specMACS

Cloud properties from spectral and polarized imaging

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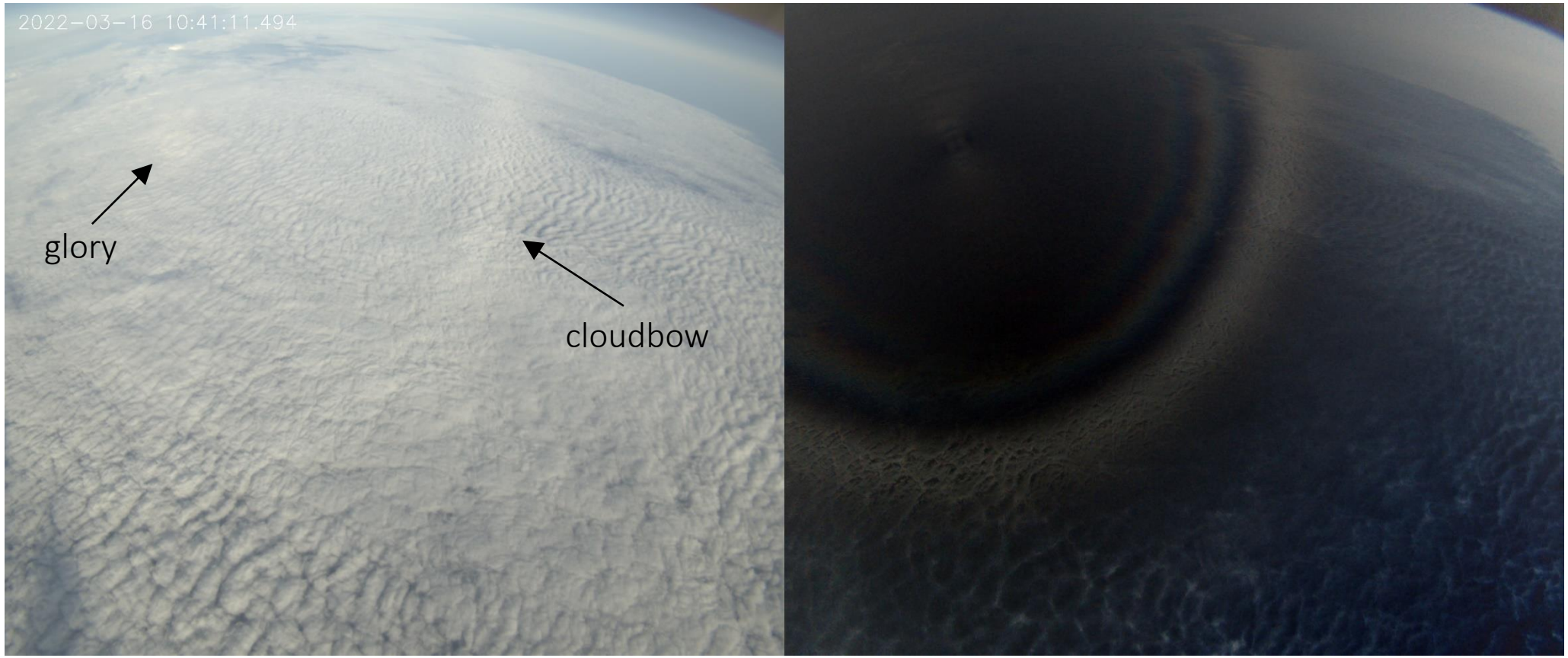
Overview

- **Polarization cameras**: (82° x 110° max. combined FOV)
  - Cloud geometry from stereography (Kölling et al. 2019)
  - Cloudbow retrieval (effective radius and variance at cloud top)
- **VNIR**: calibrated radiances 400 – 1000 nm (shutter problems ☹)
- **SWIR**:
  - Calibrated radiances 1000 – 2500 nm, 35.5° FOV
  - Cloud mask
  - Bi-spectral retrieval of cloud optical depth and effective radius for water clouds
- In progress or planned in the future:
  - Cloud thermodynamic phase
  - Bi-spectral retrieval for ice clouds
  - Cloud mask for polarized cameras

Polarization cameras

https://macsserver.physik.uni-muenchen.de/campaigns/



Polarization cameras

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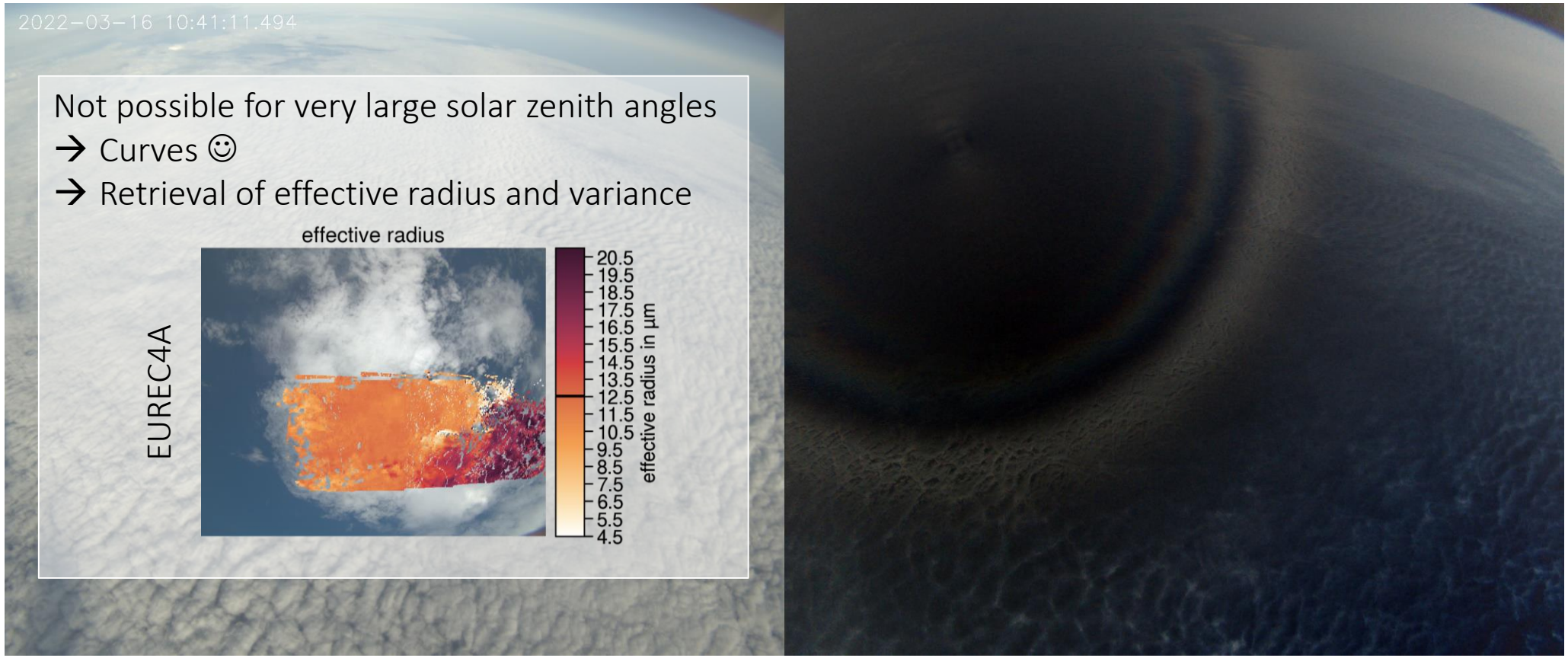

SWIR camera

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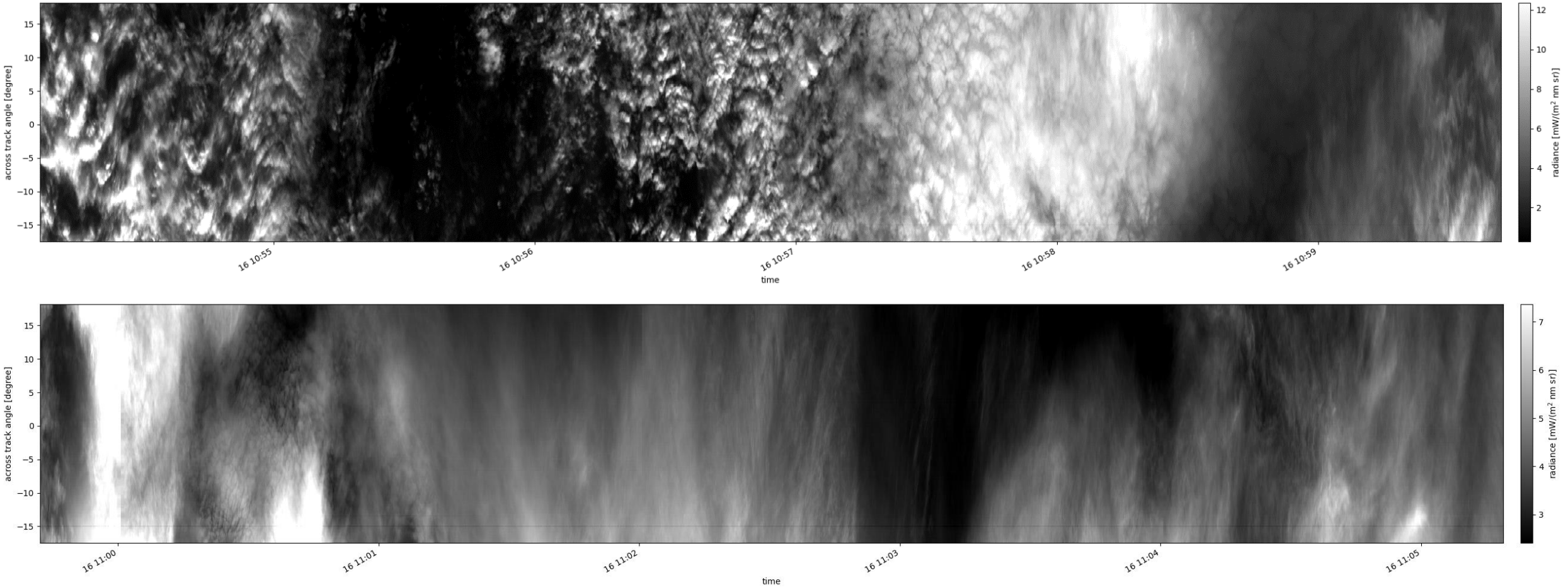
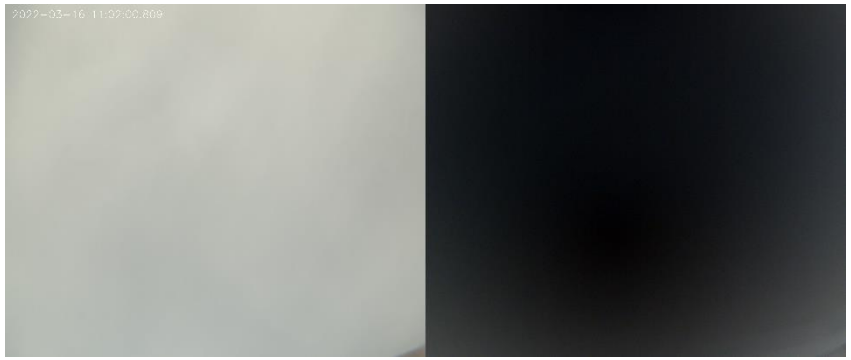


Cloud phase

water (or mixed)

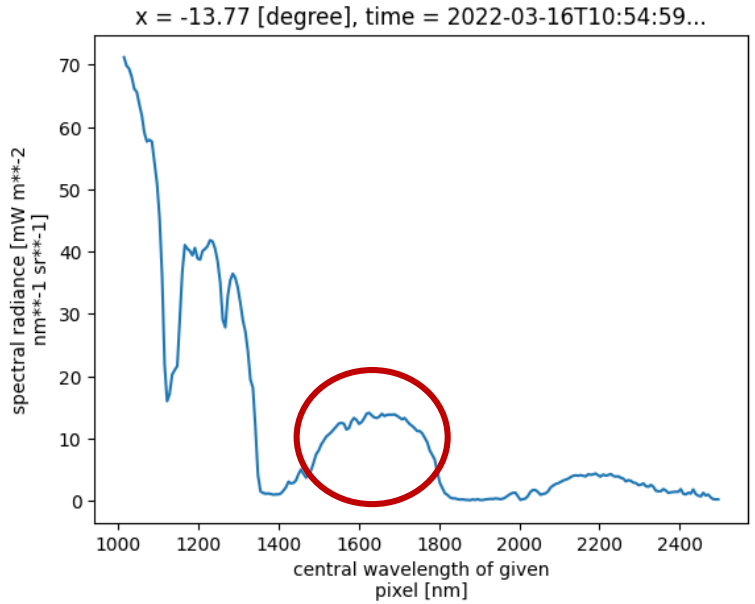
ice

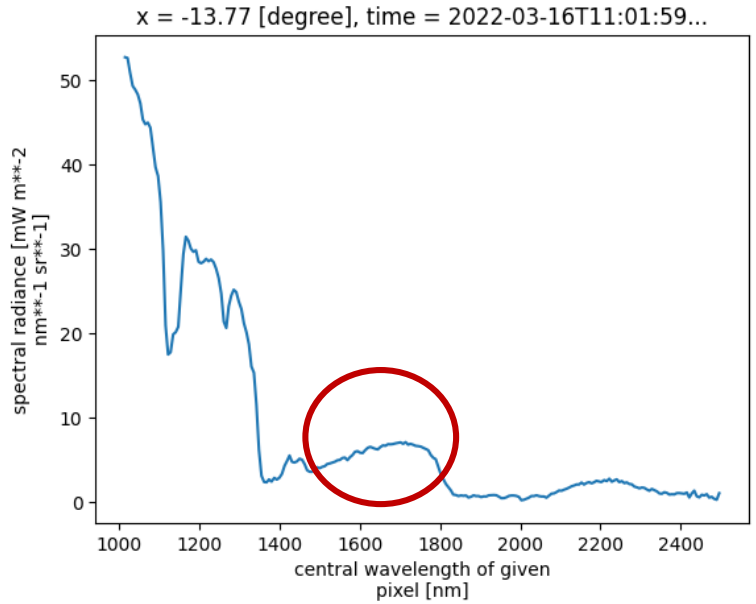
- Polcam:



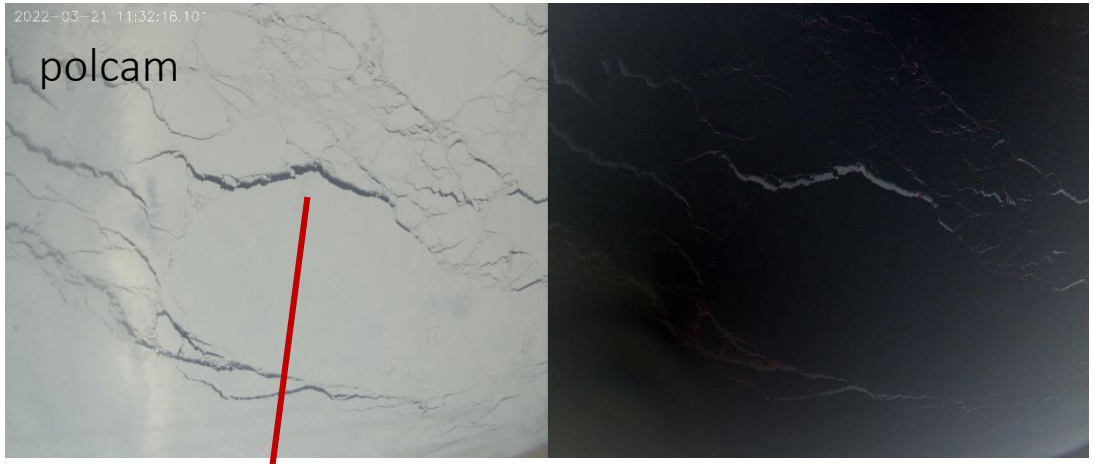
- SWIR:

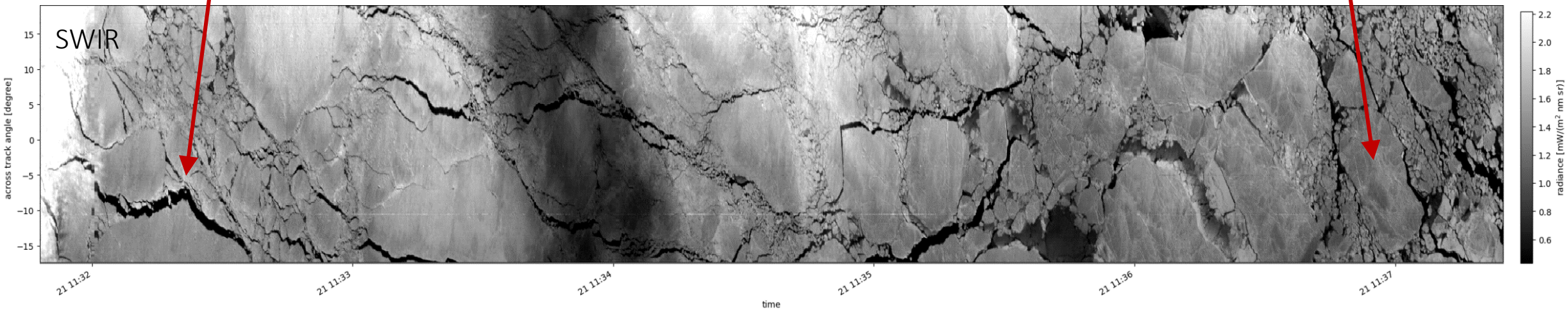
(similar to
Ehrlich et al. 2008)





Observations of sea ice





Have a look at our movies and quicklooks: