Vestas

APPLY

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Project 4: FRT container model and simulation
Student Project Proposal

Background

Grid-connected converters are increasingly present in power generation and are included in many renewable energy generators including wind turbines. It is thus essential for them to support the grid and to test their behavior during grid faults. A standardized way to test this in the field is using a FRT (Fault Ride Through) container to simulate a grid fault. Since the access to this hardware infrastructure is limited and costly, a simulation model is of major importance for the development of control strategies for grid support.

Scope

The scope of work is comprised in the following topics:
- Study of grid-connected converters and grid codes requirements regarding faults
- Create a model of a grid-connected converter
- Create a detailed model of the FRT container and transformer
- Perform SIL (Software in the loop) tests
- Analysis of grid fault characteristic impedance
- Prepare the model for implementation in an internal Vestas HIL model (optional)

Keywords: *Fault Ride Through, Modeling*

Classification: Restricted

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