



Ice-detection on operational wind turbines

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Context

During specific weather conditions ice can build up on the blades of a wind turbine. This ice poses a risk in the built-environment. In the right conditions this ice can be thrown from the wind turbine and end up damaging property or people.

To prevent this many wind turbines are equipped with an anti-icing system or an ice detection system. However, these ice detection systems are often costly in the competitive market of onshore wind energy.



Objectives and requirements

In this project you will investigate a new concept to reduce the cost of ice-detection systems by using a single sensor in the tower. Using real world data of an actual operational wind turbine (with icing!) you will identify the possibilities and limitations of the new concept.

During the master thesis you will learn about the engineering of wind turbines, including the design process and the work of OWI-lab in the structural health monitoring of these fascinating structures.

About OWI-lab

OWI-lab is a research initiative between VUB, UGent and Sirris with the ambition to reduce cost of (offshore) wind energy. At VUB OWI-lab focuses on in-situ measurements. OWI-lab VUB has done measurement campaigns on all Belgian offshore wind farms, and multiple onshore wind turbines.

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