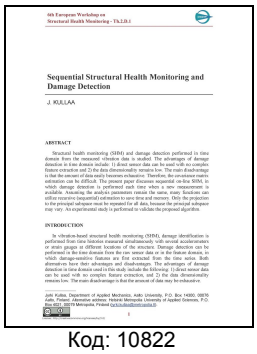

Код: 10822

J. Kullaa

Sequential Structural Health Monitoring and Damage Detection

Дрезден, Германия, 2012 год

8 стр; формат: 23,5 x 16 см; библиографический список: 8 единиц

Structural health monitoring (SHM) and damage detection performed in time domain from the measured vibration data is studied. The advantages of damage detection in time domain include: 1) direct sensor data can be used with no complex feature extraction and 2) the data dimensionality remains low. The main disadvantage is that the amount of data easily becomes exhaustive. Therefore, the covariance matrix estimation can be difficult. The present paper discusses sequential on-line SHM, in which damage detection is performed each time when a new measurement is available. Assuming the analysis parameters remain the same, many functions can utilize recursive (sequential) estimation to save time and memory. Only the projection to the principal subspace must be repeated for all data, because the principal subspace may vary. An experimental study is performed to validate the proposed algorithm.

Доклад. 6-я Европейская конференция по мониторингу технического состояния сооружений, 2012. Редакция Кристиана Боллера.

Ключевые слова:

Содержание