



Dynamic Analysis of Wind Turbines

alaska/Wind WORKBENCH

Special Purpose Tool for Modeling and Simulation of Wind Turbines

Easy Use of Wind Turbine Models having variable Complexity

- creating turbine models by combining submodels
- easy change of blade and tower models
- assign parameter values to submodels
- efficient analysis of pre-defined load cases
- automatic documentation of model and results
- special support for the analysis of numerous load cases

alaska/Wind EXTENDED

Extension of the alaska/ModellerStudio by Wind Forces and Scenarios

Comfortable Development of Turbine Models and Load Cases

- developing extended subsystem models
- arbitrary drive train structure
- creating and testing load cases and sensors
- design and test of the control system
- comfortable model debugging

Dynamic Analysis of Wind Turbines

application in product development and certification

- sample turbine framework for rough layout, trend statements and load case evaluation
- detailed investigation with highly developed models of alternatively selectable subsystems
- extension of standard base models using the alaska model library
- state-of-the-art calculation of aerodynamic forces
- efficient and comfortable definition and analysis of load cases
- automatic documentation of the model and the load case analysis

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- easy to use assembling of subsystem models to turbine models
- converting blades and towers from standard codes
- preprocessor for turbulences and waves
- comfortable assignment of parameter values to subsystem models
- efficient modeling and evaluation of load case scenarios
- using a preprocessor for creating load case descriptions, depending on site and turbine specific conditions
- interface to external post-processing tools
- documentation of turbine model and load cases

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- seamless integration of turbine modeling in the alaska/ModellerStudio
- comfortable support for creating and testing load cases and sensors
- extension of base submodels by components from alaska/Gear (DriveTrain) or alaska/Flexible (replacing rigid bodies by flexible bodies)
- extensive modeling possibilities for load case and work scenarios according to actual regulations
- state-of-the-art calculation of aerodynamic forces
- programmable interface for controller and turbine management

Development
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