

Zhenxiang Yi

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EDUCATION

- 09/2005-06/2009
Southeast University B.S. Electronic Science and Technology
- 09/2009-03/2015
Southeast University Ph.D. Microelectronics & Solid-State Electronic

WORKING EXPERIENCE

- 03/2015-03/2018
Assistant Professor, major in MEMS devices
Key Laboratory of MEMS of the Ministry of Education, Southeast University
- 04/2018-present
Associate Professor, major in MEMS devices
Key Laboratory of MEMS of the Ministry of Education, Southeast University

RESEARCH AREA

- 2009-2015: RF MEMS Power Sensors/Frequency Detectors
- 2015 to present: MEMS Wind Sensors

FUNDING

- National Natural Science Foundation of China (Grant: 61704026)
- National Natural Science Foundation of China (Grant: 61971124)

ACCOMPLISHMENT

1. Researched MEMS wind sensors on flexible substrate
2. Designed and tested MEMS wind sensors by temperature balance model
3. Researched the MEMS thermal wind sensors and established the 2D model to describe the temperature distribution
4. Fabricated the MEMS capacitive power sensor based on cantilever beam and established the power-displacement-capacitance conversion model
5. Reported a novel microwave power sensor based on MEMS seesaw-type structure to improve the sensitivity
6. Designed a new microwave frequency detector for power-unknown signal by MEMS technology

PUBLICATIONS

- [1] **Zhenxiang Yi***, Yizhou Ye, Ming Qin and Qing-An Huang, Modeling of packaged MEMS thermal wind sensor operating on CP mode, *IEEE Transactions on Electron Devices*, 2019, 66(5), pp. 2375-2381
- [2] **Zhenxiang Yi***, Yu Wan, Ming Qin and Qing-An Huang, Novel anemometer based on inductor bending effect, *IEEE Journal of Microelectromechanical Systems*, 2019, 28(3), pp. 321-323
- [3] **Zhenxiang Yi***, Dong Wang, Ming Qin and Qing-An Huang, Encapsulation glue effect of encapsulation glue on micromachined thermal wind sensor, *IEEE Sensors Letters*, 2018, 2, 1501503
- [4] **Zhenxiang Yi***, Ming Qin, Qing-An Huang, Experiment of the MEMS wind sensor based on temperature-balanced mode, *IEEE Sensors Journal*, 2017, 17(8), pp. 2316-2317
- [5] **Zhenxiang Yi***, Ming Qin and Qing-An Huang, A micromachined thermal wind sensor, *Micro Electro Mechanical Systems, Micro/Nano Technologies, Springer Nature*, 2017
- [6] **Zhenxiang Yi***, Xiaoping Liao, Modelling of differential power sensor based on seesaw structure for microwave communication application, *IEEE Transactions on Electron Devices*, 2017, 64(11), pp. 4664-4670
- [7] **Zhenxiang Yi***, Xiaoping Liao, Theoretical and experimental investigation of cascaded microwave power sensor, *IEEE Transactions on Electron Devices*, 2017, 64(4), pp. 1728-1734
- [8] **Zhenxiang Yi***, Xiaoping Liao, Reliability improvement of the cascaded power sensor based on MIM capacitor, *IEEE Microwave and Wireless Components Letters*, 2017, 27(3), 272-274
- [9] **Zhenxiang Yi***, Hao Yan, Xiaoping Liao, Fabrication of the differential microwave power sensor by seesaw-type MEMS membrane, *IEEE Journal of Microelectromechanical Systems*, 2016, 25(4), pp. 582-584
- [10] **Zhenxiang Yi***, Xiaoping Liao, A cascaded terminating-type and capacitive-type power sensor for -10 to 22dBm application, *IEEE Electron Device Letters*, 2016, 37(4), pp. 1-3
- [11] **Zhenxiang Yi***, Xiaoping Liao, A 3D Model of the Thermoelectric Microwave Power Sensor by MEMS Technology, *Sensors*, 2016, 16(6), pp. 1-9
- [12] **Zhenxiang Yi***, Lifeng Wang, Zhen Zhu and Qing-An Huang, Investigation of housing on packaged MEMS wind sensors for industrial application, in *Proceeding of IEEE Conference on Sensors 2017*, 29 Oct.-1 Nov., 2017, Glasgow, UK, pp. 1-3
- [13] **Zhenxiang Yi***, Xiaoping Liao, Zhiqiang Zhang, Design of the microwave frequency sensor for power-unknown signal based on MEMS technology, in *Proceeding of IEEE Conference on MEMS 2016*, 24-28 Jan., 2016, Shanghai, China, pp. 647-650
- [14] Yizhou Ye, **Zhenxiang Yi***, Ming Qin* and Qing-An Huang, DRIE Trenches and Full-Bridges for Improving Sensitivity of 2-D Micromachined Silicon Thermal Wind Sensor, *IEEE Journal of Microelectromechanical Systems*, 2017, 26(5), pp. 1073-1081
- [15] Yizhou Ye, **Zhenxiang Yi**, Ming Qin and Qing-An Huang, Eight-trigram-inspired MEMS thermal wind sensor with improved accuracy, in *Proceeding of IEEE Conference on MEMS 2017*, 21-25 Jan., 2018, Belfast, UK, pp. 836-839
- [16] Yizhou Ye, **Zhenxiang Yi**, Ming Qin et al, DRIE trenches and full-bridges design for sensitivity improvement of MEMS silicon thermal wind sensor, in *Proceeding of IEEE Conference on MEMS 2017*, 22-26 Jan., 2017, Las Vegas, NV, USA, pp. 985-988