Hongjie Wang

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SUMMARY

- 4th year Ph. D. student at Utah State University, advised by Dr. Regan Zane
- Looking for internship and job opportunities for summer 2018 and onward
- 5+ years of experience in dc/dc power conversion (resonant power converters) and wireless power transfer system
- 14 papers in last three years (11 published, 3 in submission)

EDUCATION

PhD, Electrical Engineering - Power Electronics	GPA: 4.0/4.0	Advisor: Dr. Regan Zane
Utah State University, Logan, UT		Aug 2014 - Expected in Spring 2018
MS, Electrical Engineering	GPA: 3.6/4.0	Advisor: Dr. Xiuchen Jiang
Shanghai Jiao Tong University, Shanghai, China		Sep 2009 - Mar 2012
BS, Electrical Engineering	GPA: 3.64/4.0	Rank: 1/73
University of Shanghai for Science and Technology, Shanghai, China		Sep 2005 - Jun 2009

PROJECTS AND WORK EXPERIENCE

Stability Analysis Based Active Control of MVDC Power System for Electric Ship   USU   May 2017 - present
- Project funded by the **Raytheon Company**
- Proposed active impedance control technique of energy storage module (ESM) to increase system stability
- Volume and weight reduction of the passive components through active impedance control of ESM
- Techniques for continuous online system health monitoring using ESM

Design and Control of Resonant Converters for DC Current Distribution System   USU   Oct 2015 - present
- Project funded by the **Raytheon Company**
- Developed design consideration for SRC with constant current input (full load efficiency: 95%)
- Proposed a control strategy for the modules in dc current distribution system based on stability analysis
- Stability analysis of the dc current distribution system including transmission cable impedance
- Digital controller using Xilinx XC6SLX45 **FPGA** (Verilog HDL) and **TI TM4C1231** microcontroller

Active BMS for Electric Vehicles with Incorporated Low Voltage Bus   USU   Oct 2014 - Mar 2015
- Project funded by U.S. Department of Energy (**DOE**) and Advanced Research Projects Agency (**ARPA-E**)
- Developed a real-time central controller for EVs' active BMS using TargetPC
- The developed controller has operated in **NREL** for over **15 months**

Power Transfer Control for Vehicle Wireless Dynamic Charging   USU   Apr 2015 - Sep 2015
- Proposed a position sensorless power transfer control strategy for EV wireless dynamic charging
- Proposed a position sensorless technique for vehicle detection
- Control strategy with a **TI TMS320F28027** microcontroller

R & D Engineer, China Electric Power Research Institute (CEPRI)   Beijing, China   Jun 2012 - Jun 2014
- Research on High-voltage Equipment Online Monitoring and Intelligent High-voltage Equipment

SKILLS AND KNOWLEDGE

- Modeling, design and control of dc/dc, dc/ac, ac/dc power converters
- Stability analysis of dc voltage and dc current distribution system

- Lithium-ion battery modeling and state estimation
- Simulation in Matlab/Simulink, PLECS, LTSpice
- PCB design and layout in Altium
- Digital control implementation using microcontroller, DSP and FPGA
- Program with C/C++, C#, Visual Basic, Matlab programming, Verilog HDL

SELECTED PUBLICATIONS

[1] **H. Wang**, T. Saha and R. Zane, "Impedance-based stability analysis and design considerations for DC current distribution with long transmission cable," *2017 IEEE 18th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Stanford, CA, 2017, pp. 1-8.

[2] **H. Wang**, T. Saha and R. Zane, "Analysis and design of a series resonant converter with constant current input and regulated output current," *2017 IEEE Applied Power Electronics Conference and Exposition (APEC)*, Tampa, FL, 2017, pp. 1741-1747.

[3] T. Saha, **H. Wang** and R. Zane, "Zero voltage switching assistance design for DC-DC series resonant converter with constant input current for wide load range," *2017 IEEE 18th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Stanford, CA, 2017, pp. 1-5.

[4] M. Evzelman, **H. Wang**, R. Zane and X. Zhao, "Two-stage sinusoidal generator with calibration and pulse train amplitude feedback for ultrasonic applications," *2017 IEEE Applied Power Electronics Conference and Exposition (APEC)*, Tampa, FL, 2017, pp. 2124-2130.

[5] T. Saha, **H. Wang**, B. Riar and R. Zane, "Analysis of zero voltage switching requirements and passive auxiliary circuit design for DC-DC series resonant converters with constant input current," *2016 IEEE 2nd Annual Southern Power Electronics Conference (SPEC)*, Auckland, 2016, pp. 1-6.

[6] **H. Wang**, T. Saha and R. Zane, "Design considerations for series resonant converters with constant current input," *2016 IEEE Energy Conversion Congress and Exposition (ECCE)*, Milwaukee, WI, 2016, pp. 1-8.

[7] **H. Wang**, T. Saha and R. Zane, "Control of series connected resonant converter modules in constant current dc distribution power systems," *2016 IEEE 17th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Trondheim, 2016, pp. 1-7.

[8] **H. Wang**, M. M. U. Rehman, M. Evzelman and R. Zane, "SIMULINK based hardware-in-the-loop rapid prototyping of an electric vehicle battery balancing controller," *2015 IEEE 16th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Vancouver, BC, 2015, pp. 1-6.

[9] F. Zhang, M. M. U. Rehman, **H. Wang** et al., "State-of-charge estimation based on microcontroller-implemented sigma-point Kalman filter in a modular cell balancing system for Lithium-Ion battery packs," *2015 IEEE 16th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Vancouver, BC, 2015, pp. 1-7.

[10] N. Hasan, **H. Wang**, T. Saha and Z. Pantic, "A novel position sensorless power transfer control of lumped coil-based in-motion wireless power transfer systems," *2015 IEEE Energy Conversion Congress and Exposition (ECCE)*, Montreal, QC, 2015, pp. 586-593.

[11] N. Hasan, I. Cocar, T. Amely, **H. Wang** et al., "A practical implementation of wireless power transfer systems for socially interactive robots," *2015 IEEE Energy Conversion Congress and Exposition (ECCE)*, Montreal, QC, 2015, pp. 4935-4942.