



Код: 10590

N.M.M. Maia, R.A.B. Almeida, A.P.V. Urgueira, R.P.C. Sampaio

Using Transmissibility for Damage Detection and Quantification

Издательство DEStech Publications, Lancaster, 2010 год

9 стр; формат: 23,5 x 16 см; библиографический список: 9 единиц
ISBN: 978-1-60595-024-2

During their lifetime, structures experience various types of loads, either static or dynamic; these loads, associated to phenomena of corrosion, chemical attack, among others, can produce different types of structural damage. As a result, the deteriorated structure has its capacity affected, leading to possible failure or excessive vibration problems. The development of methods that are able to simultaneously detect the existence of damage and to quantify its extent is really important. In this paper the authors propose a method to detect and quantify structural damage. This method uses response transmissibilities measured along the structure. Numerical simulations are presented and comparison with results using frequency response functions are made. Experimental tests are also undertaken to validate the proposed techniques.

Ключевые слова:

Содержание.

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