Zhechi Ye

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EDUCATION

Department of Electrical Engineering, Tsinghua University, China Aug 2015- Present
B.E. in Electrical Engineering, GPA: Major: 3.77/4.0 Rank: 6/132
Core Courses: Power Electronics (A), Automatic Control Theory (A), Electromagnetic Fields (A-), Electric Machinery Fundamentals (A-), Principles and Applications of Microcomputers (A-), Digital Electronics (A-), Fundamentals of Analog Electronics (A-), Principles of Circuits (A)
Double Major: B.S. in Economics
Standardized English Test: TOEFL: Total 105 (Reading 30, Listening 28, Speaking 22, Writing 25)
GRE: 328 (V158 + Q170) +3.0
Coursera Courses: Power Electronics Specialization (University of Colorado Boulder)

RESEARCH EXPERIENCES

Design of High Frequency Class E Converters | Stanford University
July 2018-Aug 2018
Advisor: Juan Rivas-Davila, Assistant Professor of Electrical Engineering, Stanford University
- Designed and built high efficiency 13.56MHz 600W Class E converters based on wide band-gap semiconductor devices
- Simulated and compared the converter performances based on different devices, and found that a newly proposed cascode structure could provide best converter performance
- Designed and built a 6.78MHz Class E converter based on GaN device and conducted a Sawyer-Tower test to characterize its Coss loss

A Novel Trench Gate SiC Module Modeling | Tsinghua University and Fuji Electric
Apr 2017- May 2018
Advisor: Zhengming Zhao, Professor of Electrical Engineering, Tsinghua University
- Proposed a mathematical transient model for new SiC MOSFET modules based on datasheet parameters
- Calculated the transient switching times of SiC MOSFET using the proposed model
- Conducted double pulse test to verify the proposed model
- Publishing the results on ICEMS (International Conference on Electrical Machines and Systems) 2018

High Power Density High Efficiency DC-DC Converter | Tsinghua University
May 2018- Present
Advisor: Kai Sun, Associate Professor of Electrical Engineering, Tsinghua University
- Designed and built a 350kHz 400W CLLC converter based on GaN devices
- Added closed loop control and bidirectional operation mode to the converter
- The converter could achieve high power density and high efficiency (92%)
- The whole converter system will be sent to a competition sponsored by GaN Systems Inc.

Automatic Length Measuring Instrument| Tsinghua University
Jun 2017- Aug 2017
Advisor: Hong Wang, Associate Professor of Automation, Tsinghua University
- Developed a system based on FPGA to measure the length of a workpiece automatically
- Designed the automatic control method for the whole system
- Assembled the instrument with sensors, FPGA and SWR machine
- Conducted experiments on the accuracy and reliability of the instrument, and did system-level optimization based on the experiment result

SCHOLARSHIPS

Comprehensive Scholarship for academic excellence, Tsinghua University (top 2%) 2016
Heng Da Scholarship for academic excellence, Tsinghua University (5/405) 2016

WuLiangYe Science and Technology Scholarship for academic excellence, Tsinghua University (2/405) 2017

ACTIVITIES

Chinese Undergraduate Visiting Research (UGVR) Program, Stanford University | Visiting Researcher
July 2018-Aug 2018

- Only 18 students from China are selected to the program every year
- Research training in Stanford University Power Electronics Research Lab
- Presentation and poster skill training by the School of Engineering

School of Electrical and Electronic Engineering, The University of Manchester | Visiting Student
Aug 2017

- Visiting labs and teaching activities
- Attending lectures and seminars of various academic topics

SKILLS

Software: C, SPICE, Matlab & Simulink, Aultium Designer, Multisim, Eagle, Vivado, STATA, LINGO
Hardware: PCB design, FPGA, MCU, electronic lab equipment