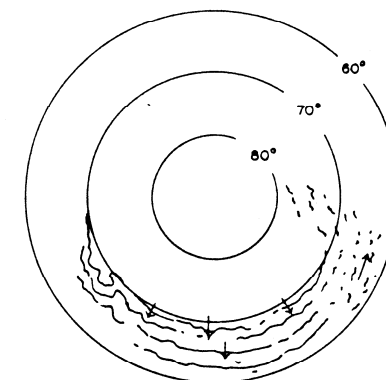
T=5-10 min



T=10-30 min

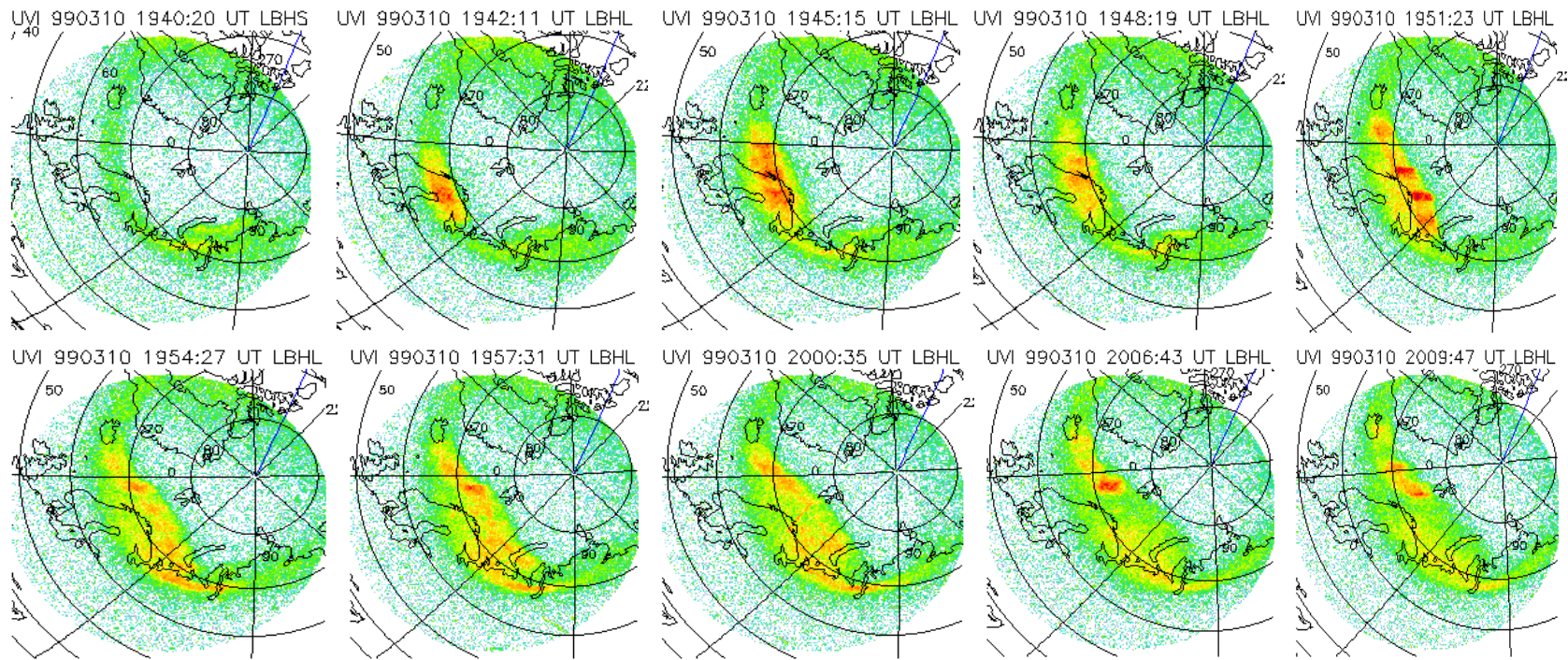


T=30-60 min



T=1-2 hours $\frac{3 \text{ HR}}{\text{A}}$

Dynamics of the substorm expansion phase



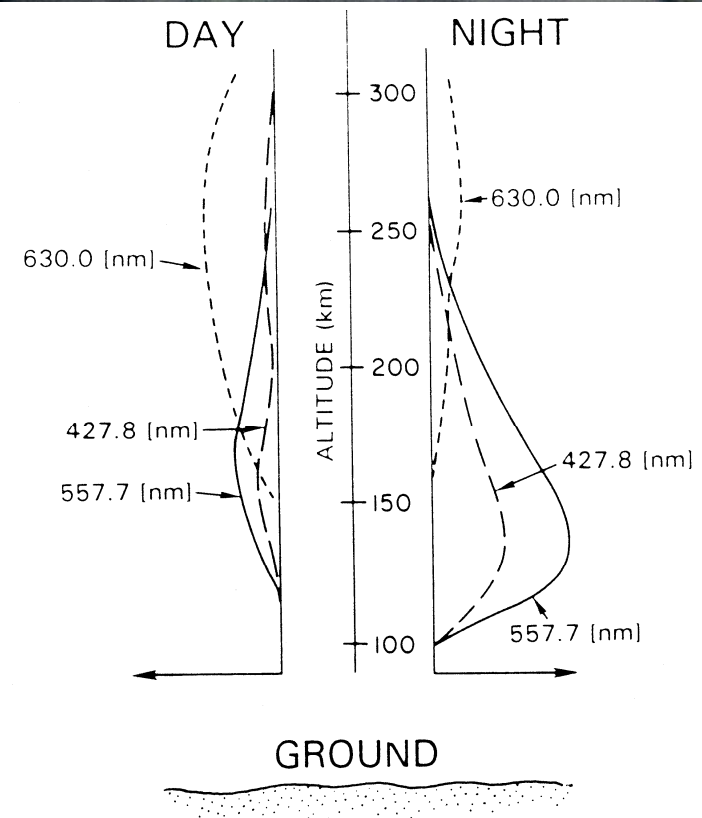
Colours in the aurora

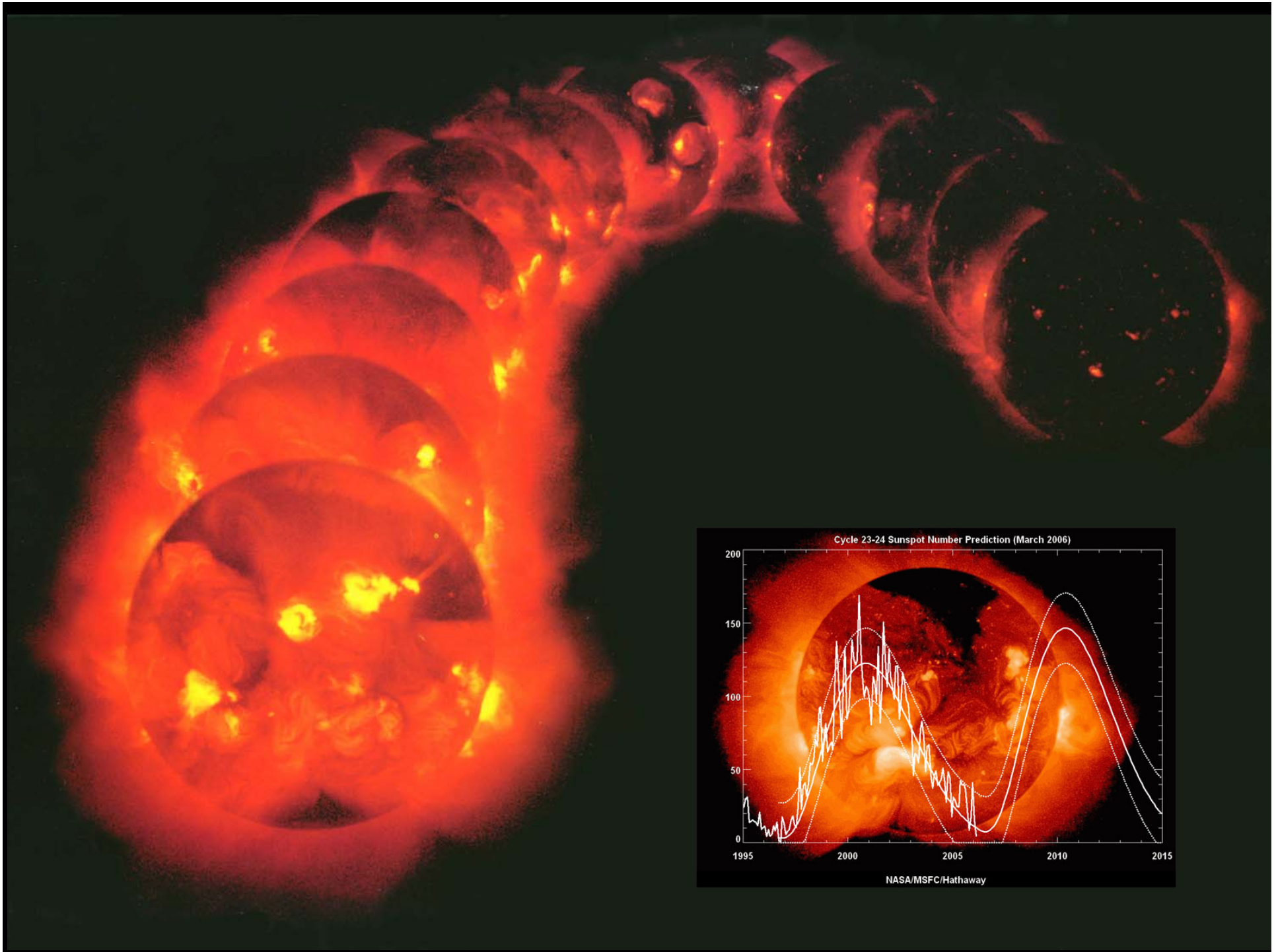


630.0 nm – red upper border
Atomic oxygen: 1D - 1S transition

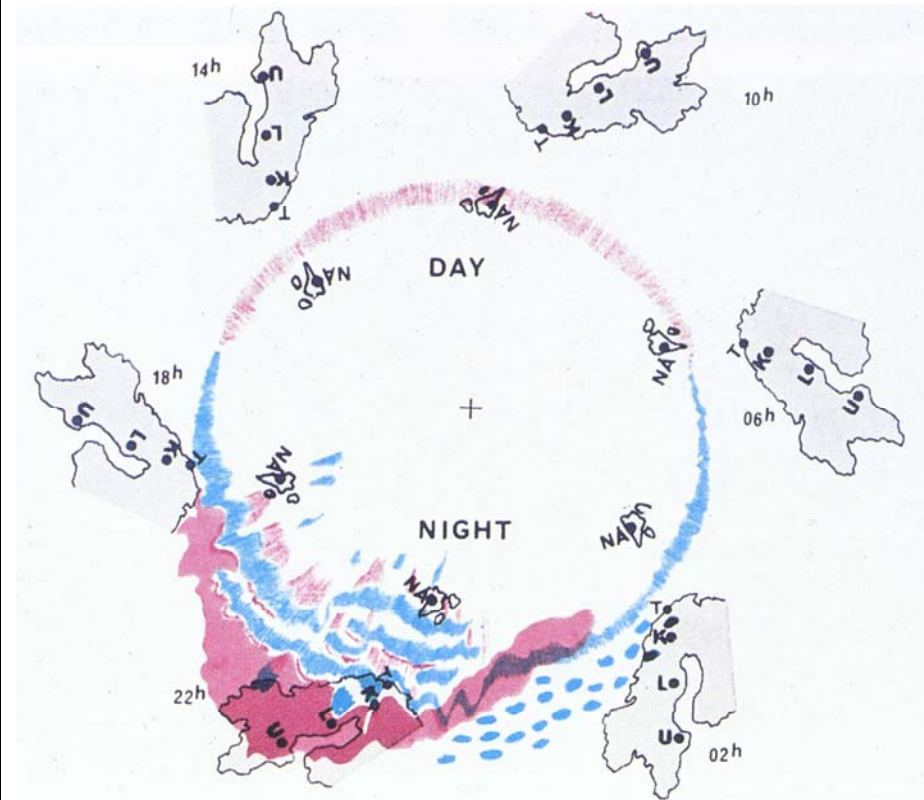
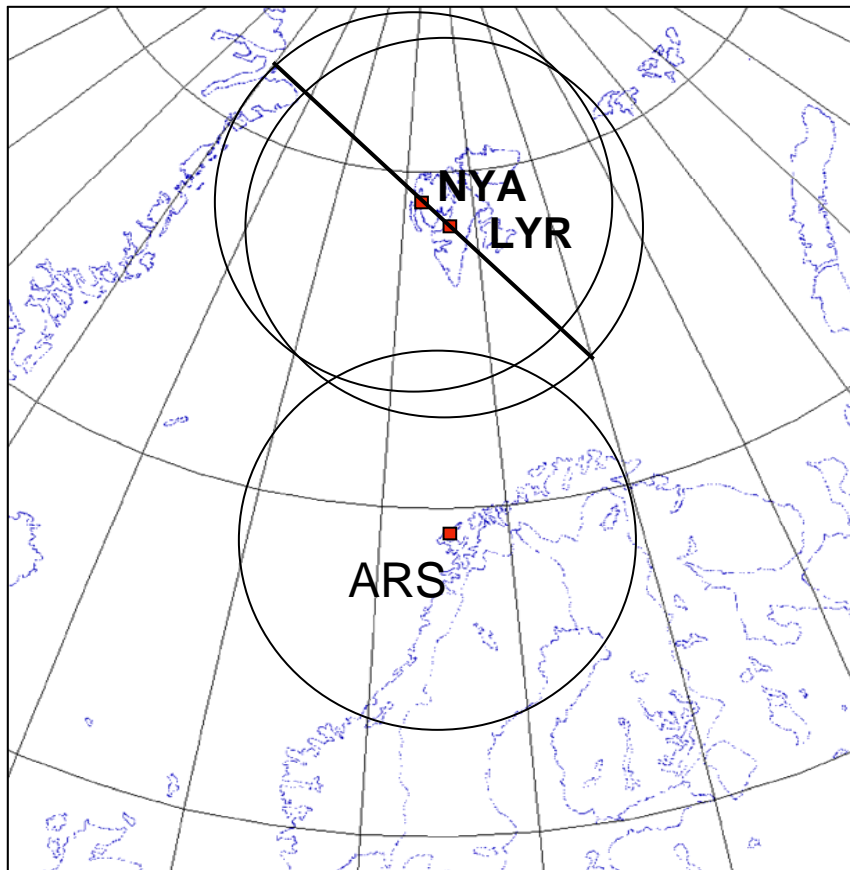
557.7 nm – green
Atomic oxygen : 1D - 3P transition

427.8 nm – magenta bottom border
 N_2^+ - 1st negative band





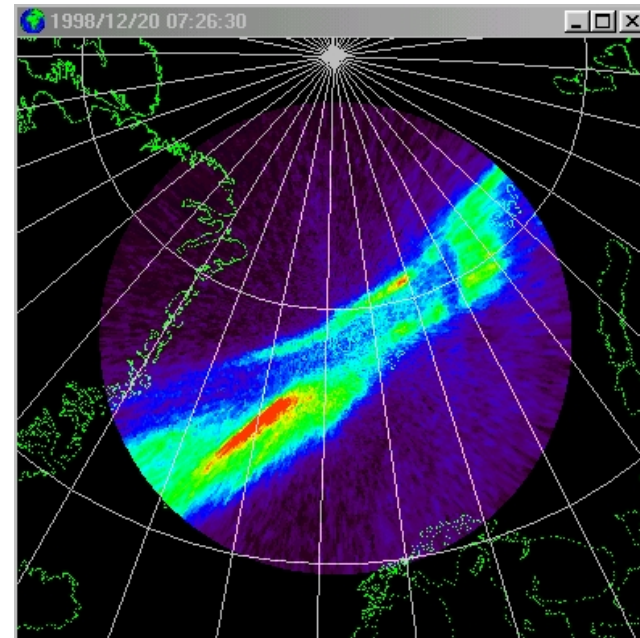
UiO All-Sky fields of view



The Uniqueness about Svalbard:



Ny-Ålesund Auroral Platform



Key instruments:

- Meridian Scanning Photometer – 4 channels
- All-Sky Camera (5 positions filter wheel)

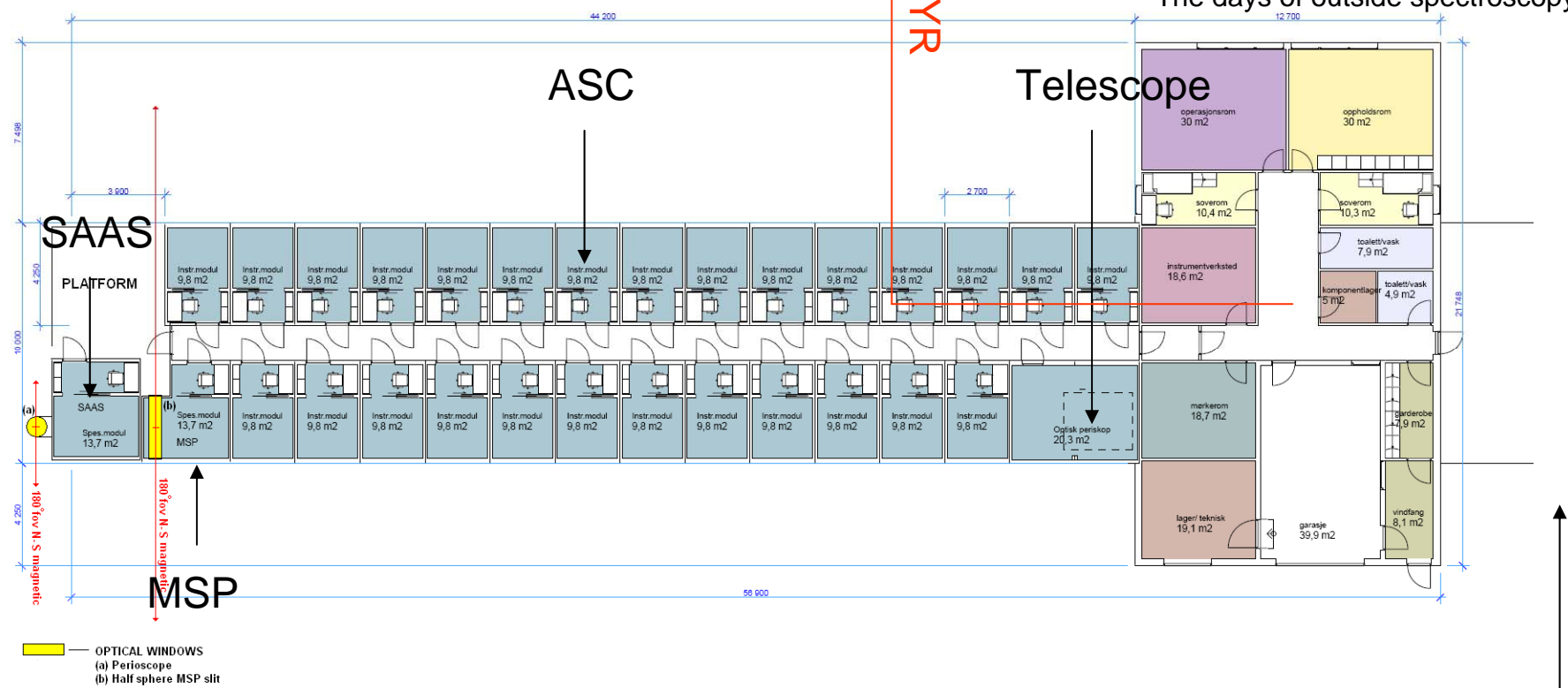


THE KJELL HENRIKSEN OBSERVATORY

DATA FIBER LYR



The days of outside spectroscopy



**NB! 15 out of 32 domes will be used after moving instruments from Adventdalen.
The instrumental rent per dome will be kept on the same level as on the old station.**

- SAAS** – 1m Ebert – Fastie Spectrometer.
- ASC** – All Sky Camera.
- MSP** – Meridian Scanning Photometers.

PLATFORM

EISCAT Scientific Association

3 Incoherent Scatter Radar Systems:

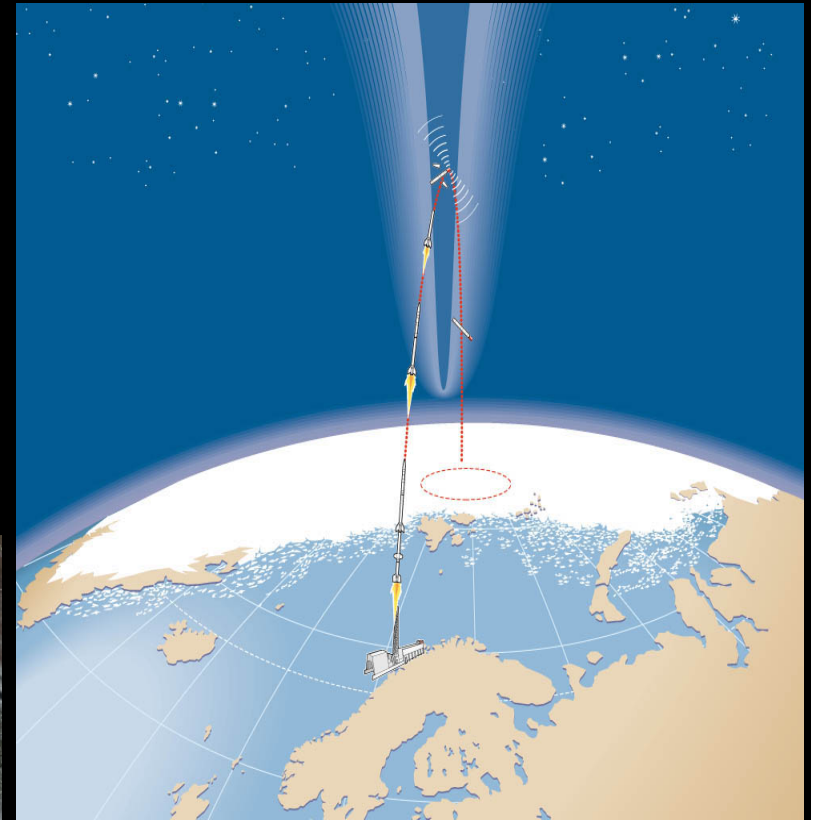
- Tromsø UHF (933 MHz) - 3-static with receivers at Kiruna and Sodankylä
- Tromsø VHF (224 MHz)
- Eiscat Svalbard Radar - dual antenna system (500 MHz)

Associated countries:

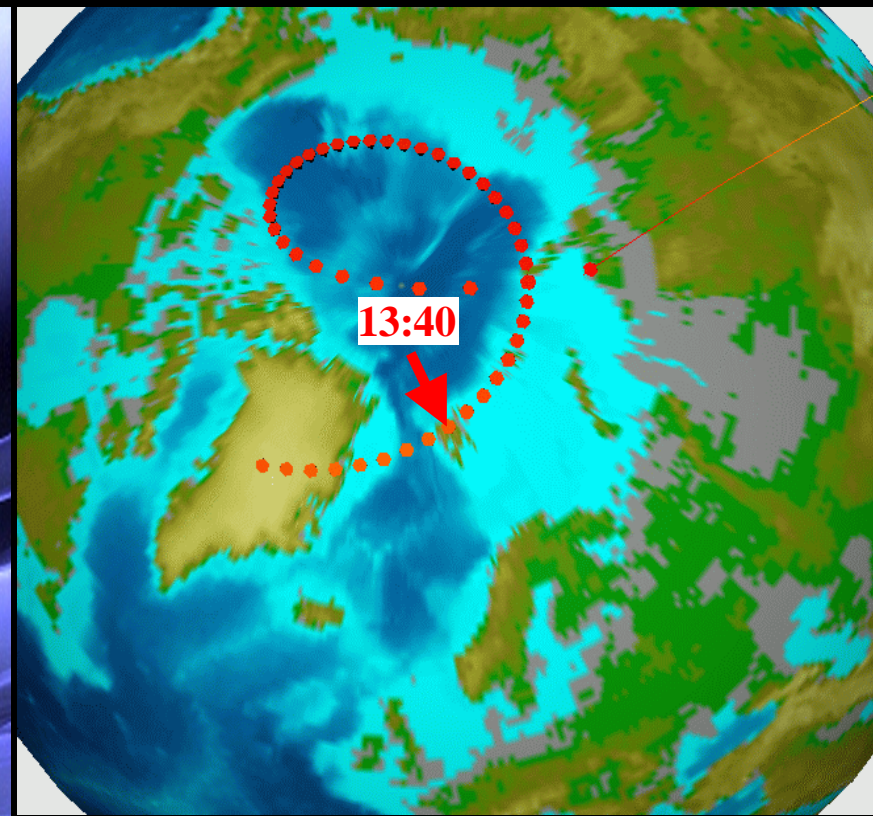
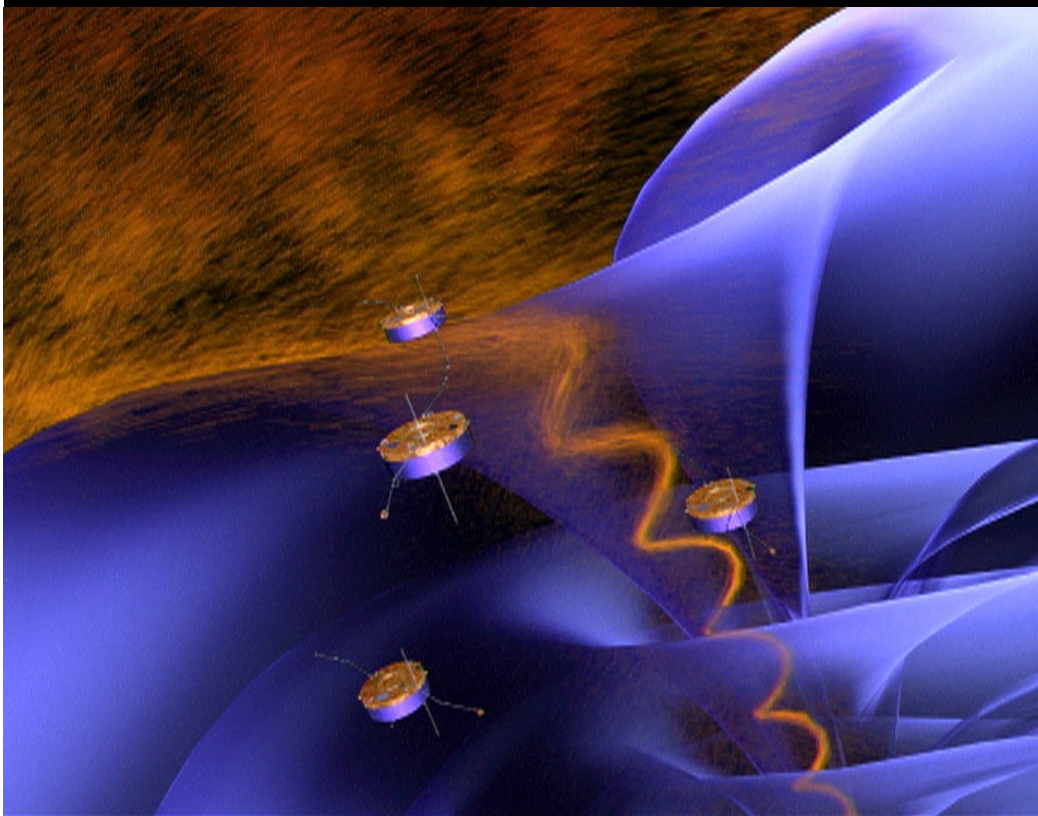
UK, Germany, Finland, Japan,
Norway, Sweden, China



Andøya Rocket Range and SVALRAK



ESA CLUSER SATELLITES



UNIS - The University Centre in Svalbard
You might want to study there!

