

Abstract

The usage of MEMS system has been popular since the last 8 years, and will keep increasing. In some applications of MEMS technologies, it is important to detect a change of mass and force gradient under small amount of force. Nano- and microscale cantilever beam are the structure commonly used as dynamic force sensor. This cantilever beam is then represented as an oscillator of spring-mass-damper system. When coupled oscillator concept is applied the sensitivity of the sensor can be enhanced. The idea is to connect nanoscaled cantilever beam to the micro one and the sensor will have higher sensitivity in terms of amplitude and frequency sensitivity while detecting mass and force gradient sample.

Keyword: *Coupled oscillator; Sensitivity*