

DIAGNOSIS
ON SITE
INSTRUMENTATION
DATA PROCESSING
EXPERTISE

This campaign measures speed, direction and vertical component of the wind and allows the recognition of atmospheric phenomena such as wind shear, temperature inversion, the height of the fog and stability.

SODAR

Features:

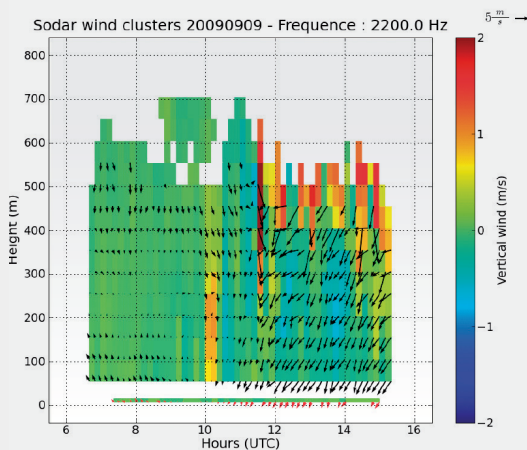
- Vertical profile of the wind direction and speed u, v, w.
- From 20 m to 700 m depending on the weather.
- Vertical resolution of 20 m, adjustable.
- Temporal resolution about 10 min.

Observable phenomena:

- Wind shears.
- Depth of mixed layer.
- Temperature inversions.
- Fog height.

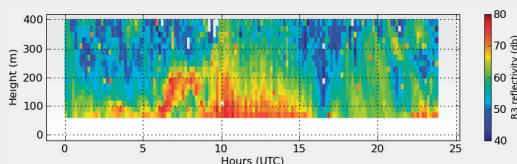
SODAR + sonar anemometer

Wind shear:
South wind up to 200 m height and north wind starting at 350 m from 7 to 10 am.



SODAR reflectivity

Temperature inversion:
Reflectivity increasing at 200 m height around 8 am.



Sonar anemometers

- Wind speed and direction : u, v, w.
- Very high temporal resolution.
- Turbulence calculation : Monin-Obukhov
- length, covariance between parameters.
- Friction speed.
- Heat flux.