## A Flexible Pyroelectric Sensor Fabricated by Inkjet Printing

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## Abstract

This paper proposes a flexible ZnO pyroelectric sensor. The sensor is made on a flexible aluminum sheet and composed of a ZnO sensing layer sandwiched in between silver top-electrode and aluminum sheet. The ZnO layer and top electrode are both deposited by inkjet printing. A novel design of the top electrode is proposed namely the web-type top electrode, which can significantly enhance the voltage responsivity, compared to the traditional full-covered top electrode, of the pyroelectric sensor. The proposed flexible ZnO pyroelectric sensor may apply to the artificial skin of robots to sensing the environmental temperature variation or integrate with clothes to perform human health detection.

## Bibliography

Yuh-Chung Hu received his Ph.D. in mechanical engineering from the National Taiwan University of Science and Technology in 1999. He worked on the post doctor research at the National Taiwan University for 4 years and then worked on the faculty at the Huafan University for 5 years. He currently is associate professor of the Department of Mechanical and Electro-Mechanical Engineering at National ILan University. He had published many important refereed journal papers about the electromechanical coupling behaviors of micro electromechanical devices. Currently his research is primarily in the areas of flexible sensing devices and power harvesting technologies.