

KAIJIA HUANG

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SUMMARY

- 6 years electrical design experience in nuclear power industry.
- Strongly interest in renewable energy grid integration, power system stability and control.
- Self-motivated, problem-solving and collaborative student with excellent communication skills.
- Professional skilled in electrical engineering, experienced programming in Matlab and Python.

INTEREST AREA OF RESEARCH

- Power system dynamics, stability and control, when integrating large scale of renewable sources.
- Applying variate of simulation techniques in terms of studying power system robustness.
- Power system relevant data mining and machine learning application.

EDUCATION

- MSc, Sustainable Energy- Study Line in Wind Energy, Technical University of Denmark, 2019-2021
- MSc, Power System Engineering, The University of Manchester, 2013
- BEng, Electrical and Electronic Engineering, Cardiff University, 2012
- Bachelor, Electrical Engineering and Automation, Nourth China Electric Power University, 2012

EMPLOYMENT EXPERIENCE

China Nuclear Power Engineering co.ltd Oct 2013 to July 2019

- Expertise in designing, troubleshooting, updating the electrical power systems for HPR1000 nuclear power plants. Prepare engineering documents.
- Conduct detail design of cable works, load lists, switchboards, junction cabinets and control scheme, diesel generator sets, transformer and protective devices, layout plan, etc.
- Reviewing, clarifying and negotiating technical documents from vendors and fabricators.
- Managing interfaces with shareholders, vendors, the other disciplines and project managers.
- Support sales team, site engineers to ensure the project delivery quality and time of launching.

TECHNICAL SKILLS

- **Electrical Engineering:** Power system analysis and simulation; Wind power grid integration
- **IT:** Matlab/Simulink, PSCAD, RSCAD, WASP, PowerFactory, Python(Computation/Data Science Application)
- **Electronic Lab:** Breadboard circuit assembling, soldering, handling oscilloscopes, Labview, etc.
- **Wind Energy:** Modelling wind-wave impacted aerodynamics and structure dynamics of wind turbine and its foundation.

RESEARCH EXPERIENCE

Technical University of Denmark MSc Coursework
Sept 2019 to present

- Power system modelling with renewable source with Matlab/Simulink, and DigSILENT - PowerFactory (Start at Sept 2020).
- Use RSCAD and RTDS hardware to perform power system dynamic study and hardware-in-the-loop test.
- Model wind-wave climate and its aerodynamics on wind turbine structure with Matlab.

China Nuclear Power Engineering co.ltd 2017

- Nuclear island junction boxes design optimisation
- Nuclear island electrical equipment seismic fragility assessment (joint Simpson Gumpertz & Heger)

The University of Manchester MSc Thesis
Identification of Probabilistic Distribution of Electromechanical Modes. 2013
Supervised by Prof. Jovica V. Milanović.

- Comparison study on numerical and analytical methods on probabilistic power system eigenmodes estimation.
- Small signal stability analysis with Matlab and 'Matpower' package.
- Processing simulation data; mathematical model regression.

Cardiff University Bachelor Project
Comparative study of I-V measurements based on current source technique and voltage source technique. 2012
Supervised by Prof. Gao Min

- Conducting measurement in electronic lab
- Design and craft a device to hold a thermal-electric specimen.
- Analysing and visualising measurement data.

PUBLICATIONS

- Jia. Li, **K. Huang**, "Analysis of In-phase Grounding Fault Between Two Points in Resonant Grounding System", in Research & Design of Nuclear Engineering, issue 4, pp.200-205, May. 2016 (In Chinese language)
- R. Preece, **K. Huang** and J. V. Milanović, "Probabilistic Small-Disturbance Stability Assessment of Uncertain Power Systems Using Efficient Estimation Methods," in IEEE Transactions on Power Systems, vol. 29, no. 5, pp. 2509-2517, Sept. 2014
Main Contribution: Comparison study on the Monte Carlo (MC), Two Point Estimate method, Gram Charlier method and Probability Collocation Method (PCM) in terms of efficiency and compatibility.
- R. Preece, **K. Huang** and J. V. Milanović, "Comparison of point estimate and cumulant techniques for efficient estimation of critical oscillatory modes," 2014 IEEE PES General Meeting | Conference & Exposition, National Harbor, MD, 2014, pp. 1-5
- Qingqing Yang, Jianwei Li, Ricardo Santos, **Kaijia Huang**, Petar Igic "Intelligent Fault Detection and Location Scheme for MMC Multiterminal HVDC", in High Voltage