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Cointegration and SHM of Bridges

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Cointegration theory from the field of econometrics has recently been suggested by the authors as a useful tool for structural health monitoring. If two or more nonstationary variables are cointegrated, then some linear combination of them will be stationary, which is to say that common trends shared by the variables can be purged. In SHM, this could be particularly useful where features contain environmental or operational trends (a temperature dependency, for example) that can often mask any changes in structural response caused by damage. In this situation, cointegration can be used to combine monitored variables and create a feature independent of environmental or operational variations but still sensitive to damage.

Ключевые слова:

Содержание.

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