Subject: ARIA Newsletter June 2024
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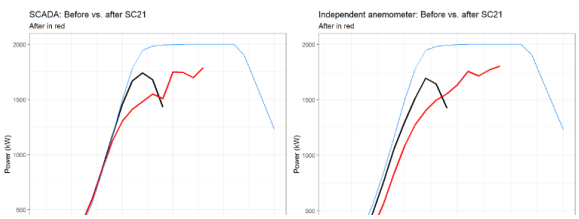
ARIA Newsletter
Edition June 2024

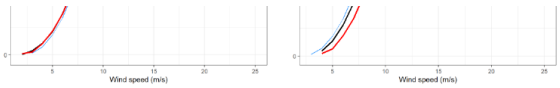
We are pleased to share with you the ARIA Newsletter June 2024.
Thank you all contributors and we hope you enjoy the reading !

Anomaly Detection in a Wind Farm using Double Measurements

By José-Antonio Rodríguez-Gallego, University of Seville

As part of the research made under the ARIA (Accurate Roms for Industrial Applications) project there is a primary need for reliable data in order to validate the different Reduced Order Models (ROMs) within the project. However, the results with the available data can be controversial as substantial differences appear when using different power production measurement devices. Therefore, the need for data analysis techniques is crucial to filter out these differences and derive reliable data.



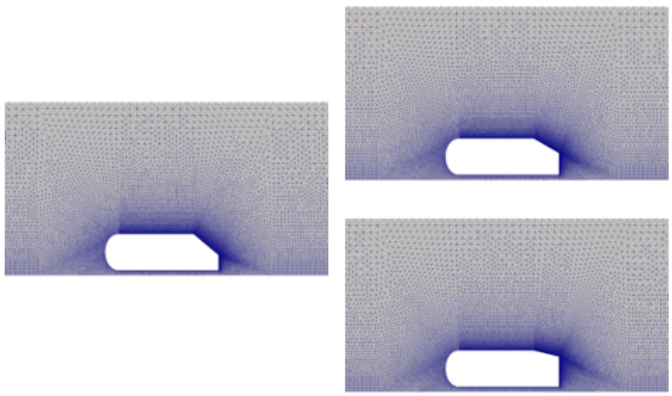


Read here

Secondment from University of Seville to Optimad

By Enrique Delgado Ávila, University of Seville

The purpose of this secondment was the study of the lift and drag coefficients for the flow around an obstacle. The main idea is to perform an Artificial Neural Network that let us to provide a prediction of the Lift and Drags coefficients, depending on the geometry.



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Secondment from University of Trieste to Valorem

By Federico Roman, University of Trieste

The purpose of the secondment was the definition of fluid dynamic problems related to wind turbines and in particular with regards to noise pollution aspects. During the secondment, after an in-depth discussion with the company, noise pollution from wind turbine was highlighted as a topic of interest for both. This aspect causes significant economic damage to the company, as if the wind farm is near a residential area, energy production is often stopped at night.

Read here

Secondment from Valorem to University of Seville

By Simon Brillet (Valorem)

Valorem had a secondment to University of Seville with the purpose the development of wind farm test case: construction of ROM transfer function. It also includes the construction of dataset based on anemometer nacelle transfer function.

Read here

ARIA Final Workshop, 25 – 27 November 2024
Trieste , Italy

This final workshop will be an open international conference on Reduced Order Models (ROMs), aimed for the dissemination of the network results. Registration is open to public.

Read here

Summer school on numerical analysis
01 - 05 July, Paris, France

This school aims to introduce hybrid numerical modeling methodologies that combine partial differential equation models with high-fidelity data. These methodologies focus on achieving explainability, accuracy, and robustness while maintaining speed and efficiency for performance prediction, parametric optimization, control, and data assimilation in complex industrial systems.

Read here

Other secondments

For other secondments implemented in the project, they are available on the project's website.

ARIA News & Event

ARIA Project Team