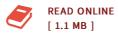THUMBNAIL NOT AVAILABLE

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Free vibration of sandwich nanostructures under various effects

By Hosseini, Seyyed Amirhosein / Golmohammadi, Hassan

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | In this research, free transverse vibration and stability of a double nanobeam system with hinged-hinged boundary condition under electro-magneto-hygro-thermo-mechanical loading are studied. It is assumed that the nanobeams are joined by an elastic medium. Equation of motion of the double nanobeam system is obtained using Eringen's nonlocal elasticity theory and then these equations are solved using semi-analytical differential transformation method. In the following, influences of nonlocal parameter, spring stiffness, strength of magnetic field, temperature rise, moisture content, electric potential and mechanical force on natural frequency and stability of the double nanobeam system are investigated for three various phases of vibration including synchronous, asynchronous and the case in which one nanobeam is fixed and the other one vibrates alone. In addition, some figures are presented in order to show aforementioned influences on natural frequency and stability of the system. | Format: Paperback | Language/Sprache: english | 80 pp.

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