

Dynamics of sensing element of micro- and nanoelectromechanical sensors as anisotropic size-dependent plate

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Abstract: Equations of motion of a sensing element of micro- and nanoelectromechanical sensors as an anisotropic size-dependent plate were obtained based on the modified couple-stress theory. The sensing element was considered as rectangular console plate under the distributed force at the bottom of the sensing element. The dynamic version of the principle of virtual displacements and the third-order theory of laminated composite plates and shells were used for obtaining the differential equations of motion and natural boundary conditions.

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