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张 侨

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研究方向: 电力电子应用, 电机驱动, DC-DC变换器设计与控制, 新能源汽车电气驱动系统,

教育及工作经历:

2003年, 2006年及2010年分别取得工学学士、硕士、博士学位。博士毕业后于2010.6-2016.6在丰田集团爱信精机株式会社英国研发中心任高级研发工程师, 主要从事新能源汽车电气驱动系统的研发工作。此后于2016.7加入武汉理工大学自动化学院。

研究方向:

电力电子应用, 电机驱动, DC-DC功率变换器, 新能源汽车电气驱动系统

招生要求:

动手能力强; 有一定编程或电路设计能力; 对电力电子应用及电机驱动(设计)感兴趣。

主持的科研项目:

与国内外工业界紧密结合, 主持的在研横向项目多项, 其中包含3项国际合作项目。研究内容涵盖了电机驱动, 新能源汽车电驱系统, 功率变换器设计及电机本体设计等多方面:

高功率密度逆变器设计

交流伺服驱动器研发

新能源物流车电气驱动系统研发

智能逆变器技术研发

IGBT节温在线辨识技术研究

基于非晶材料的高速、高效率新能源汽车主驱电机设计

高功率密度异步电机设计与研发

论文代表作(按时间顺序):

Q. Tong, Q. Zhang*, R. Min, X. Zou, Z. Liu, and Z. Chen, "Sensorless Predictive Peak Current Control for Boost Converter Using Comprehensive Compensation Strategy," IEEE Transactions on Industrial Electronics, vol. 61, no. 6, pp. 2754-2766, Jun, 2014. (通信作者)

Q. Zhang, R. Min, Q. Tong, X. Zou, Z. Liu, and A. Shen, "Sensorless Predictive Current Controlled DC-DC Converter With a Self-Correction Differential Current Observer," IEEE Transactions on Industrial Electronics, vol. 61, no. 12, pp. 6747-6757, Dec, 2014.

Q.L. Tong, C. Chen, Q. Zhang*, X.C. Zou. A sensorless predictive current controlled boost converter by using an EKF with Load Variation Effect Elimination Function. Sensors. 2015, 15: 9986-10003.

R. Min, Q. Tong, Q. Zhang, X. Zou, K. Yu, and Z. Liu, "Digital Sensorless Current Mode Control Based on Charge Balance Principle and Dual Current Error Compensation for DC-DC Converters in DCM," IEEE Transactions on Industrial Electronics, vol. 63, no. 1, pp. 155-166, Jan, 2016.

C. Chen, L. Li, Q. Zhang, Q. Tong, K. Liu, D. Lyu, and R. Min, "Online Inductor Parameters Identification by Small-Signal Injection for Sensorless Predictive Current Controlled Boost Converter," IEEE Transactions on Industrial Informatics, vol. 13, no. 4, pp. 1554-1564, 2017.

R. Min, Q. Zhang, Q. Tong, X. Zou, X. Chen, and Z. Liu, "Multiloop Minimum Switching Cycle Control Based on Nonaveraged Current Discrete-Time Model for Buck Converter," IEEE Transactions on Power Electronics, vol. 32, no. 4, pp. 3143-3153, 2017.

C. Chen, Q. Tong, R. Min, Q. Zhang, X. Zou, and Z. Liu, "Sensorless predictive current control with a charge balance current estimator for boost converters based on discrete-time model considering current ripple," IET Power Electronics, vol. 11, no. 13, pp. 2063-2071, 2018.

R. Min, Q. Tong, Q. Zhang*, C. Chen, X. Zou, and D. Lv, "Corrective frequency compensation for parasitics in boost power converter with sensorless current mode control," International Journal of Electrical Power & Energy Systems, vol. 96, pp. 274-281, 2018/03/01/, 2018.

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