

Hiwi Position

Power System Modelling and Simulation with the Open-Source Simulator DPsim

Context:

The *Institute for Automation of Complex Power Systems* develops several open-source software projects in the context of power system automation and simulation. One of these software projects is a real-time simulator called DPsim¹. The power system simulator supports static power flow simulations as well as dynamic simulations by means of three different approaches: electromagnetic transient (EMT) simulation, conventional Static Phasor (SP) simulation and a new approach called Dynamic Phasor (DP) simulation.

Tasks:

At the beginning you will get familiar with power system modelling and simulation and start understanding the DPsim environment. Following that, your tasks will cover the following topics and are related to current projects and research questions:

- supporting the implementation, improvement and maintenance of power system models in DPsim
- performing power system simulations and comparing the results to commercial tools
- interfacing the simulator with external software tools (data exchange, visualization)

Requirements:

- RWTH Bachelor/Master Student
- Good knowledge of Python/C++ is mandatory
- Fundamental knowledge of programming and motivation to learn advanced Python/C++ and Git
- Experience in power system modelling/simulation is desired

Our offer:

- The position is to be filled as soon as possible and is limited to 3 months, with possibility of extension up to 6 months
- The regular weekly working time is 8-12 hours

¹ <https://www.fein-aachen.org/en/projects/dpsim/>

Notes:

- The supervision can be done in English or German
- If you are interested in the advertised position, please send your CV and current grades

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