Wind Challenge
Student competition team
University of appled science
Emden-Leer

Project description Academic year 2021-2022

CFD modelling and simulation of 2D airfoils of small wind turbine blade

In this project you will work beside other members of the student competition team for small wind turbine, and learn basics of wind turbine design, wind energy and work on the modelling and simulation of 2D airfoils using CFD software. The goal of this project is to analyse the aerodynamic behaviour of the blade airfoils in steady and unsteady flow considering the static angle of attack as well as the moving airfoil with motions such as periodic pitching or hiving. This project will provide necessary data for the complete aero-elastic model of the whole wind turbine.

Main tasks/requirements:

- CFD modelling and simulations using Simcenter StarCCM+, OpenFoam or equivalent
- Preparation of the report of your work explaining the approach, solutions, and discussions on results
- Contribution to the final report of the team for the competition
- Contribution in preparation of the wind turbine
- Participation in weekly team meetings (online for remote students)
- Teamwork and communication with other team members
- Intermediate English knowledge or above

For more information about our team, visit the page:
https://www.hs-emden-leer.de/studierende/fachbereiche/technik/projekte/wind-challenge

Contact person for application or more information:
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