Master Thesis

Data science algorithms for neutral point measurements

Motivation

Low frequency neutral point currents (LFC) in high-voltage and extra-high-voltage grids lead to losses, harmonics, increased audible noise levels and, in the worst case, to the destruction of equipment and blackouts. Some sources of LFCs have already been identified and can be calculated with suitable models. For this purpose, the data of 9 transformer neutral point measurements, PMU data and protocols were used. The aim of this work is to analyze the measurement data with new methods away from the frequency spectra and, if necessary, to describe new LFC sources by means of models.

Austrian Transmission Grid

Research Questions & Task

- Literature research on analysis algorithms
- Analysis of measurement data with new methods (data science)
- Evaluation of measurement and simulation data with suitable criteria (correlation coefficients etc.)
- Modelling of the LFC sources
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Helpful skills

- Interesst in data science
- Knowledge in Matlab (Pyhton)
- Independet work

Organization matters

Start: now

Language: German or English

Thesis: LaTeX or Word

Contact persons/Supervisor

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