



Kiruna Atmospheric and Geophysical Observatory (KAGO)

Status report at Nordic Observatory Meeting #4 2020-11-16

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KAGO update

Kiruna Atmospheric and Geophysical Observatory

- ▶ New Allsky camera (Sony α 7S) in Kiruna.
- ▶ ALIS_4D operational. Observatory measurements starting soon.
- ▶ New suspended variometer and major refurbishment of magnetic observatory.
- ▶ RfS spectroriometer in Kiruna disturbed by Kiruna ionosonde. Relocation planned. (Nikkaluokta, Silkkimuotka or Tjautjas?)
- ▶ New low-cost ionosondes (after Juha Vierinen) are under investigations
- ▶ Infrasound: Presentation by Johan Kero.
- ▶ Atmospheric trace-gases measurements: presentation by Uwe Raffalski.

Green items = separate talks at NOM4



KAGO Instrument overview

Kiruna Atmospheric and Geophysical Observatory

- ▶ Magnetometers, 1950–: IRF [PI: Yamauchi]: Kiruna, Lycksele, Tormestorp;
SGU[Schwarz]: Abisko, Uppsala and operation of Lycksele
- ▶ Riometers, 1958– [PI: Sergienko]: Kiruna, Lycksele
- ▶ Infrasound, 1973– [PI: Kero]: (In observatory since 2015) (Kiruna, Jämtön, Lycksele, Sodankylä)
- ▶ Allsky cameras, 1956– [PI: Brändström]: Kiruna, Abisko, Tjautjas
- ▶ ALIS_4D [PI: Brändström] (Observatory measurements from fall 2019) Abisko, Kiruna, Silkkimuotka, Tjautjas
- ▶ (Weather station, ALIS, guest instruments, etc.)
- ▶ Ionosondes, 1952– [PI: Leyser]: Kiruna, Lycksele, Uppsala.
- ▶ Ozone radiometer (KIMRA), 2001– [PI: Raffalski]: (In observatory since 2018) (Kiruna)

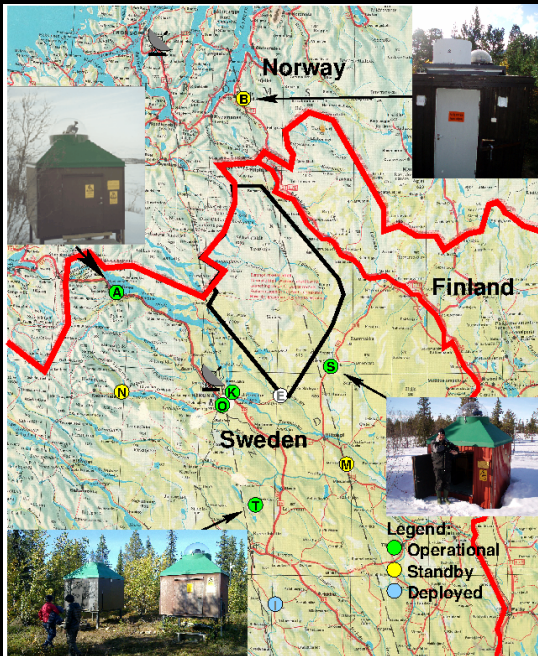


ALIS_4D

PI: Urban Brändström

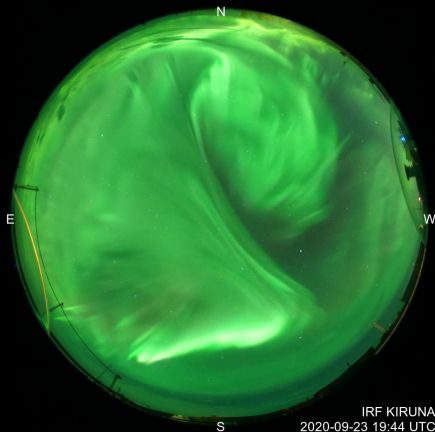
- ▶ Operational with four stations (Abisko, Kiruna, Silkkimuotka and Tjautjas) since fall 2019.
- ▶ ESRANGE since spring 2020. SPIDER2
- ▶ BROR: barium release rocket mission (if funded)
- ▶ Optical support for EISCAT_3D
- ▶ Andor DU-888 EMCCD-imagers (1024×1024 , up to video rates)
- ▶ Narrow band interference filters with six position
- ▶ Absolute calibrated.
- ▶ Long-time monitoring starts soon (2020, hopefully MIRACLE compatible) Delayed mainly because of cloudy skies.
- ▶ Raw-data (FITS), gif quicklooks and daily movie.
- ▶ Quicklook-movie 2020-09-23

ALIS_4D sites



New allsky camera (Sony $\alpha 7S$)

PI: Urban Brändström



- ▶ Normally 1 exp. / min.
but campaign modes
available
- ▶ Keograms, movie and
three resolutions (up to
4K available)
- ▶ Quicklook-movie
2020-09-23



Summary

- ▶ ALIS_4D long-time monitoring of selected emissions. BROR mission
- ▶ New allsky-camera in Kiruna, (open-source)
- ▶ The pandemic makes things go slower, but so far no major problems as long as nobody gets covid-19
- ▶ A lot of work, we are under-staffed but situation more or less under control



References I