

CryoVEx 2008 - Data Processing Status

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CryoSat Validation Experiment 2008

Airborne data collection, ASIRAS and laser

Logistical support regarding:

- UK team deployment
- Alert sea ice measurements + transport

Flights April 17th to May 7th

Core sites:

April 20 (JD 111) Ilulissat ice stream and EGIG

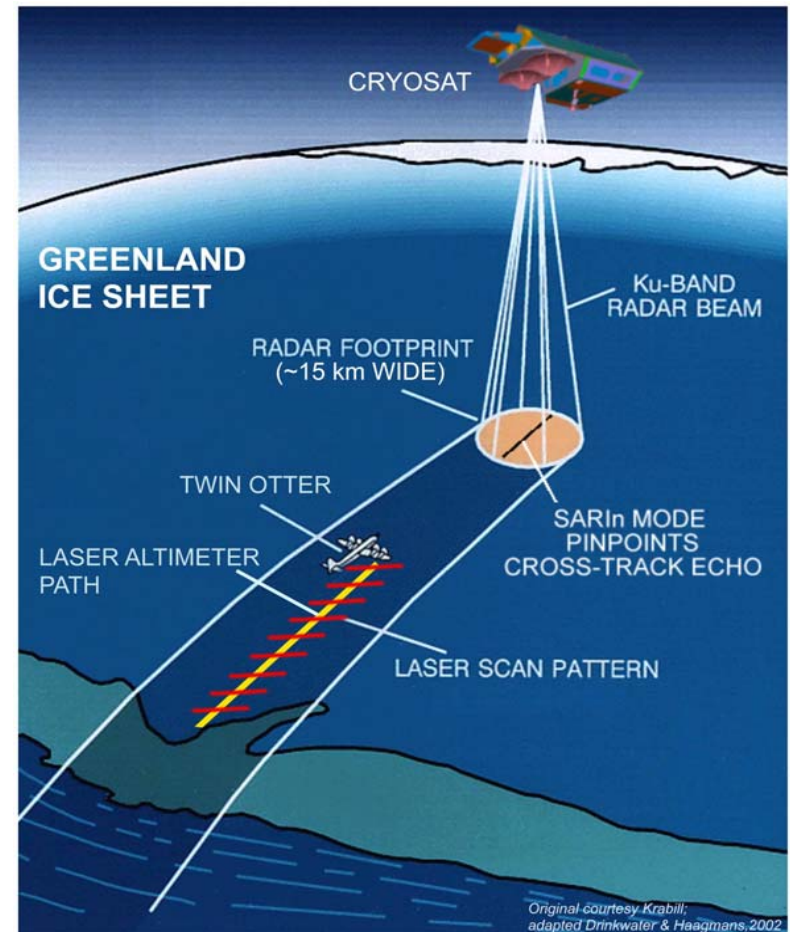
April 24 (JD 115) KV Svalbard over-flight

April 29 (JD 120) Ice sheet, UK team over-flight

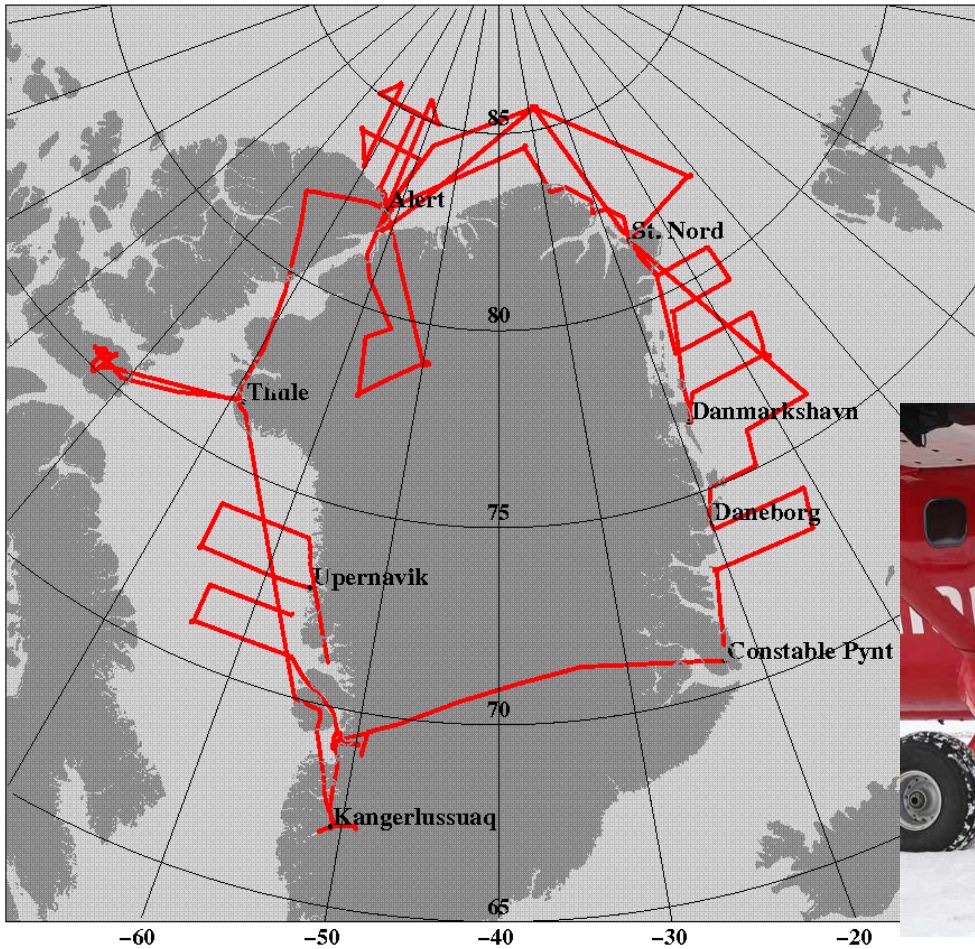
May 1 (JD 122b) FYI and MYI Alert

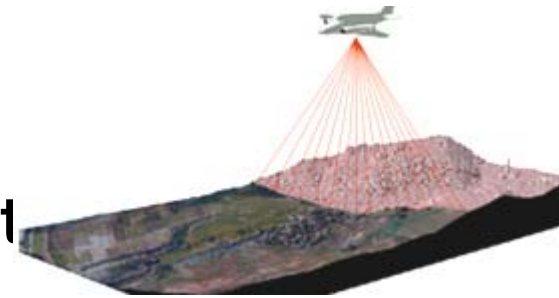
May 2 (JD 123b) HEM and TO

May 6 (JD 127) Devon



Twin Otter operations





Airborne survey with Twin Otter

Installation of instruments

Test-flight

Icebergs near Ilulissat

Journalists

Sea ice obs coordinated with helicopter

Over the inland ice

Constable Pynt – sea ice minus helicopter

To St. Nord

Survey along the east coast, KV Svalbard

survey north of Greenland

To CFS Alert, Canada

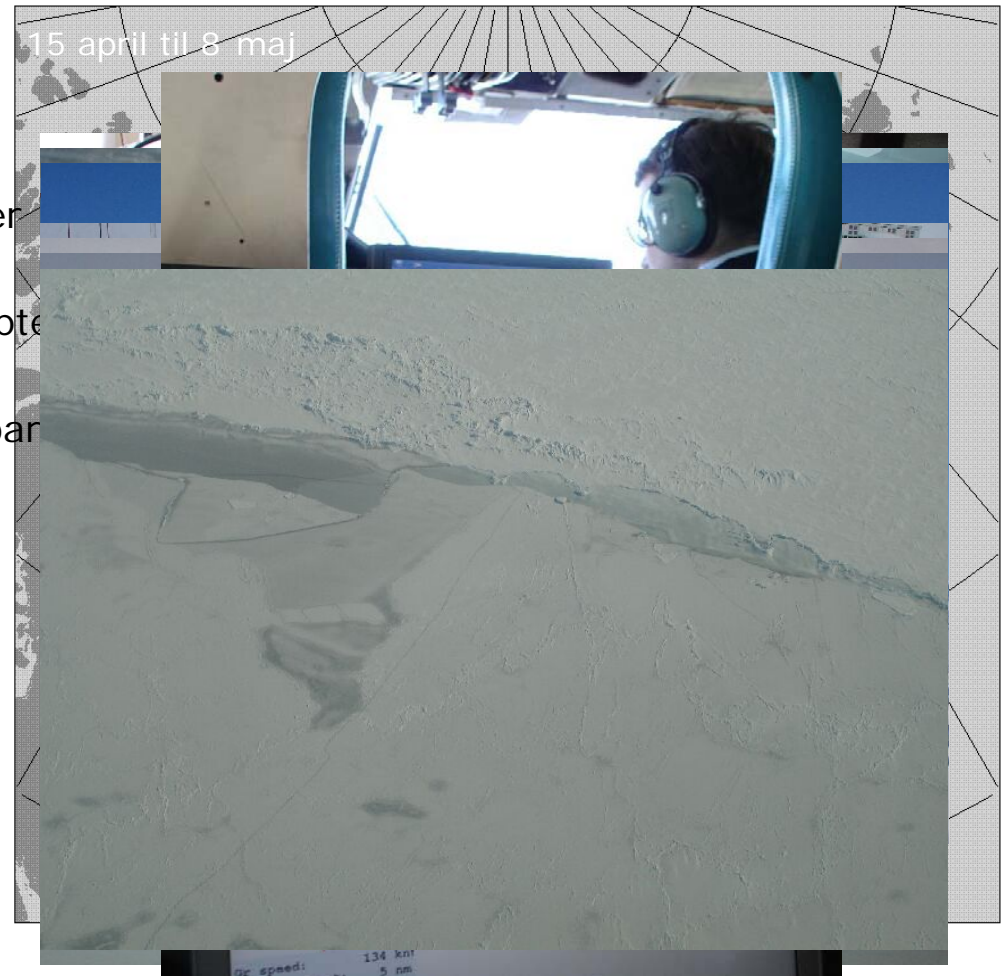
Survey of northern part of ice sheet

Sea ice survey near Alert

To Thule Air Base

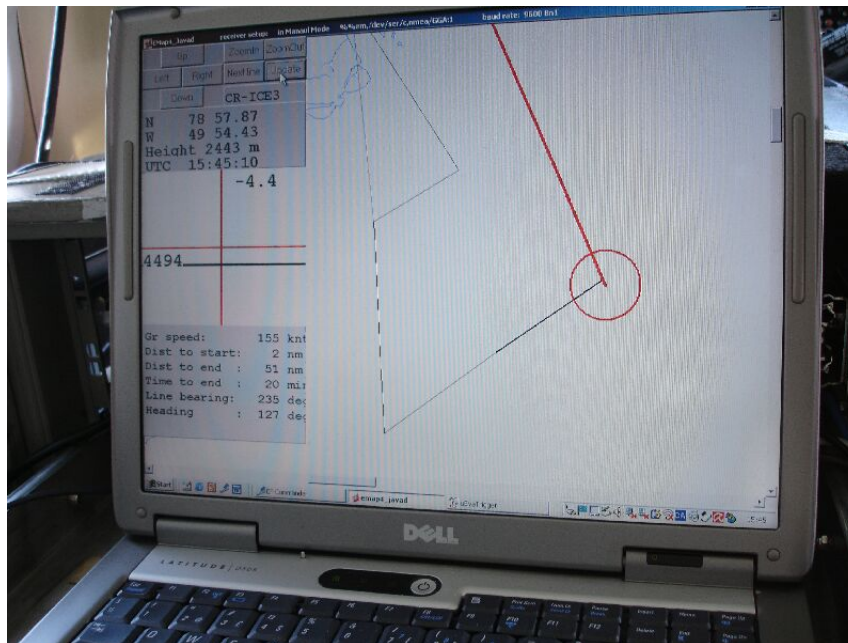
Survey of Devon ice sheet

Return to Kangerlussuaq/Søndre
Strømfjord



Over-view and data coverage

- Acquired data types:
 - DGPS
 - INS
 - Laser ranges
 - ASIRAS
 - Photos
 - Logs

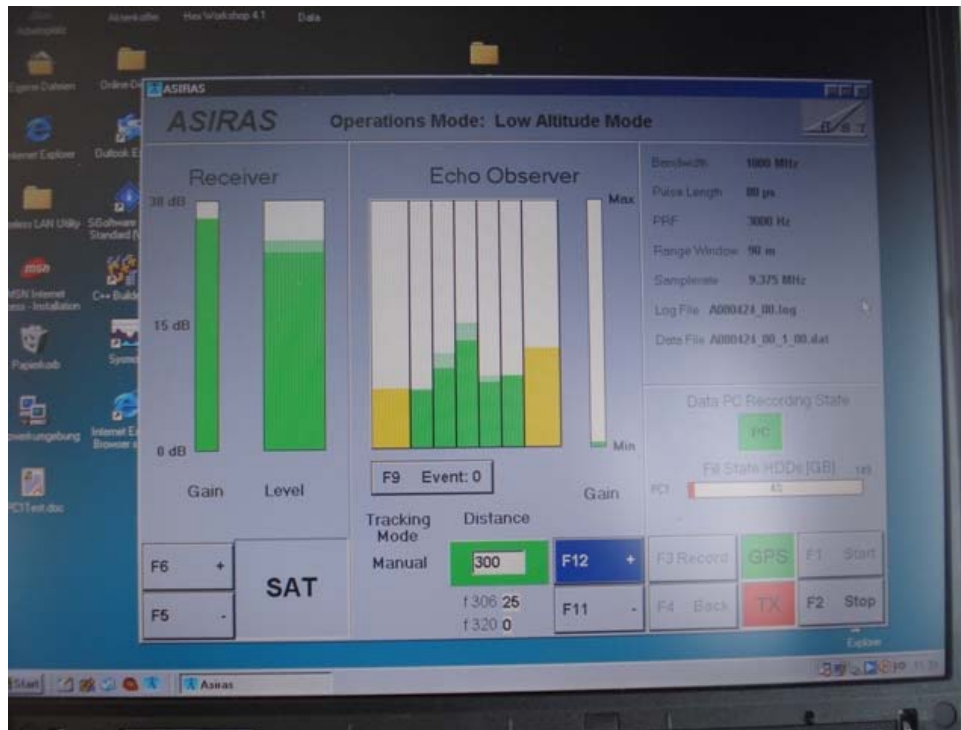


ASIRAS field experience 2008

- Less data volume ☺
- The backup PC is still very inconvenient for fieldwork



Radar modes



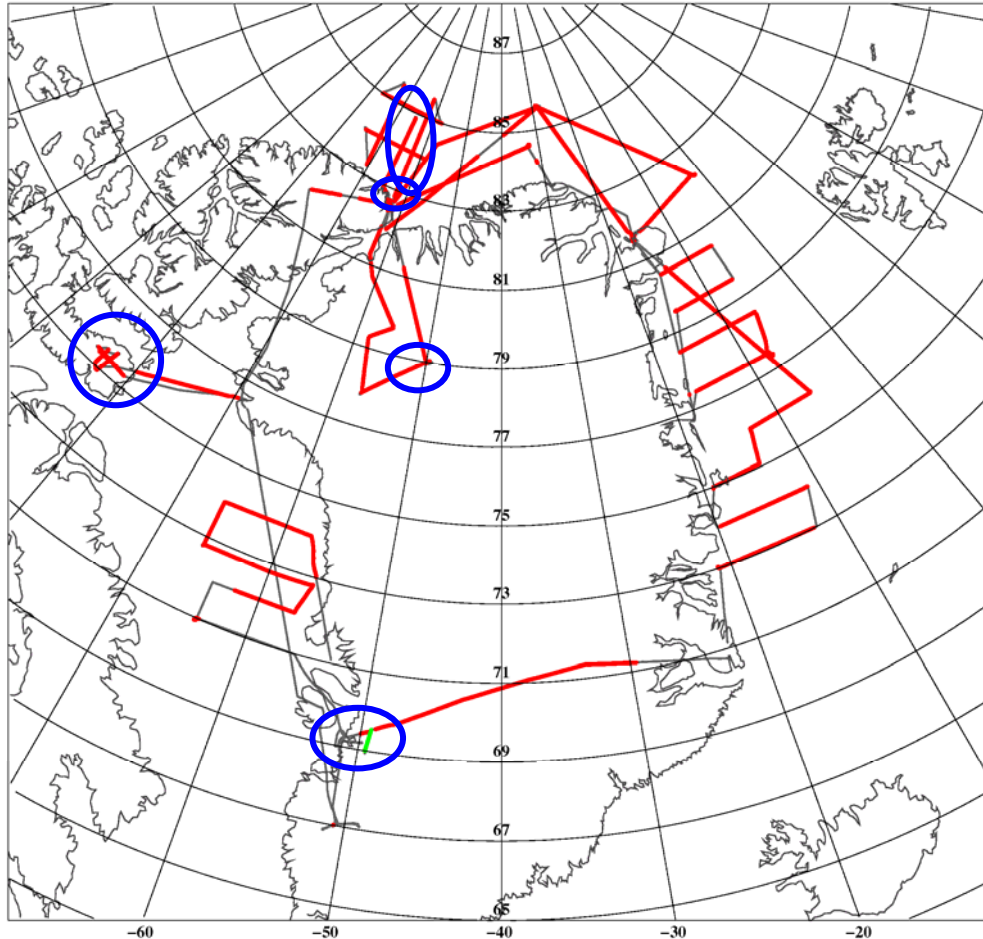
Most in low altitude mode

- Easy to handle ...

Small part in high altitude

- Takes more effort to keep signal in track window

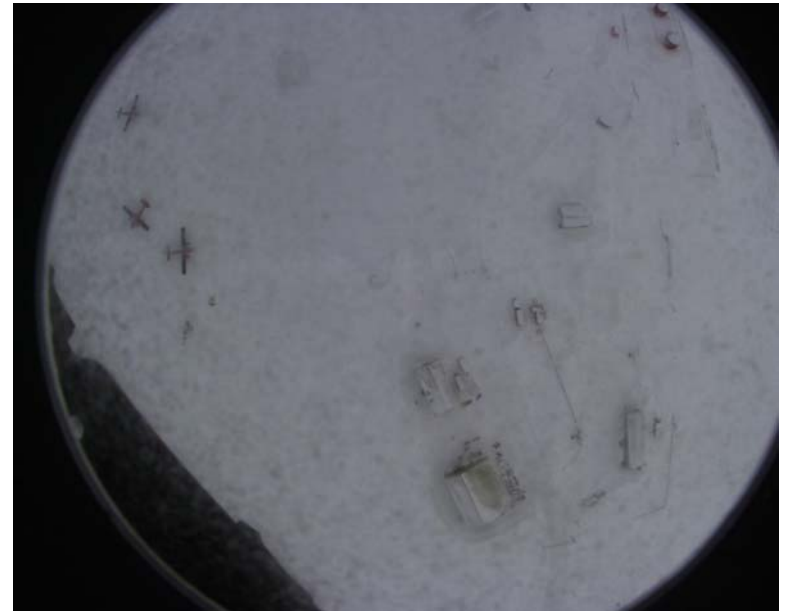
Overview ASIRAS data/validation sites



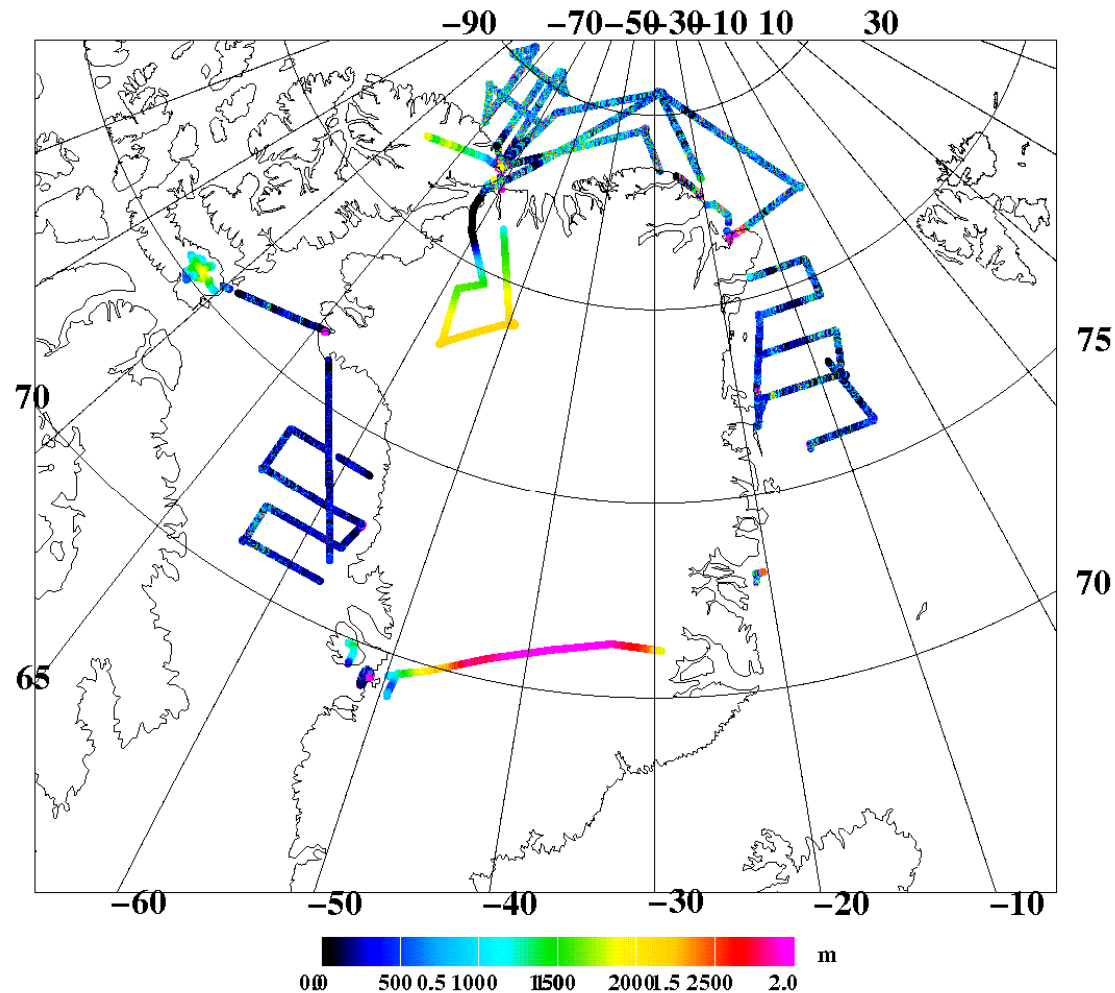
1. High Altitude Mode (HAM)
2. Inland Ice (CR)
3. In situ validation line
sea ice FYI/MYI (CR)
4. Coincident HEM flight
5. Devon Ice Cap (CR)

Laser Scanner Acquisition

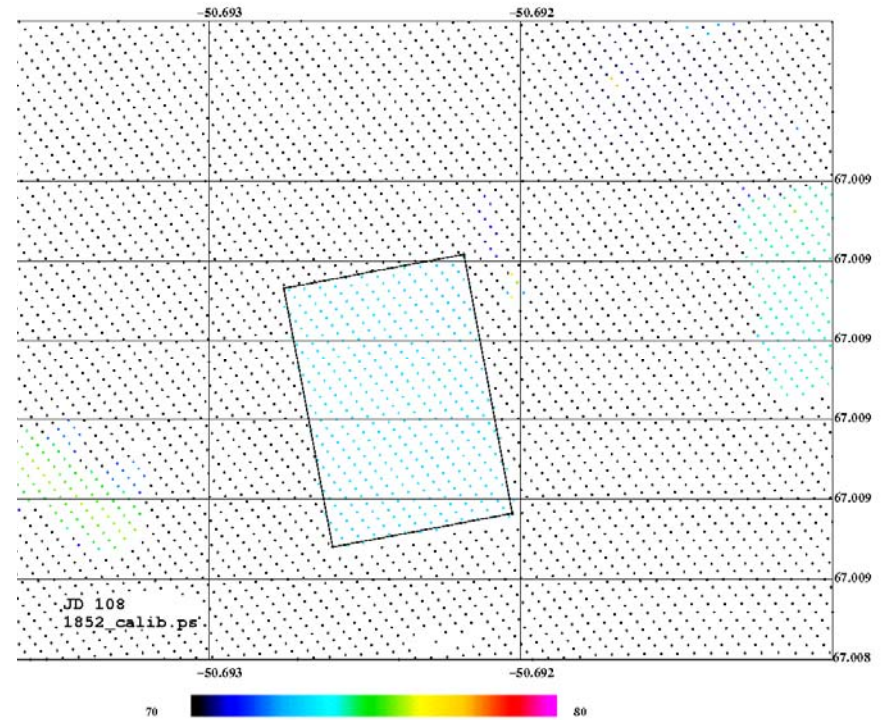
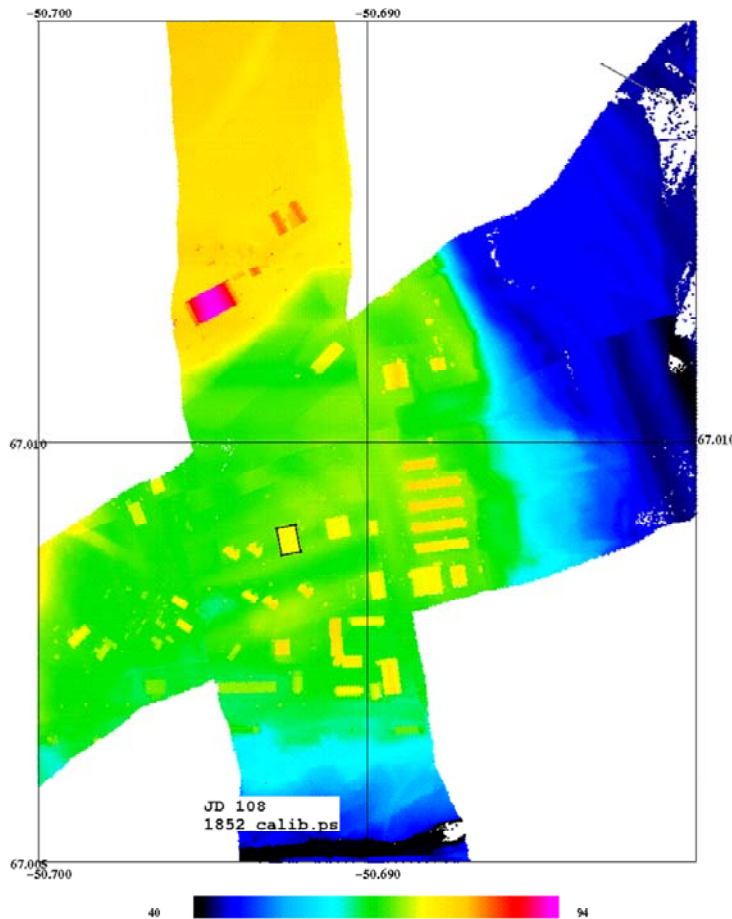
- New laser scanner, still NIR, range 1-600 m, footprint smaller, same mount. Easier timing.
- Hardware calibration issue - not solved yet.
- Data gathered on all lines except in clouds. Only few minor segments are missing. None over test sites.



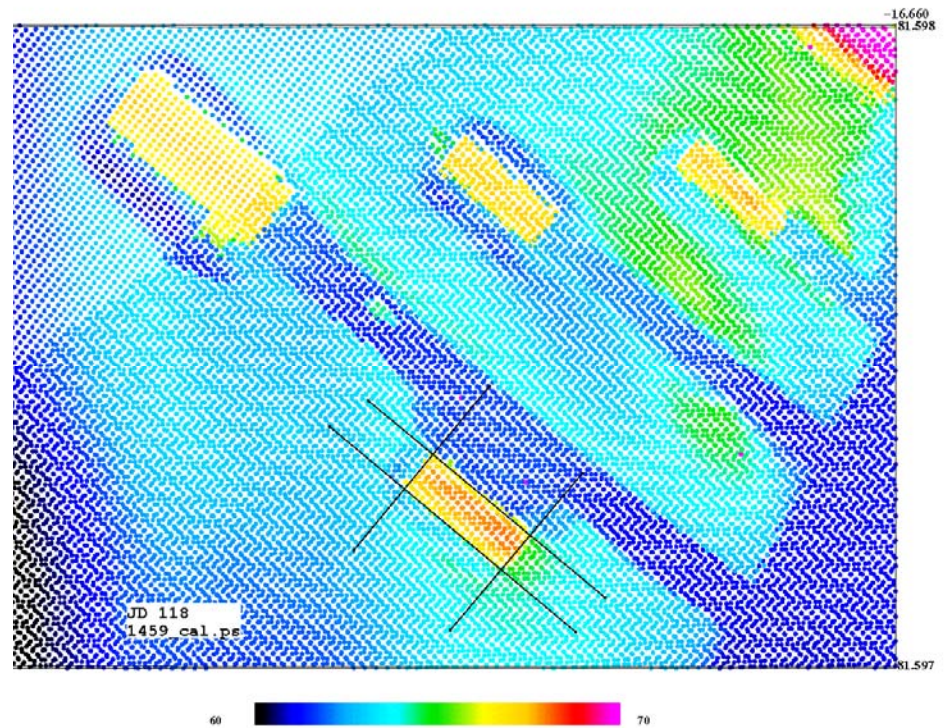
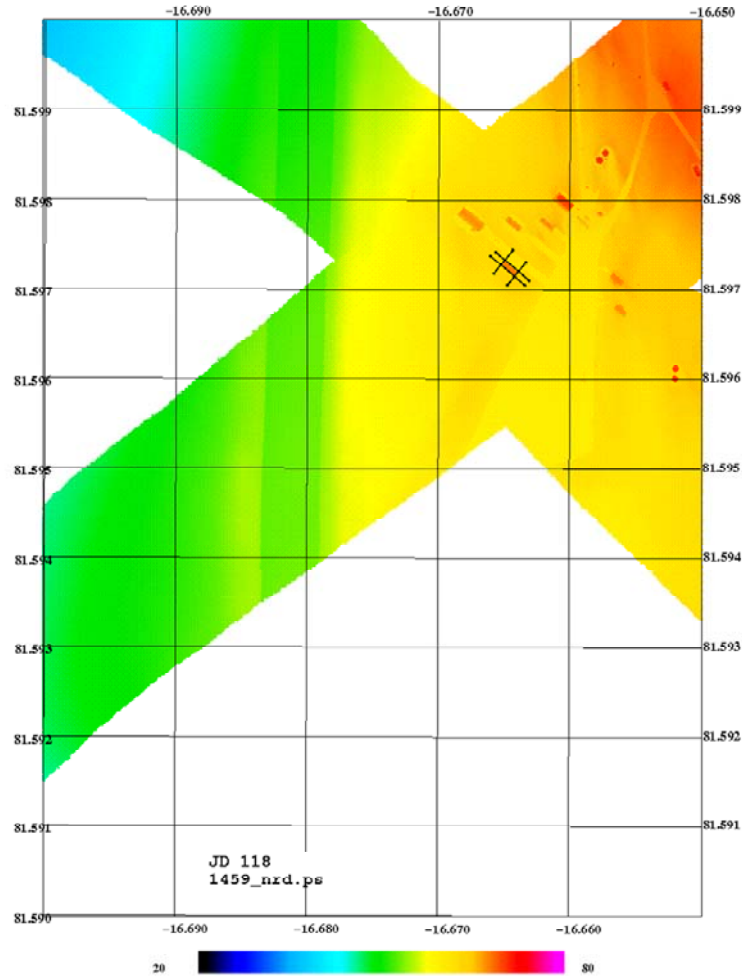
Laser Scanner Acquisition



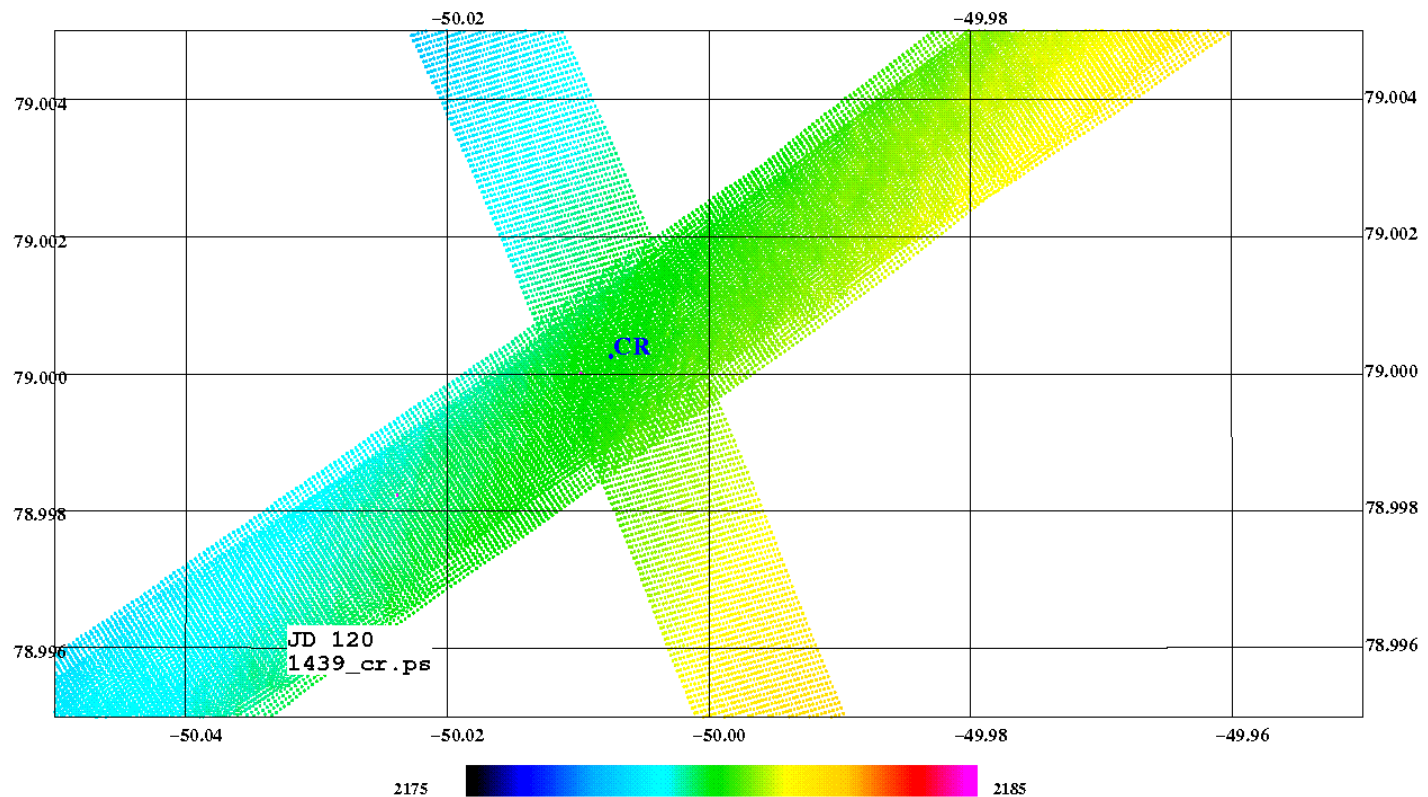
Laser Scanner Calibration SFJ



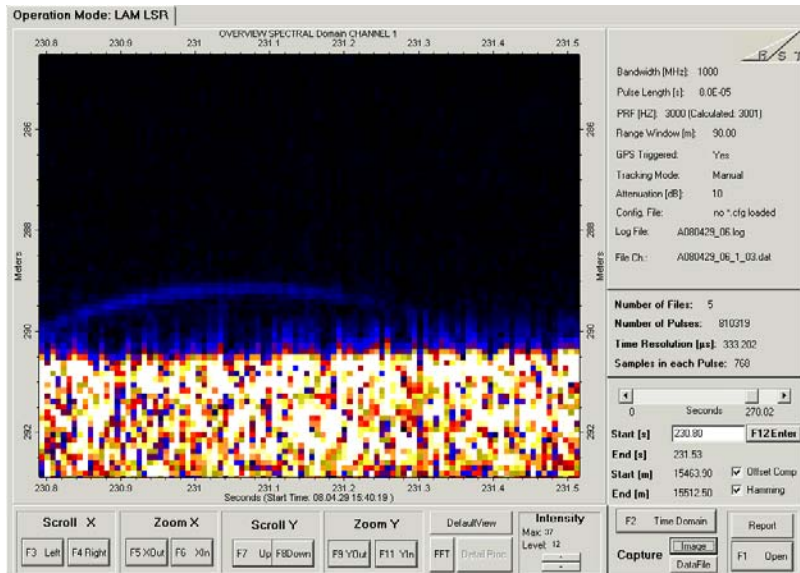
Laser Scanner Calibration NRD



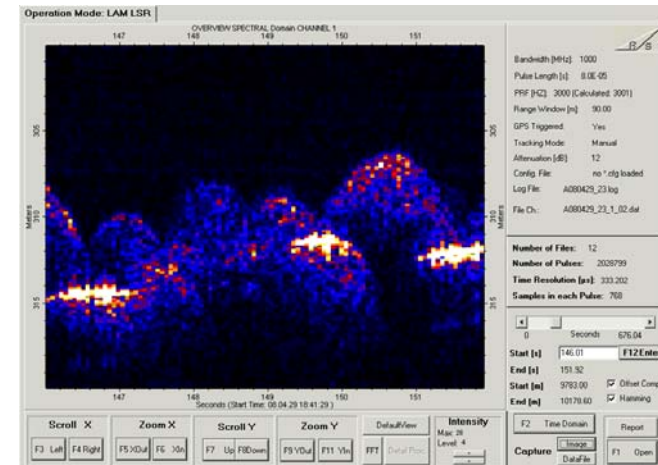
Sites: Northern Greenland Ice Sheet



Example quicklook: CR signal inland ice and refrozen meltponds Peterman Glacier



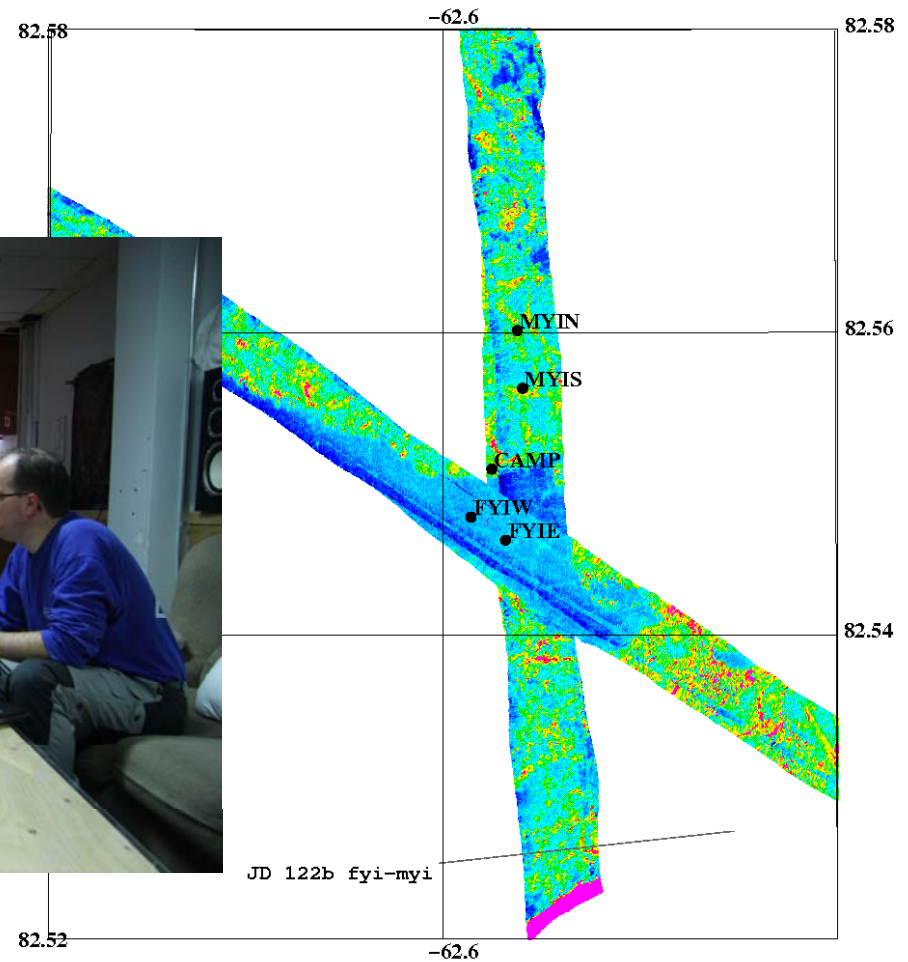
Signal from CR at inland ice



Sites: Alert Sea Ice



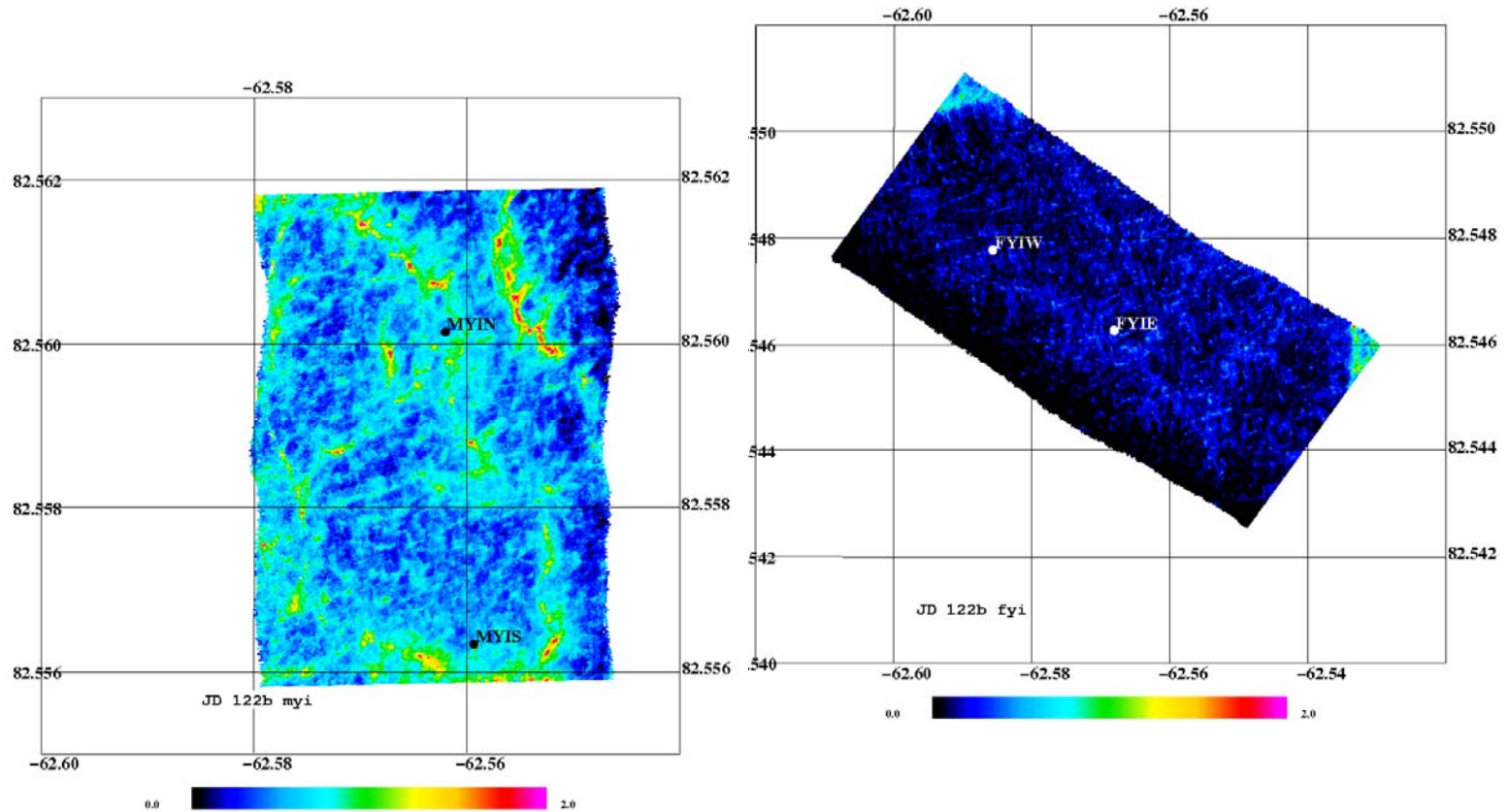
Planning og
data
management



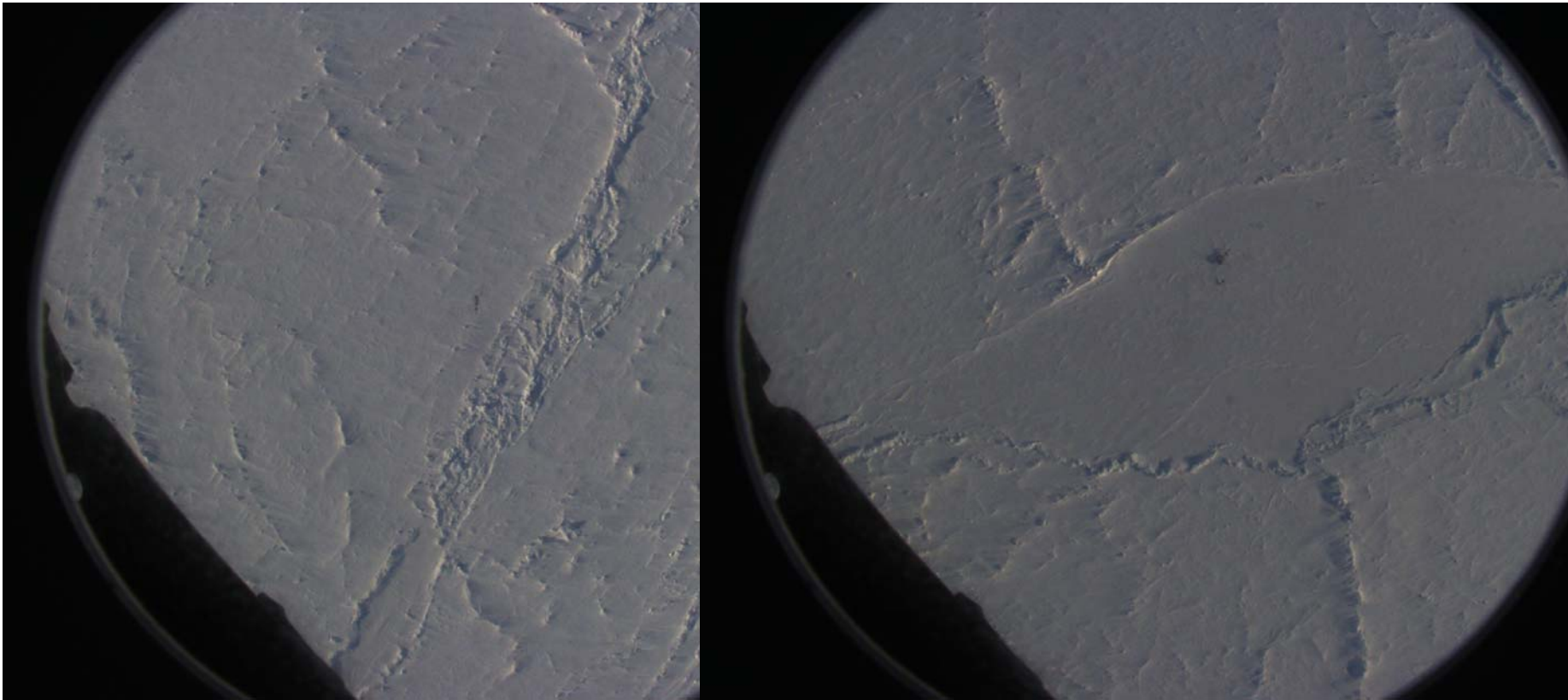
0.0

2.0

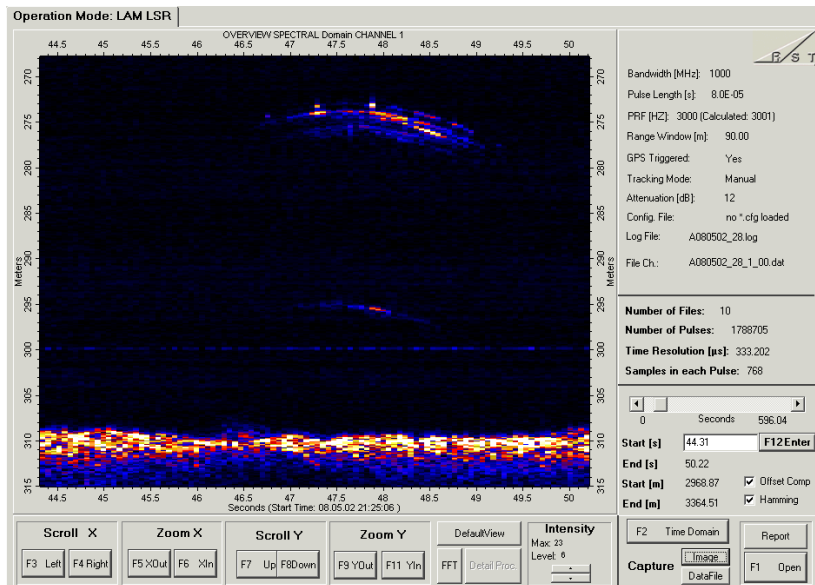
Sites: Alert Sea Ice



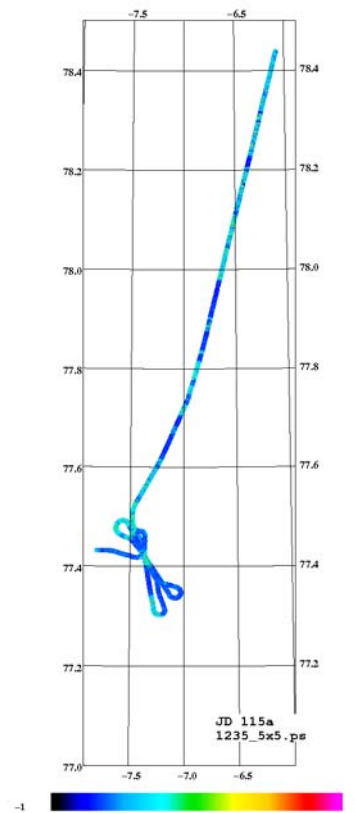
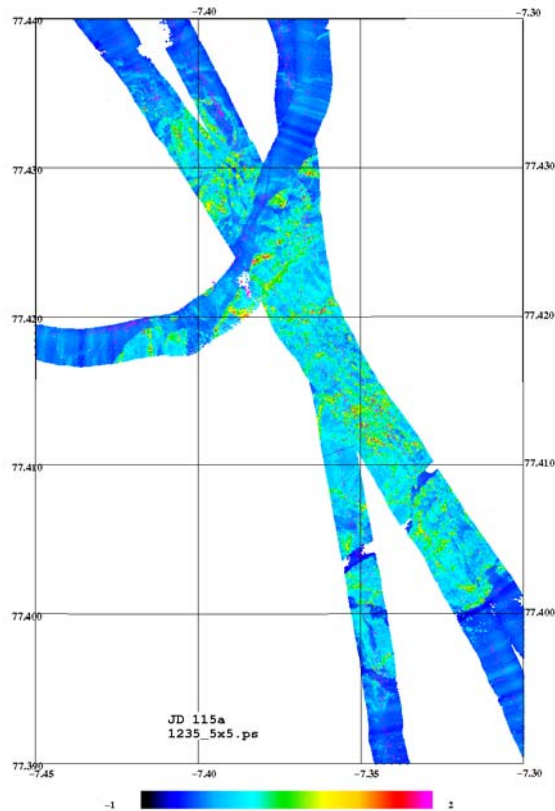
HEM – TO –Coordinated flight



Example quicklook: Coincident HEM

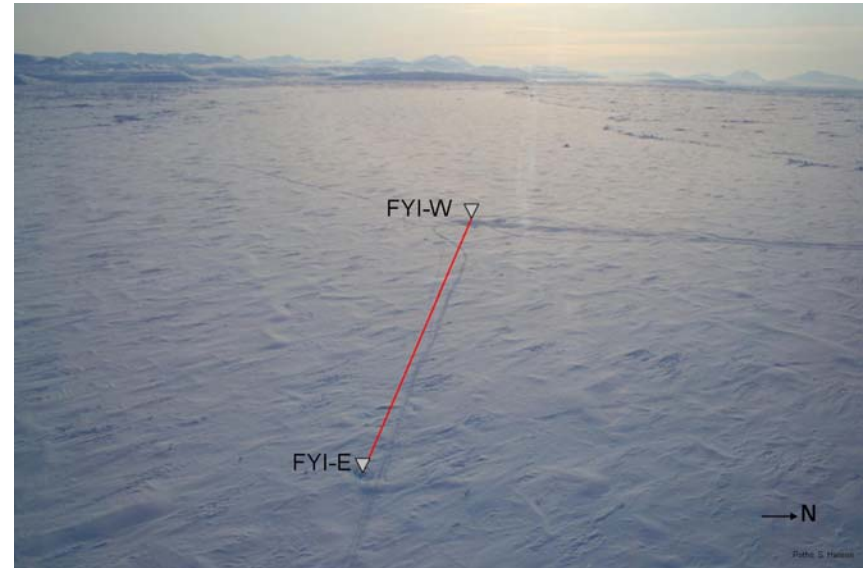


Sites: KV Svalbard



Ice drilling at K/V Svalbard [courtesy S. Hudson, NPI]

In situ measurements



Status

- GPS and INS delivered to AWI
- Laser scanner data processing on going, re-run needed after hardware cal solved
- Check of calibration with YLT crossings
- Check of site data and proc. data in full resolution for selected areas

