ACTRiS CCRES

Summary Breakout session
Wind profiles from DCR and DL

CCRES Workshop Palaiseau 14-15 Nov 2022

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Wind profiles in ACTRIS

- 3D wind vector can be derived from DCR + DWL at ACTRIS stations

- **Doppler lidar VAD scan**
  - zenith angle 15°, every 15 minutes
  - 10 degrees angular resolution, spatial resolution 30 m
- **Cloud radar VAD scan**
  - zenith angle 8°, every 30 minutes
  - ~5 degrees angular resolution, spatial resolution 30 m

➢ **combined product based on both datasets at JOYCE continuously since 2020**

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JOYCE

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Discussion / Next steps

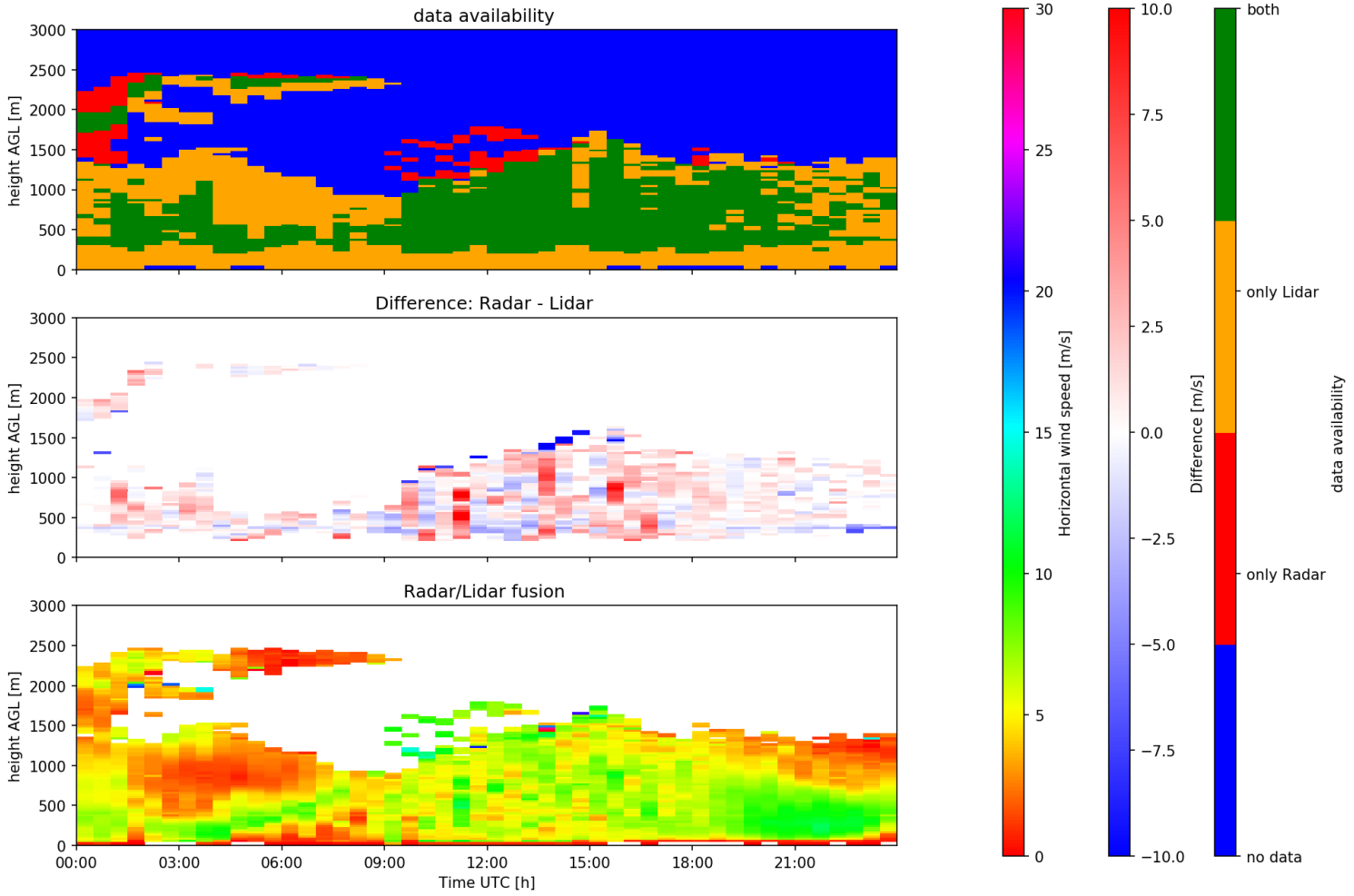
- Which stations can/want to implement that? Need a scanning DCR + DWL
- Which scan strategies? Which scan frequency? Every 15/30/60 min?
- Guidelines for scans will be developed (scan angles, scan types – VAD vs. 3 beams?)
  SOPs for DCR and DWL need to be adapted
- More data analysis – how good is the method in rain?
- Currently code is only available for JOYCE (mix between IDL / Python), needs to be adapted for general applicability
- Add Radar Wind Profiler (not an ACTRIS instrument)?
- Dual wavelength radar scans for insect detection?

Example day – wind speed boundary layer

availability

difference radar-lidar

fusion



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Thank you

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