

# Funded Master Thesis

## Creation and analysis of arc models

### Motivation

In addition to modeling the machine, modeling and parameterizing the controller are also important when analyzing technical requirements. Ideally, a controller model is provided by the manufacturer, often based on IEEE standard models or accompanied by a set of predefined parameters. Alternatively, often only information about the type of controller is available, without specific parameters. In such cases, the standardized IEEE parameters are usually used.

### Research Topics

- How do different arc models differ concerning fault currents?
- What is the range of typical arc characteristics and how do they influence the behavior of fault currents?
- Can typical ranges be defined for the characteristic values of the arc?

### Procedure/Methodology/Task definition

- Literature research
- Selection of the arc models to be analyzed
- Definition of the short-circuit current parameters to be analyzed
- Familiarisation with DIgSILENT PowerFactory
- Construction of the simulation models
- Implementation of the parameter study
- Documentation

### Organisational Issues

#### Beginn immediately

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