Abstract

Piezoelectric principles are widely used to harvest energy in the process of vibrating piezoelectric mass. Different design configurations were studied in the research papers listed. A novel dynamic method of Lead Zirconate Titanate Sensor (PZT) to obtain d33 suitable for the MEMS applications is designed, simulated and the analysed results were compared with the fabricated sensor. The Lead Zirconate Titanate Square Plate (PZTSP) fixed at the bottom, which is acted upon by the application of pressure to validate direct piezoelectric effect. This model develops the piezoelectric voltage in dynamic mode by suitably opening and closing the pressure inlet optimized time constant for one second. A prototype model is validated, which can be used for the pressure sensing and indicating applications.

References


Design and Modeling of MEMS Based Nano Displacement PZT Sensing Element


Index Terms

Computer Science
Applied Sciences

Keywords
NANO Piezoelectric Sensor PZTSP MEMS PZT