

Article Abstract

Title:	Response of multiphase magneto-electro-elastic sensors under harmonic mechanical loading
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Abstract:	The finite element formulation for coupled magneto-electro-elastic sensor bonded to a mild steel beam with plane stress assumption is presented in this paper. The beam is subjected to harmonic excitation with a point load at tip and a uniformly distributed load along the bottom surface of the mild steel beam. Numerical results are presented for clamped free boundary condition for the first three modes of the structure. The sensor response is dominated by the first mode, but the third mode response become significant when the sensor is placed at the free end of the mild steel beam.
Keywords:	Magneto-electro-elastic, sensor, harmonic response, finite element