May 30, 2013

Journal of Visualized Experiments

17 Sellers Street

Cambridge, MA, 02139

To whom it may concern:

I am writing as a notification of the submission of our manuscript entitled, “Real-time DC-dynamic biasing method for switching time improvement in severely underdamped fringing-field electrostatic MEMS actuators,” for consideration for publication in Journal of Visualized Experiments. Daniel Ljungberg, Associate Editor for the physical sciences, contacted me regarding an existing publication and suggested that we submit an article that focuses on the experimental section of the paper. The method described in this manuscript permits users to accurately replicate a dynamic waveform that electronically improves the switching time of microelectromechanical systems (MEMS) actuators with low squeeze film damping conditions. The real-time measurement and waveform parameter optimization of the method makes this work well suited for the Journal of Visualized Experiment’s unique multimedia format.

The author contributions are as follows: Joshua Small devised the fabrication process for the fringing-field electrostatic MEMS actuators and the DC-dynamic biasing idea for improving the switching time; Adam Fruehling developed and fine tuned the deployment of the biasing waveform; Anurag Garg contributed to the fabrication of the fringing-field MEMS actuators; Xiaoguang Liu contributed to the fixed-fixed beam fabrication; Dimitrios Peroulis is the principal investigator for the project.

An article that details the modeling, design, and experimental validation of the DC-dynamic waveform has been accepted and published in the Journal of Micromechanics and Microengineering. However, the details of the experimental validation are not delved into in great detail. A copy of this manuscript is included with this submission.

The following peer reviewers are suggested to review this work: **Prof. Gabriel Rebeiz,** University of California San Diego, [grebeiz@ucsd.edu](mailto:grebeiz@ucsd.edu); **Dr. Charles Goldsmith**, MEMtronics Corporation, [cgoldsmith@memtronics.com](mailto:cgoldsmith@memtronics.com); **Prof. Pierre Blondy**, University of Limoges, [pierre.blondy@xlim.fr](mailto:pierre.blondy@xlim.fr); **Prof. Ioannis “John” Papapolymerou**, Georgia Institute of Technology, [ioannis.papapolymerou@ece.gatech.edu](mailto:ioannis.papapolymerou@ece.gatech.edu); **Prof. N. Scott Barker**, University of Virginia, [barker@virginia.edu](mailto:barker@virginia.edu); **Prof. Kamran Entesari**, Texas A&M University, kentesar@ece.tamu.edu.

This manuscript describes original work. All authors approve the manuscript and this submission.

Thank you for receiving our manuscript and considering it for review. We appreciate your time and look forward to your response.

Sincerely,

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