

# AWACA's instruments at Dumont d'Urville

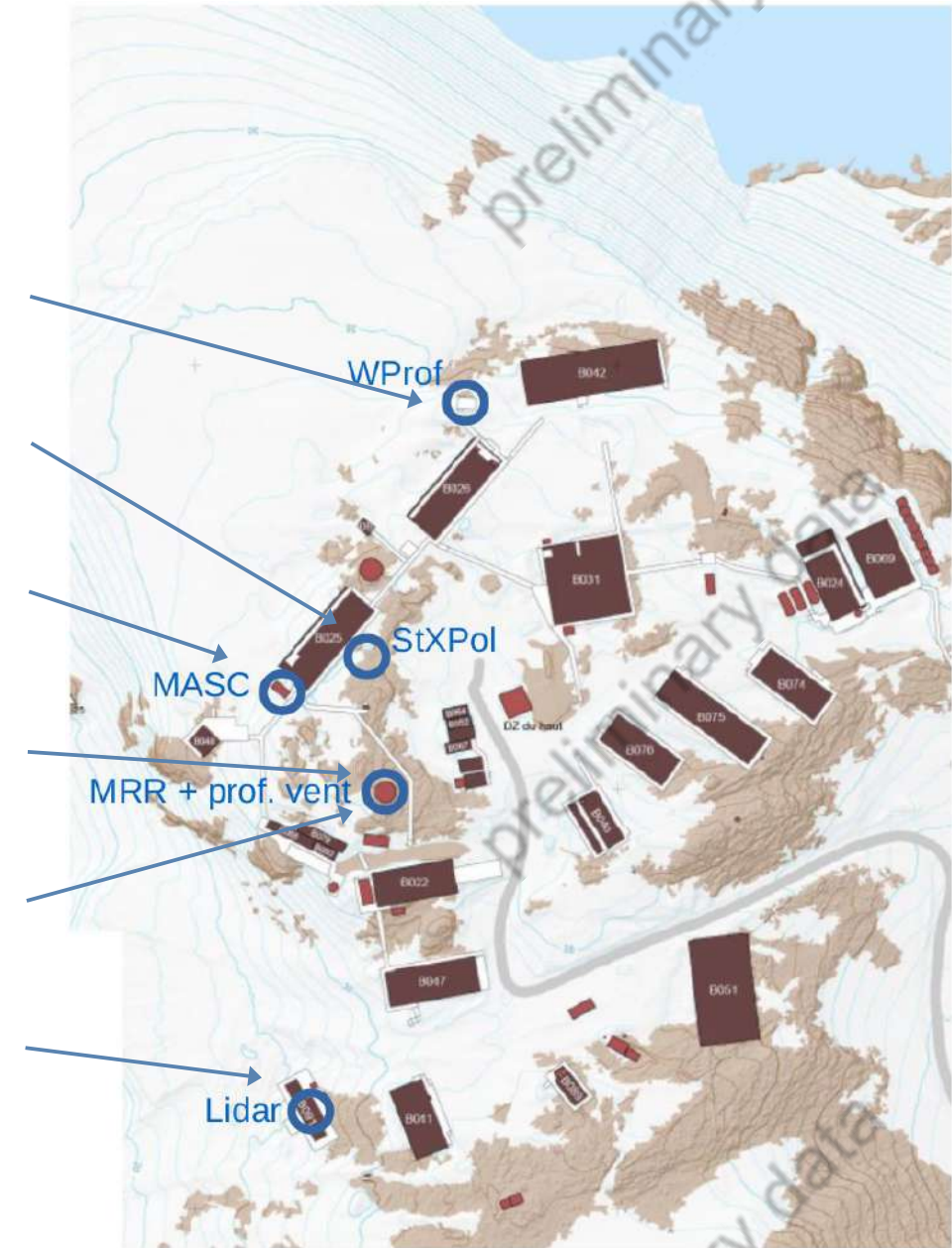
Alejandro Salamanca and Alexis Berne

Environmental remote sensing lab, EPFL, Lausanne, Switzerland

AWACA meeting – LMD, 27 Mar 2025

# Many instruments...

- W-band (94 GHz) cloud Doppler profiling radar (WProf)
- X-band (9.4 GHz) scanning dual-pol radar (StXPol)
- Snowflake imager (MASC)
- K-band (25 GHz) precip Doppler profiling radar (MRR)
- L-band (1.3 GHz) wind profiler (Wind Prof)
- 532-nm elastic depol lidar (lidar)





# StXPoI

Heavy pieces (pedestal 800 kg, antenna 300 kg)



Threaded rods in concrete base prepared in 23/24 did not fit...





# StXPol

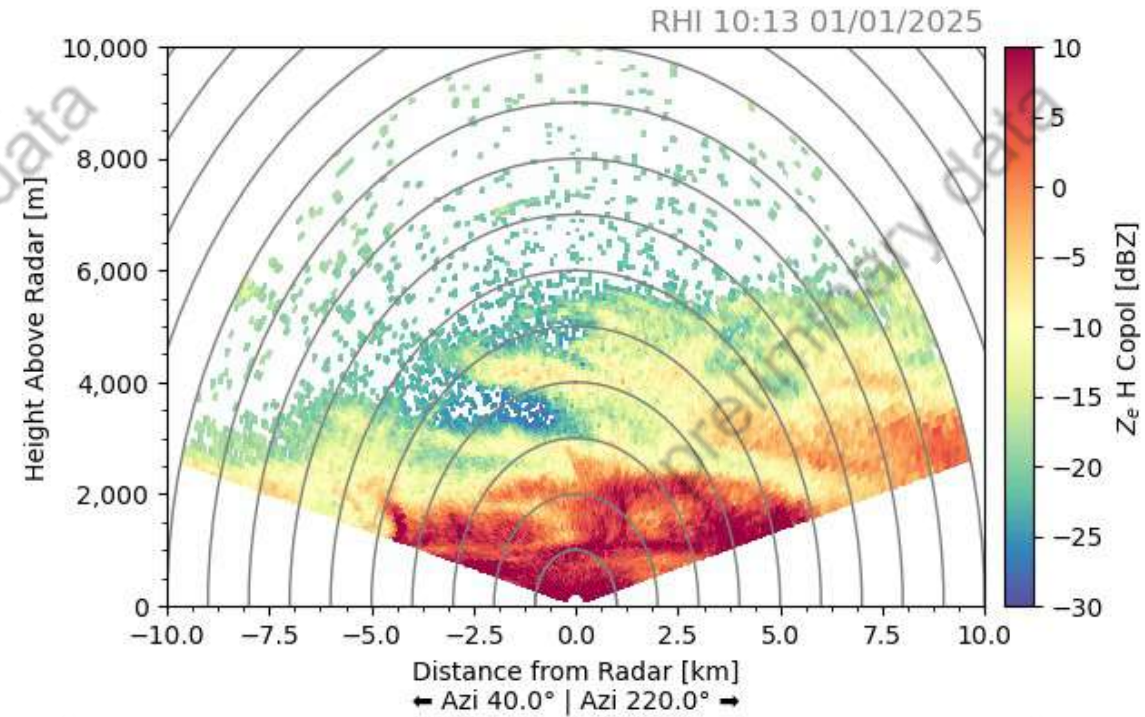
Thanks to the reactivity of the tech team, StXPol was mounted the following day!



# StXPoI

After delivery a new power supply, StXPoI is finally collecting data in 2025!

Ex. of collected images





# WProf

On a dedicated platform

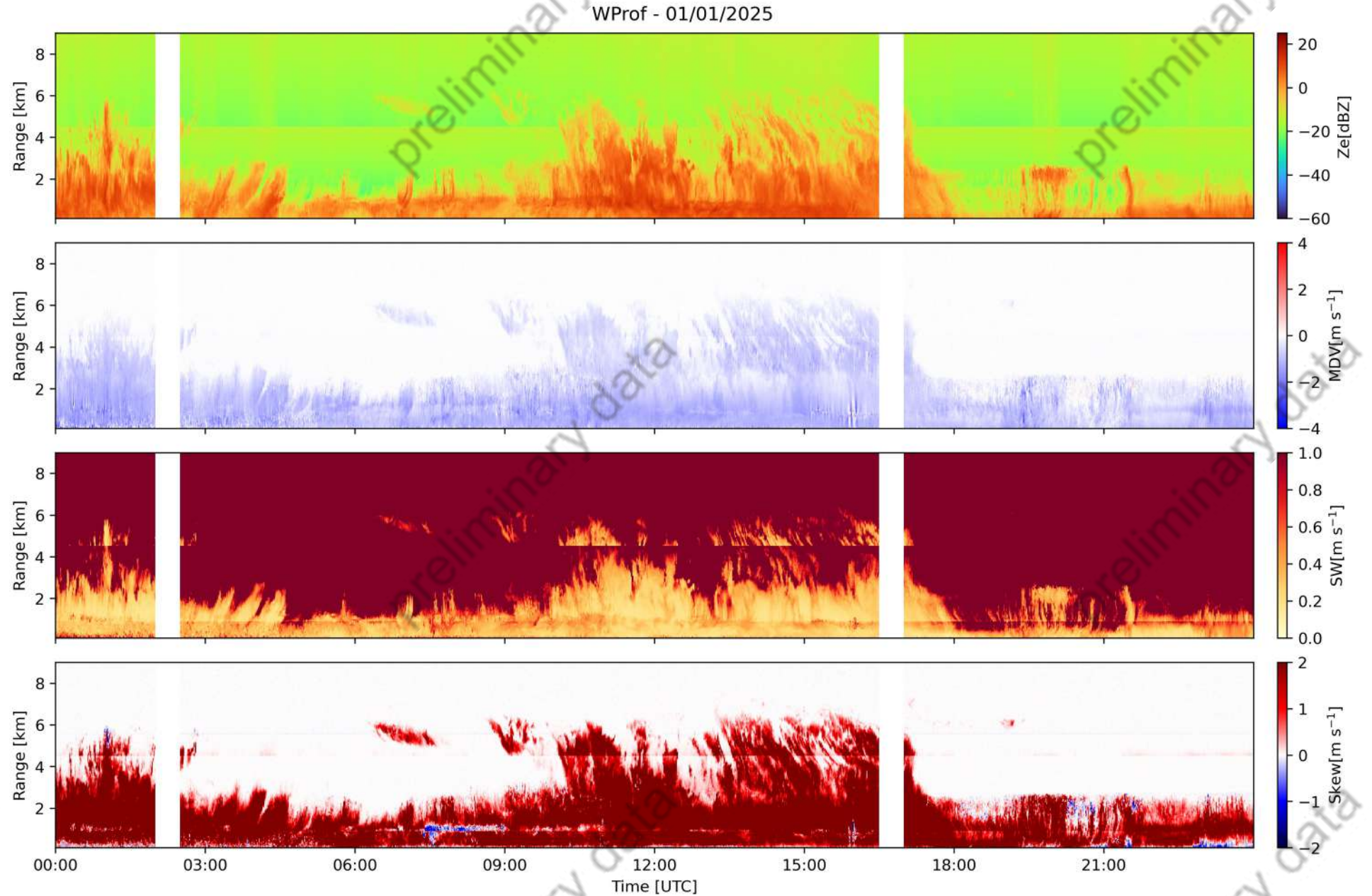


With the Starlink antenna



# WProf

Daily quicklooks



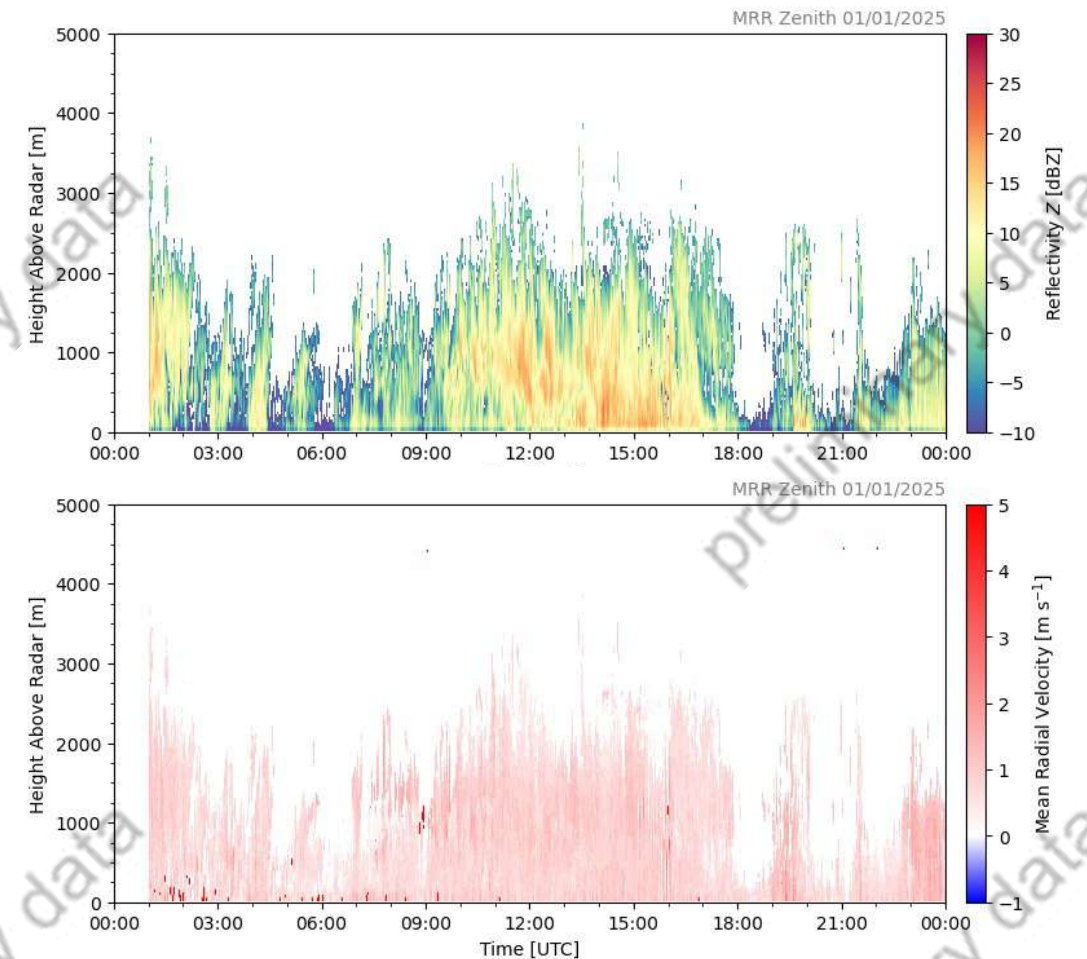


# MRR-PRO

Much smaller than the 2 other radar systems... Installed on wind profiler platform



Daily quicklooks





# Lidar

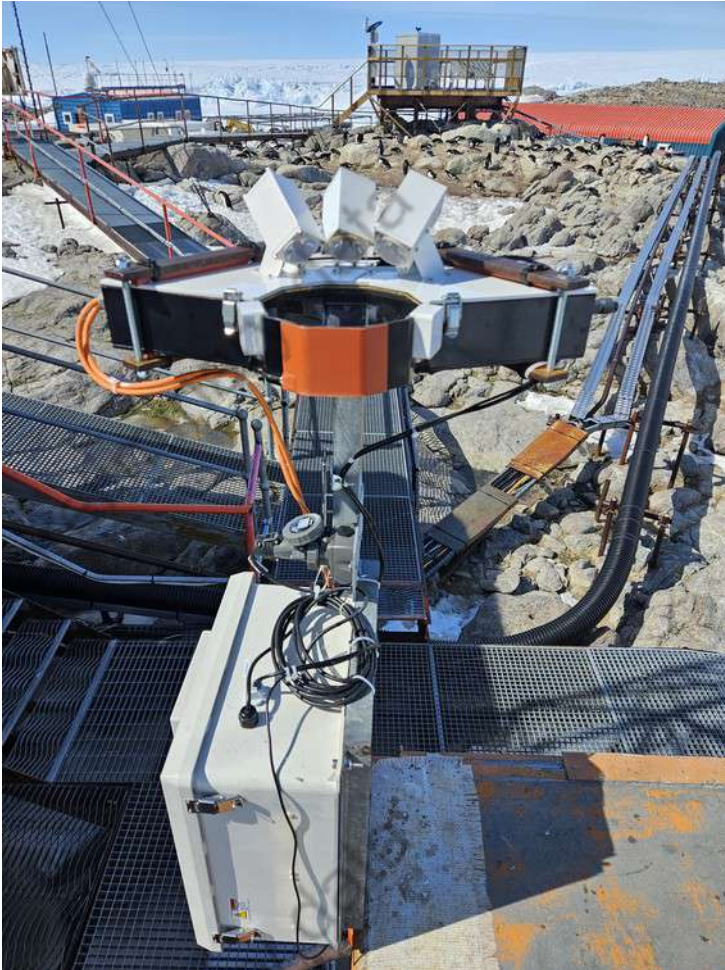
Installed inside the ATMOS building



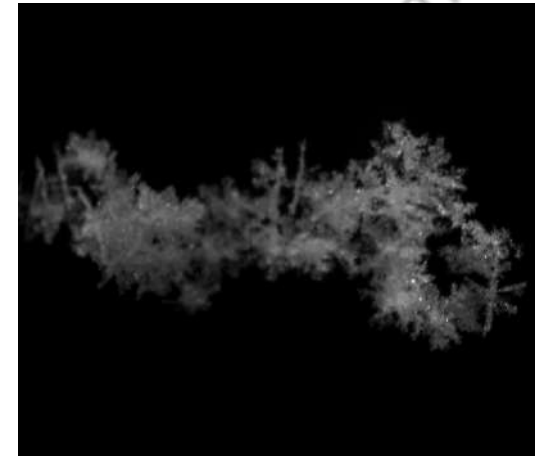
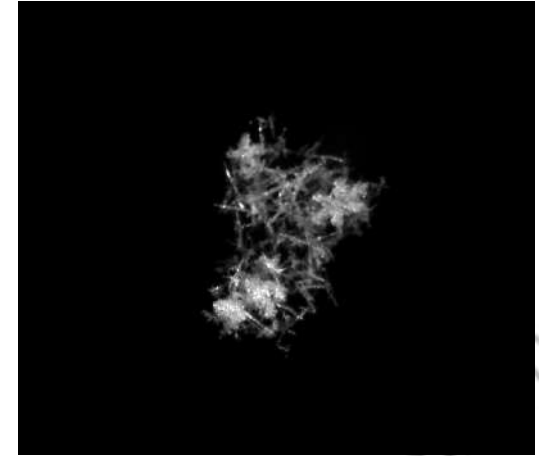
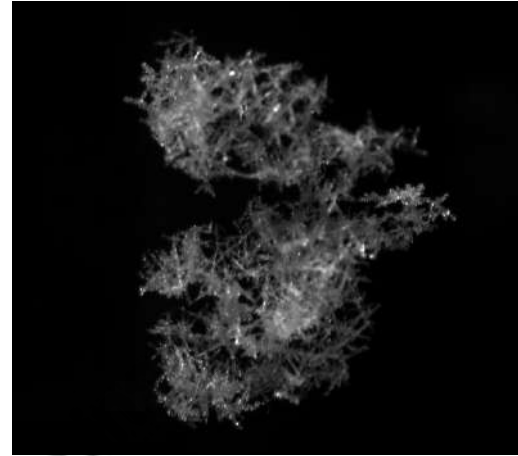
Issues with driver of acquisition card -> not working properly...

# MASC

Installed where it was 9 years ago...



Ex. of collected images



Loss of sync with flashes -> requires physical reboot ~2-3 weeks



# Wind Profiler

Installed by François and Valentin in 23-24 but issues.

Tests with Théo (instrum TA 74) and François!



- UHF box was not working  
-> new one as shipped at R2
- Ampli box was not working  
-> new one was shipped at R4
- UPS was off (too cold)

Tests are still going on...



# Network and communication

- Dedicated server for data storage (~45 TB)
- Dedicated and indep. vlan for AWACA at DDU
- Communication with each instrument
- Big thanks to Alejandro and IT IPEV

Starlink connection -> critically needed!





# Summary and perspectives

- Many instruments have been deployed at DDU.
- With the usual non-negligible amount of unexpected problems...
- 3 out of 6 function nominally
- 1 needs regular reboot
- 2 do not function at all (but we are working on those!)
- Technical and logistic support from IPEV has been very helpful and appreciated

Successful campaign overall!

- We are collecting good data!
- I remain optimistic for the lidar and wind profiler.

Good science in perspective!

- Not all needs in terms of maintenance are clarified at the moment.
- Support from colleagues in France/CH is also very important during the campaign!

Flexible and multi-competence people on the field next season!