

SOFTWIND

MODELLING THE BEHAVIOUR OF FLOATING WIND TURBINES IN A TEST TANK USING SIL (SOFTWARE-IN-THE-LOOP)

Experimental modelling of the behaviour of a floating wind turbine in a tank poses many challenges for representing as faithfully as possible the influence of the rotor on the whole structure.

The physical phenomena and strains resulting from wind and swell are not governed by the same laws of similitude. This incompatibility requires compromises to be made in the modelling and these often hamper the faithful representation of a floating wind turbine in operation.

The goal of the SoftWind project is to develop an innovative, experimental mechanism specifically for floating wind turbine tank tests, based on an approach known as software-in-the-loop. This approach combines numerical and experimental modelling. Aerodynamic strain is numerically simulated and communicated in real time to the actuator. Sensors placed on the physical model respond by informing the numerical model of the position and velocity of nacelle displacement, essential entry data for the numerical model to estimate the apparent wind.

Partners

COM_PROJECTS_CATEGORIE_PARTNER_ENTREPRISES

D-ICE Engineering, Nantes

Research centers

Ecole Centrale de Nantes (ECN), LHEEA, Nantes [\[Project Developer\]](#)
Ecole Centrale de Nantes, Laboratoire des Sciences du Numérique de Nantes, (LS2N), Nantes

Funders

- WEAMEC
- Conseil Régional Pays de la Loire

Labelisation

28/04/2017

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185 K€