

# Master Thesis

## Stability investigations for different models of synchronous machines

### Motivation

Stability investigations are generally carried out in the form of RMS calculations. For the synchronous machine, the rotor angle is mainly used to evaluate the stability. Typically, several more or less detailed models of synchronous machines are available, which require more or less parameters. Special effects can be well reproduced depending on the model. In the course of fault ride-through investigations, the question arises to what extent detailed models are required.

### Research Topics

- Which models are suitable for checking the fault ride-through capability?
- What influence do the detailed models have on the course of the polar wheel angle?
- Which effects have a decisive influence?
- Which controller components have a decisive influence?

### Procedure/Methodology/Task definition

- Familiarization with DIgSILENT PowerFactory
- Construction of the simulation models
- Examination of the models
  - Classical model
  - Standard Model
  - Model 3.3

### Organisational Issues

**Beginn immediately**

### Contact Person/Supervisor

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