

Sensors and Materials Young Researcher Paper Award 2020

We have examined all the review comments sent by the reviewers as well as the evaluations sent from the Editors and the Guest Editors. After careful consideration, the following paper won the Young Researcher Paper Award 2020.

●Winner●

Title: High Fill Factor Array of Piezoelectric Micromachined Ultrasonic Transducers with Large Quality Factor

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Comments from award recipient



It is a great honor for me to receive the Young Researcher Paper Award 2020 of *Sensors and Materials*, which is a professional and authoritative journal on sensors and sensing materials. This study was conducted under the guidance of my PhD supervisor Prof. Xinxin Li (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences) and in cooperation with Prof. Zao Ni and Prof. Jiachou Wang (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences). I am deeply grateful to all of them for their contributions. This study was supported by the National Key R&D Program of China and the National Natural Science Foundation of China. In our study, by optimizing the arrangement of reusable etching holes, we presented a novel piezoelectric micromachined ultrasonic transducer (PMUT) array with a high fill factor and a large quality factor. Fabricated with a newly developed surface micromachining process that is compatible with the CMOS process, the PMUT array is suitable for high-yield and low-cost manufacturing. The PMUT array with above characteristics is promising in applications such as flow sensing, chemical detection, and energy transmission. Our team will continue our research on the PMUT array toward future device structure innovation and application development.

Ding Jiao