

**Title: Spectral observations of aurora and airglow
at Longyearbyen**

Field leader: Yasunobu Ogawa

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Programme: International collaborative studies on the arctic upper/middle atmosphere using the EISCAT radars and ground-based measurements

Principal Investigator: Hiroshi Miyaoka

Proj. Period: 2010 - 2015

Institution: National Institute of Polar Research

Co-research Institution & Scientist (out of JPN): UNIS, F. Sigernes

Field activity planned for 2013

Invest. Area: Longyearbyen, Svalbard, Norway

Latitude and longitude: GEO:78.148N, 16.043E, ALTITUDE: 520 m

Field Period: October - March

Logistics: Auroral spectrograph

Description:

[purpose] Studies on how the auroral and airglow spectra change both spatially and temporally with respect to changes in the upper atmospheric environment.

[outline] The auroral spectrograph consists of a large fish-eye lens (180-degree FOV, f=6 mm, F1.4), a slit which passes the light from the sky along meridian direction, a collimating optics, a grism with 600 gr/mm, an imaging optics, and a digital camera with a bare, back-illuminated CCD chip of 512 x 512 pixels. The spectrograph covers a wavelength of 420-740 nm with spectral bandwidth of 0.6 nm, and with spatial resolution of 0.18 x 0.18 degrees. The sensitivity is 0.06 counts/pixel/Rayleigh/sec which enables sampling rate of a few seconds per image. This also contributes to the collaborative study with the EISCAT Svalbard Radar (ESR) and other ground-based observations.

Participants: H. Miyaoka and A. Kadokura (NIPR), T. Sakanoi (Tohoku Univ.), M. Taguchi (Rikkyo Univ.), and S. Suzuki (Nagoya Univ.)

Field activity of previous year

Invest. Area: Longyearbyen, Svalbard, Norway

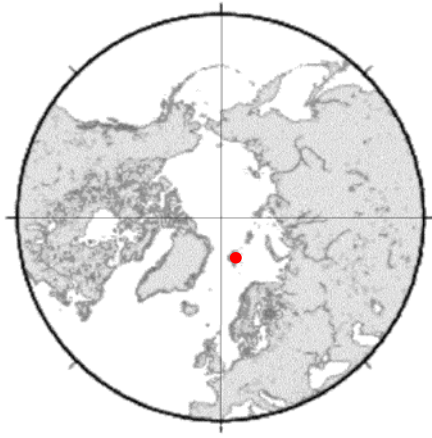
Field Period: October - March

Logistics: Auroral spectrograph

Description: We continued an observation with the auroral spectrograph between October 2012 and March 2013, after we fixed software problems.

Number of participants: 3

Area:



Note: