Код: 10680

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Substructure Isolation and Identification Using FFT of Measured Local Responses

A substructuring method is presented for substructure identification and local health monitoring. The concerned substructure is numerically separated from the global structure to be a so-called Isolated Substructure by adding virtual supports on the substructure interface. The isolated substructure is a small and independent structure; its virtual supports are constructed using the FFT of measured local responses of the global structure. The damage of the substructure can be then identified easily by any of the classical methods which perform well on global structures. An experiment of a cantilever beam, of which the upper part is chosen as the substructure, is used to validate the method.

Ключевые слова:

Содержание.
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