30.12.2022

Institute of Electrical Power Systems

Bachelor Thesis

Development of a calculation tool for short circuit calculation

Motivation

Short-circuit calculation has long been a necessary measure in the design of the electrical components of a power plant. In addition to the international short-circuit standard IEC 60909, the calculation for the design of generator circuit breakers according to IEC 62271-37-013 is also of great importance. In order to get a quick overview of the relevant short-circuit quantities and the difference between the two standards and to avoid unnecessary licenses for calculation software, the creation of a calculation tool with Matlab's AppDesigner is of great interest.

Research Topics

- How can the different calculation standards be implemented in a calculation tool in a meaningful way?
- Which different power plant topologies are usually necessary?
- What are the key differences between the standards?

Procedure/Methodology/Task definition

- Analysis of IEC 60909 and IEC 62271 standards
- Development of a calculation tool
- Verification of calculation tool results of different topologies by independent recalculation

Organisational Issues

Begin immediately

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