

Accepted Manuscript

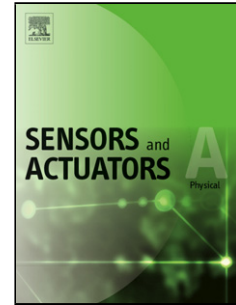
Title: Design and fabrication of a piezoelectric MEMS xylophone transducer with a flexible electrical connection

Authors: Chuming Zhao, Katherine E. Knisely, Karl Grosh

PII: S0924-4247(17)31947-7
DOI: <https://doi.org/10.1016/j.sna.2018.03.038>
Reference: SNA 10704

To appear in: *Sensors and Actuators A*

Received date: 1-11-2017
Revised date: 20-3-2018
Accepted date: 26-3-2018



Please cite this article as: Zhao C, Knisely KE, Grosh K, Design and fabrication of a piezoelectric MEMS xylophone transducer with a flexible electrical connection, *Sensors and Actuators: A Physical* (2018), <https://doi.org/10.1016/j.sna.2018.03.038>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Design and fabrication of a piezoelectric MEMS xylophone transducer with a flexible electrical connection

Chuming Zhao^{1¶}, Katherine E. Knisely^{1¶#}, and Karl Grosh^{1,2*}

¹ Mechanical Engineering Department, University of Michigan, Ann Arbor, MI, 48109, USA.

² Biomedical Engineering Department, University of Michigan, Ann Arbor, MI, 48109, USA.

¶ These two authors contributed the same.

Current address: Sandia National Laboratories, PO 5800. Albuquerque, NM 87123, USA.

* Corresponding author: grosh@umich.edu

Highlights

- We developed a MEMS piezoelectric xylophone transducer with a flexible connection.
- We built a finite element model to accurately predict the frequency behavior of the transducer.
- A novel bonding technique was developed to connect the transducer and flexible cable.
- The transducer is shown to operate in air and underwater, matching the modeling results and capable for use *in vivo* (underwater).

Download English Version:

<https://daneshyari.com/en/article/7133343>

Download Persian Version:

<https://daneshyari.com/article/7133343>

[Daneshyari.com](https://daneshyari.com)