عنوان مقاله:

Modal Coefficients Identification Using Wavelet Transform

محل انتشار:

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خلاصه مقاله:

Identification of damping parameter is usually more complicated and unreliable comparing to mass or stiffness identification in structural dynamics. There are many factors such as intermolecular friction, Coulomb friction and Viscous damping affecting the damping mechanisms in a structure. Therefore it is difficult, and in some cases impossible, to describe the details of damping mechanisms by using mathematical tools. In order to overcome the difficulties arising when using different damping models, the equivalent viscous damping is used. The coefficient of equivalent viscous damping can be identified experimentally by measuring the structural response. During the past decades, many methods have been proposed for damping parameter identification employing time domain data (e.g. logarithmic decrement method) or frequency domain data (e.g. using frequency response functions). There are also time-frequency methods such as wavelet transform. This paper deals with identification of modal damping coefficients and natural frequencies of a structure using wavelet transform. The results obtained by using wavelet transform has a good agreement with those resulted from model updating in lower modes.

کلمات کلیدی: