Karlsruhe Institute of Technology

Student Assistants (HiWi Job) at Energy Lab

Development of a Load Parameter Identification Algorithm

Job Description:
The ZIP load model is a widely used representation in power systems to describe the behavior of loads as a combination of constant impedance (Z), constant current (I), and constant power (P) components. Accurately identifying these parameters is crucial for reliable power system analysis and optimization. Furthermore, incorporating time-dependent recovery characteristics makes the load model more accurate for dynamic load modeling in power systems.
This HiWi job aims to develop an algorithm for identifying ZIP parameters of a load with power recovery.

Your Tasks:

- Learn the basics of load models and get familiar with the previous work.
- Develop a MATLAB algorithm to identify ZIP load model parameters.
- Simulate and validate the algorithm with relevant data sets.
- (Optional) Incorporate time recovery dynamics in the model parametrization.

What we offer:

- Enhancement of your competences in load modeling and programming
- Possibility to apply your knowledge in practical scenarios
- Insights in day-to-day research operations, conducting experiments, and publication process
- Friendly and flexible work environment

Your Profile:

- Currently pursuing a degree in engineering or computer science
- Experience with Matlab/Simulink
- Language: German or English

Contact:

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Workload: 36h-40h per month
Start: From now on
Duration: 6 months