UNIVERSITÄT
LEIPZIG

RECENT SHK WORK AT RADIATION GROUP

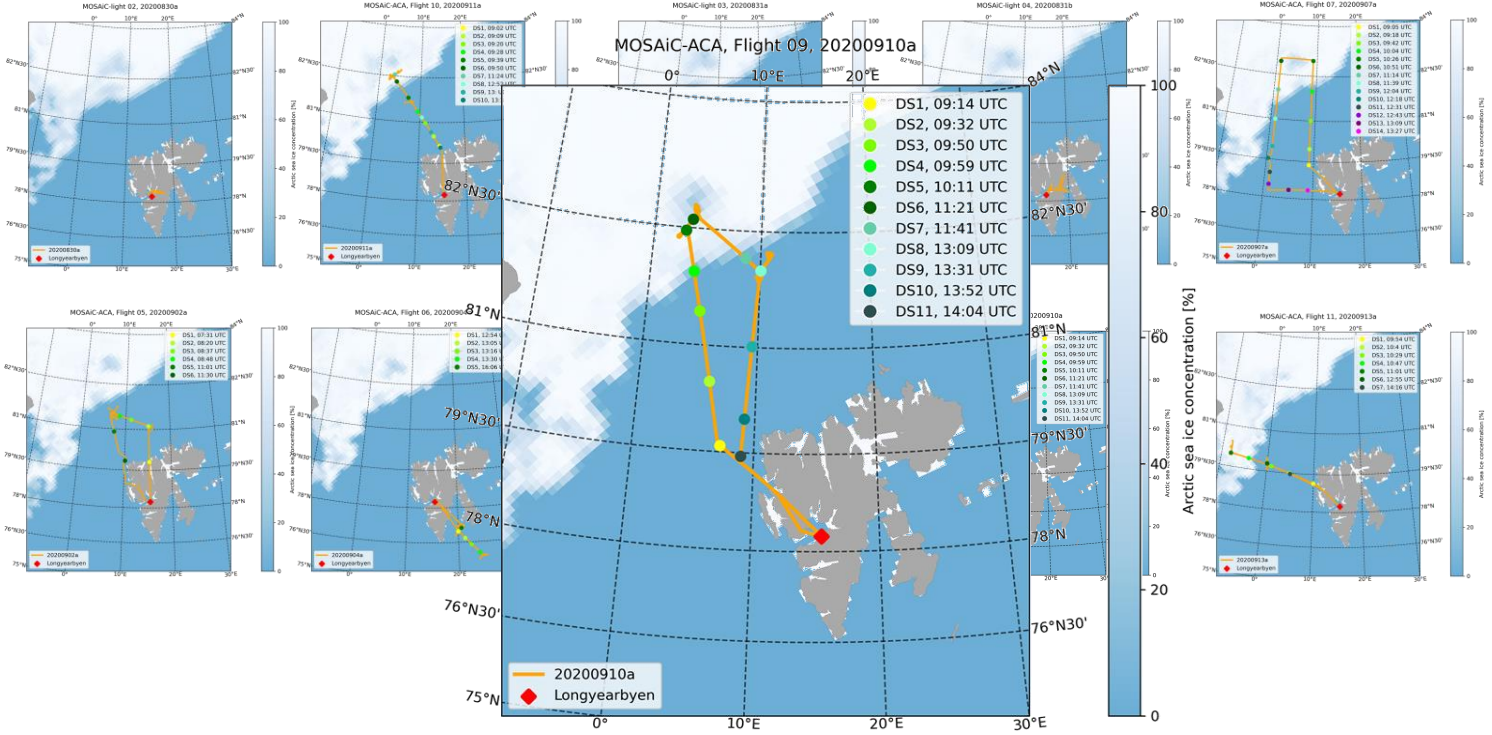
Lukas Monrad-Krohn
Groupmeeting 10.12.2021

Lukas Monrad-Krohn

STRUCTURE

- Campaign tools & visualization
  - Flightpath Quicklooks
  - Kml-Files
  - GoPro-Video
- Combining spectral imager data
- Summary

CONTRIBUTING TO THE AFLUX AND MOSAIC-ACA WIKI



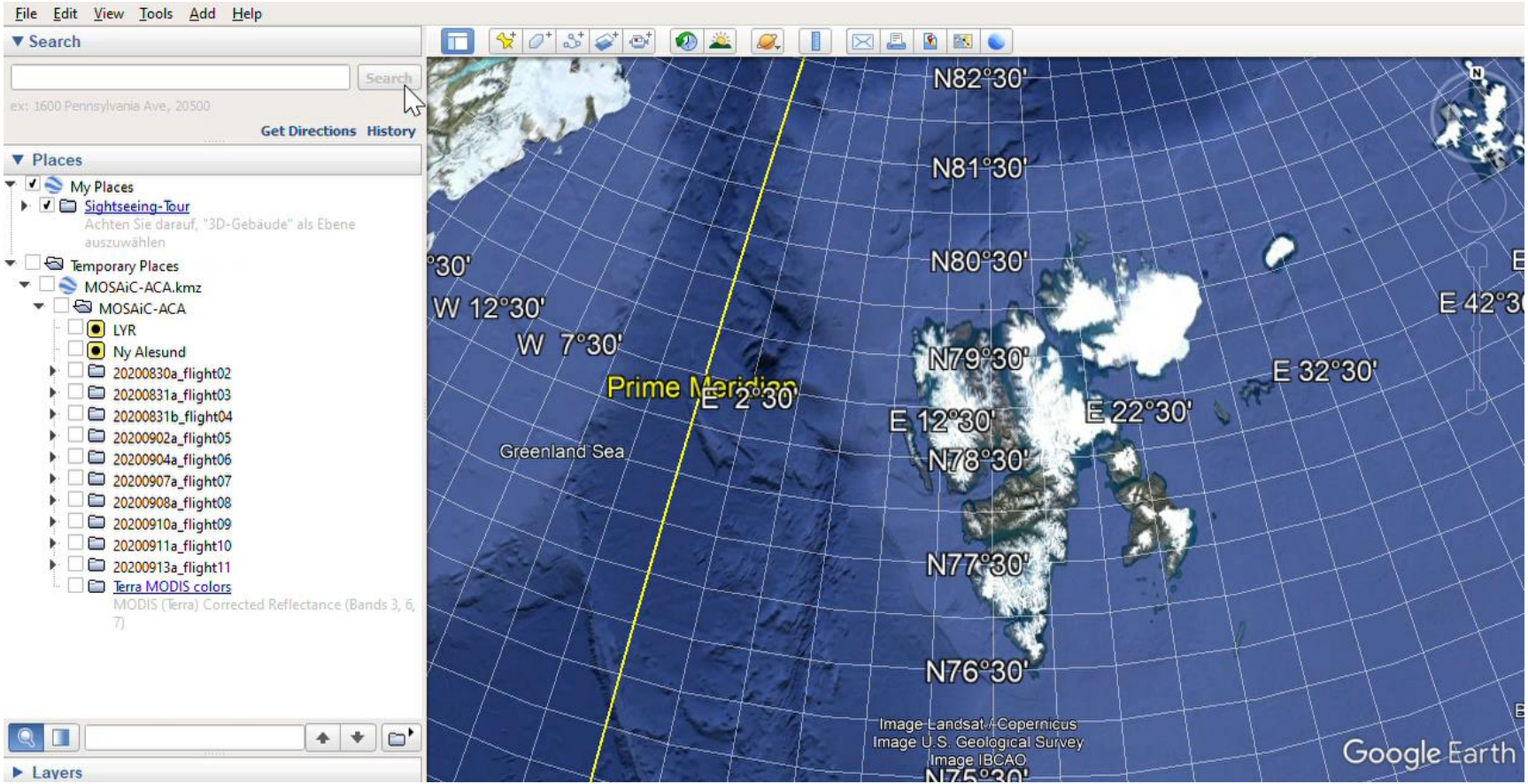
KML-FILE

https://icon-library.com/icon/google-earth-pro-icon-5.html

- **K**eyhole **M**arkup **L**anguage
- Kmz = zipped kml
- For AFLUX and MOSAiC-ACA campaigns
- To be found: in Flight Logs of wikis or

  /projekt_agmwend/data/AFLUX/AFLUX.kmz

  /projekt_agmwend/data/MOSAiC_ACA_S/MOSAiC-ACA.kmz


File Edit View Tools Add Help
Search
Search
ex: 1600 Pennsylvania Ave, 20500
Get Directions History
Places
My Places
Sightseeing-Tour
Achten Sie darauf, "3D-Gebäude" als Ebene auszuwählen
Temporary Places
MOSAiC-ACA.kmz
MOSAiC-ACA
LYR
Ny Alesund
20200830a_flight02
20200831a_flight03
20200831b_flight04
20200902a_flight05
20200904a_flight06
20200907a_flight07
20200908a_flight08
20200910a_flight09
20200911a_flight10
20200913a_flight11
Terra MODIS colors
MODIS (Terra) Corrected Reflectance (Bands 3, 6, 7)
Layers
N82°30'
N81°30'
N80°30'
W 12°30'
W 7°30'
Prime Meridian
E 2°30'
N79°30'
E 12°30'
E 22°30'
E 32°30'
Greenland Sea
N78°30'
N77°30'
N76°30'
Image Landsat / Copernicus
Image U.S. Geological Survey
Image IBCAO
Google Earth

GOPRO-VIDEO

MOSAiC-ACA, Flight 09
2020-09-10 08:19:57
26 m a.s.l.
0°
10°E
20°E
30°E
84°N
82°N30'
82°N
81°N
79°N30'
78°N
76°N30'
75°N
20200910a
Longyearbyen
Polar 5
Arctic sea ice concentration [%]
altitude (km)
time
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00

SPECTRAL IMAGER DATA

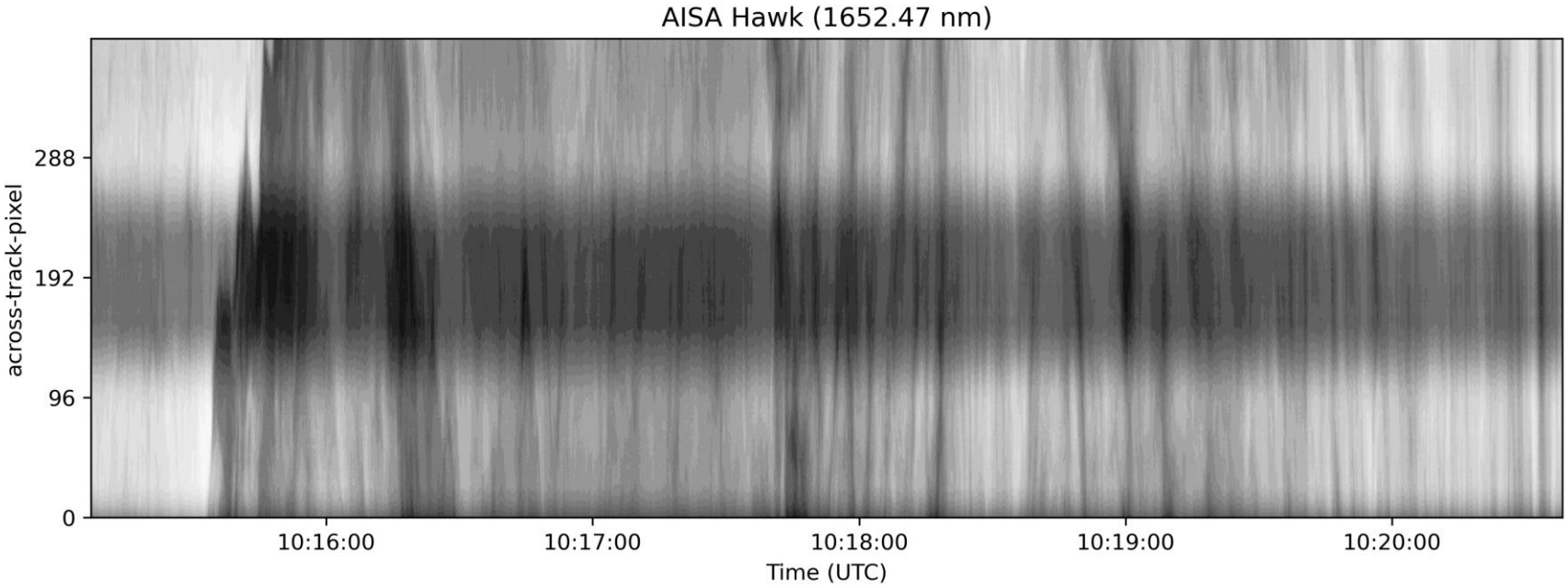
AisaEAGLE
- Imaging spectrometer
- 488 channels from **400 – 970 nm**
- FOV = 36° with 1024 pixels

AisaHAWK
- Imaging spectrometer
- 254 channels from **970 – 2500 nm**
- FOV = 36° with 384 pixels

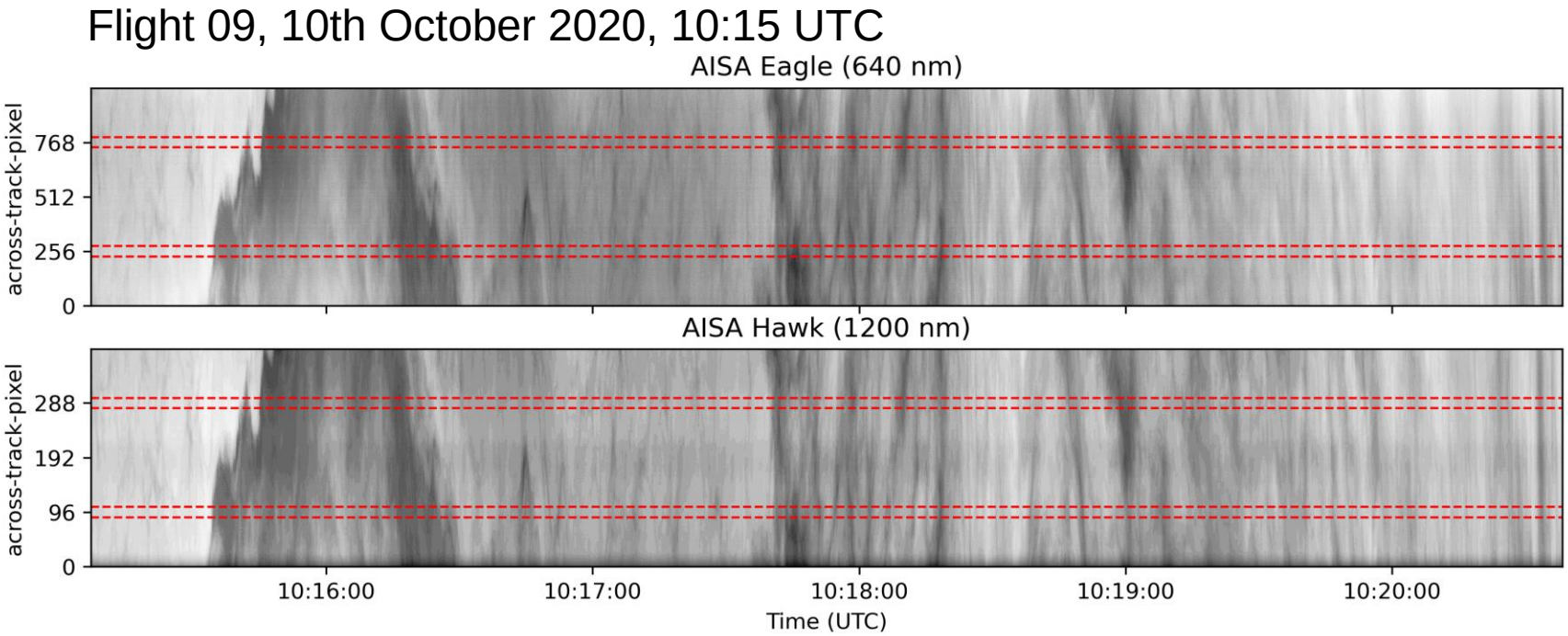
Goal: - Combining datasets of AisaEAGLE and AisaHAWK
- **full spectrum** in one netcdf-file
- advantage: **easier** handling of data

SPECTRAL IMAGER DATA

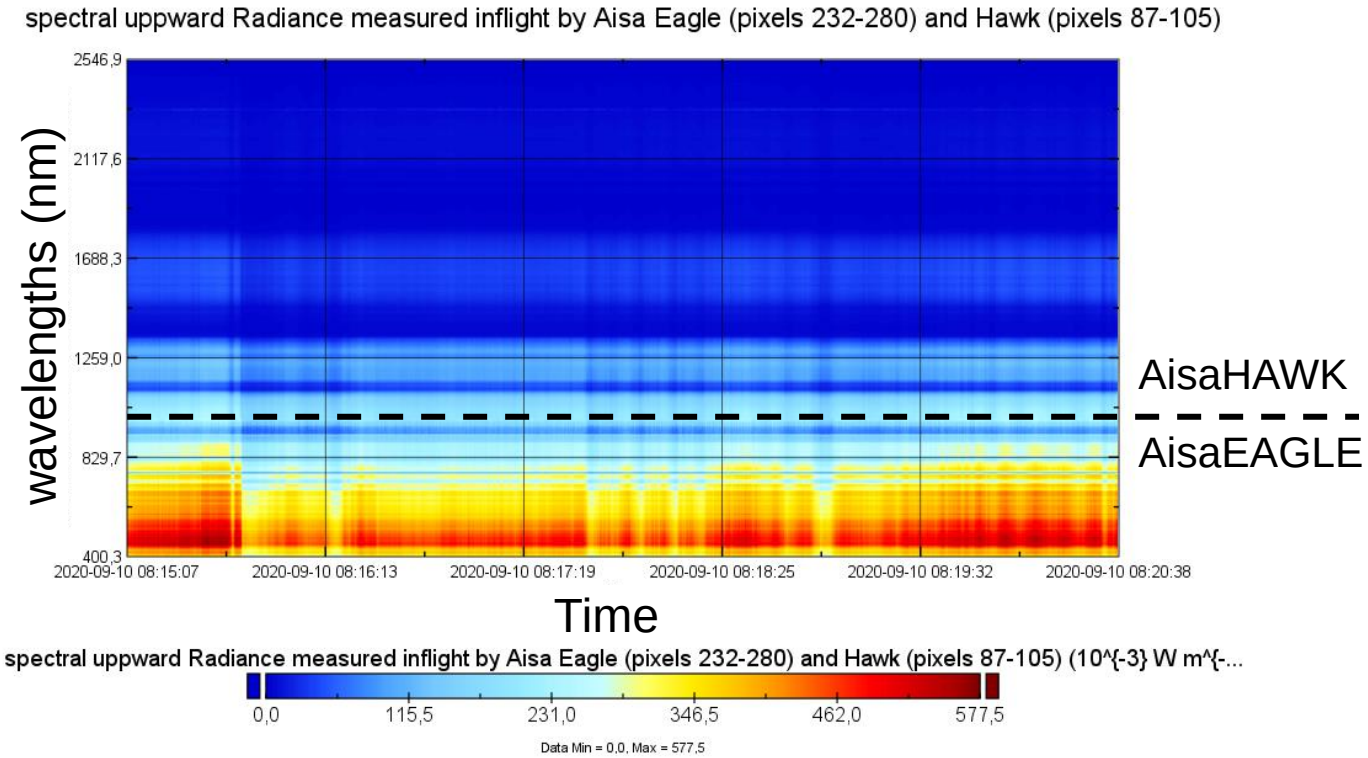
Flight 09, 10th October 2020, 10:15 UTC



SPECTRAL IMAGER DATA



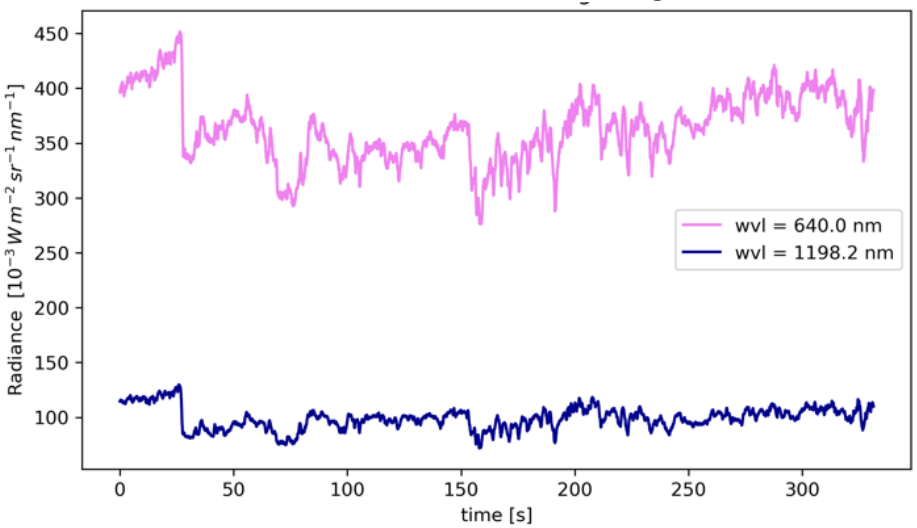
SPECTRAL IMAGER DATA



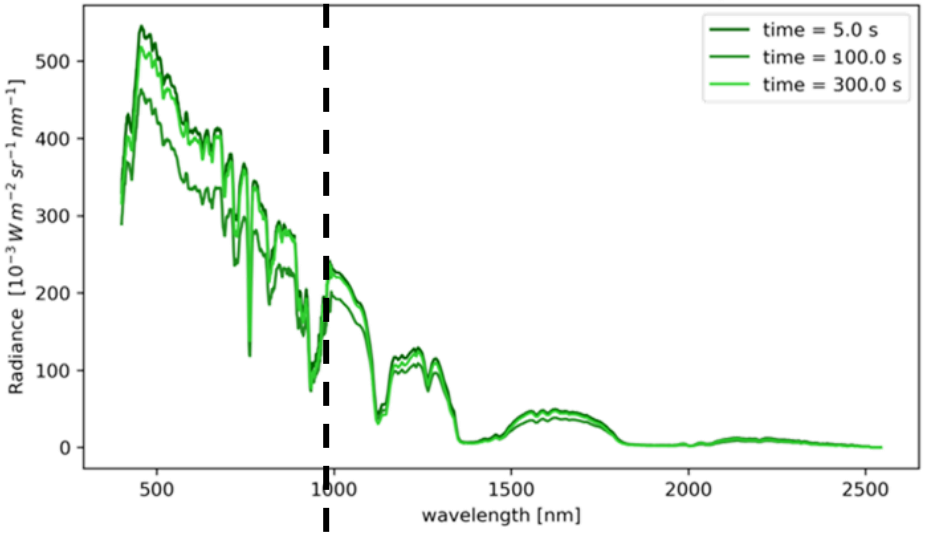
SPECTRAL IMAGER DATA

Flight 09, 10th October 2020, 10:15 UTC

Radiance for certain wavelengths over time



Radiance for certain times over wavelength

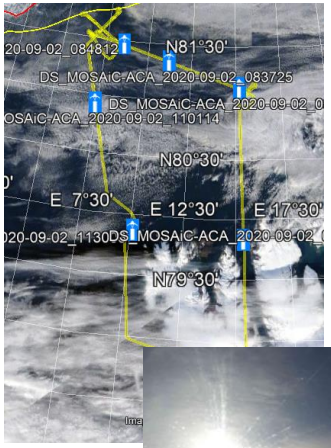


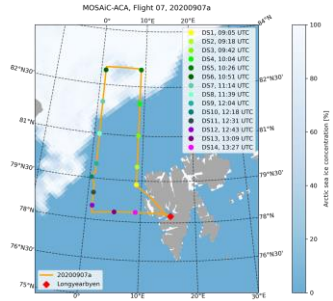
AisaEAGLE | AisaHAWK

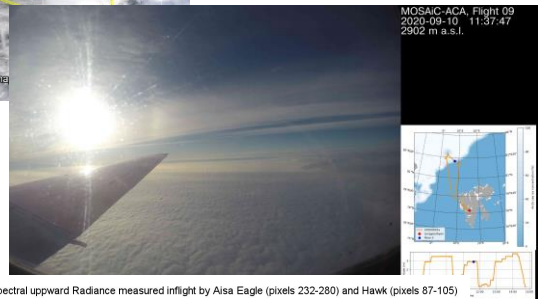
SUMMARY

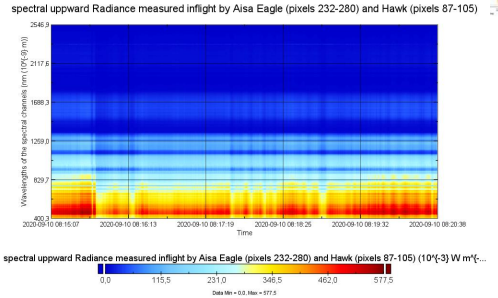
THANK YOU FOR YOUR ATTENTION!

- Kml-File is an interactive and comprehensive visualization tool
- GoPro-Video combines visual information of clouds with the location and altitude
- Combined datasets of AisaEAGLE and AisaHAWK allows easier access to full spectrum

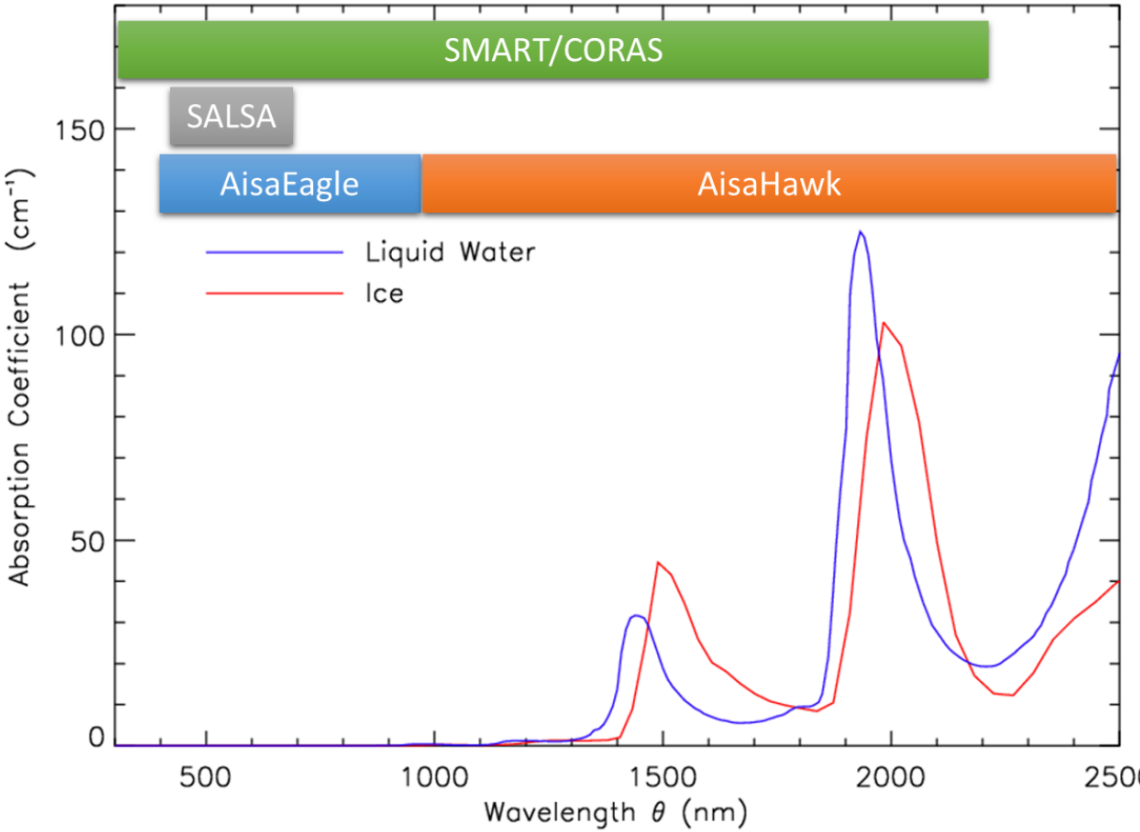




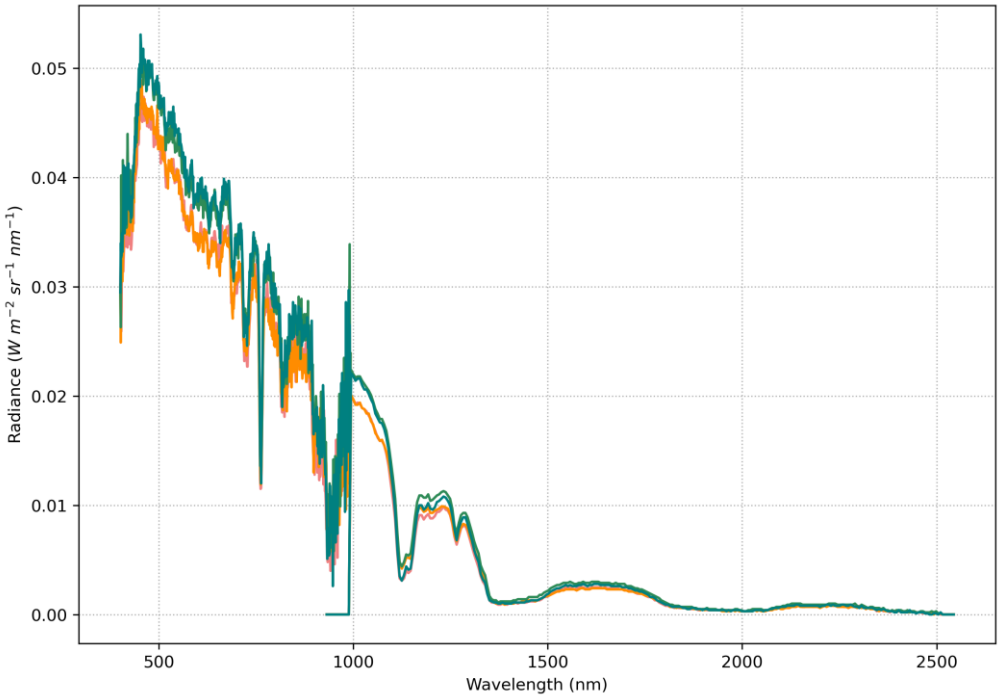




lm73code@studserv.uni-leipzig.de
lukasMK01



André Ehrlich / University Leipzig


0.05
0.04
0.03
0.02
0.01
0.00
Radiance ($W\ m^{-2}\ sr^{-1}\ nm^{-1}$)
500
1000
1500
2000
2500
Wavelength (nm)