The Chair for Wind Power Drives analyzes the behavior of drive systems in modern multi-megawatt wind turbines. Research objectives comprise increase of availability, robustness and energy efficiency of wind turbines alongside the reduction of electricity generation costs. For this purpose, software development tools are used in combination with modern system test benches.

Bearing outages at early stages have a huge negative impact on the economic efficiency of wind turbines. Therefore, the industry is pushing for research into measures to improve the reliability of bearings, especially regarding applications in the wind industry. As part of the WT-Bearing Center.NRW project, we are cooperating with numerous component and wind turbine manufacturers. The project aims at the construction of new prototype test rigs as well as the development of new test procedures.

In this work the existing planetary bearing test bench is to be further developed. The real operating behaviour of the planetary bearing in the field is to be mapped by adapting the test bench geometry.

Master-/Bachelor-Thesis
Optimization of the test bench geometry of a new type of component test bench for mapping the real operating behaviour of a planetary bearing arrangement

Tasks:
- Familiarization with the topic
- Definition of comparison criteria (test bench vs. field) for geometry optimization
- Conduction of FE-Simulations
- Optimization of the geometry of the surrounding construction
- Derivation of technical drawings
- Documentation

Requirements:
- Independent and autonomous work
- Interest in drive technology of wind turbines
- Interest in simulations

We offer:
- Fast processing and immediate start
- Intensive support
- Scientific work in a highly motivated, interdisciplinary team
- Possibility of subsequent employment within the framework of a doctorate

If you are interested, please contact:
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