

FOCUS6 Blade Testing

Knowledge Centre WMC has extensive experience with structural testing of rotor blades. Now, this knowledge has been used to extend our FOCUS6 Wind Turbine Design package with a dedicated module for modeling and simulation of blade tests.

With this module you are able to:

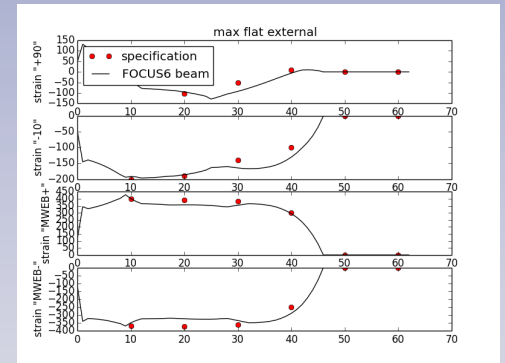
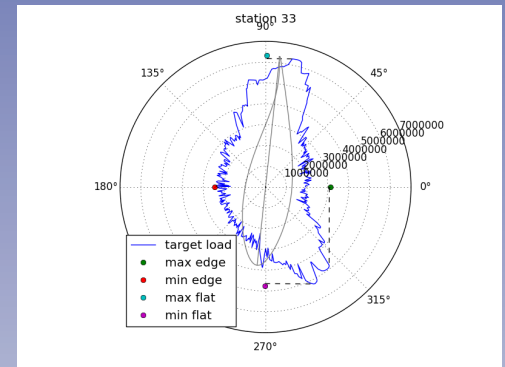
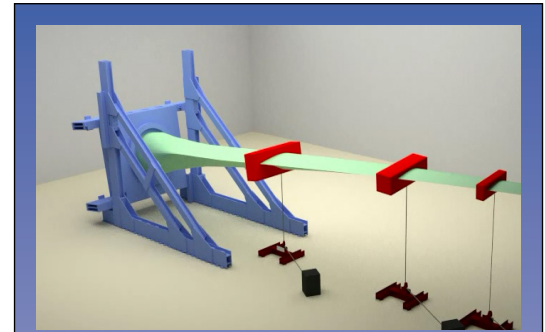
- prepare and design static test setups
- simulation of static tests
- compare test loads with load envelopes from design loads
- define virtual strain gauges in the model
- compare calculated strains and displacements with measured data
- import calculated/measured strains and displacements from 3rd-party software
- analyze static tests

If you design a blade test, you want to reach the ultimate calculated loads from design. However, you also want to prevent a too high load on critical parts of the blade. With this module, you can model your test setup and change parameters until both these two requirements are met. The blade test module takes into account additional masses of load saddles, tilt angle of the test rig and strains and deflections due to gravity consistently.

FOCUS6 takes care of all the coordinate transformations between the lab coordinate system and the local blade axis system, which prevents error-sensitive work. Using the defined load introduction locations and strain gauge positions, a detailed finite element mesh can be generated that includes these positions. Strains and deflections are calculated along lines, which can be easily compared to the measurements.

This dedicated module will speed up test preparation and analysis of tests and will save a lot of work.

In future releases the module will be extended with the design and simulation of fatigue tests.



Requirements:

- FOCUS6 Base system
- FOCUS6 Structural Blade Design
- optional: FOCUS6 FEM for Blade Design
- optional: FEM Export for Blade Design

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