DTU Wind Energy Department of Wind Energy IRPWind WindScanner.eu ECN









IRPWIND ScanFlow project

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ScanFlow

The ScanFlow project is short for the full project title:

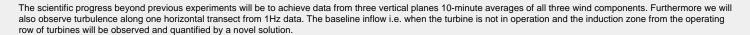
"High-resolution full-scale wind field measurements of the ECN's 2.5 MW aerodynamic research wind turbine using DTU's 3D WindScanner and SpinnerLidar for IRPWind's and EERA's benchmark".

The objective of ScanFlow is to establish a unique turbine power performance and induction zone

ground-based short-range WindScanner lidars to perform 3D wind velocity field observations.

benchmark experiment.





Furthermore the rotor plane equivalent wind speed can be reverse- calculated to wind speed from wind power production at 1 Hz fast production data and compared to WindScanner turbulence observations as well at turbulence data from the meteorological mast.



The ECN Wind turbine Test site allows for full scale wind turbine and wind farm related research, development and technology. The test site consists of flat, agricultural terrain with single farm houses and occasionally rows of trees. The average wind speed at 80m is 7.5 m/s and the main wind direction is South-West. The site comprises 5 modern, full scale research turbines (Nordex) with a hub height and rotor diameter of 80m and rated power of 2.5MW. The area is shown below.

Please see Poster G62 for further information!

Measurements

The observations with the SpinnerLidar started early December 2016 and will end late January 2017. During January 2017 the three short-range lidars will measure.

Data access

www.irpwind-scanflow.eu

Please see Poster G62 for further information!



Preparing to drive from DTU to ECN with the SpinnerLida



Preparation at ECN with the SpinnerLidar



ECN Test Site with 5 research turbines in flat agricultural terrain



Hoisting the the SpinnerLidar to the Nordex wind turbine at ECN

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