电气工程学院

School of Electrical Engineering

Yu Tang（汤雨）

Research topics

1) high frequency power converters

2) renewable energy conversion

3) power electronics applied in power system

Selected publications(5)

1) Tang Y, Xu F, Bai Y, et al. Comparative Analysis of Two Modulation Strategies for an Active Buck–Boost Inverter[J]. IEEE Transactions on Power Electronics,

2) Tang Y, Fu D, Kan J, et al. Dual Switches DC/DC Converter With Three-Winding-Coupled Inductor and Charge Pump[J]. IEEE Transactions on Power Electronics

3) Hybrid Switched-Inductor Converters for High Step-Up Conversion[J]. IEEE Transactions on Industrial Electronics

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Shuai Zhang（张帅）

Research topics

Shuai Zhang is Professor and Vice Dean of School of Electrical Engineering at Hebei University of Technology (HEBUT), Tianjin, CHINA. He is also a Professor at HEBUT Department of Biomedical Engineering and the State Key Laboratory of Reliability and Intelligence of Electrical Equipment. Dr. Zhang has made better significant research contributions to the fields of neuroengineering and biomedical imaging, including Biomedical Engineering, Bioelectromagnetism, Electromagnetic Neural Stimulation, multimodal neuroimaging and stimulation, and bioimpedance imaging. Dr. Zhang serve as chairman of Bioelectromagnetic and Intelligent Health Committee. He has served as the editor of journal of [Life Sciences Instrument](https://www.baidu.com/link?url=qmnzgvLdVDeg3dGxfC47I8WgH8YK58tnftYj9jRgDI7k4Um5aNineZvVHgZEZnohBMt7S8538RS5dVcCDWK21xGcU6rtFb5Bjslw3V4g1JXMqeMX8JHWBQZMvJOyoAH4&wd=&eqid=fa09428b000439ac000000035e0d6dc5), and peer reviewer of IEEE Transactions on Biomedical Engineering.

1) Biomedical Engineering

2) Bioelectromagnetism

3) Electromagnetic Neural Stimulation

4) Bioelectromagnetic and Intelligent Health

Selected publications(5)

1) Effect of transcranial ultrasonic-magnetic stimulation on neural spiking behaviours in Izhikevich model, IEEE Transactions on Magnetics, 2018.1.4, 54(3): 5000204

2) Reconstruction of Acoustic Inhomogeneous Property in Magnetoacoustic Tomography with Magnetic Induction, International Journal of Applied Electromagnetics and Mechanics, 2017.12.18, 56(4): 131-140

3) Inhibitory efect of ultrasonic stimulation on the voltage-dependent potassium currents in rat hippocampal CA1 neurons, BMC neuroscience, 2019,20(3):3-10

4）Computation of a 3-D Model for Lung Imaging with Electrical Impedance Tomography. IEEE Transactions on Magnetics. vol. 48, no. 2, pp: 651-654, 2012.

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Ling Weng （翁玲）

Research topics

1) Tactile sensors and systems for manipulator;

2) Dynamic characteristics and models of magnetostrictive materials and structure;

3) Smart materials and structure.

Selected publications(5)

1) Yunkai Li, Bowen Wang, Yuanyuan Li, Bing Zhang, Ling Weng, Wenmei Huang, and Huaping Liu. Design and Output Characteristics of Magnetostrictive Tactile Sensor for Detecting Force and Stiffness of Manipulated Objects [J]. IEEE Transactions on Industrial Informatics, 2019, 15(2):1219-1225.

2) Ling Weng, Weina Li, Ying Sun, Wenmei Huang, Bowen Wang. High frequency characterization of Galfenol minor flux density loops [J]. AIP Advances, 2017, 7, 056023.

3) Ling Weng, Qing Zhao, Ying Sun, Wenmei Huang, Bowen Wang, Simon Busbridge. Dynamic experiments of strain and magnetic field for Galfenol rod and its modeling [J]. IEEE Transactions on Applied Superconductivity, 2016, 26(4):0600605.

4) Ling Weng, Travis Walker, Zhangxian Deng, M. J. Dapino, Bowen Wang. Major and minor stress-magnetization loops in textured polycrystalline Fe81.6Ga18.4 Galfenol. J. Appl. Phys. 113, 024508 (2013).

5) Ling Weng, Bowen Wang, M. J. Dapino, Ying Sun, Li Wang, Baozhi Cui. Relationships between magnetization and dynamic stress for Galfenol rod alloy and its application in force sensor. J. Appl. Phys. 113, 17A917 (2013).

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Ling-Ling Li (李玲玲)

Research topics

1) New energy power generation and consumption

2) Power multi-source collaborative optimization

3) Active distribution network planning

4) Reliability of electrical equipment

5) Computational intelligence and its application

Selected publications(5)

(1) **Ling-Ling Li**, Jia-Qi Liu, Ming-Lang Tseng, et al. Improved Manson model to predict the power module cumulative damage degree in new energy vehicle. Journal of Cleaner Production, 2022, 374: 133945. (WOS:000864087900002) ISSN 0959-6526. Impact factor of the journal: 11.072. SCI: Q1.

(2) **Ling-Ling Li**, Jia-Le Lou, Ming-Lang Tseng, et al. A hybrid dynamic economic environmental dispatch model for balancing operating costs and pollutant emissions in renewable energy: A novel improved mayfly algorithm. Expert systems with applications. 2022, 203:117411. (WOS:000830187900006) ISSN 0957-4174. Impact factor of the journal: 8.665. SCI: Q1.

(3) **Ling-Ling Li**, Xin-Yu Ren, Ming-Lang Tseng, et al. Performance evaluation of solar hybrid combined cooling, heating and power systems: a multi-objective arithmetic optimization algorithm. Energy Conversion and Management, 2022, 258:115541. (WOS:000788511400005) ISSN 0196-8904. Impact factor of the journal: 11.533. SCI: Q1.

(4) **Ling-Ling Li**, Jun-Lin Xiong, Ming-Lang Tseng, et al. Using multi-objective sparrow search algorithm to establish . Expert systems with applications, 2022, 193: 116445. (WOS: 000742421800007) ISSN 0957-4174. Impact factor of the journal: 8.665. SCI: Q1.

(5) **Ling-Ling Li**, Zhi-Feng Liu, Ming-Lang Tseng, et al. Improved tunicate swarm algorithm: Solving the dynamic economic emission dispatch problems. Applied Soft Computing, 2021, 108: 107504. (WOS: 000659522000001) ISSN 1568-4946. Impact factor of the journal: 8.263. SCI: Q1.

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Feng Niu （牛峰）

Research topics

1) Motor system and control

2) Motor predictive control

3) EMI/thermal problem in motor system

4) Intellectualization of electrical apparatus

Selected publications(5)

1) Shiran Cao, **Feng Niu\***, Xiaoyan Huang, Shaopo Huang, Yao Wang, Kui Li, and Youtong Fang. Time-frequency characteristics research of common mode current in PWM motor system[J]. IEEE Transactions on Power Electronics. vol. 35, no. 2, pp. 1450-1458, Feb. 2020.

2) **Feng Niu**, Xiaoyan Huang, Leijiao Ge, Jian Zhang, Lijian Wu, Yao Wang, Kui Li, and Youtong Fang. A simple and practical duty cycle modulated direct torque control for permanent magnet synchronous motors[J]. IEEE Transactions on Power Electronics. vol. 34, no. 2, pp. 1572-1579, Feb. 2019.

3) Jian Li, Xiaoyan Huang, **Feng Niu\***, Chaojie You, Lijian Wu, and Youtong Fang. Prediction error analysis of finite-control-set model predictive current control for IPMSMs[J]. Energies. vol. 11, 2051, 2018.

4) **Feng Niu**, BingsenWang, Andrew Babel, Kui Li, and Elias G. Strangas. Comparative evaluation of direct torque control strategies for permanent magnet synchronous machines[J]. IEEE Transactions on Power Electronics. vol. 31, no. 2, pp. 1408-1424, Feb. 2016.

5) **Feng Niu**, Kui Li, and Yao Wang. Direct torque control for permanent magnet synchronous machines based on duty ratio modulation[J]. IEEE Transactions on Industrial Electronics. vol. 62, no. 10, pp. 6160-6170, Oct. 2015.

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Kui Li （李奎）

Research topics

1)Reliability of Electrical Equipment

2)Intelligent of Electrical Equipment

3) Theory of Switchgear

Selected publications(5)

1) K. Li, X. B. Li, S. M. Zheng, S. P. Huang, et al., “Residual Electrical life prediction of AC contactor based BP neural network,” Transactions of China Electrotechnical Society., vol. 32, no. 15, pp. 120-127, 2017.

2) K. Li, Y. Duan, S. P. Huang, S. M. Zheng, Z. J. Liu, Y. Wu, C. Z. Zhou, “Residual Electrical Life Prediction of AC Contactor Based on the Wiener Process,” Proceedings of the CSEE., vol. 38, no. 13, pp. 3978-3986, Jul. 2018.

3) S. Zheng, F. Niu, K. Li, S. Huang, Z. Liu and Y. Wu, “Analysis of electrical life distribution characteristics of AC contactor based on performance degradation,” IEEE Trans. Compon., Packag., Manuf. Technol., vol. 8, no. 9, pp. 1604-1613, Sept. 2018.

4) K. Li, Y. Dai, Y. Wang, F. Niu, Z. Chen, S. Huan. Analysis and modeling of leakage current sensor under pulsating direct current[J]. AIP Advances. 2017, 7(5): 056649

5) K. Li, F. Niu, Y. Wu, Y. Wang, Y. Dai, L. Wang, E. Li. Nonlinear current detection based on magnetic modulation technology[J]. IEEE Transactions on Magnetics, 2015, 51(11): 4004804

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Chengcheng Liu （刘成成）

Research topics

1) Electrical machine design and analysis

2) Design optimization

3) Magnetic field analysis

Selected publications(5)

[1] [C.C. Liu](https://ieeexplore.ieee.org/author/37085401439), [G Lei\*](https://ieeexplore.ieee.org/author/37546091400), [Bo Ma](https://ieeexplore.ieee.org/author/37085993249), [Y.H. Wang](https://ieeexplore.ieee.org/author/37281438100), [Y.G. Guo](https://ieeexplore.ieee.org/author/37277882800) and [J.G. Zhu](https://ieeexplore.ieee.org/author/37279939600). “Development of a New Low Cost 3-D Flux Transverse Flux FSPMM with Soft Magnetic Composite Cores and Ferrite Magnets”, IEEE transactions on magnetics, vol. 53, no. 11, article#8109805, 2017.WOS:000413981300296

[2] C.C. Liu\*, G. Lei, T.S. Wang, Y.G. Guo, Y.H. Wang and J.G. Zhu. “[Comparative Study of Small Electrical Machines With Soft Magnetic Composite Cores](https://scholar.google.com/citations?view_op=view_citation&hl=zh-CN&user=f_t7NfwAAAAJ&sortby=pubdate&citation_for_view=f_t7NfwAAAAJ:OU6Ihb5iCvQC)”, IEEE transactions on industrial electronics, Volume: 64, [Issue: 2](http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=7812803), pp. 1049-1060, Feb. 2017WOS:000395826100017

[3] C.C. Liu, K.L. Wang, S.P. Wang, F. Niu, Y.H. Wang, Analysis and Design Optimization of a Low Cost Axial Flux Vernier Machine with SMC Cores and Ferrite Magnets. Electrical engineering, vol. 102, no. 4, pp. 2595-2604, 2020, WOS:000545187200002

[4] C.C. Liu, D.Y. Wang, S.P. Wang, F. Niu, Y.H. Wang, Design and Analysis of a New Permanent Magnet Claw Pole Machine with S-Shape Winding, IEEE transactions on magnetics, vol. 57, no. 2, article#8103605, 2021.WOS:000611096900189

[5] G. Lei, G. Bramerdorfer, C. Liu\*, Y. Guo and J. Zhu, "Robust Design Optimization of Electrical Machines: A Comparative Study and Space Reduction Strategy," in IEEE Transactions on Energy Conversion, vol. 36, no. 1, pp. 300-313, March 2021, doi: 10.1109/TEC.2020.2999482.

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