

Abstract

We studied, experimentally and numerically, the vibrational response of a magnetorheological elastomer sandwich beam, clamped-free, delimited by two skins aluminum 7075T6, first subjected to a variable magnetic field perpendicular to the skin of the beam, and second to a harmonic excitation by magnetic force applied at the free end. Our main objective was to predict the effect of the intensity of the current flowing through a coil on several dynamic factors. The maximum amplitude of resonance and the variation of the loss factor as a function of structural stiffness are adjusted simultaneously by the application of different magnetic fields. The results of both methods are compared