SENSITIVITY OF FLEXURAL VIBRATION MODE OF MICROCANTILEVER IN THE AIR AND LIQUID TO THE SURFACE STIFFNESS VARIATIONS

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Abstract:

Resonance frequency and mode shapes of microcantilevers in are of important interest in micro-mechanical systems. In this report, using the Euler-Bernoulli theory for beam, we represent the sensitivity of microcantilever in air and liquid [1,2]. The obtained results show that the sensitivity in air greater than in liquid [1].

Reference:

[1] Payam, Amir Farokh. Ultramicroscopy 135 (2013)
[2] Tung, Ryan C., et al, Hurley. Journal of Applied Physics 115.22 (2014)