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Structural Health Monitoring of an Advanced Composite Aircraft Structure Using a Modal Approach

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The experimental feasibility of a vibration based approach to identify damage in an advanced composite aircraft structure is presented. Analysis showed that the Modal Strain Energy Damage Index (MSE-D1) algorithm can be used to detect and localize single and multiple damage scenarios by using modal data. However, this method is less suitable to quantify the severity in terms of mechanical properties. Based on the concept of dimensional reduction it is suggested to move to a higher dimensional subset of parameters. A combination of damage sensitive features is required to enclose all levels of damage identification.

Ключевые слова:

Содержание.

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